RiverOak Strategic Partners

5.2-12 Environmental Statement Volume 12: Appendices 10.1, Appendix B – 12.14

TR020002/APP/5.2-12

Project Name:	Manston Airport Development Consent Order
Regulation:	Regulation 5(2)(a) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, as amended
Date:	July 2018

Volume 12 Contents

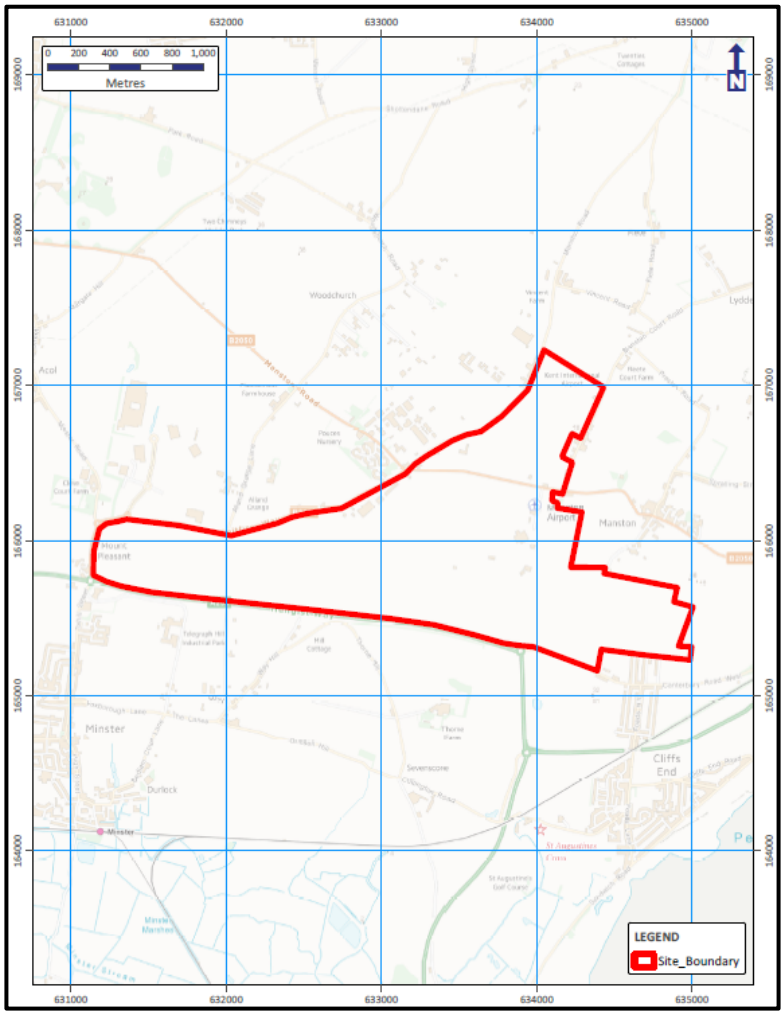
Appendix 10.1
Appendix B
UXO Risk Assessment

Landmark Information Group Ltd
Imperium, Imperial Way
Reading, Berkshire
RG2 0TD
United Kingdom

T: +44 (0)844 844 9952
W: www.envirocheck.co.uk

Preliminary Unexploded Ordnance (UXO) Risk Assessment

Meeting the requirements of *CIRIA* C681 'Unexploded Ordnance (UXO) – A guide for the Construction Industry' Risk Management Framework



6 Alpha Project Number: P5188

Site: Kent International Airport Ltd, Kent International Airport, Manston, Ramsgate, Kent, CT12 5BL

Originator: Nathan Howard

Released By: Rachel Bullock (18th March 2016)

Envirocheck® Unexploded Ordnance Probability Assessment

Study Site

The Study Site is described as 'Kent International Airport Ltd, Manston, Ramsgate, Kent, CT12 5BL', and it is centred on National Grid Reference 633340, 165960.

Threat Potential

UXO PROBABILITY ASSESSMENT = 4 RATING, INDICATING A

MEDIUM/HIGH PROBABILITY OF UXO ENCOUNTER

The rating scale can be seen on *Figure 2* (Probability of UXO Encounter). In accordance with current guidelines (*CIRIA* C681 Chapter 5), the highest risk rating has been determined at this specific site for UXO risk consideration and has been used for the final assessment and recommendations.

Summary

During WWII the Study Site was situated within *Eastry Rural District* and *Ramsgate Municipal Borough*, which recorded 3 and 53 High Explosive (HE) bomb strikes per 100 hectares; a low and high level of bombing.

Luftwaffe aerial reconnaissance photography associated with the Site identified an airfield (located on-Site) as a primary bombing target.

Air Raid Precaution (ARP) records reveal that a container holding up to 250 bombs was dropped on-Site. In addition, further research reveals that *Manston* airfield (located on-Site) was subjected to heavy bombing during WWII.

Official bomb damage mapping could not be located. Despite this, further research suggests that a number of on-Site buildings sustained significant bomb damage during WWII.

Given the existence of an airfield on-Site; it would suggest that further action is warranted to address the potential for UXO encounter.

Recommendations

In accordance with *CIRIA* C681 Chapter 5 on managing UXO risks, *6 Alpha* recommends that the next stage in the risk management framework is:

DETAILED UXO THREAT & RISK ASSESSMENT

We would be pleased to provide this service, please contact *Envirocheck* for further details:

Telephone: +44 (0)844 844 9952 Email: customerservice@envirocheck.co.uk

Using This Report

This Preliminary Assessment is designed to inform environmental and construction professionals of the potential threat of military related explosives and/or ordnance on, or in, the vicinity of the Study Site.

This assessment is designed to be employed as a site-screening tool to meet with the requirement of Phase One of the *CIRIA UXO Risk Management Framework*; there are two broad prospective outcomes; either the threat level requires a Detailed Threat and Risk Assessment; or no further action is required. In the former instance we can provide a report within 14 working days (or more quickly upon application).

Two figures accompany the report, the *Second World War* (WWII) High Explosive (HE) Bomb Density and the final Probability of UXO Encounter. The purpose of this approach is to demonstrate that whilst bomb density statistics give an indication for WWII bombing, they should not be relied upon exclusively to generate a holistic assessment.

For further information, please contact *Envirocheck*:

Website: http://www.envirocheck.co.uk

Telephone: +44 (0)844 844 9952

Email: customerservice@envirocheck.co.uk

Data Findings

Threat Source (Within 1,000m)		Detail	
		Identified	Comments
	Airfields/Military Facilities	✓	*Royal Air Force (RAF) Manston* airfield and *Manston* camp were located on-Site.
	Ordnance Manufacture/Storage	✗	None recorded within 1,000m.
	WWII Decoy Bombing Sites	✓	A decoy site was located 305m to the north.
	WWII Defensive Features	✓	Seven pillboxes were located on-Site.
	WWII *Luftwaffe* Designated Bombing Targets	✓	*Luftwaffe* aerial photography identified an airfield (located on-Site) as a primary bombing target.
	Secondary Bombing Targets	✗	None recorded within 1,000m.
	WWII Bomb Strikes Within Site Boundary	✓	ARP records identified that a container holding up to 250 bombs (possibly incendiary bombs) was dropped on-Site.
	WWII Bomb Strikes Near Site Boundary	✓	Research verified that the immediate area was heavily bombed during WWII.
	WWII Bomb Damage	✓	Further investigation confirmed that on-Site buildings sustained bomb damage.
	Abandoned Bomb Register	✗	None recorded within 1,000m.
	WWII Bombing Density Per 100 Hectares	✓	*Eastry Rural District* and *Ramsgate Municipal Borough* recorded 3 and 53 HE bomb strikes per 100 hectares.

Important Notes

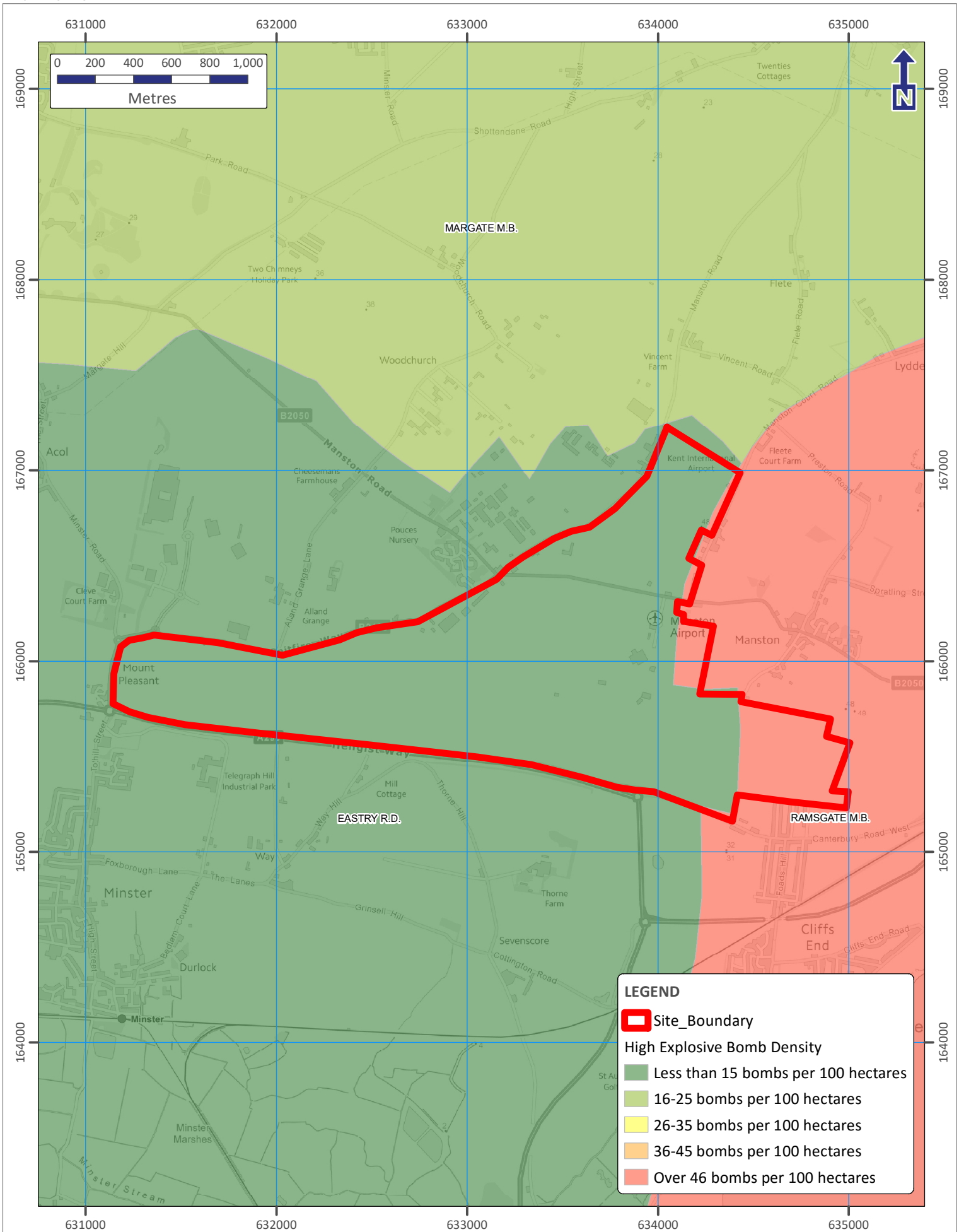
1. The term 'Preliminary UXO Risk Assessment' has been used to describe this report, to fall in line with the *CIRIA* C681 guidelines. Whilst the term 'Risk' can be justifiably used at this stage, the reader should note that the 'Consequence' function of 'Risk' is not considered. Should it be required, this would be addressed in the 'Detailed UXO Threat & Risk Assessment' (Stages 2 and 3).
2. This report is accurate and up to date at the time of writing.
3. The assessment levels have been generated from historical data and third party sources. Where possible *6 Alpha* have sought to verify the accuracy of such data, but cannot be held accountable for inherent errors that may be in third party data sets (e.g. *National Archives* or library sources).
4. *6 Alpha* have exercised all reasonable care, skill and due diligence in producing this service.
5. Whilst every effort has been used to identify all potential UXO/explosive threats, there were a number of private facilities, which may not have released privately recorded information concerning UXO/explosive threats into the public domain. It is therefore possible that some of the aforementioned sites may not be included within the database.

BRITISH NATIONAL GRID

KENT INTERNATIONAL AIRPORT LTD, MANSTON, RAMSGATE, KENT, CT12 5BL

WWII High Explosive Bomb Density

BOMB SEARCH
WWW.6ALPHA.COM



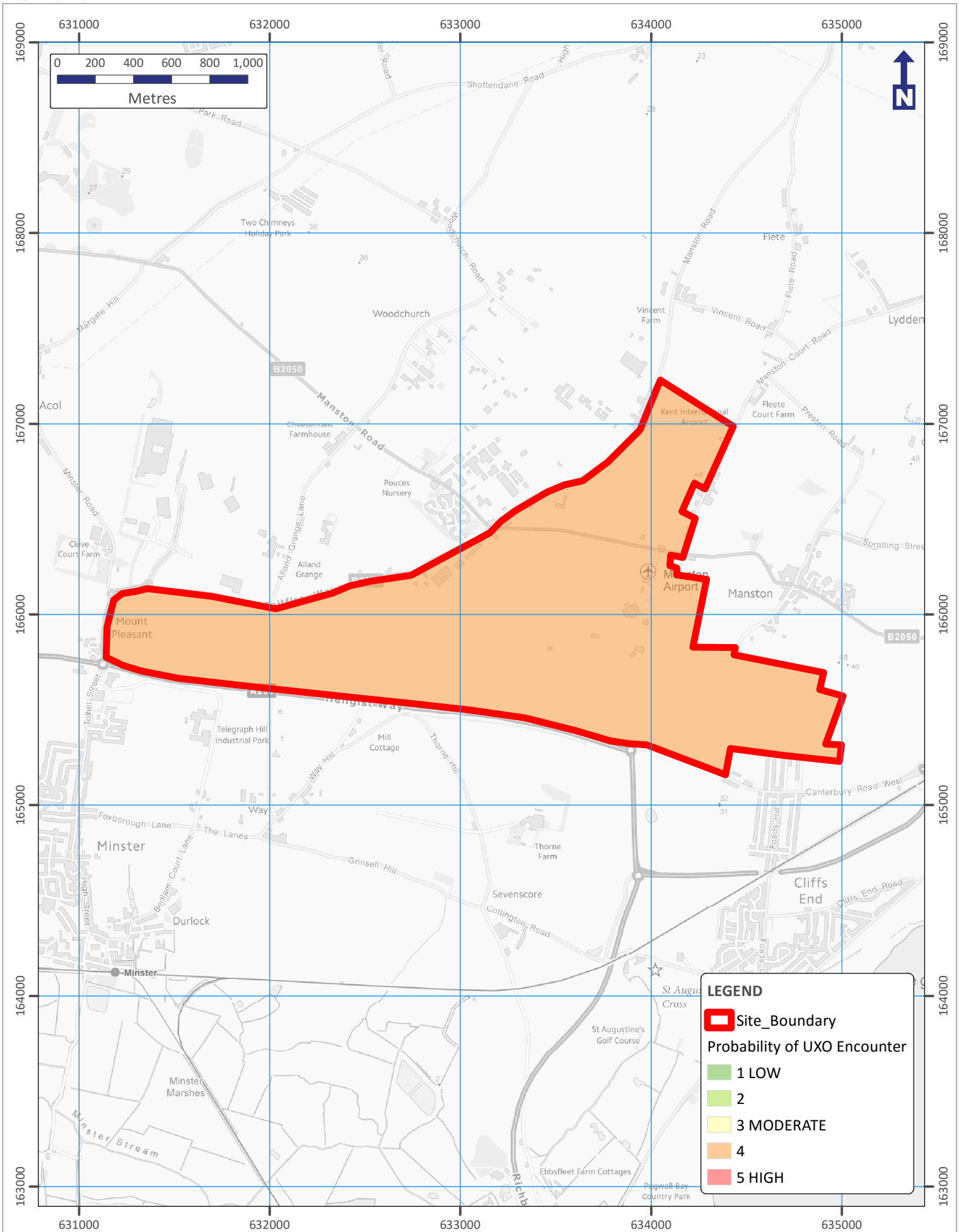
PROJECT NO.	FIGURE NO.	DRAWN BY	CHECKED BY	DATE		
P5188	1	RG	DR	17 March 2016	Contains Ordnance Survey data © Crown copyright and database right 2015	Produced by and Copyright to 6 Alpha Associates Ltd. Users noting any errors please notify 6 Alpha.

BRITISH NATIONAL GRID

KENT INTERNATIONAL AIRPORT LTD, MANSTON, RAMSGATE, KENT, CT12 5BL

Probability of UXO Encounter

BOMB SEARCH
WWW.6ALPHA.COM



PROJECT NO.	FIGURE NO.	DRAWN BY	CHECKED BY	DATE		
P5188	2	RG	DR	17 March 2016	Contains Ordnance Survey data © Crown copyright and database right 2015	Produced by and Copyright to 6 Alpha Associates Ltd. Users noting any errors please notify 6 Alpha.

Appendix 10.1
Appendix C
Environmental Risk Assessment Methodology

Appendix C

Environmental Risk Assessment Methodology

1.1.1 The environmental risk assessment aims to assess the significance of each potential contaminant linkage. Each potential linkage is qualitatively assessed using the following criteria:

- Potential consequence of contaminant – receptor linkage;
- Likelihood of contaminant – receptor linkage; and
- Risk classification.

1.1.2 The definitions for the qualitative risk assessment have been taken from Guidance for the Safe Development of Housing on Land Affected by Contamination Annex 4 R&D Publication 66: 2008 Volume 2.

1.1.3 The Likelihood Probability Classifications of SPR Linkage being realised is presented in **Table C.1**.

Table C.1 Likelihood Probability Classifications of SPR Linkage being realised

Classification	Definition	Examples
Unlikely	There is pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.	a) Elevated concentrations of toxic contaminants are present below hardstanding. b) Light industrial unit <10 yrs old containing a double skinned UST with annual integrity testing results available.
Low Likelihood	There is pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term.	a) Elevated concentrations of toxic contaminants are present in soils at depths >1m in a residential garden, or 0.5-1.0m in public open space. b) Ground/groundwater contamination could be present on a light industrial unit constructed in the 1990s containing a UST in operation over the last 10 years – the tank is double skinned but there is no integrity testing or evidence of leakage.
Likely	There is 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.	a) Elevated concentrations of toxic contaminants are present in soils at depths of 0.5-1.0m in a residential garden, or the top 0.5m in public open space. b) Ground/ groundwater contamination could be present from an industrial site containing a UST present between 1970 and 1990. The tank is known to be single skin. There is no evidence of leakage although there are no records of integrity tests.
High Likelihood	There is pollutant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution	a) Elevated concentrations of toxic contaminants are present in soils in the top 0.5m in a residential garden. b) Ground/groundwater contamination could be present from chemical works, containing a number of USTs, having been in operation on the same site for over 50 years.

1.1.4 “Potential Consequence of Contaminant Linkage” gives an indication of the sensitivity of a given receptor to a particular source or contaminant of concern under consideration. It is a worst-case classification and is based on full exposure via the particular linkage being examined. The classification of consequence is presented in **Table C.2**.

Table C.2 Outline of Worst-Case Hazard Consequence Classifications for Receptor Types from Contamination Impact:

Classification	Human Health	Controlled Water	Ecology	Property Structures/Crops and animals	Examples
Severe	Highly elevated concentrations **likely** to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs.	Equivalent to EA Category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce.	Major damage to aquatic or other ecosystems, which **is likely** to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population.	Catastrophic damage to crops, buildings or property.	Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Major fish kill in surface water from large spillage of contaminants from site. Highly elevated concentrations of Hazardous or priority substances present in groundwater close to small potable abstraction (high sensitivity). Explosion, causing building collapse (can also equate to immediate human health risk if buildings are occupied).
Medium	Elevated concentrations which **could** result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs.	Equivalent to EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce.	Significant damage to aquatic or other ecosystems, which **may** result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population.	Significant damage to crops, buildings or property.	Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Damage to building rendering it unsafe to occupy e.g. foundation damage resulting in instability. Ingress of contaminants through plastic potable water pipes.
Mild	Exposure to human health **unlikely** to lead to "significant harm".	Equivalent to EA Category 3 pollution incident including minimal or short-lived effect on water quality; marginal effect on amenity value, agriculture or commerce.	Minor or short-lived damage to aquatic or other ecosystems, which **is unlikely** to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population.	Minor damage to crops, buildings or property.	Exposure could lead to slight short-term effects (e.g. mild skin rash). Surface spalling of concrete.

Classification	Human Health	Controlled Water	Ecology	Property Structures/Crops and animals	Examples
Minor	No measurable effects on humans	Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems.	Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems.	Repairable effects of damage to buildings, structures and services.	The loss of plants in a landscaping scheme. Discoloration of concrete.

1.1.5 The risk matrix to link the likelihood and consequence is shown in **Table C.3**.

Table C.3 Risk Matrix

Likelihood:	Unlikely	Low Likelihood	Likely	High Likelihood
Potential Consequence:				
Severe	Moderate/low	Moderate Risk	High Risk	Very High Risk
Medium	Low	Moderate/low	Moderate Risk	High Risk
Mild	Very low risk	Low Risk	Moderate/low	Moderate Risk
Minor	Very low risk	Very low risk	Low Risk	Low Risk

1.1.6 The overall risk definitions are summarised in **Table C.4**.

Table C.4 Risk Definitions

Very Low	**It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor.**
Low	It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.
Medium	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, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.
High	Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.

Appendix 10.1
Appendix D
Geotechnical Risk Register

Geotechnical Risk Register GRR 01

AMEC Project Number:	38199
Project Title:	Manston Airfield
Stage:	Phase 1 Desk Study
Compiled by: BC	Checked by: PMC

The risk register is a means of documenting perceived risks and their importance and recording actions taken to manage them. The key elements of a geotechnical risk register are as follows:

1. Identify the geotechnical risks.
2. Identify the methods of construction that may be incorporated into the project.
3. Scale the risks according to probability and impact.
4. Based on the severity of each risk, decide on the type of action.
5. Identify how each risk should be managed.
6. Record the actions taken to manage the risk.
7. Reassess the severity of each risk after action has been taken.
8. Review the risk register at regular intervals and communicate.

The risk register is a live document and should be reviewed on a regular basis and at the end of each stage of the project.

The probability (P) that a given event will occur is given by the following:

Scale	Likeihood	Chance per section of work (Amend to suit local conditions and to be agreed with the Client)
1	Negligible	< 1 in 100
2	Unlikely	1 in 100 to 1 in 10
3	Possible	1 in 10 to 1 in 5
4	Probable	1 in 5 to 1 in 2
5	Almost certain	> 1 in 2

The impact (I) of a given event is given by the following:

Scale	Effect	Increase in cost or time (% increase) (Amend to suit local conditions and to be agreed with the Client)
1	Negligible	< 1%
2	Very low	1% to 4%
3	Low	4% to 8%
4	High	8% to 15%
5	Very high	> 15%

The risk after the application of risk control measures should be reviewed in the light of the following table:

Degree of Risk	Risk Level	Action Required
1 - 4	Trivial	None
5 - 9	Tolerable	Consider more cost-effective solutions or improvements
10 - 15	Substantial	Work must not start until risk has been reduced
16 - 25	Intolerable	Work must not start until risk has been reduced. If risk cannot be reduced, project should not proceed.

The risks and their potential impacts may vary between the various stages of the project, such as the risk to and from buried services, where the impact can be much higher during a ground investigation than during a desk study.

Stage	Risk No	Hazard	Prior to RCM			Risk Control Measure (RCM)	After RCM		
			Probability (P)	Impact (I)	Risk (R = P x I)		Probability (P)	Impact (I)	Risk (R = P x I)
Completion of Geotechnical Desk Study	DS 01	Collapsible Deposits Hazard	4	3	12	Carry out Ground Investigation to characterise the chalk underlying the site.	4	3	12
	DS 02	Made Ground	4	4	16	Undertake intrusive investigation to determine extent of possible Made Ground associated with the airfield development	2	4	8
	DS 03	Ground Dissolution for Soluble Rocks	4	3	12	Undertake an intrusive site investigation to determine what ground conditions are present beneath the site. Consider the hazard in construction and building design	4	3	12
	DS 04	Historic Chalk Mining	4	5	20	Obtain further information relating to the potential for chalk mining in the surrounding area of the site and wihtin the site boundary, A mine adit and a shaft are located in the eastern and western areas of the site.	4	5	20
	DS 05	Infilled Chalk Pits	4	4	16	Undertake intrusive Ground Investigation to deliniate Made Ground extent.	3	4	12
	DS 06	Solution Features	4	5	20	Carry out Ground Investigation to characterise the chalk underlying the site and determine any solution features.	4	4	16
	DS 07	Existing underground and overhead services.	3	4	12	Ensure all utilities data are available. Avoid known services, call out service providers in critical areas, carry out CAT scans and hand excavated inspection pits at borehole locations	2	4	8
	DS 08	Uncharted services	3	4	12	Carry out CAT scans and hand excavated inspection pits to 1.20m at borehole locations	2	4	8
	DS 09	Site of ecological importance	3	3	9	Undertake an ecology survey to determine the presence of any protected species and put in place any mitigation measures to protect against any proposed works.	3	3	9
	DS 10	Unexploded Ordnance	4	5	20	Detailed UXO report required before Ground Investigation is to be undertaken following historic land use as an RAF airfield.	3	5	15
	DS 11	Effects of trees on foundation design	2	4	8	Undertake tree survey identifiting type and height	2	4	8

Appendix 10.1
Appendix E
British Geological Society Records

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

D 22 TR 36 NW 3: 274

RECORD OF WELL (SHAFT OR BORE) 274

1" N.S. 274/16.
1" O.S. 3
Grid Ref. 8E (37 NE (?))

Boro!. of Ramsgate

At

Town or Village Minster County Kent St

Exact site

in parish of 2

(sketch-map facing from a map is very desirable)

Level of ground surface above sea-level (O.D.) 166 ft. If well starts below ground surface, state how far ft.

Shaft 6 ft., ~~diameter~~ 4 by 4 diam. (oval) Bore ft. Diameter of bore: at top ins.; at bottom ins.

Details of permanent lining tubes (internal diameters preferred) None used.

Water struck at depths of (feet)

Rest-level of water below / above top of well feet. Suction at feet. Yield on hours' / days' test

gallons per (with pump of capacity g.p.h.); depressing water level to feet

below top. Time of recovery hrs. Amount normally pumped daily g.p.h. for hours.

Quality (attach copy of analysis if available)

Sunk by L. Le Grand S. & C. for Mr. Date of well 31. 7. 35.

Information from Le Grand

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	THICKNESS Feet.	THICKNESS Inches.	DEPTH Feet.	DEPTH Inches.
	Shaft Sinking 6' x 4' dia. Oval.				
Upper Chalk	Earth and Chalk	4	-	4	-
X	Chalk with occasional bands of flints	78	-	82	-
	Chalk and Flints	94	6	176	6
Coal. 1934	Drove 4'0" into old heading at this depth - eventually drove to 27'2".				
X	6" band of flints at 86'6".				
	New Heading 6' x 4' then commenced and continued for a distance of 5280 direction - N.W.				
	Heading driven at a general level of 176' b.s.				
	So far as we were informed the increased supply as a result of the new shaft and heading was between 35 and 40,000 g.p.h. No actual pumping was done by us.				

Extension of scheme detailed under 274/18

Coal 1939

Sited 13.2.40. This is a shaft made in connection with the driving of the adit of the main scheme.

[redacted]

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

For Survey use only

Date received	G.S.M. Office File No.	Site marked on 1" map (use symbol)
DEC 1939		

(*11815) Wt.29055/O.369 10,000 8/39 A.& E.W.Ltd. Gp.664

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

TR 36/24 A-E

274/8 Thanet Water Board, Ramsgate

Whitehall Pumping Station, Whitehall Road.

(a) W.S.K. pp. 184-5. Surface +99. Shaft 110 x 9 x 7 (oval). *?1835.*
(b) W.S.K. pp. 184-5. Surface +99. Shaft 115 x 9. *?1835.*
(a) and (b) Hardness: P. 59, T. 204. Anal. *Mar. 1873.* Headings: 4,800, floor 106½ down. R.W.L. +8½. P.W.L. +2½. (winter); -4½. (summer). *1887.* Headings extended to (i) 3,960 x 6 x 4½ N.N.E., floor 106½ down; (ii) 7,920 x 6 x 4½ W.S.W., floor 106½ down. *1893-95.*
(c) W.S.K. pp. 184-5. Surface +97½. Shaft 112 x 12. Connected to (a) and (b) by headings. *1896.*
Headings extended to 13,000 mainly W.S.W. from (ii). *Before 1905.* Hardness: P. 53, T. 179. Cl 129. Anal. *Jan. 1905.* Headings: (iii) 4,860 N.W. from previous extension at a point where well (d) was subsequently sunk in 1933, floor -2. *1923-24.* P.W.L. +2. *May;* -1¾. *Aug.* Yield 52,800 g.p.h. *1934.* Hardness: P. 103, T. 216. Anal. *Mar. 1935.* Cl 88. *Mar.;* 110. *July;* 146. *Oct. 1945.* P.W.L. +1. Yield 62,500 g.p.h. *Oct. 1948.* P.W.L. +4. Yield 50,000 g.p.h. *Oct. 1954.* Hardness: P. 85, T. 245. Cl 140. Anal. *Sept.* R.W.L. +2. P.W.L. +1½. Yield 72,000 g.p.h. *Oct. 1957.* R.W.L. +7¼. P.W.L. +6. Yield 70,000 g.p.h. *Oct. 1960.* Hardness: P. 60, T. 240. Cl 50. Anal. *Mar. 1961.*
Lord of the Manor Pumping Station.
(d) (Standby). Surface +115½. Shaft 120 x 6 x 4 (oval) intercepting extension of heading (ii) in order to reduce the hydraulic gradient and risk of saline infiltration caused by pumping the entire system from Whitehall. *1933.*
Hardness: P. 44, T. 226. Anal. *Apr. 1934.* Pumped only in summer. Hardness: P. 75, T. 220. Cl 60. Anal. *Aug. 1957.*

(e) (Filled in). Construction shaft for heading extensions. Surface +166. Shaft x 6 x 4 (oval) intercepting W. end of heading (iii). Heading: 5,280 x 6 x 4 W., floor 168 down. Increased yield from shaft and heading 35,000 - 40,000 g.p.h. *eGrand, 1934-35.*

(e) UCk	... ...	176½	176½

Earth & Chalk. 4 4
Upper Chalk.* Chalke with occasional bands of flints 78 82
Chalke & flints 94-6 176-6.

* 6" band of flints at 86'6"

a. TR. 3740 6607
b. " " 0 " 7
c. " " 0 " 7
d. " 3535 6511
e. " 3248 6560

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

TR 36 NW/3

274/8 Thanet Water Board, Ramsgate

Whitehall Pumping Station, Whitehall Road.

(a) W.S.K. pp. 184-5. Surface +99. Shaft 110 x 9 x 7 (oval). *?1835.*
(b) W.S.K. pp. 184-5. Surface +99. Shaft 115 x 9. *?1835.*
(a) and (b) Hardness: P. 59, T. 204. Anal. *Mar. 1873.* Headings: 4,800, floor 106½ down. R.W.L. +8½. P.W.L. +2½. (winter); -4½. (summer). *1887.* Headings extended to (i) 3,960 x 6 x 4½ N.N.E., floor 106½ down; (ii) 7,920 x 6 x 4½ W.S.W., floor 106½ down. *1893-95.*

(c) W.S.K. pp. 184-5. Surface +97½. Shaft 112 x 12. Connected to (a) and (b) by headings. *1896.*

Headings extended to 13,000 mainly W.S.W. from (ii). *Before 1905.* Hardness: P. 53, T. 179. Cl 129. Anal. *Jan. 1905.* Headings: (iii) 4,860 N.W. from previous extension at a point where well (d) was subsequently sunk in 1933, floor -2. *1923-24.* P.W.L. +2. *May;* -1½. *Aug.* Yield 52,800 g.p.h. *1934.* Hardness: P. 103, T. 216. Anal. *Mar. 1935.* Cl 88. *Mar.;* 110. *July;* 146. *Oct. 1945.* P.W.L. +1. Yield 62,500 g.p.h. *Oct. 1948.* P.W.L. +4. Yield 50,000 g.p.h. *Oct. 1954.* Hardness: P. 85, T. 245. Cl 140. Anal. *Sept.* R.W.L. +2. P.W.L. +1½. Yield 72,000 g.p.h. *Oct. 1957.* R.W.L. +7¼. P.W.L. +6. Yield 70,000 g.p.h. *Oct. 1960.* Hardness: P. 60, T. 240. Cl 50. Anal. *Mar. 1961.*

Lord of the Manor Pumping Station.

(d) (Standby). Surface +115½. Shaft 120 x 6 x 4 (oval) intercepting extension of heading (ii) in order to reduce the hydraulic gradient and risk of saline infiltration caused by pumping the entire system from Whitehall. *1933.*

Hardness: P. 44, T. 226. Anal. *Apr. 1934.* Pumped only in summer. Hardness: P. 75, T. 220. Cl 60. Anal. *Aug. 1957.*

(e) (Filled in). Construction shaft for heading extensions. Surface +166. Shaft x 6 x 4 (oval) intercepting W. end of heading (iii). Heading: 5,280 x 6 x 4 W., floor 168 down. Increased yield from shaft and heading 35,000 - 40,000 g.p.h. *LeGrand, 1934-35.*

(e)	UCk	... ...	176½	176½

	Earth & Chalk.	4	4
Upper Chalk. *	Chalk with occasional bands of flints	78	82
	Chalk & flints	94-6	176-6.

* 6" band of flints at 86'6"

a. TR. 374 660
b. " " "
c. " " "
d. " 3535 6511
e. " 3248 6560

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

Date of Sample 3

274/
10 TR36/24/5

	Jan 12th 1905	Feb 15th 1905	Mar 20th 1905	April 19th 1905	May 17th 1905	June 7th 1905	July 21st 1905	Aug 23rd 1905	Sept 19th 1905	Oct 12th 1905	Nov 28 1905
Description or number of sample	P.S. "H"	P.S. "J"	P.S. "J"	P.S. "K"	P.S. "L"	P.S. "M"	P.S. "N"	P.S. "O"	P.S. "P"	P.S. "Q"	P.S. "R"
Appearance	very clear	very clear	clear	clear	clear	clear	clear	clear	clear	clear	clear
Colour	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue
Smell	none	none	none	none	none	none	none	none	none	none	none
Chlorine in Chlorides	12·95	12·74	12·81	12·88	12·88	13·37	13·79	14·98	15·82	16·66	15·54
Chlorine as salt	21·34	20·99	21·11	21·23	21·23	22·03	22·73	24·68	26·07	27·45	25·61
Phosphoric Acid in Phosphates	none	none	none	none	none	none	none	none	none	none	none
Nitrogen in Nitrates	0·78	0·71	0·73	0·75	0·75	0·75	0·71	0·62	0·78	0·84	0·58
Ammonia	none	none	none	0·0006	0·0004	0·0003	0·0004	none	trace only	none	none
Albuminoid Ammonia	0·0006	0·0008	0·0008	0·0016	0·0021	0·0011	0·0014	0·0011	0·0014	0·0011	0·0014
Oxygen absorbed in 15 minutes	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only
Oxygen absorbed in 4 hours	0·024	0·030	0·042	0·036	0·042	0·030	0·052	0·030	0·064	0·034	0·034
Hardness before boiling (total)	23·2	23·3	23·2	23·3	23·4	22·9	23·3	23·5	23·6	23·1	22·9
Hardness after boiling (permanent)	5·3	5·7	5·6	5·7	5·8	5·3	5·4	5·6	5·7	5·5	5·3
Total solid matter	50·33	50·75	49·84	50·26	51·11	49·35	50·31	56·35	57·19	56·91	53·69
Microscopical examination of deposit	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant

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NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
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RAMSGATE CORPORATION GAS & WATER DEPARTMENT
Gas & water Offices. Boundary Road, Ramsgate Kent

274 SE 8ABC

(B) UNDERGROUND WATER—(WELLS AND BORINGS).

(In each case please state whether a well and/or boring is in question.)

TAKEN OVER BY THE THANET WATER BOARD 1st April 1956.

I. GENERAL.

1. Exact site of well or boring ... ...

(A map or sketch showing position would be useful.)

ABC 274 Whitehall Water Works, Ramsgate. 3 Wells.
274 Old Gas Works Yard, Minster. (Stan Road) 1 Borehole.
274 Lord of the Manor, Canterbury Road,
8D Ramsgate, Temporary Well & Pumping Station. 1 Well.

2. Surface level of ground above Ordnance Datum Whitehall. 98.83 ft.
Borehole, Minster. 56.56 ft.
Temporary Well. 120.00 ft.

3. Date of construction ... ...

Whitehall Water Works was opened in 1898.
Borehole, Minster. 1921.
Temporary Pumping Station. 1933.

WELLS.

4. Depth of well from surface level of ground (i.e., 2 above). If top of well is below the surface level of the ground (*i.e.*, 2 above) state how much ... ... 113 ft.

274/8 (Whitehall Engine Room floor is on same) level as the ground.

5. Depth of floor of galleries at site of well: also dimension and direction of galleries at Whitehall. ... ... 105 ft.

274/5 Dimensions of Adits vary - generally 6' x 4' 6" with 2' Grip.

BORINGS.

6. Depth of boring from surface level of ground (*i.e.*, 2 above). If boring is in bottom of well, state depth of well ... ... 502ft. 9ins. ft

274/12

7. (*a*) Diameter of top of boring ... ... 12 in.

(*b*) Diameter of bottom of boring... ... ... 12 in.

8. Tubed from top of boring to ... ... 100 ft.

9. Lining tubes perforated at depths of ... ... No perforations.

10. Water struck during boring at depths of (Tested at.) 211' = 3,000. g.p.h.
388' = 7/10,000.g.p.h.
502¾' = 10/12,000.g.p.h.

11. What was rest level on completion of boring? ... ...
Varies with level of water in chalk. Averages approximately 6' + O.D.

WELLS AND BORINGS.

12. Is the water raised by pump or air lift? ... ...Air.....

13. Depth from top of well or boring to bottom of [illegible] air inlet. ... 1st. 348' 10" ft.
2nd. 4[illegible]

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Report an issue with this borehole

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TR36/24/8

Date of Example.

	Jan. 17th 1906	Feb 17th 1906	Mar 23rd 1906	April 20th 1906	May 16th 1906	June 11th 1906	July 17th 1906	Aug 27th 1906	Sept 17th 1906	Oct 3rd 1906	Nov 20th 1906	Dec 17th 1906
Description or number of sample.	P.S. "J"	P.S. "U"	P.S. "V"	P.S. "W"	P.S. "X"	P.S. "Y"	P.S. "Z"	P.S. "A"	P.S. "B"	P.S. "C"	P.S. "D"	P.S. "E"
Appearance	clear	clear	clear	clear	clear	clear	clear	clear	clear	clear	clear	clear
Colour	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue
Smell	none	none	none	none	none	none	none	none	none	none	none	none
Chlorine as Chlorides	15·82	15·82	16·59	16·45	17·64	16·48	18·41	20·93	21·14	20·72	19·88	21·35
Chlorine as salt	26·07	26·07	27·34	27·11	29·07	27·11	30·33	34·49	34·84	34·14	32·76	35·18
Phosphoric Acid in Phosphates	none	none	none	none	none	none	none	none	none	none	none	none
Nitrogen in Nitrates	0·76	0·80	0·85	0·80	0·69	0·77	0·76	0·79	0·72	0·72	0·75	0·78
Ammonia	0·0006	0·0006	0·0005	0·0004	0·0003	0·0003	0·0004	0·0003	0·0003	0·0004	0·0003	0·000
Albuminoid Ammonia	0·0008	0·0014	0·0019	0·0008	0·0011	0·0008	0·0014	0·0014	0·0014	0·0010	0·0014	0·0014
Oxygen absorbed in 15 minutes	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only
Oxygen absorbed in 4 hours.	0·044	0·022	0·036	0·036	0·036	0·038	0·068	0·044	0·064	0·056	0·038	0·030
Hardness before boiling (total)	27·7	27·8	27·0	27·0	27·4	26·6	27·4	28·5	28·8	28·7	28·5	28·6
Hardness after boiling (Permanent)	10·1	10·2	9·4	9·1	9·8	9·0	9·8	10·9	10·9	10·8	10·6	10·7
Total solid matter	53·97	54·67	57·47	55·44	60·97	53·97	60·69	67·83	67·97	66·99	66·22	66·15
Microscopical examination of deposit.	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight	slight & unimportant	slight & unimportant	very slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

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Report an issue with this borehole

TR 36 NW/5

2

4

II. If systematic measurements of water levels are made, state whether these include :—

(a) Pumping levels at Whitehall Works (b) Rest levels at Borehole, Minster.

(c) Time of recovery to rest level on cessation of pumping ... ... ?

Pumping Station cannot be shut down for more than a few hours. Information not available.

(d) Changes in pumping level, if rate of pumping is altered. ... ... Increase is approximately 100,000 galls. per 24 hours per 12" fall in water level.

Also state : (e) at what intervals records are taken (*i.e.*, daily, weekly, etc.) ... ... Daily.

Please furnish a specimen graph of records taken over as long a period as available (up to 1 year). Graphs enclosed.

III. If measurements are made only occasionally, please indicate what is, or has been, done in this respect and furnish examples of any graphs or figures available. ---

IV. YIELDS.

(1) Number of gallons pumped per hour ... ... Varies. Average per 24 hours for year ended March 31st. 1934. is 1,267,000. galls. Average per hour = 52,800 gallons.

(2) Is pumping continuous? ... ... Yes.

(3) If not, how many hours pumping per day? ... ... ---

-0- quantity pumped 1934.

(4) Maximum daily ~~xxxxxxxxxx~~ ... ... 1,596,000. galls. at -1' 8" O.D.

Estimated ... ... ---

Based on actual tests ... ---

V. If a section or record of strata can be given please attach to this form. All in chalk at Whitehall Water Works and Adits. Detail of Minster Borehole enclosed.

VI. (1) If a chemical analysis can be given please attach. Analysis attached.

(2) If not state hardness ... ... ---

(3) For what purpose is the water used? ... ... All purposes.

See attached notes re Adit extensions - Temporary Pump at Lord of the Manor and Water Softening Plant - Plans available etc.

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Report an issue with this borehole

8 274 TR36/24 8

/	Date of Sample. January 22nd 1903	Feb 12th 1903	March 17th 1903	April 28th 1903	May 22nd 1903	June 17th 1903	July 11th 1903	August 27th 1903	Sept 18th 1903	Oct 17th 1903	Nov 20th 1903	Dec 18th 1903.
Description or number of sample	P.S. 'J'	P.S. 'K'	P.S. 'L'	P.S. 'M'	P.S. 'N'	P.S. 'O'	P.S. 'P'	P.S. 'Q'	P.S. 'R'	P.S. 'S'	P.S. 'T'	P.S. 'U'
Appearance	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Colour	Green-blue	Green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue
Smell	None	none	none	none	none	none	none	none	none	none	none	none
Chlorine in Chlorides	14·28	14·77	13·72	14·42	14·77	14·07	13·65	15·05	15·26	13·68	14·77	13·31
Chlorine as salt	23·53	24·34	22·61	23·76	24·34	23·19	22·49	24·80	25·15	22·49	24·34	21·93
Phosphoric Acid in Phosphates	None	none	none	none	none	none	none	none	none	none	none	none
Nitrogen in Nitrates	0·71	0·87	0·79	0·68	0·72	0·75	0·76	0·73	0·71	0·71	0·79	0·67
Ammonia	None	none	none	none	none	none	none	none	0·0014	0·0004	trace only	trace only
Albuminoid Ammonia	0·0014	0·0021	0·0019	0·0014	0·0019	0·0014	0·0017	0·0008	0·0014	0·0011	0·0017	0·0011
Oxygen absorbed in 15 minutes	Trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only
Oxygen absorbed in 4 hours	0·024	0·034	0·024	0·024	0·020	0·042	0·042	0·032	0·034	0·044	0·032	0·026
Hardness before boiling (total)	23·9	24·1	24·0	24·1	24·1	24·2	24·0	24·2	24·1	23·9	24·1	23·9
Hardness after boiling (Permanent)	6·4	6·5	6·4	6·5	6·5	6·3	6·1	6·3	6·2	6·0	6·3	6·1
Total Solid matter	50·68	52·57	51·24	52·71	51·87	52·92	50·47	52·99	52·57	51·59	53·27	52·22
Microscopical Examination of deposit	Slight.	Slight Organic matter	Slight unimportant	Slight unimportant	Slight unimportant	very slight unimportant	Slight unimportant	Slight unimportant	Slight unimportant	Slight unimportant	Slight unimportant	Slight unimportant

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TR 36 NW/3
274

274/8
ABC

Ramsgate. WATERWORKS. 1835 and later.

Ordn. Map 274, new ser.; Geol. Map 3.
Information from Mr. W. A. VALON and Mr. T. N. RITSON.
Pumping station about a sixth of a mile east of Whitehall, on the western side of the road to Margate.
About 100 feet above Ordnance Datum.
Depth of pumping well, in Chalk, 120 feet. Three wells connected by headings.

Level of headings mean water-mark. In February 1887 the length of these was 1,600 yards, from E. to W. Since then they have been increased, and they run from the well irregularly N.N.E. to the borough-boundary beyond Newlands Grange, and very irregularly S.W. to St. Lawrence station and thence irregularly W.S.W. to nearly a third of a mile beyond Hollins Bottom (or north of Cliffsend). In all the length comes to more than 2¼ miles.

The following figures of water-levels were given in 1887 :—

Before pumping, 16 feet above mean water-level. = +8½
Lowest water-level in winter 10 feet above mean level. = +2½
" " summer 3 " " " = −4½

The northern end of the headings is between half and two-thirds of a mile from the Rumfield Pumping Station of Broadstairs.

Besides Ramsgate and St. Lawrence, Haine, Manston and Minster are within the area of control. The supply for the year ending March 1906 was :—For domestic purposes, 364,888,163 gallons; for trade-purposes, 33,602,412; for municipal purposes, 26,774,165, or a total of 424,764,770. (Waterworks Directory, 1907.)

according to chart supplied 1935 floor of headings −7½ O.D. This level taken as representing "mean water level" quoted here, therefore.

S.C.A.H. 1939.

16
−7½
23½

Published in
'Water Supply of
Kent,' p. 184-5

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2

274
TR36/24

	Date of Sample											
	Jan 20th 1904	Feb 1904	Mar 17th 1904	April 20th 1904	May 10th 19	June 22 1904	July 14th 1904	August 27 1904	Sept 22 1904	Oct 12th 1904	Nov 17th 1904	Dec 15th 1904
Description or number of sample	P.S. 'V'	P.S. 'W'	P.S. 'X'	P.S. 'Y'	P.S. 'Z'	P.S. 'A'	P.S. 'B'	P.S. 'C'	P.S. 'D'	P.S. 'E'	P.S. 'F'	P.S. 'G'
Appearance	Clear	clear	clear	clear	clear	clear	clear	clear	clear	clear	clear	Clear
Colour	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	Green-blue
Smell	none	none	none	none	none	none	none	none	none	none	none	none
Chlorine in Chlorides	12·32	11·21	11·06	10·64	10·22	10·43	10·15	12·81	12·67	12·53	12·32	12·81
Chlorine as salt	20·30	18·47	18·23	17·52	16·84	17·19	16·73	21·11	20·88	20·65	20·30	21·10
Phosphoric Acid in Phosphates	none	none	none	none	none	none	none	none	none	none	none	none
Nitrogen in Nitrates	0·66	0·89	0·82	0·69	0·69	0·77	0·73	0·69	0·46	0·73	0·78	0·83
Ammonia	none	trace only	0·0004	0·0004	none	0·0003	none	0·0003	none	0·0004	0·0005	0·0002
Albuminoid Ammonia	0·0014	0·0017	0·0014	0·0014	0·0014	0·0016	0·0011	0·0011	0·0008	0·0008	0·0014	0·0011
Oxygen absorbed in 15 minutes	Trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only
Oxygen absorbed in 4 hours	0·034	0·028	0·030	0·042	0·030	0·042	0·052	0·034	0·0054	0·034	0·042	0·030
Hardness before boiling (total)	23·9	23·7	23·6	23·7	23·5	23·7	23·6	23·2	22·9	23·1	23·2	22·9
Hardness after boiling (permanent)	6·3	6·1	6·0	6·1	5·9	5·8	5·7	5·4	5·3	5·3	5·6	5·5
Total solid matter	48·16	46·41	45·36	46·21	44·52	43·61	44·66	49·21	48·16	47·81	51·24	48·5
Microscopical examination of deposit	slight and unimportant	slight organic debris	slight and unimportant	slight and unimportant	slight and unimportant	very slight unimportant	slight and unimportant	slight and unimportant	slight and unimportant	very slight unimportant	slight & unimportant	Slight unimportant

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TR 36 NW/3

274/8A

Ramsgate. WATERWORKS. (See p. 184.) Water from the Chalk.

Well at Whitehall, 100 feet deep, March 1st, 1873.
Rivers Pollution Commission. Sixth Report, 1874, p. 100.
Clear and palatable. Temperature 10° C.

Total solid impurity	40·9	Parts per 100,000.
Organic carbon	·052	
Organic nitrogen (no ammonia) ...	·013	
Nitrogen as nitrates and nitrites	·806	
Total combined nitrogen	·819	
Chlorine	5·2	

Hardness, temporary 20·4, permanent 5·9; total 26·3.

Two analyses by G. W. WIGNER, in *The Water Supply of Sea-side Watering-places*, 1878, pp. 30, 31. In grains per gallon.

1. Drawn from the drinking-fountain at the pier-gates, July 14th.
2. From the Surveyor, July 23rd (? 1877).

	1.	2.
Total solid matter	28·5	33·6
Loss on ignition after deducting combined carbonic acid	4·2	4·43
Iron, traces.		
Chlorine calculated as chloride of sodium... ...	6·76	6·67
Nitrogen as ammonia	·0011	·004
„ „ albumenoid ammonia	·0035	·0037
„ „ nitrates	·419	·488
„ „ nitrites	·013	·006
Total nitrogen in these four forms	·4366	·5017
Oxygen absorbed by organic matter	·021	·011

Hardness, Clark's scale, before boiling 19° and 18·6°, after boiling 3·5° and 4·2°.

Both of excellent colour and free from objectionable taste or smell. No fault except hardness.

Five samples, by S. HARVEY. Communicated by Dr. F. PARSONS. In grains per gallon.

1. From the rising main near Whitehall Works, taken at noon, August 29th, 1890.
2. From the bottom of the well, Southwood, taken at 12.45 p.m. same day.
3. From heading in which workmen were at work ... ... } Received
4. From heading nearest the point where contamination might have been expected ... ... } 30th May, 1904.
5. Sample received 16th January, 1899.

In all, appearance clear, no smell. Colour, in 5, green-blue.

	1.	2.	3.	4.	5.
Chlorine in chlorides ...	10·36	7·63	3·71	3·71	11·62
Do. reckoned as salt ...	17·07	12·57	—	—	—
Nitrogen in nitrates ...	·85	·85	·35	·33	·69
Ammonia	trace	trace	·0035	trace	none
Albumenoid ammonia ...	·0006	·0019	·0025	·0022	·0011
Oxygen absorbed in 15 minutes	trace	trace	trace	trace	trace
Oxygen absorbed in 4 hours	·03	·07	·03	·03	·022
Total solid matter ...	45·5	40·04	30·24	30·24	43·68
Hardness, before boiling	22·75°	22·23°	20·4°	20·4°	23·2°
„ after „ (permanent)	3·85°	3·5°	2·2°	2·2°	5·2°

1, 2. It is satisfactory to find that the supply maintains its high character for organic purity and freedom from sewage-impregnation.

3, 4. Assuming the two samples to represent the public supply the results are very satisfactory and at no time before have such low figures for combined chlorine and nitrates been observed. The water in both is organically pure and there is no evidence of sewage-percolation. The figure for ammonia in No. 3 however requires explanation; such an amount is unusual.

5. The results are satisfactory both as to organic purity and absence of sewage-percolation.

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
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274/8 TR36/24

274/8 Ramsgate.

Whitehall Pumping Station.

The shafts at this Station are known now as:-

No. 1 - 12 ft. diameter x 112 ft. deep.

No. 2 - 9 ft. " x 115 ft. deep.

No. 3 - 9 ft. x 7 ft. oval x 110 ft. deep.

The dates of construction given for (a), No. 3, and (b), No. 2, we presume correct, but (a), No. 1, is later - 1896. Floor level is 97.54 above O.D. The total length of headings in 1905 are given by Whittaker as "more than 2½ miles". This is presumably the 12,320 ft. quoted in your draft. From our records this total length is approximately 13,000 ft. We have no accurate record of the dates of any heading extensions. Some work was done in 1893 - 1895 but the lengths are unknown. The normal pumping rate 70,000 g.p.h.

274/8 Lord of the Manor Pumping Station, Ramsgate.

This Station was commissioned in 1933 with the object of pumping more water from the middle of the long heading system from Whitehall and thereby reducing the underground hydraulic gradient caused by pumping the whole of the water from Whitehall in order to reduce the infiltration of sea water due to pumping below O.D.

The headings are common to both Whitehall and Lord of the Manor Stations as stated.

The headings were extended in 1923/24 from Lord of the Manor in a north-westerly direction for a distance of 4,860 ft. and again in 1934/35 turning west for a further distance of 5,280 ft. at a level of 2 ft. below O.D. The 1934/35 extension was made by Legrand. The floor level is 115.6 above O.D. The Station is being modernised and is likely to be in use more frequently than in the past.

"Information by letter from Thanet Water Board, 30.3.61". [redacted]

British Geological Survey
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TR 36 NW/3

274/8A

Microscopical examination of deposit.

1, 2, Slight chalk; 3, chalky; 4, slight and unimportant; 5, slight traces of iron-oxide and vegetable fibres.

Another analysis, from the well at Whitehall. March, 1899. Made and communicated by Dr. J. C. Thresh. The greater part published in his *Examination of Waters and Water Supplies*, 1904.

Saline constituents, in parts per 100,000.

Ca.	Mg.	Na.	CO_3.	SO_4.	Cl.	NO_3.	Probable combinations.	
13·3	1·25	—	14·8	3·3	17·4	4·2		
9·9	—	—	14·8	—	—	—	Calcium carbonate...	24·7
1·4	—	—	—	3·3	—	—	Calcium sulphate ...	4·7
1·35	—	—	—	—	—	4·2	Calcium nitrate ...	5·55
·65	—	—	—	—	1·15	—	Calcium chloride ...	1·8
—	1·25	—	—	—	3·7	—	Magnesium chloride	4·95
—	—	8·15	—	—	12·55	—	Sodium chloride ...	20·7
							Silica, etc	1·1

Total solid constituents dried at 180° C. 63·5
Organic ammonia (no free ammonia) ·002
Oxygen absorbed in 4 hours at 27° C. ·078

The following, made and communicated by Mr. C. Ekin, are presumably from the public supply. The figures are parts per million.

	Waterfall.	Granville Hotel.	Station.
Chlorine	206·	198·	206·
Ammonia	·08	0	·08
Nitrogen as nitrates (no nitrites)	8·23	8·89	9·22

The following sets of analyses are condensed from tables contributed by Mr. T. N. Ritson, late Engineer of Ramsgate. They deal with the years 1903—6.

Analyses of samples taken each month in 1903 gave the following results:—

Appearance and colour, clear and green-blue; smell, none; throughout.
Microscopic examination, slight or slight and unimportant throughout.

Chlorine in chlorides	varied from	13·31 in Dec. to 15·26 in Sept.
„ as salt	„ „	21·93 in Dec. to 25·15 in Sept.
Nitrogen in nitrates	„ „	·67 in Dec. to ·87 in Feb.
Ammonia	„ „	from none (generally) to ·0014 in Sept.
„ albuminoid	„ „	from ·0011 Oct. and Dec. to ·0019 March and May.
Oxygen absorbed in 15 minutes	„ „	trace only throughout.
„ „ „ 4 hours ...	„ „	from ·02 May to ·044 Oct.
Hardness before boiling (total)...	„ „	pretty constant 23·9-24·2.
„ after „ (permanent)	„ „	„ „ 6· to 6·5.
Total solid matter	„ „	50·47 July to 53·27 Nov.

A similar series taken in 1904 gave the following results:—

Appearance clear; colour, green-blue; smell, none; throughout.
Microscopic examination of deposit, "slight (or very slight) and unimportant" in 11 months to "slight organic débris" in Feb.

Chlorine in chlorides	varied from	10·15 July to 12·81 Aug. and Dec.
„ as salt	„ „	16·73 July to 21·1 Aug. and Dec.
Nitrogen in nitrates	„ „	·46 Sept. next lowest ·66 Jan.; highest ·84 Feb.
Ammonia	„ „	none very often to ·0005 Nov.
„ albuminoids	„ „	·0008 Sept. and Oct. to ·0017 Feb.
Oxygen absorbed in 15 minutes ...	„ „	trace only throughout.
„ „ „ 4 hours ...	„ „	·0054 Sept. (next lowest ·028 Feb.) to ·052 July.
Hardness total	„ „	22·9 Dec. and Sept., 23·9 Jan.
„ permanent	„ „	5·3 Dec., Sept. and Oct. to 6·3 Jan.
Total solid matter	„ „	43·61 June to 51·24 Nov.

A similar series in 1905 gave the following results:—

Appearance clear (very clear Jan. and Feb.); colour green-blue; smell none; throughout.
Microscopic examination of deposit, slight and unimportant throughout.

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British National Grid (27700) : 632480,165600

274/18a.

274/8

TR36/24 D+E

DE

Lords of the Manor Temporary Pumping Station.

See Record 274/8.

Visited. Pumphouse at 115.6 O.D. Standby supply pumped only in summer. Connected with the main Whitehall system of headings of the Thanet Water Board. (A,B,C 274/8).

[illegible] 26-10-57

d & e ([illegible]) are understood to be connected by a heading their distance apart is c. 4,190 yds. the floor of the heading is assumed to be 176 ft down (b).

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

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Report an issue with this borehole

TR 36 NW/3 274/8A 10

Chlorine in chlorides	varied from	12·74 Feb. to 16·66 Oct.
„ as salt	„ „	20·99 Feb. to 27·45 „
Nitrogen in nitrates	„ „	·54 in Oct. to ·78 Jan. and Sept.
Ammonia	„ „	none generally to ·0006 in April.
„ albuminoid	„ „	·0009 Jan. to ·0021 May.
Oxygen absorbed in 15 minutes	„ „	trace only throughout.
„ „ „ 4 hours ...	„ „	·024 Jan. to ·064 in Sept.
Hardness before boiling (total)...	„ „	22·9 June to 23·6 Sept.
„ after „ (permanent)	„ „	5·3 Jan., June and Nov. to 5·8 May.
Total solid matter...	„ „	49·35 June to 57·19 Sept.

Note.—Figures for the December sample not given.

A similar series in 1906 gave the following results :—
Appearance clear ; colour, green-blue ; smell none ; throughout.
Microscopic examination of deposit, slight in June, slight and unimportant in others.

Chlorine in chlorides	varied from	15·82 Jan. and Feb. to 21·35 Dec.
„ as salt	„ „	26·07 Jan. and Feb. to 35·18 Dec.
Nitrogen in nitrates	„ „	·69 in May to ·85 in Mar.
Ammonia	„ „	·0003 May, June, Aug., Sept., Nov., Dec. to ·0006 Jan. and Feb.
„ albuminoid	„ „	·0008 Jan., April and June to ·0019 March.
Oxygen absorbed in 15 minutes	„ „	trace only or traces throughout.
„ „ „ 4 hours ...	„ „	·022 Feb. to ·068 July.
Hardness before boiling (total)...	„ „	23·6 June to 28·8 Sept.
„ after „ (permanent)	„ „	·9 June to 10·9 Aug. and Sept.
Total solid matter...	„ „	53·97 Jan. and June to 67·97 Sept.

A combination of the monthly analyses for the 4 years 1903—6.
Appearance clear (very clear Jan. and Feb. 1905) ; colour, green-blue ; smell none ; throughout.
Microscopic examination of deposit, slight (or very slight) and unimportant almost throughout (once "slight"). In Feb. 1904, there was "slight organic débris."

Chlorine in chlorides	varied from	10·15 July 1904 to 21·35 Dec. 1906.
„ as salts	„ „	16·73 July 1904 to 35·18 Dec. 1906.
Phosphoric acid as phosphates...		None throughout.
Nitrogen in nitrates	„ „	·46 Sept. 1904 to ·87 in Feb. 1903.
Ammonia	„ „	none generally in 1903, 4, 5 to ·0014 Sept. 1903.
„ albuminoid	„ „	·0006 Jan. 1905 to ·0021 May 1905.
Oxygen absorbed in 15 minutes	„ „	trace only throughout (once "traces") in
„ „ „ 4 hours ...	„ „	·0054 Sept. 1904, next lowest ·02, May 1903, highest ·068 July 1906.

* This figure is exceptional. Possibly should b ·054.

Hardness before boiling (total)...	„ „	22·9 Dec. and Sept. '04 and June '05 to 28·8 Sept. '06.
„ after „ (permanent)	„ „	5·3 Dec., Sept. and Oct. '04 and Jan., June and Nov. '05 to 10·9 Aug. and Sept. '06.
Total solid matter	„ „	43·61 June '04 to 67·97 Sept. '06.

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

2022

RECORD OF WELL (SHAFT OR BORE) 274

1" N.S. 274/186.
1" O.S. 3
Grid Ref. N.W.
37NE(?)
8E

Boro'. of Ramsgate
At
Town or Village Minster County Kent Si
Exact site
in parish of 2
(sketch-map facing from a map is very desirable)

Level of ground surface above sea-level (O.D.) 166 ft. If well starts below ground surface, state how far ft.
Shaft 6 ft., ~~diameter~~ 4 ft. by 4 ft. diam. (ovaly) Bore ft. Diameter of bore: at top ins.; at bottom ins.
Details of permanent lining tubes (internal diameters preferred) None used. TR36/24E

Water struck at depths of (feet)
Rest-level of water below / above top of well feet. Suction at feet. Yield on hours' / days' test
gallons per (with pump of capacity g.p.h.); depressing water level to feet
below top. Time of recovery hrs. Amount normally pumped daily g.p.h. for hours.
Quality (attach copy of analysis if available)
Sunk by L. Grand S. & C. for Mr. Date of well 31. 7. 35.
Information from Le Grand

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	THICKNESS Feet.	THICKNESS Inches.	DEPTH Feet.	DEPTH Inches.
	Shaft Sinking 6' x 4' dia. Oval.				
Upper chalk	Earth and Chalk	4	-	4	-
X	Chalk with occasional bands of flints	78	-	82	-
	Chalk and Flints	94	6	176	6
£CAH. 1939	Drove 4'0" into old heading at this depth - eventually drove to 27'2".				
X	6" band of flints at 86'6".				
	New Heading 6' x 4' then commenced and continued for a distance of 5280 direction - N.W.				
	Heading driven at a general level of 176' b.s.				
	So far as we were informed the increased supply as a result of the new shaft and heading was between 35 and 40,000 g.p.h. No actual pumping was done by us.				

Extension of scheme detailed under 274/18

£CAH. 1939
Sited 13.2.40. This is a shaft made in connection with the driving of the adit of the main scheme.

[redacted]

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

For Survey use only

Date received	G.S.M. Office File No.	Site marked on 1" map (use symbol)
DEC 1939		△

(*11815) Wt.29051/O.369 10,000 9/39 A.& E.W.Ltd. Gp.686

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

TR 36 NW/3 274 5/8

RAMSGATE CORPORATION

Gas and Water Department

Re Analysis of Water - Hardness.

A Base-Exchange Water Softening Plant is at present being installed and will be brought into use about the end of April. 1935. The policy of the Corporation is in future to supply water of from 7 - 10 grains per gallon total hardness.

Quantity of Water Available.

It is very difficult to give a reliable figure of quantity available as the figure would vary with varying conditions. The figure given is the maximum quantity pumped during 24 hours in 1934 and the level of the water in the Adit stood at -1' 8" O.D.

At the present time the Adits are being extended by one mile - 4,100 feet having been completed. Water is being obtained from these extensions to the amount of approximately 30,000 to 35,000 gallons per hour with continuous pumping. Whether this quantity will be available during Summer conditions remains to be proved.

Temporary Pumping Station.

By maintaining a steady pumping level at the Whitehall Works approximately 1½ million gallons per 24 hours and taking up the peak load by pumping at the Lord of the Manor temporary Pumping Station a larger quantity of water can be obtained from the Adits with a lessened depression of the water level at Whitehall - the result being a lessened risk of infiltration of chlorides from the sea and it is confidently believed a considerably increased yield of water from the Adits. Ultimately it is expected that the Pumping Set at the Lord of the Manor will be installed at a new Water Works to be constructed approximately at the end of the present extension of the Adits.

Gas and Water Offices,
RAMSGATE.
March. 1935.

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
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TR 36 NW/3 2745/8

COPY.

South Eastern Analytical Laboratory,
Watling Chambers,
Canterbury.

WATER ANALYSIS - Folio 15th. March 1935.

The Borough of Ramsgate.

Sample Marked - as below.

Received - 13th March 1935.

N. B. ALL NUMERICAL RESULTS EXPRESSED IN PARTS PER 100,000.

Description or number of sample	"Public Supply, Letter "L".
Appearance.	Clear.
Colour.	Green-Blue.
Smell.	Normal.
Chlorine in Chlorides.	12.40
Phosphoric Acid in Phosphates.	None.
Nitrogen in Nitrates.	1.03
Ammonia.	None.
Albuminoid Ammonia.	0.0040
Oxygen absorbed in 15 minutes	Trace only.
Oxygen absorbed in 4 hours.	0.023
Hardness before boiling (total)	31.9
Hardness after boiling (permanent)	10.3
Total Solid Matter.	62.00
Microscopical Examination of Deposit.	Slight and unimp[illegible]
Chlorine as "Salt"	20.44

Remarks:-

The above results are satisfactory and indicates water organically pure and free from sewage percolation.

The Microscopical Examination is also satisfactory.

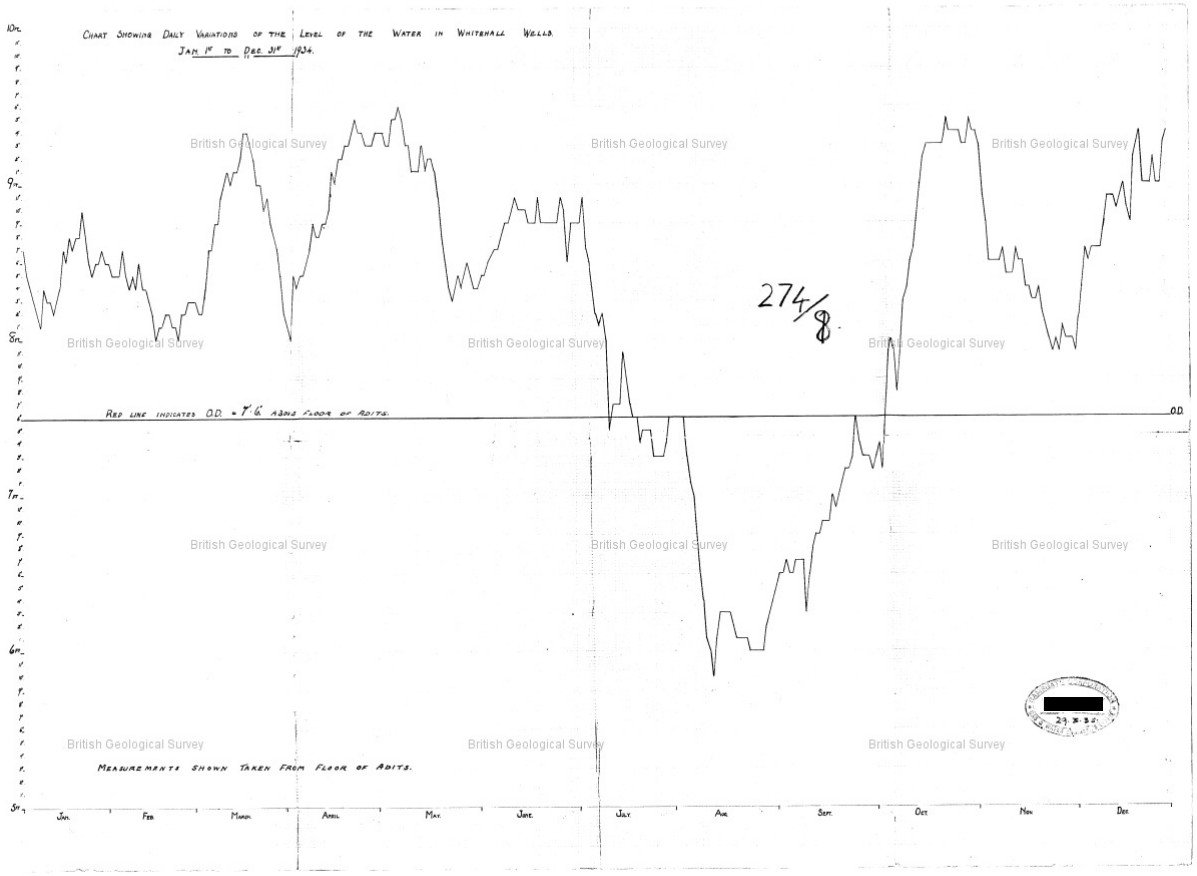
The figures for "Chlorine", "Total solid matter" and "Hardness" are all lower that when this supply was last examined in September.

(Signed) Ernest M. Hawkins.

Public Analyst, Borough of Ramsgate.

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

<< < Prev Page 20 of 32 Next > >>



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

012.

274/8 TR 36 NW/3

274/8 Ramsgate.

Whitehall Pumping Station.

The shafts at this Station are known now as:-

No. 1 - 12 ft. diameter x 112 ft. deep.

No. 2 - 9 ft. " x 115 ft. deep.

No. 3 - 9 ft. x 7 ft. oval x 110 ft. deep.

The dates of construction given for (a), No. 3, and (b), No. 2, we presume correct, but (a), No. 1, is later - 1896. Floor level is 97.54 above O.D. The total length of headings in 1905 are given by Whittaker as "more than 2½ miles". This is presumably the 12,320 ft. quoted in your draft. From our records this total length is approximately 13,000 ft. We have no accurate record of the dates of any heading extensions. Some work was done in 1893 - 1895 but the lengths are unknown. The normal pumping rate 70,000 g.p.h.

274/8 Lord of the Manor Pumping Station, Ramsgate.

This Station was commissioned in 1933 with the object of pumping more water from the middle of the long heading system from Whitehall and thereby reducing the underground hydraulic gradient caused by pumping the whole of the water from Whitehall in order to reduce the infiltration of sea water due to pumping below O.D.

The headings are common to both Whitehall and Lord of the Manor Stations as stated.

The headings were extended in 1923/24 from Lord of the Manor in a north-westerly direction for a distance of 4,860 ft. and again in 1934/35 turning west for a further distance of 5,280 ft. at a level of 2 ft. below O.D. The 1934/35 extension was made by Legrand. The floor level is 115.6 above O.D. The Station is being modernised and is likely to be in use more frequently than in the past.

"Information by letter from Thanet Water Board, 30.3.61". [redacted]

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

15.

COPY

TR 36 NW/3

274/8 C

THE COUNTIES PUBLIC HEALTH LABORATORIES

(THRESH, BEALE & SUCKLING)

ROY C. HOATHER, B.Sc., Ph.D., F.R.I.C., F.R.S.H.
W. A. BULLOUGH, C.B.E., M.Sc., M.B.Ch.B., D.P.H.
GORDON MILES, B.Sc., F.R.I.C., F.R.S.H.
R. F. RACKHAM, B.Sc., M.R.S.H.

66, VICTORIA STREET, LONDON, S.W.1.

Telephone: VICTORIA [illegible]
Telegrams: SPOROGENES, [illegible] LONDON.

Your ref. .....

ANALYSIS OF A SAMPLE OF WATER received 2/9/57 Our ref. M.ME.13.

from THANET WATER BOARD

Labelled Newlands Adit' Whitehall Pumping Station — Ramsgate

Date 2/9/57 9.20 a.m.

Taken by: C. Saunders Witness J. Mc Henry Signed C. Saunders

CHEMICAL RESULTS IN PARTS PER MILLION

Appearance: Bright with very few particles	
Turbidity: Less than 3	
Colour: Nil	Odour: Nil
pH: 7.2	Free Carbon Dioxide: 34 Bottle
Electric Conductivity: 860	Dissolved Solids dried at 180°C: 585
Chlorine present as Chloride: 126	Alkalinity as Calcium Carbonate: 240
Hardness: Total 325 Carbonate 240	Non-carbonate 85
Nitrate Nitrogen: 15	Nitrite Nitrogen: Less than 0.01
Ammoniacal Nitrogen†: 0.000	Oxygen Absorbed: 0.10
Albuminoid Nitrogen†: 0.000	Residual Chlorine: Absent
Metals: Iron less than 0.03, Zinc 0.80, other metals [illegible]	

† To convert to Ammonia multiply by 1·21

BACTERIOLOGICAL RESULTS.

Sampling bottles are treated to remove residual chlorine if present.

	1 day at 37°C.	2 days at 37°C.
Number of Colonies developing on Agar	..... per ml.	..... per ml.

	Present in	Absent from	Present in	Absent from
Presumptive Coli-aerogenes Reaction	..... ml.	..... ml.	..... ml.	..... ml.
Bact. coli. (Type I)	..... ml.	..... ml.	..... ml.	..... ml.
Cl. welchii Reaction	..... ml.	..... ml.	..... ml.	..... ml.

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

COPY

TR36 NW/3

274/8 C

THE COUNTIES PUBLIC HEALTH LABORATORIES
(THRESH, BEALE & SUCKLING)

ROY C. HOATHER, B.Sc., Ph.D., F.R.I.C., F.R.S.H.
W. A. BULLOUGH, C.B.E., M.Sc., M.B.Ch.B., D.P.H.
GORDON MILES, B.Sc., F.R.I.C., F.R.S.H.
R. F. RACKHAM, B.Sc., M.R.S.H.

66, VICTORIA STREET,
LONDON, S.W.1.

Telephone: VICTORIA 5826/9
Telegrams: SPROGGENESS, Westphone, LONDON.

Your ref. .....

ANALYSIS OF A SAMPLE OF WATER received 2/9/57 Our ref. M.ME.14

from THANET WATER BOARD

Labelled Western Adit. — Whitehall Pumping Station — Ramsgate

Date 2/9/57 9.15 am

Taken by C.A. Saunders Witness J. McHenry Signed C.A. Saunders

CHEMICAL RESULTS IN PARTS PER MILLION

Appearance Bright with a very slight deposit

		Turbidity	Less than 3
Colour	Nil	Odour	Nil
pH	7.2	Free Carbon Dioxide	34 Bottle
Electric Conductivity	900	Dissolved Solids dried at 180°C.	625
Chlorine present as Chloride	140	Alkalinity as Calcium Carbonate	245
Hardness: Total	330	Carbonate 245	Non-carbonate 85
Nitrate Nitrogen	15	Nitrite Nitrogen	Less than 0.01
Ammoniacal Nitrogen†	0.000	Oxygen Absorbed	0.10
Albuminoid Nitrogen†	0.000	Residual Chlorine	Absent

Metals Zinc 1.2 other metals absent

† To convert to Ammonia, multiply by 1·21

BACTERIOLOGICAL RESULTS.

Sampling bottles are treated to remove residual chlorine if present.

Number of Colonies developing on Agar	1 day at 37°C. ..... per ml.	2 days at 37°C. ..... per ml.	3 [illegible] ..... per ml.
	Present in	Absent from	Probable number per 100 ml.
Presumptive Coli-aerogenes Reaction	..... ml.	..... ml.	..... per 100 ml.
Bact. coli. (Type I)	..... ml.	..... ml.	..... per 100 ml.
Cl. welchii Reaction	..... ml.	..... ml.	

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

1

274/8 TR36 NW/3 Cg. C

ABC

THE COUNTIES PUBLIC HEALTH LABORATORIES
(THRESH, BEALE & SUCKLING)
ROY C. HOATHER, B.Sc., Ph.D., F.R.I.C., F.R.S.H.
W. A. BULLOUGH, C.B.E., M.Sc., M.B.Ch.B., D.P.H.
GORDON MILES, B.Sc., F.R.I.C., F.R.S.H.
R. F. RACKHAM, B.Sc., M.R.S.H.
E. ENGLISH, B. Pharm., B.Sc., F.R.I.C.
THRESH HOUSE,
VERULAM STREET,
GRAY'S INN ROAD,
LONDON, W.C.1.
Telephone : CHAncery (1200 (10 lines))
Telegrams : SPORO, Holb, London.

Your ref.

ANALYSIS OF A SAMPLE OF WATER received 7.3.61 Our ref. 9/mr/94

from THANET WATER BOARD.

Labelled Western Adit. Whitehall Pumping Station, Ringsgate.

Date 6.3.61 9.5am

Taken by C. Saunders Witness W. Vaughan Signed C. Saunders

CHEMICAL RESULTS IN PARTS PER MILLION.

Appearance Bright with very few particles.

Turbidity	Less than 3		
Colour	Nil	Odour	Nil
pH	7.1	Free Carbon Dioxide	28
Electric Conductivity	630	Dissolved Solids dried at 180°C.	440
Chlorine present as Chloride	54	Alkalinity as Calcium Carbonate	230
Hardness : Total	300	Carbonate 230	Non-carbonate 70
Nitrate Nitrogen	11	Nitrite Nitrogen	Less than 0.01
Ammoniacal Nitrogen†	0.000	Oxygen Absorbed	0.15
Albuminoid Nitrogen†	0.000	Residual Chlorine	Absent

Metals Iron, Zinc, Copper & Lead: Absent

† To convert to Ammonia multiply by 1·21

BACTERIOLOGICAL RESULTS.

Sampling bottles are treated to remove residual chlorine if present.

Number of colonies developing on Agar { 1 day at 37°C. ... per ml. | 2 days at 37°C. ... per ml. | 3 days at 20—22°C. ... per ml.

	Present in	*Absent from*	*Probable number.*
Presumptive Coliform reaction	... ml.	... ml.	... per 100 ml.
Bact. coli. (Type I)	... ml.	... ml.	... per 100 ml.
Cl. welchii reaction	... ml.	... ml.	

This sample is practically clear and bright in appearance neutral in reaction and free from iron and other metals. The water is hard in character but not to an excessive degree, contains no excess of mineral constituents and it is of very satisfactory organic quality.

From the aspect of the chemical analysis these results are indicative of a pure and wholesome water suitable for public supply purposes.

[redacted]

10th March, 1961

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

274/8 TR36 NW/3 8 MAR 1961

[redacted] ABC

THE COUNTIES PUBLIC HEALTH LABORATORIES

(THRESH, BEALE & SUCKLING)

ROY C. HOATHER, B.Sc., Ph.D., F.R.I.C., F.R.S.H.
W. A. BULLOUGH, C.B.E., M.Sc., M.B.Ch.B., D.P.H.
GORDON MILES, B.Sc., F.R.I.C., F.R.S.H.
R. F. RACKHAM, B.Sc., M.R.S.H.
E. ENGLISH, B. Pharm., B.Sc., F.R.I.C.

THRESH HOUSE,
VERULAM STREET,
GRAY'S INN ROAD,
LONDON, W.C.1.

Telephone : CHAncery 301
Telegrams : SPOROG

Your ref.

ANALYSIS OF A SAMPLE OF WATER *received* 7. 3. 61 *Our ref.* Q/TT/95

from [illegible] WATER BOARD.

Labelled Newlands Adit, Whitehall Pumping Station, Ramsgate.

Date 6.3.61 9.10

Taken by H. Saunders *Witness* H. Vaughan *Signed* H. Saunders

CHEMICAL RESULTS IN PARTS PER MILLION.

Appearance Bright with very few particles.

Turbidity			Less than 2
Colour	Nil	Odour	Nil
pH	7.2	Free Carbon Dioxide	30
Electric Conductivity	620	Dissolved Solids dried at 180°C.	430
Chlorine present as Chloride	50	Alkalinity as Calcium Carbonate	240
Hardness : Total	300	Carbonate 240	Non-carbonate 60
Nitrate Nitrogen	11	Nitrite Nitrogen	Less than 0.01
Ammoniacal Nitrogen†	0.000	Oxygen Absorbed	0.05
Albuminoid Nitrogen†	0.000	Residual Chlorine	Absent

Metals Iron, Zinc, Copper & Lead: Absent

† *To convert to Ammonia multiply by 1·21*

BACTERIOLOGICAL RESULTS.

Sampling bottles are treated to remove residual chlorine if present.

Number of colonies developing on Agar	1 day at 37°C.	2 days at 37°C.	3 days at 20—22°C.
	... per ml.	... per ml.	... per ml.

	Present in	*Absent from*	*Probable number.*
Presumptive Coliform reaction	... ml.	... ml.	... per 100 ml.
Bact. coli. (Type I)	... ml.	... ml.	... per 100 ml.
Cl. welchii reaction	... ml.	... ml.	

This sample is practically clear and bright in appearance neutral in reaction and free from iron and other metals. The water is hard in character but not to an excessive degree, contains no excess of mineral constituents and it is of very satisfactory organic quality.

From the aspect of the chemical analysis these results are indicative of a pure and wholesome water suitable for public supply purposes.

10th March, 1961

[redacted]

Cl

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

TR 36 NW/3

RAILWAY EXECUTIVE.
SOUTHERN REGION - ASHFORD WORKS.
CHEMICAL LABORATORY. CHIEF MECHANICAL ENGINEER'S DEPARTMENT.

ANALYSIS OF SAMPLE OF WATER.

274

3.

From ..... RAMSGATE.
Source .... LORD OF MANOR SUPPLY.
Laboratory Ref: ..... B.20/114.
Date of Sampling ..... 19th April, 1934.

8 D

CONDITION AT TIME OF ANALYSIS.

Appearance .....
pH Value .....
Electrical Conductivity .....
Suspended matter .....
Colour .....

RESULTS OF ANALYSIS. Grains per gallon.		CONVENTIONAL COMBINATIONS.	
Lime (as CaO)	9.94	Calcium Carbonate	15.85 grns.
Magnesia (as M_gO)	0.46	Magnesium Carbonate	-
Iron (as Fe_2O_3)	Trace.	Sodium Carbonate	-
Silica (as SiO_2)	0.45	Calcium Sulphate	1.00 "
Chlorides (as Cl)	3.45	Magnesium Sulphate	-
Sulphates (as SO_3)	0.60	Sodium Sulphate	-
Nitrates (as N_2O_5)	2.22	Calcium Nitrate	1.90 "
Free Carbon Dioxide (as CO_2)	-	Magnesium Nitrate	1.35 "
Total solids at 130°C	28.0	Sodium Nitrate	-
Total Alkalinity (to Methyl Orange)	15.85	Calcium Chloride	-
Other Constituents.		Magnesium Chloride	0.80 "
.....		Sodium Chloride	5.45 "
.....		Oxide of Iron & Alumin.	Trace.
.....		Silica	0.45 "

Temporary Hardness ..... 15.85 degrees.
Permanent Hardness ..... 3.05 "
Total Hardness ..... 18.90 "
Scale Forming Matter ..... 18.00 grains.

REMARKS:

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

TR 36 NW/3

COPY

274/8D

THE COUNTIES PUBLIC HEALTH LABORATORIES
(THRESH, BEALE & SUCKLING)
66, VICTORIA STREET, LONDON, S.W.1.

ROY C. HEATHER, B.Sc., Ph.D., F.R.I.C., F.R.S.H.
W. A. BULLOUGH, C.B.E., M.Sc., M.B.Ch.B., D.P.H.
GORDON MILES, B.Sc., F.R.I.C., F.R.S.H.
R. F. RACKHAM, B.Sc., M.R.S.H.

Telephone: VICTORIA 5834
Telegrams: SPOROGENES, WESTCENT, LONDON

Your ref. .....

ANALYSIS OF A SAMPLE OF WATER received 7.8.57 Our ref. M/YN/16

from THANET WATER BOARD

Labelled Bib Cock- Engine Room, Ramsgate. Lord of the Manor Pumping Station Date 6.8.57 10.10am

Taken by D.T. Gora Witness H. Vaughan Signed D.T. Gora

CHEMICAL RESULTS IN PARTS PER MILLION

Appearance Bright with very few particles

Turbidity Less than 3

Colour Nil Odour Very faint chlorinous

pH 7.3 Free Carbon Dioxide 16

Electric Conductivity 640 Dissolved Solids dried at 180°C. 430

Chlorine present as Chloride 60 Alkalinity as Calcium Carbonate 220

Hardness: Total 295 Carbonate 220 Non-carbonate 75

Nitrate Nitrogen 13 Nitrite Nitrogen Less than 0·01

Ammoniacal Nitrogen† 0·000 Oxygen Absorbed 0·10

Albuminoid Nitrogen† 0·000 Residual Chlorine 0·15

Metals Absent

† To convert to Ammonia, multiply by 1·21

BACTERIOLOGICAL RESULTS.

Sampling bottles are treated to remove residual chlorine if present.

	1 day at 37°C.	2 days at 37°C.	3 days at 20°C.
Number of Colonies developing on Agar	..... per ml.	..... per ml.	..... per ml.

	Present in	Absent from	Probable number
Presumptive Coli-merogenes Reaction	..... ml.	..... ml.	
Bact. coli. (Type I)	..... ml.	..... ml.	per 100 ml.
Cl. welchii Reaction	..... ml.	..... ml.	

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

274/18a.

274/8 TR 36 NW/3

DE

Lords of the Manor Temporary Pumping Station.

See Record 274/8.

Visited. Pumphouse at 115.6 O.D. Standby supply pumped only in summer. Connected with the main Whitehall system of headings of the Thanet Water Board. (A, B, C 274/8).

Visited 26-10-57

d & e are understood to be connected by a heading their distance apart is c. 4,190 yds. the floor of the heading is assumed to be 176 ft down (b).

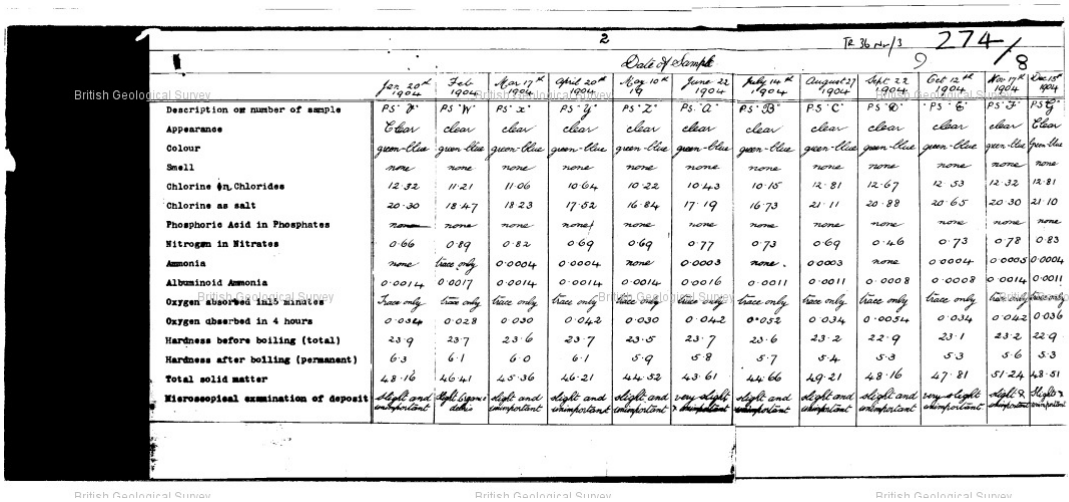
BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

<< < Prev Page 29 of 32 Next > >>

TR 36 nw/3
8.274/8

	Date of Sample.											
	January 23rd 1903	Feb 13th 1903	March 17th 1903	April 22nd 1903	May 22nd 1903	June 17th 1903	July 11th 1903	August 25th 1903	Sept 15th 1903	Oct 17th 1903	Nov 20th 1903	Dec 18th 1903.
Description or number of sample	PS "I"	PS "K"	PS "L"	PS "M"	PS "N"	PS "O"	PS "P"	PS "Q"	PS "R"	PS "S"	PS "T"	PS "U"
Appearance	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Colour	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue
Smell	None	none	none	none	none	none	none	none	none	none	none	none
Chlorine in Chlorides	14.28	14.77	13.72	14.42	14.77	14.07	13.65	15.05	15.26	13.65	14.77	13.31
Chlorine as salt	23.53	24.34	22.61	23.76	24.34	23.19	22.49	24.80	25.15	22.49	24.34	21.93
Phosphoric Acid in Phosphates	None	none	none	none	none	none	none	none	none	none	none	none
Nitrogen in Nitrates	0.71	0.37	0.79	0.68	0.72	0.75	0.76	0.73	0.71	0.71	0.79	0.67
Ammonia	None	none	none	none	none	none	none	none	0.0014	0.0004	trace only	trace only
Albuminoid Ammonia	0.0014	0.0021	0.0019	0.0014	0.0019	0.0014	0.0017	0.0008	0.0014	0.0011	0.0017	0.0011
Oxygen absorbed in 15 minutes	Trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only
Oxygen absorbed in 4 hours	0.024	0.034	0.024	0.024	0.020	0.042	0.042	0.032	0.034	0.044	0.032	0.026
Hardness before boiling (total)	23.9	24.1	24.0	24.1	24.1	24.2	24.0	24.2	24.1	23.9	24.1	23.9
Hardness after boiling (Permanent)	6.4	6.5	6.4	6.5	6.5	6.3	6.1	6.3	6.2	6.0	6.3	6.1
Total Solid matter	30.68	32.37	31.24	32.71	31.87	32.92	30.47	32.99	32.37	31.59	33.27	32.22
Microscopical Examination of deposit	Slight.	Slight, some fibrous	Slight & unimportant	Slight & unimportant	Slight & unimportant	very slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant	slight & unimportant

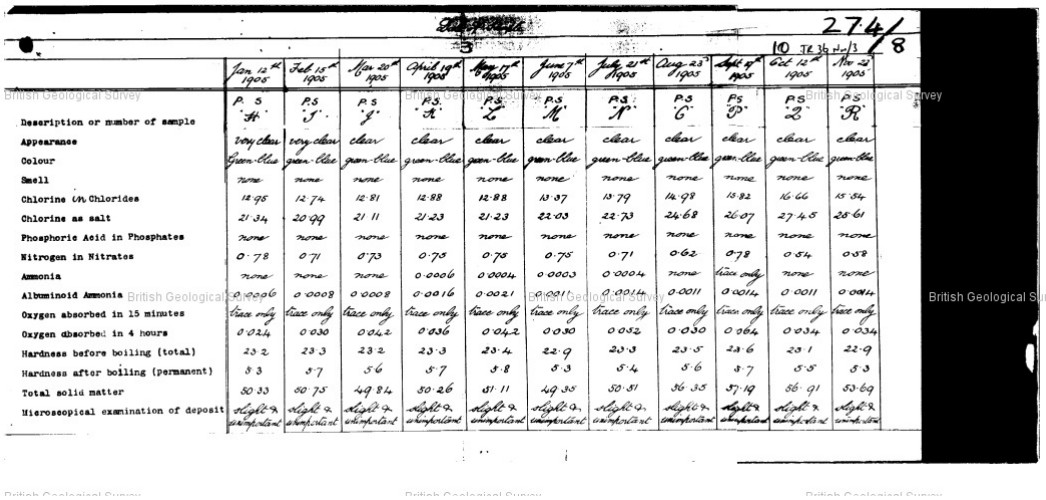
BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole



	Jan 29th 1904	Feb 1904	Mar 17th 1904	April 20th 1904	May 10th 19	June 22 1904	July 11th 1904	August 27 1904	Sept 22 1904	Oct 12th 1904	Nov 7th 1904	Dec 15th 1904
Description or number of sample	P.S. 'N'	P.S. 'W'	P.S. 'X'	P.S. 'Y'	P.S. 'Z'	P.S. 'A'	P.S. 'B'	P.S. 'C'	P.S. 'D'	P.S. 'E'	P.S. 'F'	P.S. 'G'
Appearance	Clear	clear	clear	clear	clear	clear	clear	clear	clear	clear	clear	Clear
Colour	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue
Smell	none	none	none	none	none	none	none	none	none	none	none	none
Chlorine in Chlorides	12.32	11.21	11.06	10.64	10.22	10.43	10.15	12.81	12.67	12.53	12.32	12.81
Chlorine as salt	20.30	18.47	18.23	17.52	16.84	17.19	16.73	21.11	20.88	20.65	20.30	21.10
Phosphoric Acid in Phosphates	none	none	none	none	none	none	none	none	none	none	none	none
Nitrogen in Nitrates	0.66	0.89	0.82	0.69	0.69	0.77	0.73	0.69	0.46	0.73	0.78	0.83
Ammonia	none	trace only	0.0004	0.0004	none	0.0003	none	0.0003	none	0.0004	0.0005	0.0004
Albuminoid Ammonia	0.0014	0.0017	0.0014	0.0014	0.0014	0.0016	0.0011	0.0011	0.0008	0.0008	0.0014	0.0011
Oxygen absorbed in 15 minutes	Trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	Trace only
Oxygen absorbed in 4 hours	0.0364	0.028	0.030	0.042	0.030	0.042	0.052	0.034	0.0034	0.034	0.042	0.036
Hardness before boiling (total)	23.9	23.7	23.6	23.7	23.5	23.7	23.6	23.2	22.9	23.1	23.2	22.9
Hardness after boiling (permanent)	6.3	6.1	6.0	6.1	5.9	5.8	5.7	5.4	5.3	5.3	5.6	5.3
Total solid matter	48.16	46.41	45.36	46.21	44.32	43.61	44.66	49.21	48.16	47.81	51.24	48.51
Microscopical examination of deposit	slight and unimportant	slight organic debris	slight and unimportant	slight and unimportant	slight and unimportant	very slight unimportant	slight and unimportant	slight and unimportant	slight and unimportant	very slight unimportant	slight unimportant	slight unimportant

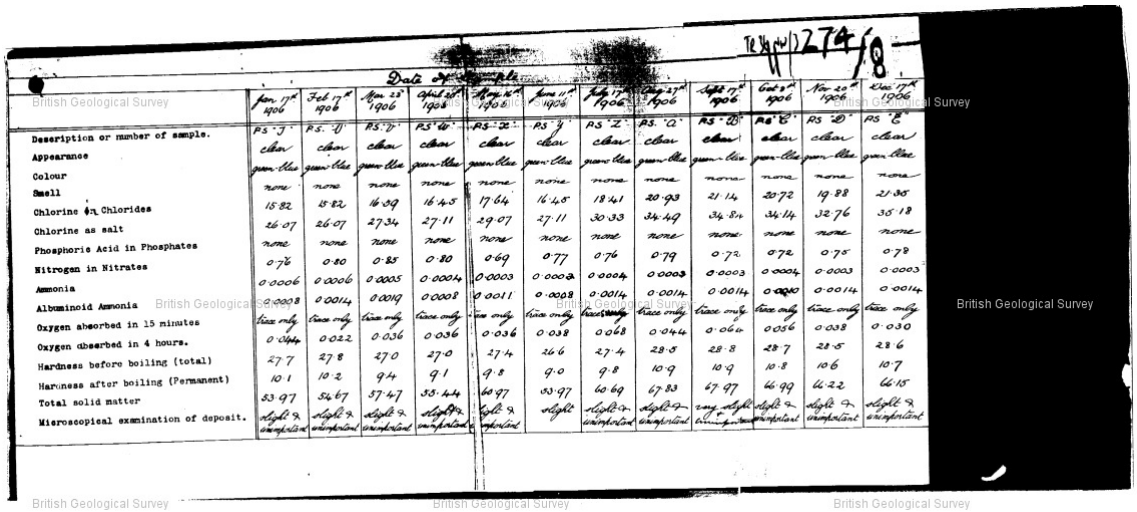
BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole

<< < Prev Page 31 of 32 Next > >>



	Jan. 12th 1905	Feb. 15th 1905	Mar. 20th 1905	April 19th 1905	May 17th 1905	June 7th 1905	July 21st 1905	Aug. 23rd 1905	Sept. 4th 1905	Oct. 12th 1905	Nov. 2nd 1905
Description or number of sample	P.S. H	P.S. J	P.S. K	P.S. L	P.S. M	P.S. N	P.S. C	P.S. D	P.S. Z	P.S. R	
Appearance	very clear	very clear	clear	clear	clear	clear	clear	clear	clear	clear	clear
Colour	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue
Smell	none	none	none	none	none	none	none	none	none	none	none
Chlorine as Chlorides	12·95	12·74	12·81	12·88	12·88	13·07	13·79	14·98	13·82	16·66	15·54
Chlorine as salt	21·34	20·99	21·11	21·23	21·23	22·03	22·73	24·68	26·07	27·45	25·61
Phosphoric Acid in Phosphates	none	none	none	none	none	none	none	none	none	none	none
Nitrogen in Nitrates	0·78	0·71	0·73	0·75	0·75	0·75	0·71	0·62	0·78	0·54	0·58
Ammonia	none	none	none	0·0006	0·0004	0·0003	0·0004	none	trace only	none	none
Albuminoid Ammonia	0·0006	0·0008	0·0008	0·0016	0·0021	0·0011	0·0014	0·0011	0·0014	0·0011	0·0014
Oxygen absorbed in 15 minutes	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only
Oxygen absorbed in 4 hours	0·024	0·030	0·042	0·036	0·042	0·030	0·052	0·050	0·064	0·034	0·034
Hardness before boiling (total)	23·2	23·3	23·2	23·3	23·4	22·9	20·3	23·5	23·6	23·1	22·9
Hardness after boiling (permanent)	5·3	5·7	5·6	5·7	5·8	5·3	5·4	5·6	5·7	5·5	5·3
Total solid matter	50·33	50·75	49·84	50·26	51·11	49·35	50·51	56·35	57·19	56·91	53·69
Microscopical examination of deposit	slight q. unimportant	slight q. unimportant	slight q. unimportant	slight q. unimportant	slight q. unimportant	slight q. unimportant	slight q. unimportant	slight q. unimportant	slight q. unimportant	slight q. unimportant	slight q. unimportant

BGS ID: 718604 : BGS Reference: TR36NW3
British National Grid (27700) : 632480,165600
Report an issue with this borehole



Description or number of sample.	Jan. 17th 1906	Feb 17th 1906	Mar. 23rd 1906	April 20th 1906	May 14th 1906	June 11th 1906	July 17th 1906	Aug. 27th 1906	Sept 17th 1906	Oct 9th 1906	Nov 20th 1906	Dec 17th 1906
Appearance	RS. J	RS. U	RS. V	RS. W	RS. X	RS. Y	RS. Z	RS. Q	RS. B	RS. C	RS. D	RS. E
Colour	clear	clear	clear	clear	clear	clear	clear	clear	clear	clear	clear	clear
Smell	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue	green-blue
Chlorine as Chlorides	none	none	none	none	none	none	none	none	none	none	none	none
Chlorine as salt	15.82	15.82	16.39	16.45	17.64	16.45	18.41	20.93	21.14	20.72	19.88	21.35
Phosphoric Acid in Phosphates	26.07	26.07	27.34	27.11	29.07	27.11	30.33	34.49	34.84	34.14	32.76	35.18
Nitrogen in Nitrates	none	none	none	none	none	none	none	none	none	none	none	none
Ammonia	0.76	0.80	0.85	0.80	0.69	0.77	0.76	0.79	0.72	0.72	0.75	0.78
Albuminoid Ammonia	0.0006	0.0006	0.0005	0.0004	0.0003	0.0003	0.0004	0.0003	0.0003	0.0004	0.0003	0.0003
Oxygen absorbed in 15 minutes	0.0008	0.0014	0.0019	0.0008	0.0011	0.0008	0.0014	0.0014	0.0014	0.0010	0.0014	0.0014
Oxygen absorbed in 4 hours.	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only	trace only
Hardness before boiling (total)	0.044	0.022	0.036	0.036	0.036	0.038	0.068	0.044	0.060	0.036	0.038	0.030
Hardness after boiling (Permanent)	27.7	27.8	27.0	27.0	27.4	26.6	27.4	28.5	28.8	28.7	28.5	28.6
Total solid matter	10.1	10.2	9.4	9.1	9.8	9.0	9.8	10.9	10.9	10.8	10.6	10.7
Microscopical examination of deposit.	53.97	54.67	57.47	55.44	60.97	53.97	60.69	67.83	67.97	66.99	64.22	66.15
	slight & amorphous	slight & amorphous	slight & amorphous	slight & amorphous	slight & organised	slight	slight & amorphous	slight & amorphous	very slight & amorphous	slight & amorphous	slight & amorphous	slight & amorphous

BGS ID: 718624 : BGS Reference: TR36NW23
British National Grid (27700) : 634510,167210
Report an issue with this borehole

RECORD OF WELL

For Institute use only Licence No. TR 36 NW/22428/5090

274/58 A

274/58 A

At Service Reservoir, Fleete
Manston
Town or Village Nr. Ramsgate
County Kent

EXACT SITE OF WELL:

30"/24" N.D. Washout Borehole
Six-inch National Grid sheet and reference TR 36 NW 3468 6726 TR 36 NW/22
For Southern Water Authority, East Kent Water and Drainage Division
State whether owner, tenant, builder, contractor, consultant, etc.: Owner
Address (if different from above) Westwood Road, Broadstairs, Kent.

Level of ground surface above sea level (O.D.) ------ ft (50.10 m)

*DELETE AS NECESSARY

If well top is not at ground level state how far above* / below: ----- ft (---- m)
SHAFT ----- ft (----- m); diameter ---- ft (---- m);
HEADINGS (please attach details—dimensions and directions)
BORE ------ 197 ft (60 m); diameter: at top 30 in (----- mm);
at bottom 24 in (---- mm)

Full details of permanent lining tubes (position, length, inner and outer diameters, plain slotted etc.):
50m x 30" O.D. x W.T. plain mild steel lining tube installed to 50m B.G.L. the top being left at G.L.

TEST CONDITIONS

Water struck at depths of Not recorded ft (---- m) below well top
Rest level of water ----- ft (44.35 m) above* / below well top. Suction at ---- ft (---- m)
Yield on ---- hours* / days* test pumping at ---- galls per ---- (---- l/s) with
depression to ---- ft (----- m) below well top. Recovery to rest level in ---- mins* / hours
Capacity of pump ---- g.p.h. (---- l/s)
Date of measurements 24th June, 1981 Not Pumped

NORMAL CONDITIONS

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:
Make and/or type ---- Motive power ----
Capacity ---- galls (---- m³) per hour. Suction at ---- ft (---- m)
below well top. Amount pumped ---- galls (---- m³) per day. Estimated
consumption ---- galls (---- m³) per week
Well made by F. Shotton (Grimsby) Ltd Date of sinking June, 1981

ADDITIONAL NOTES ANALYSIS (please attach copy if available)

LOG OF STRATA OVERLEAF

Received from
Date
Observation well
Recorder
ER log
Site marked on
1" map
6" map—Grid Sheet
(use symbol)
Copy to
Date

INSTITUTE OF GEOLOGICAL SCIENCES
HYDROGEOLOGY UNIT
EXHIBITION ROAD
LONDON SW7 2DE

IGS 2494 10 000 7/79

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718624 : BGS Reference: TR36NW23
British National Grid (27700) : 634510,167210
Report an issue with this borehole

RECORD OF WELL

For Institute use only Licence No.

TR 36/668 N.15090

274/58 B

274/58 B

EXACT SITE OF WELL

At Service Reservoir Fleete
MANSTON
Town or Village Nr. Ramsgate.
County Kent.
Six-inch County Sheet
8" N.D. Washout Borehole
Six-inch National Grid sheet and reference TR 36 N.W. 3451 6721

For Southern Water Authority, East Kent Water and Drainage Division

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

Address (if different from above) Westwood Road, Broadstairs, Kent.

Level of ground surface above sea level (O.D.) Not Known ft (---) m)

*DELETE AS NECESSARY

If well top is not at ground level, state how far above:* below: --- ft (--) m)

SHAFT ---ft (---m); diameter ---ft (--m);

HEADINGS (please attach details—dimensions and directions)

BORE ---164 ft (50 m); diameter: at top 8 in (---cm); at bottom 8" in (---cm)

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

40m x $8\frac{5}{8}$" O.D. x $\frac{5}{16}$" W.T. plain mild steel lining tube installed to 40m B.G.L. the top being left at G.L.

TEST CONDITIONS

Water struck at depths of Not recorded ft (---m) below well top

Rest level of water ---ft (44 m) ~~above*~~ below well top. Suction at ---ft (--- m)

Yield on --- hours'* days' test pumping at ---galls (---m³) per --- with depression to ---ft (---m) below well top. Recovery to rest level in --- mins* hours

Capacity of pump ---g.p.h. (---m³/h)

Date of measurements 6th July, 1981 Not Pumped

NORMAL CONDITIONS

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

Make and/or type ---- Motive power ----

Capacity ------galls (---m³) per hour. Suction at ----ft (--- m) below well top. Amount pumped ----galls (---m³) per day. Estimated consumption ---galls (--m³) per week

Well made by F. Smith & Son (Grimsby) Ltd. Date of sinking June/July, 1981

ADDITIONAL NOTES ANALYSIS (please attach copy if available)

LOG OF STRATA OVERLEAF

INSTITUTE OF GEOLOGICAL SCIENCES,
WATER DEPARTMENT,
SOUTH KENSINGTON,
LONDON, S.W.7.

Received from
Date
Observation well
Recorder
E.R. log
Site marked on
1" map
6" map
(use symbol)
Copy to
Date

BGS ID: 718624 : BGS Reference: TR36NW23
British National Grid (27700) : 634510,167210
Report an issue with this borehole

RECORD OF WELL

For Institute use only Licence No. N.15090

274/58 B

At Service Reservoir Fleete
MANSTON
Town or Village Nr. Ramsgate.
County Kent.

EXACT SITE OF WELL

Six-inch County Sheet 274/58 B
8" N.D. Washout Borehole
Six-inch National Grid sheet and reference TR 36 N.W. 345 672 TR36NW/23

For Southern Water Authority, East Kent Water and Drainage Division
State whether owner, tenant, builder, contractor, consultant, etc.:— Owner
Address (if different from above) Westwood Road, Broadstairs, Kent.

Level of ground surface above sea level (O.D.) Not Known ft (--- m)
*DELETE AS NECESSARY
If well top is not at ground level, state how far above:* below: --- ft (-- m)
SHAFT ---ft (---m); diameter ---ft (--m);
HEADINGS (please attach details—dimensions and directions)
BORE ---164 ft (50 m); diameter: at top 8 in (---cm); at bottom 8" in (---cm)
Full details of permanent lining tubes (position, length, diameter, plain, slotted, etc.)
40m x 8⅝" O.D. x 5/16" W.T. plain mild steel lining tube installed to 40m B.G.L. the top being left at G.L.

TEST CONDITIONS

Water struck at depths of Not recorded ft (---m) below well top
Rest level of water ---ft (44 m) above* below well top. Suction at ---ft (---m)
Yield on --- hours'* days' test pumping at ---galls (---m³) per -- with
depression to ---ft (---m) below well top. Recovery to rest level in --- mins* hours
Capacity of pump ---g.p.h. (---m³/h)
Date of measurements 6th July, 1981 Not Pumped

NORMAL CONDITIONS

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:
Make and/or type ----- Motive power -----
Capacity ------galls (---m³) per hour. Suction at ----ft (---m)
below well top. Amount pumped ----galls (---m³) per day. Estimated
consumption ---galls (--m³) per week
Well made by F. Smith & Son (Grimsby) Ltd. Date of sinking June/July,1981

ADDITIONAL NOTES ANALYSIS (please attach copy if available)

LOG OF STRATA OVERLEAF

INSTITUTE OF GEOLOGICAL SCIENCES,
WATER DEPARTMENT,
SOUTH KENSINGTON,
LONDON, S.W.7.

Received from
Date
Observation well
Recorder
E.R. log
Site marked on
1" map
6" map
(use symbol)
Copy to
Date

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718624 : BGS Reference: TR36NW23
British National Grid (27700) : 634510,167210
Report an issue with this borehole

(For Institute use only) Geological Classification	NATURE OF STRATA If measurements start below ground surface, state how far.	Thickness Feet	Inches	Metres	Depth Feet	Inches	Metre
HEAD	Sandy clay and stones.			4.00			4.00
BRICKEARTH	Soft silty clay			1.00			5.00
	Stone and dark brown sand.			0.50			5.50
	Soft chalk with some flints			10.50			16.00
UPPER CHALK	Soft chalk with some very soft seams, flints.			24.00			40.00
	Soft chalk.			10.00			50.00

PP ROL 11/11/82

BGS ID: 718624 : BGS Reference: TR36NW23
British National Grid (27700) : 634510,167210
Report an issue with this borehole

<< < Prev Page 5 of 6 Next > >>

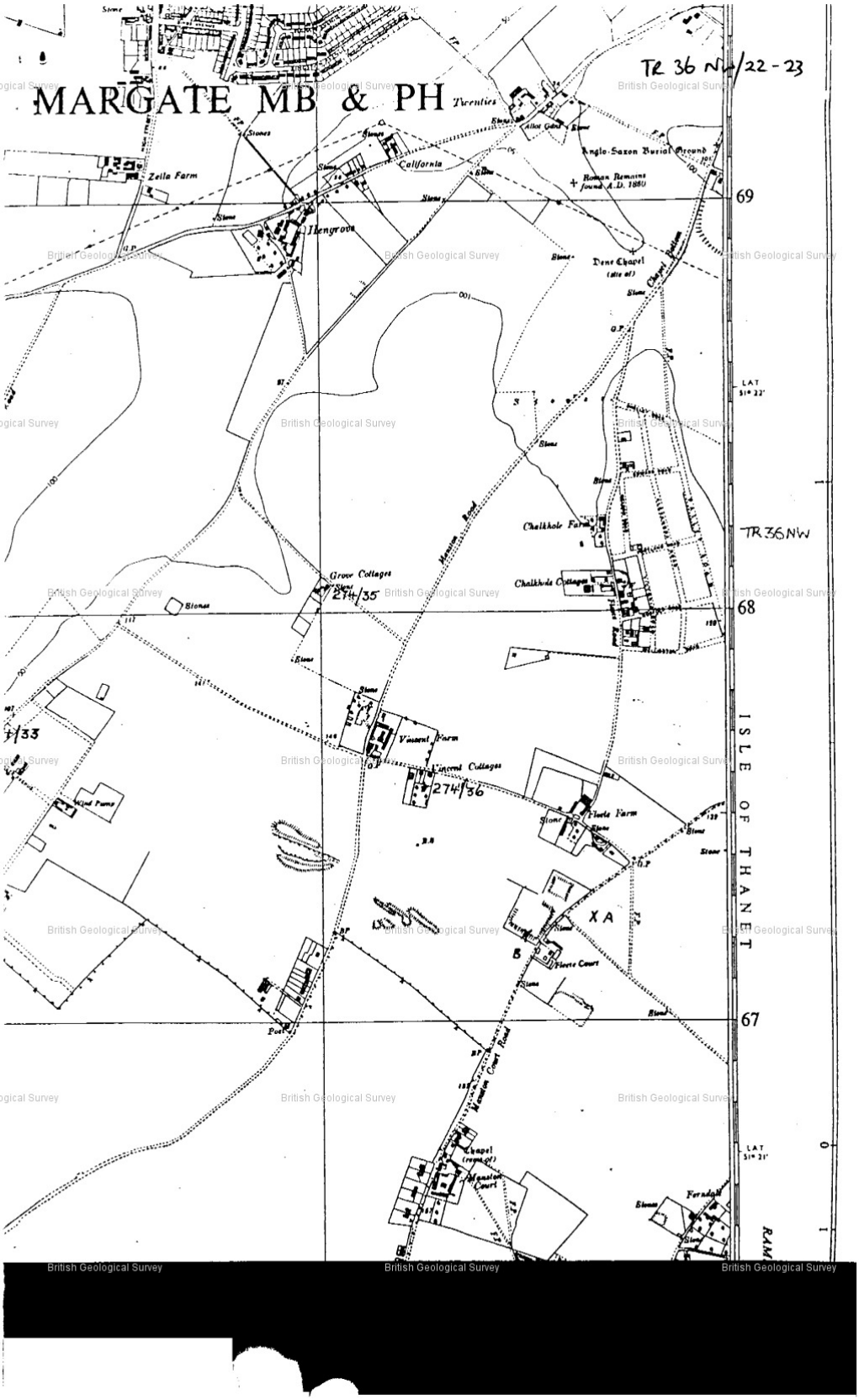
TR 36 NW 23

For Institute use only) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far.	THICKNESS Feet	Inches	Metres	DEPTH Feet	Inches	Metre
HEAD BRICKEARTH	Sandy clay and stones.			4.00			4.00
	Soft silty clay			1.00			5.00
	Stone and dark brown sand.			0.50			5.50
UPPER CHALK	Soft chalk with some flints			10.50			16.00
	Soft chalk with some very soft seams, flints.			24.00			40.00
	Soft chalk.			10.00			50.00

RAL 11.11.82.

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718624 : BGS Reference: TR36NW23
British National Grid (27700) : 634510,167210
Report an issue with this borehole



BGS ID: 718625 : BGS Reference: TR36NW24
British National Grid (27700) : 634300,165700
Report an issue with this borehole

FGE/2657 FIGURE 2.

MANSTON RAF
(Ash UKADGE RX)

Trial Pit Logs

[redacted]

Dug by Tractor/backhoe 31 January 1986

TR 36 NW 24
343 657

Trial Pit No 1

GL -	100mm	Turf and Topsoil.
100 -	400	Brown, loose to medium dense, clayey silty fine SAND.
400 -	900	Reddish-brown, medium dense, very clayey silty fine SAND.
900 -	1900	Grey-brown, medium dense, clayey, silty sandy slightly chalky, flint GRAVEL.
1900		White, very thinly bedded, very closely jointed CHALK. Moderately weak.
	2500	Base of pit.

No ground water.

TR 36 NW 25
343 657

Trial Pit No 2

GL -	100mm	Turf and Topsoil.
100 -	400	Brown, loose to medium dense clayey silty fine SAND.
400 -	1200	Reddish-brown, medium dense, very clayey silty fine SAND.
1200 -	2100	Light grey-brown, medium dense, clayey wilty sandy flint GRAVEL and some chalk.
2100		White, very thinly bedded and vry closely jointed CHALK. Moderately weak.
	2700	Base of pit.

No ground water.

TR36 NW26
343 657

Trial Pit No 3

GL -	100mm	Turf and Topsoil.
100 -	800	Brown, loose, clayey silty fine SAND.
800 -	1400	Reddish-brown, loose to medium dense very clayey silty fine SAND.
1400 -	1900	Light grey-brown, medium dense, clayey silty sandy flint GRAVEL - slightly chalky.
1900		White, very thinly bedded and very closely jointed CHALK. Moderately weak.
	1900	Base of pit.

No ground water.

TR 36 NW 27
343 657

Trial Pit No 4

GL -	100 mm	Turf and Topsoil.
100 -	300	Brown, loose, clayey silty fine SAND.
300 -	1000	Reddish-brown medium dense, very clayey silty fine SAND.
1000 -	2000	Grey-brown, medium dense, clayey, silty sandy flint GRAVEL with a trace of chalk.
2000		White, very thinly bedded, very closely jointed CHALK. Moderately weak.
	2500	Base of pit.

No ground water

BGS ID: 718626 : BGS Reference: TR36NW25
British National Grid (27700) : 634300,165700
Report an issue with this borehole

FGE/2657 FIGURE 2.

MANSTON RAF
(Ash UKADGE RX)

Trial Pit Logs

[redacted]

Dug by Tractor/backhoe 31 January 1986

Trial Pit No 1

TR 36 NW 24
343 657

GL -	100mm	Turf and Topsoil.
100 -	400	Brown, loose to medium dense, clayey silty fine SAND.
400 -	900	Reddish-brown, medium dense, very clayey silty fine SAND.
900 -	1900	Grey-brown, medium dense, clayey, silty sandy slightly chalky, flint GRAVEL.
1900		White, very thinly bedded, very closely jointed CHALK. Moderately weak.
	2500	Base of pit.

No ground water.

Trial Pit No 2

TR 36 NW 25
343 657

GL -	100mm	Turf and Topsoil.
100 -	400	Brown, loose to medium dense clayey silty fine SAND.
400 -	1200	Reddish-brown, medium dense, very clayey silty fine SAND.
1200 -	2100	Light grey-brown, medium dense, clayey wilty sandy flint GRAVEL and some chalk.
2100		White, very thinly bedded and vry closely jointed CHALK. Moderately weak.
	2700	Base of pit.

No ground water.

Trial Pit No 3

TR36 NW 26
343 657

GL -	100mm	Turf and Topsoil.
100 -	800	Brown, loose, clayey silty fine SAND.
800 -	1400	Reddish-brown, loose to medium dense very clayey silty fine SAND.
1400 -	1900	Light grey-brown, medium dense, clayey silty sandy flint GRAVEL - slightly chalky.
1900		White, very thinly bedded and very closely jointed CHALK. Moderately weak.
	1900	Base of pit.

No ground water.

Trial Pit No 4

TR 36 NW 27
343 657

GL -	100 mm	Turf and Topsoil.
100 -	300	Brown, loose, clayey silty fine SAND.
300 -	1000	Reddish-brown medium dense, very clayey silty fine SAND.
1000 -	2000	Grey-brown, medium dense, clayey, silty sandy flint GRAVEL with a trace of chalk.
2000		White, very thinly bedded, very closely jointed CHALK. Moderately weak.
	2500	Base of pit.

No ground water

BGS ID: 718627 : BGS Reference: TR36NW26
British National Grid (27700) : 634300,165700
Report an issue with this borehole

FGE/2657 FIGURE 2.

MANSTON RAF
(Ash UKADGE RX)

Trial Pit Logs

[redacted]

Dug by Tractor/backhoe 31 January 1986

Trial Pit No 1

TR 36 NW 24
343 657

GL -	100mm	Turf and Topsoil.
100 -	400	Brown, loose to medium dense, clayey silty fine SAND.
400 -	900	Reddish-brown, medium dense, very clayey silty fine SAND.
900 -	1900	Grey-brown, medium dense, clayey, silty sandy slightly chalky, flint GRAVEL.
1900		White, very thinly bedded, very closely jointed CHALK. Moderately weak.
	2500	Base of pit.

No ground water.

Trial Pit No 2

TR 36 NW 25
343 657

GL -	100mm	Turf and Topsoil.
100 -	400	Brown, loose to medium dense clayey silty fine SAND.
400 -	1200	Reddish-brown, medium dense, very clayey silty fine SAND.
1200 -	2100	Light grey-brown, medium dense, clayey wilty sandy flint GRAVEL and some chalk.
2100		White, very thinly bedded and vry closely jointed CHALK. Moderately weak.
	2700	Base of pit.

No ground water.

Trial Pit No 3

TR36 NW 26
343 657

GL -	100mm	Turf and Topsoil.
100 -	800	Brown, loose, clayey silty fine SAND.
800 -	1400	Reddish-brown, loose to medium dense very clayey silty fine SAND.
1400 -	1900	Light grey-brown, medium dense, clayey silty sandy flint GRAVEL - slightly chalky.
1900		White, very thinly bedded and very closely jointed CHALK. Moderately weak.
	1900	Base of pit.

No ground water.

Trial Pit No 4

TR 36 NW 27
343 657

GL -	100 mm	Turf and Topsoil.
100 -	300	Brown, loose, clayey silty fine SAND.
300 -	1000	Reddish-brown medium dense, very clayey silty fine SAND.
1000 -	2000	Grey-brown, medium dense, clayey, silty sandy flint GRAVEL with a trace of chalk.
2000		White, very thinly bedded, very closely jointed CHALK. Moderately weak.
	2500	Base of pit.

No ground water

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718628 : BGS Reference: TR36NW27
British National Grid (27700) : 634300,165700
Report an issue with this borehole

<< < Prev Page 1 of 3 Next > >>

JOB No:

TR 36 NW 27
331 666

Sheet 1 of 1

Size of pit & Orientation of face A ..... N ... E
Type of excavator ... JCB ...
Type of pump (if used) ...
Timbering ...

Feature: Officer's Mess
Location: RAF Manston
Ground level on ℄ ...
Coordinates: E ... N ...

Water Conditions	Depth (Sample & tests)	Reduced Level	Depth (metres)	Profile of face A (Width = m)	Description
dry			0		Topsoil
			0·5		Light brown firm very sandy silty calcareous CLAY with a little chalk gravel.
			1·0		White closely jointed and thinly bedded hard CHALK. Moderately weathered. Occasional flints.
			1·5	base of pit	White closely jointed and thinly bedded hard CHALK Slightly weathered. Occasional flints.
			2·0		
			2·5		
			3·0		
			3·5		
			4·0		
			4·5		
			5·0		

X Vane test
● Small disturbed sample
Large disturbed sample
Undisturbed sample, vertical
Undisturbed sample, horizontal
Block sample
▲ Water sample
L Plate bearing test
m Moisture content %

Remarks:

Plant:

Scale 1:25 metres
Logged by HJW
Checked by
Date 25/6/86

Contractor:
Date dug 25/6/86
Date backfilled 25/6/86

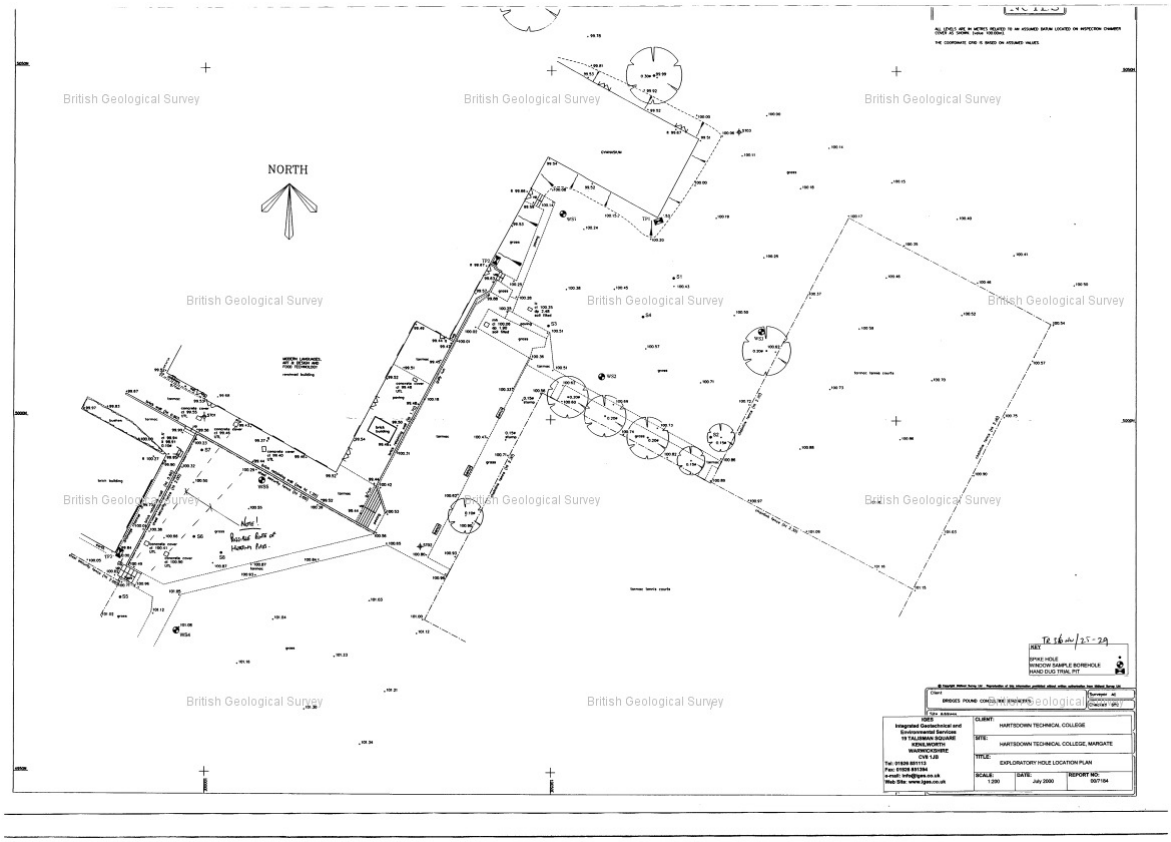
BINNIE & PARTNERS
Chartered Engineers
Artillery House Westminster S W 1

Fig No. C1

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

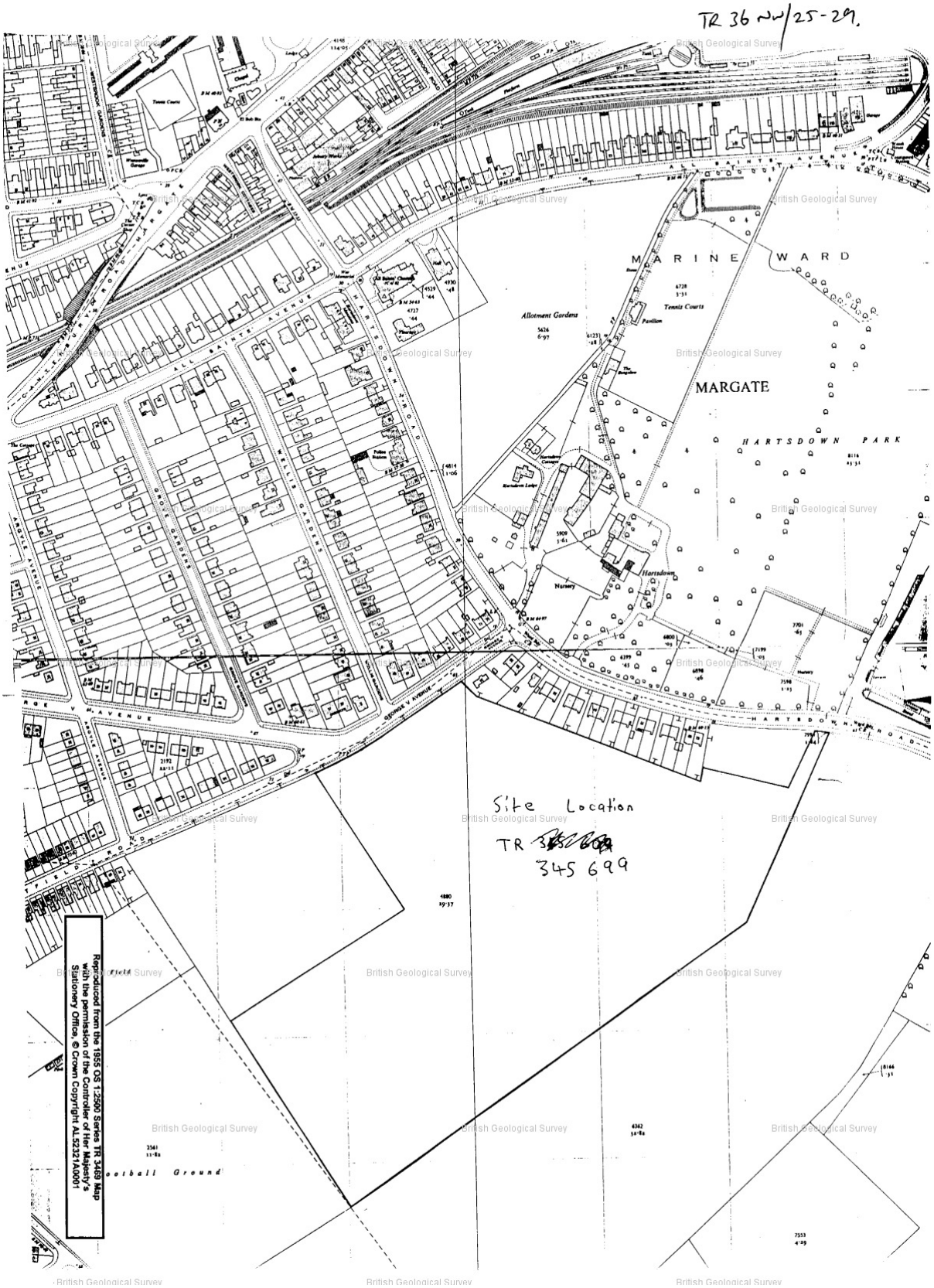
BGS ID: 718628 : BGS Reference: TR36NW27
British National Grid (27700) : 634300,165700
Report an issue with this borehole

<< < Prev Page 2 of 3 Next > >>



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718628 : BGS Reference: TR36NW27
British National Grid (27700) : 634300,165700
Report an issue with this borehole


TR 36 NW/25-29.
MARINE WARD
MARGATE
HARTSDOWN PARK
Allotment Gardens
Tennis Courts
Pavilion
Nursery
Harrsdown
Site Location
TR 345 699
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British Geological Survey

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718677 : BGS Reference: TR36NW76
British National Grid (27700) : 633500,165900
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>

TR 36 NW/76 GR. 335 659

Job No. 2408.49	Client : Property Services Agency Job : RAF MANSTON, MT Accommodation	Trial Pit No. MTA/1 Sheet No. 1 Of 1.
Equipment and Methods JCB	Location : MTA Coordinates : Ground Level :	Contractor : PSA/DWO

Water Conds.	Tests	Samples	Red. Level	Depth (m)	Profile of Face	Description
				0.00		
				0.05		Dark grey sandy TOPSOIL
				0.20		Dark grey cinders. (Fill)
						Firm brown silty sandy CLAY with occasional flint and chalk fragments. (Head)
				1.10		Firm white and light brown structureless, becoming rubbly CHALK with occasional flints. (Grade IV-V)
				1.80		Moderately weak white rubbly CHALK with occasional flints. (Grade IV)
				2.10		End of Trial Pit

Remarks
Trial pit dry.

Plan - dimensions : 2.0m x 0.8m

BINNIE & PARTNERS
Consulting Engineers

Date : 15.7.87
logged by HJW

Fig No 3

BGS ID: 718678 : BGS Reference: TR36NW77
British National Grid (27700) : 633500,165900
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>

TR 36 NW/77 GR 335 659

Job No. 2400.48	Client : Property Services Agency Job : RAF MANSTON, MT Accommodation	Trial Pit No. MTA/2 Sheet No. 1 Of 1.
Equipment and Methods JCB	Location : MTA Coordinates : Ground Level :	Contractor : PSA/DWO

Water Conds.	Tests	Samples	Rad. Level	Depth (m)	Profile of Face	Description
				0.00		
				0.05		Dark grey sandy TOPSOIL
						Dark grey cinders. (FILL)
				0.30		Firm brown sandy, silty CLAY with occasional flint and chalk fragments. (Head)
				0.90		Firm white and light brown structureless, becoming rubbly CHALK with occasional flints. (Grade IV-V)
				1.80		Moderately weak white rubbly CHALK with occasional flints. (Grade IV)
				2.00		End of Trial Pit

Remarks
Trial pit dry.

Plan - dimensions : 1.8m x 0.8m

BINNIE & PARTNERS
Consulting Engineers

Date : 16.7.87
logged by HJW

Fig NO 4

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718679 : BGS Reference: TR36NW78
British National Grid (27700) : 633500,165900
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>

TR 36 NW/48 GR. 335 659

Job No. 2408.48
Client : Property Services Agency
Job : RAF MANSTON, MT Accommodation
Trial Pit No. MTA/3
Sheet No. 1 Of 1.

Equipment and Methods
JCB

Location : MTA
Coordinates :
Ground Level :

Contractor :
PSA/DWO

Water Conds.	Tests	Samples	Rad. Level	Depth (m)	Profile of Face	Description
				0.00		
				0.10		Brown silty TOPSOIL
						Brown and white chalky FILL. Contained blocks of brickwork.
				0.50		
						Firm brown sandy, silty CLAY with occasional flint and chalk fragments. Becoming more sandy at base. (Head)
				1.20		
						Firm white and light brown structureless, becoming rubbly CHALK with occasional flints. (Grade IV-V)
				2.10		
				2.30		Moderately weak, white rubbly CHALK with occasional flints. (Grade IV)
						End of Trial Pit

Remarks
Trial pit dry.

Plan - dimensions : 1.8m x 0.8m

BINNIE & PARTNERS
Consulting Engineers

Date : 16.7.87

Fig No 5

BGS ID: 718680 : BGS Reference: TR36NW79
British National Grid (27700) : 633500,165900
Report an issue with this borehole

TR 36 NW/79 GR 335 659

Job No. 2408.49	Client : Property Services Agency Job : RAF MANSTON, MT Accommodation	Trial Pit No. MTA/4 Sheet No. 1 of 1.
Equipment and Methods JCB	Location : MTA Coordinates : Ground Level :	Contractor : PSA/DWO

Water Conds.	Tests	Samples	Gnd. Level	Depth (m)	Profile of Face	Description
				0.00		
				0.10		Brown silty TOPSOIL
				0.30		Brown and white chalky FILL. Telephone cables at 0.15m.
						Firm brown sandy, silty CLAY with occasional flint and chalk fragments. (Head)
				1.00		Firm white and light brown structureless, becoming rubbly CHALK with occasional flints. (Grade IV-V)
				1.90		Moderately weak, white rubbly CHALK with occasional flints. (Grade IV)
				2.10		End of Trial Pit

Remarks
Trial pit dry

Plan - dimensions : 1.7m x 0.8m

BINNIE & PARTNERS
Consulting Engineers

Date : 16.7.87
logged by HJM

Fig No 6

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718681 : BGS Reference: TR36NW80
British National Grid (27700) : 633500,165900
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>

TR 36 NW/80 GR 335 659

Job No. 2408.49
Client : Property Services Agency
Job : RAF MANSTON
Trial Pit No. ESH/1
Sheet No. 1 of 1.
Equipment and Methods JCB
Location : ESH
Coordinates :
Ground Level :
Contractor : PSA/DWO

Water Conds.	Tests	Samples	Red. Level	Depth (m)	Profile of Face	Description
				0.00		Brown silty TOPSOIL
				0.20		Firm brown clayey sandy SILT with occasional flints and chalk fragments. (Head)
				0.70		Firm white and light brown structureless, becoming rubbly CHALK with occasional flints. (Grade IV-V)
				1.60		Moderately weak white rubbly CHALK with occasional flints. (Grade IV)
				1.90		End of Trial Pit

Remarks
Trial pit dry.

Plan - dimensions : 1.4m x 0.8m

BINNIE & PARTNERS
Consulting Engineers

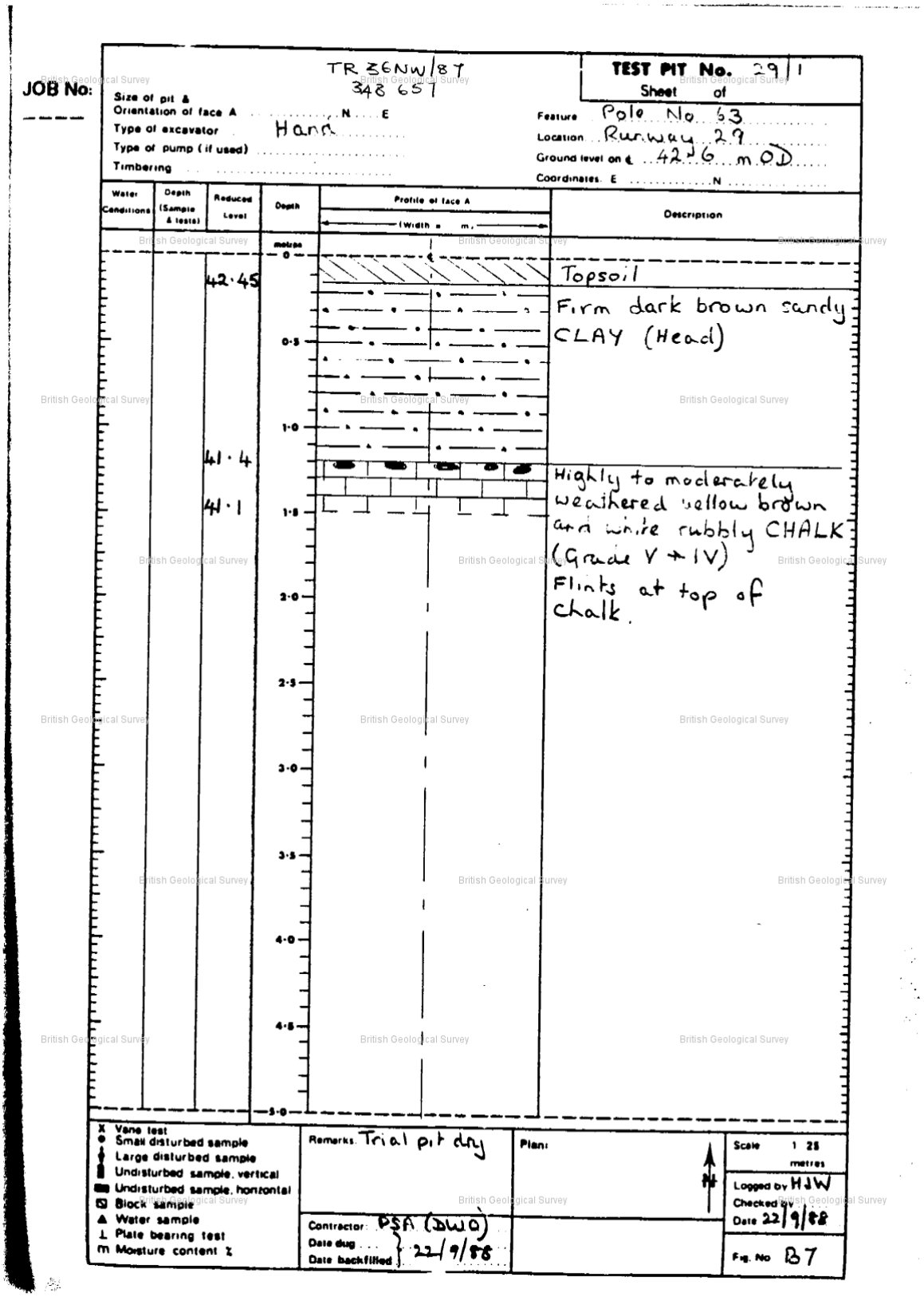
Date : 16.7.87
logged by HJW

Fig No 7

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718688 : BGS Reference: TR36NW87
British National Grid (27700) : 634800,165700
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>



JOB No:

TR 36NW/87
348 657

TEST PIT No. 29/1
Sheet of

Size of pit &
Orientation of face A ..... N ..... E
Type of excavator Hand
Type of pump (if used) .....
Timbering .....

Feature Pole No 63
Location Runway 29
Ground level on ℄ 42.6 m OD
Coordinates E ..... N .....

Water Conditions	Depth (Sample & tests)	Reduced Level	Depth (metres)	Profile of face A (Width = m.)	Description
		42.45	0		Topsoil
			0.5		Firm dark brown sandy CLAY (Head)
		41.4	1.0		Highly to moderately weathered yellow brown and white rubbly CHALK (Grade V + IV) Flints at top of chalk.
		41.1	1.5		
			2.0		
			2.5		
			3.0		
			3.5		
			4.0		
			4.5		
			5.0		

X Vane test
● Small disturbed sample
Large disturbed sample
Undisturbed sample, vertical
Undisturbed sample, horizontal
Block sample
▲ Water sample
⊥ Plate bearing test
m Moisture content %

Remarks: Trial pit dry

Contractor: PSA (DWO)
Date dug ... 22/9/88
Date backfilled ...

Plan:

Scale 1:25 metres
Logged by HJW
Checked by
Date 22/9/88
Fig. No B7

BGS ID: 718689 : BGS Reference: TR36NW88
British National Grid (27700) : 634800,165700
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>

JOB No:

TR36NW/88
348 657

TEST PIT No. 29/2
Sheet of

Size of pit &
Orientation of face A N E
Type of excavator
Type of pump (if used)
Timbering

Feature Pole No 78
Location Runway 29
Ground level on ℄ 41.5 m OD
Coordinates E N

Water Conditions	Depth (Sample & tests)	Reduced Level	Depth	Profile of face A (Width x m)	Description
		41.4	0 metres		Topsoil
			0.5		Firm light brown very sandy CLAY (Head)
		40.4	1.0		
		40.3			Highly weathered yellow brown rubbly CHALK (Grade V)
			1.5		
			2.0		
			2.5		
			3.0		
			3.5		
			4.0		
			4.5		
			5.0		

X Vane test
• Small disturbed sample
Large disturbed sample
Undisturbed sample, vertical
Undisturbed sample, horizontal
Block sample
Water sample
L Plate bearing test
m Moisture content %

Remarks: Trial pit dry

Contractor PSA (DWO)
Date dug } 22/9/88
Date backfilled

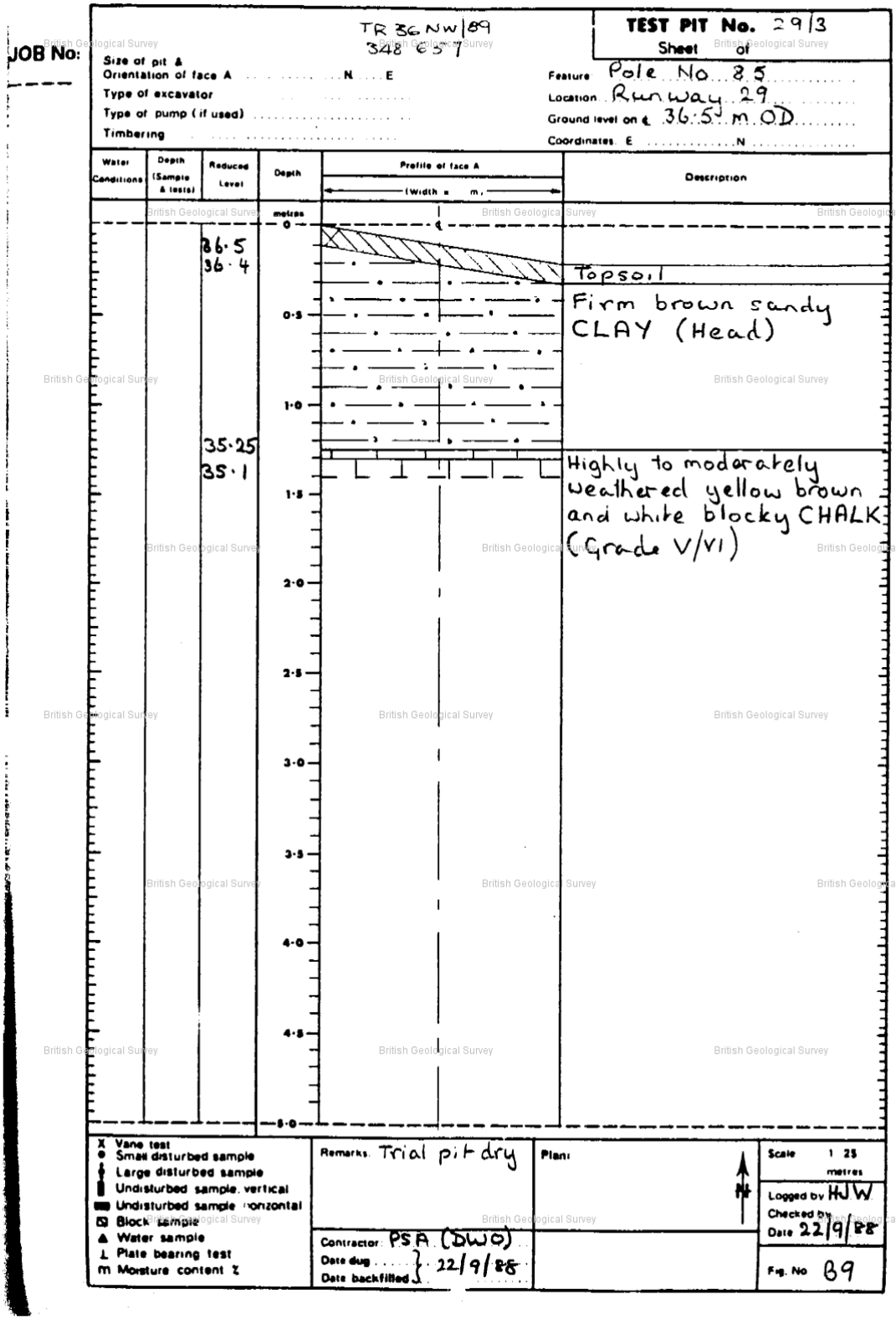
Plan:

Scale 1 25 metres
Logged by HJW
Checked by
Date 22/9/88
Fig. No. B 8

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718690 : BGS Reference: TR36NW89
British National Grid (27700) : 634800,165700
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>



JOB No:

TR 36 NW/89
348 657

TEST PIT No. 29/3
Sheet of

Size of pit &
Orientation of face A ..... N ... E
Type of excavator .....
Type of pump (if used) .....
Timbering .....

Feature Pole No. 85
Location Runway 29
Ground level on ℄ 36.5 m OD
Coordinates E ..... N .....

Water Conditions	Depth (Sample & tests)	Reduced Level	Depth (metres)	Profile of face A (Width = m)	Description
		36.5	0		
		36.4			Topsoil
			0.5		Firm brown sandy CLAY (Head)
			1.0		
		35.25			
		35.1	1.5		Highly to moderately weathered yellow brown and white blocky CHALK (Grade V/VI)
			2.0		
			2.5		
			3.0		
			3.5		
			4.0		
			4.5		
			5.0		

X Vane test
● Small disturbed sample
Large disturbed sample
Undisturbed sample. vertical
Undisturbed sample horizontal
Block sample
▲ Water sample
⊥ Plate bearing test
m Moisture content %

Remarks: Trial pit dry

Plan:

Contractor: PSA (DWO)
Date dug: 22/9/88
Date backfilled:

Scale 1 25 metres
Logged by HJW
Checked by
Date 22/9/88
Fig. No 89

BGS ID: 718691 : BGS Reference: TR36NW90
British National Grid (27700) : 634800,165700
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>

JOB No: ----

TR36NW190
348 657

TEST PIT No. 2914
Sheet of

Size of pit &
Orientation of face A ..... N E
Type of excavator Hand
Type of pump (if used) .....
Timbering .....

Feature Pole No 100
Location Runway 29
Ground level on ℄ 37.5 m OD
Coordinates E ..... N .....

Water Conditions	Depth (Sample & tests)	Reduced Level	Depth (metres)	Description
		37.4	0	Topsoil
				Firm dark brown sandy CLAY (Head)
		36.35	1.0	
		36.2		Highly weathered yellow brown rubbly CHALK (Grade V)
			5.0	

Profile of face A (Width ... m)

X Vane test
● Small disturbed sample
Large disturbed sample
Undisturbed sample, vertical
Undisturbed sample, horizontal
Block sample
▲ Water sample
⊥ Plate bearing test
m Moisture content %

Remarks: Trial pit dry

Contractor PSA (DWO)
Date dug } 22/9/88
Date backfilled

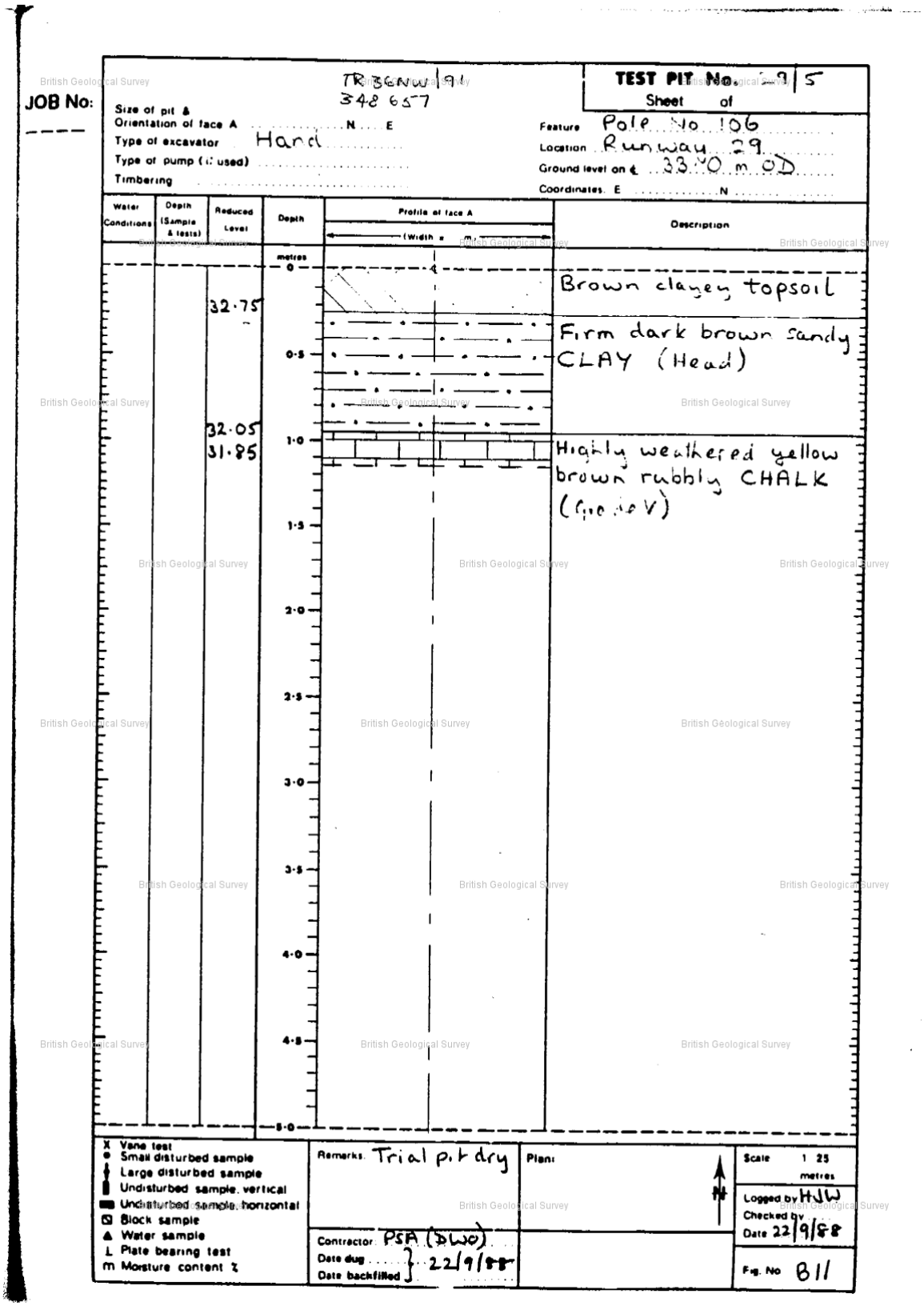
Plan:

Scale 1 25 metres
Logged by HJW
Checked by
Date 22/9/88
Fig. No. B10

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718692 : BGS Reference: TR36NW91
British National Grid (27700) : 634800,165700
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>



JOB No: ----

TR 36NW 91
348 657

TEST PIT No. 95
Sheet of

Size of pit &
Orientation of face A ..... N ... E
Type of excavator Hand
Type of pump (if used) .....
Timbering .....

Feature Pole No 106
Location Runway 29
Ground level on ℄ 33.40 m OD
Coordinates E ..... N .....

Water Conditions	Depth (Sample & tests)	Reduced Level	Depth	Profile of face A (Width = m)	Description
		32.75	metres 0		Brown clayey topsoil
			0.5		Firm dark brown sandy CLAY (Head)
		32.05	1.0		
		31.85			Highly weathered yellow brown rubbly CHALK (Grade V)
			1.5		
			2.0		
			2.5		
			3.0		
			3.5		
			4.0		
			4.5		
			5.0		

X Vane test
● Small disturbed sample
Large disturbed sample
Undisturbed sample. vertical
Undisturbed sample. horizontal
Block sample
▲ Water sample
⊥ Plate bearing test
m Moisture content %

Remarks: Trial pit dry

Plan:

Contractor: PSA (DLWO)
Date dug } 22/9/88
Date backfilled

Scale 1 25 metres
Logged by HJW
Checked by
Date 22/9/88
Fig. No B11

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718700 : BGS Reference: TR36NW99
British National Grid (27700) : 633900,166800
Report an issue with this borehole

JOB No: ----

TR36NW99 339 668

TEST PIT No. WR 1
Sheet of

Size of pit &
Orientation of face A ..... N ..... E
Type of excavator JCB
Type of pump (if used) .....
Timbering .....

Feature Watchman Radar
Location RAF Manston
Ground level on ℄ .....
Coordinates: E ..... N .....

Water Conditions	Depth (Sample & tests)	Reduced Level	Depth (metres)	Profile of face A (Width ≈ m.)	Description
			0		Topsoil: Ashes fill
			0·5		Firm dark brown sandy CLAY (Head)
			1·0		Yellow brown becoming white rubbly to blocky CHALK highly to moderately weathered
			1·5		with flints (Grade V, becoming IV-V)
			2·0		Moderately weathered white blocky CHALK (Grade IV)
			2·5		
			3·0		
			3·5		
			4·0		
			4·5		
			5·0		

X Vane test
● Small disturbed sample
● Large disturbed sample
▮ Undisturbed sample, vertical
▬ Undisturbed sample, horizontal
▨ Block sample
▲ Water sample
L Plate bearing test
m Moisture content %

Remarks: Trial pit dry

Contractor: PSA (DWO)
Date dug } 22/9/88
Date backfilled

Plan:

Scale 1 25 metres
Logged by HJW
Checked by
Date 22/9/88

Fig. No 18/1

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718701 : BGS Reference: TR36NW100
British National Grid (27700) : 633900,166800
Report an issue with this borehole

JOB No: ----

TR36NW 100 339-668

Sheet of

Size of pit &
Orientation of face A ..... N ..... E
Type of excavator JCB
Type of pump (if used) .....
Timbering .....

Feature Watchman Radar
Location RAF Manston
Ground level on ℄ .....
Coordinates E ..... N .....

Water Conditions	Depth (Sample & tests)	Reduced Level	Depth	Profile of face A (Width ... m)	Description
			metres 0		Brick and rubble fill.
			0·5		Firm dark brown sandy CLAY (Head)
			1·0		Yellow brown and white highly weathered rubbly CHALK (Grade V)
			1·5		White moderately weathered blocky CHALK (Grade IV)
			2·0		
			2·5		
			3·0		
			3·5		
			4·0		
			4·5		
			5·0		

X Vane test
● Small disturbed sample
▮ Large disturbed sample
▮ Undisturbed sample, vertical
▬ Undisturbed sample, horizontal
▨ Block sample
▲ Water sample
L Plate bearing test
m Moisture content %

Remarks: Trial pit dry

Contractor PSA (DWO)
Date dug } 22/9/88
Date backfilled }

Plan: N

Scale 1 25 metres
Logged by HJW
Checked by
Date 22/9/88

Fig. No 18/2

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718710 : BGS Reference: TR36NW109
British National Grid (27700) : 634600,165700
Report an issue with this borehole

TR 36 NW 109

Contract : RX RECEIVER STATION
Client : RAF MANSTON
Coordinates :
Dates : 25/1/91

Job Number : G\0733
Trial Pit No.: TP A
Location : SE of Bush Farm
Dimensions :
Ground Level :

Red. Level	Description	Depth m.	Samples Taken	In-Situ Tests	Legend	Diagram
	Firm to stiff, brown, silty, sandy, gravelly, CLAY, friable, many roots at the top, sand and gravel = Chalk and Flints.	0.00				
		(0.60)				
	Stiff to firm, brown, silty, sandy, gravelly, CLAY as above but with no roots. Vane peak shear strength test results in kPa - 100, 102, 66 & 96.	0.60				
		(0.70)				
	Medium dense locally loose, orange brown, fine to coarse, SAND, locally very clayey.	1.30				
		(1.10)				
	White grade 5/6 CHALK, dry and brittle/friable, locally mixed sand a/a and chalk gravel.	2.40				
		(0.50)				
	End Of Trial Pit	2.90				

Key:
Sample Types:
U Undisturbed
D Disturbed
B Bulk Disturbed
W Water
P Piston
J Jar
T Thin Wall
X No Recovery

In-Situ Tests:
SPT SPT Value
CPT CPT Value
pp Pocket Penetrometer
m/c Moisture Content %

General Remarks :
The pit was dry. The edge of a concrete road, 200mm thick, was found in the south eastern corner of the pit at a depth of 0.6m. The road edge is orientated due east - west.

Equipment and Methods:
JCB 3CX

Scale : 4m/Sheet
Sheet No. 1 Of 1.
Depth 0 to 4 metres.
Engineer : J.DAVIS
Appendix :
Figure No. :

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718711 : BGS Reference: TR36NW110
British National Grid (27700) : 634600,165700
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>

TR36NW110

Contract : RX RECEIVER STATION
Client : RAF MANSTON
Coordinates :
Dates : 25/1/91

Job Number : G\0733
Trial Pit No.: TP B
Location : SE of Bush Farm
Dimensions :
Ground Level :

Red. Level	Description	Depth m.	Samples Taken	In-Situ Tests	Legend	Diagram
	Stiff to firm, brownish red, silty, sandy, CLAY, with some fine to medium Chalk gravel. Vane peak/residual shear strengths in kPa at approx. 0.6m - 90/30, 105/45, 80/30 & 94/30.	0.00				
		(1.10)				
	White grade 6 CHALK, dry and brittle/friable, very sandy at the top.....becoming grade 5 at approx 2.0m. Some black flint cobbles seen.	1.10				
		(1.50)				
	End Of Trial Pit	2.60				

Key:
Sample Types:
U Undisturbed
D Disturbed
B Bulk Disturbed
W Water
P Piston
J Jar
T Thin Wall
X No Recovery
In-Situ Tests:
SPT SPT Value
CPT CPT Value
PP Pocket Penetrometer
m/c Moisture Content %

General Remarks :
The pit was dry. Digging difficult from 2.5m.

Equipment and Methods:
JCB 3CX

Scale : 4m/Sheet
Sheet No. 1 Of 1.
Depth 0 to 4 metres.
Engineer : J.DAVIS
Appendix :
Figure No. :

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718712 : BGS Reference: TR36NW111
British National Grid (27700) : 634600,165700
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>

TR36NW 111

Contract : RX RECEIVER STATION
Client : RAF MANSTON
Coordinates :
Dates : 25/1/91

Job Number : G\0733
Trial Pit No.: TP C
Location : SE of Bush Farm
Dimensions :
Ground Level :

Red. Level	Description	Depth m.	Samples Taken	In-Situ Tests	Legend	Diagram
	Firm, brown, silty, sandy, CLAY, with some chalk and flint gravel, many rootlets.	0.00				
		(0.45)				
	White grade 5/6 CHALK, dry & brittle/friable, locally grade 6 at the top.	0.45				
		(1.55)				
	End Of Trial Pit	2.00				

Key:
Sample Types:
U Undisturbed
D Disturbed
B Bulk Disturbed
W Water
P Piston
J Jar
T Thin Wall
X No Recovery
In-Situ Tests:
SPT SPT Value
CPT CPT Value
pp Pocket Penetrometer
m/c Moisture Content %

General Remarks :
The pit was dry.

Equipment and Methods:
JCB 3CX

Scale : 4m/Sheet
Sheet No. 1 Of 1.
Depth 0 to 4 metres.
Engineer : J.DAVIS
Appendix :
Figure No. :

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718713 : BGS Reference: TR36NW112
British National Grid (27700) : 634600,165700
Report an issue with this borehole

TR36 NW 112

Contract : RX RECEIVER STATION
Client : RAF MANSTON
Coordinates :
Dates : 25/1/91

Job Number : G\0733
Trial Pit No.: TP D
Location : SE of Bush Farm
Dimensions :
Ground Level :

Red. Level	Description	Depth m.	Samples Taken	In-Situ Tests	Legend	Diagram
	Firm, red brown, silty, very sandy, CLAY, with some fine to coarse, Chalk and Flint gravel, many rootlets at the top. Vane peak/residual shear strengths in kPa at approx 0.6m - 55/15, 68/20 & 42/10 and at approx. 0.8m - 93/30, 50/20 & 60/20.	0.00				
		(1.90)				
	White grade 5 CHALK, dry & brittle/friable.	1.90				
		(0.70)				
	End Of Trial Pit	2.60				

Key:

Sample Types:
U Undisturbed
D Disturbed
B Bulk Disturbed
W Water
P Piston
J Jar
T Thin Wall
x No Recovery

In-Situ Tests:
SPT SPT Value
CPT CPT Value
pp Pocket Penetrometer
m/c Moisture Content %

General Remarks :
The pit was dry.

Equipment and Methods:
JCB 3CX

Scale : 4m/Sheet
Sheet No. 1 Of 1.
Depth 0 to 4 metres.
Engineer : J.DAVIS
Appendix :
Figure No. :

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718714 : BGS Reference: TR36NW113
British National Grid (27700) : 634360,166930
Report an issue with this borehole

TR 36 NW 113

Location : RAF MANSTON
Project : Monopulse SSR

Trial Pit No.: TP1
Dates : 25/2/91

Client : PSA Services
Report No. : G/0731

Dimensions :
Ground Level : m above OD

Rad. Level	Description	Depth m.	Samples Taken	In-Situ Tests	Legend	Remarks
	Turf over dark brown very sandy CLAY with a few scattered pebbles. (Topsoil)	0.00 (0.20) 0.20				
	Firm brown sandy CLAY with a little fine to coarse sub rounded flint gravel becoming more gravelly with depth.		B 8535			
		(0.80)				Plate Loading Test (No P1) carried out at 0.8m below GL. (Plate Dia. 24")
	Firm brown sandy very gravelly CLAY, gravel comprises fine to coarse sub rounded flint with occasional fragments of chalk.	1.00 (0.50)	B 8536			
	End Of Trial Pit	1.50				Plate Loading Test (No P2) carried out at 1.5m below GL. (Plate Dia. 24")

Key:
Sample Types:
U Undisturbed
D Disturbed
B Bulk Disturbed
W Water
P Piston
J Jar
T Thin Wall
X No Recovery

In-Situ Tests:
SPT SPT Value
CPT CPT Value
k Plate Bearing Test
pp Pocket Penetrometer
m/c Moisture Content %

General Remarks :
1. Log of pit sunk to carry out Plate Loading Tests.
2. No water entries noted.

Equipment and Methods:
J C B Mechanical Digger fitted with a 1.0m bucket.

Scale : 3m/Sheet
Sheet No. 1 Of 1.
Depth 0 to 3 metres.
Logged By : K McElmeel
Appendix :
Figure No. : A-1

bre GEOTECHNICS

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 718715 : BGS Reference: TR36NW114
British National Grid (27700) : 634360,166930
Report an issue with this borehole

<< < Prev Page 1 of 1 Next > >>

TR 36 NW 114

Location : RAF MANSTON
Project : Monopulse SSR
Trial Pit No.: TP2
Dates : 27/2/91

Client : PSA Services
Report No. : G/0731
Dimensions :
Ground Level : m above OD

Red. Level	Description	Depth m.	Samples Taken	In-Situ Tests	Legend	Remarks
	Turf over dark brown very sandy CLAY with a few scattered pebbles. (Topsoil)	0.00 0.10				
	Firm brown very sandy CLAY with a little fine to coarse sub rounded flint gravel.	(0.80)				
	Firm brown sandy very gravelly CLAY, gravel comprises fine to coarse sub rounded flint with occasional fragments of chalk.	0.90 (0.80)				
	Yellowish white heavily iron stained in places structureless remoulded CHALK with occasional lumps of intact chalk. (Grade V)	1.70 (0.50)				
	Creamy white rubbly lightly weathered CHALK with closely spaced bedding and jointing, some joints open and lightly iron stained. (Grade IV to III)	2.20 (0.20) 2.40	B B537			Plate Loading Test (NO P3) carried out at 2.4m below GL. (Plate Dia. 24")
	End Of Trial Pit					

Key:
W Water
P Piston
J Jar
T Thin Wall
X No Recovery

Sample Types:
U Undisturbed
D Disturbed
B Bulk Disturbed

In-Situ Tests:
SPT SPT Value
CPT CPT Value
k Plate Bearing Test
pp Pocket Penetrometer
m/c Moisture Content %

General Remarks :
1. Log of pit sunk to carry out a Plate Loading Test.
2. No water entries noted.

Equipment and Methods:
J C B Mechanical Digger fitted with a 1.0m bucket.

Scale : 1m/Sheet
Sheet No. 1 Of 1.
Depth 0 to 3 metres.
Logged By : K McElmeel
Appendix :
Figure No. : A-2

Appendix 10.1
Appendix F
Results Environmental Search

Date: 10/08/16
Our Ref: WK/201616961

thanet district council

Vanessa Dahmoun
Amec Foster Wheeler
Floor 4
60 London Wall
London EC2M 5TQ

Dear Vanessa,

RE: Request for Information RE: Manston Airport, Manston Road, Ramsgate, Kent. CT12 5BL

Thank you for your letter and payment received by this department. Please find attached a receipt for your records. I refer to your request for information on contaminated land held by this Office. This department does not hold information on historic MOD remediation of the former Kent International Airport site.

Under Part IIA of the Environmental Protection Act 1990, Local Authorities have the responsibility to identify contaminated land and initiate enforcement / remedial measures where necessary. Officers are currently prioritising sites for further investigation using historical land use information, geological and hydrogeological information and current land use data.

I would emphasise that any information provided by Thanet District Council does not act as a guarantee against the Authority taking further action in respect of land contamination at the above, in the future. This Authority does not have a published Contaminated Land Register.

Having researched our records and additional data in the vicinity of your site using our in-house mapping database (see appendices attached), I am able to provide the following information in answer to your enquiry. To the best of our knowledge:

1. The above site overlies the former Kent International Airport which has former uses as an RAF base and commercial airport (with underground fuel storage facilities). Given the history of the site and on-site presence of USTs, there exists the potential for contamination of the ground from leaks or spills of fuel/oil/hydrocarbons/etc..., ACM's, UXO's from WWII activities and a variety of products used in the running and maintenance of commercial and military airfields and aircraft.

2. The site also lies within 250m of various potentially contaminated features, including: Former Fuel Depot, Cemetery, Hospital, Laundry, Military Land, Petroleum Tanks, Quarry, Road Haulage, Filled Ground, Brick Works, Refuse Disposal and PFS. Please note, due to the size of the application site three separate spatial analysis reports have been compiled covering the full site perimeter.

3. Based on the information currently held regarding the contamination risk at the above, this department is not intending to take action under Part IIA of the EPA 1990. However, should further information come to light regarding potential contamination at the above in the future, this department would re-evaluate any potential risk to human health and the environment, including controlled waters at this time.

Environmental Health
Morgan Sproates
Environmental Protection Manager

Contact Officer: Morgan Sproates
Direct Dial: 01843 577081

Thanet District Council
PO Box 9
Cecil Street
Margate
Kent
CT9 1XZ

01843 577000
www.thanet.gov.uk

Given the former military/commercial/industrial uses of the application site and its location overlying Groundwater Source Protection Zones 1, 2 & 3, if redevelopment or a change of use is proposed, the developer would be required as a condition of Planning to investigate whether any land contamination exists and, if necessary, devise a strategy to deal with it.

4. Please find regulatory processes (Part B list) attached.

5. Please see Jacobs Phase 1 & 2 report submitted in connection with the 2009 KIA radar mast application F/TH/09/0637 at:

   https://planning.thanet.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=ZZZZMWQEBJ103

6. Please contact the Planning Department or visit: www.ukplanning.com

7. Please find attached.

If you wish to research this matter further, the following additional sources of information may be useful: Environment Agency website, old Ordnance Survey maps, trade directories and local archives and histories. Further information on potential petrol tanks of concern in the area can be obtained from the Petroleum Officer at Kent County Council, Trading Standards.

If you have any queries or require any further information please do not hesitate to contact me.

Yours Sincerely,

[redacted]

Morgan Sproates
Environmental Protection Manager

Environmental Health
Morgan Sproates
Environmental Protection Manager

Contact Officer: Morgan Sproates
Direct Dial: 01843 577081

Thanet District Council
PO Box 9
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CT9 1XZ

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www.thanet.gov.uk

List of Installations

Reference	Site Address	Grid Ref	Operator	Date Applied	Reg Section Number	PGN Code	Process Description
24-06/07	Manston Road Margate, Kent	635305 169225	Thanet Crematorium	2.8.91	Section 5.1	PG 5/2	Incinerator
21-06/07	Manston Road Margate Kent CT9 4LX	635129 168924	Cemex	26.3.92	Section 3.1	PG 3/1	Cement & Lime
18-06/07	Patricia Way Pysons Road Broadstairs Kent CT10 2XZ	637422 167275	Blaze Neon	15.1.93	Section 6.5	PG 6/23	Coating Process
23-06/07	Pysons Road Broadstairs Kent. CT10 2LE	637613 167231	Fujifilm	15.8.96	Section 6.5	PG 6/11	Manufacture of Printing Ink
16-06/07	71 Monkton Street Monkton Kent CT12 4JF	628946 165041	DDS	28.5.97	Section 3.4	PG 3/16	Concrete Crushing
PPC010	424 Margate Road Ramsgate CT12 6SJ	Mobile	Groundworks Solutions	6.5.16	Section 3.4	PG3/16	Concrete Crushing
19-06/07	Manston Park Columbus Avenue Manston Ramsgate	631391 166794	Cummins	19.12.00	Section 6.5	PG 6/23	Coating Process
1-10/11	Port Ramsgate	TR379631	Bretts	1.6.10	Section 3.1	PG3/1	Cement & Lime

04-05/06	292 Northdown Road Cliftonville, Margate Kent CT9 2PT	636800 170756	Shell	19.5.97	Section 1.4	PG 1/14	Vapour Recovery
09-05/06	Canterbury Road East Ramsgate Kent. CT11 OLB	636026 165012	Shell	11.11.98	Section 1.4	PG 1/14	Vapour Recovery
12-05/06	155 Hereson Road Ramsgate Kent CT11 7EL	638777 165964	Murco	10.12.98	Section 1.4	PG 1/14	Vapour Recovery
05-05/06	361 Canterbury Road Birchington Kent CT7 9TZ	629763 168462	Shell	31.12.98	Section 1.4	PG 1/14	Vapour Recovery
14-05/06	36-40 High Street St Lawrence Ramsgate Kent. CT11 0QW	637051 165258	J C Morrison	16.2.99	Section 1.4	PG 1/14	Vapour Recovery
13-05/06	Broadway Garage Broadstairs Kent CT10 2AY	638979 168016	J C Morrison	16.2.99	Section 1.4	PG 1/14	Vapour Recovery
PC008[i1]	425 Margate Road Westwood Broadstairs, Kent	636506 167707	J Sainsbury PLC	10.7.14	Section 1.4	PG 1/14	Vapour Recovery
15-05/06	Sandwich Road Cliffsend Ramsgate CT12 5JB	634538 163812	Pegwell	12.1.00	Section 1.4	PG 1/14	Vapour Recovery
11-05/06	233 – 235 Canterbury Road, Garlinge Kent	633420 169841	BP	20.3.00	Section 1.4	PG 1/14	Vapour Recovery
07-05/06	475 Margate Rd, Westwood Broadstairs	636587 167695	Tesco	14.9.01	Section 1.4	PG1/14	Vapour Recovery

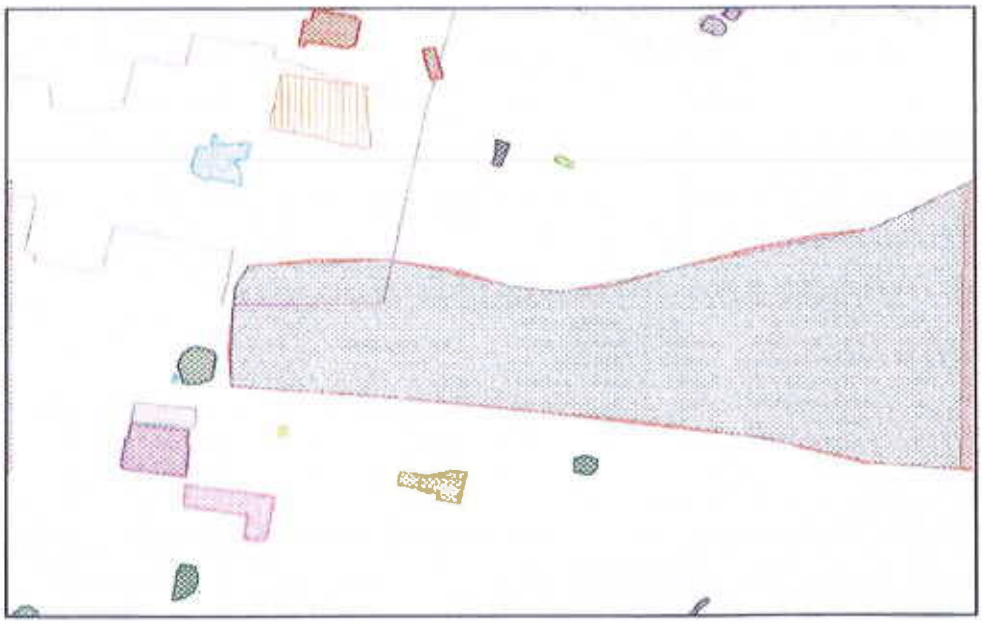
01-05/06	Manston Rd Ramsgate Kent CT12 6NT	636218 165608	Tesco	16.06.03	Section 1.4	PG 1/14	Vapour Recovery
01-05/06	Tothill Street Minster Kent CT!2 4AU	631162 165640	Co-Op Minster	29/7/05	Section 1.4	PG 1/14	Vapour Recovery

03-07/08	Northwood Road Ramsgate CT12 6RR	637011 167106	K Laundry	Jul 07	Section 7	PG 6/46	Dry Cleaners
04-07/08	4 Cuthbert Road Westgate CT8 8NR	632296 169991	Clothescare	Jul 07	Section 7	PG 6/46	Dry Cleaners
05-07/08	5 New Street Margate CT9 1EG	635417 170901	Mark Michaels	Jul 07	Section 7	PG 6/46	Dry Cleaners
06-07/08	374 Northdown Road Margate CT9 3PQ	637238 170703	Fox Dry Cleaners	Jul 07	Section 7	PG 6/46	Dry Cleaners
07-07/08	58 Station road Birchington CT7 9RA	630066 169229	Jons Dry Cleaners	Jul 07	Section 7	PG 6/46	Dry Cleaners
09-07/08	74 Queen Street Ramsgate CT11 9ER	638073 164771	Paris Dry Cleaners	Jul 07	Section 7	PG 6/46	Dry Cleaners
10-07/08	61 High Street Broadstairs CT10 1JL	639502 167827	Silvesters	Jul 07	Section 7	PG 6/46	Dry Cleaners
01-08/09	138 High Street Broadstairs CT10 1JB	639325 167913	Alibabas	Jul 08	Section 7	PG 6/46	Dry Cleaners

MVM Contaminated Land - Spatial Analysis

18 November 2015

Spatial search based on: User drawn Polygon
Buffer width: 250 metres



Key:

- Bulk Fuel Storage
- Cemetery
- Hospital
- Laundry
- Military Use
- Petrol Tank License (Expirec
- Petroleum Tank (Not PFS)
- Quarry
- Road Haulage
- Source Protection Zone
- Vehicle Repair

Source Protection Zone

Giskey	13
Id	RC/00000013
Sitename	Lord of the Manor
Sitedetails	Groundwater Source Protection Zone 1 - Lor od the

Source Protection Zone

Giskey	14
Id	RC/00000014

Sitename	Lord of the Manor
Sitedetails	Groundwater Source Protection Zone 2 - Lord of the

Quarry 

Giskey	17
Id	CL/00000017
Sitename	Initially Used as a Quarry. (1877,1898)
Ownername	
Sitedetails	Initially Used as a Quarry. (1877,1898) (s10310004
Actnotes	
Classid	C009
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Source Protection Zone 

Giskey	20
Id	RC/00000020
Sitename	
Sitedetails	

Source Protection Zone 

Giskey	21
Id	RC/00000021
Sitename	Thanet SPZ
Sitedetails	

Quarry 

Giskey	54
Id	CL/00000054
Sitename	Initially used as a Quarry and later filled with unkno
Ownername	
Sitedetails	Initially used as a Quarry and later filled with unkno
Actnotes	
Classid	C009
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Hospital 

Giskey	102
Id	CL/00000102
Sitename	Fever Hospital (1898)
Ownername	
Sitedetails	Fever Hospital (1898) (s168100007308)
Actnotes	
Classid	C006
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Laundry

Giskey	193
Id	CL/00000193
Sitename	Minster Laundry (Tanks) (1908,1938,1961)
Ownername	
Sitedetails	Minster Laundry (Tanks) (1908,1938,1961) (s16710
Actnotes	
Classid	C016
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Road Haulage

Giskey	262
Id	CL/00000262
Sitename	Road Haulage
Ownername	
Sitedetails	Road Haulage (1976) (s155100019252)
Actnotes	
Classid	C039
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Cemetery

Giskey	263
Id	CL/00000263
Sitename	Cemetary
Ownername	
Sitedetails	Cemetary (1908,1938,1961,1976) (s168100007303)
Actnotes	
Classid	C010
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Vehicle Repair

Giskey	264
Id	CL/00000264
Sitename	Motor Vehicle - Repair, Maintenance
Ownername	
Sitedetails	Motor Vehicle - Repair, Maintenance (1976) (s1191
Actnotes	
Classid	C040
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Petrol Tank License (Expired)

Giskey	385
Id	CL/00000385
Sitename	Great West Autos Ltd
Ownername	
Sitedetails	Former Highway Depot. TS Ref PET482. 1 Tank. Fi
Actnotes	
Classid	C041
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Petrol Tank License (Expired)

Giskey	389
Id	CL/00000389
Sitename	Cleve Court Farm
Ownername	
Sitedetails	L.S. Sayer & Son. TS Ref. E115. 1 x 500g. Installed
Actnotes	
Classid	C041
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Petroleum Tank (Not PFS)

Giskey	482
Id	CL/00000482
Sitename	Wilson & Wilson Ltd
Ownername	
Sitedetails	1 x 1000g. installed 1951. Removed from site to Ric
Actnotes	
Classid	C051
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Military Use

Giskey	574
Id	CL/00000574
Sitename	Manston Airport
Ownername	Alistair Robertson
Sitedetails	Former RAF Base. Currently Commercial Airport.
Actnotes	
Classid	C001
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Bulk Fuel Storage

Giskey	591
Id	CL/00000591
Sitename	Former Fuel Depot

Ownername	
Sitedetails	
Actnotes	
Classid	C053
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

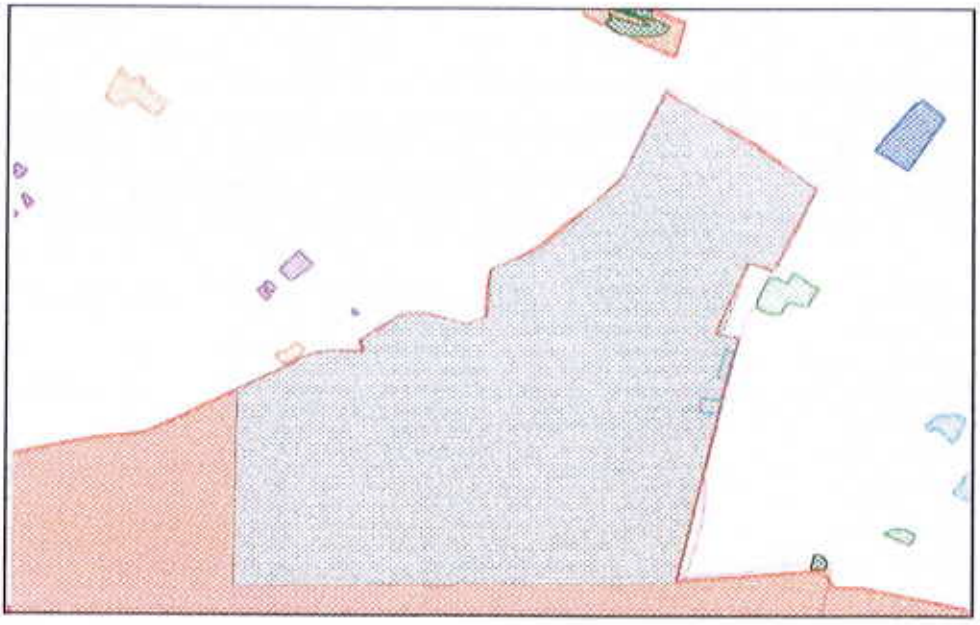
Road Haulage

Giskey	689
Id	CL/00000689
Sitename	Manston Express Transport
Ownername	I File - 01843822822
Sitedetails	
Actnotes	
Classid	C039
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

MVM Contaminated Land - Spatial Analysis

18 November 2015

Spatial search based on: User drawn Polygon
Buffer width: 250 metres



Key:

- **Brick Works**
- **Bulk Fuel Storage**
- **Filled Ground**
- **Military Use**
- **Petrol Tank (Safe or Remove**
- **Petrol Tank License (Expirec**
- **Quarry**
- **Refuse Disposal**
- **Source Protection Zone**

Source Protection Zone

Giskey	13
Id	RC/00000013
Sitename	Lord of the Manor
Sitedetails	Groundwater Source Protection Zone 1 - Lor od the

Source Protection Zone

Giskey	14
Id	RC/00000014
Sitename	Lord of the Manor
Sitedetails	Groundwater Source Protection Zone 2 - Lord of the

Source Protection Zone

Giskey	21
Id	RC/00000021
Sitename	Thanet SPZ
Sitedetails	

Filled Ground

Giskey	131
Id	CL/00000131
Sitename	RAF
Ownername	
Sitedetails	Unknown Filled Ground (1938) (s561100027662)
Actnotes	
Classid	C011
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Filled Ground

Giskey	132
Id	CL/00000132
Sitename	RAF
Ownername	
Sitedetails	Unknown Filled Ground (1938) (s561100027663)
Actnotes	
Classid	C011
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Quarry

Giskey	133
Id	CL/00000133
Sitename	The Dump
Ownername	
Sitedetails	Quarrying of Sand & Clay (1938) (s103100048566)
Actnotes	
Classid	C009
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Quarry

Giskey	134
Id	CL/00000134
Sitename	The Dump
Ownername	
Sitedetails	Quarrying of Sand & Clay (1938) (s103100048567)
Actnotes	
Classid	C009
Source_Path_Receptor	No

Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Filled Ground 

Giskey	191
Id	CL/00000191
Sitename	Unknown Filled Ground (1908)
Ownername	
Sitedetails	Unknown Filled Ground (1908) (s561100027660)
Actnotes	
Classid	C011
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Filled Ground 

Giskey	192
Id	CL/00000192
Sitename	Unknown Filled Ground (1908)
Ownername	
Sitedetails	Unknown Filled Ground (1908) (s561100027661)
Actnotes	
Classid	C011
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Brick Works 

Giskey	194
Id	CL/00000194
Sitename	Brick Works
Ownername	
Sitedetails	Brick Works (1908) (s143100007219)
Actnotes	
Classid	C030
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Petrol Tank License (Expired) 

Giskey	306
Id	CL/00000306
Sitename	Manston Court Garage
Ownername	
Sitedetails	Manston Court Garage, Manston ()
Actnotes	
Classid	C041
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No

Sprnotes	

Military Use

Giskey	335
Id	CL/00000335
Sitename	The Dump
Ownername	
Sitedetails	See Information provided in support TH/02/0897 an
Actnotes	
Classid	C001
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Petrol Tank License (Expired)

Giskey	375
Id	CL/00000375
Sitename	London Manston Airport
Ownername	
Sitedetails	Converted to Jet Fuel. TS ref 1076. 2 x 27276 Litres
Actnotes	
Classid	C041
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Petrol Tank (Safe or Removed)

Giskey	471
Id	CL/00000471
Sitename	Manston Court Farm
Ownername	
Sitedetails	TS Ref:PET1774. 3x500g, 1 tank installed in 1939, s
Actnotes	
Classid	C052
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Military Use

Giskey	574
Id	CL/00000574
Sitename	Manston Airport
Ownername	Alistair Robertson
Sitedetails	Former RAF Base. Currently Commercial Airport.
Actnotes	
Classid	C001
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Bulk Fuel Storage

Giskey	591
Id	CL/00000591
Sitename	Former Fuel Depot
Ownername	
Sitedetails	
Actnotes	
Classid	C053
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

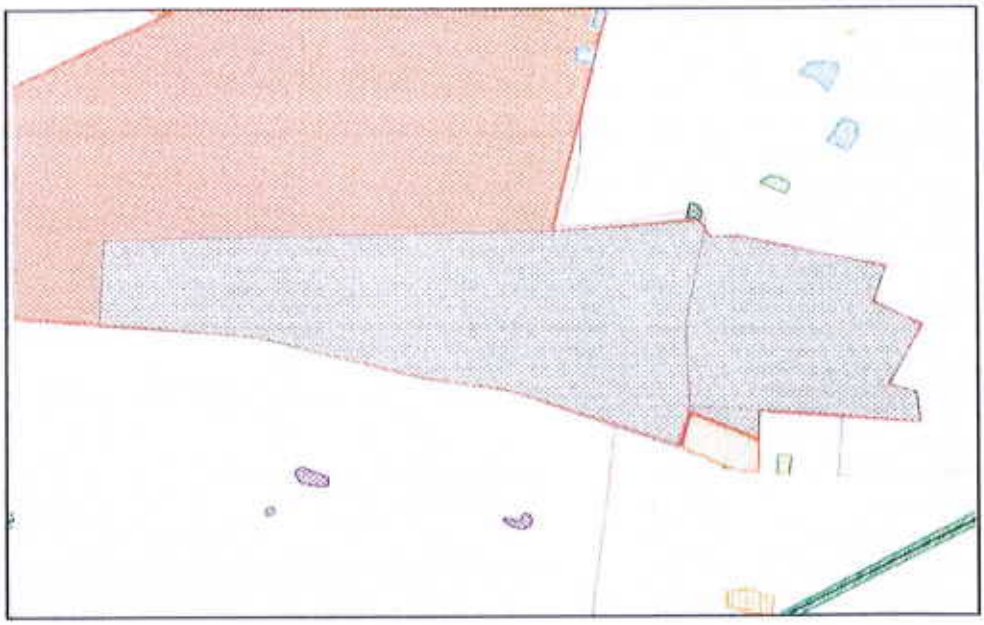
Refuse Disposal

Giskey	649
Id	CL/00000649
Sitename	Thanet Waste Management
Ownername	L J Ray - 01843821500
Sitedetails	Waste Disposal Services
Actnotes	
Classid	C029
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

MVM Contaminated Land - Spatial Analysis

18 November 2015

Spatial search based on: User drawn Polygon
Buffer width: 250 metres



Key:

- **Bulk Fuel Storage**
- **Former Petrol Filling Station**
- **Military Use**
- **Petrol Tank (Safe or Remove**
- **Petroleum Tank (Not PFS)**
- **Quarry**
- **Source Protection Zone**

Source Protection Zone

Giskey	13
Id	RC/00000013
Sitename	Lord of the Manor
Sitedetails	Groundwater Source Protection Zone 1 - Lor od the

Source Protection Zone

Giskey	14
Id	RC/00000014
Sitename	Lord of the Manor
Sitedetails	Groundwater Source Protection Zone 2 - Lord of the

Source Protection Zone

Giskey	21

Id	RC/00000021
Sitename	Thanet SPZ
Sitedetails	

Quarry

Giskey	144
Id	CL/00000144
Sitename	Quarrying (1938)
Ownername	
Sitedetails	Quarrying (1938) (s103100046537)
Actnotes	
Classid	C009
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Petrol Tank (Safe or Removed)

Giskey	377
Id	CL/00000377
Sitename	Chapel Farm
Ownername	
Sitedetails	TS Ref PET 105 TH448. 1137 litres. Cement Slurry
Actnotes	
Classid	C052
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Petroleum Tank (Not PFS)

Giskey	470
Id	CL/00000470
Sitename	Kilnwood Homes Ltd
Ownername	
Sitedetails	1x500g. Slurry filled in 1997. Verified. Unknown lo
Actnotes	
Classid	C051
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Bulk Fuel Storage

Giskey	568
Id	CL/00000568
Sitename	Jentex Petroleum
Ownername	
Sitedetails	Currently and Historically used for fuel storage.
Actnotes	
Classid	C053
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Military Use

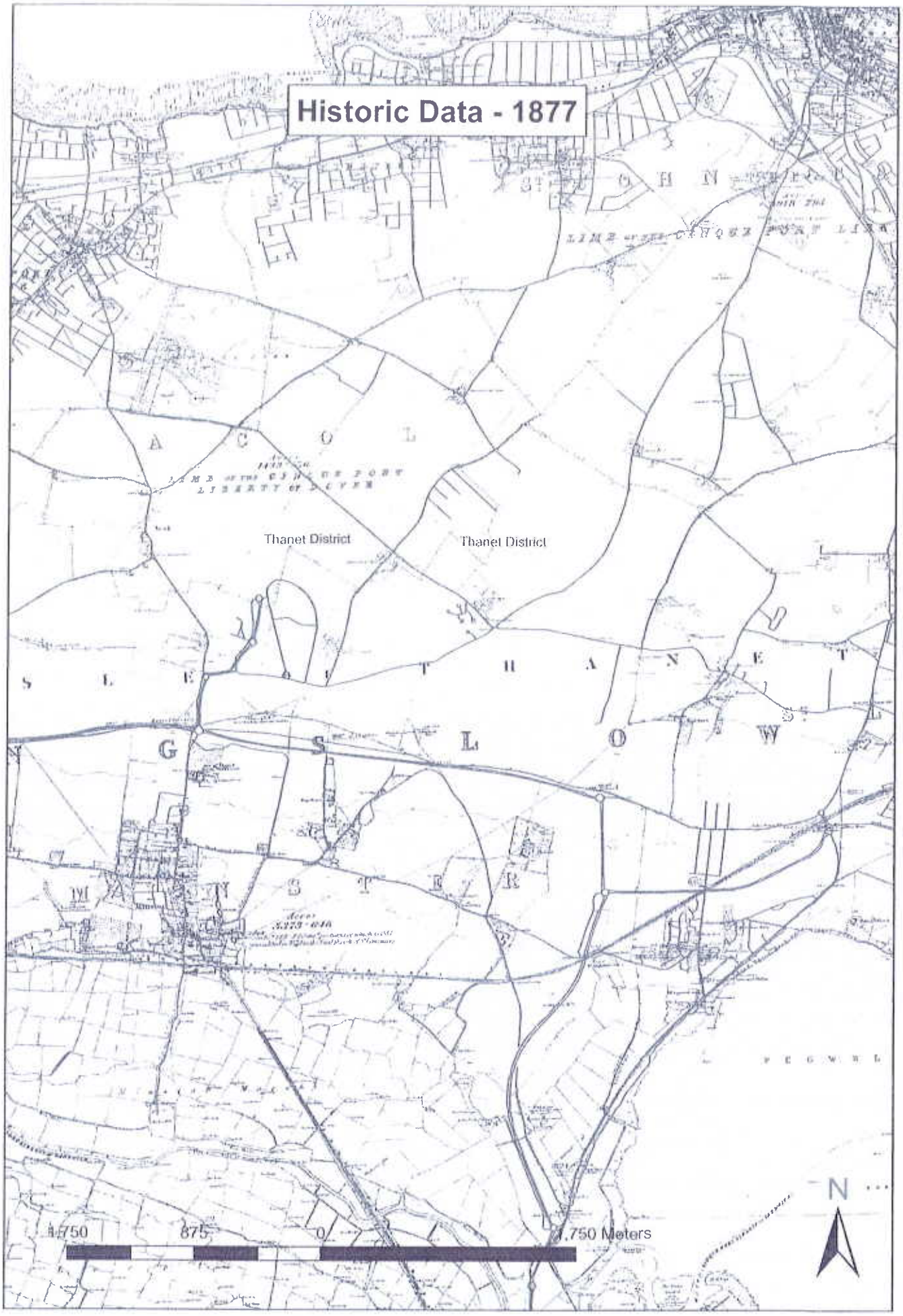
Giskey	574
Id	CL/00000574
Sitename	Manston Airport
Ownername	Alistair Robertson
Sitedetails	Former RAF Base. Currently Commercial Airport.
Actnotes	
Classid	C001
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Former Petrol Filling Station

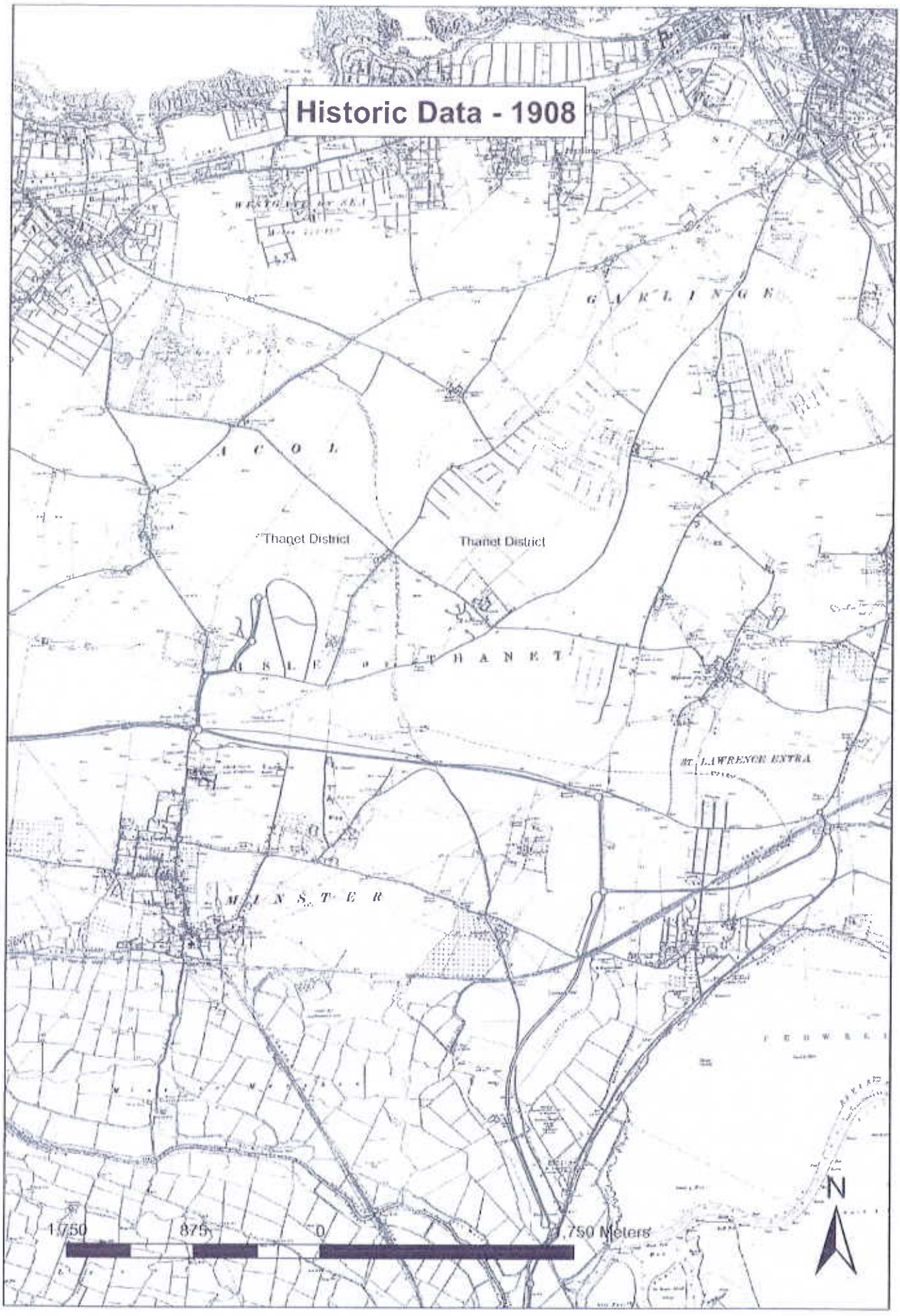
Giskey	589
Id	CL/00000589
Sitename	Manna Hutte Garage
Ownername	
Sitedetails	
Actnotes	
Classid	C049
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

Bulk Fuel Storage

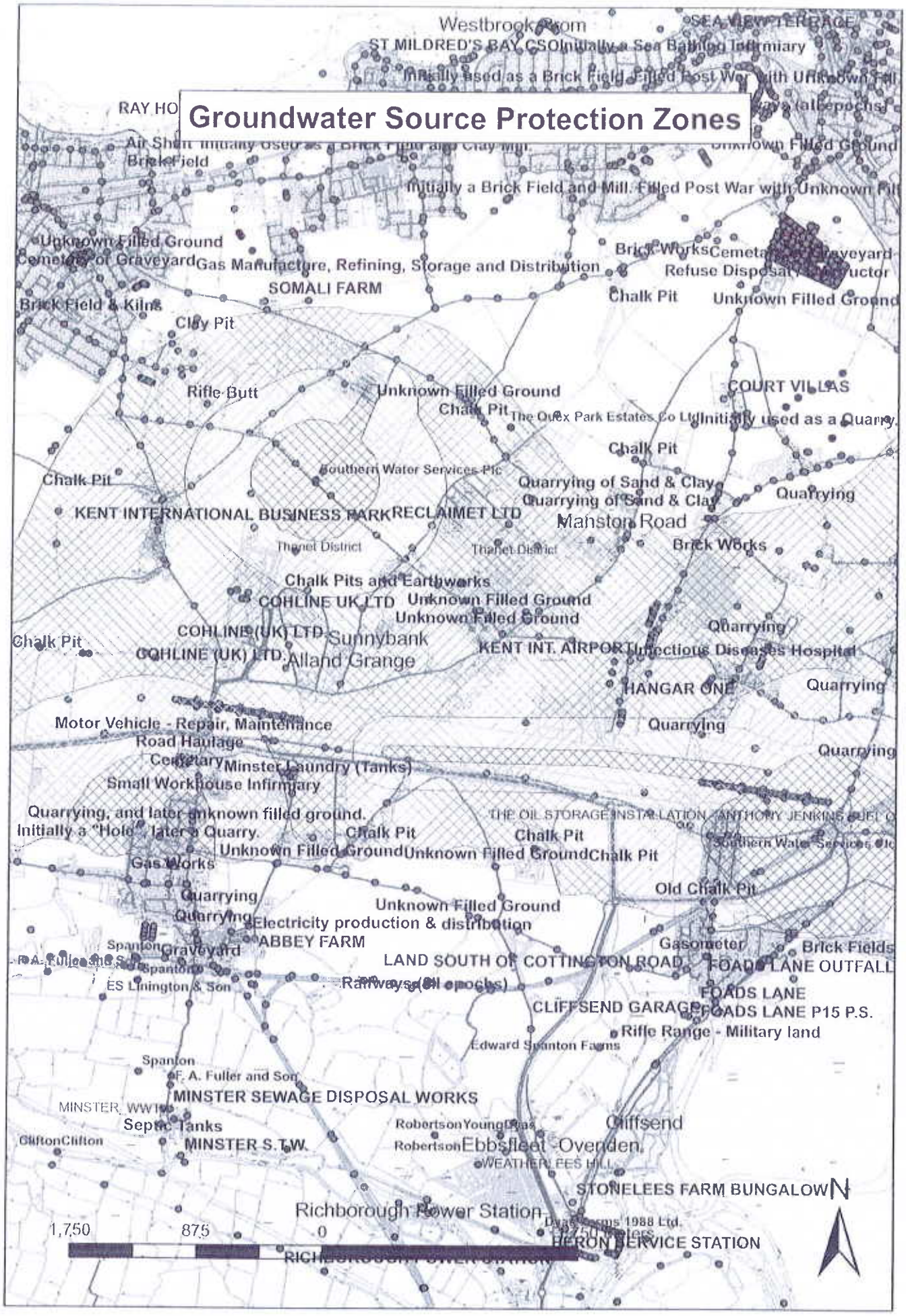
Giskey	652
Id	CL/00000652
Sitename	Anthony Jenkins Fuel Oil Ltd
Ownername	A N Jenkins - 01843596431
Sitedetails	Fuel Oil Wholesalers
Actnotes	
Classid	C053
Source_Path_Receptor	No
Significant_Harm	No
Registered	No
Special_Status	No
Sprnotes	

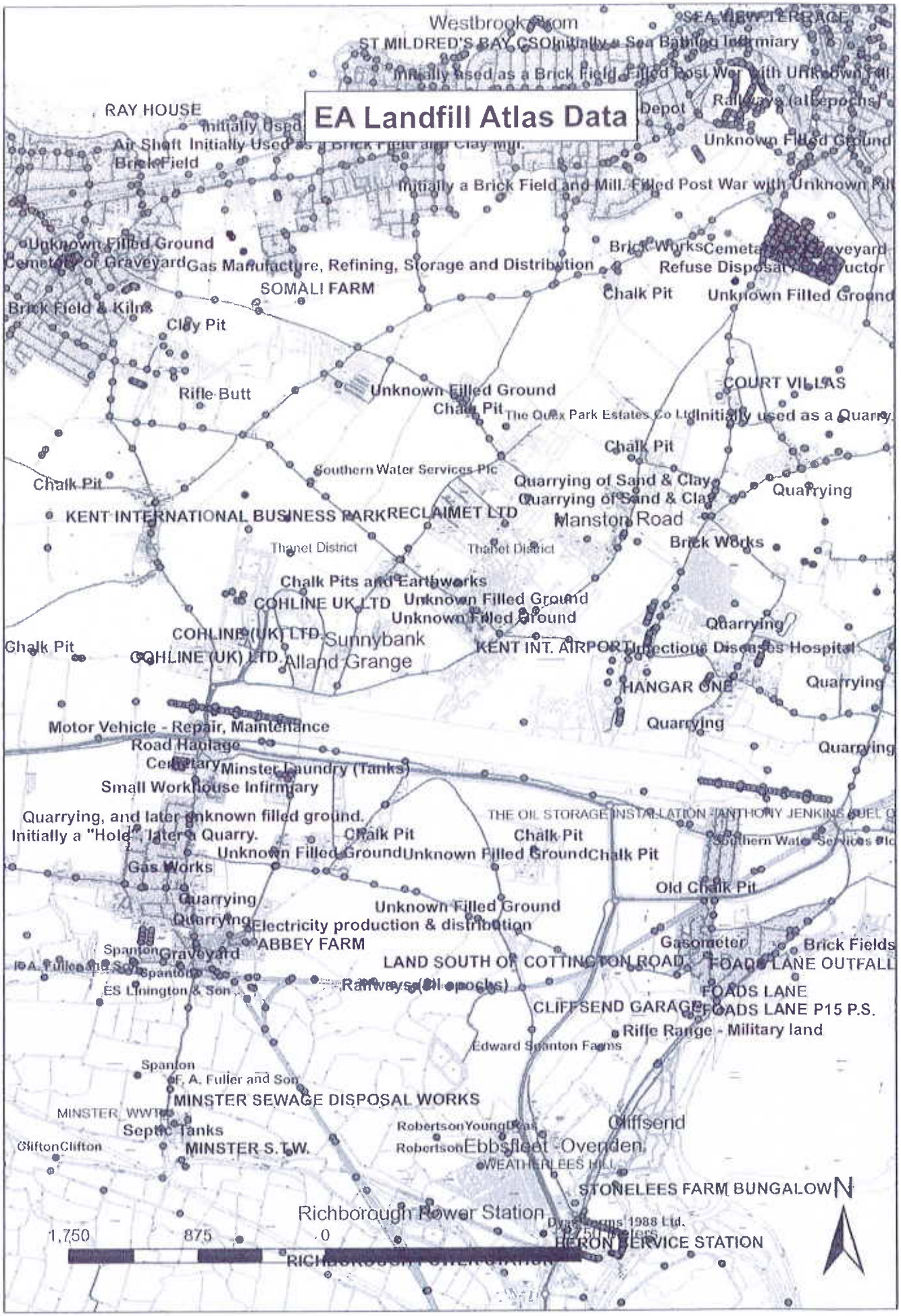

Historic Data - 1877
Thanet District
Thanet District
1,750
875
0
1,750 Meters
N

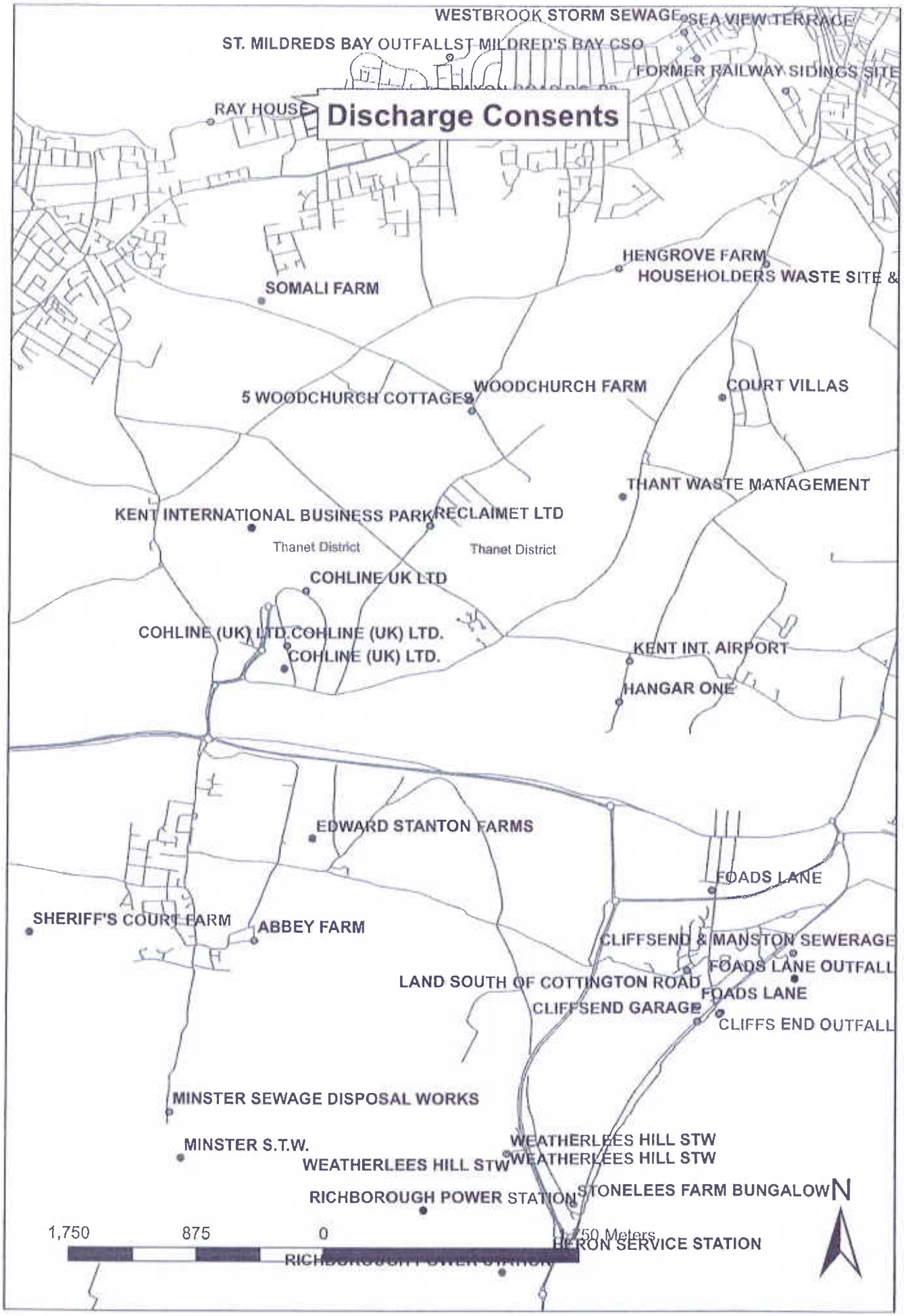

Historic Data - 1898
Thanet District
Thanet District
1750
875
0
1,750 Meters
N

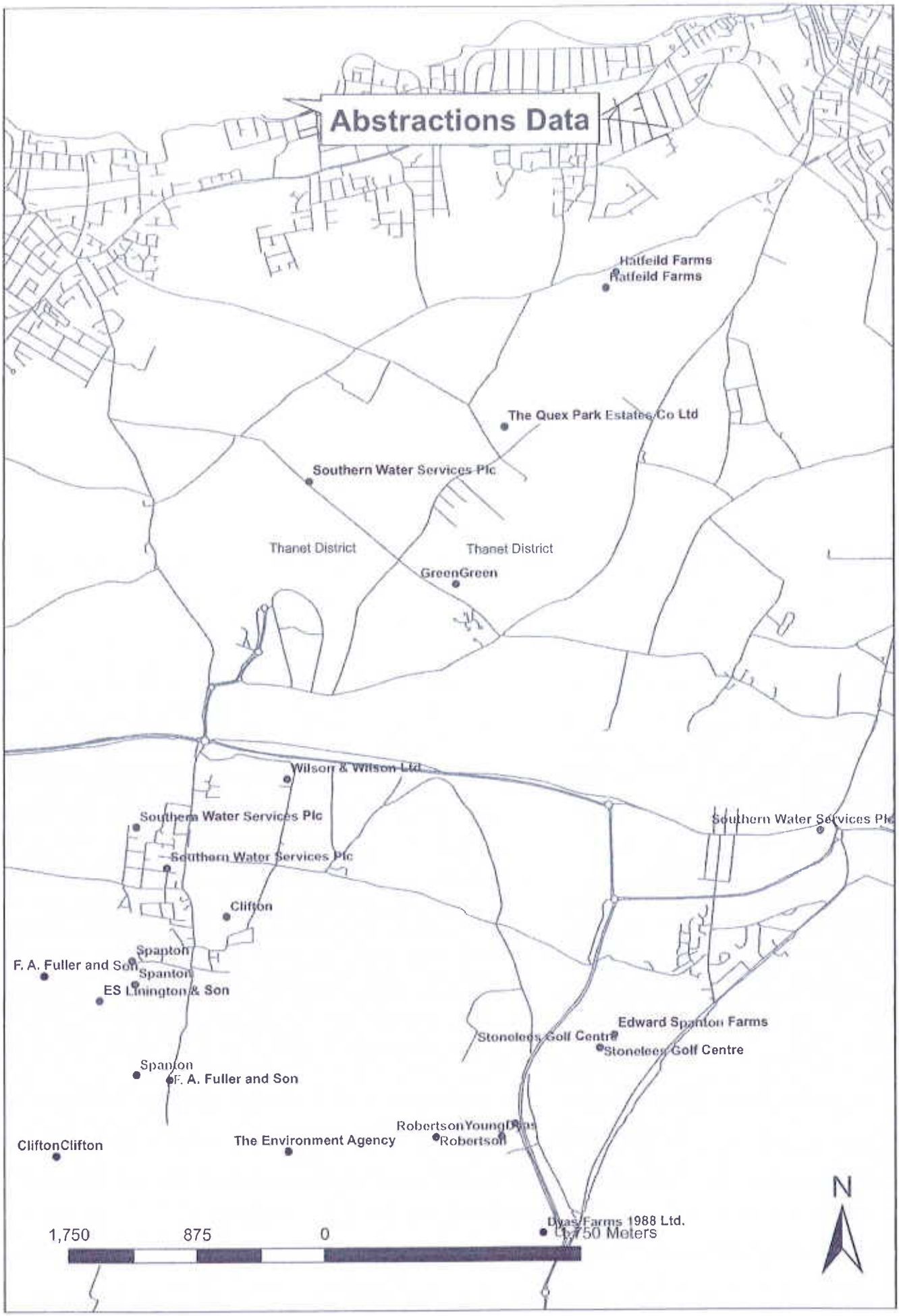

Historic Data - 1908
GARLINGE
ACOL
Thanet District
Thanet District
ISLE OF THANET
ST. LAWRENCE EXTRA
MINSTER
1,750
875
0
1,750 Meters
N


Historic Data - 1938
MARGATE
GARLINGE
ACOL
Thanet District
Thanet District
ISLE OF THANET
ST LAWRENCE EXTRA
MINSTER
1,750
875
0
1,750 Meters
N


Groundwater Source Protection Zones
Westbrook Farm
SEA VIEW TERRACE
ST MILDRED'S BAY CSO
Initially a Sea Bathing Infirmary
Initially used as a Brick Field. Filled Post War with Unknown Fill
Air Shaft Initially Used as a Brick Field and Clay Mill
Brick Field
Initially a Brick Field and Mill. Filled Post War with Unknown Fill
Unknown Filled Ground
Cemetery or Graveyard
Gas Manufacture, Refining, Storage and Distribution
Brick Works
Refuse Disposal
SOMALI FARM
Chalk Pit
Brick Field & Kiln
Clay Pit
Rifle Butt
Unknown Filled Ground
Chalk Pit
The Outex Park Estates Co Ltd
Initially used as a Quarry.
COURT VILLAS
Southern Water Services Plc
Quarrying of Sand & Clay
Quarrying
KENT INTERNATIONAL BUSINESS PARK
RECLAIMET LTD
Manston Road
Thanet District
Brick Works
Chalk Pits and Earthworks
COHLINE UK LTD
Unknown Filled Ground
COHLINE (UK) LTD
Sunnybank
KENT INT. AIRPORT
Infectious Diseases Hospital
COHLINE (UK) LTD
Alland Grange
HANGAR ONE
Motor Vehicle - Repair, Maintenance
Road Haulage
Cemetary
Minster Laundry (Tanks)
Small Workhouse Infirmary
Quarrying, and later unknown filled ground.
Initially a "Hole", later a Quarry.
THE OIL STORAGE INSTALLATION ANTHONY JENKINS FUEL
Gas Works
Old Chalk Pit
Electricity production & distribution
ABBEY FARM
Graveyard
Gasometer
Brick Fields
LAND SOUTH OF COTTINGTON ROAD
FOADS LANE OUTFALL
Railways (all epochs)
FOADS LANE
CLIFFSEND GARAGE
FOADS LANE P15 P.S.
Rifle Range - Military land
Edward Spanton Farms
Spanton
F. A. Fuller and Son
MINSTER SEWAGE DISPOSAL WORKS
MINSTER WWTW
Septic Tanks
MINSTER S.T.W.
Cliffsend
Ebbsfleet - Overden
WEATHERLEES HILL
STONELEES FARM BUNGALOW
Richborough Power Station
HERON SERVICE STATION
1,750
875
0
N


EA Landfill Atlas Data
Westbrook Farm
SEA VIEW TERRACE
ST MILDRED'S BAY CSO
Initially a Sea Bathing Infirmary
Initially used as a Brick Field. Filled Post War with Unknown Fill
RAY HOUSE
Depot
Railways (all epochs)
Air Shaft
Brick Field
Unknown Filled Ground
Initially a Brick Field and Mill. Filled Post War with Unknown Fill
Unknown Filled Ground
Cemetery or Graveyard
Gas Manufacture, Refining, Storage and Distribution
Brick Works
Refuse Disposal
SOMALI FARM
Chalk Pit
Unknown Filled Ground
Brick Field & Kiln
Clay Pit
Rifle Butt
Unknown Filled Ground
Chalk Pit
COURT VILLAS
The Quex Park Estates Co Ltd
Initially used as a Quarry
Chalk Pit
Southern Water Services Plc
Chalk Pit
Quarrying of Sand & Clay
Quarrying
KENT INTERNATIONAL BUSINESS PARK
RECLAIMET LTD
Manston Road
Thanet District
Thanet District
Brick Works
Chalk Pits and Earthworks
COHLINE UK LTD
Unknown Filled Ground
Unknown Filled Ground
Quarrying
COHLINE (UK) LTD
Sunnybank
Chalk Pit
COHLINE (UK) LTD
Alland Grange
KENT INT. AIRPORT
Infectious Diseases Hospital
HANGAR ONE
Quarrying
Motor Vehicle - Repair, Maintenance
Quarrying
Road Haulage
Quarrying
Cemetary
Minster Laundry (Tanks)
Small Workhouse Infirmary
Quarrying, and later unknown filled ground.
Initially a "Hole", later a Quarry.
THE OIL STORAGE INSTALLATION - ANTHONY JENKINS FUEL
Chalk Pit
Chalk Pit
Southern Water Services Plc
Unknown Filled Ground
Unknown Filled Ground
Chalk Pit
Gas Works
Old Chalk Pit
Quarrying
Unknown Filled Ground
Quarrying
Electricity production & distribution
Gasometer
Brick Fields
Spanton
Graveyard
ABBEY FARM
LAND SOUTH OF COTTINGTON ROAD
FOADS LANE OUTFALL
F.A. Fuller and Son
Spanton
ES Linington & Son
Railways (all epochs)
FOADS LANE
CLIFFSEND GARAGE
FOADS LANE P15 P.S.
Rifle Range - Military land
Edward Spanton Farms
Spanton
F. A. Fuller and Son
MINSTER SEWAGE DISPOSAL WORKS
MINSTER WWTW
Septic Tanks
Robertson Young Ltd
Cliffsend
Clifton
Clifton
MINSTER S.T.W.
Robertson
Ebbsfleet - Overden
WEATHERLEES HILL
STONELEES FARM BUNGALOW
N
Richborough Power Station
Dynes Farms 1988 Ltd.
HERON SERVICE STATION
1,750
875
0
1,750 Meters
RICHBOROUGH INTERCHANGE


Discharge Consents
WESTBROOK STORM SEWAGE
SEA VIEW TERRACE
ST. MILDREDS BAY OUTFALL
ST MILDRED'S BAY CSO
FORMER RAILWAY SIDINGS SITE
RAY HOUSE
HENGROVE FARM
HOUSEHOLDERS WASTE SITE &
SOMALI FARM
WOODCHURCH FARM
COURT VILLAS
5 WOODCHURCH COTTAGES
THANT WASTE MANAGEMENT
KENT INTERNATIONAL BUSINESS PARK
RECLAIMET LTD
Thanet District
Thanet District
COHLINE UK LTD
COHLINE (UK) LTD.
COHLINE (UK) LTD.
COHLINE (UK) LTD.
KENT INT. AIRPORT
HANGAR ONE
EDWARD STANTON FARMS
FOADS LANE
SHERIFF'S COURT FARM
ABBEY FARM
CLIFFSEND & MANSTON SEWERAGE
FOADS LANE OUTFALL
LAND SOUTH OF COTTINGTON ROAD
FOADS LANE
CLIFFSEND GARAGE
CLIFFS END OUTFALL
MINSTER SEWAGE DISPOSAL WORKS
MINSTER S.T.W.
WEATHERLEES HILL STW
WEATHERLEES HILL STW
WEATHERLEES HILL STW
STONELEES FARM BUNGALOW
RICHBOROUGH POWER STATION
HERON SERVICE STATION
1,750
875
0
1,750 Meters
N


Abstractions Data
Hatfeild Farms
Hatfeild Farms
The Quex Park Estates Co Ltd
Southern Water Services Plc
Thanet District
Thanet District
GreenGreen
Wilson & Wilson Ltd
Southern Water Services Plc
Southern Water Services Plc
Southern Water Services Plc
Clifton
Spanton
F. A. Fuller and Son
Spanton
ES Linington & Son
Edward Spanton Farms
Stonelees Golf Centre
Stonelees Golf Centre
Spanton
F. A. Fuller and Son
RobertsonYoungDyas
The Environment Agency
Robertson
CliftonClifton
Dyas Farms 1988 Ltd.
1,750
875
0
1,750 Meters
N