

SUNROCK WOOL PTY LTD

**PRELIMINARY SITE INVESTIGATION
(STAGE 1) OF LAND AT
17 RIVER ROAD, REDBANK**

**24262-001-362
MARCH 1992**



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1.0 INTRODUCTION

1.1 Limitations of Report

This Report has been prepared in a form suitable for submission to the Director of the Chemical Hazards and Emergency Management (CHEM) Unit, a Division of the Bureau of Emergency Services. The Report relates to land which is subject to sale or disposal, and describes the results of a Stage I Preliminary Investigation of that land carried out by Hollingsworth Dames and Moore at the request of our Client.

The Report has been prepared with reference to the Guidelines for Stage I Preliminary Investigation of Contaminated Land in Queensland (CHEM Unit, January 1992 (Reference 1)), and to a standard consistent with generally accepted and current professional consulting practice for a Stage I Preliminary Investigation of prescribed land in Queensland. No other warranty, expressed or implied, is made as to the contents of the Report.

Use of the land for any purpose whatsoever subsequent to the preparation of the Stage I Preliminary Investigation reported herein is beyond the control of Hollingsworth Dames & Moore, and as a result may affect or invalidate the conclusions and recommendations presented in Section 6 of this Stage I Preliminary Investigation Report.

1.2 Terms of Reference

Sunrock Wool Pty Ltd commissioned Hollingsworth Dames & Moore, a division of Dames & Moore Pty Ltd by facsimile dated 16 March 1992 to carry out a Stage I Preliminary Investigation of a site fronting onto 17 River Road Redbank. The scope of work commissioned is described in a proposal to Sunrock Wool Pty Ltd dated 16 March 1992 and the objectives of the preliminary site investigation are summarised below:-

- Assess possible sources and types of environmental contamination deriving from previous use of the land,



- Assess whether significant contamination exists on the land,
- Prepare a Stage I Preliminary Site Investigation Report suitable for submission to the CHEM Unit.

1.3 Prescribed Land

The prescribed land is a site located at the western end (and conclusion) of River Road, Redbank containing approximately 27.1 hectares, and comprising the following properties bounded by the Brisbane River.

- ✓ Lot 1 on Registered Plan No. RP 22263 comprising 2.023 ha ←
- ✓ Lot 1 on Registered Plan No. RP 49631 comprising 1.753 ha ← Parcel 2
- ✓ Lot 1 on Registered Plan No. RP 77197 comprising 2.2257 ha ← Parcel 1
- ✓ Lot 2 on Registered Plan No. RP 221176 comprising 20.2734 ha ← Parcel 3
- Lot 3 on Registered Plan No. RP 77026 comprising 0.844 ha ←

? area
= 4.62 ha

see p.3



2.0 SITE LOCATION & HISTORY

2.1 Site Location

The location of the subject site at Redbank is shown on Figures 1 and 2 and recent Photographs of the site (Nos. 1 to 15) are presented at the end of the report for reference. The plan layout of the subject site is irregular, exhibits thirteen (13) sides and occupies approximately 27.1 hectares. The site is divided into 5 separate lots and is located at the western end of River Road and is bounded by the Brisbane River on the western side. The northern boundary fronts onto a Railways yard and undeveloped rural land, the eastern boundary adjoins the Redbank Railway Museum and parts of the southern boundary look onto light commercial business, a Railways easement and undeveloped rural land.

2.2 Real Property Description and Ownership

A title search at the Queensland Registry of Titles revealed that the subject site is situated in the County of Stanley, Parish of Goodna, City of Ipswich, and is currently described as:-

- Lot 1 on Registered Plan No. 77197 (2.2257 hectares), owned by Sunrock Property Holdings Pty Ltd Referred to as Parcel 1.
- Lot 2 on Registered Plan No. 221176 (20.2734 hectares), owned by Sunrock Property, incorporated with Lot 1 on Registered Plan No. 221176 (4.2 ha) owned by Riverview Coal terminal, referred to as Parcel 3. *Sold to Riverview Coal Terminal 1988, Shaded area in Fig. 2 3?*
- Lot 1 on Registered Plan No. 49631, Lot 1 on Registered Plan No. RP22262 and Lot 3 on Registered Plan No. 77026 (4.62 ha) owned by Sunrock Property Holdings Pty Ltd referred to as Parcel 2.



Copies of the Certificates of Title for the four individual lots, issued by the Registrar of Titles Queensland are presented as Appendix A.

Lot 1 on Registered Plan No 77197 was acquired from A & E Patchett Wool Pty Ltd by the current owners, Sunrock Property Holdings Pty Ltd in 1987. Prior to September 1986, the parcel was referred to as Resub 1 of Sub 2 of Portion 105. The property was taken over by the crown from March 1983 – March 1984 and sold to A & E Patchett Wool Pty Ltd in April 1984.

From November 1954 to March 1983, Morris Woollen Mills (Ipswich) Pty Ltd owned and used the property for its current purpose. The land was subdivided from Sub 2 of Portion 105 in November 1954. From May 1942 to November 1954 the land was owned by the Commonwealth of Australia, and from May 1942 to August 1945 the land was used for defence purposes. Prior to May 1942, land use and ownership is unknown.

Lot 1 on Reg. Plan No. 49631, Lot 1 on Reg. Plan No. RP 22263 and Lot 3 on Reg. Plan No. RP 77026 were acquired from A & E Patchett Wool Pty Ltd by the current Sunrock Property Holdings Pty Ltd in December 1987. The property was leased to A & E Patchett Wool Pty Ltd from Morris Woollen Mills (Ipswich) Pty Ltd, in March 1983, prior to outright purchase by A & E Patchett Wool Pty Ltd in April 1984. Morris Woollen Mills (Ipswich) Pty Ltd owned the property from April 1961 prior to which it was owned by Morris Woollen Mills (Feb 1934 – April 1961) and leased to Linfin Pty Ltd (term 6 years) in July 1935. sch4p4(6) purchased the property in June 1933 prior to which activity is unknown. The original deed of grant for Portions 105 and 106 were to sch4p4(6) Personal information and the original deed of grant for portion 105a was to sch4p4(6) Pers

Lots 1 and 2 on Reg. Plan No. 221176 were acquired from A & E Patchett Wool Pty Ltd by the current owners, Sunrock Property Holdings Pty Ltd in December 1987. In November 1988 Lot 1 on Reg. Plan No. 221176 was sold to Riverview Coal Terminal. The land had been subdivided into Lot 1 and 2 in Circa 1988 from Lot 3 on RP 79049.



A & E Patchett Wool Pty Ltd acquired the land from Morris Woollen Mills (Ipswich) Pty Ltd in May 1984. In September 1989 the title description was changed to Lot 3 on RP 79049 from Resub 3 of Sub 1 of Portion 128, and Sub 1 of Resub 2 of Sub 2 of Resub 1a of Sub 1 of Portion 106 and of Resub 3 of Sub 1 of Portion 129 on RP 79049.

Morris Woollen Mills (Ipswich) Pty Ltd acquired this land from [sch4p4(6) Pe] in Feb 1934. In Aug 1971, part of the land was leased (21 year term) to the Southern Electrical Authority of Queensland. [sch4p4(6) Pe] purchased the land in Aug 1932 from Swift Australian Company Ltd. Sub 2 of Sub 1a of Sub 1 of Portion 106 was leased to Linfin Pty Ltd (term 6 years) in July 1935. Swift Australian Company Ltd purchased the land from Redbank Meatworks Pty Ltd in May 1932. Prior to Redbank Meatworks Pty Ltd purchasing property in September 1924. J. Cooke and Company Pty Ltd owned Resub 3 of Sub 1 of Portions 128 and 129 is unknown prior to March 1921. Sub 2 of Sub 1a and Sub 1 of Portion 106 was owned by J. Cooke (Merchant) from March 1905 to September 1917. Prior to March 1905, activity is unknown. The original deed of grant for Portion 106 was to [sch4p4(6) Personal information]

2.3 Site History

A study of aerial photographs taken in 1955, 1970, 1978, and 1990 borrowed from Sunmap, was carried out. The 1955 air photo shows the district to be selectively cleared rural land with native forest predominant. All of the isolated buildings standing today are shown and the main factory/warehouse is shown with reduced floor area. The railway sidings entering the property are shown and no clarifying/settling ponds are present.

The 1970 air photo shows the main building having been extended, with an extra factory size building being added to the southern end (the dyehouse/finishing shed) and an additional "module" being added to the eastern side (weaving and loom area). The small clarifier has been added beside the dyehouse area and the railway sidings have been removed. Two smaller buildings were removed to make way for the eastern extensions. The surrounding district is predominantly the same with slightly more residential housing on the southern side of the "new" Brisbane-Ipswich road (Cunningham Highway).



The 1978 air photo shows the main building having been extended to today's size, with the slight extension to the eastern end of the main factory floor. The canteen beside the substation has been removed and three settling ponds (it is noted only two contained water) and the large clarifier have been installed. A few trees have been cleared on the southern boundary.

The 1990 air photo shows an extra work shed having been attached to the southern side of the main factory and the fourth settling pond has been added. There is more tree growth along the river bank with possible erosion, and more trees along the southern boundary. Some excavation appears to be occurring at the northern end on Lot 1 (on Reg. Plan No. 77197), behind the dwelling belonging to [sch4p4(6) Perso]. This excavation could be the man-made lagoons where solid rubbish is currently being dumped from the panel shop.

Interviews were also conducted with ex-employees to further ascertain the history of the site. These ex-employees were [sch4p4(6) Person] (owner Morris Woollen Mills (Ipswich) Pty Ltd) who gave us details of operations of the site from when he purchased it, and [sch4p4(6) Pe] (ex-caretaker, still living on site) who informed us of the sludge removal and dumping.

The site history based on the site interview, (Appendix E) and discussions with key personnel, indicates that the land was first used as a coal mine in the 1800's and later, prior to purchase by [sch4p4(6) Pers] in 1931, by the Railways Department and a meat works. The Army and RAAF used the site during and after purchase by [sch4p4(6) Pers]. The present site has existed since 1934 and since then, wool weaving and fabric production has started and ceased, leaving only the wool scouring line.

The removal and dumping of sludge from the settling ponds (Figure 2) took place predominantly to the eastern and southern side of the pond area on Lot 2 (RP No. 221176). However, this does not suggest similar dumping did not occur on the western side.

The information obtained from the interviews and the aerial photographs, was used to develop a sampling strategy for locating strategic sampling locations around the site.



The site is currently disused except for tenants who lease the igloo huts and a shed attached to the eastern end of the main building. The tenants include Redbank Steel, a custom paint and panel shop, a plastics recycling plant and an engineering firm.

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3.0 GEOLOGY AND TOPOGRAPHY

3.1 Geology/Hydrogeology

Sheet 9442 of the City of Ipswich Geological Map (1981 edition, 1:100,000 scale published by the Department of Mines) indicates that the subject site is underlain by alluvial river terrace deposits stranded above the floodplain of the Brisbane River, and represented by clay, silt, sand and gravel. The lower ground along the river bank is shown to be the highest flood plain deposits represented by clay, sand, gravel and silt. The depth to bedrock is unknown but is expected to exceed 10 metres. Groundwater levels will be strongly influenced by the Brisbane River which flows along the west boundary of the site. Perched water tables are likely within the alluvial deposits. A number of man-made lagoons, exist to the rear of the site, overlooking the Brisbane River, all of which retain water.

3.2 Topography

The existing site is shown on Photographs No. 1 through 15 and Figure 1. The site is located on level ground which is elevated above the east bank of the Brisbane River on River Road, Redbank.

What is elevation above Brisbane R?



4.0 PRELIMINARY SITE INVESTIGATION

4.1 Walk-over Survey

A walk-over survey of the subject site was carried out which commenced on 16.3.92 and was completed on 18.3.92.

Much of the site has been cleared, with a few trees scattered around the areas away from the buildings and along the boundaries. The banks of the Brisbane River are overgrown with lush vegetation. None of the vegetation on site appeared to be suffering from the effects of soil contamination; all appeared to be healthy.

Much of the area around the settling ponds (Figure 2) and to the north, are overgrown with long grass. Slashing of this grass usually occurs, but the surface of the ground in the lower areas at present retains water and the tractor becomes bogged. The settling ponds appeared to be in good condition, with no sign of crumbling or water seepage. All of the settling ponds retain water of unknown depth; none have barriers around the top edge. It is unsure whether algal growth is occurring across the top of ponds 3 and 4 (Figures 2) or whether the water level is low, showing the bottom. Wildlife (birds) are present in the ponds.

At present there are two rubbish piles on the western side of the main factory building (Photo 7) which are predominantly old machinery parts, ducting etc. Three man-made lagoons on the northern side of the property (Lot 1 on RP No. 77197) also contain water, and are being used for the dumping of rubbish from the tenants on site. Odour from biological decay is noticeable in the area of these lagoons. Most of the ground around the site appears clean and any bare areas have arisen from water retention.

4.2 Sample Site Selection

From the walk-over of the site, the site interviews, the geology, topography of the site and the aerial photographs, twelve sites were chosen to conduct surface soil sampling, two places were chosen for trench pits and two sites were chosen for bore holes.



4.3 Sampling

A limited number of soil and water samples were collected from the locations shown on Figure 2. A trench pit was excavated by backhoe and samples from depths of 0.5 m and 1 m were taken (Figure 2). Two boreholes were also drilled to a depth of 6 m to attempt to sample the ground water, but no water was found. Soil samples were taken from these boreholes at depths of surface, 1 m, 2 m, 3 m, and 4 m. After this depth, samples were largely inaccurate due to use of an auger drill, and the consistency of the soil. Surface water samples had previously been collected from two of the five settling ponds located on the southern side of the property by SGS Quantum, and tested for arsenic and organo-chlorines (appendix B and Section 5.2, Table 2).

Soil samples were collected from a nominal depth of 0 – 200 mm at eighteen strategic locations numbered S-1-, S-2-1, S-3-A1, etc, using hand tools. The hand tools used to collect soil samples were cleaned using household detergent and rinsed with tap water prior to excavating at each sampling point. The bulk samples were labelled and placed into plastic bags and sub portions of each sample placed into small disposable glass jars covered with aluminium foil and sealed with a plastic screw top. Sub portions of the eighteen soil samples and samples from the boreholes and pit trench were subsequently despatched for chemical analysis.

4.4 Laboratory Testing

All of the soil samples were despatched by courier on 19.3.92 to NATA registered Australian Laboratory Services, Stafford together with a completed sample analysis request and chain of custody forms. ALS were requested to prepare the samples for environmental analysis, and then to carry out appropriate chemical analyses to detect the presence of a specified range of metals, non metals, and organochlorine (O-C) pesticides. The results of the chemical analyses are presented in Appendix B and summarised in Table 1, Section 5.4.

Two further samples were sent to NATA registered Enviromet, Brookvale, NSW, together with completed sample analysis request and chain of custody forms, for Quality Assurance/ (Quality Control, as is specified in the Guidelines for Stage 1 Preliminary Investigation of Contaminated Land in Queensland (CHEM Unit, January 1992).



5.0 DISCUSSION OF RESULTS

5.1 Laboratory Tests

The results of recently completed chemical analyses on sixteen soil samples, are summarised in Table 1 and the chemical analyses on the previous water samples, performed by SGS Quantum, are summarised in Table 2.

TABLE 1
Results of Soil Analyses (Summary)

Description Soil Sample No.	Origin	Depth (mm)	Cadmium (Cd) (mg/kg)	Chromium (Cr) (mg/kg)	Copper (Cu) (mg/kg)	Nickel (Ni) (mg/kg)	Lead (Pb) (mg/kg)	Zinc (Zn) (mg/kg)	Arsenic (As) (mg/kg)	Dieldrin (mg/kg)	Other OC Pesticides (DDT, DDD, DDE) (mg/kg)	PCB (mg/kg)	TPH (mg/kg)
S-1	Fill	0-200	<0.5	37.7	9.5	7.7	15.5	45.8	7.0	0.32	<LOR		
S-2	Fill	0-200	<0.5	23.6	10.4	11.8	9.5	36.5	3.0	0.24	<LOR		
S-3-A	In Situ	0-200										<LOR	650
S-3-B	In Situ	0-200										<LOR	50
S-4-B	In Situ	0-200	<0.5	16.0	24.0	11.2	45.3	155	5.8	0.62	<LOR		<50
S-6	In Situ	0-200	<0.5	22.3	10.2	12.1	5.3	28.5	2.1	<LOR	<LOR		
S-7	In Situ	0-200	<0.5	34.1	14.2	18.9	2.6	31.0	4.2	<LOR	<LOR		
S-8	In Situ	0-200	<0.5	18.3	9.5	2.7	27.5	39.4	5.9	0.09	0.09		200
S-10-B	In Situ	0-200	<0.5	15.5	38.2	5.4	47.2	433	1.6	0.05	<LOR		100
S-11	Fill	0-200	<0.5	3.0	46.2	5.0	11.1	83.5	3.7				
S-12	In Situ	0-200	<0.5	39.3	13.3	8.1	17.0	66.3	12.8	<LOR	<LOR		
S-B ¹ -S	In Situ	0-200	<0.5	22.0	46.5	11.5	3.5	23.5	1.0				
S-B ¹ -1	In Situ	1000	<0.5	25.0	18.0	12.5	4.0	35.5	1.5				
S-B ¹ -2	In Situ	2000	8.0	127	936	125	195	2600	32				
S-B ¹ -3	In Situ	3,000	5.2	56.7	177	39.0	217	1980	17.0	0.05	<LOR		
S-B ¹ -3	In Situ	3,000											
S-B ¹ -4	In Situ	4,000	<0.5	35.6	29.6	18.3	10.6	102	5.4	<LOR	0.42		
S-B ² -3	In Situ	3,000	<0.5	37.3	11.6	12.6	7.2	31.1	4.7	<LOR	<LOR		
S-B ³ -1	In Situ	500-1000	<0.5	6.8	14.2	7.9	10.9	22.4	11.4				
S-B ³ -4	In Situ	0-500	0.5	47.4	7.6	10.6	8.4	13.4	7.8				
XX=S-12	In Situ	0-200											

NOTE:

- a) Total by dry weight of soil.
b) <L.O.R:- Less than the level of reporting.
c) Two extra analyses were performed on S-B¹-3 and results were within 0.5 ppm of the results shown.
d) Soil samples B¹ and B² refer to boreholes 1 and 2 respectively B³ refers to pit trench.



TABLE 1A

Quality Control of Soil Analysis

Description Soil Sample No.	Origin	Depth (mm)	Cadmium (Cd) (mg/kg)	Chromium (Cr) (mg/kg)	Copper (Cu) (mg/kg)	Nickel (Ni) (mg/kg)	Lead (Pb) (mg/kg)	Zinc (Zn) (mg/kg)	Arsenic (As) (mg/kg)	Dieldrin (mg/kg)	Other OC Pesticides (DDT, DDD, DDE) (mg/kg)	PCB (mg/kg)
XX S-12	<i>In Situ</i>	0-200	<0.5	44	12	9	45	113	10			
XX S-7	<i>In Situ</i>	0-200								<LOR	<LOR	

NOTE:

- a) Total by dry weight of soil.
b) <L.O.R.:— Less than the level of reporting.

TABLE 2

Results of Water Analyses (Summary)

Description Water Sample No.	Origin	Arsenic (As) (mg/L)	Dieldrin (µg/L) + (mg/kg) ++	Total DDT (mg/kg)
QL1133/11	Pond 1 Inlet Water	0.018	<0.2 +	<LOR
QL1133/12	Pond 1 Water	0.018	<0.2 +	<LOR
QL1133/13	Pond 1 Inlet Sludge	0.10	0.7 ++	0.14
QL1133/14	Pond 1 Sludge	0.08	0.7 ++	0.13
QL1133/15	Pond 1 Sludge	0.53	Insufficient Sample	Insufficient Sample
QL1133/16	Pond 2 Inlet Water	<0.01	<0.2 +	<LOR
QL1133/17	Pond 2 Water	<0.01	0.75 ++	0.13
QL1133/18	Pond 2 Inlet Sludge	0.52	0.85 ++	0.14
QL1133/19	Pond 2 Sludge	8.0 (mg/kg)	0.62 ++	0.12
QL1133/20	Pond 2 Sludge	12.9 (mg/kg)	<0.2 +	<LOR

NOTE:

- a) <L.O.R.:— Less than the level of reporting.
b) Water Samples filtered before analysis.



5.2 Field Observations

A walk-over survey of the site shown on Figure 2 revealed land believed to be generally suitable for light industrial use.

The western section of Lot 2 on Reg. Plan No. 221176 beside settling pond 1. (Figure 2) and the edge, sloping to the Brisbane River, has apparent contamination at a depth of approximately 2-3 metres for an undefined area. This contamination is likely to be isolated to this depth if the level of fill is consistent along the western edge of Pond 1 and the alluvial strata does not change depth. This statement is based on the fact that no contamination was present at the surface or to a depth of one (1) metre, and that the fill is loose and freely allows water passage. (However, it can not be substantiated without the instigation of further testing.) If this is the case then environmental and personnel risk is minimal, and normal activities could be carried out safely at this site.

Generally the conditions of the outer areas of the site is overgrown, with a few areas where dumping of rubbish has occurred. The lagoon on the northern end of the site were the only water source giving off odours. The conditions around the buildings themselves were favourable, as was the interior of the factory itself. The general condition of the subject site at the time of the walk-over survey is shown on Photographs presented in the report.



6.0 COMPLIANCE WITH ENVIRONMENTAL LEGISLATION

6.1 Queensland Legislation

The following is a list of the main Queensland acts:

- *State Environment Act*, 1988
- *Clean Waters Act*, 1971–1982 – discharge of pollutants to water bodies.
- *Clean Air Act*, 1987 – emission of pollutants to atmosphere.
- *Noise Abatement Act*, 1978 – control of noise.
- *Health Act*, 1937–1989 (Refuse Management Regulations) – solid and hazardous waste disposal.
- *Local Government Act* (Flammable and Combustible Liquids Regulations, 1991) – flammable and combustible liquids storage.
- *Sewerage and Water Supply Act* (Trade Waste Regulations) – discharge to sewer.
- *Workplace Health and Safety Act*, 1989 – handling of hazardous materials in the workplace.
- *Contaminated Land Act*, 1991 – management of contaminated land.

State Environment Act

The *State Environment Act* 1988 created the State Environment Advisory Council (SEAC) which replaced various advisory councils that administered the Clean Waters, Clean Air and Noise Abatement Acts.

Clean Waters Act

This Act regulates the pollution of waterways.



The control of water pollution is divided into the following areas:

- licensed premises;
- premises other than licensed premises;
- clean up provisions and penalty provisions.

Clean Air Act

This act relating to the prevention and minimisation of air pollution is administered by the Department of Environment and Heritage.

The control of air pollution is divided into the following areas:

- scheduled premises
- premises other than schedule premises
- ozone depleting substances

Noise Abatement Act

This Act makes provision for the prevention, minimisation and abatement of noise and vibration. The Act is administered by the Department of Environment and Heritage.

Health Act

The provisions of the *Health Act* relating to pollution are designed to ensure or relate to the health of individuals although they have far reaching effects and can be used for all purposes relating to environmental or pollution control. The Director, may recommend to the Governor to prohibit the disposal of sewerage and stormwater drainage and has the power to enter into agreements regarding the discharge of waste process into watercourses. Pursuant to the *Health Act* and the regulations made under the *Health Act*, the Director has the power to regulate the use, sale and storage of pesticides and hazardous substances. Under the *Health Act* refuse management regulations have also been adopted.

*Local Government Act and City of Brisbane Act*

Pursuant to the Local Government Act and the City of Brisbane Act, local authorities and the City of Brisbane respectively have the power to:

- regulate the discharge of sewage and prosecute those who fail to comply with these requirements;
- regulate and control the use of stormwater drainage. The contamination of stormwater is an offence;
- regulate, control and manage waste disposal particularly landfill sites;
- regulate the storage of any flammable or combustible liquids on any premises.

Sewerage and Water Supply Act

In addition to making provision for the control, regulation and management of the domestic sewerage, this Act makes provision for the regulation by local authorities of the disposal of trade waste.

The Act makes provision for the licensing of the disposal of trade waste into the sewer, including the imposition of conditions and the filing of annual charge. These are in addition to the requirements of the licenses that may be required under the *Clean Waters Act*.

Additionally, a local authority has the power to issue notices to require certain works to be carried out if contamination or pollution of the water supply is being caused or the water service or supply pipes etc. are being damaged.

Contaminated Land Act

The *Contaminated Land Act* took effect from 1 January 1992 and requires that suspected contaminated sites be assessed to determine the existence or not of contamination and whether there are any associated health or environmental problems. Where significant contamination



is confirmed, remediation, clean-up or management measures should be instigated. The Act provides a systematic framework for site identification assessment, clean-up, cost allocation and general management of contaminated land.

The *Contaminated Land Act* establishes a Contaminated Sites Register. Land on which automotive servicing or mechanical repair is carried out will be listed as a "Probable Site". Purchasers after 1 January 1992 of registered sites assume responsibility for any current or historical contamination.

6.2 Current Licensing Requirements

It has been the practice to date for the relevant regulatory agencies not to require a license for the discharge of liquid trade waste into the sewer or waterways or for air emissions unless they are operating scheduled premises or have significant discharges.

Clean Air Act

The Department of Environment and Heritage have not required licenses for the discharge of air pollutants to date except for major emission sources. Sunrock Wool emissions are not regarded as major.

Clean Water Act

The Local Governments who are empowered under this act to regulate the discharge of water into waters of the state. To date licenses have been issued by the Department of Environment and Heritage for major dischargers. Sunrock Wool have been issued with a license since 1975 for discharge of clean water into Brisbane River License No. 263.

Noise Abatement Act

Sunrock Wool are not licensed under the *Noise Abatement Act*.

At Sunrock Wool the question of compliance with licensing in regard to the above legislation does not arise at the present time.



Nevertheless, under existing legislation and local government tradewaste ordinances, the requirement for licences may be put into practice by the relevant regulatory authorities.

A Green Paper has been released which foreshadows the introduction of a comprehensive Environmental Protection Legislation for Queensland. The legislation is expected to be passed by the Government in the middle of 1992. The legislation will establish standards and licensing requirements and administrative practices for air, water, noise or land pollution. Consequently, as a result of the comprehensive Environment Protection Legislation, possession of a license may become a mandatory requirement for all discharges of waste (air and water) and noise to the environment.

Furthermore, the Minister for Environment and Heritage has announced a proposal to issue Environmental Guidelines for approx 110 industrial operations. The guidelines will set out codes of practice and provide guidance to local councils on standards of enforcement.



7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

- A Stage I Preliminary Investigation ^{of} comprising approximately 27.1 hectares located at 17 River Road, Redbank has been carried out. The Stage I Preliminary Investigation involved compiling a site history, carrying out a walk-over survey and subsequently analysing a limited number of soil samples recovered from the subject site shown on Figures 1.
- The results of the Stage I Preliminary Investigation of the land lead to the conclusion that the subject site with the exception of an isolated area, contained within the western section of Lot 2 on Reg. Plan No. 221176 may be regarded as uncontaminated.
- The isolated area contained within the western section of Lot 2 on Registered Plan No. 221176 contains an excessive level of heavy metals above the background level, namely zinc, chromium, and copper ^{also Cd, Ni, As} at a depth of approximately 2-3 metres. This may be fill and assorted debris possibly from sludge disposal on previous mining operations. A soil sample (refer Figure 1 & Table 1, Soil Sample No.s-B¹-SA, 1A) recovered from the surface and 1 metre respectively, of the uncontrolled fill were found to be uncontaminated.
- Further studies of the subject site (ie. for the purposes of a Site Contamination Report to be subsequently prepared by the Director of the CHEM Unit as indicated on the Flow Chart for Assessment and Management of Contaminated Sites presented in Appendix C)) beyond the Stage 1 Preliminary Investigation reported herein are considered unnecessary at this time.
- The settling ponds (Figure 2) contained within Lot 2 on RP 221176 do not pose any risk to health or the environment in their present condition or use.



7.2 Recommendations

It is recommended that the CHEM Unit issue a Site Contamination Report, listing the site as suitable for current and INDUSTRIAL USE.

If decommissioning of the settling ponds contained within Lot 2 on Registered Plan No. 221176 (shown in Figure 2) and development of the settling pond area or excavation into the identified contaminated soil is envisaged, then further investigation of the area should be carried out prior to decommissioning or development.

If rezoning (e.g. to residential use) of the land is envisaged then further assessment of the site, in particular the western section of Lot 2 on Reg. Plan No. 221176, would need to be instigated along the guidelines issued by the CHEM Unit.

It is recommended that removal of the underground storage tank occur, if it is no longer required.

Rubbish in the lagoon area should be either buried or removed to eliminate a habitat for vermin.

for **HOLLINGSWORTH DAMES & MOORE**

sch4p4(6) Personal information

Consultant in Charge – Hazardous Waste

22255-002-362
SR/RW/hs
NOVEMBER 1991



8.0 REFERENCES

- Guidelines for Assessment of Contaminated Land in Queensland – prepared by the Chemical Hazards and Emergency Management Unit (CHEM Unit), January 1992.
- Certificate of Title for Lot 1 on Registered Plan No. RP49631, Lot 1 on Registered Plan No. RP22263 and Lot 3 on Registered Plan No. RP77026 – issued by the Registrar of Titles Queensland, with last endorsement recorded on
- Certificate of Title for Lot 1 on registered plan No. RP77197 – issued by the Registrar of Titles Queensland, with last endorsement recorded on 11.2.88.
- Certificate of Title for Lot 2 on registered plan No. RP221176 – issued by the Registrar of Titles Queensland, with last endorsement recorded on 8.11.88.
- Air photos archived at Sunmap Centre. :-
 - Film No. 538, Photo No. 9 Ipswich Run 4 1955
 - Film No. 3605, Photo No. 3296 Ipswich Run 3 1970
 - Film No. 2143, Photo No. 84 Ipswich Run 3 1978
 - Film No. 4856 Photo No. 50 Ipswich Run 4 1990
- Sheet 9442 of the City of Ipswich Geological Map (1981 edition, 1:100 000 scale) – published by the Dept. of Mines.

Published on DES Disclosure Log
RTI Act 2009

PHOTOGRAPHS

PHOTOGRAPHS

- Photograph 1** View of the south showing the five settling ponds and to the east, an igloo used by Redbank Steel. Note sludge mound to east of settling pond (mown area).
- Photograph 2** View to west showing the eastern side of the factory, including the workshop on the LHS to middle and the shed housing the scouring lines on the RHS.
- Photograph 3** View to west showing the front entrance on River Road with a track off to the right going to the engineering shop (tenant, on RHS) and to the dwellings on the north of the site.
- Photograph 4** View to west showing substation in foreground, office on RHS, and workshop to rear.
- Photograph 5** View to the southwest showing large clarifier at pond 1. (Figure 1). Borehole No. 1 being drilled on RHS.
- Photograph 6** View to east showing settling pond 1. (Figure 1) and igloo of Redbank Steel in background.
- Photograph 7** View to north showing western side of factory, with the smaller clarifier in centre, Brisbane River to LHS. The first shed (brick wall) is area where finished garments etc. were made.
- Photograph 8** View to south showing another shed used by Redbank Steel. LHS shows shed used by Plastics recycling (tenant).
- Photograph 9** View to the south showing custom panel and paint shop (tenant) at entrance to site, with shed from Photograph 8 on RHS.
- Photograph 10** View to south showing "abandoned" igloo used by Redbank Steel.
- Photograph 11** View to south showing northern aspect of sch4p4(6) Pers dwelling with the smoke stacks of the factory just visible.
- Photograph 12** View to the south at northwest corner of factory, dropping off to the river on RHS. Shed in picture used to be area for chemical storage.
- Photograph 13** View to northeast showing southern aspect of factory, with shed at centre containing empty chemical drums.
- Photograph 14** View to east showing a lagoon at northern end of site used for dumping.
- Photograph 15** View to southeast showing another lagoon at northern end of site used for dumping. Drilling rig for borehole No. 2 on RHS.



Photograph 1 View of the south showing the five settling ponds and to the east, an igloo (No. 1) used by Redbank Steel. Note sludge mound to east of settling pond (mown area).



Photograph 2

View to west showing the eastern side of the factory, including the workshop on the LHS to middle and the shed housing the scouring lines on the RHS.



Photograph 3

View to west showing the front entrance on River Road with a track off to the right going to the engineering shop (tenant, on RHS) and to the dwellings on the north of the site. File A



Photograph 4 View to west showing substation in foreground, office on RHS, and workshop to rear.



Photograph 5 View to the southwest showing large clarifier at pond 1. (Figure 1). Borehole No. 1 being drilled on RHS.



Photograph 6

View to east showing settling pond 1. (Figure 1) and igloo of Redbank Steel in background.

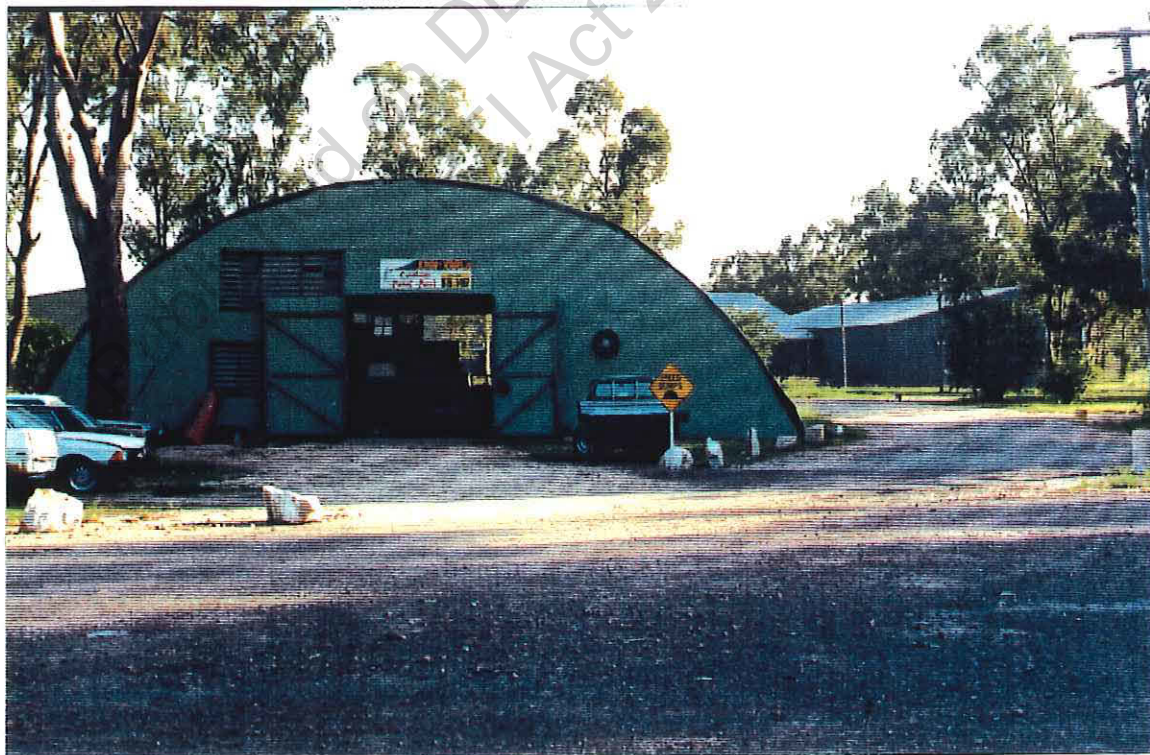


Photograph 7

View to north showing western side of factory, with the smaller clarifier in centre, Brisbane River to LHS. The first shed (brick wall) is area where finished garments etc. were made.



Photograph 8 View to south showing another shed used by Redbank Steel. LHS shows shed used by Plastics recycling (tenant).



Photograph 9 View to the south showing custom panel and paint shop (tenant) at entrance to site, with shed from Photograph 8 on RHS.



Photograph 10 View to south showing "abandoned" igloo used by Redbank Steel.



Photograph 11 View to south showing northern aspect of sch4p4(6) Pers dwelling with the smoke stacks of the factory just visible.



Photograph 12 View to the south at northwest corner of factory, dropping off to the river on RHS. Shed in picture used to be area for chemical storage.



Photograph 13 View to northeast showing southern aspect of factory, with shed at centre containing empty chemical drums.



Photograph 14 View to east showing a pond at northern end of site used for dumping.



Photograph 15 View to southeast showing another pond at northern end of site used for dumping. Drilling rig for borehole No. 2 on RHS.

APPENDIX A
Certificates of Title

CERTIFICATE OF TITLE

Vol. 7110 Fol. 18

Dealing No.: J3193500

QUEENSLAND



Previous Title:
Vol. 2871 Fol. 5

Issued: 11 February, 1980

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such easements encumbrances and interests as are shown in the Second Schedule.

Witness:

sch4p4(6) Personal information

sch4p4(6) Personal information



Acting Registrar of Titles sch4p4

ESTATE AND LAND

Estate in Fee Simple in Lot 1 on Registered Plan No. 77197 County of Stanley Parish of Goodna
Containing 2.2257 hectares

FIRST SCHEDULE

SUNROCK PROPERTY HOLDINGS PTY. LTD.

SECOND SCHEDULE

1. Rights and interests reserved to the Crown by Conveyance No. B539398 (Por 105).
2. Easement No. A410775 to The Commissioner of Railways over Easement A on R.P. 55999 Produced 20 Jun 1939 Registered 14 Nov 1939.
3. Easement No. B303342 over Easement D on R.P. 77026 Produced 10 Nov 1954 Registered 8 Dec 1954.

sch4p4(6)

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR OF TITLES ARE CANCELLED
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

19609

CERTIFICATE OF TITLE

Vol. 7211 Fol. 19

Dealing No.: J539771W

QUEENSLAND

Previous Title:
Vol. 6337 Fol. 97



Issued: 8 November, 1988

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such easements encumbrances and interests as are shown in the Second Schedule.

Witness: Sch4p4(6) Personal informati

Sch4p4(6) Personal inform



Registrar of Titles.

Sch4p4(

ESTATE AND LAND

Estate in Fee Simple in Lot 1 on RP221176 County of Stanley Parish of Goodna
Containing 4.2 hectares

Riverview Coal Terminal

FIRST SCHEDULE



~~SUNROCK PROPERTY HOLDINGS PTY LTD~~

SECOND SCHEDULE

1. Rights and interests reserved to the Crown by Deed of Grant No. 2095 (Por 128).
2. Easement No. B303342 over Easement D on RP77026 Produced 10 Nov 1954
Registered 8 Dec 1954.

Sch4p

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR OF TITLES ARE CANCELLED
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

19615

CERTIFICATE OF TITLE

Dealing No.: J539771W

Vol. 7211 Fol. 20

QUEENSLAND

Previous Title:
Vol. 6337 Fol. 97



Issued: 8 November, 1988

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such easements encumbrances and interests as are shown in the Second Schedule.

Witness:

sch4p4(6) Personal information

sch4p4(6) Personal information



Registrar of Titles.

sch4p4

ESTATE AND LAND

Estate in Fee Simple in Lot 2 on RP221176, County of Stanley Parish of Goodna
Containing 20.2734 hectares

FIRST SCHEDULE

SUNROCK PROPERTY HOLDINGS PTY LTD

SECOND SCHEDULE

1. Rights and interests reserved to the Crown by Deeds of Grant Nos. 2110 (Por 106), 2095 (Por 128) and 2096 (Por 129).
2. Easement No. B226693 to The Commissioner for Railways over Easement F on RP77214 Produced 7 Dec 1953 Registered 24 Nov 1954.
3. Easement No. B303342 over Easement D on RP77026 Produced 10 Nov 1954 Registered 8 Dec 1954.
4. Easement No. B303343 to Resub 1 of Sub 2 of Resub 1A of Sub 1 of Por 106 and of Resub 63 of Sub 1 of Por 129 over Easement C on RP77026 Produced 10 Nov 1954 Registered 8 Dec 1954.
5. Easement No. B303344 to Resub 1 of Sub 2 of Resub 1A of Sub 1 of Por 106 and of Resub 3 of Sub 1 of Por 129 over Easements G and H on RP77026 Produced 10 Nov 1954 Registered 8 Dec 1954.
6. Easement No. B303345 to Resub 1 of Sub 2 of Resub 1A of Sub 1 of Por 106 and of Resub 3 of Sub 1 of Por 129 over Easements G and H on RP77026 Produced 10 Nov 1954 Registered 15 Dec 1954.
7. Easement No. B303347 to Resub 1 of Sub 2 of Resub 1A of Sub 1 of Por 106 and of Resub 3 of Sub 1 of Por 129 over Easement E on RP79776 Produced 10 Nov 1954 Registered 15 Dec 1954.

sch4p

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR OF TITLES ARE CANCELLED
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(Page 2 of 2 Pages) Vol. 7211 Fol. 20

(Page 2 of 2 Pages) Vol. 7211 Fol. 20

(Page 2 of 2 Pages) Vol. 7211 Fol. 20

(Page 2 of 2 Pages) Vol. 7211 Fol. 20

File A
original 1File A
original 1

CERTIFICATE OF TITLE

Vol. 6795 Fol.194

Dealing No.: H668756

QUEENSLAND

(Page 1)

Previous Title:
Vol. 3413 Fol. 95



Issued: 5 September, 1985

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such easements encumbrances and interests as are shown in the Second Schedule

Witness:

sch4p4(6) Personal info

sch4p4(6) Personal info



Registrar of Titles

sch4p

sch4p

ESTATE AND LAND

Estate in Fee Simple in Subdivision 1 of portion 105 and Subdivision 1 and Resubdivision 3 of subdivision 2 of portion 105A and of Subdivision 1 of portion 106 on Registered Plan No.'s 22263, 49631 and 77026 County of Stanley Parish of Goodna Containing 4.62 hectares

FIRST SCHEDULE

 A. & E. PATCHETT WOOL PTY. LTD.

SECOND SCHEDULE

1. Rights and interests reserved to the Crown by Deed of Grant Nos. 1128 (Por 105), 41634 (Por 105A) and 2110 (Por 106).
2. Easement No. B226693 to The Commissioner for Railways over Ease B on R.P. No. 77214 Produced 1 Dec 1953 Registered 24 Nov 1954.
3. Easement No. B303342 over Ease D on R.P. No. 77026 Produced 10 Nov 1954 Registered 8 Dec 1954.
4. Easement No. B303344 to Resub 1 of sub 2 of resub 1A of sub 1 of por 106 and of Resub 3 of sub 1 of por 129 over Ease G on R.P. No. 77026 Produced 10 Nov 1954 Registered 8 Dec 1954.
5. Easement No. B303345 to Resub 1 of sub 2 of resub 1A of sub 1 of por 106 and of Resub 3 of sub 1 of por 129 over Ease G on R.P. No. 77026 Produced 10 Nov 1954 Registered 8 Dec 1954.
6. ~~Lease No. G941213 part of the land, part of the ground floor and the whole of the first floor to A. & E. Patchett Wool Pty. Ltd. for 7 years from 11 Nov 1982. Produced 21 Mar 1983 Registered 21 Jul 1983.~~
7. ~~Mortgage No. H246323 to National Commercial Banking Corporation of Australia Limited Produced 2 Apr 1984 Registered 1 May 1984.~~

MERGED... VIDE No. J3.19341c
8 FEB 1988

RELEASED VIDE No. J3.19344J
8 FEB 1988

sch4p4(6) P

sch4p4(6)

sch4p4(6)

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PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

(Page 2 of 2 Pages) Vol. 6795 Fol. 194

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(Page 2 of 2 Pages)

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File A

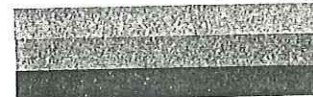
File A

APPENDIX B

Laboratory Test Certificates



AUSTRALIAN
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A.C.N. 009 936 029



Brisbane Head Office and Laboratory
32 Shand Street, Stafford, Q. 4053
P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

PAGE 1 of 2

CLIENT: HOLLINGSWORTH DAMES & MOORE
ADDRESS: P O BOX 251
SPRING HILL
QLD 4004

RECEIVED
25 MAR 1992

LABORATORY: ENVIRONMENTAL
BATCH NUMBER: EN2090-0

CONTACT: Sch4p4(6) Personal info

No. of SAMPLES: 2
DATE RECEIVED: 17/03/92
DATE COMPLETED: 21/03/92

ORDER No: 3518 J: H010147

SAMPLE TYPE: SOIL

PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Moisture	As	Cd	Cr	Cu
		% EA-055	mg/Kg EG-005T	mg/Kg EG-005T	mg/Kg EG-005T	mg/Kg EG-005T
S1-1 17/03		23.3	7.0	<0.5	37.7	9.5
S2-1 17/03		21.1	3.0	<0.5	23.6	10.4
DETECTION LIMIT:		0.1	0.5	0.5	0.5	0.5

COMMENTS: Samples as received digested by USEPA method 3050 prior to the determination of all metals. Results reported on an as received basis.

Townsville Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
Charters Towers Laboratory
Phone: (077) 87 4155 Fax: (077) 87 4220
Orange Laboratory
Phone: (063) 63 1722 Fax: (063) 63 1189
Bendigo Laboratory
Phone: (054) 46 1390 Fax: (054) 46 1389

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Southern Cross Laboratory
Phone: (090) 49 1292 Fax: (090) 49 1374

All pages of this report
have been checked and
approved for release.

Sch4p4(6) Personal information

Signed



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32 Shand Street, Stafford, Q. 4053
P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

PAGE 2 of 2

CLIENT: HOLLINGSWORTH DAMES & MOORE
ADDRESS: P O BOX 251
SPRING HILL
QLD 4004

CONTACT: MR sch4p4(6) Personal information

LABORATORY ENVIRONMENTAL
BATCH NUMBER: EN2090-0

No. of SAMPLES: 2
DATE RECEIVED: 17/03/92
DATE COMPLETED: 21/03/92

ORDER No: 3518 J: HO10147

SAMPLE TYPE: SOIL

PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Ni mg/Kg EG-005T	Pb mg/Kg EG-005T	Zn mg/Kg EG-005T		
S1-1 17/03		7.7	15.5	45.8		
S2-1 17/03		11.8	9.5	36.5		
DETECTION LIMIT:		0.5	0.5	0.5		

COMMENTS:

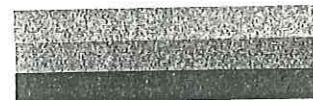
Townsville Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
Charters Towers Laboratory
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sch4p4(6) Personal information



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ANALYTICAL REPORT

PAGE 1 of 2

CLIENT: HOLLINGSWORTH DAMES & MOORE
ADDRESS: P O BOX 251
SPRING HILL
QLD 4004

LABORATORY: ENVIRONMENTAL
BATCH NUMBER: EN2118-0

CONTACT: sch4p4(6) Personal information

No. of SAMPLES: 12
DATE RECEIVED: 20/03/92
DATE COMPLETED: 31/03/92

ORDER No: 3531 J:H010147

SAMPLE TYPE: SOIL

PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Moisture	As	Cd	Cr	Cu
		% EA-055	mg/Kg EG-005T	mg/Kg EG-005T	mg/Kg EG-005T	mg/Kg EG-005
S-B1-3A	20/03	11.0	17.0	5.2	56.7	17.0
S-B1-4A	20/03	12.5	5.4	<0.5	35.6	29.0
S-B2-3A	20/03	11.2	4.7	<0.5	37.3	11.0
S-4-B1	20/03	20.5	5.8	<0.5	16.0	24.0
S-7-1	20/03	14.4	4.2	<0.5	34.1	14.0
S-8-1	20/03	12.4	5.9	<0.5	18.3	9.5
S-11-2	20/03	11.9	3.7	<0.5	3.0	46.0
S-12-1	20/03	10.4	12.8	<0.5	39.3	13.0
S-B3-1	20/03	24.9	11.4	<0.5	6.8	14.0
S-B3-4	20/03	21.4	7.8	0.5	47.4	7.0
S-6-1	20/03	15.5	2.1	<0.5	22.3	10.0
S-10-1	20/03	11.7	1.6	<0.5	15.5	38.0
DETECTION LIMIT:		0.1	0.5	0.5	0.5	0.5

COMMENTS: Samples as received digested by USEPA method 3050 prior to the determination of metals. Results reported on an as received basis.

sch4p4(6) Personal information

Townsville Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
Charlton Towers Laboratory
Phone: (077) 87 4155 Fax: (077) 87 4220
Orange Laboratory
Phone: (063) 63 1722 Fax: (063) 63 1189
Bendigo Laboratory
Phone: (054) 46 1390 Fax: (054) 46 1389

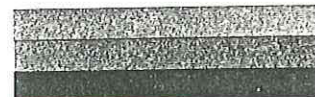
Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Southern Cross Laboratory
Phone: (090) 49 1292 Fax: (090) 49 1374

All pages of this report
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approved for release.

Signed



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ANALYTICAL REPORT

PAGE 2 of 2

CLIENT: HOLLINGSWORTH DAMES & MOORE
ADDRESS: P O BOX 251
SPRING HILL
QLD 4004

LABORATORY: ENVIRONMENTAL
BATCH NUMBER: EN2118-0

CONTACT: sch4p4(6) Personal in

No. of SAMPLES: 12
DATE RECEIVED: 20/03/92
DATE COMPLETED: 31/03/92

ORDER No: 3531 J:H010147

SAMPLE TYPE: SOIL

PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Ni mg/Kg EG-005T	Pb mg/Kg EG-005T	Zn mg/Kg EG-005T		
S-B1-3A	20/03	39.0	217	1980		
S-B1-4A	20/03	18.3	10.6	102		
S-B2-3A	20/03	12.6	7.2	31.1		
S-4-B1	20/03	11.2	45.3	155		
S-7-1	20/03	18.9	2.6	31.0		
S-8-1	20/03	2.7	27.5	39.4		
S-11-2	20/03	5.0	11.1	83.5		
S-12-1	20/03	8.1	17.0	66.3		
S-B3-1	20/03	7.9	10.9	22.4		
S-B3-4	20/03	10.6	8.4	13.4		
S-6-1	20/03	12.1	5.3	28.5		
S-10-1	20/03	5.4	47.2	433		
DETECTION LIMIT:		0.5	0.5	0.5		

COMMENTS:

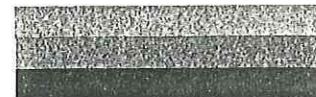
sch4p4(6) Personal information

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P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

PAGE 1 of 1

CLIENT: HOLLINGSWORTH DAMES & MOORE
ADDRESS: P O BOX 251
SPRING HILL
QLD 4004

CONTACT: sch4p4(6) Personal information

LABORATORY: ENVIRONMENTAL
BATCH NUMBER: EN2118-1

No. of SAMPLES: 5
DATE RECEIVED: 20/03/92
DATE COMPLETED: 31/03/92

ORDER No: 3531 J:H010147

SAMPLE TYPE: SOIL

PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	TPH mg/Kg EP-015			
S-3-1B	20/03/92	650			
S-3-2A	20/03/92	50			
S-4-B2	20/03/92	<50			
S-8-2	20/03/92	200			
S-10-2	20/03/92	100			
DETECTION LIMIT:		50			

COMMENTS: Samples as received digested by USEPA method 3050 prior to the determination of metals. Results reported on an as received basis.

Townsville Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
Charters Towers Laboratory
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Phone: (090) 21 1457 Fax: (090) 21 6253
Southern Cross Laboratory
Phone: (090) 49 1292 Fax: (090) 49 1374

All pages of this report
have been checked and
approved for release.

sch4p4(6) Personal information

Signed



LABORATORY REPORT

BATCH NUMBER: EN 2090

CLIENT : Hollingsworth Dames & Moore

ADDRESS: P.O. Box 251
Spring Hill
Qld 4004

CONTACT: sch4p4(6) Personal informa

CLIENT ORDER NUMBER: 3518

CLIENT JOB NUMBER: HOIO 147

DATE RECEIVED: 17/03/92

DATE COMPLETED: 23/03/92

SAMPLE TYPE: Soil (2)

ANALYSIS REQUESTED: Organochlorine Pesticides

METHOD OF ANALYSIS:

ALS Method Code: EP-067 & EP-068

Extraction: US EPA 3550 (Ultrasonic)
Analysis: US EPA 8270 (GC/MS)
ALS EP-068 (GC/ECD)

Signed

sch4p4(6) Personal information

Senior Organic Chemist

ANALYTICAL RESULTS SHEET

ANALYTES: Organochlorine Pesticides
METHOD OF ANALYSIS: ALS EP-068 & ALS EP-067
DATE OF ANALYSIS: 20/03/92

BATCH No.: EN 2090
MATRIX: Soil
UNITS: mg/kg

COMPOUND	Lab I.D.	-2	-4	
	Client I.D.	S1-2	S2-2	
		17/03/92	17/03/92	
	Moisture %	a: 20.0 b: 2.2	a: 23.8 b: 2.6	
	LOR			
a-BHC	0.05	<LOR	<LOR	
g-BHC	0.05	<LOR	<LOR	
b-BHC	0.05	<LOR	<LOR	
d-BHC	0.05	<LOR	<LOR	
Heptachlor	0.1	<LOR	<LOR	
Aldrin	0.05	<LOR	<LOR	
Heptachlor epoxide	0.05	<LOR	<LOR	
Endosulfan 1	0.05	<LOR	<LOR	
4,4'-DDE	0.05	<LOR	<LOR	
Dieldrin	0.05	0.32	0.24	
Endrin	0.05	<LOR	<LOR	
Endosulfan 2	0.05	<LOR	<LOR	
4,4'-DDD	0.05	<LOR	<LOR	
Endrin aldehyde	0.05	<LOR	<LOR	
Endosulfan sulfate	0.05	<LOR	<LOR	
4,4'-DDT	0.05	<LOR	<LOR	

LOR: Level Of Reporting

COMMENTS:

- Samples required air drying prior to analysis.
Moisture % a is the % moisture of the sample as received.
Moisture % b is the % moisture of the sample after air drying.
- Results are reported on the air dried samples.

BATCH QUALITY CONTROL

MATRIX: SOIL
BATCH NUMBER: EN 2090
No. OF SAMPLES: 2
DFTPP TUNING REQUIREMENTS MET: Yes

ANALYST: Sch4p4(6) Per
DATE ANALYSED: 20/03/92
SPIKED SAMPLE: ALS Soil
REAGENT BLANK: Tested clean

COMPOUND	LEVEL OF REPORTING	SUBMITTED SAMPLE	QC SOIL SPIKE RESULTS			
			SPIKE	DUPLICATE	AVERAGE RECOVERY	RSD
	ug/kg	ug/kg	mg/kg	mg/kg	%	%
Dichlorvos	100	ND*	0.48	0.46	86	1
a-BHC	50	ND	0.21	0.22	81	4
Dimethoate	50	ND	0.35	0.38	130	4
g-BHC	50	ND	0.23	0.23	86	0
b-BHC	100	ND	0.23	0.24	88	0
Diazinon	50	ND	0.31	0.31	109	0
d-BHC	50	ND	0.26	0.25	95	3
Chlorpyrifos methyl	100	ND	0.23	0.23	86	0
Heptachlor	100	ND	0.14	0.19	63	13
Malathion	100	ND	0.26	0.27	93	2
Aldrin	100	ND	0.19	0.20	73	1
Fenthion	50	ND	0.59	0.49	97	9
Chlorpyrifos	50	ND	0.21	0.21	76	0
Pirimiphos ethyl	100	ND	0.68	0.65	104	1
Heptachlor epoxide	50	ND	0.22	0.21	81	2
Endosulfan 1	50	ND	0.19	0.28	89	19
Prothiofos	100	ND	0.53	0.54	90	0
4,4'-DDE	50	ND	0.31	0.32	118	1
Dieldrin	50	ND	0.35	0.34	130	0
Endrin	50	ND	0.34	0.41	141	10
Endosulfan 2	50	ND	0.24	0.25	92	0
4,4'-DDD	50	ND	0.21	0.26	89	10
Ethion	200	ND	0.36	0.56	125	20
Endrin aldehyde	50	ND	0.10	0.09	34	5
Endosulfan sulfate	50	ND	0.22	0.25	90	6
4,4'-DDT	50	ND	0.09	0.14	44	22

* ND: Compounds were not detected in the sample.

The matrix spikes were performed on standard laboratory soil due to the heavy contamination of the samples submitted.



LABORATORY REPORT

BATCH NUMBER: EN 2118

CLIENT : Hollingsworth Dames & Moore

ADDRESS: P.O. Box 251
Spring Hill
Qld 4004

CONTACT: sch4p4(6) Personal infor

CLIENT ORDER NUMBER: 3531

CLIENT JOB NUMBER: HOIO 147

DATE RECEIVED: 20/03/92

DATE COMPLETED: 25/03/92

ANALYSIS REQUESTED: Organochlorine Pesticides (9)
Polychlorinated Biphenyls (2)

METHOD OF ANALYSIS:

Organochlorine Pesticides : **ALS Method Code** EP-067

Extraction: US EPA 3550 (Ultrasonic)
Analysis: US EPA 8270 (GC/MS)
ALS EP-068 (GC/ECD)

Polychlorinated Biphenyls : **ALS Method Code** EP-066

Extraction: US EPA 3550 (Ultrasonic)
Analysis: US EPA 8270 (GC/MS)

Signed

sch4p4(6) Personal informati

Senior Organic Chemist

ANALYTICAL RESULTS SHEET

ANALYTES: Organochlorine Pesticides
METHOD OF ANALYSIS: ALS EP-068 & ALS EP-067
DATE OF ANALYSIS: 24/03/92

BATCH No.: EN2118
MATRIX: Soil
UNITS: mg/kg

COMPOUND	Lab I.D.	-4	-6	-8	-10	-12
	Client I.D.	S-B-3A	S-B-4A	S-B-3B	S-4-B2	S-7-2
	I.D.	20/03/92	20/03/92	20/03/92	20/03/92	20/03/92
	Moisture %	10.7	12.6	11.1	22.7	14.4
	LOR					
a-BHC	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
g-BHC	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
b-BHC	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
d-BHC	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
Heptachlor	0.1	<LOR	<LOR	<LOR	<LOR	<LOR
Aldrin	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
Heptachlor epoxide	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
Endosulfan 1	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
4,4'-DDE	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
Dieldrin	0.05	0.05	<LOR	<LOR	0.62	<LOR
Endrin	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
Endosulfan 2	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
4,4'-DDD	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
Endrin aldehyde	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
Endosulfan sulfate	0.05	<LOR	<LOR	<LOR	<LOR	<LOR
4,4'-DDT	0.05	<LOR	0.42	<LOR	<LOR	<LOR

LOR: Level Of Reporting

COMMENTS:

- Results are reported on an as received basis.
- Samples -10 and -23 required florisil clean-up prior to analysis.
See attached appendix for method established florisil recovery data.

ANALYTICAL RESULTS SHEET

ANALYTES: Polychlorinated Biphenyls
 METHOD OF ANALYSIS: ALS EP-066
 BATCH NUMBER: EN2118
 No. OF SAMPLES: 2

ANALYST: sch4p4(6) Person
 DATE ANALYSED: 25/03/92
 MATRIX: Soil
 UNITS: mg/kg

Lab I.D.	-1	-2			
Client I.D.	S-3-1B 20/3/92	S-3-2A 20/3/92			
Moisture %	28.9	10.4			
HOMOLOG					
Monochlorobiphenyl	ND	ND			
Dichlorobiphenyl	ND	ND			
Trichlorobiphenyl	ND	ND			
Tetrachlorobiphenyl	ND	ND			
Pentachlorobiphenyl	ND	ND			
Hexachlorobiphenyl	ND	ND			
Heptachlorobiphenyl	ND	ND			
Octachlorobiphenyl	ND	ND			
Nonachlorobiphenyl	ND	ND			
Decachlorobiphenyl	ND	ND			
TOTAL PCB	LOR 0.10 mg/kg	<LOR	<LOR		
SUSPECTED SOURCE					

LOR: Level Of Reporting
 ND: Compound Not Detected

COMMENTS:

- Results reported on an as received basis.
- Samples required florisil cleanup prior to analysis. This does not affect the LOR.

SUNROCK WOOL PTY LTD

ANALYSIS OF ARSENIC AND ORGANOCHLORINES

SAMPLE DESCRIPTION: SLUDGE AND WATER

DATE RECEIVED: 20/2/92

CLIENT SAMPLE REFERENCE: POND 1 (5 SAMPLES) POND 2 (5 SAMPLES)

LABORATORY REFERENCE NO: QL1133/1 TO QL1133/20

SGS Australia Pty Ltd was engaged by Sunrock Wool to sample sludge and water from two waste water treatment ponds and analyse the samples for arsenic and organochlorines. This work was carried out in accordance with instructions from Chemical Hazards and Emergency Management Unit, supplied by Sunrock Wool Pty Ltd., to meet the provisions of the Contaminated Land Act, 1991.

Sampling was carried out by SGS Australia in its capacity of having staff membership of the Australian Institute of Mining and Metallurgy as prescribed in Schedule 2 of the Regulations. Analysis was done by NATA approved methods.

SAMPLING

Three samples of sludge and two of water were collected from both Pond 1 and 2. In both ponds, one of the water and a sludge samples was collected from near the inlets. The sludge samples were particularly difficult to collect and were very "liquid" in Pond 1 and in one sample in Pond 2. Consequently, there was insufficient sludge sample from one site in Pond 1 to analyse organochlorines. Samples for arsenic were collected into acid washed polyethylene bottles and for organochlorines in glass bottles.

RESULTS

Arsenic: Arsenic is quite low in the water in both ponds. Arsenic in sludge also appears to be quite low in Pond 1. The solid sludge in Pond 2 is higher in arsenic but falls below the notification criteria for contaminated dry soil established by the Environmental Protection Authority Victoria. A similar guideline is not known for Queensland.

...2/-

-2-

Organochlorines:

The only organochlorines detected were dieldrin in water and dieldrin and DDE and DDD in the sludge. The results for DDE and DDD (decomposition products of DDT) were in approximate equal portions. Their sum is expressed at total DDT. The dieldrin detected in the water is at very low levels. The dieldrin and DDT detected in the sludge is low but does fall above notification criteria for contaminated dry soil established by the Environmental Protection Authority Victoria.

Reference: Interim advice on approaches to determine whether a site is potentially contaminated (1990) Environmental Protection Authority of Victoria. The guidelines in this publication are identical to those known as the Dutch Criteria being adopted by the NH and MRC.

sch4p4(6) Personal information

Agronomist
March 2, 1992

SUNROCK WOOL PTY LTD
17 RIVER ROAD
REDBANK QLD 4301

SUNROCK WOOL PTY LTD

ANALYSIS OF WATER AND SLUDGE

DATE RECEIVED: 20/2/92

SAMPLED BY: SGS AUSTRALIA PTY LTD

CLIENT SAMPLE REFERENCE:	POND 1 A (INLET) WATER	POND 1 B WATER	POND 1 A (INLET) SLUDGE	POND 1 B SLUDGE	POND 1 C SLUDGE
LABORATORY REFERENCE:	QL1133/11	QL1133/12	QL1133/13	QL1133/14	QL1133/15
Organochlorine dieldrin µg/L dieldrin mg/kg Total DDT mg/kg	<0.2 N.D.	<0.2 N.D.	0.7 0.14 0.84	0.7 0.13 0.83	Insufficient sample
CLIENT SAMPLE REFERENCE:	POND 2 A (INLET) WATER	POND 2 B WATER	POND 2 A (INLET) SLUDGE	POND 2 B SLUDGE	POND 2 C SLUDGE
LABORATORY REFERENCE:	QL1133/16	QL1133/17	QL1133/18	QL1133/19	QL1133/20
Organochlorine dieldrin µg/L dieldrin mg/kg Total DDT mg/kg	<0.2 N.D.	0.75 0.13	0.85 0.14 0.99	0.62 0.12 0.74	<0.2 N.D.

Note: (1) Results for water are expressed on an "as received basis". N.D = Not detected.

(2) Results for sludge are expressed on mg/kg dry weight basis.

(3) There was insufficient sludge sample in Pond 1 sample C to obtain a result.

(4) Of the organochlorines only dieldrin was detected in the water and only dieldrin and DDE and DDD were detected in the sludge. The levels of DDE and DDE were in approximate equal portions. Their sum is expressed as total DDT.

sch4p4(6) Personal

AGRONOMIST
February 28, 1992

CLIENT: SUNROCK WOOL PTY LTD
17 RIVER ROAD
REDBANK QLD 4301

SUNROCK WOOL PTY LTD
ANALYSIS OF WATER AND SLUDGE

DATE RECEIVED: 20/2/92

SAMPLED BY: SGS AUSTRALIA PTY LTD

CLIENT SAMPLE REFERENCE:	POND 1 A (INLET) WATER	POND 1 B WATER	POND 1 A(INLET) SLUDGE	POND 1 B SLUDGE	POND 1 C SLUDGE
LABORATORY REFERENCE:	QL1133/1	QL1133/2	QL1133/5	QL1133/6	QL1133/7
Arsenic $\mu\text{g/L}$	18	18			
Arsenic mg/L			0.10	0.08	0.53
CLIENT SAMPLE REFERENCE:	POND 2 A (INLET) WATER	POND 2 B WATER	POND 2 A (INLET) SLUDGE	POND 2 B SLUDGE	POND 2 C SLUDGE
LABORATORY REFERENCE:	QL1133/3	QL1133/4	QL1133/8	QL1133/9	QL1133/10
Arsenic $\mu\text{g/L}$	<10	<10			
Arsenic mg/L			0.52		
Arsenic mg/kg				8.0	12.9

Notes: (1) All results are expressed on an "as received" basis.

(2) $\mu\text{g/L}$ = ppb by volume, mg/L = ppm by volume, mg/kg = ppm by weight.

(3) The sludge samples varied from very "fluid" to thick sludge. Where the sample was thick, results are expressed on a weight basis (i.e. mg/kg), otherwise on a volume basis (i.e. mg/L).

sch4p4(6) Personal informa

AGRONOMIST
February 28, 1992

CLIENT: SUNROCK WOOL PTY LTD
17 RIVER ROAD
REDBANK QLD 4301

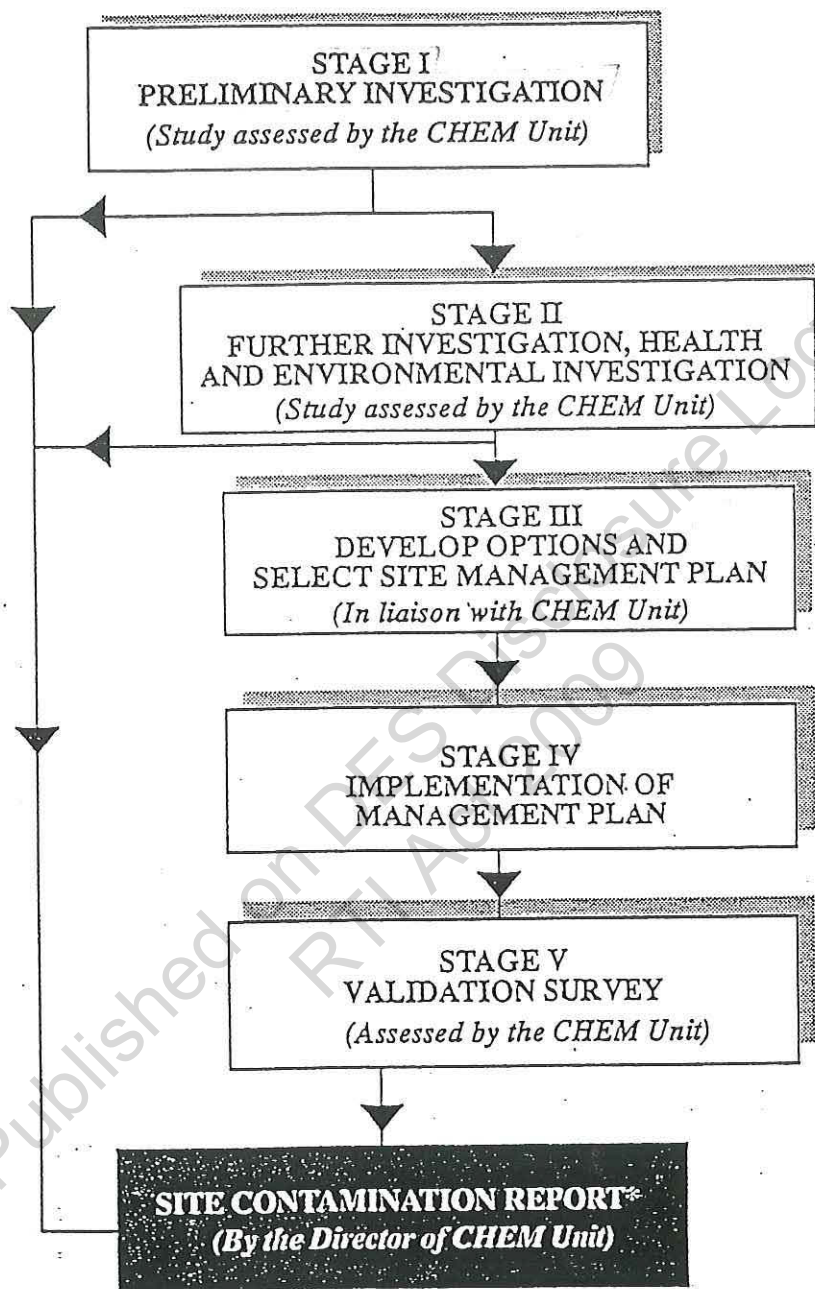
APPENDIX C

Flow Chart of Assessment and Management of Contaminated Sites

APPENDIX C

Flow Chart of Assessment and Management of Contaminated Sites

ASSESSMENT AND MANAGEMENT OF CONTAMINATED SITES



*Note * The report will conclude whether or not the site is suitable for land use proposed in the rezoning/development application. In addition, it may stipulate conditions or restrictions on the proposed use.*

Adapted from "Draft Guidelines for Assessment of Contaminated Land in Qld" Chemical Hazards and Emergency Management Unit, PII.

HOLLINGSWORTH DAMES & MOORE

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CHECKED	
DATE	
SEPT 1991	
FILE REF.	
5091	

SCALE

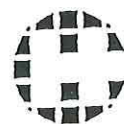


Figure 1

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APPENDIX D

Health and Safety Plan

HEALTH AND SAFETY PLAN
FOR SITE CONTAMINATION ASSESSMENT
AT 17 RIVER ROAD EX-WOOL SCOURING SITE

Hollingsworth Dames & Moore

March 1992

HOLLINGSWORTH DAMES & MOORE
HEALTH AND SAFETY PLAN ACCEPTANCE FORM

INSTRUCTIONS: This form is to be completed by each person who will work on the subject property and returned to the Office Health and Safety Co-ordinator.

STANDARD HEALTH & SAFETY PLAN

Job Number: HOIO147

Client: Sunrock Wool Pty Ltd

Project: Site Contamination Assessment at 17 River Road, Ex-Wool Scouring Site, Redbank

I confirm that I have read and understand the contents of the Health and Safety Plan for the above project and agree to abide by the requirements of the Plan during the normal course of work on the Project Site.

Signature

Print Name

Hollingsworth Dames & Moore

Company Name

Date

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SUMMARY OF HEALTH AND SAFETY PLAN PROVISIONS

SUSPECTED SITE CONTAMINANTS:

- LEAD & OTHER HEAVY METALS
- ARSENIC & CAUSTIC COMPOUNDS
- PHENOL, ALKANES, & PCB'S
- WASTE LUBRICATING OIL AND ADDITIVES
- ORGANIC COMPOUNDS INCLUDING DDT AND DECOMPOSITION COMPOUNDS (DDD & DDE)

ADDITIONAL SUSPECTED HAZARDS:

- UNDERGROUND STRUCTURES
- TRAFFIC HAZARDS
- ABOVEGROUND ELECTRICAL HAZARDS
- DRIVING SAFETY
- MANUAL HANDLING
- CONFINED SPACE ENTRY
- SNAKES

LEVELS OF PROTECTION AND REQUIRED PERSONAL PROTECTION EQUIPMENT:

LEVEL D:

PVC PANTS OR BIB AND BRACE OVERALLS (IF SPLASHES OF CONTAMINATED SOLUTIONS ARE EXPECTED)
COVERALLS WITH LONG SLEEVES
STEEL-TOE BOOTS
HARD HAT (OPTIONAL OR PER CLIENT REQUIREMENTS)
SAFETY GLASSES (WHILE DRILLING/RETRIEVING SOIL GAS PROBE)
LEATHER GLOVES
DISPOSABLE NITRILE GLOVES
ORANGE SAFETY VEST

EMERGENCY TELEPHONE NUMBERS

	BRISBANE AREA
SUNROCK WOOL PTY LTD	288 1422
FIRE BRIGADE	000
POLICE DEPARTMENT	000
AMBULANCE	000
HOSPITAL	
	Ipswich 810 1111
	Royal Brisbane 253 8111
	Princess Alexandra 240 2111
	Queen Elizabeth II 275 6111
HOLLINGSWORTH DAMES & MOORE	832 3222
POISONS INFORMATION CENTRE	253 8233
WATER AND SEWERAGE	Ipswich City Council 280 9811
GAS	Allgas Energy (s'side) 849 9100
ELECTRICITY	SEQEB 251 6171
TELEPHONE	Telecom 1100

NAMES OF HOLLINGSWORTH DAMES & MOORE FIELD PERSONNEL AND RESPONSIBILITIES

sch4p4(6) Personal in Site Investigation
sch4p4(6) Per Site Investigation

1.0 INTRODUCTION

1.1 Purpose and Scope

This Health and Safety Plan (HSP) describes the health and safety requirements for Hollingsworth Dames & Moore project personnel involved in soil gas sampling, soil sampling, groundwater sampling and other similar tasks for the Site Contamination Assessment of the ex-wool scouring site 17 River Road, Redbank. Because it is not feasible to describe all possible hazards or all necessary precautions in a dynamic operation of this nature, only those fundamental issues of known concern are addressed. It is the responsibility of all field team members to evaluate the work conditions of the site and if in doubt about the safety of an operation, to request assistance from the Site Safety Officer (SSO), the Office Health and Safety Coordinator (OHSC), or the Regional Health and Safety Manager (RHSM). All updates or revisions must be approved in advance by the Project Manager (PM), OHSC, and RHSM.

1.2 Applicability

1.2.1 Hollingsworth Dames & Moore Personnel

Compliance with this plan is required of all Hollingsworth Dames & Moore personnel who must be familiar with its details and implications, and sign a Plan Acceptance Form prior to performing field work. The Plan Acceptance Form is to be returned to the SSO and retained in the project files. A copy of the completed form is to be forwarded to the RHSM within one week of the project's completion.

1.2.2 Subcontractors

The Hollingsworth Dames & Moore Project Manager must ensure that the Subcontractor and their employees are provided with a copy of this Health and Safety Plan's summary sheets. Subcontractors performing work activities as part of a Hollingsworth Dames & Moore contract are expected to meet all applicable Commonwealth and State/Territory requirements for employee health and safety. When requested by Hollingsworth Dames & Moore or when specified in the contract, Subcontractors shall provide Hollingsworth Dames & Moore with a site-specific Health and Safety Plan covering exposure to hazardous conditions and shall complete all work in accordance with that plan. Hollingsworth Dames & Moore reserves the right to review and approve the Subcontractor's plan at any time. Subcontractors are responsible for supervising their employees and maintaining safe working conditions at the work site.

The Hollingsworth Dames & Moore SSO may stop a Subcontractor's operation which presents an imminent hazard to employees or property, the general public, or to the client employees or property.

2.0 PROVISION AND RESPONSIBILITIES OF KEY PERSONNEL

2.1 Office Health and Safety Co-ordinator (OHSC)

The OHSC is assigned health and safety responsibility for a particular Hollingsworth Dames & Moore office. The OHSC is responsible for the effective planning, verification, and management of health and safety activities associated with the assigned office. The specific responsibilities of the OHSC are detailed in the Hollingsworth Dames & Moore Firmwide - Australia Health and Safety Manual.

2.2 Project Manager (PM)

The PM is responsible for implementation of the Hollingsworth Dames & Moore Health and Safety Programme on projects under their control. The PM coordinates health and safety activities during the project with the OHSC by seeking advice and support from the RHSM as required to implement the Health and Safety Programme. The specific responsibilities of the PM are detailed in the Hollingsworth Dames & Moore Firmwide - Australia Health and Safety Manual.

2.3 Site Safety Officer (SSO)

The SSO is a member of the project team whose responsibility it is to oversee team compliance with the HSP. The SSO:

- Implements the project HSP and informs the PM and OHSC of any additions or modifications that may be appropriate;
- Verifies with the OHSC that assigned personnel have current Fit-For-Duty medical and training authorisations; and
- Determines that equipment is used properly and is calibrated in accordance with manufacturers' instructions or other standards, and that results are properly recorded and filed.
- Provides ongoing review of the protection level needs as project work is performed, and informs the OHSC and PM of the need to upgrade/downgrade protection levels as appropriate;
- Corrects any unsafe or potentially unsafe working conditions, or stops work in emergencies until such conditions are correct. Consults with the PM and OHSC regarding circumstances and conditions dictating these actions; and
- Conducts site safety briefings prior to the initiation of each field project and as necessary thereafter for each new Hollingsworth Dames & Moore staff member assigned to the site.

2.4 Project Field Staff

The project field staff includes those project personnel who may be exposed to hazardous or toxic substances or environments during the course of field activities. Each member of the staff:

- Signs the Plan Acceptance Form, thereby indicating that they have read, understands, and will abide by the project HSP;
- Takes all reasonable precautions to prevent injury to themselves and to their fellow employees;
- Reports any deviations from the anticipated conditions described in the HSP and reports any accidents and unsafe conditions to the SSO for action; and
- Properly decontaminates field equipment prior to leaving the site.

3.0 SITE HISTORY AND DESCRIPTION

The worksite is a wool-scouring factory of approximately 22.3 ha currently being assessed for sale and reopening. The focus of the investigation is the building surrounds which have been in existence since the 1930's. Over the years, a number of different types of chemicals have been used on the site (including what may have been in the wool from the farm), arsenicals, organochlorines and chromates. The wool, having come from the farm with burrs and other solid contaminants, was passed down a scouring line where the wool was washed in biodegradable detergent. Further processing of the wool allowed it to be passed through concentrated sulphuric acid and then crushed and heated to remove the burrs etc. The wool was weaved and either stored or used to make fabrics. During storage, DDT was applied to the wool for moth proofing. This was then washed off prior to fabrication. Included in fabrication was the use of chromate dyes.

On a number of occasions, prior to installation of the clarifiers the scouring vats were pumped out down to the river. After the installation of the small clarifying pond, the washings were pumped into here, and then allowed to be pumped into the river. The larger clarifier was built, with the settling ponds, to allow the washings to properly settle prior to being pumped to the river. The pond sediment was removed from the bottom of the ponds and dumped on the eastern and southern sides.

4.0 WORK ACTIVITIES

4.1 Sampling

Work activities will consist of collecting surface and subsurface soil samples around the site. Surface samples will be taken at about 15 locations, test pits will be excavated by backhoe at approximately 2 locations around the site, and 2 bores will be sunk to test groundwater. The soil profile will be logged and samples will be taken from a maximum depth of 6 m or to bedrock, whichever is the lesser. The samples will be placed in appropriate containers and despatched to laboratories for analysis for heavy metals and organochlorine pesticides. Test pits will be refilled promptly after logging and sampling has been completed.

4.2 Chemical Analysis

A selection of soil samples recovered from the site shall be submitted for chemical analysis within the budget allowed for NATA registered laboratory testing. Australian Laboratory Services Pty Ltd shall be nominated as the testing laboratory for both organic analyses and inorganic analyses. Duplicate quality control analysis of soil samples shall be carried out on a *on in ten* basis at an approved laboratory such as Enviromet.

Organic analyses shall comprise of organochloride pesticides and hydrocarbons.

4.3 Reporting

Reporting shall be carried out in accordance with the requirements and to a standard suitable for submission to the CHEM Unit as a *Stage 1 Preliminary Investigation Report*.

5.0 TRAINING

5.1 General Training Requirements

Hollingsworth Dames & Moore workers who enter a site where there may be hazardous substances or conditions must be trained to recognise and understand the potential health and safety hazards associated with their task. Personnel will not be assigned to field activities until they have received this training.

Training topics may include:

- Characteristics and potential hazards of contamination potentially present;
- Personal protective equipment: clothing and respirators- use, care, limitations;
- Medical surveillance;
- Site setup: work zone designations and decontamination procedures;
- General safety concepts and personal hygiene.

5.2 Specific Health and Safety Training

The SSO will conduct site safety orientation/training meetings which must be attended by personnel involved in field activities. The meeting agenda must include the following, as appropriate:

- Review of the HSP;
- Site rules regarding ignition sources;
- Identification and location of emergency alarms;
- On-site traffic regulations including parking and speed limits;
- Requirements regarding notification of the work-area supervisor upon arrival and upon the leaving work-area;
- Location of first aid facilities;
- Personnel protective equipment requirements; and

- Attendee signatures on the Plan Acceptance Form acknowledging receipt and understanding of the HSP.

Additional on-site health and safety meetings will be conducted by the SSO as needed to discuss any related topic.

6.0 MEDICAL SURVEILLANCE

All Hollingsworth Dames & Moore personnel involved in daily work activities which may expose them to hazardous chemicals will be participating in a medical surveillance programme will be required to have a medical clearance from a qualified medical examiner prior to performing onsite activities. The medical tests included in the medical surveillance programme are listed in the Hollingsworth Dames & Moore Firmwide –Australia Health and Safety Manual.

7.0 INFORMATION PROGRAMME

Hollingsworth Dames & Moore employees and Subcontractors engaged in these operations will be informed by the SSO of the nature, level, and degree of exposure likely as a result of their participation in such operations. All information will be immediately communicated to all field personnel by the SSO.

8.0 HAZARD EVALUATION

8.1 Suspected Contaminants

Discussions between Sunrock and the Hollingsworth Dames & Moore note that the following chemicals may be encountered on the site:

- LEAD & OTHER HEAVY METALS
- ALKANES
- WASTE LUBRICATING OIL AND ADDITIVES
- ORGANIC COMPOUNDS INCLUDING DDT, AND DECOMPOSITION COMPOUNDS (DDD, DDE)

Alkane is a generic term for complex hydrocarbons which include for example, diphenyl, and dimethyl/phthalate.

Arsenic, lead and heavy metals exhibit varying appearance and odour depending upon the specific compound involved.

More detailed information on each chemical can be obtained from the OHSC or RHSM.

TABLE 8-1
Summary of Health Effects

ARSENIC AND COMPOUNDS

Worksafe Australia Atmospheric Exposure Standard:
Time-Weighted Average = 0.05 mg/m³ as Arsenic (As)

Acute Effects:

The toxicology of arsenic depends upon its valency; trivalent forms (arsenic trioxide, sodium arsenite and arsenic trichloride) are more toxic than pentavalent (arsenic pentoxide, arsenic acid and arsenates, such as lead and calcium). Organic arsenicals may also be trivalent and pentavalent but are less toxic than the inorganic varieties.

By ingestion: irritation of the stomach and intestines with nausea, vomiting and diarrhoea in severe cases (70-180 mg) vomit and stools are bloody, collapse, shock with weak rapid heart, cold sweats, coma and death.

Chronic Effects:

By ingestion or inhalation: disturbance of digestive system; loss of appetite, cramps, nausea, constipation or diarrhoea. Liver damage, jaundice, disturbance of the blood, kidney and nervous systems. Perforated nasal septum, hoarse voice (pharyngitis) and conjunctivitis. A recognised human carcinogen of the skin, lung and liver (angiosarcoma).

DDT, DDE and DDD

DDT is a persistent organochlorine insecticide, stable under most environmental conditions. Commercial DDT contains the related chemical forms, DDE and DDD, which can also be formed by metabolic action in the environment. DDE is also very stable in the environment.

Worksafe Australia Atmospheric Exposure Standard:
Time-weighted average (DDT) = 1 mg/m³

DDT is poorly absorbed through the skin, and its acute oral toxicity is affected by the solvent carrier. It accumulates in fatty tissue.

DDT affects the nervous system, both central and peripheral, resulting in numbness of the tongue, lips and face, apprehension, hypersusceptibility to stimuli, irritability, dizziness, disturbed equilibrium, tremor and convulsions. symptoms appear several hours after large doses. The liver can be affected by DDT, with potentially fatal doses causing necrosis of liver cells.

It has been estimated that doses of 10 mg/kg body weight will cause signs of poisoning in humans.

Epidemiological studies have failed to reveal evidence that DDT causes cancer in humans.

Organophosphates insecticides

As a class, organophosphates insecticides are the most frequent cause of insecticide poisoning in humans. These compounds have a very specific mode of action, known as acetylcholinesterase inhibition, which effects the functioning of the nervous system and consequently muscle systems. There are many signs and symptoms of organophosphate poisoning, ranging from respiratory difficulties and Muscle fatigue to emotional instability.

Organophosphate insecticides degrade rapidly in the environment.

ANALYTICAL RESULTS SHEET

ANALYTES: Organochlorine Pesticides
METHOD OF ANALYSIS: ALS EP-068 & ALS EP-067
DATE OF ANALYSIS: 24/03/92

BATCH No.: EN2118
MATRIX: Soil
UNITS: mg/kg

COMPOUND	Lab I.D.	-14	-17	-21	-23	
	Client I.D.	S-8-2 20/03/92	S-12-2 20/03/92	S-6-2 20/03/92	S-10-2 20/03/92	
	Moisture %	13.5	18.2	17.3	23.1	
	LOR					
a-BHC	0.05	<LOR	<LOR	<LOR	<LOR	
g-BHC	0.05	<LOR	<LOR	<LOR	<LOR	
b-BHC	0.05	<LOR	<LOR	<LOR	<LOR	
d-BHC	0.05	<LOR	<LOR	<LOR	<LOR	
Heptachlor	0.1	<LOR	<LOR	<LOR	<LOR	
Aldrin	0.05	<LOR	<LOR	<LOR	<LOR	
Heptachlor epoxide	0.05	<LOR	<LOR	<LOR	<LOR	
Endosulfan 1	0.05	<LOR	<LOR	<LOR	<LOR	
4,4'-DDE	0.05	<LOR	<LOR	<LOR	<LOR	
Dieldrin	0.05	0.09	<LOR	<LOR	0.05	
Endrin	0.05	<LOR	<LOR	<LOR	<LOR	
Endosulfan 2	0.05	<LOR	<LOR	<LOR	<LOR	
4,4'-DDD	0.05	<LOR	<LOR	<LOR	<LOR	
Endrin aldehyde	0.05	<LOR	<LOR	<LOR	<LOR	
Endosulfan sulfate	0.05	<LOR	<LOR	<LOR	<LOR	
4,4'-DDT	0.05	0.09	<LOR	<LOR	<LOR	

LOR: Level Of Reporting

BATCH QUALITY CONTROL

MATRIX: SOIL
 BATCH NUMBER: EN 2118
 No. OF SAMPLES: 9
 DFTPP TUNING REQUIREMENTS MET: Yes

ANALYST: sch4p4(6) Pers
 DATE ANALYSED: 24/03/92
 SPIKED SAMPLE: EN 2118-6
 REAGENT BLANK: Tested clean

COMPOUND	LEVEL OF REPORTING	SUBMITTED SAMPLE	QC SOIL SPIKE RESULTS			
			SPIKE	DUPLICATE	AVERAGE RECOVERY	RSD
	ug/kg	ug/kg	mg/kg	mg/kg	%	%
a-BHC	50	ND	0.30	0.28	109	3
g-BHC	50	ND	0.30	0.29	112	0
b-BHC	100	ND	0.29	0.25	103	7
d-BHC	50	ND	0.32	0.25	108	11
Heptachlor	100	ND	0.29	0.25	100	7
Aldrin	50	ND	0.24	0.28	97	7
Heptachlor epoxide	50	ND	0.27	0.30	106	5
Endosulfan 1	50	ND	0.28	0.28	105	0
4,4'-DDE	50	ND	0.28	0.28	104	0
Dieldrin	50	ND	0.28	0.29	107	3
Endrin	50	ND	0.28	0.24	98	7
Endosulfan 2	50	ND	0.26	0.26	97	0
4,4'-DDD	50	ND	0.28	0.30	109	2
Endrin aldehyde	50	ND	0.27	0.26	100	1
Endosulfan sulfate	50	ND	0.27	0.29	105	4
4,4'-DDT	50	* Detected	0.29	0.25	102	7

ND: Compounds not detected in the sample.

* The DDT level found in the sample was subtracted from the spike and duplicate.

APPENDIX : FLORISIL RECOVERY DATA

TARGET COMPOUND	MID LEVEL
a-BHC	81
g-BHC	91
b-BHC	115
d-BHC	59
Heptachlor	NR
Aldrin	28
Heptachlor epoxide	110
Endosulfan 1	93
DDE	53
Dieldrin	79
Endrin	116
Endosulfan 2	NR
DDD	95
Endrin aldehyde	NR
Endosulfan sulfate	NR
DDT	73

8.2 Noise

Coring devices, or other equipment may produce noise levels above acceptable standards. High noise levels can contribute to hearing loss as well as interfere with communication between workers.

Hollingsworth Dames & Moore personnel involved in operations where high noise levels are present will be issued hearing protection in the form of ear plugs or ear muffs. Hearing protection is required to be worn whenever noise levels interfere with normal speech when individuals are standing at a distance of one metre, or when noise levels measured with a properly calibrated sound level meter exceed 85 dBA.

8.3 Underground Structures

All known underground structures (e.g. tanks and associated piping, electrical lines, etc) will be identified if possible, through the use of drawings supplied by Sunrock before or soil sampling activities begin. Work will not commence until these structures have been adequately located or identified. Field changes to site drawings are to be initialled by the SSO and the client's field representative. An approval form for this field change, if available, will also be signed by each party.

8.4 Traffic Hazards

Hollingsworth Dames & Moore employees may be exposed to traffic hazards while working at operating facilities. Employees will be required to wear orange safety vests and to place traffic cones around the work area to alert site drivers of the Hollingsworth Dames & Moore site operations.

8.5 Aboveground Electrical Hazards

Flexible extension cords and electrical power tools should be used with extreme caution in wet areas to prevent electrocution hazards. The socket and plug should be designed to prevent water ingress, enclosed in a suitable container, or positioned in a manner which prevents water ingress. All extension cords should be placed in a position that it is readily identifiable by all workers and secured where possible.

An inline earth leakage circuit breaker will be used on all equipment. The earth leakage circuit breakers must comply with AS 3190 – The Approval and Test Specifications for Current Operated (Core Balance) Earth Leakage Devices, and have a rated tripping current that does not exceed 30 mA. All electrical extension cords should be of heavy duty sheathed insulation and comply with AS 3116 – Insulated Electric Cables. All extension cords should be inspected daily for cuts and abrasions prior to their connection to a power supply.

Traffic cones will be placed over the electrical cords placed on the ground in areas subject to traffic to alert drivers of the cord's location. Electrical cords are **not** to be placed in wet areas.

8.6 Snakes

Snakes are not normally aggressive and tend to bite when they are threatened or mishandled. Not all snakes are venomous, however some snakes are very poisonous and these may be present in this area. Therefore, all snakes should be treated with respect and regarded as venomous during this project. See page 11 of this plan for more information on this topic.

8.7 Driving Safety

Hollingsworth Dames & Moore personnel will be driving to and from the work site and will be subject to repeated traffic hazards related to weather, poor road conditions and the like. Hollingsworth Dames & Moore personnel will be required to comply with all posted speed limits, other governmental requirements and to use good judgment and skills while driving.

- All required respiratory devices and protective clothing must be worn by all personnel during field work. Excessive facial hair or cosmetic which interferes with a satisfactory respirator-to-face seal are not permitted;
- Necessary contact with contaminated surfaces or water materials is to be avoided;
- Alcoholic beverage or unauthorised drug intake is strictly forbidden prior to and during work operations as they can potentiate the effects of some chemical and physical agents. Prescribed drugs should not be taken by field personnel unless specifically authorised by a Hollingsworth Dames & Moore – approved occupational physician. All personnel should be familiar with standard safety procedures and additional instructions contained in the Site Health and Safety Plan;
- No one may work alone in the field, i.e., out of earshot or visual contact with other workers;
- Skylarking is absolutely forbidden. Good judgment and common sense are required;
- All employees have the obligation to correct or report unsafe work conditions; and
- Personnel should thoroughly wash their hands and face before eating, drinking, or smoking following field activities.

11.0 DECONTAMINATION

11.1 Personal Decontamination

Due to the low potential of personnel contact with high concentrations of contaminants, personnel decontamination requirements will be minimal. As such, the following decontamination procedures will be utilised:

- Gloves and other personal protective equipment which has come in contact with contaminated materials will be decontaminated using soap and water followed by a fresh water rinse.

11.2 Decontamination of Sampling Equipment

Sampling equipment is to be decontaminated using soap and water followed by a fresh water rinse.

12.0 EMERGENCY RESPONSE

12.1 Emergencies

It is Hollingsworth Dames & Moore's policy to evacuate personnel from areas involved in hazardous material emergencies and to summon outside assistance from agencies with personnel trained to deal with the specific emergency.

12.2 Communication

Workers will be alerted to emergencies by verbal command. A telephone will be located in close proximity to the work area to summon outside assistance in the event of emergency. The SSO or the client's representative will be in charge of alerting personnel and summoning outside assistance.

12.3 Places of Refuge

In the event of a site emergency requiring evacuation, all personnel will evacuate to a pre-designated area specified by the SSO or the client prior to the start of work.

12.4 First Aid and Emergency Procedures

The activities at this site lend themselves to a wide variety of injuries which could require first-aid or emergency treatment. The following items will be located on site at all times:

- First-aid kit and manual; and
- Emergency phone list.

All injuries must be reported to the SSO and PM immediately following first-aid treatment. The Accident Report Form will be submitted by the PM for each job related accident. This form will be submitted as soon as possible, but within 48 hours of the accident. If necessary, the employee will be referred to an emergency room for further treatment.

In the event of serious trauma or unknown chemical exposure, the employee should be stabilised by one group of employees while the emergency phone number list is consulted and an ambulance immediately requested. Workers with suspected back or neck injuries are NOT to be moved until professional emergency assistance arrives.

12.5 Spill or Hazardous Materials Release

Small spills should be reported immediately to the SSO and dealt with according to the chemical manufacturers' recommended procedures or per the client's requirements. Spills or release of hazardous materials which result in human exposure or off site environmental contamination will be promptly reported by the SSO to the proper client authorities and appropriate measures taken to contain and/or collect the material for approved storage and disposal.

12.6 Emergency Information

This section lists the agencies and telephone numbers to contact in case of emergency. The portion of the list dealing with the client's contacts will be obtained from the local client representative prior to the initiation of Hollingsworth Dames & Moore activities.

List of Emergency Telephone Numbers

Sunrock (Contact)	sch4p4(6) Personal	288 1422
Local Fire Brigade		000
Ambulance Services		000
Local Police Department		000
Hollingsworth Dames & Moore	135 Wickham Terrace, Brisbane	(07) 832 3222
Poisons Information Centre		253 8233
Local Electrical Utility	SEQEB	251 6171
Local Gas Utility	Qld Gas Corp (northside)	252 0251
	Allgas Energy (southside)	849 9100
Local Telephone	Telecom	1100
Local Water/Sewer Utility	Ipswich City Council	280 9811
Name of Nearest Hospital	Ipswich	810 1111
	Royal Brisbane	253 8111
	Princess Alexandra	240 2111
	Queen Elizabeth II	257 6111

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APPENDIX E

Environmental Questionnaire

HOLLINGSWORTH DAMES & MOORE
ENVIRONMENTAL AUDIT QUESTIONNAIRE

Job Number: *HOI0147*

Client: *Sunrock Wool Pty Ltd*

Project Manager: sch4p4(6) Personal info

Hollingsworth Dames & Moore Auditors: sch4p4(6) Personal in

Date(s) of Audit and approximate time spent: *18 March 1992*

INTERVIEW QUESTIONS

Note 1. All sections may not apply to all sites

Note 2. Information will need to be verified and augmented by information from other sources (documents, government contacts, etc)

1.0 GENERAL FACILITY INFORMATION

1.1 Facility and Operator Name: *Sunrock Wool Pty Ltd*

1.2 Land Owner: *Sunrock Property Holdings*
Address: *17 River Road, Redbank*
Phone No: *288 1412*
Fax No:

1.3 Facility Contact Person: sch4p4(6) Person
Position: *Office Administrator*
Phone No: *288 1422*
Fax No.: *288 2614*

1.4 Land Title Information

Provided/Not Available

1.5 Is the site leased?

Yes/No

If leased provide details of owner:

Sunrock Property Holdings

1.6 Is the facility currently in use

Yes/No

If no, give a date and reason for closure.

*Leasees use. Main factory (Wool Scouring) not in use due to Economics
General Industry usage*

1.7 List of People Interviewed and their Positions:

Name		Position
sch4p4(6) Personal info		Office Administrator
		Factory Foreman

1.8 What are the adjacent land uses and owners?
Use the following keywords: Domestic Residential, Undeveloped, Open Space, Parkland, Light Industrial, Heavy Industrial, Commercial, Office Space, Hydrocarbon Storage.

North: Open Space, Undeveloped, Light Industrial (Railway)

South: Light Industrial, Open Space Railway

East: Light Industrial

West: Open Space - River

1.9 Are any of the adjacent land users generating/disposing
any waste which can migrate to the site?
Not likely

Yes/Unknown/No

If yes, describe. Include approximate type, distance, upgradient or downgradient.

2.0 SITE HISTORY

2.1 List previous uses of the site and duration of use?

Use	Period	No. Years (approx.)
Wool scouring	1934- 10/1990	56
Meat works	-	Unknown
Underground mines	1800's	Unknown

2.2 When was the site first used as a current facility? 1934

2.3 When did the present owner take possession of the site? 1987

2.4 When did the present manager begin managing the site? August 1987

2.5 When did the person interviewed the day of the audit,
begin employment at the site? July 1972

2.6 Has the site been refurbished, or upgraded? Yes/Unknown/No

If yes, when and describe changes. (environmental changes)

*Circa 1977, three ponds were installed to mitigate pollution of the river.
Two additional ponds (No 2, 5 on Figure 2) were added in 1990.*

2.7 Has the site ever been damaged by fire? Yes/Unknown/No

If yes, describe damage to storage and dispensing facilities including dates, product/chemical spillages and subsequent repairs, and details of environmental investigations if any?

Plastic recycling - Late 1990, Building completely burnt to ground. Not known if investigation was done. New building has been built.

2.8 Has the site ever been damaged by flood? Yes/Unknown/No

If yes, list dates and describe damage such as chemical spillages, floating tanks, water entry into tanks or any other problems with dispensing facilities, and details of environmental investigations if any?

- 2.9 Were any wastes generated from processes at the site different to the present waste being disposed at the site?
(eg. oils, pesticides sludges, solid wastes etc)

Yes/Unknown/No

If yes, describe.

Possible waste from meat works

- 2.10 Where were wastes generated on the site disposed?

Beside settling ponds to west and southwest corner. Existing mound is solid fill.

- 2.11 Have any hydrocarbon tanks been present on the site?

Yes/Unknown/No

If yes, give details of closure/removal, and any subsurface investigations.

Tank still present. Under the concrete. Closed when oil boiler upgraded to gas boiler.

- where on Fig. 2?

- 2.12 What has been the pattern of earthworks (grading, cutting or filling) on this site?

Filling and earthworks, but no pattern predominantly for building excavation fill.

- 2.13 Have any local residents, media or special interest groups raised any questions or concerns about contamination from these facilities?

Yes/Unknown/No

If yes, describe.

Small from settling ponds - residence, media politicians involved during 1990.

Satisfactorily resolved with close of facility.

3.0 DRAINAGE AND STORMWATER

- 3.1 b) Does this site have a drainage system?
(Refer to existing plan or make a sketch)

☒ Yes/☐ No

No Plan Available

- a) How is stormwater collected and discharged?

Used to go to ponds. Now flows direct to river.

- 3.2 Is there a separation between "clean" stormwater and potentially "dirty" stormwater?

☒ Yes/☐ No

- 3.3 Is it possible for any process effluent to enter the stormwater system or vice versa?
Not at present during closure.

☒ Yes/☐ No

- 3.4 Is there any monitoring of stormwater quality on site?

☒ Yes/☐ No

If yes, obtain results:

- 3.5 Surface covering

concrete pads (%)	200m ²	bitumen (%)	2000m ²
exposed ground (%)	85	other (%)	Building 11

- 3.6 Describe the nearest creek/surface water body, location downgradient/upgradient.

Brisbane River. Down gradient to river on western boundary.

4.0 FACILITY DESCRIPTION & OPERATION (Take photos as necessary)

4.1 Describe the nature and location of facilities within the property boundaries: (Refer to existing plans where available, or make a sketch). Are new facilities planned or underway? (describe)

Factory - Brick (cavity), concrete slab, metal frame
Igloo - Corrugated iron, timber frame
Sheds - Corrugated roof

4.2 Types of facilities located on-site? (check one or more)

- Plant/Factory
- Warehouses/Sheds
- Pipelines
- Storage Tanks (above ground)
- Storage Tanks (underground)
- Waste Treatment
- Waste Storage
- Transformers or Substations
- Pits or Sumps
- Other (specify)

4.3 How many people are employed in each area at this facility?

	Plant Area	No. of Personnel
1.	Office	2
2.	Factory	2
3.	Tenants	~60
4.	Dwellings	18
5.	Caretaker	1

4.4 Size of Facility?

- a. Area of land? 22.3 acres
- b. Area of Buildings (in square metres % coverage): 30,000m²; more or less.

- 4.5 What in general terms are the materials handled at this facility, and the products? (include any manufactured, processed, assembled or otherwise produced)

None at present. Were wool; wool fabrics, lanoline, etc.

- 4.6 Have there been any significant changes in the general nature of the materials handled and products since operations began?

☒ Yes/Unknown/No

If yes describe:

Now ceased - Fabric finishing/dye house closed; as have weaving/looming of wool

- 4.7 Describe any chemical processes used at the site: *Wool scouring*

Wool through vats of detergent, sulphuric acid dyes. Possible application of DDT to wool fabric in past.

- 4.8 Describe any washdown facilities and practices (e.g. organics, metals, solvents, pesticides, gases, powders, liquids, solids, fuels, cleansing products, etc):

Vats washed - to effluent lines using water and detergent.

- 4.9 Describe any process upset conditions that have occurred (how were conditions handled and what steps were taken to avoid such occurrences in the future):

Usual for small spills expected on such a site from 200 litre drums and 20 litre drums used on site.

- 4.10 Describe any spills or other releases of wastes, raw materials, or products that resulted during the upset conditions (what response and corrective action was taken):

N/A

5.0 MATERIALS INVENTORY AND HANDLING

Note: If Materials Inventory was provided prior to the audit use it to discuss the section. Go over it to check for completeness, etc.

5.1 List of Materials: (excluding hydrocarbon products):

For each chemical or raw materials, give storage method (aboveground tanks, drums, underground tanks, stockpiles, other), storage capacity (tank size, average volume of pile, etc.), and describe any appropriate environmental control measures (for hazardous material):

Most chemicals used on site were stored in 205 litre drums some such as soda ash were stored in bags. Sulphuric acid bought and delivered in bulk as needed. Immediately used in vat.

5.2 Identify significant changes in the materials handled or processed since the company began operations at the site:

Fabric dyes, DDT have started and stopped being used. Presently no materials are being handled on site.

5.3 List of Maintenance Materials (solvents, degreasers, acids, lube oils, etc.). For each maintenance material, give storage method, storage capacity, and describe any appropriate environmental control measures (for hazardous materials).

*Lube oils - drums
Grease - drums*

5.4 Have there been any significant changes in the maintenance materials since the company began operation at the site?

No

5.5 What are the inventory control measures used for maintenance materials?

5.6 Are materials Safety Data Sheets available for each of the chemicals used or Handled on the site?

Yes ☒ No

6.1 Describe above ground storage tanks on site (include capacity, age, material stored, construction materials, vents, corrosion protection method, spill containment equipment and condition):

Nil

- 6.2 Describe underground storage tanks (USTs) on site (include capacity, age, materials stored, construction materials, corrosion protection method, leak detection program and condition):

Condition capacity unknown, age unknown (greater than 12 years), oil for oil burner stored. No leak detection program, construction unknown, unknown corrosion protection method.

- a. Any leak test results

Yes/No)

- b. Have any USTs been replaced or repaired?

Yes/Unknown/No

Product Storage

Please note:

Use the status column to indicate if the tank is still in use ("U"), in place but no longer used ("D"), or has been removed ("R").

Use the Contents column to indicate if the tank contains leaded petrol ("S"), unleaded petrol ("U"), diesel/ADO ("D"), kerosene ("K"), LPG ("G"), heating oil ("H") or waste oil ("W").

Use the Construction column to indicate if the tank is constructed of steel ("S"), aluminium ("A"), or fibreglass ("F").

[illegible]

7.0 TRANSFORMERS AND SUBSTATIONS

7.1 Are there any transformers or capacitors, either in use or as materials handled, or other known sources of PCBs on site? Yes/Unknown/No

If yes:

a. Have there been any reported spills? Yes/No

If yes describe:

b. Who owns the operational transformers?

SEQEB

c. Have they been inspected or serviced Yes/No

d. Have transformers been changed over to non-PCB oils to your knowledge? Yes/Unknown/No

e. Location: (describe or indicate on map)

2 months ago

7.2 Over what period have used transformers been handled on the site?

>35 years

7.3 What procedures are/have been used to assess, drain, dispose of transformers and oil?

Unknown

8.0 ASBESTOS/CONDITION OF STRUCTURES

8.1 Are you aware of any asbestos materials on site, either in use or as material handled? ☒ Yes/Unknown/No

If yes describe:

*Pipe lagging was in roof of scouring line and dye house.
Removal was completed in March 1992.*

8.2 What procedures are/have been used to deal with asbestos materials on the site?

Removal completed.

8.3 Do you have materials specifications for the buildings on site?

Yes/☒ No

If yes describe:

8.4 Have any materials on site been tested for asbestos content?

Yes/Unknown/☒ No

If yes describe:

8.5 What is the age of the building on site? *Approx. 60 years plus extensions*

9.0 WASTEWATER MANAGEMENT

General

- 9.1 Review the licences or permits for discharges to air, water or land, or any Trade Waste Agreements which apply at the site. Refer to documentation provided and your local knowledge of requirements.

Copy obtained of water license discharge to Brisbane River.

- 9.2 Who has record keeping and maintenance responsibility for these?

Name:

Position: *Office Administrator*

ADDITIONAL DETAILS RELATED TO WASTES AND EMISSION TO BE USED WHERE APPROPRIATE

Air Emissions

- 9.3 Describe emissions from plant? (including but not limited to permitted sources)

Boilers (steam) and incinerator

- 9.4 Are any materials incinerated on-site? If so, describe materials burned, process used and permits obtained:

No permits, office waste (paper, cardboard etc.)

- 9.5 Describe the nature of any air emission control or monitoring equipment used at this facility:

None

- 9.6 Review any stack test of emission test results for this facility.

None

- 9.7 Describe any significant changes in the nature or volume of air emissions since the company began operations at the site:

Unknown

- 9.8 Has the company (at this facility) received any complaints for odours or notification from any government agencies in which allegations have been made regarding intentional or unintentional releases or air contaminants? Check against information already provided.

No

Wastewater

- 9.9 Review the facility Trade Waste Agreement or water licence. Refer to the documentation provided.

License No. 263 originally issued February, 1975 under Clean Waters Act

- 9.10 Describe the sources, nature, and fate of wastewater discharges in this facility (sewer, stream, on-site treatment plant, irrigation, etc.).

Sources - washings from scouring line combining detergent, dirt and other wool contaminants. Washings were pumped to clarifier and then settling ponds. Once cleared by Council, water pumped to Brisbane River.

- 9.11 Describe control procedures and control equipment for wastewater discharge:

Procedures for disposal of water as per schedule under water license.

- 9.12 Are there floor drains in buildings? Where does water flow?

Yes to the settling ponds.

Indicate on the location plan.

- 9.13 Are wastewater discharges monitored?

Yes/No ☒ No

If yes, explain existing program and provide results:

Solid Wastes

- 9.14 Discuss this facility's solid waste practices in terms of sources, quantities, storage and disposal method. (other than "product")

Waste Type	Source	Quantity	Storage	Disposal
<i>Sludge from ponds</i>	<i>Scouring</i>	<i>Tonnes</i>	<i>-</i>	<i>Dumped on site</i>
<i>Paper, cardboard, etc</i>	<i>Office</i>	<i>-</i>	<i>-</i>	<i>Burnt in incinerator</i>

- 9.15 Do the contractors and the disposal site have the necessary permits and approvals for transport/disposal of these materials?

Yes/No

N/A

- 9.16 Are any wastes disposed of on site?

Yes/No

If yes, provide quantity disposed, type of disposal location and disposal practice descriptions:

Sludge from scouring lines after having settled in ponds and water removed is removed by heavy machinery and dumped to western and southern edges of ponds. Usually tonnes disposed off.

- 9.17 Is any monitoring of on-site waste disposal (soil/water, etc) currently being carried out?

Yes/No

- 9.18 Do you know of any inactive waste disposal sites within the facility boundaries? If so, provide any information available (site, types, dates, method of closure):

N/A

10.0 HAZARDOUS MATERIALS/HAZARDOUS WASTE MANAGEMENT

10.1 Are there any control procedures associated with hazardous waste monitoring on site?

Yes/No

If yes, describe: *Facility not in operation.*

10.2 Is any environmental monitoring on site (soil/water) associated with hazardous waste?

Yes/No

If any, describe:

10.3 Describe any hazardous waste facilities on site: *N/A*

a. impoundments (age, design, geology, lining, monitoring wells and capacity):

b. container storage (type of wastes, design of building, spill control equipment and capacity):

c. other:

10.4 Does this facility have a spill contingency plan?

Yes/No

If yes, describe or provide a copy:

10.5 Does this facility have an emergency/contingency plan to deal with fire, explosion or release of hazardous materials?

Yes/No

If yes, explain or attach copy:

Fire alarm to Redbank Fire Station. Due to lack of staff on site a plan is not in force.

10.6 Has the company (at this facility) received any complaints or notifications from any government agencies in which allegations have been made regarding intentional or unintentional releases of hazardous materials?

Yes/No

11.0 ENVIRONMENTAL MANAGEMENT AND REGULATORY COMPLIANCE

11.1 Is there a person responsible for environmental matters of the facility?

Yes

Yes/No

Name:

sch4p4(6) Personal i

Position:

Plant Chemist

11.2 Has that person had any specific experience or training in environmental matters? N/A

Yes/No

11.3 Do you have a copy of the Corporate Environmental Policy? N/A

Yes/No

11.4 What has been done at this site to implement that Policy? N/A

Yes/No

11.5 Do you have site environmental guidelines for: N/A

- Handling toxic or hazardous substances

Yes/No

- Reporting and recording all environmental incidents?

Yes/No

- Emergency response to internal and external emergencies?

Yes/No

11.6 Is this facility in compliance with regulations currently in force? N/A

Yes/No

11.7 Has the company or any operator of this facility received from any government agency

(Check against information already provided, and update as necessary)

a. Notification identifying it as a potentially responsible party in a hazardous waste cleanup proceeding?

Yes/No

b. Complaints, notices or been prosecuted for breach of environmental protection regulations?

Yes/No

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APPENDIX F

Sampling Plan for Validation Survey

HOLLINGSWORTH DAMES & MOORE

SAMPLING PLAN FOR VALIDATION SURVEY

17 RIVER ROAD, REDBANK

1.0 SCOPE OF SAMPLING

Samples of soil are to be taken from –

- a) the building surrounds in close proximity to entrances;
- b) the areas on the downgradient from the settling ponds; and
- c) remote areas of the site where filling has taken place.

These areas have been considered due to

- a) possible dumping or emptying of chemicals outside of doorways;
- b) possible leaching of chemicals from settling ponds down to water sources;
- c) possible contamination of fill used.

2.0 GENERAL SAMPLING PROCEDURE

The following procedures apply to all samples taken.

- 2.1 Each sample will be taken by splitting from a quantity of soil gathered from the source and mixed with a mixing tray. The total quantity of soil gathered for splitting will be equivalent in size to 400 mm x 400 mm x 200 mm (approx. 30 litres). Where the sample is a composite, the quantity of soil in each "grab" contributing to the composite will be large enough to ensure that a sufficient total quantity of soil is gathered for splitting.
- 2.2 Each sample will be placed in the container type appropriate to its intended analysis, that is:
 - plastic bag for arsenic analysis,
 - solvent-washed glass bottle for organochlorine (OC) pesticide analysis. A seal of aluminium foil will be placed between the cap and the bottle when the cap is screwed on.
- 2.3 Sampling tools will be thoroughly cleaned of adhering soil between samples.
- 2.4 Each sample will be taken in duplicate. One sample will be forwarded to the primary laboratory, the other will be retained by HDM or forwarded to the secondary laboratory for Quality Assurance and Quality Control.
- 2.5 Each container will be marked with:
 - job number (HOI0147)
 - sample number
 - date
 - initials of sampler.
- 2.6 Details of each sample (including time it was taken) will be recorded on a field sampling record sheet. The location of the sampling point will be recorded on a diagram of the sampling area.

2.7 The primary laboratory will be:

Australian Laboratory Services (ALS)
32 Shand Street
STAFFORD

The secondary laboratory will be:

Enviromet
12 Clearview Place
BROOKVALE, NSW

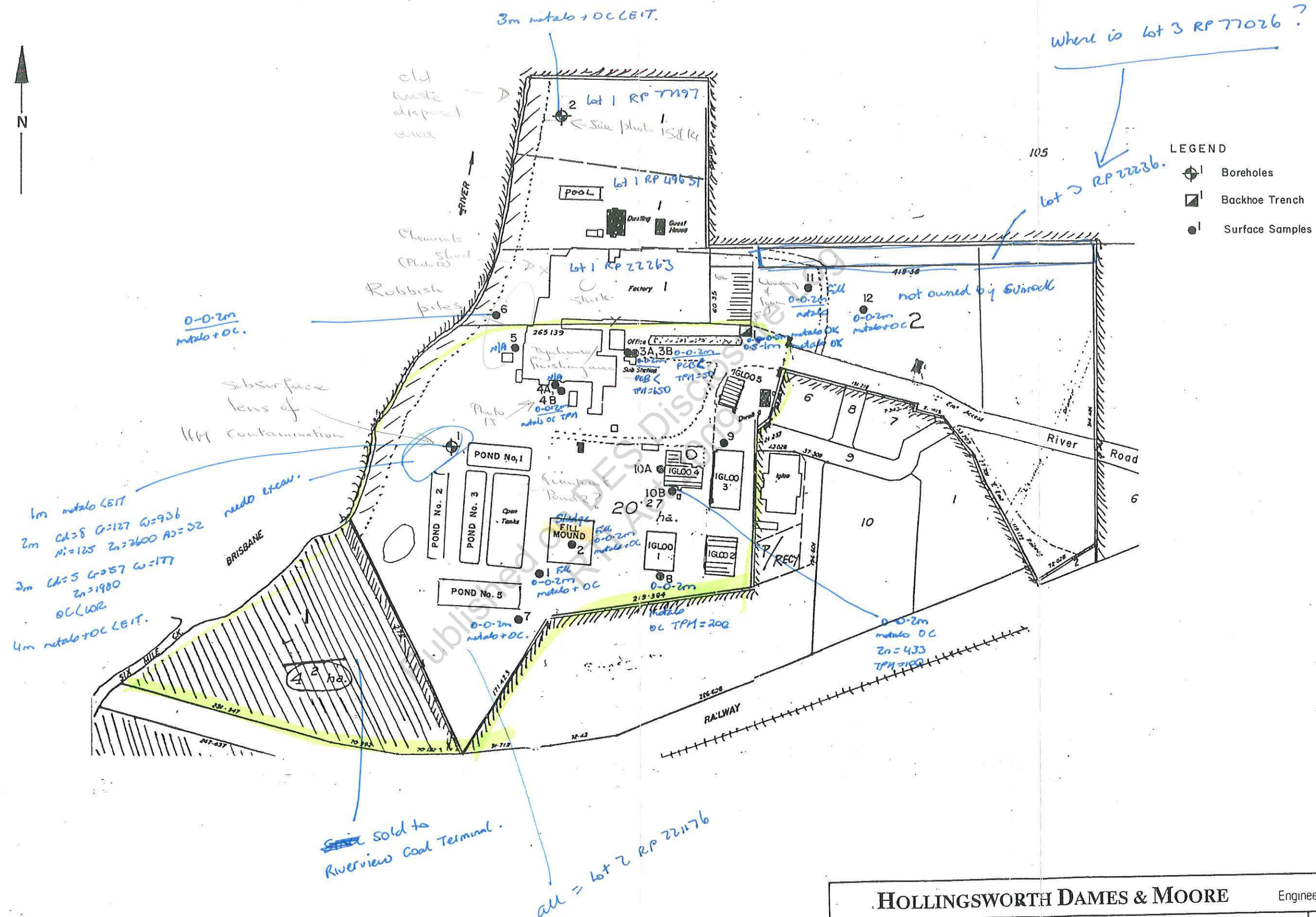
Each batch of samples forwarded to the laboratory will be accompanied by a purchase order, an analysis request form and a chain of custody form.

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FIGURES

Figure 1 - Site Location

Figure 2 - Site Layout & Sampling Locations



HOLLINGSWORTH DAMES & MOORE

Engineers and Planners

DRAWN

CHECKED

DATE
March 1992

FILE REF.
HO10147

SUNROCK WOOL PTY LTD
SITE ASSESSMENT
SUNROCK, RIVER ROAD, REDBANK
SITE LAYOUT & SAMPLE LOCATIONS

SCALE



Figure 2



HOLLINGSWORTH DAMES & MOORE
A Division of Dames & Moore Pty Ltd (A.C.N. 003-293-696)

Geotechnical Engineers
Environmental Scientists
Town and Regional Planners

24262-001-362
HOI0147.L3
SR/agm

27 April, 1992

Sunrock Wool Pty Ltd
17 River Road
REDBANK QLD 4301

Attn:

Dear Sir

**RE: FURTHER INVESTIGATION OF CONTAMINATED AREA IN LOT 2, RP 221176
OF SITE AT SUNROCK WOOL, REDBANK**

A Letter Report follows which presents the results of a further investigation of a portion of the site at 17 River Road, Redbank. The further investigation was carried out on an area which lies on the western edge of the settling ponds previously used in the wool scouring process. The entirety of the site at 17 River Road is currently subject to sale.

1.0 INTRODUCTION

In March 1992, Hollingsworth Dames & Moore prepared a report (Number 24262-001-362) detailing the results of a Stage 1 Preliminary Site Investigation which was conducted for the property owned by Sunrock Property Holdings at 17 River Road, Redbank. A section of the property, specifically a portion of the western edge of Lot 2 on RP 221176, was identified as having heavy metal contamination (namely chromium, cadmium, zinc and copper) at depths of 2-3 m over an unknown area. As a result of these findings the CHEM Unit requested a more detailed investigation of this area to identify the possible extent of this contamination.

Sunrock Wool Pty Ltd has instructed Hollingsworth Dames & Moore to proceed with a further investigation of the area to the west of the settling ponds in the vicinity of the original borehole.



2.0 VALIDATION SURVEY

2.1 Site Selection and Sampling

From the information contained in the previous report and the local topography, ten additional sites in close proximity to the original borehole were chosen. These boreholes were located in relation to the original borehole to obtain information that would give an estimate of the possible lateral and vertical extent of contamination. The locations are given below in Table 1.

Information from the previous borehole log was used to determine the location of additional sites and the depth to which the additional bores would need to be drilled. As no soil contamination was detected in the alluvial strata, the additional holes were drilled to a level where the alluvial strata was detected.

The additional boreholes were constructed using a 100 mm ϕ auger and then "push tubes" of 50 mm ϕ were used to collect an undisturbed sample. Soil samples were taken from the surface and at one metre intervals until the alluvial soil strata was reached. A log of each borehole was compiled at the time of drilling (Appendix A). Each soil sample comprised a depth range of approximately 300 mm around the metered intervals. The samples were labelled and tagged and placed in plastic bags and subportions of each sample were placed into small plastic bags and despatched for chemical analysis. (The Work Plan describing sampling protocols and an Occupational Health and Safety Plan were included in HDM Report No. 24262-001-362.) Sampling was undertaken on 16 April 1992.

Table 1

Borehole Locations

Borehole Number	Location from Original Borehole
1A	3 metres south
2	15 metres south
3	40 metres south
4	3 metres west
5	3 metres east
6	3 metres north
7	15 metres north
8	10 metres north west
9	10 metres north east
10	60 metres south



2.2 Chemical Analysis

Initial soil samples were despatched on 21 April, 1992, to NATA registered Australian Laboratory Services (ALS), Stafford together with completed sample analysis request and chain of custody forms. Subsequent samples were similarly despatched on 23 April, 1992. ALS were requested to prepare the samples for environmental analysis and then carry out appropriate chemical analyses to detect the presence of a specified range of metals and non-metals. The results of the chemical analyses are presented in Tables 2 and 3 below.

Initially only those samples in close proximity to the original hole where sent for analysis (samples 1, 4, 5 and 6). Further samples (samples 2, 8, 9) were sent after comparison of these sample results with the borelogs. Two samples were also assessed for their leaching characteristics as requested by the CHEM Unit.

Table 2
Results of Soil Analyses (Summary)

Description Soil Sample No.	Origin	Depth (mm)	Cadmium (Cd) (mg/kg)*	Chromium (Cr) (mg/kg)*	Copper (Cu) (mg/kg)*	Nickel (Ni) (mg/kg)*	Lead (Pb) (mg/kg)*	Zinc (Zn) (mg/kg)*	Arsenic (As) (mg/kg)*
1-S	Fill	0-200	<0.5	23.0	8.0	13.5	8.0	30.0	<0.5
1-1	Fill	1000	<0.5	16.0	10.0	8.5	13.0	42.0	<0.5
1-2	Fill	2000	6.5	61.0	451	46.0	129	1730	7.0
2-1	Fill	1000	3.0	51.5	230	32.5		1190	
2-2	Fill	2000	4.0	13.5	223	67.5		1010	
4-S	Fill	0-200	<0.5	12.5	15.0	7.5	12.5	64.5	2.5
4-1	Fill	1000	<0.5	25.5	58	22.0	15.5	314	2.0
4-2	Fill	2000	10.0	80.0	4480	124	254	2890	7.5
4-2	Fill	2000	9.0	60.5	606	80.5		2040	
4-3	Fill	3000	4.0	40.0	304	34.0	66.5	987	4.0
4-3	Fill	3000	6.0	46.0	308	42.5		1520	
4-4	In Situ	3800	<0.5	27.0	7.0	11.0	9.0	18.5	0.5
5-S	Fill	0-200	<0.5	14.5	14.0	6.0	30.5	77.0	1.5
5-1	Fill	1000	<0.5	46.5	49.5	10.5	64.5	113	5.0
5-2	Fill	2000	<0.5	24.0	6.0	13.0	7.0	86.0	1.0
5-3	In Situ	3000	<0.5	33.5	8.0	13.0	10.0	40.5	0.5
6-S	Fill	0-200	<0.5	16.0	28.0	9.0	22.5	86.0	1.5
6-1	Fill	1200	10.5	91.0	904	116	220	2670	15.0
6-2	In Situ	2000	<0.5	22.5	16.0	12.0	8.5	39.0	1.0
6-3	In Situ	3000	<0.5	31.0	21.0	14.0	9.5	60.5	<0.5
8-1	Fill	1000	8.0	52.5	902	98.0		1340	
8-2	Fill	2000	10.0	53.0	407	52.5		1060	
9-2	In Situ	2000	<0.5	21.0	12.6	65.5		26.0	
4-4=A	In Situ	3800	<0.5	34.5	13.5	12.5	10.5	43.0	0.5
Background ⁺			0.04-2	0.5-110	1-190	2-400	<2-200	2-180	0.2-30
Environmental Investigation ⁺			3	50	60	60	300	200	20
Health Based Investigation ⁺			20	-	-	-	300	-	100

NOTE:

a)
b)

* Total by dry weight of soil.
+ Results obtained from "Guidelines for the Assessment of Contaminated Land in Queensland" (CHEM Unit, January 1992).



Table 3

TCLP Results

Sample No.	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Nickel (mg/L)	Zinc (mg/L)
2-1	0.05	0.03	0.59	0.19	19.3
9-2	<0.01	<0.01	0.05	<0.01	0.65

Table 3 shows the results for the leaching characteristics for two soil samples; one from contaminated fill and the other from original soil.

2.3 Discussion of Results

From the results it is apparent that the contamination is limited to a small area, at depth, on the western side of the settling ponds on Lot 2 of RP 221176.

The results in Table 2 and the bore logs confirm the results obtained for the original contaminated borehole, i.e. one to two metres of alluvial fill, one to two metres of contaminated fill and finally alluvial strata at approximately 3 metres; the exception being borehole 6 which reaches alluvial strata at 1.5 metres, with approximately 0.5 metres of contaminated material above this fill, with one metre of clean fill on the surface. The remaining boreholes (with the exception of borehole No. 9) were not analysed for contamination as the logs showed original undisturbed soil.

The boreholes in close vicinity to the original bore are all contaminated to a degree. Borehole No. 5, which is on the down slope from the top of the settling pond, has results remaining in the background range. Boreholes 1, 4 and 6 all have heavy metal contamination exceeding the Environmental Investigation Threshold ("Guidelines for Assessment of Contaminated Land in Queensland" – CHEM Unit, January (1992) for chromium, cadmium, nickel, copper and zinc.

Boreholes further out (numbers 2 and 8), which have similar descriptions to the previously contaminated holes, show high contamination of the heavy metals previously mentioned, at depth. Borehole No. 9 which is of original soil contains a value slightly higher than Environmental Investigation Threshold for nickel. It is suggested that this may be due to the original soil rather than added contamination as the other heavy metals analysed were well below environmental investigation levels.

3.0 CONCLUSIONS

From the comparison between the borehole logs and the chemical analyses, it can be seen that the contaminated area covers approximately 160 m² (assuming a regular shape to the area of 23 m x 7 m), at a depth of at least one metre. The approximate area is shown in Figure 1.

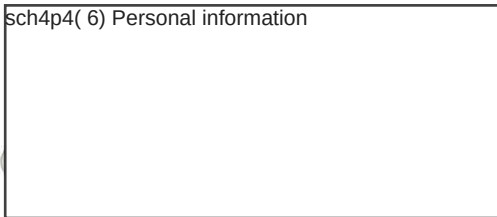


Values for chromium and nickel for all boreholes were still within background levels but exceeded the Environmental Investigation Threshold levels. Values for zinc, cadmium and copper for all contaminated boreholes significantly exceeded background levels.

As this contamination lies below at least one metre of clean topsoil, it is suggested that the health and environmental risk associated with this site is minimal.

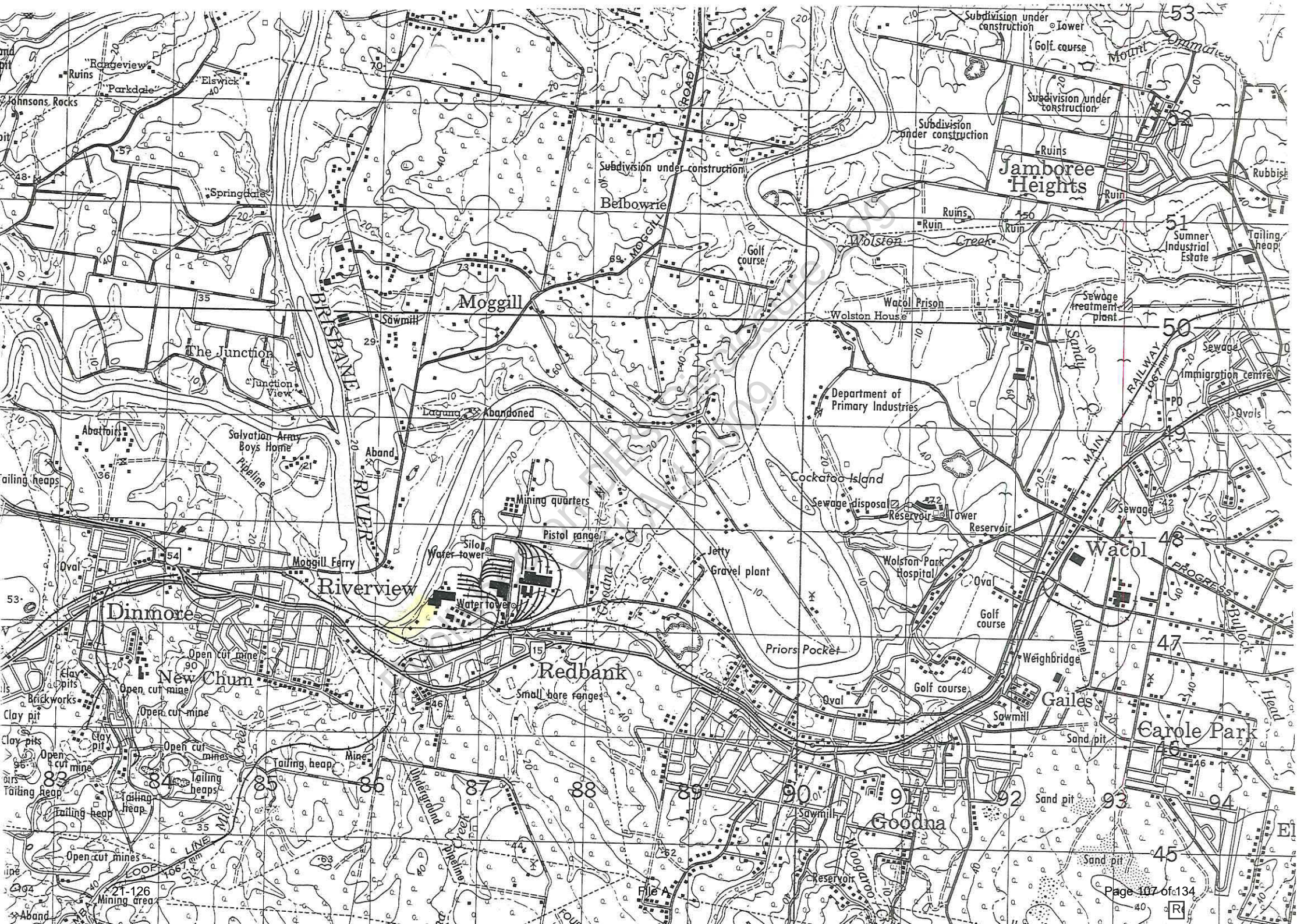
Yours faithfully,
HOLLINGSWORTH DAMES & MOORE

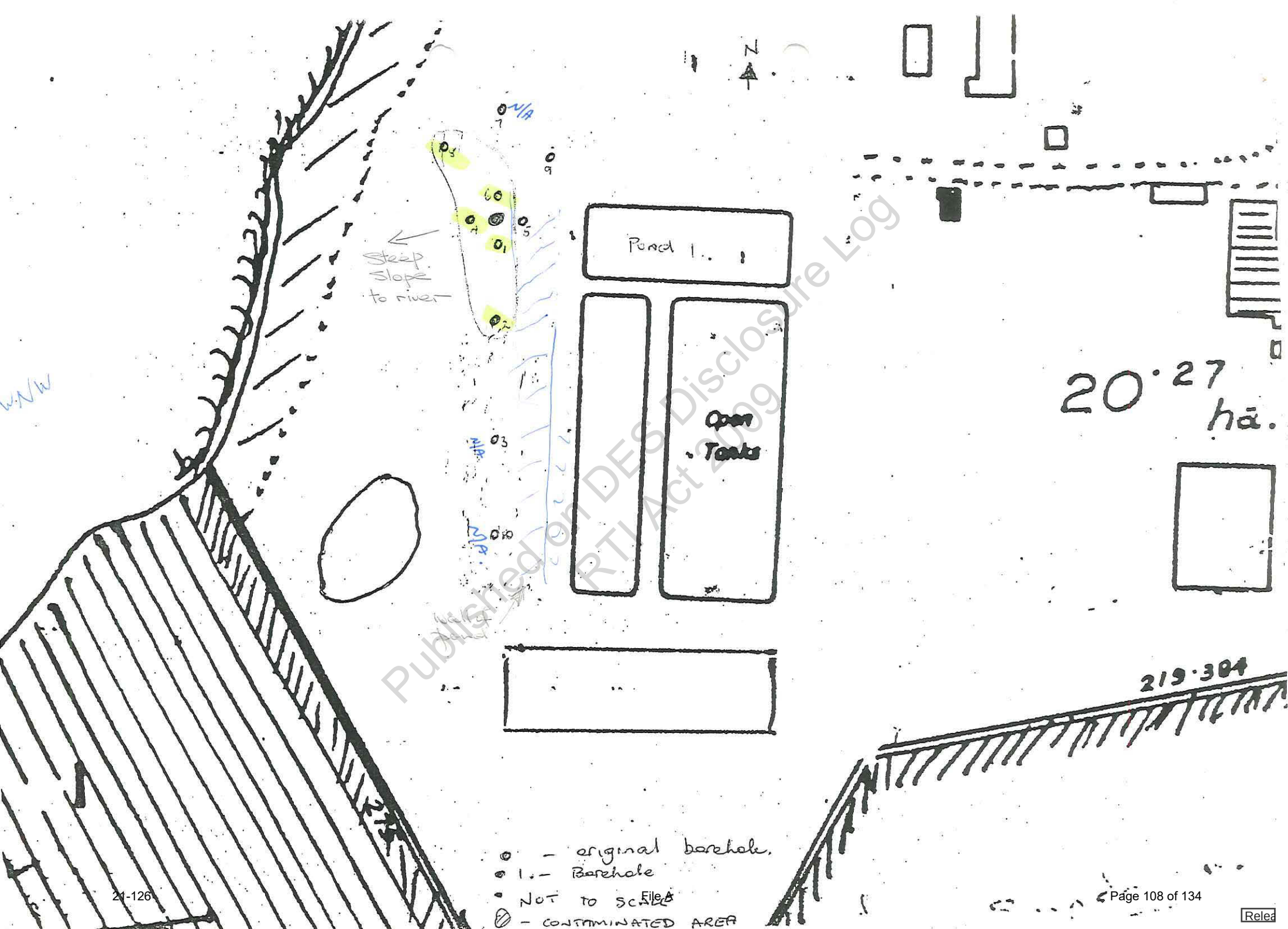
sch4p4(6) Personal information



Consultant-in-Charge – Hazardous Waste

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Engineering log Borehole



EARTHTECH LABORATORIES
Soils and Engineering Materials Testing

Borehole No.:
BH 1A
Sheet 1 of 1

Client : Hollingsworth Dames & Moore
Project : Sunrock
Location : River Road, Redbank

Your Ref: HOI0147
Job No. : 1525(3)

Date Drilled : 16.03.92 Drill Type : Gamco HP4 Bore Size : 100mm
Logged by : sch4p4 Driller : Earthtech Drilling Fluid :

RL Surface : -
Ch/Coords : -

Drilling			Depth (m)	Interpreted Profile	Graphic Log	Soil Description	Moisture Condition	Consistency	Rel. Density	Samples/Tests		Field Records
Method	Casing	Water								Sample Type & No.	Depth (m)	
Flight Auger	None	Dry	1.0	Fill		Clayey SAND, dark brown, fine to coarse grained, some ash, nodules to 5mm (SC)	M	L		D		T50 Refusal
						Clayey SAND, brown, fine to medium grained, medium plasticity fines (SC)	M	MD				
			2.0			Silty SAND, balck and dark brown, fine to medium grained, fines of low plasticity, trace of organic matter numerous rust flakes, metal fragments at 2.0m (SP-SM)	M	MD				
						galvanised iron fragments 2 - 3m						
			3.0			BH 1A terminated at 3.0m. Refusal on metal fragments, old galvanised sheet metal.						No recovery
			4.0									

T50 - 50mm sampling tube

Engineering log
Borehole
EARTHTECH LABORATORIES
 Soils and Engineering Materials Testing

 Borehole No.:
 BH 2
 Sheet 1 of 1

 Client : Hollingsworth Dames & Moore
 Project : Sunrock
 Location : River Road, Redbank

 Your Ref: HQ10147
 Job No. : 1525(3)

 Date Drilled : 16.03.92 Drill Type : Gamco HP4 Bore Size : 100mm
 Logged by : [sch4] Driller : Earthtech Drilling Fluid :

 RL Surface : -
 Ch/Coords : -

Date Drilled : 20-05-2009			Driller : Earthtech			Drilling Fluid : Dry			Coring : 100%		
Logged by : [Sch4]											
Drilling			Depth (m)	1: Interpreted Profile	Graphic Log	Soil Description	Moisture Condition	Consistency	Samples/Tests		Field Records
Method	Casing	Water							Sample Type & No.	Depth (m)	
Spiral Flight Auger	None	Dry		Fill		Sandy CLAY/Clayey SAND, brown, red brown and grey, medium plasticity, fine to coarse grained sand, some ash nodules (SC-CH)	M	VSt/D		D	
			1.0			Gravelly Sandy CLAY, grey, red brown and black, medium plasticity, sand fine to coarse grained, gravel fine to coarse, ash, broken bricks, some plastic and rusting metal fragments (SC-CL)	M	H/D		T50	T50 Refusal
			2.0					t50	T50 Refusal		
			3.0	Alluvial	Silty Sandy CLAY, brown mottled light grey, medium to high plasticity, sand fine to medium grained, becoming hard with depth (SC-CH)	M	VSt/D		T50		
			4.0			BH 2 terminated at 3.1m.					

T50 - 50mm sampling tube



EARTHTECH LABORATORIES

Soils and Engineering Materials Testing

Borehole No.:
BH 3
Sheet 1 of 1

Engineering log Borehole

Client : Hollingsworth Dames & Moore

Project : Sunrock

Location : River Road, Redbank

Your Ref: HOI0147

Job No. : 1525(3)

Date Drilled : 16.03.92 Drill Type : Gemco HP4

Bore Size : 100mm

RL Surface : -

Logged by : Sch4

Driller : Earthtech

Drilling Fluid :

Ch/Coords : -

Date Drilled : 16/05/2009		Driller : Earthtech		Drilling Fluid :		Ch/Sec/No :						
Logged by : Sch4												
Method	Drilling		Depth (m)	1: Interpreted Profile	Graphic Log	Soil Description	Moisture Condition	Consistency	Rel. Density	Samples/Tests		Field Records
	Casing	Water								Sample Type & No.	Depth (m)	
Special Flight Auger	None	Dry	1.0	Alluvial		SAND, grey brown, fine to medium grained (SP)	M	L		D		T50 Refusal
					Sandy CLAY, red and orange brown, high plasticity, sand fine to medium grained (CH) sand content increasing with depth, tending (SC)	M	St-Vst		T50			
			2.0		Silty SAND, red and orange brown, fine to medium grained, low to medium plasticity fines (SM)	M	D-VI		T50			
			3.0		Clayey SAND, grey mottled orange brown, fine to medium grained, low to medium plasticity (SC)		MD-D		T50			
			4.0			BH 3 terminated at 3.1m.						

T50 - 50mm sampling tube

Engineering log
Borehole

EARTHTECH LABORATORIES

Soils and Engineering Materials Testing

Borehole No.:

BH 4

Sheet 1 of 1

Client : Hollingsworth Dames & Moore

Project : Sunrock

Location : River Road, Redbank

Your Ref: HQ10147

Job No. : 1525(3)

Date Drilled : 16.03.92 Drill Type : Gemco HP4

Bore Size : 100mm

RL Surface : -

Logged by : Sch4

Driller : Earthtech

Drilling Fluid :

Ch/Coords : -

Drilling			Depth (m)	Interpreted Profile	Graphic Log	Soil Description	Moisture Condition	Consistency	Rel. Density	Samples/Tests		Field Records
Casing	Water									Sample Type & No.	Depth (m)	
Special Flight Auger	None	Dry	1.0	Fill		Clayey SAND, dark brown, fine to coarse grained, some ash nodules to 5mm (SC)	M	L		D		
						Clayey SAND, brown, fine to medium grained, medium plasticity fines (SC)	M	MD				
						Silty SAND, black and dark brown, fine to medium grained (SM)	M	MD/D				
			2.0			from 1.8-2.5m gravelly sand, grey, fine to medium, ash, slag and glass fragments (SM)				T50		T50 Refusal
			3.0							T50		
				Alluvial		Silty Sandy CLAY, brown mottled light grey, medium to high plasticity, sand fine to medium grained, becoming hard with depth (SC-CH)				T50		
			4.0			BH 4 terminated at 3.8m.						

T50 - 50mm sampling tube

Engineering log
Borehole
EARTHTECH LABORATORIES
 Soil and Engineering Materials Testing

Borehole No.:

BH 5

Sheet 1 of 1

Client : Hollingsworth Dames & Moore

Project : Sunrock

Your Ref: HOI0147

Job No. : 1525(3)

Location : River Road, Redbank

Date Drilled : 16.03.92 Drill Type : Gemco HP4 Bore Size : 100mm

RL Surface : -

Logged by : sch4q

Driller : Earthtech

Drilling Fluid :

Ch/Coords : -

Drilling			Depth (m)	Interpreted Profile	Graphic Log	Soil Description	Moisture Condition	Consistency	Ref. Density	Samples/Tests		Field Records
Method	Casing	Water								Sample Type & No.	Depth (m)	
Sp. Flight Auger	None	Dry	1.0	Fill	Alluvial	Clayey SAND, dark brown, fine to coarse grained, some ash, nodules to 5mm (SC)	M	L		D		T50 cone damaged
						Clayey SAND, brown, fine to medium grained, medium plasticity fines (SC)	M	MD				
						Gravelly SAND, black and grey brown, fine to coarse grained, gravel ash fragments, slab, broken bricks, some low plasticity fines (SP)	M	L-MD		T50		
			2.0			Silty Sandy CLAY, grey mottled red and orange brown, medium plasticity, sand fine to medium grained (SC-CH)	M	VSt/MD		T50		T50 Refusal
			3.0			BH 5 terminated at 3.1m.						
			4.0									

T50 - 50mm sampling tube

engineering log
borehole



EARTHTECH LABORATORIES
Soils and Engineering Materials Testing

Borehole No.:
BH 6
Sheet 1 of 1

Client : Hollingsworth Dames & Moore

Project : Sunrock

Location : River Road, Redbank

Your Ref: HOI0147

Job No. : 1525(3)

Date Drilled : 16.03.92 Drill Type : Gemco HP4 Bore Size : 100mm

Logged by : sch4p Driller : Earthtech

Drilling Fluid :

RL Surface : -

Ch/Coords : -

Drilling			Depth (m)	Interpreted Profile	Graphic Log	Soil Description	Moisture Condition	Consistency	Rel. Density	Samples/Tests		Field Records
Method	Casing	Water								Sample Type & No.	Depth (m)	
Spiral Flight Auger	None	Dry	1.0	Fill		Clayey SAND, dark brown, fine to coarse grained, some ash nodules to 5mm (SC)	M	L		D		
						Clayey SAND, brown, fine to medium grained, medium plasticity fines (SC)	M	MD				
						Gravelly Clayey SAND, brown, fine to coarse grained, low to medium plasticity fines, fine rounded gravel (SC)	M	MD				
						Gravelly Silty SAND, black and dark brown, fine to coarse grained, gravel fine to medium in a matrix of broken bricks, rusting steel, electrical wire glass fragments (SM-SP)	M	MD		T50		
			2.0	Alluvial		Silty Sandy CLAY, brown mottled light grey, medium to high plasticity, sand fine to medium grained, becoming hard with depth (SC-CH)	M	VSt		T50		
			3.0			BH 6 terminated at 3.0m.				T50		
			4.0									

Engineering log
BoreholeEARTHTECH LABORATORIES
Soils and Engineering Materials Testing

Borehole No.:

BH 7

Sheet 1 of 1

Client : Hollingsworth Dames & Moore

Project : Sunrock

Location : River Road, Redbank

Your Ref: HOI0147

Job No. : 1525(3)

Date Drilled : 16.03.92 Drill Type : Gamco HP4 Bore Size : 100mm

RL Surface : -

Logged by : Sch4

Driller : Earthtech

Drilling Fluid :

Ch/Coords : -

Method	Drilling		Depth (m)	Interpreted Profile	Graphic Log	Soil Description	Moisture Condition	Consistency	Rel. Density	Samples/Tests		Field Records
	Casing	Water								Sample Type & No.	Depth (m)	
Special Flight Auger	None	Dry	1.0	Fill		Clayey SAND, brown, fine to medium grained (SC)	M	MD		D		
						Sandy CLAY, dark brown - black, medium to high plasticity, sand fine to medium grained (CH)	M	St-VSt		T50		T50 Refusal
			2.0	Alluvial		Silty Sandy CLAY, brown mottled light grey, medium to high plasticity, sand fine to medium grained, becoming hard with depth (SC-CH)	M	VSt/D		T50		T50 Refusal
						BH-7 terminated at 3.0m.				D		
			4.0									

T50 - 50mm sampling tube

Engineering log
Borehole
EARTHTECH LABORATORIES
 Soils and Engineering Materials Testing

 Borehole No.:
 BH 8
 Sheet 1 of 1

Client : Hollingsworth Dames & Moore

Project : Sunrock

Your Ref: H010147

Job No. : 1525(3)

Location : River Road, Redbank

Date Drilled : 16.03.92 Drill Type : Gemco HP4 Bore Size : 100mm

RL Surface : -

Logged by : sch4r Driller : Earthtech

Drilling Fluid :

Ch/Coords : -

Method	Drilling		Depth (m)	1:	Interpreted Profile	Graphic Log	Soil Description	Moisture Condition	Consistency	Rel. Density	Samples/Tests		Field Records
	Casing	Water									Sample Type & No.	Depth (m)	
Spillight Auger	None	Dry	1.0		Fill		Clayey SAND, dark brown, fine to coarse grained, some ash nodules to 5mm (SC)	M	L		D		
							Clayey SAND, brown, fine to medium grained, medium plasticity fines (SC)	M	MD				
							Gravelly Silty SAND, black and dark brown, fine to coarse grained, fines of low plasticity, gravel fine to coarse, some ash slab plastic fragments (SM)	M	L-MD		T50		
											T50		
Spillight Auger	None	Dry	2.0		Alluvial								
Spillight Auger	None	Dry	3.0				Silty Sandy CLAY, brown mottled light grey, medium to high plasticity, sand fine to medium grained, becoming hard with depth (SC)				T50		T50 Refusal
							BH 8 terminated at 3.0m.						
Spillight Auger	None	Dry	4.0										

Engineering log
Borehole
EARTHTECH LABORATORIES
 Soils and Engineering Materials Testing

Borehole No.:

BH 9

Sheet 1 of 1

Client : Hollingsworth Dames & Moore

Project : Sunrock

Location : River Road, Redbank

Your Ref: HOI0147

Job No. : 1525(3)

Date Drilled : 16.03.92 Drill Type : Gemco HP4 Bore Size : 100mm

RL Surface : -

Logged by : Sch4 Driller : Earthtech

Drilling Fluid :

Ch/Coords : -

Drilling			Depth (m)	Interpreted Profile	Graphic Log	Soil Description	Moisture Condition	Consistency	Rel. Density	Samples/Tests		Field Records
Method	Casing	Water								Sample Type & No.	Depth (m)	
S al Fl ght Aug er	None	Dry	1.0	Fill		Clayey SAND, dark brown, fine to coarse grained, some ash, nodules to 5mm (SC)	M	L		D		
						Silty Sandy CLAY, grey brown mottled orange brown, medium to high plasticity (SC-CH)	M	St				
						Silty Sandy CLAY, brown mottled light grey, medium to high plasticity, sand fine to medium grained, becoming hard with depth (SC-CH)	M	VSt/D		T50		
						Silty Clayey SAND, brown, fine to medium grained, medium plasticity fines (SC)	M	VD		T50		
S al Fl ght Aug er	None	Dry	2.0	Alluvial								T50 Refusal
			3.0			BH 9 terminated at 3.0m				D		T50 Refusal no recovery
S al Fl ght Aug er	None	Dry	4.0									

T50 - 50mm sampling tube

Engineering log
Borehole
EARTHTECH LABORATORIES
 Soils and Engineering Materials Testing

 Borehole No.:
 BH 10
 Sheet 1 of 1

Client : Hollingsworth Dames & Moore

Project : Sunrock

Your Ref: HOI0147

Location : River Road, Redbank

Job No. : 1525(3)

Date Drilled : 16.03.92 Drill Type : Gemco HP4 Bore Size : 100mm

RL Surface : -

Logged by : sch4p Driller : Earthtech

Drilling Fluid :

Ch/Coords : -

Drilling			Depth (m)	Interpreted Profile	Graphic Log	Soil Description	Moisture Condition	Consistency	Rel. Density	Samples/Tests		Field Records
Method	Casing	Water								Sample Type & No.	Depth (m)	
Hand Flight Auger	None	Dry	1.0	Alluvial		Gravelly SAND, grey and brown, fine to medium grained, gravel fine to medium rounded ironstone (SP)	M	L		D		T50 Refusal
						Sandy CLAY, red and orange brown, high plasticity, sand fine to medium grained (CH) sand content increasing with depth, tending SC with depth	M	St-VSt		T50		
			2.0			Clayey SAND, grey mottled orange brown, fine to medium grained, low to medium plasticity fines (SC)		D-VD		T50		
			3.0							T50		
			4.0			BH 10 terminated at 3.1m.						

T50 - 50mm sampling tube

Australian Laboratory Services Pty. Ltd. BRISBANE LAB

Phone (07) 352 5577

Fax (07) 352 5109

Client: Hollingsworth Dames & Moore
 Address: P.O. Box 251
 Spring Hill, Qld 4004

1 of 2

Batch Number: EN2299

Contact: sch4p4(6) Personal information

Order No: 1655 J:HQ10147

Sample Type: SOIL

No. of Samples: 17

Date Received: 21/04/92

Date Completed: 23/04/92

			Moisture %	As mg/kg EG-0055	Cd mg/kg EG-005T	Cr mg/kg EG-005T	Cu mg/kg EG-005T
- 01	1-S	21/04/92	10.3	<0.5	<0.5	23.0	8.0 ✓
- 02	1-1	21/04/92	9.1	0.5	<0.5	16.0	10.0 ✓
- 03	1-2 X	21/04/92	9.2	7.0	6.5 6.5	61.0 61.0	45.0 45.0 X
- 04	4-5	21/04/92	20.9	2.5	<0.5	12.5	15.0 ✓
- 05	4-1	21/04/92	9.0	2.0	<0.5	25.5	58.0 ✓
- 06	4-2 X	21/04/92	13.1	7.5	10.0 10.0	80.0 80.0	44.0 44.0
- 07	4-3 X	21/04/92	12.5	4.0	4.0 4.0	40.0	30.0 30.0
- 08	4-4	21/04/92	12.4	0.5	<0.5	27.0	7.0
- 09	5-S	21/04/92	7.3	1.5	<0.5	14.5	14.0)
- 10	5-1	21/04/92	11.1	5.0	<0.5	46.5	49.5
- 11	5-2	21/04/92	11.5	1.0	<0.5	24.0	6.0
- 12	5-3	21/04/92	14.0	0.5	<0.5	33.5	8.0
- 13	6-S	21/04/92	13.7	1.5	<0.5	16.0	28.0
- 14	6-1 X	21/04/92	9.9	15.0	10.5 10.5	91.0 91.0	90.0 90.0
- 15	6-2	21/04/92	11.5	1.0	<0.5	22.5	16.0
- 16	6-3	21/04/92	13.1	<0.5	<0.5	31.1	21.0
- 17	A	21/04/92	12.8	0.5	<0.5	34.5	13.5

0.1

0.5

0.5

0.5

0.5

Samples as received digested by USEPA method 3050 prior to the determination of metals. Results reported on an as received basis.

sch4p4(6) Personal information

Challian Laboratory Services Pty. Ltd. BRISBANE LAB

Phone (07) 352 5577 Fax (07) 352 5107

2 of 2

Client: Hollingsworth Dames & Moore
Address: P.O. Box 251
Spring Hill, Qld 4004

Batch Number: EN2299

Contact: sch4p4(6) Personal information

No. of Samples: 17

Date Received: 21/04/92

Date Completed: 23/04/92

Order No: 1655 J:FO10147

Sample Type: SOIL

			K Ni mg/kg EG-005T	Pb mg/kg EG-005T	Cd mg/kg EG-005T
- 01	1-5	21/04/92	13.5	8.0	30.0 ✓
- 02	1-1	21/04/92	8.5	13.0	42.0 ✓
- 03	1-2	21/04/92	46.0	129	173 * 1730
- 04	4-5	21/04/92	7.5	12.5	64.5 ✓
- 05	4-1	21/04/92	22.0	15.5	314 * 314
- 06	4-2	21/04/92	124 124	254	2890 * 2890
- 07	4-3	21/04/92	34.0	66.5	987 * 987
- 08	4-4	21/04/92	11.0	9.0	18.5 ✓
- 09	5-5	21/04/92	6.0	30.5	77.0 ✓
- 10	5-1	21/04/92	10.5	64.5	113 ✓
- 11	5-2	21/04/92	13.0	7.0	86.0 ✓
- 12	5-3	21/04/92	13.9	10.0	40.5 ✓
- 13	6-5	21/04/92	9.0	22.5	86.0 ✓
- 14	6-1	21/04/92	116 116	220	2670 * 2670
- 15	6-2	21/04/92	12.0	8.5	39.0 ✓
- 16	6-3	21/04/92	14.0	9.5	60.5 ✓
- 17	A	21/04/92	12.5	10.5	43.0 ✓

0.5

0.5

0.5

Samples as received digested by USEPA method 3050 prior to the determination of metals. Results reported on an as received basis.

sch4p4(6) Personal information

Australian Laboratory Services Pty. Ltd. BRISBANE LAB
 Phone (07) 352 5577 Fax (07) 352 5109
 1 of 2

Client: Hollingsworth Dames & Moore
 Address: P.O. Box 251
 Spring Hill, Qld 4004

Batch Number: EN2322-0

Contact: sch4p4(6) Personal information
 Order No: 1669 J: HD10147
 Sample Type: SOIL

No. of Samples: 7
 Date Received: 23/04/92
 Date Completed: 27/04/92

			Moisture %	Cd mg/kg EG-005T	Cr mg/kg EG-005T	Cu mg/kg EG-005T	Ni mg/kg EG-005T
			EA-055				
- 1	2-1	23/04/92	10.9	3.0	51.5	230	32.5
- 2	2-2	23/04/92	9.3	4.0	135	223	67.5
- 3	8-1	23/04/92	15.6	8.0	52.5	902	98.0
- 4	8-2	23/02/92	14.1	10.0	53.0	407	52.5
- 5	7-2	23/04/92	11.3	40.5	21.0	12.5	6.5
- 6	4-2	23/04/92	13.1	9.0	60.5	606	80.5
- 7	4-3	23/04/92	12.2	6.0	46.0	380	42.5

0.1

0.5

0.5

0.5

0.5

Samples as received digested by USEPA method 3050 prior to the determination of metals. Results reported on an as received basis.

sch4p4(6) Personal information

an Laboratory Services Pty. Ltd. BRISBANE LAB
Hollingsworth Dames & Moore
P.O. Box 251
Spring Hill, Qld 4004
Phone (07) 352 5577 Fax (07) 352 5109
2 of 2

Contact: sch4p4(6) Personal information
Order No: 1669 J: HOI0147
Sample Type: SOIL

Batch Number: EN2322-0

No. of Samples: 7
Date Received: 23/04/92
Date Completed: 27/04/92

Zn
mg/kg
EG-005T

1	2-1	23/04/92	1190
2	2-2	23/04/92	1010
3	8-1	23/04/92	1340
4	8-2	23/02/92	1060
5	9-2	23/04/92	26.0
6	4-2	23/04/92	2040
7	4-3	23/04/92	1520

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0.5

Samples as received digested by USEPA method 3050 prior to the determination of metals. Results reported on an as received basis.

sch4p4(6) Personal information

Hollingsworth Dames & Moore
sch4p4(6) Personal information

Page 1 of 1.
ENVIRONMENTAL

PRELIMINARY RESULTS REPORT

Client O/N: 1699 J: HO10147
Fax Nos: 07 832 1687

Batch-no : EN2322-1
No. Samples : 4
Received : 23/04/92
Sample Type : SOIL

Method	Analysis description	Units	Det.	2-1	9-2
				23/04/92 LAB 1	23/04/92 LAB 5
EG-005C	Cadmium - TCLP	mg/L	0.01	0.05	<0.01
EG-005C	Chromium - TCLP	mg/L	0.01	0.03	<0.01
EG-005C	Copper - TCLP	mg/L	0.01	0.59	0.05
EG-005C	Nickel - TCLP	mg/L	0.01	0.19	<0.01
EG-005C	Zinc - TCLP	mg/L	0.01	19.3	0.65

The concentrations reported are those determined on the TCLP leachate.

A.L.S. BRISBANE LAB

Date Completed : 27/04/92

Signature

sch4p4(6) Personal information



CHEM UNIT

CHEMICAL HAZARDS AND EMERGENCY MANAGEMENT UNIT
A Division of the Bureau of Emergency Services

Telephone: (07) 227 4144
Facsimile: (07) 227 4466

G.P.O. BOX 1425,
BRISBANE, QLD 4001

SITE CONTAMINATION REPORT

REPORT NUMBER 144-0012

Date of Issue - 29th April 1992

1.0 APPLICANT:

Name: Sunrock Wool Pty Ltd

Address: C/- Hollingsworth Dames and Moore
135 Wickham Terrace
Brisbane Qld 4000

2.0 PROPERTY IDENTIFICATION

2.1 Address: 17 River Road
Redbank

2.2 Real Property Description: Lot 1 on RP 77197

2.3 Current Zoning: Future Industry

2.4 Proposed Zoning: Future Industry

3.0 LOCAL AUTHORITY

Name: Ipswich City Council

4.0 DATE FINAL SUBMISSION RECEIVED BY CHEM UNIT:
27th April 1992

5.0 STUDIES UNDERTAKEN BY APPLICANT OR REQUESTED BY DIRECTOR

"Preliminary Site Investigation (Stage 1) of Land at 17 River Road, Redbank"
Report No. 24262-001-362, March 1992
and letter report "Further Investigation of Contaminated Area in Lot 2, RP
221176 of Site at Sunrock Wool, Redbank"

27 April 1992

by

Hollingsworth Dames and Moore
135 Wickham Terrace
Brisbane Qld 4000

6.0 STATUS ON REGISTER OF CONTAMINATED SITES

Status: Restricted

File No.: SI-109

7.0 STATEMENT OF SUITABILITY

On the basis of information supplied to the CHEM Unit, the subject property
is suitable for industrial use.

sch4p4(6) Personal information

MICHAEL KINNANE
Director
CHEM Unit



CHEM UNIT

CHEMICAL HAZARDS AND EMERGENCY MANAGEMENT UNIT
A Division of the Bureau of Emergency Services

Telephone: (07) 227 4144
Facsimile: (07) 227 4466

G.P.O. BOX 1425,
BRISBANE, QLD 4001

RC:SS

29 April 1992

Hollingsworth Dames and Moore
PO Box 251
SPRING HILL QLD 4000

Attention: sch4p4(6) Personal information

Dear Sir,

RE: **Site Contamination Report**
Sunrock Property
17 River Road, Redbank.

Please find attached Site Contamination Reports indicating that the property is suitable for industrial use.

In classifying the properties, the site has been considered as a whole. The "Restricted" status arises from the presence of a small area of subsurface contamination between the effluent lagoons and the river on Lot 2 on RP 221176 and of refuse disposal pits on Lot 1 on RP 77197. Reclassification of the four smaller land parcels might be possible, subject to further investigation of the individual parcels, especially with regard to the refuse disposal pits.

Yours sincerely,

sch4p4(6) Personal information

MICHAEL KINNANE
Director



CHEM UNIT

CHEMICAL HAZARDS AND EMERGENCY MANAGEMENT UNIT
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G.P.O. BOX 1425,
BRISBANE, QLD 4001

SITE CONTAMINATION REPORT

REPORT NUMBER 144-0011

Date of Issue - 29th April 1992

1.0 APPLICANT:

Name: Sunrock Wool Pty Ltd

Address: C/- Hollingsworth Dames and Moore
135 Wickham Terrace
Brisbane Qld 4000

2.0 PROPERTY IDENTIFICATION

2.1 Address: 17 River Road
Redbank

2.2 Real Property Description: Lot 2 on RP 221176

2.3 Current Zoning: Future Industry

2.4 Proposed Zoning: Future Industry

3.0 LOCAL AUTHORITY

Name: Ipswich City Council

4.0 DATE FINAL SUBMISSION RECEIVED BY CHEM UNIT:
27th April 1992

5.0 STUDIES UNDERTAKEN BY APPLICANT OR REQUESTED BY DIRECTOR

"Preliminary Site Investigation (Stage 1) of Land at 17 River Road, Redbank"
Report No. 24262-001-362, March 1992
and letter report "Further Investigation of Contaminated Area in Lot 2, RP
221176 of Site at Sunrock Wool, Redbank"
27 April 1992

by
Hollingsworth Dames and Moore
135 Wickham Terrace
Brisbane Qld 4000

6.0 STATUS ON REGISTER OF CONTAMINATED SITES

Status: Restricted

File No.: SI-109

7.0 STATEMENT OF SUITABILITY

On the basis of information supplied to the CHEM Unit, the subject property is suitable for industrial use.

The contaminated area between the effluent lagoons and the river (identified in the above reports) should not be excavated without reference to the CHEM Unit.

sch4p4(6) Personal information

MICHAEL KINNANE
Director
CHEM Unit



CHEM UNIT

CHEMICAL HAZARDS AND EMERGENCY MANAGEMENT UNIT
A Division of the Bureau of Emergency Services

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G.P.O. BOX 1425,
BRISBANE, QLD 4001

SITE CONTAMINATION REPORT

REPORT NUMBER 144-0013

Date of Issue - 29th April 1992

1.0 APPLICANT:

Name: Sunrock Wool Pty Ltd

Address: C/- Hollingsworth Dames and Moore
135 Wickham Terrace
Brisbane Qld 4000

2.0 PROPERTY IDENTIFICATION

2.1 Address: 17 River Road
Redbank

2.2 Real Property Description: Lot 1 on RP 49631

2.3 Current Zoning: General Industry

2.4 Proposed Zoning: General Industry

3.0 LOCAL AUTHORITY

Name: Ipswich City Council

4.0 DATE FINAL SUBMISSION RECEIVED BY CHEM UNIT:
27th April 1992

5.0 STUDIES UNDERTAKEN BY APPLICANT OR REQUESTED BY DIRECTOR

"Preliminary Site Investigation (Stage 1) of Land at 17 River Road, Redbank"
Report No. 24262-001-362, March 1992
and letter report "Further Investigation of Contaminated Area in Lot 2, RP
221176 of Site at Sunrock Wool, Redbank"
27 April 1992

by
Hollingsworth Dames and Moore
135 Wickham Terrace
Brisbane Qld 4000

6.0 STATUS ON REGISTER OF CONTAMINATED SITES

Status: Restricted

File No.: SI-109

7.0 STATEMENT OF SUITABILITY

On the basis of information supplied to the CHEM Unit, the subject property
is suitable for industrial use.

Sch4p4(6) Personal information

MICHAEL KINNANE
Director
CHEM Unit



CHEM UNIT

CHEMICAL HAZARDS AND EMERGENCY MANAGEMENT UNIT
A Division of the Bureau of Emergency Services

Telephone: (07) 227 4144
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G.P.O. BOX 1425,
BRISBANE, QLD 4001

SITE CONTAMINATION REPORT

REPORT NUMBER 144-0014

Date of Issue - 29th April 1992

1.0 APPLICANT:

Name: Sunrock Wool Pty Ltd

Address: C/- Hollingsworth Dames and Moore
135 Wickham Terrace
Brisbane Qld 4000

2.0 PROPERTY IDENTIFICATION

2.1 Address: 17 River Road
Redbank

2.2 Real Property Description: Lot 1 on RP 22263

2.3 Current Zoning: General Industry

2.4 Proposed Zoning: General Industry

3.0 LOCAL AUTHORITY

Name: Ipswich City Council

4.0 DATE FINAL SUBMISSION RECEIVED BY CHEM UNIT:
27th April 1992

5.0 STUDIES UNDERTAKEN BY APPLICANT OR REQUESTED BY DIRECTOR

"Preliminary Site Investigation (Stage 1) of Land at 17 River Road, Redbank"
Report No. 24262-001-362, March 1992
and letter report "Further Investigation of Contaminated Area in Lot 2, RP
221176 of Site at Sunrock Wool, Redbank"
27 April 1992

by
Hollingsworth Dames and Moore
135 Wickham Terrace
Brisbane Qld 4000

6.0 STATUS ON REGISTER OF CONTAMINATED SITES

Status: Restricted

File No.: SI-109

7.0 STATEMENT OF SUITABILITY

On the basis of information supplied to the CHEM Unit, the subject property
is suitable for industrial use.

Sch4p4(6) Personal information

MICHAEL KINNANE
Director
CHEM Unit



CHEM UNIT

CHEMICAL HAZARDS AND EMERGENCY MANAGEMENT UNIT
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G.P.O. BOX 1425,
BRISBANE, QLD 4001

SITE CONTAMINATION REPORT

REPORT NUMBER 144-0015

Date of Issue - 29th April 1992

1.0 APPLICANT:

Name: Sunrock Wool Pty Ltd

Address: C/- Hollingsworth Dames and Moore
135 Wickham Terrace
Brisbane Qld 4000

2.0 PROPERTY IDENTIFICATION

2.1 Address: 17 River Road
Redbank

2.2 Real Property Description: Lot 3 on RP 77026

2.3 Current Zoning: General Industry

2.4 Proposed Zoning: General Industry

3.0 LOCAL AUTHORITY

Name: Ipswich City Council

4.0 DATE FINAL SUBMISSION RECEIVED BY CHEM UNIT:
27th April 1992

5.0 STUDIES UNDERTAKEN BY APPLICANT OR REQUESTED BY DIRECTOR

"Preliminary Site Investigation (Stage 1) of Land at 17 River Road, Redbank"
Report No. 24262-001-362, March 1992
and letter report "Further Investigation of Contaminated Area in Lot 2, RP
221176 of Site at Sunrock Wool, Redbank"
27 April 1992

by
Hollingsworth Dames and Moore
135 Wickham Terrace
Brisbane Qld 4000

6.0 STATUS ON REGISTER OF CONTAMINATED SITES

Status: Restricted

File No.: SI-109

7.0 STATEMENT OF SUITABILITY

On the basis of information supplied to the CHEM Unit, the subject property
is suitable for industrial use.

sch4p4(6) Personal information

MICHAEL KINNANE
Director
CHEM Unit