

ENVIRONMENTAL SERVICES DIRECTORATE
DATE RECEIVED
18 SEP 2006
IN. No.
REPLY DATE
ACTION BY

**MASON CLARK ASSOCIATES**  
**CIVIL AND STRUCTURAL ENGINEERING CONSULTANTS**

**Site Assessment Report**  
**On**  
**The Former Birds Eye Factory**  
**Ladysmith Road, Grimsby**

**Commissioned By**  
**Michael Hyde and Associates Ltd**  
**On Behalf Of**  
**Alpine Cold Stores Ltd**

**DC / 1224 / 06 HEN**

**Date: April 2006**

**Ref: J2833-01**

CHURCH HOUSE,  
44 NEWLAND PARK,  
HULL. HU5 2DW.  
TEL : 01482 345797  
FAX : 01482 345413  
Email: user@masonclark.co.uk



## **1. PURPOSE AND AIMS**

- 1.1 This report has been prepared at the request of Michael Hyde and Associates Limited, on behalf of Alpine Cold Stores Limited who we understand are proposing to redevelop the site.
- 1.2 Our brief is to undertake an assessment in connection with possible contamination of the site, and report on the findings of our initial investigation.
- 1.3 The report consists of the first phase of a site investigation and uses a desktop study to highlight the potential risk of contamination.

## **2. SYNOPSIS**

The report finds that at this stage the potential risk for present or future uses is potentially high. To meet with current regulatory requirements further investigation is strongly advised.

## **3. SITE INVESTIGATION**

### **The Site**

- 3.1 Site Address – Ladysmith Road, Grimsby, DN32 9SF  
Current Uses – Disused Industrial  
Previous Uses – Food processing and freezing plant, fish curing works.  
Proposed Use – Residential
- 3.2 The site is underlain by low permeability drift deposits comprising clays, brickearth, peat and alluvium over chalk bedrock. The chalk is a major aquifer with local abstraction points.
- 3.3 The present factory is believed to have been built just prior to 1946. Since its opening there have been several additional buildings and works to the site, with developments as recently as 2004.

### **Site History**

- 3.4 Historical maps of the site indicate that the area was comprised of open land up to 1908. By 1931 the site had become a fish curing works and much of the area surrounding it had been developed into residential housing and recreational ground. Within the fish curing works the site was renovated and it is estimated that the development of the main factory was completed around 1946. By 1970 all areas surrounding the site had been developed with several works to the south and southeast. In February 2005 production was stopped and the site was closed down. In March 2005 Alpine Cold Foods acquired the site from Unilever. The plant is currently unused and is awaiting development for residential dwellings.

## Methodology

- 3.5 The site assessment follows the source-pathway-receptor method using a risk-based approach. The assessment takes into account what the site will be used for in the future and how potential contaminants will reach these areas. Significantly this means the level of what is termed 'contaminated' may vary depending on each individual case of contamination.

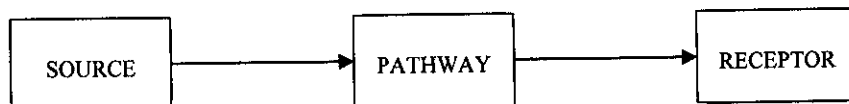


Figure 1 - Site Assessment Methodology

- 3.6 The following assessment and recommendations assume that the end use of the site is for residential dwellings, which are considered as highly sensitive sites within this framework.

## 4. RESULTS AND FINDINGS

- 4.1 The most significant risk of ground contamination on the site is from the previous use of the site as a frozen food processing plant.
- 4.2 Although exact details on the type of operations carried out are not available the potential sources of contaminants maybe those associated with this industry. Refrigeration is a core activity and freons (chlorofluorocarbons) and ammonia may pose a hazard if released to the environment. However, providing the refrigeration systems were well maintained these materials should remain within a sealed system and would therefore pose little threat to the surrounding area.
- 4.3 There is evidence that the anhydrous ammonia used in the refrigeration process has been removed safely and within current regulations. This was carried out by AAA LTD, Industrial Anhydrous Division on March 21 2005. Evidence and certification for this can be found in appendix 1.
- 4.4 Fish and food processing often requires large amounts of water with discharges into local drainage systems. It can also require significant amounts of salts to be used on site. This potentially could lead to elevated levels of salts and the contamination of the ground water if the salt has not been stored and used properly. Water samples have been taken from a borehole on the site and monitored by North East Lincolnshire Council. The most recent results show that the water supply complies with the

required standard of the Private Water Supplies Regulation 1991 (appendix 2).

- 4.5 Significantly we have only been able to obtain recent documentation for environmental performance. However, during periods in the past, before more stringent environmental enforcement, there is a significant likelihood that the site and surrounding area may have encountered some form of contamination. Due to the proposed use of the site careful consideration must be taken in deciding whether the area could be contaminated. Using a risk-based approach, the sensitivity of the receptors of the potential contamination on the site appears to justify the need for intrusive investigation.
- 4.6 Other materials used in fish and food processing have the potential to cause damage to the surrounding environment. The most significant of these are,
- Bleaches and cleaning fluids
  - Caustic soda
  - Oils and greases
  - Fuels (particularly in instances where transportation fleets are based at the facility).
- 4.7 The site contained its own above ground diesel tanks for non-transport related fuel. The area where the tanks are located appears in good condition and is placed on hard standing reducing the chance of ground contamination. However, there is a possibility that contaminants such as hydrocarbons may be found in this area due to leakages from the diesel tanks. The main vehicles used on the site were involved in the distribution of the produce. No refueling or maintenance took place on the site, further reducing the risk of possible ground contamination. It is not clear whether the tanks have currently been emptied and disconnected. At present no evidence has been found regarding this.
- 4.8 Large areas of the site are well protected by hard standing that should have significantly reduced the likelihood of contaminants reaching the soil. However, the date of construction is unknown and there is the chance of contamination reaching the ground through cracks and joints in the material and through areas of lower quality surfacing. Care should be taken in removing the hard paved surfaces due to the potential of contamination within the paving materials themselves.
- 4.9 The areas surrounding the site are residential to the north and west, with residential and recreational space to the east. To the south of the site are works located on Granville Street. A range of uses can be found, of which two car garages and a chemical sales office are the most notable occupiers. In our opinion these sites only pose a very low risk of contamination across to the former Birds Eye Plant.
- 4.10 Due to the age of the site there is a chance that asbestos and PCB's could be present. These can be found in a wide range of areas and a specific site

inspection should be undertaken before demolition work is carried out on the site. It should also be noted that the site falls within a flood risk area as designated by the Environment Agency and appropriate investigation should be conducted to establish if this would affect the proposed development.

## 5. CONCEPTUAL SITE MODEL

- 5.1 The conceptual site model is a basic description of how contaminants may have entered a system, how they are transported and where routes of exposure may occur. The model is based on the information currently available and the results of the findings. It must be stressed at this stage of the investigation the model is extremely limited and further investigation should be carried out to produce a more detailed analysis.

Potential Source of Contamination	Contaminants associated with the source	Pathway	Receptor
Past uses of the site. Food processing and freezing. Chemicals involved with refrigeration. Storage of diesel on site, salt use, bleaches and cleaning fluids, caustic soda, oils and greases. Fish curing	Ammonia	Ingestion of soil	Humans/ residents of proposed dwellings
	PAH and hydrocarbons	Removal of hardstanding	Site workers
	Gen. Contaminates Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel, Selenium, Boron, Copper, Zinc, Cyanide, Sulphide, Elemental Sulphur, Sulphate, pH, Phenols, Asbestos, TPH, PCBs, Trichloro Ethane	Ingestion of dust	Site workers
		Inhalation of vapours	Humans/ residents of proposed dwellings
		Migration towards the water table	Humans/ residents of proposed dwellings
		Uptake via contaminated groundwater table	Those using controlled waters
		Vegetation	
			Other industry and services

Table 1 – Conceptual Site Model

## 6. RISK ASSESSMENT

- 6.1 A preliminary risk assessment based on the above source-pathway-receptor model finds that there is a significant risk of contamination on the site. With regard to Contaminated Land Exposure Assessment (CLEA) as laid out by the Environment Agency there is a potential that some areas of the site may not meet with Soil Guidance Values (SGVs) for the proposed used.

- 6.2 Given the past usage of the site with industry present for over 70 years there is a significant risk of ground contamination. This is further compounded by the end use of the site and the sensitivity of the receptors.
- 6.3 The pathways for potential contaminants are at present limited due in part to the disused status of the site and presence of clay, which to a certain degree protects the major aquifer. However, significant works on the site and the redevelopment of the land may result in increased pathways for the pollution to migrate. Without intrusive investigation the true ground conditions and levels of contamination within it are unknown making it difficult to assess the full risks associated with the site.

## **7. CONCLUSIONS AND RECOMMENDATIONS**

- 7.1 The former Birds Eye site could potentially be classed as contaminated. The previous uses of the site and the intended residential use in the future presents a risk.
- 7.2 However, the conclusions of this report are based upon a risk assessment using published data and there is a possibility that the site may not present a risk to future users. It is recommended that further investigation be undertaken to establish if any of the potential contaminants exist within the site. We suggest that an initial scoping investigation should be conducted involving a limited number of sample positions around the site. From this a more detailed understanding of the actual risks can be developed. If contaminants are found a detailed development specific assessment should be carried out to determine if the pollutants are at levels above the SGVs. This will also establish if remediation of the land is required and to what degree to allow for the future development of the site.
- 7.3 Mason Clark Associates and current planning advice recommends that where pollution issues arise the developers should arrange an informal pre-application discussion with the Local Planning Authority.

**Appendix 1**

**Ammonia Removal**



# DELIVERY NOTE

## AAA LTD

INDUSTRIAL ANHYDROUS AMMONIA DIVISION

DOCKING ROAD  
RINGSTEAD, HUNSTANTON  
NORFOLK PE36 5LA

Tel: 01485 525 666  
Fax: 01485 525 265  
E Mail: [aaa@aaa.com](mailto:aaa@aaa.com)

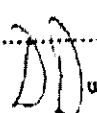
Date: 21-3-05

Name: ALPINE OIL SERVICES LTD  
Address: ESTATE ROAD NO 7  
SOUTH HAMPSHIRE IND EST  
BRIMLEY  
LEWIS INDUSTRIAL

### SITE

Name: EX. UNOVED  
Address: LADY SMITH ROAD  
CLIMSEY

### Decanting Ammonia Plant:

CHARGE NO. 4923  
Registration Number: 4688 PAH  
Drivers name: DALE  
Signature:   
Print name: D DALE

# AAA LTD

INDUSTRIAL ANHYDROUS AMMONIA DIVISION

DOCKING ROAD  
RINGSTEAD, HUNSTANTON  
NORFOLK PE36 5LA  
ENGLAND

Tel: 01485 525 666  
Fax: 01485 525 265

E Mail: aaagas@aol.com

## CERTIFICATE OF CONFIRMATION OF REMOVAL OF ANHYDROUS AMMONIA

Date 21-3-05

This certificate confirms that the quantity of Anhydrous Ammonia  
collected from EX. UNILCOVER SITE  
at LADY. WITH. ROAD. GILMSTON will be stored  
at our facility in Scotland, prior for use as a nitrogen fertiliser.

Philip Young  
MANAGING DIRECTOR  
AAA LIMITED

2 x 12  
1 x 4

**Appendix 2**

**Water Records**



**NORTH  
EAST  
LINCOLNSHIRE  
COUNCIL**  
www.nellincs.gov.uk

**Executive Director Environmental Services**  
Ray Cxby, BSc(Hons), MCIEM, DMS, MIMgmt

REC'D

Our ref: CM/SW

23<sup>rd</sup> February 2006

If telephoning or calling please ask for: Mrs M Allan- Direct dial (01472) 324756

Mr David Hughes  
Alpine Cold Stores Ltd  
Estate Road Number 7  
South Humberside Industrial Estate  
Grimsby  
DN31 2TG

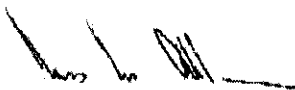
Dear Mr Hughes,

To confirm our telephone conversation on 15<sup>th</sup> February 2006, North East Lincolnshire Council will now cease to take water samples from the bore hole at your site on Ladysmith Road, Grimsby as the site is now vacant and water supply not in use.

Should the site come back into use, please notify our department so that we can review the situation with regard to resuming a water sampling program.

Should you wish to discuss this matter further, do not hesitate to contact me on the above direct dial telephone number.

Yours sincerely



**Mrs M Allan**  
Environmental Enforcement Officer

Envcon\letters\Alpine cold stores - sw

Environmental Services Directorate, North East Lincolnshire Council,  
Freeman House, Freeman Way, Grimsby, North East Lincolnshire DN32 7AU  
Telephone (01472) 324770. Fax (01472) 324785



Executive Director, Environmental Services  
Ray Oxby, BSc(Hons), MCIEH, CIMS, MIMgmt

RECEIVED 17 NOV 2005

Our ref: MA / CC

11 November 2005

If telephoning or calling please ask for: Mrs M Allan - Direct dial 01472 324756

Alpine Cold Stores Limited  
Estate Road Number 7  
South Humberstone Industrial Estate  
Dock Estate  
GRIMSBY  
North East Lincolnshire  
DN31 2TP

Dear Sir / Madam

**Private Water Supplies Regulations 1991**

Results of analysis of sample taken from Ladysmith Road, Grimsby, on  
Friday, 21 October 2005.

The analysis of the sample (copy of the result of which is attached) showed that the  
supply does comply with the required standard of the Private Water Supplies  
Regulations 1991.

Yours faithfully

**Mrs M Allan**  
**Enforcement Officer**

EnvconVetters\AlpineColdStores-11Nov05-cc



# ALcontrol Laboratories

Certificate ID : 99576554/S/0/1

Bradford Laboratory, George Street, Bradford BD1 5AU (Lab No 0996)

Rotherham Laboratory, Templeborough House, Rotherham, S50 1BZ (Lab No 0995/2300)

Telephone (0445) 1200 400 Facsimile: (01709) 841079

## Certificate of Analysis

North East Lincolnshire Council  
 Environment Department  
 Freeman House  
 Freeman Way  
 Great Grimsby  
 DN32 7AU

Sample Date: 21/10/05  
 Sample Received: 21/10/05  
 Analysis Completed: 31/10/05

Batch Number: 2028570

Alpine

Laboratory Number: 99576554

Method	Determination	Result	Units	PCV	Note
RP901.0	Conductivity 20C	455	uS/cm	2500	
RP901.0	pH	7.4	-	6.5 - 9.5	
*B	Odour qualitative	0	PREB/ABS		
*B	Taste qualitative	0	PREB/ABS		
*B	Odour dilution no	0	ODN	3	
*B	Taste dilution no	0	TDN	3	
RP901.0	Turbidity	0.30	NTU	4.00	
RP902	Nitrate	6.7288	mg/l NO3	50.000	
RP902	Nitrite	< 0.0093	mg/l NO2	0.1000	
RP902	Nitrogen tot oxid	6.736	mg/l NO3		
RP902	Ammoniacal Nitrogen	0.02	mg/l NH4	0.50	
R8P	Iron	124.0	ug/l Fe	200.0	
R8P	Aluminium	< 13	ug/l Al	200	
R8P	Manganese	< 4.2	ug/l Mn	50.0	
RP901.0	Colour True	< 1.5	mg/l Pt/Co	20.0	
BP50.15	Total coliforms	0	CFU/100ml	0	
BP50.15	Escherichia coli	0	CFU/100ml	0	

Approved By

(Signature)

Phil Slater (Laboratory Manager Microbiology)  
 07/11/05

Page 1 of 1

Tests marked \* in this report are subcontracted. Method prefix denotes the lab where the analysis has been performed.  
 R = Rotherham, B = Bradford, L = Langley, S = Southill Labs. Tests marked \* in this report are not included  
 unless they are also indicated on the Laboratory Sampling, opinions and interpretations expressed herein

**Appendix 3**

**Landmark Report**



**In Conjunction with:**



Justin Haves BSc MSc AIEMA FRGS

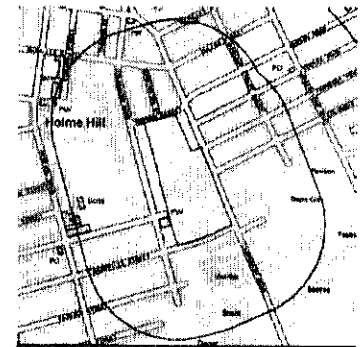
**Telephone:** 020 7261 1091

**Email** [SitecheckReview@rpsgroup.com](mailto:SitecheckReview@rpsgroup.com)

**Report on:**  
Former Birds Eye Plant  
Ladysmith Road  
Grimsby  
DN32 9SF

**Prepared For:**

Richard Brooke Mason Clark  
Leeds Bridge House  
Hunslett Road  
Leeds  
West Yorkshire  
LS10 1JN



**Report Reference:**

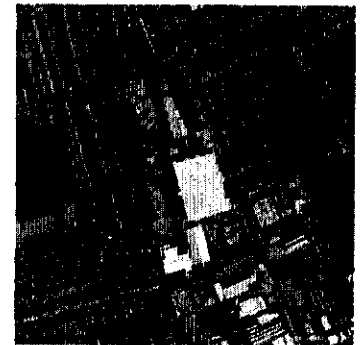
SCCONP-18630431-1-1

**Report Date:**

28th March 2006

**Your Reference:**

J2833\_SCC



**Report Centre**

**National Grid Reference:**

528030, 408880

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**Fax:** 0870 850 6671

**Email:** [customerservices@landmarkinfo.co.uk](mailto:customerservices@landmarkinfo.co.uk)

**Website:** [www.landmarkinfo.co.uk](http://www.landmarkinfo.co.uk)



## RPS Risk Assessment

### Current Use

Disused industrial. Formerly Food processing/ freezing plant.

### Proposed Use

Residential

### Summary of Findings

### Contaminated Land

## FURTHER ACTION ADVISED (SEE RECOMMENDATIONS)

	Risk		
	Low	Moderate	High
Likelihood of significant ground contamination existing beneath the site			
Likelihood to be defined as 'contaminated' under Part IIA of EPA (1990) in its current use			
Likelihood to be defined as 'contaminated' under Part IIA of EPA (1990) for proposed use			

### Other Factors

#### An area of floodplain

#### An area of Subsidence Hazard Potential

#### Contaminated Land Assessment

Drift Geology: Glaciofluvial Sheet Deposits / Tidal Flat Deposits / Till  
Solid Geology: Flamborough Chalk Formation

Detailed historical maps (incl. scales of 1:1250 and 1:2500) indicate that the site comprised open fields from c.1889 until c.1908, when unlabelled buildings occupied the site to the northern and southern boundaries. From c.1931, food processing works / factories were recorded on site (with associated bulk storage tanks), and RPS understands that the site is now disused. Notable land uses in the surrounding area include various factories and works immediately to the south east (c.1933 to c.1986).

Due to the potentially contaminative land uses recorded both on and in close proximity to the site for over sixty years, there is a moderate to high likelihood of significant ground contamination existing beneath it.

The site is considered to be located in a highly sensitive environmental setting. It is situated on a major aquifer relating to the permeable Chalk, and within an inner groundwater Source Protection Zone (SPZ I). In addition, residential properties are located in the immediate vicinity, and RPS understands that the site itself is proposed for residential redevelopment.

Given the potentially contaminative land uses recorded on the site, its proximity to sensitive receptors (underlying aquifer, SPZ and surrounding residential properties), and most significantly, the proposed redevelopment to a residential (sensitive) end use, ground conditions may represent an environmental liability for the owner or occupier, owing to the potential source-pathway-receptor linkage.

Accordingly, it is possible that the site may be defined as 'contaminated' by the Regulators under Part IIA of the Environmental Protection Act (EPA) 1990. Further enquiries should be undertaken to qualify this possible risk.

### Recommendations

Given the potential for contamination and the proposed residential redevelopment, it is likely that further work will be required to assess the contamination status at the site in order to satisfy standard environmental planning conditions. Consequently, in order to clarify the potential risk of environmental liability and assess the suitability of the site for its proposed use, the recommendations below should be undertaken:

- A combined Phase I and II investigation: The initial Phase I Environmental Review will include a site walkover, historical land use review, assessment of the environmental setting, review of any existing reports, consultation with regulatory bodies and overall assessment of areas of potential contamination / associated environmental risks / liability. This will enable the design of a more targeted (specifically tailored) Phase II intrusive investigation to fully assess ground conditions, the groundwater regime (if present) and site-specific contaminants/potential high risk areas at the site and determine the suitability of the site for its proposed use, any potential development constraints, and where necessary remediation measures. If required, the report will also determine the acceptability of the site as security from an environmental risk perspective for funding purposes. Cost Estimate: RPS quote available on request.

## RPS Risk Assessment

### Other Environmental Issues

(i) Given the apparent age of the building, there is the potential for asbestos-containing materials to exist on/within it. Given the proposed redevelopment of the site, RPS considers that it would be prudent to undertake a formal asbestos survey (Type III) prior to any demolition work commencing. Cost Estimate: An RPS quote is available on request.

(ii) The site is located in an area at risk of potential flooding not benefiting from flood defences. Consequently, the site may incur higher insurance premiums. Given the proposed redevelopment, planning permission may require a Flood Risk Assessment in accordance with PPG25 'Development and Flood Risk'. This should be confirmed with the Environment Agency during the planning consultation stage. An RPS quote for a full flood risk assessment is available on request.

### Reliance

Reliance of this report is permitted for a named lender and/or a third party for up to six months from the date it was produced. Please see the notes at the back of this report for more details.

Any further work undertaken by RPS will be carried out under RPS Standard Terms & Conditions.

### Services

If you require RPS to carry out any work on your behalf, please fax confirmation on 020 7928 0708 or email to [SitecheckReview@rpsgroup.com](mailto:SitecheckReview@rpsgroup.com).

Following a review of this information it may be practicable to revise the risk assessment of the site in context with the current and proposed site use. If the client wishes / is able to provide additional information, this can also be reviewed by RPS and may lead to a revision to the Risk Assessment. A charge may be made for this review (dependent on the volume of information), but this will be confirmed in advance. Any subsequent changes to the Risk Assessment can be confirmed in a letter / fax.

Should you require any further information on this report, please contact Sitecheck Customer Services on 0870 606 1700 or the RPS Commercial Advice Line on 020 7261 1091.

Lending Assessment - If required, this Sitecheck report can be used in conjunction with a Debt Finance Assessment in support of a funder's requirements for environmental liability assessment. Please contact RPS on the number above for further details.



**Andrew Troup MRICS**  
Chartered Environmental Surveyor

# Contents of the Report

This report is divided into thirteen sections

## Aerial Photo

The aerial photo gives an overall view of the area. The smaller large-scale Ordnance Survey map includes the site boundary and search zone buffers used throughout the report at 250m and 500m.

## Location Map

The accurate large-scale Ordnance Survey map confirms the boundary of the subject site. The descriptive text may identify other features which could be of relevance but not reported. The smaller aerial photo includes the site boundary.

## Summary of Site

This section comprises source, pathway and receptor information found on site. Other factors which may affect the site are also included.

## Summary

This section comprises of a summary table of the information found on site and in its vicinity.

## Current Land Use

The section contains up to 9 maps, which show the current land use features. The following pages detail these features and identify the Reference Number and direction.

## Historical Land Use

This section contains up to 2 maps, which show the historical land use features. The following pages detail the features and identify the Reference Number and direction. A table listing all the maps used to source this information is included.

## Sensitivity

This section contains up to 3 maps, which show the pathway and receptor features. The following pages detail these features and identify the Reference Number and direction. The section also contains a separate Flood Map.

## Other Factors

This section contains information on other factors which may affect the site and its vicinity.

## Historical Maps

This section contains 1:10,000 and 1:10,560 historical maps.

## Guidance Notes for Practitioner

This section gives guidance on the purpose, methodology and scope of the RPS Risk Assessment.

## Useful Information

This section contains information which may be of use when interpreting the report.

## Useful Contacts

All textual information is linked by the 'Contact Ref' to this quick reference list of contacts. These contacts may be able to supply additional information or answer any subsequent query relating to that record.

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The Sitecheck Review - Full Data Pack User guide is available free of charge from our website [www.landmark-information.co.uk](http://www.landmark-information.co.uk)

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