

## I336 Sylvia Park Precinct Appendix



**Tonkin & Taylor**

ENVIRONMENTAL AND ENGINEERING CONSULTANTS

# REPORT

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SINCLAIR KNIGHT MERTZ

Sylvia Park Business Centre, Mt  
Wellington  
Geotechnical Completion Report  
for Earthworks

**Report prepared for:**  
SINCLAIR KNIGHT MERTZ

**Report prepared by:**  
TONKIN & TAYLOR LTD

**Distribution:**  
SYLVIA PARK BUSINESS CENTRE LTD  
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**May 2006**

**Job no: 21432.100**

## Table of contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
	1.1 Description of site	1
<b>2</b>	<b>Related reports</b>	<b>2</b>
<b>3</b>	<b>Earthworks operations</b>	<b>3</b>
	3.1 Plant	3
	3.2 Earthworks sequence / programme	3
<b>4</b>	<b>Compaction</b>	<b>5</b>
	4.1 Control criteria	5
<b>5</b>	<b>Project evaluation / building design considerations</b>	<b>6</b>
	5.1 Bearing capacity for building foundations	6
	5.2 Slope stability	6
	5.3 Retaining walls	6
	5.4 Settlement	6
	5.5 Drainage	6
	5.6 Stormwater controls	7
	5.7 Road and paved area subgrades	7
<b>6</b>	<b>Statement of Professional Opinion as to the suitability of land for building development</b>	<b>8</b>
<b>7</b>	<b>Applicability</b>	<b>10</b>

Appendix A: Drawings

Appendix B: Test results



## Executive summary

Tonkin & Taylor Ltd were engaged by Sinclair Knight Mertz Ltd on behalf of their client Sylvia Park Business Centre Ltd to monitor and provide earthworks certification for the commercial development at the Sylvia Park Business Centre, Mt Wellington Highway, Mt Wellington, Auckland.

This report contains information required for Completion Reporting, as well as outlining design issues that need to be considered for subsequent building design and construction.

Previous geotechnical investigation work was undertaken by several consultants and most recently by Tonkin & Taylor Ltd in November 2004, our Ref 21432. Multiplex are the managing Contractor for the enabling and building works. Civil / survey design was undertaken by Sinclair Knight Mertz and structural design by Murray Jacobs Ltd, Buller George Ltd, Stiffe Hooker Ltd and Holmes Consulting Ltd.

Current works commenced on the site in November 2004 with the majority of cut and fill completed by April 2005. Ground improvement works consisted of demolition of a number of one storey buildings, cut and fill earthworks and the placing of pavement materials.

The Business Centre site is considered to have building platform areas suitable for commercial and retail development in accordance with this report.



## **1 Introduction**

Tonkin & Taylor Ltd (T&T) were engaged by Sinclair Knight Mertz (SKM) for their client Sylvia Park Business Centre Ltd (SPBL) to undertake earthworks compaction control and provide geotechnical earthworks certification for the Sylvia Park Business Centre, Mt Wellington Highway, Mt Wellington.

Sylvia Park Business Centre is a multipurpose shopping centre proposed to contain reinforced concrete buildings consisting of shopping malls, supermarkets and entertainment venues with at grade and underground carparks.

Our proposal letter dated 29 October 2004 sets out our conditions of engagement and scope of works. Confirmation was received in a Letter of Engagement, dated 2 November 2004. The scope of work covered by this report includes:

- i. review of geotechnical investigation reporting for the site prepared in August 2004 by T&T along with review of aerial photographs and our geotechnical database for the area,
- ii. observation, inspection and testing for the earthworks,
- iii. additional post earthworks investigation of some areas of ground to determine foundation design conditions for piled foundations, and
- iv. certification for commercial development are in terms of this report.

Tonkin & Taylor Ltd has also undertaken observation of foundations for the project.

### **1.1 Description of site**

This report is applicable to the Sylvia Park Business and Shopping Centre.

The Sylvia Park Business Centre covers over 20Ha and is bounded by Mt Wellington Highway to the west, residential properties on Lynton Road to the north, North Island Trunk Railway to the east and State Highway 1 to the south. An access road links to Carbine Road to the east.

Stage 1 of the development is located in the southern half of the site while Stage 2 is north of the south eastern Highway which runs through the centre of the site.

It involves the development of 1 commercial building with associated roads and underground services.

As can be seen on the Earthworks As-Built plan (SKM AN00667-OA-CB-230, SK-247 and 248 attached in Appendix A), all of this stage has been affected by earthworks. The depth of cut was generally less than 1 m (apart from the underground carpark, services excavations and excavation of the toe of the Mt Wellington Interchange on-ramp) and the maximum depth of fill was approximately 1.5 m.

The footprints of the buildings occupy a strip running north south across the site while carparking covers the rest. The current level is essentially flat with only minor variation for the drainage and for the roading, carparking and landscaping as shown on the SKM As-Built drawings in Appendix A.

## 2 Related reports

Previous geotechnical investigation reporting has been carried out for the site by Tonkin & Taylor Ltd in August 2004, ref 21432.

Other relevant investigation reports include:

Stormwater Trench Retention Investigations	18 April 2005
Proof Drilling of Foundations, Stage 1	3 May 2005
Rail Over Bridge Pile Length Drilling Investigations	27 May 2005
Foodtown Pile Capacity Investigations	27 June 2005
Northern Precinct Supplementary Investigations	4 July 2005

The T&T geotechnical investigation report outlines development recommendations including subsurface drainage, compaction criteria, roading and services installation and building foundation criteria. These have been incorporated into the bulk earthworks specifications prepared by SKM.

Minor previous earthworks were undertaken as part of a previous development during the 1940's (World War 2) for the US Armed Forces. Some underground services were installed during and after this development.

A general specification for the earthworks as included in the geotechnical report, and provided initial guidelines for the control of the earthworks.

A series of building specific investigation boreholes have been carried out as part of detailed design of the buildings, as well as some proof drilling during construction. These have been reported in a series of letter reports.

The recommendations contained in the above reports have been incorporated into our control of the works and, where applicable, incorporated into this completion reporting for this Stage. In particular, T&T handauger borelogs and proof drilling have been used to help set foundation design criteria.

## **3 Earthworks operations**

### **3.1 Plant**

Earthworks (Bulk / final) were contracted to Ross Reid Contractors Ltd for all / the majority of earthworks on all stages. The main items of plant used were a tractor drawn scraper, several excavators and one self propelled compactor. This plant generally carried out all construction works, roading and earthworks. Specialist roading plant was brought on site for pavement construction.

### **3.2 Earthworks sequence / programme**

Earthworks operations for the site commenced in November 2004. They consisted of the removal of old pavements, organic material stockpiles of fill and the rubble from demolition of numerous one storey light weight timber framed buildings. The concrete slabs forming the foundations and floors were removed to stockpile for crushing and reuse on site.

Initial operations were to remove soft / weak / disturbed material generally from below the foundations slabs. These areas were backfilled to the original level and the site tested. Initially trafficking by the plant was determined to be causing excessive remoulding of the materials and operations were modified to limit this effect. The strength of the existing ground required some undercutting and backfilling with improved material, approximately 50% of the area. The site was then filled with 0.3 m to 1.2 m material generally to the level of the underside of the floor slab. To aid construction, a temporary coating of seal was applied. The fill consisted principally of material cut from the eastern side of the site but some imported material was required during the later stages of the works. At May 2005, the majority of the earthworks operations for the overall site was complete.

Installation of services and drainage as shown on the current As-Built drawings took place in conjunction with the earthworks operations. Roading and parking for Stage 2A was also largely completed.

The maximum depth of fill was 1.2 m and the maximum depth of cut was 3.0 m as shown on the earthwork drawings in Appendix A.

The approximate volume of earthworks to July 2005 is 59,000 cubic metres cut and 38,000 m<sup>3</sup> fill principally using material from on site.

The compaction requirements for engineered fill material has been recommended as follows:

- i Cohesive material such as bulk fill:
  - a Average vane strength over 10 consecutive readings shall not be less than 125 kPa with no individual reading less than 110 kPa
  - b The air voids shall not exceed 10%.
- ii Cohesion material within 500 mm of finished subgrade under pavements or buildings:
  - a Average vane strength over 10 consecutive readings shall not be less than 150 kPa with no individual reading less than 130 kPa
  - b The air voids shall not exceed 8%.



- iii Cohesionless material such as hard fill shall be placed in uniform layers not greater than 150 mm loose thickness.

Compaction on each layer of fill materials so placed shall be sufficient to obtain the following standards:

- a The in-situ dry density shall be not less than 75% of the maximum relative density, as determined by Test 4.2, NZS 4402
- b The number of blows to drive the Scala penetrometer from a depth of 50 to 200 mm below the fill surface shall be not less than 11.

## **4 Compaction**

### **4.1 Control criteria**

The majority of the bulk earthworks was cut to fill from within the site. However, there was also a range of other materials including crushed concrete for hardfill as well as imported granular fill.

Road and paved area design was provided by SKM with geotechnical testing during construction provided by others under their instruction. Review and acceptance of the results were provided by SKM. The criteria for acceptance was based on recommendations provided by T&T in their specification Ref No. 21432.100 dated 11 August 2004, copy attached in Appendix C.

The main method used for the clay and silt type fill materials was the maximum allowable air voids and minimum allowable shear strength method.

Insitu density, strength and water content tests were carried out on the filling at or in excess of the frequency recommended by NZS 4431:1989. Testing results are contained in Appendix C.

After some initial issues associated with excessive working of the material, control tests showed that the results were consistently meeting the required shear strength and air void criteria, demonstrating that the water content of placed fill was consistently at or close to optimum. To the best of our knowledge, any problems encountered were rectified by close monitoring of the selection of borrow materials, discing and remixing of the available soil types and minor reworking where required.

## **5 Project evaluation / building design considerations**

### **5.1 Bearing capacity for building foundations**

A combination of shallow footings and piled foundations have been utilised for the new development. All filled and natural ground within the influence of the shallow and pad type foundations as shown on the drawings in Appendix A generally has a geotechnical ultimate bearing capacity of 300 kPa. This corresponds to a factored (ultimate limit state) bearing capacity of 150 kPa and working bearing capacity of 100 kPa. For deeper foundations site specific reports have been prepared.

Where a working bearing capacity greater than 100 kPa was required, further specific site investigation and design of foundations have been undertaken.

Limits for distributed floor loadings have been provided. These are generally 15 kPa but for The Warehouse are increased to 20 kPa.

It is concluded that settlements associated with the fill placement would have been largely completed prior to application of building loads. This is based on results of the preload tests report of August 2004.

### **5.2 Slope stability**

The site is generally flat as shown on the As-Built drawings in Appendix A. Local retention works were constructed adjacent to the boundary of the Mt Wellington Interchange on-ramp. Slope stability is not considered an issue for the permanent works.

### **5.3 Retaining walls**

A timber pole retaining wall has been constructed along the base of a cut batter that forms the on-ramp for the Mt Wellington Interchange in the south western sector of the site. T&T provided design review and construction observation of the work.

During construction some slumping of the excavated face occurred but the ground was remediated and the earthworks associated with the final retention works are considered to have been completed in accordance with design. In particular, the soils identified during investigation and the parameters utilised for design are considered to be applicable.

### **5.4 Settlement**

Settlements have been assessed from analyses using assessed parameters for the soil types as well as from results obtained from the pre-loading trials.

Based on this information we consider that settlement of shallow footings of structures designed in accordance with the recommendations in the reports reference previously, should be within normally accepted design tolerances.

### **5.5 Drainage**

Groundwater drainage was installed in the Pak N Save basement carpark. This consisted of 150 mm diameter perforated pipe (Novaflo) within a geotextile sleeve installed within a series of trenches with a graded granular drainage layer below the proposed floor slab

level as shown on As-Built drawings in Appendix A. They have outlets to the sump in the proposed adjacent Stage 2B (Basement Carpark). These drains are not expected to require maintenance during the design life of the structure.

## **5.6 Stormwater controls**

Stormwater disposal systems have been designed and constructed by others. These systems serve to collect all runoffs from roofs, decks and paved areas, together with discharges from retaining wall drains and other subsoil drains and should connect into the public stormwater drainage network.

## **5.7 Road and paved area subgrades**

Road and paved area design was provided by SKM with geotechnical testing during construction provided by T&T and others under SKM instruction. Review and acceptance of the results were provided by SKM. The recommended criteria for acceptance for subgrades was provided by T&T in their letter Ref No. 21432.100 dated 11 August 2004, from which the criteria are included in Section 4.1 and have been incorporated into SKM's specifications.

Prior to placing sub-base or basecourse material, the formation was tested as described in section 4.

We are advised by SKM that the final basecourse tests undertaken by others were satisfactory. This will be certified separately by SKM.

## 6 Statement of Professional Opinion as to the suitability of land for building development

1, Mr P J Millar of Tonkin & Taylor Ltd, P O Box 5271, Wellesley St, Auckland, hereby confirm that:

- 6.1 I am a Chartered Professional Engineer experienced in the field of geotechnical engineering and was retained by Sylvia Park Business Centre Limited as the Geotechnical Engineer on the Sylvia Park Business Centre, Mt Wellington Highway, Mt Wellington. Inspection and observation of the works have been carried out during construction by either myself or staff acting under my direction.
- 6.2 The extent of investigations are described in the Tonkin & Taylor Ltd report, Ref No. 21432 dated August 2004 and other referenced reports. The conclusions and recommendations of these documents have been re-evaluated in the preparation of this report. Details of earthworks control tests performed are enclosed.
- 6.3 The Contractor confirms that the work undertaken has been completed in accordance with the drawings, specifications and any variations issued and is consistent with the inspections and observations carried out by Tonkin & Taylor Ltd. A completion Certificate - Construction is to be provided by the Contractor.
- 6.4 On the basis of our observations and inspections, together with the information supplied by others, including the Contractor's Completion Certificate, it is my professional opinion, not to be construed as a guarantee that:
- 6.4.1 The fills shown on the attached SKM drawing No. AN00667-OA SK247 have been generally placed in compliance with NZS 4431:1989.
- 6.4.2 The completed earthworks give due regard to land slope and foundation stability considerations.
- 6.5 Foundations
- 6.5.1 Foundation design
- The filled and natural ground within site boundaries is considered generally suitable for the erection thereon of commercial and retail buildings.
- 6.5.2 Bearing capacity
- Shallow footings
- Foundation design for all building in this Stage should limit geotechnical ultimate bearing capacity to 300 kPa (factored capacity ULS) 150 kPa, working 100 kPa).
- 6.5.3 Pile foundations
- Pile foundations have been utilised for some structures where high concentrated loadings are applied. These have all been subject to specific reporting and separate certification for the foundations.
- 6.5.4 Retaining walls
- Retaining walls have been constructed on the south western perimeter of the site. Tonkin & Taylor Ltd undertook observation of the ground conditions encountered



and installation of the piles. We confirm the soil conditions are consistent with soils exhibiting the parameters recommended by Tonkin & Taylor Ltd and retention works designed in accordance with these parameters should provide adequate performance.

#### 6.5.5 Unexpected ground conditions

Our assessment is based on interpolation between borehole positions, site observations and periodic earthworks control visits. Local variations in ground conditions may occur. Although highly unlikely, unfavourable ground conditions may be encountered during excavation for foundations or site benching. It is important that we be contacted in this eventuality, or in the event that any variation in subsoil conditions from those described in the report are found. Design assistance is available as required to accommodate any unforeseen ground conditions present.



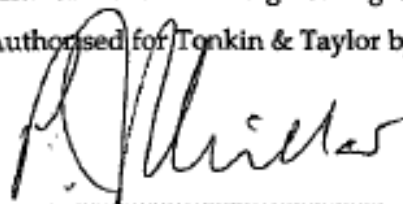
## 7 Applicability

The professional opinion contained within this report is furnished to Sylvia Park Business Centre Ltd, Multiplex Ltd, Sinclair Knight Mertz Ltd and the Auckland City Council with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

TONKIN & TAYLOR LTD

Environmental and Engineering Consultants

Authorised for Tonkin & Taylor by:



P J Millar

Project Co-ordinator

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## **Appendix A: Drawings**

### **SKM Drawings**

- AN00667 - OA-SK-247 Rev A Bulk Earthworks, Cut and Fill Depths**
- OA-SK-248 Rev A Bulk Earthworks Existing Contours**
- OA-C8-230 Rev 5 Bulk Earthworks Finished Contours**



## **Appendix B: Test results**

### **Location Plan**

Torkin & Taylor Ltd or Geotechnics

Nukes moisture density

Scala

Filcon shear vanes

Benkleman Beam

Cleggs



GEOTECHNICS LTD.  
 Sylvia Park Earthworks  
 Phone: 021 378 385

NDM  
 DWB Dan Baker  
 TPG - Tanka

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FILE/FOLDER: Sylvia Park Earthworks

JOB NO: 21432

TEST RESULT SUMMARY REPORT

Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scala (Blows/ 0.2m)	Hand Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/RF/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
13/01/2005	1	1	South of SEART-FILL AREA 1				1888	1496	26.2	5.8			001/05	P	
13/01/2005	2	2	South of SEART-FILL AREA 1				1887	1496	26.1	5.9			001/05	P	
13/01/2005	3	3	South of SEART-FILL AREA 1				1930	1549	24.7	4.9			001/05	P	
13/01/2005	4	4	South of SEART-FILL AREA 1				1800	1408	27.8	9.1			001/05	P	
13/01/2005	5	5	South of SEART-FILL AREA 1				1936	1509	28.3	1.8			001/05	P	
13/01/2005	6	6	South of SEART-FILL AREA 1				1982	1564	26.7	0.7			001/05	P	
13/01/2005	7	7	South of SEART-FILL AREA 1				1996	1546	29.1	0			001/05	P	
13/01/2005	8	8	South of SEART-FILL AREA 1				1941	1502	29.2	0.9			001/05	P	
13/01/2005	9	9	South of SEART-FILL AREA 1				1934	1550	24.8	4.6			001/05	P	
13/01/2005	10	10	South of SEART-FILL AREA 1				1969	1572	25.3	2.5			001/05	P	
13/01/2005	11	1	South of SEART-FILL AREA 1									180	002/05	P	
13/01/2005	12	2	South of SEART-FILL AREA 1									utp	002/05	P	
13/01/2005	13	3	South of SEART-FILL AREA 1									120	002/05	P	
13/01/2005	14	4	South of SEART-FILL AREA 1									75	002/05	F	
13/01/2005	15	5	South of SEART-FILL AREA 1									105	002/05	F	
13/01/2005	16	6	South of SEART-FILL AREA 1									75	002/05	F	
13/01/2005	17	7	South of SEART-FILL AREA 1									75	002/05	F	
13/01/2005	18	8	South of SEART-FILL AREA 1									120	002/05	P	
13/01/2005	19	9	South of SEART-FILL AREA 1									utp	002/05	P	
13/01/2005	20	10	South of SEART-FILL AREA 1									90	002/05	F	
13/01/2005	21	11	South of SEART-FILL AREA 1									utp	002/05	P	
13/01/2005	22	12	South of SEART-FILL AREA 1									75	002/05	F	
13/01/2005	23	13	South of SEART-FILL AREA 1									75	002/05	F	
13/01/2005	24	14	South of SEART-FILL AREA 1									150	002/05	P	
13/01/2005	25	15	South of SEART-FILL AREA 1									utp	002/05	P	
13/01/2005	26	16	South of SEART-FILL AREA 1									90	002/05	F	
13/01/2005	27	17	South of SEART-FILL AREA 1									75	002/05	F	
13/01/2005	28	18	South of SEART-FILL AREA 1									utp	002/05	P	
13/01/2005	29	19	South of SEART-FILL AREA 1									90	002/05	F	
13/01/2005	30	20	South of SEART-FILL AREA 1									utp	002/05	P	



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Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hand Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/RF/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Over Water Content (%)	Corr. Air Voids (%)					
13/01/2005	31	21	South of SEART-FILL AREA 1									120	002/05	F	
13/01/2005	32	22	South of SEART-FILL AREA 1									75	002/05	F	
13/01/2005	33	23	South of SEART-FILL AREA 1									78	002/05	F	
13/01/2005	34	24	South of SEART-FILL AREA 1									90	002/05	F	
13/01/2005	35	25	South of SEART-FILL AREA 1									utp	002/05	P	
13/01/2005	36	26	South of SEART-FILL AREA 1									utp	002/05	P	
13/01/2005	37	27	South of SEART-FILL AREA 1									utp	002/05	P	
13/01/2005	38	28	South of SEART-FILL AREA 1									75	002/05	F	
13/01/2005	39	29	South of SEART-FILL AREA 1									90	002/05	F	
13/01/2005	40	30	South of SEART-FILL AREA 1									utp	002/05	P	
14/01/2005	41	1	0 SOUTHERN CUT AREA -PIT NO 1										003/05	P	
14/01/2005	42	2	0.2 SOUTHERN CUT AREA -PIT NO 1										003/05	P	
14/01/2005	43	3	0.4 SOUTHERN CUT AREA -PIT NO 1										003/05	P	
14/01/2005	44	4	0.6 SOUTHERN CUT AREA -PIT NO 1										003/05	P	
14/01/2005	45	5	0.8 SOUTHERN CUT AREA -PIT NO 1										003/05	P	
14/01/2005	46	6	1 SOUTHERN CUT AREA -PIT NO 1										003/05	P	
14/01/2005	47	1	0 SOUTHERN CUT AREA -PIT NO 2										003/05	P	
14/01/2005	48	2	0.2 SOUTHERN CUT AREA -PIT NO 2										003/05	P	
14/01/2005	49	3	0.4 SOUTHERN CUT AREA -PIT NO 2										003/05	P	
14/01/2005	50	4	0.6 SOUTHERN CUT AREA -PIT NO 2										003/05	P	
14/01/2005	51	5	0.8 SOUTHERN CUT AREA -PIT NO 2										003/05	P	
14/01/2005	52	6	1 SOUTHERN CUT AREA -PIT NO 2										003/05	P	
15/01/2005	53	1	South of SEART-FILL AREA 2				1877	1372	36.8	0			004/05	P	
15/01/2005	54	2	South of SEART-FILL AREA 2				1824	1395	30.7	5.5			004/05	P	
15/01/2005	55	3	South of SEART-FILL AREA 2				1736	1247	39.2	5			004/05	P	
15/01/2005	56	4	South of SEART-FILL AREA 2				1793	1273	40.9	0.9			004/05	P	
15/01/2005	57	5	South of SEART-FILL AREA 2				1818	1392	30.6	5.8			004/05	P	
15/01/2005	58	6	South of SEART-FILL AREA 2				1760	1415	24.4	13.1			004/05	F	
15/01/2005	59	7	South of SEART-FILL AREA 2				1796	1557	15.4	18.4			004/05	F	
15/01/2005	60	8	South of SEART-FILL AREA 2				1777	1309	35.7	4.8			004/05	P	



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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
15/01/2005	61	9	South of SEART-FILL AREA 2				1783	1328	34.3	5.3			004/05	P	
15/01/2005	62	10	South of SEART-FILL AREA 2				1762	1340	31.5	8.2			004/05	P	
15/01/2005	63	1	South of SEART-FILL AREA 2									155	005/05	P	
15/01/2005	64	2	South of SEART-FILL AREA 2									113	005/05	F	
15/01/2005	65	3	South of SEART-FILL AREA 2									220+	005/05	P	
15/01/2005	66	4	South of SEART-FILL AREA 2									82	005/05	F	
15/01/2005	67	5	South of SEART-FILL AREA 2									119	005/05	F	
15/01/2005	68	6	South of SEART-FILL AREA 2									121	005/05	F	
15/01/2005	69	7	South of SEART-FILL AREA 2									168	005/05	P	
15/01/2005	70	8	South of SEART-FILL AREA 2									220+	005/05	P	
15/01/2005	71	9	South of SEART-FILL AREA 2									utp	005/05	P	
15/01/2005	72	10	South of SEART-FILL AREA 2									utp	005/05	P	
15/01/2005	73	11	South of SEART-FILL AREA 2									143	005/05	P	
15/01/2005	74	12	South of SEART-FILL AREA 2									152	005/05	P	
15/01/2005	75	13	South of SEART-FILL AREA 2									201	005/05	P	
15/01/2005	76	14	South of SEART-FILL AREA 2									220+	005/05	P	
15/01/2005	77	15	South of SEART-FILL AREA 2									217	005/05	P	
15/01/2005	78	16	South of SEART-FILL AREA 2									199	005/05	P	
15/01/2005	79	17	South of SEART-FILL AREA 2									192	005/05	P	
15/01/2005	80	18	South of SEART-FILL AREA 2									144	005/05	P	
15/01/2005	81	19	South of SEART-FILL AREA 2									220+	005/05	P	
15/01/2005	82	20	South of SEART-FILL AREA 2									214	005/05	P	
15/01/2005	83	21	South of SEART-FILL AREA 2									152	005/05	P	
15/01/2005	84	22	South of SEART-FILL AREA 2									160	005/05	P	
15/01/2005	85	23	South of SEART-FILL AREA 2									185	005/05	P	
15/01/2005	86	24	South of SEART-FILL AREA 2									155	005/05	P	
15/01/2005	87	25	South of SEART-FILL AREA 2									170	005/05	P	
15/01/2005	88	26	South of SEART-FILL AREA 2									190	005/05	P	
15/01/2005	89	27	South of SEART-FILL AREA 2									204	005/05	P	
15/01/2005	90	28	South of SEART-FILL AREA 2									220+	005/05	P	



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### TEST RESULT SUMMARY REPORT

Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hard Vane (kPa)	Lab Ref No SPE-	Status P/IRP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
15/01/2005	91	29	South of SEART- FILL AREA 2									utp	005/05	P	
15/01/2005	92	30	South of SEART- FILL AREA 2									154	005/05	P	
20/01/2005	93	1	South of SEART- FILL AREA 1				1830	1541	18.8	14.4			007/05	F	
20/01/2005	94	2	South of SEART- FILL AREA 1				1889	1506	25.5	6.3			007/05	P	
20/01/2005	95	3	South of SEART- FILL AREA 1				1863	1603	16.3	15			007/05	F	
20/01/2005	96	1	RETEST SPE - 002/05 - 4									220+	008/05	RP	
20/01/2005	97	2	RETEST SPE - 002/05 - 5									UTP	008/05	RP	
20/01/2005	98	3	RETEST SPE - 002/05 - 6									UTP	008/05	RP	
20/01/2005	99	4	RETEST SPE - 002/05 - 7									220+	008/05	RP	
20/01/2005	100	5	RETEST SPE - 002/05 - 10									220+	008/05	RP	
20/01/2005	101	6	RETEST SPE - 002/05 - 12									220+	008/05	RP	
20/01/2005	102	7	RETEST SPE - 002/05 - 13									220+	008/05	RP	
20/01/2005	103	8	RETEST SPE - 002/05 - 16									220+	008/05	RP	
20/01/2005	104	9	RETEST SPE - 002/05 - 17									220+	008/05	RP	
20/01/2005	105	10	RETEST SPE - 002/05 - 19									188	008/05	RP	
20/01/2005	106	11	RETEST SPE - 002/05 - 21									220+	008/05	RP	
20/01/2005	107	12	RETEST SPE - 002/05 - 22									UTP	008/05	RP	
20/01/2005	108	13	RETEST SPE - 002/05 - 23									220+	008/05	RP	
20/01/2005	109	14	RETEST SPE - 002/05 - 24									220+	008/05	RP	
20/01/2005	110	15	RETEST SPE - 002/05 - 28									220+	008/05	RP	
20/01/2005	111	16	RETEST SPE - 002/05 - 29									220+	008/05	RP	
21/01/2005	112	1	South of SEART- FILL AREA 1									145	009/05	P	
21/01/2005	113	2	South of SEART- FILL AREA 1									UTP	009/05	P	
21/01/2005	114	3	South of SEART- FILL AREA 1									UTP	009/05	P	
21/01/2005	115	4	South of SEART- FILL AREA 1									182	009/05	P	
21/01/2005	116	5	South of SEART- FILL AREA 1									230+	009/05	P	
21/01/2005	117	6	South of SEART- FILL AREA 1									119	009/05	F	
21/01/2005	118	7	South of SEART- FILL AREA 1									219	009/05	P	
21/01/2005	119	8	South of SEART- FILL AREA 1									230+	009/05	P	
21/01/2005	120	9	South of SEART- FILL AREA 1									230+	009/05	P	



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**TEST RESULT SUMMARY REPORT**

Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hand Shear Vane (kPa)	Lab Ref No SPE-	Status P/FRP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
21/01/2005	121	10	South of SEART-FILL AREA 1									UTP	009/05	P	
21/01/2005	122	11	South of SEART-FILL AREA 1									UTP	009/05	P	
21/01/2005	123	12	South of SEART-FILL AREA 1									190	009/05	P	
21/01/2005	124	13	South of SEART-FILL AREA 1									230+	009/05	P	
21/01/2005	125	14	South of SEART-FILL AREA 1									162	009/05	P	
21/01/2005	126	15	South of SEART-FILL AREA 1									191	009/05	P	
21/01/2005	127	16	South of SEART-FILL AREA 1									UTP	009/05	P	
21/01/2005	128	17	South of SEART-FILL AREA 1									230+	009/05	P	
21/01/2005	129	18	South of SEART-FILL AREA 1									UTP	009/05	P	
21/01/2005	130	19	South of SEART-FILL AREA 1									UTP	009/05	P	
21/01/2005	131	20	South of SEART-FILL AREA 1									218	009/05	P	
21/01/2005	132	21	South of SEART-FILL AREA 1									198	009/05	P	
21/01/2005	133	22	South of SEART-FILL AREA 1									230+	009/05	P	
21/01/2005	134	23	South of SEART-FILL AREA 1									UTP	009/05	P	
21/01/2005	135	24	South of SEART-FILL AREA 1									230+	009/05	P	
21/01/2005	136	25	South of SEART-FILL AREA 1									UTP	009/05	P	
21/01/2005	137	26	South of SEART-FILL AREA 1									230+	009/05	P	
21/01/2005	138	27	South of SEART-FILL AREA 1									UTP	009/05	P	
21/01/2005	139	28	South of SEART-FILL AREA 1									UTP	009/05	P	
21/01/2005	140	29	South of SEART-FILL AREA 1									182	009/05	P	
21/01/2005	141	30	South of SEART-FILL AREA 1									162	009/05	P	
24/01/2005	142	1	South of SEART-FILL AREA 1									230+	010/05	P	
24/01/2005	143	2	South of SEART-FILL AREA 1									UTP	010/05	P	
24/01/2005	144	3	South of SEART-FILL AREA 1									230+	010/05	P	
24/01/2005	145	4	South of SEART-FILL AREA 1									230+	010/05	P	
24/01/2005	146	5	South of SEART-FILL AREA 1									UTP	010/05	P	
24/01/2005	147	6	South of SEART-FILL AREA 1									UTP	010/05	P	
24/01/2005	148	7	South of SEART-FILL AREA 1									230+	010/05	P	
24/01/2005	149	8	South of SEART-FILL AREA 1									230+	010/05	P	
24/01/2005	150	9	South of SEART-FILL AREA 1									UTP	010/05	P	



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Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hand Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/FP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
24/01/2005	151	10	South of SEART- FILL AREA 1									230+	010/05	P	
24/01/2005	152	11	South of SEART- FILL AREA 1									UTP	010/05	P	
24/01/2005	153	12	South of SEART- FILL AREA 1									UTP	010/05	P	
24/01/2005	154	13	South of SEART- FILL AREA 1									198	010/05	P	
24/01/2005	155	14	South of SEART- FILL AREA 1									230+	010/05	P	
24/01/2005	156	15	South of SEART- FILL AREA 1									230+	010/05	P	
24/01/2005	157	16	South of SEART- FILL AREA 1									230+	010/05	P	
24/01/2005	158	1	South of SEART- FILL AREA 2									198	011/05	P	
24/01/2005	159	2	South of SEART- FILL AREA 2									222	011/05	P	
24/01/2005	160	3	South of SEART- FILL AREA 2									198	011/05	P	
24/01/2005	161	4	South of SEART- FILL AREA 2									123	011/05	F	
24/01/2005	162	5	South of SEART- FILL AREA 2									230	011/05	P	
24/01/2005	163	6	South of SEART- FILL AREA 2									107	011/05	F	
24/01/2005	164	7	South of SEART- FILL AREA 2									230+	011/05	P	
24/01/2005	165	8	South of SEART- FILL AREA 2									99	011/05	F	
24/01/2005	166	9	South of SEART- FILL AREA 2									165	011/05	P	
24/01/2005	167	10	South of SEART- FILL AREA 2									230+	011/05	P	
24/01/2005	168	11	South of SEART- FILL AREA 2									230+	011/05	P	
24/01/2005	169	12	South of SEART- FILL AREA 2									165	011/05	P	
24/01/2005	170	13	South of SEART- FILL AREA 2									181	011/05	P	
24/01/2005	171	14	South of SEART- FILL AREA 2									230+	011/05	P	
24/01/2005	172	15	South of SEART- FILL AREA 2									198	011/05	P	
24/01/2005	173	16	South of SEART- FILL AREA 2									165	011/05	P	
24/01/2005	174	1	South of SEART- FILL AREA 1				1963	1533	28.1	1.5			012/05	P	
24/01/2005	175	2	South of SEART- FILL AREA 1				1960	1489	31.7	0.0			012/05	P	
24/01/2005	176	3	South of SEART- FILL AREA 1				1980	1591	24.5	3.4			012/05	P	
24/01/2005	177	4	South of SEART- FILL AREA 1				1982	1613	22.9	4.7			012/05	P	
24/01/2005	178	5	South of SEART- FILL AREA 1				1913	1539	24.3	6.8			012/05	P	
24/01/2005	179	6	South of SEART- FILL AREA 1				1918	1611	19.1	10.9			012/05	P	
24/01/2005	180	7	South of SEART- FILL AREA 1				1958	1704	15.0	12.8			012/05	P	



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Sylvia Park Earthworks  
Phone: 021 378 385

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### TEST RESULT SUMMARY REPORT

Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hard Shear Vane (kPa)	Lab Ref No SPE.	Status P/F/RP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
25/01/2005	181	1	South of SEART- TOP OF FILL AREA 2				1913	1505	27.2	4.6			016/05	P	
25/01/2005	182	2	South of SEART- TOP OF FILL AREA 2				1904	1490	27.8	4.6			016/05	P	
25/01/2005	183	3	South of SEART- TOP OF FILL AREA 2				1840	1487	23.8	10.8			016/05	P	
25/01/2005	184	4	South of SEART- TOP OF FILL AREA 2				1809	1439	25.8	10.8			016/05	P	
25/01/2005	185	1	South of SEART- FILL AREA 1				1815	1394	30.2	7.4			017/05	P	
25/01/2005	186	2	South of SEART- FILL AREA 1				1913	1538	24.5	6.7			017/05	P	
25/01/2005	187	3	South of SEART- FILL AREA 1				1840	1463	25.8	9.3			017/05	P	
25/01/2005	188	4	South of SEART- FILL AREA 1				1901	1524	24.7	7.1			017/05	P	
25/01/2005	189	5	South of SEART- FILL AREA 1				1867	1473	26.7	7.3			017/05	P	
25/01/2005	190	1	0.2 South of SEART- FILL AREA 3									157	018/05	P	
25/01/2005	191	0.4	South of SEART- FILL AREA 3									157	018/05	P	
25/01/2005	192	2	0.2 South of SEART- FILL AREA 3									188	018/05	P	
25/01/2005	193	0.4	South of SEART- FILL AREA 3									188	018/05	P	
25/01/2005	194	3	0.2 South of SEART- FILL AREA 3									204	018/05	P	
25/01/2005	195	0.4	South of SEART- FILL AREA 3									188	018/05	P	
25/01/2005	196	4	0.2 South of SEART- FILL AREA 3									173	018/05	P	
25/01/2005	197	0.4	South of SEART- FILL AREA 3									204	018/05	P	
25/01/2005	198	1	South of SEART- FILL AREA 3									94	019/05	F	
25/01/2005	199	2	South of SEART- FILL AREA 3									110	019/05	F	
25/01/2005	200	3	South of SEART- FILL AREA 3									188	019/05	P	
25/01/2005	201	4	South of SEART- FILL AREA 3									107	019/05	F	
25/01/2005	202	5	South of SEART- FILL AREA 3									71	019/05	F	
25/01/2005	203	6	South of SEART- FILL AREA 3									63	019/05	F	
25/01/2005	204	7	South of SEART- FILL AREA 3									86	019/05	F	
25/01/2005	205	8	South of SEART- FILL AREA 3									86	019/05	F	
25/01/2005	206	9	South of SEART- FILL AREA 3									102	019/05	F	
25/01/2005	207	10	South of SEART- FILL AREA 3									71	019/05	F	
25/01/2005	208	11	South of SEART- FILL AREA 3									110	019/05	F	
26/01/2005	209	1	RETEST OF SPE - 011/05-4									230+	021/05	RP	
26/01/2005	210	2	RETEST OF SPE - 011/05-8									230+	021/05	RP	





GEOTECHNICS LTD.  
Sylvia Park Earthworks  
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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
26/01/2005	211	3	RETEST OF SPE - 011/05-6									181	021/05	RP	
26/01/2005	212	4	RETEST OF SPE - 009/05 - 6									198	021/05	RP	
26/01/2005	213	5	RETEST OF SPE - 005/05 - 2									UTP	021/05	RP	
26/01/2005	214	6	RETEST OF SPE - 005/05 - 4									UTP	021/05	RP	
26/01/2005	215	7	RETEST OF SPE - 005/05 - 5									230+	021/05	RP	
26/01/2005	216	8	RETEST OF SPE - 005/05 - 6									230+	021/05	RP	
26/01/2005	217	1	RETEST OF SPE - 007/05 - 1				1896	1441	31.6	2.3			022/05	RP	
26/01/2005	218	2	RETEST OF SPE - 007/05 - 3				1873	1463	28	6			022/05	RP	
26/01/2005	219	3	RETEST OF SPE - 004/05 - 6				1956	1548	26.4	3.1			022/05	RP	
26/01/2005	220	4	RETEST OF SPE - 004/05 - 7				1961	1538	27.4	2.1			022/05	RP	
27/01/2005	221	1	South of SEART- FILL AREA 2				1987	1556	27.7	0.5			023/05	P	
27/01/2005	222	2	South of SEART- FILL AREA 2				1912	1529	25	6.3			023/05	P	
27/01/2005	223	1	South of SEART- FILL AREA 2									220+	024/05	P	
27/01/2005	224	2	South of SEART- FILL AREA 2									UTP	024/05	P	
27/01/2005	225	3	South of SEART- FILL AREA 2									204	024/05	P	
27/01/2005	226	4	South of SEART- FILL AREA 2									220+	024/05	P	
27/01/2005	227	5	South of SEART- FILL AREA 2									UTP	024/05	P	
27/01/2005	228	6	South of SEART- FILL AREA 2									220+	024/05	P	
27/01/2005	229	7	South of SEART- FILL AREA 2									188	024/05	P	
27/01/2005	230	8	South of SEART- FILL AREA 2									220+	024/05	P	
27/01/2005	231	9	South of SEART- FILL AREA 2									UTP	024/05	P	
27/01/2005	232	10	South of SEART- FILL AREA 2									220+	024/05	P	
27/01/2005	233	11	South of SEART- FILL AREA 2									220+	024/05	P	
27/01/2005	234	12	South of SEART- FILL AREA 2									188	024/05	P	
27/01/2005	235	13	South of SEART- FILL AREA 2									UTP	024/05	P	
27/01/2005	236	14	South of SEART- FILL AREA 2									220+	024/05	P	
27/01/2005	237	15	South of SEART- FILL AREA 2									220+	024/05	P	
27/01/2005	238	1	0.2 South of SEART- FILL AREA 2									220+	025/05	P	
27/01/2005	239	0.4	South of SEART- FILL AREA 2									220+	025/05	P	
27/01/2005	240	2	0.2 South of SEART- FILL AREA 2									220+	025/05	P	



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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
27/01/2005	241	0.4	South of SEART- FILL AREA 2									220+	025/05	P	
27/01/2005	242	3 0.2	South of SEART- FILL AREA 2									220+	025/05	P	
27/01/2005	243	0.4	South of SEART- FILL AREA 2									204	025/05	P	
27/01/2005	244	4 0.2	South of SEART- FILL AREA 2									220+	025/05	P	
27/01/2005	245	0.4	South of SEART- FILL AREA 2									173	025/05	P	
28/01/2005	246	1	South of SEART- FILL AREA 1				1940	1519	27.8	2.8			026/05	P	
28/01/2005	247	2	South of SEART- FILL AREA 1				1941	1581	22.8	6.7			026/05	P	
28/01/2005	248	3	South of SEART- FILL AREA 1				1933	1576	22.6	7.3			026/05	P	
28/01/2005	249	1	South of SEART- FILL AREA 1									170	027/05	P	
28/01/2005	250	2	South of SEART- FILL AREA 1									148	027/05	P	
28/01/2005	251	3	South of SEART- FILL AREA 1									144	027/05	P	
28/01/2005	252	4	South of SEART- FILL AREA 1									195	027/05	P	
28/01/2005	253	5	South of SEART- FILL AREA 1									155	027/05	P	
28/01/2005	254	6	South of SEART- FILL AREA 1									170	027/05	P	
28/01/2005	255	7	South of SEART- FILL AREA 1									188	027/05	P	
28/01/2005	256	8	South of SEART- FILL AREA 1									UTP	027/05	P	
28/01/2005	257	9	South of SEART- FILL AREA 1									140	027/05	P	
28/01/2005	258	10	South of SEART- FILL AREA 1									174	027/05	P	
28/01/2005	259	11	South of SEART- FILL AREA 1									193	027/05	P	
28/01/2005	260	12	South of SEART- FILL AREA 1									157	027/05	P	
28/01/2005	261	13	South of SEART- FILL AREA 1									174	027/05	P	
28/01/2005	262	14	South of SEART- FILL AREA 1									168	027/05	P	
1/02/2005	263	1 0.2	South of SEART- FILL AREA 3									182	032/05	P	
1/02/2005	264	0.4	South of SEART- FILL AREA 3									165	032/05	P	
1/02/2005	265	2 0.2	South of SEART- FILL AREA 3									190	032/05	P	
1/02/2005	266	0.4	South of SEART- FILL AREA 3									182	032/05	P	
1/02/2005	267	3 0.2	South of SEART- FILL AREA 3									173	032/05	P	
1/02/2005	268	0.4	South of SEART- FILL AREA 3									165	032/05	P	
1/02/2005	269	4 0.2	South of SEART- FILL AREA 3									165	032/05	P	
1/02/2005	270	0.4	South of SEART- FILL AREA 3									149	032/05	P	



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 Sylvia Park Earthworks  
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### TEST RESULT SUMMARY REPORT

Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hand Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/RP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
1/02/2005	271	5	0.2	South of SEART- FILL AREA 3								198	032/05	P	
1/02/2005	272		0.4	South of SEART- FILL AREA 3								182	032/05	P	
1/02/2005	273	6	0.2	South of SEART- FILL AREA 3								153	032/05	P	
1/02/2005	274		0.4	South of SEART- FILL AREA 3								132	032/05	P	
1/02/2005	275	7	0.2	South of SEART- FILL AREA 3								206	032/05	P	
1/02/2005	276		0.4	South of SEART- FILL AREA 3								173	032/05	P	
1/02/2005	277	8	0.2	South of SEART- FILL AREA 3								182	032/05	P	
1/02/2005	278		0.4	South of SEART- FILL AREA 3								149	032/05	P	
1/02/2005	279	9	0.2	South of SEART- FILL AREA 3								165	032/05	P	
1/02/2005	280		0.4	South of SEART- FILL AREA 3								140	032/05	P	
4/02/2005	281	1		RETEST SPE 019/05 - 1								UTP	029/05	RP	
4/02/2005	282	2		RETEST SPE 019/05 - 2								UTP	029/05	RP	
4/02/2005	283	3		RETEST SPE 019/05 - 4								UTP	029/05	RP	
4/02/2005	284	4		RETEST SPE 019/05 - 5								UTP	029/05	RP	
4/02/2005	285	5		RETEST SPE 019/05 - 6								UTP	029/05	RP	
4/02/2005	286	6		RETEST SPE 019/05 - 7								UTP	029/05	RP	
4/02/2005	287	7		RETEST SPE 019/05 - 8								UTP	029/05	RP	
4/02/2005	288	8		RETEST SPE 019/05 - 9								UTP	029/05	RP	
4/02/2005	289	9		RETEST SPE 019/05 - 10								UTP	029/05	RP	
4/02/2005	290	10		RETEST SPE 019/05 - 11								198	029/05	RP	
4/02/2005	291	1		South of SEART- FILL AREA 2								UTP	030/05	P	
4/02/2005	292	2		South of SEART- FILL AREA 2								116	030/05	P	
4/02/2005	293	3		South of SEART- FILL AREA 2								175	030/05	P	
4/02/2005	294	4		South of SEART- FILL AREA 2								201	030/05	P	
4/02/2005	295	5		South of SEART- FILL AREA 2								228	030/05	P	
4/02/2005	296	6		South of SEART- FILL AREA 2								198	030/05	P	
4/02/2005	297	7		South of SEART- FILL AREA 2								175	030/05	P	
4/02/2005	298	8		South of SEART- FILL AREA 2								UTP	030/05	P	
4/02/2005	299	9		South of SEART- FILL AREA 2								142	030/05	P	
4/02/2005	300	10		South of SEART- FILL AREA 2								215	030/05	P	



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**TEST RESULT SUMMARY REPORT**

Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hard Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/RP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
4/02/2005	301	11	South of SEART-FILL AREA 2									205	030/05	P	
4/02/2005	302	12	South of SEART-FILL AREA 2									UTP	030/05	P	
4/02/2005	303	13	South of SEART-FILL AREA 2									201	030/05	P	
4/02/2005	304	14	South of SEART-FILL AREA 2									UTP	030/05	P	
4/02/2005	305	15	South of SEART-FILL AREA 2									195	030/05	P	
4/02/2005	306	16	South of SEART-FILL AREA 2									UTP	030/05	P	
4/02/2005	307	17	South of SEART-FILL AREA 2									UTP	030/05	P	
4/02/2005	308	18	South of SEART-FILL AREA 2									230+	030/05	P	
4/02/2005	309	19	South of SEART-FILL AREA 2									205	030/05	P	
4/02/2005	310	20	South of SEART-FILL AREA 2									185	030/05	P	
4/02/2005	311	21	South of SEART-FILL AREA 2									UTP	030/05	P	
4/02/2005	312	22	South of SEART-FILL AREA 2									215	030/05	P	
4/02/2005	313	23	South of SEART-FILL AREA 2									162	030/05	P	
4/02/2005	314	24	South of SEART-FILL AREA 2									175	030/05	P	
4/02/2005	315	25	South of SEART-FILL AREA 2									UTP	030/05	P	
4/02/2005	316	26	South of SEART-FILL AREA 2									188	030/05	P	
4/02/2005	317	27	South of SEART-FILL AREA 2									188	030/05	P	
4/02/2005	318	1	South of SEART-FILL AREA 2				1879	1449	29.6	4.6			031/05	P	
4/02/2005	319	2	South of SEART-FILL AREA 2				1938	1547	25.3	4.8			031/05	P	
4/02/2005	320	3	South of SEART-FILL AREA 2				1904	1625	17.2	13.2			031/05	F	
4/02/2005	321	4	South of SEART-FILL AREA 2				1889	1686	12	18.7			031/05	F	
8/02/2005	322	1	RETEST SPE 031/05-3				1905	1484	28.4	4.1			034/05	RP	
8/02/2005	323	2	RETEST SPE 031/05-4				1892	1490	27	5.8			034/05	RP	
8/02/2005	324	3	South of SEART-FILL AREA 2				1861	1475	26.2	7.9			034/05	P	
8/02/2005	325	4	South of SEART-FILL AREA 2				1936	1545	25.3	4.9			034/05	P	
9/02/2005	326	1	South of SEART-FILL AREA 2				1895	1459	29.9	3.5			035/05	P	
9/02/2005	327	2	South of SEART-FILL AREA 2				1909	1458	31	2			035/05	P	
9/02/2005	328	3	South of SEART-FILL AREA 2				1886	1407	34.1	1.1			035/05	P	
9/02/2005	329	4	South of SEART-FILL AREA 2				1890	1402	34.8	0.4			035/05	P	
9/02/2005	330	1	South of SEART-FILL AREA 2									207	036/05	P	



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TEST RESULT SUMMARY REPORT

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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
9/02/2005	331	2	South of SEART-FILL AREA 2									220+	036/05	P	
9/02/2005	332	3	South of SEART-FILL AREA 2									188	036/05	P	
9/02/2005	333	4	South of SEART-FILL AREA 2									220+	036/05	P	
9/02/2005	334	5	South of SEART-FILL AREA 2									157	036/05	P	
9/02/2005	335	6	South of SEART-FILL AREA 2									173	036/05	P	
9/02/2005	336	7	South of SEART-FILL AREA 2									220+	036/05	P	
9/02/2005	337	8	South of SEART-FILL AREA 2									141	036/05	P	
9/02/2005	338	9	South of SEART-FILL AREA 2									220+	036/05	P	
9/02/2005	339	10	South of SEART-FILL AREA 2									204	036/05	P	
9/02/2005	340	11	South of SEART-FILL AREA 2									188	036/05	P	
9/02/2005	341	12	South of SEART-FILL AREA 2									220+	036/05	P	
9/02/2005	342	13	South of SEART-FILL AREA 2									220+	036/05	P	
9/02/2005	343	14	South of SEART-FILL AREA 2									220+	036/05	P	
9/02/2005	344	15	South of SEART-FILL AREA 2									188	036/05	P	
9/02/2005	345	16	South of SEART-FILL AREA 2									220+	036/05	P	
10/02/2005	346	1	South of SEART-FILL AREA 2									215	039/05	P	
10/02/2005	347	2	South of SEART-FILL AREA 2									UTP	039/05	P	
10/02/2005	348	3	South of SEART-FILL AREA 2									230+	039/05	P	
10/02/2005	349	4	South of SEART-FILL AREA 2									182	039/05	P	
10/02/2005	350	5	South of SEART-FILL AREA 2									230+	039/05	P	
10/02/2005	351	6	South of SEART-FILL AREA 2									UTP	039/05	P	
10/02/2005	352	7	South of SEART-FILL AREA 2									230+	039/05	P	
10/02/2005	353	8	South of SEART-FILL AREA 2									190	039/05	P	
10/02/2005	354	9	South of SEART-FILL AREA 2									230+	039/05	P	
10/02/2005	355	10	South of SEART-FILL AREA 2									230+	039/05	P	
10/02/2005	356	11	South of SEART-FILL AREA 2									198	039/05	P	
10/02/2005	357	12	South of SEART-FILL AREA 2									UTP	039/05	P	
10/02/2005	358	13	South of SEART-FILL AREA 2									UTP	039/05	P	
10/02/2005	359	14	South of SEART-FILL AREA 2									230+	039/05	P	
10/02/2005	360	15	South of SEART-FILL AREA 2									215	039/05	P	



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JOB NO: 21432

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Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Bond Shear Vane (kPa)	Lab Ref No SPE-	Sta P/R RF
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
11/02/2005	361	1	South of SEART- FILL AREA 2										UTP	037/05	
11/02/2005	362	2	South of SEART- FILL AREA 2										198	037/05	
11/02/2005	363	3	South of SEART- FILL AREA 2										UTP	037/05	
11/02/2005	364	4	South of SEART- FILL AREA 2										230+	037/05	
11/02/2005	365	5	South of SEART- FILL AREA 2										UTP	037/05	
11/02/2005	366	6	South of SEART- FILL AREA 2										UTP	037/05	
11/02/2005	367	7	South of SEART- FILL AREA 2										UTP	037/05	
11/02/2005	368	8	South of SEART- FILL AREA 2										230+	037/05	
11/02/2005	369	9	South of SEART- FILL AREA 2										UTP	037/05	
11/02/2005	370	10	South of SEART- FILL AREA 2										155	037/05	
11/02/2005	371	11	South of SEART- FILL AREA 2										198	037/05	
11/02/2005	372	12	South of SEART- FILL AREA 2										UTP	037/05	
11/02/2005	373	13	South of SEART- FILL AREA 2										191	037/05	
11/02/2005	374	14	South of SEART- FILL AREA 2										165	037/05	
11/02/2005	375	15	South of SEART- FILL AREA 2										230+	037/05	
11/02/2005	376	16	South of SEART- FILL AREA 2										230+	037/05	
11/02/2005	377	1	South of SEART- FILL AREA 2					1929	1478	30.5	1.4			038/05	
11/02/2005	378	2	South of SEART- FILL AREA 2					1974	1473	34	0			038/05	
11/02/2005	379	3	South of SEART- FILL AREA 2					1967	1545	27.3	1.9			038/05	
11/02/2005	380	4	South of SEART- FILL AREA 2					1971	1566	25.9	2.8			038/05	
15/02/2005	381	1	South of SEART-TOP FILL AREA 1					1929	1586	21.6	8.3			040/05	
15/02/2005	382	2	South of SEART-TOP FILL AREA 1					1927	1625	18.6	10.9			040/05	
15/02/2005	383	3	South of SEART-TOP FILL AREA 1					1877	1522	23.3	9.4			040/05	
15/02/2005	384	1	South of SEART-TOP FILL AREA 1										230+	042/05	
15/02/2005	385	2	South of SEART-TOP FILL AREA 1										230+	042/05	
15/02/2005	386	3	South of SEART-TOP FILL AREA 1										190	042/05	
15/02/2005	387	4	South of SEART-TOP FILL AREA 1										230+	042/05	
15/02/2005	388	5	South of SEART-TOP FILL AREA 1										230+	042/05	
15/02/2005	389	6	South of SEART-TOP FILL AREA 1										215	042/05	
15/02/2005	390	7	South of SEART-TOP FILL AREA 1										230+	042/05	



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 Sylvia Park Earthworks  
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JOB NO: 21432

**TEST RESULT SUMMARY REPORT**

Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hand Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/IRP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Open Water Content (%)	Corr. Air Voids (%)					
15/02/2005	391	8	South of SEART-TOP FILL AREA 1									230+	042/05	P	
15/02/2005	392	9	South of SEART-TOP FILL AREA 1									198	042/05	P	
15/02/2005	393	10	South of SEART-TOP FILL AREA 1									230+	042/05	P	
15/02/2005	394	11	South of SEART-TOP FILL AREA 1									223	042/05	P	
15/02/2005	395	12	South of SEART-TOP FILL AREA 1									165	042/05	P	
15/02/2005	396	13	South of SEART-TOP FILL AREA 1									230+	042/05	P	
15/02/2005	397	14	South of SEART-TOP FILL AREA 1									198	042/05	P	
15/02/2005	398	15	South of SEART-TOP FILL AREA 1									190	042/05	P	
15/02/2005	399	16	South of SEART-TOP FILL AREA 1									230+	042/05	P	
15/02/2005	400	1	0.2 Sth of SEART- PADS TOP FILL AREA 1									UTP	046/05	P	
15/02/2005	401	0.4	Sth of SEART- PADS TOP FILL AREA 1									UTP	046/05	P	
15/02/2005	402	0.6	Sth of SEART- PADS TOP FILL AREA 1									UTP	046/05	P	
15/02/2005	403	2	0.2 Sth of SEART- PADS TOP FILL AREA 1									230+	046/05	P	
15/02/2005	404	0.4	Sth of SEART- PADS TOP FILL AREA 1									230+	046/05	P	
15/02/2005	405	0.6	Sth of SEART- PADS TOP FILL AREA 1									UTP	046/05	P	
15/02/2005	406	3	0.2 Sth of SEART- PADS TOP FILL AREA 1									230+	046/05	P	
15/02/2005	407	0.4	Sth of SEART- PADS TOP FILL AREA 1									UTP	046/05	P	
15/02/2005	408	0.6	Sth of SEART- PADS TOP FILL AREA 1									UTP	046/05	P	
15/02/2005	409	4	0.2 Sth of SEART- PADS TOP FILL AREA 1									230+	046/05	P	
15/02/2005	410	0.4	Sth of SEART- PADS TOP FILL AREA 1									230+	046/05	P	
15/02/2005	411	0.6	Sth of SEART- PADS TOP FILL AREA 1									UTP	046/05	P	
15/02/2005	412	5	0.2 Sth of SEART- PADS TOP FILL AREA 1									UTP	046/05	P	
15/02/2005	413	0.4	Sth of SEART- PADS TOP FILL AREA 1									UTP	046/05	P	
15/02/2005	414	0.6	Sth of SEART- PADS TOP FILL AREA 1									UTP	046/05	P	
17/02/2005	415	1	0.2 Sth of SEART- PADS TOP FILL AREA 1									182	045/05	P	
17/02/2005	416	0.4	Sth of SEART- PADS TOP FILL AREA 1									165	045/05	P	
17/02/2005	417	0.6	Sth of SEART- PADS TOP FILL AREA 1									173	045/05	P	
17/02/2005	418	2	0.2 Sth of SEART- PADS TOP FILL AREA 1									165	045/05	P	
17/02/2005	419	0.4	Sth of SEART- PADS TOP FILL AREA 1									230+	045/05	P	
17/02/2005	420	0.6	Sth of SEART- PADS TOP FILL AREA 1									230+	045/05	P	



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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
17/02/2005	421	3	0.2	Sth of SEART- PADS TOP FILL AREA 1								149	045/05	P	
17/02/2005	422		0.4	Sth of SEART- PADS TOP FILL AREA 1								230+	045/05	P	
17/02/2005	423		0.6	Sth of SEART- PADS TOP FILL AREA 1								198	045/05	P	
17/02/2005	424	4	0.2	Sth of SEART- PADS TOP FILL AREA 1								198	045/05	P	
17/02/2005	425		0.4	Sth of SEART- PADS TOP FILL AREA 1								230+	045/05	P	
17/02/2005	426		0.6	Sth of SEART- PADS TOP FILL AREA 1								215	045/05	P	
17/02/2005	427	5	0.2	Sth of SEART- PADS TOP FILL AREA 1								175	045/05	P	
17/02/2005	428		0.4	Sth of SEART- PADS TOP FILL AREA 1								182	045/05	P	
17/02/2005	429		0.6	Sth of SEART- PADS TOP FILL AREA 1								215	045/05	P	
21/02/2005	430	1		3 SOUTH WAREHOUSE				1920	1564	22.7	7.8		058/05	P	
21/02/2005	431	2		3 SOUTH WAREHOUSE				1932	1580	22.3	7.6		058/05	P	
21/02/2005	432	3		3 SOUTH WAREHOUSE				1937	1568	23.6	6.3		058/05	P	
21/02/2005	433	4		3 SOUTH WAREHOUSE				1983	1574	26	2.1		058/05	P	
22/02/2005	434	1		1 North Pad-Carpark Warehouse				2058	1682	22.4	1.5		059/05	P	
22/02/2005	435	2		1 North Pad-Carpark Warehouse				2021	1671	21	4.4		059/05	P	
22/02/2005	436	3		1 North Pad-Carpark Warehouse				1887	1448	30.3	3.7		059/05	P	
22/02/2005	437	4		1 North Pad-Carpark Warehouse				1920	1389	38.3	0		059/05	P	
22/02/2005	438	5		1 North Pad-Carpark Warehouse				1856	1283	45.5	0		059/05	P	
22/02/2005	439	1		2 Middle Pad-Carpark Warehouse				1936	1496	29.4	1.8		060/05	P	
22/02/2005	440	2		2 Middle Pad-Carpark Warehouse				1932	1498	29	2.3		060/05	P	
22/02/2005	441	3		2 Middle Pad-Carpark Warehouse				1979	1541	28.4	0.4		060/05	P	
22/02/2005	442	4		2 Middle Pad-Carpark Warehouse	NDM data	only		1984	1570	26.4	1.7		060/05	P	
22/02/2005	443	5		2 Middle Pad-Carpark Warehouse				1874	1480	26.7	6.9		060/05	P	
22/02/2005	444	1		3 South Pad-Carpark Warehouse				1869	1381	35.4	1.1		061/05	P	
22/02/2005	445	2		3 South Pad-Carpark Warehouse				1863	1376	35.4	1.5		061/05	P	
22/02/2005	446	3		3 South Pad-Carpark Warehouse				1852	1400	32.3	4.1		061/05	P	
22/02/2005	447	4		3 South Pad-Carpark Warehouse				1912	1455	31.4	1.6		061/05	P	
22/02/2005	448	5		3 South Pad-Carpark Warehouse				1935	1498	29.1	2.1		061/05	P	
22/02/2005	449	1		1 North Pad-Carpark Warehouse								UTP	065/05	P	
22/02/2005	450	2		1 North Pad-Carpark Warehouse								201	065/05	P	





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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
22/02/2005	451	3	1 North Pad-Carpark Warehouse									230+	065/05	P	
22/02/2005	452	4	1 North Pad-Carpark Warehouse									UTP	065/05	P	
22/02/2005	453	5	1 North Pad-Carpark Warehouse									215	065/05	P	
22/02/2005	454	6	1 North Pad-Carpark Warehouse									145	065/05	P	
22/02/2005	455	7	1 North Pad-Carpark Warehouse									UTP	065/05	P	
22/02/2005	456	8	1 North Pad-Carpark Warehouse									UTP	065/05	P	
22/02/2005	457	9	1 North Pad-Carpark Warehouse									205	065/05	P	
22/02/2005	458	10	1 North Pad-Carpark Warehouse									UTP	065/05	P	
22/02/2005	459	11	1 North Pad-Carpark Warehouse									230+	065/05	P	
22/02/2005	460	12	1 North Pad-Carpark Warehouse									182	065/05	P	
22/02/2005	461	13	1 North Pad-Carpark Warehouse									UTP	065/05	P	
22/02/2005	462	14	1 North Pad-Carpark Warehouse									172	065/05	P	
22/02/2005	463	15	1 North Pad-Carpark Warehouse									UTP	065/05	P	
22/02/2005	464	16	1 North Pad-Carpark Warehouse									168	065/05	P	
22/02/2005	465	1	2 Middle Pad-Carpark Warehouse									215	066/05	P	
22/02/2005	466	2	2 Middle Pad-Carpark Warehouse									185	066/05	P	
22/02/2005	467	3	2 Middle Pad-Carpark Warehouse									230+	066/05	P	
22/02/2005	468	4	2 Middle Pad-Carpark Warehouse									172	066/05	P	
22/02/2005	469	5	2 Middle Pad-Carpark Warehouse									162	066/05	P	
22/02/2005	470	6	2 Middle Pad-Carpark Warehouse									UTP	066/05	P	
22/02/2005	471	7	2 Middle Pad-Carpark Warehouse									UTP	066/05	P	
22/02/2005	472	8	2 Middle Pad-Carpark Warehouse									162	066/05	P	
22/02/2005	473	9	2 Middle Pad-Carpark Warehouse									UTP	066/05	P	
22/02/2005	474	10	2 Middle Pad-Carpark Warehouse									145	066/05	P	
22/02/2005	475	11	2 Middle Pad-Carpark Warehouse									230+	066/05	P	
22/02/2005	476	12	2 Middle Pad-Carpark Warehouse									172	066/05	P	
22/02/2005	477	13	2 Middle Pad-Carpark Warehouse									UTP	066/05	P	
22/02/2005	478	14	2 Middle Pad-Carpark Warehouse									UTP	066/05	P	
22/02/2005	479	15	2 Middle Pad-Carpark Warehouse									201	066/05	P	
22/02/2005	480	16	2 Middle Pad-Carpark Warehouse									178	066/05	P	



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JOB NO: 21432

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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
22/02/2005	481	1	3 South Pad-Carpark Warehouse										230+	067/05	P
22/02/2005	482	2	3 South Pad-Carpark Warehouse										UTP	067/05	P
22/02/2005	483	3	3 South Pad-Carpark Warehouse										UTP	067/05	P
22/02/2005	484	4	3 South Pad-Carpark Warehouse										201	067/05	P
22/02/2005	485	5	3 South Pad-Carpark Warehouse										UTP	067/05	P
22/02/2005	486	6	3 South Pad-Carpark Warehouse										182	067/05	P
22/02/2005	487	7	3 South Pad-Carpark Warehouse										UTP	067/05	P
22/02/2005	488	8	3 South Pad-Carpark Warehouse										158	067/05	P
22/02/2005	489	9	3 South Pad-Carpark Warehouse										230+	067/05	P
22/02/2005	490	10	3 South Pad-Carpark Warehouse										230+	067/05	P
22/02/2005	491	11	3 South Pad-Carpark Warehouse										215	067/05	P
22/02/2005	492	12	3 South Pad-Carpark Warehouse										221	067/05	P
22/02/2005	493	13	3 South Pad-Carpark Warehouse										205	067/05	P
22/02/2005	494	14	3 South Pad-Carpark Warehouse										205	067/05	P
22/02/2005	495	15	3 South Pad-Carpark Warehouse										224	067/05	P
22/02/2005	496	16	3 South Pad-Carpark Warehouse										UTP	067/05	P
1/03/2005	497	1	0.2 3 South Pad-Carpark Warehouse										230+	064/05	P
1/03/2005	498	0.4	3 South Pad-Carpark Warehouse										223	064/05	P
1/03/2005	499	0.6	3 South Pad-Carpark Warehouse										230+	064/05	P
1/03/2005	500	2	0.2 3 South Pad-Carpark Warehouse										230+	064/05	P
1/03/2005	501	0.4	3 South Pad-Carpark Warehouse										230+	064/05	P
1/03/2005	502	0.6	3 South Pad-Carpark Warehouse										215	064/05	P
1/03/2005	503	3	0.2 3 South Pad-Carpark Warehouse										230+	064/05	P
1/03/2005	504	0.4	3 South Pad-Carpark Warehouse										230+	064/05	P
1/03/2005	505	0.6	3 South Pad-Carpark Warehouse										198	064/05	P
1/03/2005	506	4	0.2 3 South Pad-Carpark Warehouse										198	064/05	P
1/03/2005	507	0.4	3 South Pad-Carpark Warehouse										230+	064/05	P
1/03/2005	508	0.6	3 South Pad-Carpark Warehouse										223	064/05	P
1/03/2005	509	5	0.2 3 South Pad-Carpark Warehouse										230+	064/05	P
1/03/2005	510	0.4	3 South Pad-Carpark Warehouse										230+	064/05	P



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FILE/FOLDER: Sylvia Park Earthworks

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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
1/03/2005	511	0.6	3 South Pad-Carpark Warehouse									230+	064/05	P	
2/03/2005	512	1	Southern Gully Fill									201	068/05	P	
2/03/2005	513	2	Southern Gully Fill									188	068/05	P	
2/03/2005	514	3	Southern Gully Fill									215	068/05	P	
2/03/2005	515	4	Southern Gully Fill									185	068/05	P	
2/03/2005	516	5	Southern Gully Fill									182	068/05	P	
2/03/2005	517	6	Southern Gully Fill									162	068/05	P	
2/03/2005	518	7	Southern Gully Fill									195	068/05	P	
2/03/2005	519	8	Southern Gully Fill									218	068/05	P	
2/03/2005	520	9	Southern Gully Fill									223	068/05	P	
2/03/2005	521	10	Southern Gully Fill									230+	068/05	P	
2/03/2005	522	11	Southern Gully Fill									116	068/05	P	
2/03/2005	523	12	Southern Gully Fill									230+	068/05	P	
2/03/2005	524	13	Southern Gully Fill									150	068/05	P	
2/03/2005	525	14	Southern Gully Fill									125	068/05	P	
2/03/2005	526	15	Southern Gully Fill									142	068/05	P	
2/03/2005	527	16	Southern Gully Fill									158	068/05	P	
2/03/2005	528	1	0.2 Southern Gully Fill									UTP	069/05	P	
2/03/2005	529	0.4	Southern Gully Fill									UTP	069/05	P	
2/03/2005	530	0.6	Southern Gully Fill									UTP	069/05	P	
2/03/2005	531	2	0.2 Southern Gully Fill									230+	069/05	P	
2/03/2005	532	0.4	Southern Gully Fill									UTP	069/05	P	
2/03/2005	533	0.6	Southern Gully Fill									UTP	069/05	P	
2/03/2005	534	3	0.2 Southern Gully Fill									UTP	069/05	P	
2/03/2005	535	0.4	Southern Gully Fill									UTP	069/05	P	
2/03/2005	536	0.6	Southern Gully Fill									UTP	069/05	P	
2/03/2005	537	4	0.2 Southern Gully Fill									125	069/05	P	
2/03/2005	538	0.4	Southern Gully Fill									112	069/05	P	
2/03/2005	539	0.6	Southern Gully Fill									201	069/05	P	
2/03/2005	540	5	0.2 Southern Gully Fill									162	069/05	P	



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JOB NO: 21432

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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
2/03/2005	541	0.4	Southern Gully Fill									135	069/05	P	
2/03/2005	542	0.6	Southern Gully Fill									119	069/05	P	
2/03/2005	543 6	0.2	Southern Gully Fill									230+	069/05	P	
2/03/2005	544	0.4	Southern Gully Fill									116	069/05	P	
2/03/2005	545	0.6	Southern Gully Fill									145	069/05	P	
2/03/2005	546 7	0.2	Southern Gully Fill									UTP	069/05	P	
2/03/2005	547	0.4	Southern Gully Fill									UTP	069/05	P	
2/03/2005	548	0.6	Southern Gully Fill									UTP	069/05	P	
2/03/2005	549 8	0.2	Southern Gully Fill									182	069/05	P	
2/03/2005	550	0.4	Southern Gully Fill									120	069/05	P	
2/03/2005	551	0.6	Southern Gully Fill									UTP	069/05	P	
2/03/2005	552 1		Pad No 20 - South of SEART									205	072/05	P	
2/03/2005	553 2		Pad No 20 - South of SEART									178	072/05	P	
2/03/2005	554 3		Pad No 20 - South of SEART									185	072/05	P	
2/03/2005	555 4		Pad No 20 - South of SEART									188	072/05	P	
2/03/2005	556 5		Pad No 20 - South of SEART									155	072/05	P	
2/03/2005	557 6		Pad No 20 - South of SEART									230+	072/05	P	
2/03/2005	558 7		Pad No 20 - South of SEART									182	072/05	P	
2/03/2005	559 8		Pad No 20 - South of SEART									201	072/05	P	
2/03/2005	560 9		Pad No 20 - South of SEART									230+	072/05	P	
2/03/2005	561 10		Pad No 20 - South of SEART									230+	072/05	P	
2/03/2005	562 11		Pad No 20 - South of SEART									172	072/05	P	
2/03/2005	563 12		Pad No 20 - South of SEART									230+	072/05	P	
2/03/2005	564 13		Pad No 20 - South of SEART									149	072/05	P	
2/03/2005	565 14		Pad No 20 - South of SEART									UTP	072/05	P	
2/03/2005	566 15		Pad No 20 - South of SEART									215	072/05	P	
2/03/2005	567 16		Pad No 20 - South of SEART									201	072/05	P	
2/03/2005	568 1	0.2	Pad No 20 - South of SEART									UTP	073/05	P	
2/03/2005	569	0.4	Pad No 20 - South of SEART									UTP	073/05	P	
2/03/2005	570	0.6	Pad No 20 - South of SEART									UTP	073/05	P	



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JOB NO: 21432

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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
2/03/2005	571	2	0.2	Pad No 20 - South of SEART									230+	073/05	P
2/03/2005	572		0.4	Pad No 20 - South of SEART									UTP	073/05	P
2/03/2005	573	3	0.2	Pad No 20 - South of SEART									UTP	073/05	P
2/03/2005	574		0.4	Pad No 20 - South of SEART									UTP	073/05	P
2/03/2005	575	4	0.2	Pad No 20 - South of SEART									230+	073/05	P
2/03/2005	576		0.4	Pad No 20 - South of SEART									UTP	073/05	P
2/03/2005	577	5	0.2	Pad No 20 - South of SEART									UTP	073/05	P
2/03/2005	578		0.4	Pad No 20 - South of SEART									UTP	073/05	P
2/03/2005	579	6	0.2	Pad No 20 - South of SEART									UTP	073/05	P
2/03/2005	580		0.4	Pad No 20 - South of SEART									UTP	073/05	P
2/03/2005	581	7	0.2	Pad No 20 - South of SEART									112	073/05	P
2/03/2005	582		0.4	Pad No 20 - South of SEART									129	073/05	P
2/03/2005	583		0.6	Pad No 20 - South of SEART									155	073/05	P
2/03/2005	584	8	0.2	Pad No 20 - South of SEART									230+	073/05	P
2/03/2005	585		0.4	Pad No 20 - South of SEART									UTP	073/05	P
2/03/2005	586	1		Southern Gully Fill				1941	1549	25.3	4.7			074/05	P
2/03/2005	587	2		Southern Gully Fill				1885	1396	35.1	0.5			074/05	P
2/03/2005	588	3		Southern Gully Fill				1993	1492	33.6	0			074/05	P
2/03/2005	589	4		Southern Gully Fill				1860	1348	38	0			074/05	P
2/03/2005	590	5		Southern Gully Fill				1966	1610	22.1	6.1			074/05	P
2/03/2005	591	1		Pad No 20 - South of SEART				1946	1512	28.7	1.9			075/05	P
2/03/2005	592	2		Pad No 20 - South of SEART				2043	1681	21.6	2.9			075/05	P
2/03/2005	593	3		Pad No 20 - South of SEART				1991	1584	25.7	1.9			075/05	P
2/03/2005	594	4		Pad No 20 - South of SEART				2027	1620	25.2	0.5			075/05	P
2/03/2005	595	5		Pad No 20 - South of SEART				2017	1641	22.9	3			075/05	P
4/03/2005	596	1		Pad A - North of SEART				1831	1436	27.5	8.5			083/05	P
4/03/2005	597	2		Pad A - North of SEART				1900	1436	32.3	1.6			083/05	P
4/03/2005	598	3		Pad A - North of SEART				1989	1569	26.8	1.2			083/05	P
4/03/2005	599	4		Pad A - North of SEART				1980	1505	31.6	0			083/05	P
4/03/2005	600	5		Pad A - North of SEART				1929	1559	23.8	6.5			083/05	P



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 Sylvia Park Earthworks  
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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
4/03/2005	601	1	Pad A - North of SEART									185	084/05	P	
4/03/2005	602	2	Pad A - North of SEART									165	084/05	P	
4/03/2005	603	3	Pad A - North of SEART									135	084/05	P	
4/03/2005	604	4	Pad A - North of SEART									182	084/05	P	
4/03/2005	605	5	Pad A - North of SEART									185	084/05	P	
4/03/2005	606	6	Pad A - North of SEART									139	084/05	P	
4/03/2005	607	7	Pad A - North of SEART									230+	084/05	P	
4/03/2005	608	8	Pad A - North of SEART									195	084/05	P	
4/03/2005	609	9	Pad A - North of SEART									UTP	084/05	P	
4/03/2005	610	10	Pad A - North of SEART									UTP	084/05	P	
4/03/2005	611	11	Pad A - North of SEART									UTP	084/05	P	
4/03/2005	612	12	Pad A - North of SEART									198	084/05	P	
4/03/2005	613	13	Pad A - North of SEART									198	084/05	P	
4/03/2005	614	14	Pad A - North of SEART									201	084/05	P	
4/03/2005	615	15	Pad A - North of SEART									178	084/05	P	
4/03/2005	616	16	Pad A - North of SEART									UTP	084/05	P	
4/03/2005	617	17	Pad A - North of SEART									147	084/05	P	
4/03/2005	618	18	Pad A - North of SEART									165	084/05	P	
4/03/2005	619	19	Pad A - North of SEART									155	084/05	P	
4/03/2005	620	20	Pad A - North of SEART									230+	084/05	P	
4/03/2005	621	21	Pad A - North of SEART									182	084/05	P	
4/03/2005	622	1	0.2 Pad A - North of SEART									UTP	085/05	P	
4/03/2005	623	0.4	Pad A - North of SEART									164	085/05	P	
4/03/2005	624	0.6	Pad A - North of SEART									138	085/05	P	
4/03/2005	625	2	0.2 Pad A - North of SEART									UTP	085/05	P	
4/03/2005	626	3	0.2 Pad A - North of SEART									190+	085/05	P	
4/03/2005	627	0.4	Pad A - North of SEART									118	085/05	P	
4/03/2005	628	0.6	Pad A - North of SEART									138	085/05	P	
4/03/2005	629	4	0.2 Pad A - North of SEART									190+	085/05	P	
4/03/2005	630	0.4	Pad A - North of SEART									185	085/05	P	



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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
4/03/2005	631	0.6	Pad A - North of SEART									128	085/05	P	
4/03/2005	632	5 0.2	Pad A - North of SEART									155	085/05	P	
4/03/2005	633	0.4	Pad A - North of SEART									132	085/05	P	
4/03/2005	634	0.6	Pad A - North of SEART									178	085/05	P	
4/03/2005	635	6 0.2	Pad A - North of SEART									190+	085/05	P	
4/03/2005	636	0.4	Pad A - North of SEART									UTP	085/05	P	
4/03/2005	637	0.6	Pad A - North of SEART									132	085/05	P	
4/03/2005	638	7 0.2	Pad A - North of SEART									190+	085/05	P	
4/03/2005	639	0.4	Pad A - North of SEART									155	085/05	P	
4/03/2005	640	0.6	Pad A - North of SEART									161	085/05	P	
4/03/2005	641	8 0.2	Pad A - North of SEART									171	085/05	P	
4/03/2005	642	0.4	Pad A - North of SEART									124	085/05	P	
4/03/2005	643	0.6	Pad A - North of SEART									UTP	085/05	P	
8/03/2005	644	1	Pad B - North of SEART									165	087/05	P	
8/03/2005	645	2	Pad B - North of SEART									205	087/05	P	
8/03/2005	646	3	Pad B - North of SEART									UTP	087/05	P	
8/03/2005	647	4	Pad B - North of SEART									215	087/05	P	
8/03/2005	648	5	Pad B - North of SEART									211	087/05	P	
8/03/2005	649	6	Pad B - North of SEART									178	087/05	P	
8/03/2005	650	7	Pad B - North of SEART									195	087/05	P	
8/03/2005	651	8	Pad B - North of SEART									162	087/05	P	
8/03/2005	652	9	Pad B - North of SEART									198	087/05	P	
8/03/2005	653	10	Pad B - North of SEART									185	087/05	P	
8/03/2005	654	11	Pad B - North of SEART									230+	087/05	P	
8/03/2005	655	12	Pad B - North of SEART									230+	087/05	P	
8/03/2005	656	13	Pad B - North of SEART									195	087/05	P	
8/03/2005	657	14	Pad B - North of SEART									182	087/05	P	
8/03/2005	658	15	Pad B - North of SEART									162	087/05	P	
8/03/2005	659	16	Pad B - North of SEART									191	087/05	P	
8/03/2005	660	1 0.2	Pad B - North of SEART									UTP	088/05	P	



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Sylvia Park Earthworks  
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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
8/03/2005	661	0.4	Pad B - North of SEART									218	088/05	P	
8/03/2005	662	0.6	Pad B - North of SEART									UTP	088/05	P	
8/03/2005	663	2	0.2	Pad B - North of SEART								230+	088/05	P	
8/03/2005	664	0.4	Pad B - North of SEART									230+	088/05	P	
8/03/2005	665	0.6	Pad B - North of SEART									UTP	088/05	P	
8/03/2005	666	3	0.2	Pad B - North of SEART								165	088/05	P	
8/03/2005	667	0.4	Pad B - North of SEART									185	088/05	P	
8/03/2005	668	0.6	Pad B - North of SEART									UTP	088/05	P	
8/03/2005	669	4	0.2	Pad B - North of SEART								218	088/05	P	
8/03/2005	670	0.4	Pad B - North of SEART									230+	088/05	P	
8/03/2005	671	0.6	Pad B - North of SEART									230+	088/05	P	
8/03/2005	672	5	0.2	Pad B - North of SEART								165	088/05	P	
8/03/2005	673	0.4	Pad B - North of SEART									UTP	088/05	P	
8/03/2005	674	0.6	Pad B - North of SEART									UTP	088/05	P	
8/03/2005	675	1	0.2	Pad F - North of SEART								230+	089/05	P	
8/03/2005	676	0.4	Pad F - North of SEART									230+	089/05	P	
8/03/2005	677	0.6	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	678	2	0.2	Pad F - North of SEART								230+	089/05	P	
8/03/2005	679	0.4	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	680	0.6	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	681	3	0.2	Pad F - North of SEART								UTP	089/05	P	
8/03/2005	682	0.4	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	683	0.6	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	684	4	0.2	Pad F - North of SEART								UTP	089/05	P	
8/03/2005	685	0.4	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	686	0.6	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	687	5	0.2	Pad F - North of SEART								UTP	089/05	P	
8/03/2005	688	0.4	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	689	0.6	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	690	6	0.2	Pad F - North of SEART								135	089/05	P	





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**TEST RESULT SUMMARY REPORT**

Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scala (Blows/ 0.2m)	Hard Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/RP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
8/03/2005	691	0.4	Pad F - North of SEART									230+	089/05	P	
8/03/2005	692	0.6	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	693 7	0.2	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	694	0.4	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	695	0.6	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	696 8	0.2	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	697	0.4	Pad F - North of SEART									149	089/05	P	
8/03/2005	698	0.6	Pad F - North of SEART									UTP	089/05	P	
8/03/2005	699	1	Pad C - North of SEART				1970	1474	33.7	0			090/05	P	
8/03/2005	700	2	Pad C - North of SEART				1951	1665	17.2	11.1			090/05	F	
8/03/2005	701	3	RETEST OF TEST NO 2				1941	1548	25.4	4.6			090/05	RP	
8/03/2005	702	4	Pad C - North of SEART				2003	1622	23.5	3.1			090/05	P	
8/03/2005	703 1	0.2	Pad C - North of SEART									UTP	091/05	P	
8/03/2005	704	0.4	Pad C - North of SEART									UTP	091/05	P	
8/03/2005	705	0.6	Pad C - North of SEART									230+	091/05	P	
8/03/2005	706 2	0.2	Pad C - North of SEART									230+	091/05	P	
8/03/2005	707	0.4	Pad C - North of SEART									UTP	091/05	P	
8/03/2005	708	0.6	Pad C - North of SEART									UTP	091/05	P	
8/03/2005	709 3	0.2	Pad C - North of SEART									UTP	091/05	P	
8/03/2005	710	0.4	Pad C - North of SEART									188	091/05	P	
8/03/2005	711	0.6	Pad C - North of SEART									168	091/05	P	
8/03/2005	712 4	0.2	Pad C - North of SEART									UTP	091/05	P	
8/03/2005	713	0.4	Pad C - North of SEART									UTP	091/05	P	
8/03/2005	714	0.6	Pad C - North of SEART									UTP	091/05	P	
8/03/2005	715 5	0.2	Pad C - North of SEART									UTP	091/05	P	
8/03/2005	716 1		PAD F- NORTH OF SEART				2141	1707	25.4	0			092/05	P	
8/03/2005	717 2		PAD F- NORTH OF SEART				1870	1367	36.8	0.2			092/05	P	
8/03/2005	718 3		PAD F- NORTH OF SEART				1851	1477	25.4	9			092/05	P	
8/03/2005	719 4		PAD F- NORTH OF SEART				1814	1416	28.1	8.9			092/05	P	
8/03/2005	720 5		PAD F- NORTH OF SEART				1964	1596	23.1	5.3			092/05	P	



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**TEST RESULT SUMMARY REPORT**

Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hand Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/RP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
8/03/2005	721	1	PAD B- NORTH OF SEART				1928	1390	38.7	0				093/05	P
8/03/2005	722	2	PAD B- NORTH OF SEART				1910	1495	27.8	4.4				093/05	P
8/03/2005	723	3	PAD B- NORTH OF SEART				1884	1441	30.8	3.4				093/05	P
8/03/2005	724	4	PAD B- NORTH OF SEART				1939	1517	27.8	2.8				093/05	P
8/03/2005	725	5	PAD B- NORTH OF SEART				1894	1395	35.8	0				093/05	P
8/03/2005	726	1	NORTH OF SEART				2059	1648	25	0				100/05	P
8/03/2005	727	2	NORTH OF SEART				1964	1569	25.2	3.7				100/05	P
8/03/2005	728	3	NORTH OF SEART				2025	1632	24.1	1.6				100/05	P
9/03/2005	729	1	PAD D- NORTH OF SEART				1852	1408	31.5	4.6				094/05	P
9/03/2005	730	2	PAD D- NORTH OF SEART				1834	1494	22.8	11.8				094/05	F
9/03/2005	731	3	RETEST OF TEST NO 2				1766	1314	34.4	7.2				094/05	RP
9/03/2005	732	4	PAD D- NORTH OF SEART				1888	1443	30.9	3.2				094/05	P
9/03/2005	733	5	PAD D- NORTH OF SEART				1906	1465	30.1	2.9				094/05	P
9/03/2005	734	1	NORTH OF SEART										178	096/05	P
9/03/2005	735	2	NORTH OF SEART										139	096/05	P
9/03/2005	736	3	NORTH OF SEART										UTP	096/05	P
9/03/2005	737	4	NORTH OF SEART										155	096/05	P
9/03/2005	738	5	NORTH OF SEART										142	096/05	P
9/03/2005	739	6	NORTH OF SEART										224	096/05	P
9/03/2005	740	7	NORTH OF SEART										UTP	096/05	P
9/03/2005	741	8	NORTH OF SEART										UTP	096/05	P
9/03/2005	742	9	NORTH OF SEART										185	096/05	P
9/03/2005	743	10	NORTH OF SEART										205	096/05	P
9/03/2005	744	11	NORTH OF SEART										191	096/05	P
9/03/2005	745	12	NORTH OF SEART										155	096/05	P
9/03/2005	746	13	NORTH OF SEART										168	096/05	P
9/03/2005	747	14	NORTH OF SEART										182	096/05	P
9/03/2005	748	15	NORTH OF SEART										152	096/05	P
9/03/2005	749	16	NORTH OF SEART										215	096/05	P
9/03/2005	750	17	NORTH OF SEART										230+	096/05	P



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Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hand Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/RP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
9/03/2005	751	18	NORTH OF SEART									188	096/05	P	
9/03/2005	752	19	NORTH OF SEART									230+	096/05	P	
9/03/2005	753	20	NORTH OF SEART									155	096/05	P	
9/03/2005	754	21	NORTH OF SEART									UTP	096/05	P	
9/03/2005	755	22	NORTH OF SEART									182	096/05	P	
9/03/2005	756	23	NORTH OF SEART									230+	096/05	P	
9/03/2005	757	24	NORTH OF SEART									149	096/05	P	
9/03/2005	758	25	NORTH OF SEART									215	096/05	P	
9/03/2005	759	26	NORTH OF SEART									162	096/05	P	
9/03/2005	760	27	NORTH OF SEART									UTP	096/05	P	
9/03/2005	761	28	NORTH OF SEART									UTP	096/05	P	
9/03/2005	762	29	NORTH OF SEART									185	096/05	P	
9/03/2005	763	30	NORTH OF SEART									UTP	096/05	P	
9/03/2005	764	31	NORTH OF SEART									UTP	096/05	P	
9/03/2005	765	32	NORTH OF SEART									180	096/05	P	
9/03/2005	766	33	NORTH OF SEART									168	096/05	P	
9/03/2005	767	34	NORTH OF SEART									UTP	096/05	P	
9/03/2005	768	35	NORTH OF SEART									165	096/05	P	
9/03/2005	769	36	NORTH OF SEART									139	096/05	P	
9/03/2005	770	37	NORTH OF SEART									UTP	096/05	P	
9/03/2005	771	38	NORTH OF SEART									142	096/05	P	
9/03/2005	772	39	NORTH OF SEART									UTP	096/05	P	
9/03/2005	773	40	NORTH OF SEART									142	096/05	P	
9/03/2005	774	41	NORTH OF SEART									UTP	096/05	P	
9/03/2005	775	42	NORTH OF SEART									178	096/05	P	
9/03/2005	776	43	NORTH OF SEART									158	096/05	P	
9/03/2005	777	44	NORTH OF SEART									165	096/05	P	
9/03/2005	778	45	NORTH OF SEART									UTP	096/05	P	
9/03/2005	779	46	NORTH OF SEART									162	096/05	P	
9/03/2005	780	47	NORTH OF SEART									191	096/05	P	



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Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scala (Blows/ 0.2m)	Hard Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/FP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
9/03/2005	781	48	NORTH OF SEART									230+	096/05	P	
9/03/2005	782	1	0.2 PAD D - NORTH OF SEART									230+	095/05	P	
9/03/2005	783	0.4	PAD D - NORTH OF SEART									230+	095/05	P	
9/03/2005	784	0.6	PAD D - NORTH OF SEART									178	095/05	P	
9/03/2005	785	2	0.2 PAD D - NORTH OF SEART									230+	095/05	P	
9/03/2005	786	0.4	PAD D - NORTH OF SEART									230+	095/05	P	
9/03/2005	787	0.6	PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	788	3	0.2 PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	789	0.4	PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	790	0.6	PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	791	4	0.2 PAD D - NORTH OF SEART									224	095/05	P	
9/03/2005	792	0.4	PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	793	0.6	PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	794	5	0.2 PAD D - NORTH OF SEART									129	095/05	P	
9/03/2005	795	0.4	PAD D - NORTH OF SEART									119	095/05	P	
9/03/2005	796	0.6	PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	797	6	0.2 PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	798	0.4	PAD D - NORTH OF SEART									145	095/05	P	
9/03/2005	799	0.6	PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	800	7	0.2 PAD D - NORTH OF SEART									230+	095/05	P	
9/03/2005	801	0.4	PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	802	0.6	PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	803	8	0.2 PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	804	0.4	PAD D - NORTH OF SEART									UTP	095/05	P	
9/03/2005	805	0.6	PAD D - NORTH OF SEART									UTP	095/05	P	
11/03/2005	806	1	0.2 NORTH OF SEART									UTP	098/05	P	
11/03/2005	807	2	0.2 NORTH OF SEART									UTP	098/05	P	
11/03/2005	808	3	0.2 NORTH OF SEART									230+	098/05	P	
11/03/2005	809	0.4	NORTH OF SEART									UTP	098/05	P	
11/03/2005	810	4	0.2 NORTH OF SEART									UTP	098/05	P	



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Sylvia Park Earthworks  
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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
11/03/2005	811	0.4	NORTH OF SEART									230+	098/05	P	
11/03/2005	812	5	0.2	NORTH OF SEART								UTP	098/05	P	
11/03/2005	813	6	0.2	NORTH OF SEART								UTP	098/05	P	
11/03/2005	814	0.4	NORTH OF SEART									UTP	098/05	P	
11/03/2005	815	7	0.2	NORTH OF SEART								185	098/05	P	
11/03/2005	816	0.4	NORTH OF SEART									UTP	098/05	P	
11/03/2005	817	8	0.2	NORTH OF SEART								UTP	098/05	P	
11/03/2005	818	9	0.2	NORTH OF SEART								UTP	098/05	P	
11/03/2005	819	0.4	NORTH OF SEART									172	098/05	P	
11/03/2005	820	1	NORTH OF SEART									224	099/05	P	
11/03/2005	821	2	NORTH OF SEART									178	099/05	P	
11/03/2005	822	3	NORTH OF SEART									UTP	099/05	P	
11/03/2005	823	4	NORTH OF SEART									178	099/05	P	
11/03/2005	824	5	NORTH OF SEART									168	099/05	P	
11/03/2005	825	6	NORTH OF SEART									UTP	099/05	P	
11/03/2005	826	7	NORTH OF SEART									218	099/05	P	
11/03/2005	827	8	NORTH OF SEART									201	099/05	P	
11/03/2005	828	9	NORTH OF SEART									224	099/05	P	
11/03/2005	829	10	NORTH OF SEART									178	099/05	P	
11/03/2005	830	11	NORTH OF SEART									175	099/05	P	
11/03/2005	831	12	NORTH OF SEART									218	099/05	P	
11/03/2005	832	13	NORTH OF SEART									168	099/05	P	
11/03/2005	833	14	NORTH OF SEART									230+	099/05	P	
11/03/2005	834	15	NORTH OF SEART									188	099/05	P	
11/03/2005	835	16	NORTH OF SEART									224	099/05	P	
11/03/2005	836	1	NORTH OF SEART					2067	1694	22.1	1.3		097/05	P	
11/03/2005	837	2	NORTH OF SEART					2038	1657	23	1.9		097/05	P	
11/03/2005	838	3	NORTH OF SEART					1865	1421	31.3	4.1		097/05	P	
11/03/2005	839	4	NORTH OF SEART					1897	1510	25.7	6.6		097/05	P	
11/03/2005	840	5	NORTH OF SEART					1944	1607	21	8		097/05	P	



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							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
11/03/2005	841	6	NORTH OF SEART				1949	1562	4.8	4.8			097/05	P	
11/03/2005	842	7	NORTH OF SEART				1814	1398	7.8	7.8			097/05	P	
11/03/2005	843	8	NORTH OF SEART				2001	1561	0	0			097/05	P	
11/03/2005	844	9	NORTH OF SEART				1979	1634	6.3	6.3			097/05	P	
15/03/2005	845	1	NORTH OF SEART									188	101/05	P	
15/03/2005	846	2	NORTH OF SEART									198	101/05	P	
15/03/2005	847	3	NORTH OF SEART									UTP	101/05	P	
15/03/2005	848	4	NORTH OF SEART									172	101/05	P	
15/03/2005	849	5	NORTH OF SEART									UTP	101/05	P	
15/03/2005	850	6	NORTH OF SEART									185	101/05	P	
15/03/2005	851	7	NORTH OF SEART									195	101/05	P	
15/03/2005	852	8	NORTH OF SEART									211	101/05	P	
15/03/2005	853	9	NORTH OF SEART									211	101/05	P	
23/03/2005	854	1	SOUTH OF SEART				1879	1478	27.1	6.4			104/05	P	
23/03/2005	855	2	SOUTH OF SEART				1939	1601	21.1	8.2			104/05	P	
23/03/2005	856	3	SOUTH OF SEART				2059	1683	22.3	1.5			104/05	P	
23/03/2005	857	1	NORTH OF SEART				1897	1567	31.6	2.3			102/05	P	
23/03/2005	858	2	NORTH OF SEART				2001	1642.9	27.9	0			102/05	P	
23/03/2005	859	3	NORTH OF SEART				1896	1499.4	29	4.1			102/05	P	
23/03/2005	860	4	NORTH OF SEART				1868	1537.5	29.5	5.2			102/05	P	
23/03/2005	861	1	0.2 SOUTH OF SEART									215	105/05	P	
23/03/2005	862	0.4	SOUTH OF SEART									230+	105/05	P	
23/03/2005	863	0.6	SOUTH OF SEART									UTP	105/05	P	
23/03/2005	864	2	0.2 SOUTH OF SEART									195	105/05	P	
23/03/2005	865	0.4	SOUTH OF SEART									UTP	105/05	P	
23/03/2005	866	3	0.2 SOUTH OF SEART									UTP	105/05	P	
23/03/2005	867	4	0.2 SOUTH OF SEART									230+	105/05	P	
23/03/2005	868	0.4	SOUTH OF SEART									UTP	105/05	P	
23/03/2005	869	1	0.2 NORTH OF SEART									218	103/05	P	
23/03/2005	870	0.4	NORTH OF SEART									230+	103/05	P	



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FILE/FOLDER: Sylvia Park Earthworks

**TEST RESULT SUMMARY REPORT**

Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hand Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/RF/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
23/03/2005	871	0.6	NORTH OF SEART									UTP	103/05	P	
23/03/2005	872	2 0.2	NORTH OF SEART									UTP	103/05	P	
23/03/2005	873	0.4	NORTH OF SEART									218	103/05	P	
23/03/2005	874	0.6	NORTH OF SEART									UTP	103/05	P	
23/03/2005	875	3 0.2	NORTH OF SEART									195	103/05	P	
23/03/2005	876	0.4	NORTH OF SEART									UTP	103/05	P	
23/03/2005	877	0.6	NORTH OF SEART									UTP	103/05	P	
23/03/2005	878	4 0.2	NORTH OF SEART									230+	103/05	P	
23/03/2005	879	0.4	NORTH OF SEART									230+	103/05	P	
23/03/2005	880	0.6	NORTH OF SEART									221	103/05	P	
23/03/2005	881	5 0.2	NORTH OF SEART									162	103/05	P	
23/03/2005	882	0.4	NORTH OF SEART									UTP	103/05	P	
23/03/2005	883	6 0.2	NORTH OF SEART									230+	103/05	P	
23/03/2005	884	0.4	NORTH OF SEART									UTP	103/05	P	
23/03/2005	885	7 0.2	NORTH OF SEART									230+	103/05	P	
23/03/2005	886	0.4	NORTH OF SEART									230+	103/05	P	
23/03/2005	887	0.6	NORTH OF SEART									UTP	103/05	P	
23/03/2005	888	8 0.2	NORTH OF SEART									172	103/05	P	
23/03/2005	889	0.4	NORTH OF SEART									195	103/05	P	
23/03/2005	890	0.6	NORTH OF SEART									230+	103/05	P	
13/04/2005	891	1	CARPARK 1- SOUTH OF SEART				1790	1106	61.9	0				107/05	P
13/04/2005	892	2	CARPARK 1- SOUTH OF SEART				1806	1311	37.8	3				107/05	P
13/04/2005	893	3	CARPARK 1- SOUTH OF SEART				1702	1070	59.1	0				107/05	P
13/04/2005	894	4	CARPARK 1- SOUTH OF SEART				1913	1412	35.5	0				107/05	P
13/04/2005	895	5	CARPARK 1- SOUTH OF SEART				1864	1378	35.3	1.5				107/05	P
13/04/2005	896	1 0.2	CARPARK 1- SOUTH OF SEART									215	108/05		
13/04/2005	897	2 0.2	CARPARK 1- SOUTH OF SEART									UTP	108/05		
13/04/2005	898	3 0.2	CARPARK 1- SOUTH OF SEART									198	108/05		
13/04/2005	899	4 0.2	CARPARK 1- SOUTH OF SEART									132	108/05	F	
13/04/2005	900	5 0.2	CARPARK 1- SOUTH OF SEART									UTP	108/05		
13/04/2005	901	6 0.2	CARPARK 1- SOUTH OF SEART									92	108/05	F-	



**GEOTECHNICS LTD.**  
Sylvia Park Earthworks  
Phone: 021 378 385

Data Input By: TPG Date:

Data Input Checked By: Date:

JOB NO: 21432

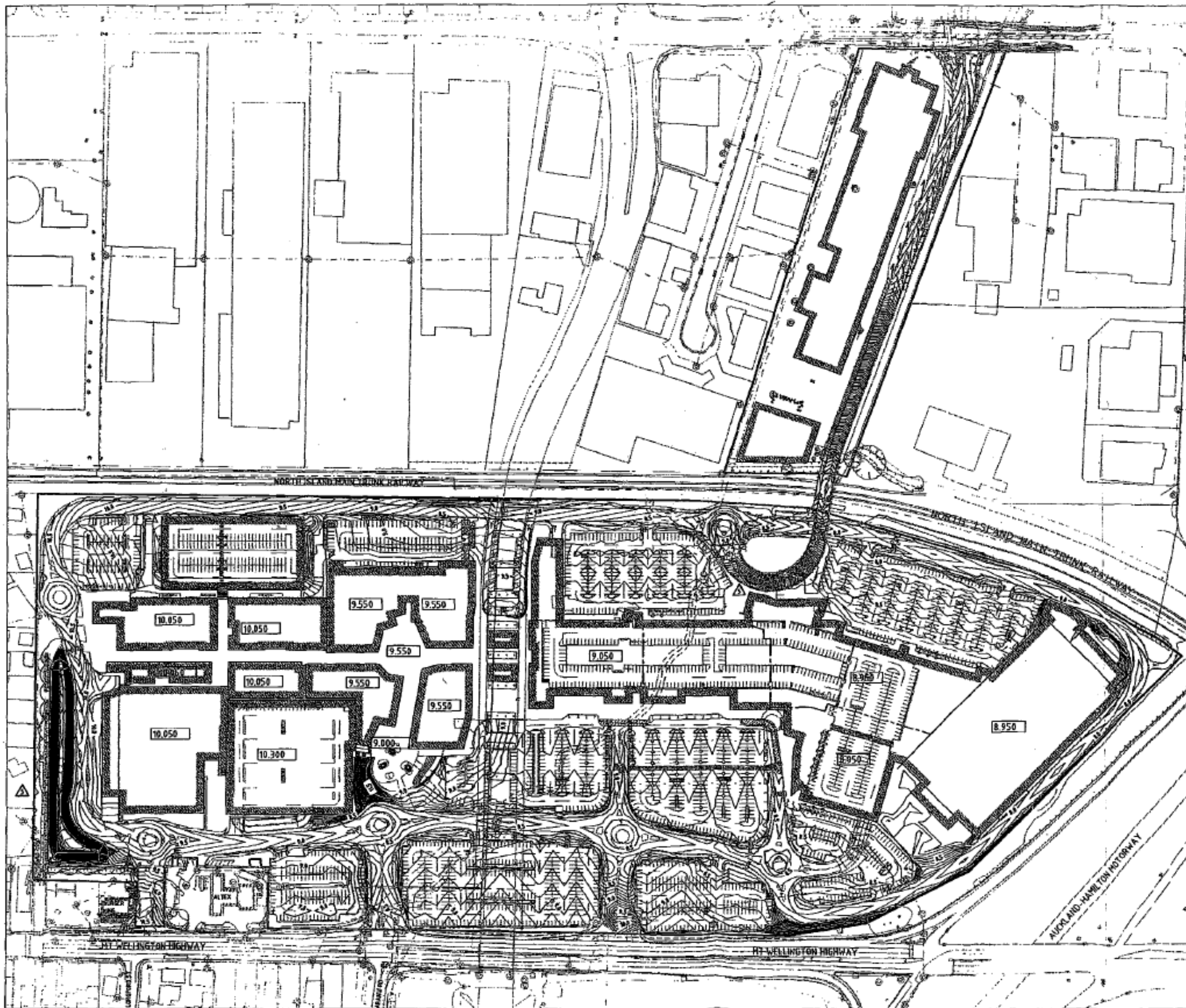
FILE/FOLDER: Sylvia Park Earthworks

**TEST RESULT SUMMARY REPORT**

Date	Test No.	Zone	Location / Comments	Northing mN	Easting mN	RL (m)	Nuclear Density Test				GEO Impact Value CIV	Average Scale (Blows/ 0.2m)	Hand Shear Vane (kPa)	Lab Ref No SPE-	Status P/F/RP/ RF/NA
							Field Bulk Density (kg/m <sup>3</sup> )	Corr. Dry Density (kg/m <sup>3</sup> )	Oven Water Content (%)	Corr. Air Voids (%)					
13/04/2005	902	7	0.2	CARPARK 1- SOUTH OF SEART								145	108/05	P	
13/04/2005	903	8	0.2	CARPARK 1- SOUTH OF SEART								230+	108/05	P	
13/04/2005	904	9	0.2	CARPARK 1- SOUTH OF SEART								162	108/05	P	
18/04/2005	905	1	0.2	RETEST OF TEST NO 4-SPE108/05								201	109/05	RP	
18/04/2005	906	2	0.2	RETEST OF TEST NO 6-SPE108/05								158	109/05	RP	
28/04/2005	907	1		POND-NORTH OF SEART								201	110/05	P	
28/04/2005	908	2		POND-NORTH OF SEART								228	110/05	P	
28/04/2005	909	3		POND-NORTH OF SEART								198	110/05	P	
28/04/2005	910	4		POND-NORTH OF SEART								178	110/05	P	
28/04/2005	911	5		POND-NORTH OF SEART								211	110/05	P	
28/04/2005	912	6		POND-NORTH OF SEART								utp	110/05	P	
28/04/2005	913	7		POND-NORTH OF SEART								utp	110/05	P	
28/04/2005	914	8		POND-NORTH OF SEART								165	110/05	P	
28/04/2005	915	9		POND-NORTH OF SEART								165	110/05	P	
28/04/2005	916	10		POND-NORTH OF SEART								135	110/05	P	
28/04/2005	917	11		POND-NORTH OF SEART								149	110/05	P	
28/04/2005	918	12		POND-NORTH OF SEART								178	110/05	P	
28/04/2005	919	13		POND-NORTH OF SEART								v soft	110/05	F	
28/04/2005	920	14		POND-NORTH OF SEART								v soft	110/05	F	
28/04/2005	921	15		POND-NORTH OF SEART								195	110/05	P	
28/04/2005	922	1		POND-NORTH OF SEART				1901	1513	25.7	6.4	230+	111/05	P	
28/04/2005	923	2		POND-NORTH OF SEART				1823	1321	38	1.9	218	111/05	P	
2/05/2005	924	1		RETEST TEST NO 13-SPE-110/05								152	112/05	RP	
2/05/2005	925	2		RETEST TEST NO 14-SPE-110/05								218	112/05	RP	
2/05/2005	926	1		POND-NORTH OF SEART								188	113/05	P	
2/05/2005	927	2		POND-NORTH OF SEART								UTP	113/05	P	
2/05/2005	928	3		POND-NORTH OF SEART								191	113/05	P	
2/05/2005	929	4		POND-NORTH OF SEART								162	113/05	P	
2/05/2005	930	5		POND-NORTH OF SEART								185	113/05	P	
2/05/2005	931	6		POND-NORTH OF SEART								218	113/05	P	
2/05/2005	932	7		POND-NORTH OF SEART								UTP	113/05	P	







ZONE NAME  
**0A**

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**LEGEND**

---	SITE
---	OPEN DRAIN
---	TOP OF BANK (EOD)
---	FENCELINE
---	INDICATIVE CONTOUR LEVEL
---	RESTRICTED EARTHWORKS CORRIDOR

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5	CONTOURS REVISED	NEL	TSR	TSR	24 MAY 04
4	FINAL DRAWING REVISED	NEL	TSR	TSR	24 NOV 03
3	23 DEC 01 REVISION	SM	AM	TSR	31 JAN 03
2	DEVELOPED DESIGN BOOK	JSD	TJW	AG	05 JAN 03
1	3D PLATFORM RASSED	JSD	TJW	AG	10 NOV 04
B	EASTERN ACCESS AHOOD	SLR	TJW	AG	1 NOV 04
C	FOR CONSTRUCTION	JSD	TSR	AG	22 OCT 04
D	PRELIMINARY DESIGN BOOK	JSD	TSR	AG	10 SEPT 04
A	PRELIMINARY DESIGN BOOK	JSD	TSR	AG	23 AUG 04

**SKM**  
25 Teed St, PO Box 6804  
Newmarket, Auckland  
NEW ZEALAND  
Tel +64 9 913 8800  
Fax +64 9 913 8801

CONSULTANT TEAM

ARCHITECTURAL	PI 704 3008	PLANNING	PI 375 7043
SYLVIA PARK ARCHITECTS		BARKER & ASSOCIATES	
ACQUISITION	PI 302 7020	LANDSCAPE	PI 306 9412
MANAGEMENT DAY ACCESS		DESIGN GROUP	
FIRE ENGINEERING	PI 095 3473	TRAFFIC	PI 302 9901
HAZARD FIRE & SAFETY		TRAFFIC DESIGN GROUP	
SERVICES	PI 026 8059	CIVIL ENGINEER	PI 013 8800
CONNELL MOTT MACDONALD		SKANSKA EARTH WORKS	
QUANTITY SURVEYOR	PI 308 4274	STRUCTURAL	PI 302 3428
MARK HUNT		MARSHALL JACKSON LTD	

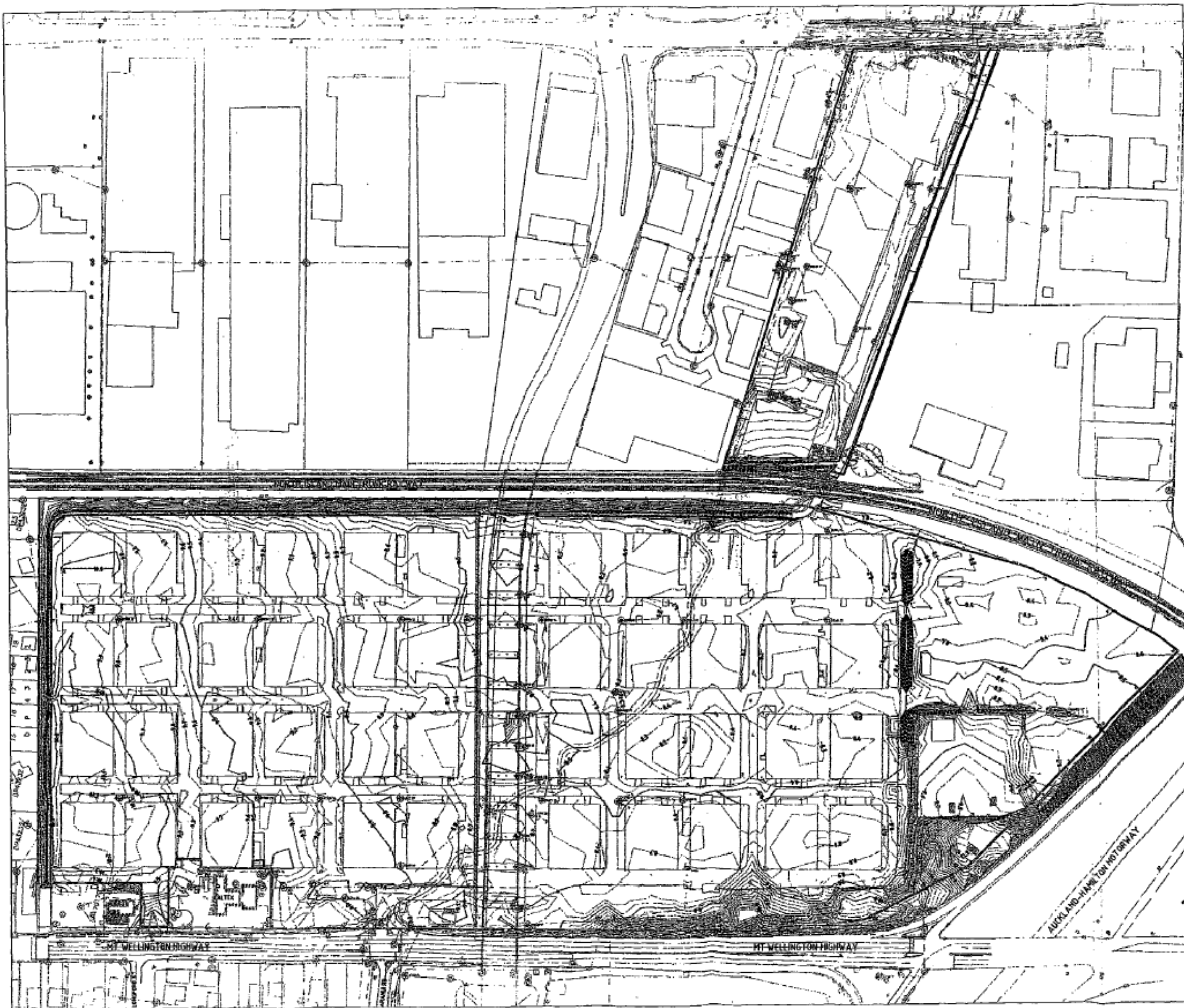
PROJECT / CLIENT  
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CIVIL


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SYLVIA PARK BUSINESS CENTRE LTD  
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CIVIL

REVISIONS

NO	DATE	DESCRIPTION	BY	CHKD
1	2004/05/24	ISSUED FOR CONSTRUCTION	TSR	AG

FOR CONSTRUCTION  
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REPLAN  
  
 ZONE NAME  
**0A**

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**LEGEND**  
 SITE  
 - - - - - OPEN GRAVE  
 - - - - - TOP OF BANK (DEM)  
 - - - - - FENCELINE  
 - - - - - POSITIVE (OUTDOOR LEVEL)  
 - - - - - 0.5  
 - - - - - RESTRICTED PARTNERSHIP (RPP)

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GCR GEOTECHNICAL COMPLETION REPORT

A' ISSUED FOR GCR  
 18 MAY 2006

**SKM**  
 25 Teed St, PO Box 2806  
 Newmarket, Auckland  
 NEW ZEALAND  
 Tel: +64 9 812 8000  
 Fax: +64 9 812 8001

CONSULTANT TEAM  
 ARCHITECTURAL PH 308 9031 PLANNING PH 278 7043  
 SYLVIA PARK ARCHITECTS BARNER & ASSOCIATES  
 ACCUSTIC PH 376 7422 LANDSCAPE PH 305 8442  
 MARSHALL DAY ACCORDS ESTHARS GROUP  
 FIRE ENGINEERING PH 582 3473 TRAFFIC PH 202 0820  
 HOLLAND FIRE & SAFETY TRAFFIC DESIGN GROUP  
 SPENCE PH 522 8819 CIVIL/SURVEY PH 812 8600  
 CONNELL MOTT MACDONALD SHELLAN ROBERTS SHEZ  
 CLARKEY BLENCHARD PH 309 1074 STRUCTURAL PH 305 9008  
 REEDER HUNT MURRAY JACOB LTD

PROJECT / CLIENT  
 SYLVIA PARK BUSINESS CENTRE LTD  
 **KIWI INCOME PROPERTY TRUST**  
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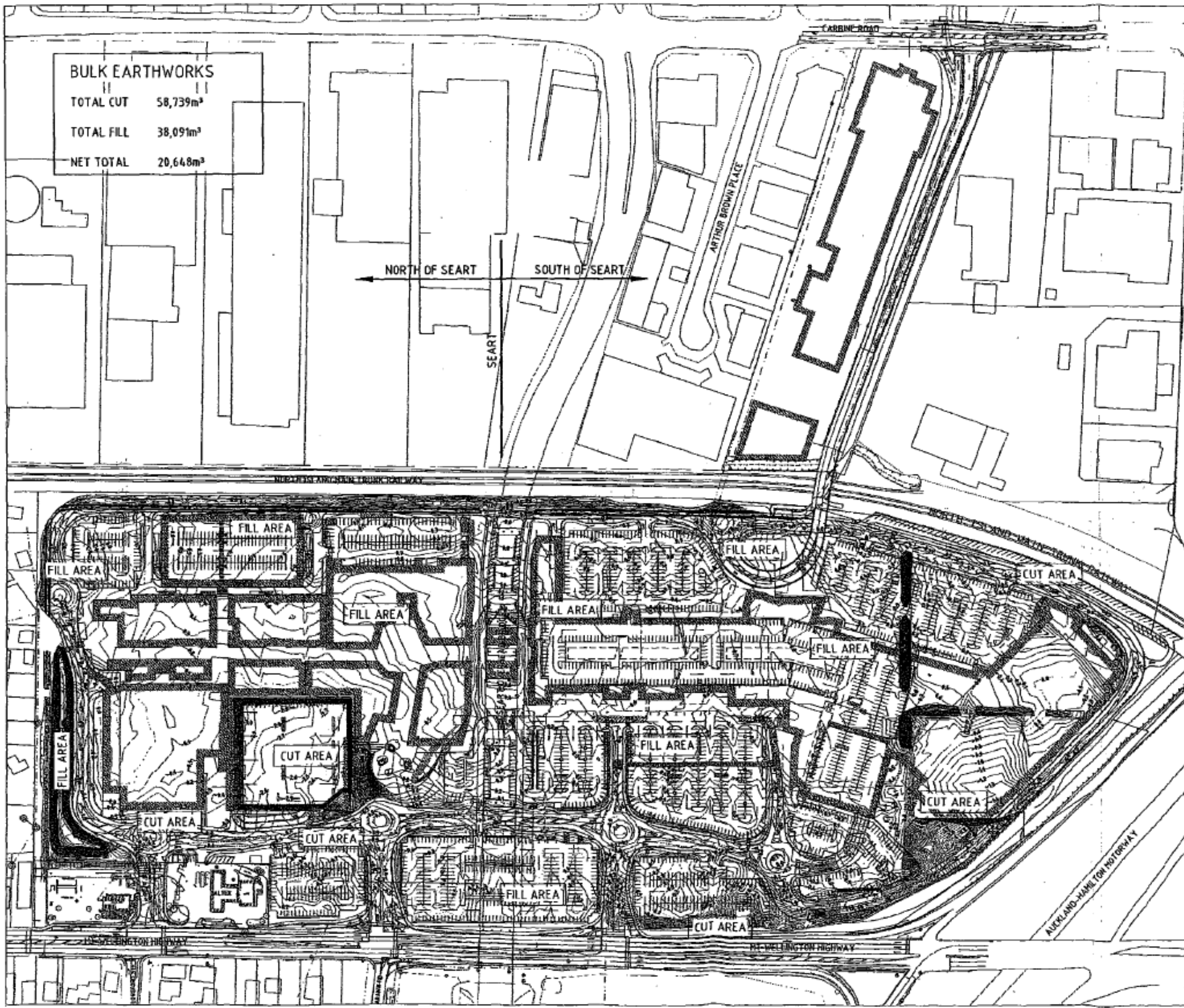
DATE  
  
 BULK EARTHWORKS  
 EXISTING CONTOURS  
 OVERALL PLAN  
 SHEET 1  
 SCALE (A1) 1 to 1250

DESIGNED BY RSPH	DATE 18 MAY 2006
CHECKED BY TST	REVISION AND DATE
APPROVED BY TST	NO. 1
DATE 18 MAY 2006	NO. 2
DATE 18 MAY 2006	NO. 3
DATE 18 MAY 2006	NO. 4
DATE 18 MAY 2006	NO. 5
DATE 18 MAY 2006	NO. 6
DATE 18 MAY 2006	NO. 7
DATE 18 MAY 2006	NO. 8
DATE 18 MAY 2006	NO. 9
DATE 18 MAY 2006	NO. 10

JOB NUMBER: AN00667  
 ZONE: 0A  
 SK-248 (A)  
 FOR GCR

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PLAN DATE: 18/05/2006  
 PLAN NO: AN00667



**BULK EARTHWORKS**

TOTAL CUT	58,739m <sup>3</sup>
TOTAL FILL	38,091m <sup>3</sup>
NET TOTAL	20,648m <sup>3</sup>

KEY PLAN ZONE NAME  
**0A**

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**LEGEND**

**SITE**

- OPEN GRAB
- TOP OF BANK (1:1)
- FINISHLINE
- INDICATIVE CONTOUR LEVELS
- RESTRICTED-EARTHWORKS CORNER

- CUT CONTOUR
- FILL CONTOUR
- GCR GEOTECHNICAL COMPLETION REPORT

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A ISSUED FOR GCR  
No. Revision By Date

**SKM**  
25 Teed St, PO Box 2006  
Newmarket, Auckland  
NEW ZEALAND  
Tel +64 9 813 8200  
Fax +64 9 813 8201

**CONTRACT TEAM**

ARCHITECTURAL: SYLVIA PARK ARCHITECTS	PLANNING: BARKER & ASSOCIATES
ADDRESS: PH 329 3822	LANDSCAPE: PH 309 9442
LANDSCAPE DAY: ESTHUIS GROUP	TRAFFIC: PH 322 0909
FIRE ENGINEERING: PH 365 3473	TRAFFIC DESIGN GROUP
SOLAR FIRE & SAFETY	
SERVICES: PH 320 8818	CIVIL/SURVEY: PH 813 8200
CONNELL MOTT MACDONALD	SYLVIA PARK HEIGHT MAKE
QUANTITY SURVEYOR: PH 308 1074	STRUCTURAL: PH 309 9608
EDDER BUNT	MURRAY JACOBS LTD

PROJECT / CLIENT  
**SYLVIA PARK BUSINESS CENTRE LTD**  
**KIWI INCOME PROPERTY TRUST**  
**CIVIL**

**BULK EARTHWORKS CUT & FILL DEPTHS OVERALL PLAN**  
SCALE (A1) 1 to 1250

DESIGN: PH 329 3822	REVISION: 001 DATE: 19 MAY 2006
CHECKED: TSH	REVISION: 002
APPROVED: TSH	REVISION: 003
JOB NUMBER: AN00667	DATE: 19 MAY 2006
	REVISION: 004
	REVISION: 005
	REVISION: 006
	REVISION: 007
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	REVISION: 100

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