

12. APPENDICES

Contents

12.1.	Co-ordinates for the Proposed Pipeline Route (GDA 94).....	2
12.2.	Summary of Gaseous Emissions by Source	7
12.3.	Explanation of Conservation Codes for Flora and Fauna, Vegetation Condition and Strata Classification	11
12.4.	Flora Species Recorded from the Southdown Magnetite Proposal Flora Survey.	24
12.5.	Priority Flora Recorded from the Southdown Magnetite Proposal Flora Survey	41
12.6.	Significant Flora as Defined by EPA Guidance Statement No. 51	44
12.7.	Fauna Species Recorded from the Southdown Magnetite Proposal Vertebrate Fauna Survey.....	51
12.8.	Search Area for Non-indigenous Heritage Desktop Survey.....	71
12.9.	Aboriginal Register Search	76
12.10.	Native Title Claim Areas	86

12. APPENDICES

12.1. Co-ordinates for the Proposed Pipeline Route (GDA 94)

12. APPENDICES

Point ID	East	North	Point ID	East	North
1	624843.9	6169575	53	580202.6	6123273
2	623683.5	6168855	54	580224.2	6123273
3	577795.9	6124505	55	580237	6123275
4	577763.1	6123710	56	580255.9	6123276
5	578314.4	6124284	57	580281.1	6123280
6	578961.9	6123698	58	580302.2	6123284
7	578948.5	6123704	59	580326.2	6123289
8	578935.2	6123710	60	580350.4	6123296
9	578922	6123717	61	580358.4	6123299
10	578909	6123723	62	580368.2	6123303
11	578896.1	6123730	63	580370.9	6123359
12	578883.2	6123738	64	580403.7	6123401
13	578870.6	6123745	65	580428.1	6123425
14	578858	6123753	66	580482.3	6123464
15	578845.6	6123760	67	580522.8	6123476
16	578833.3	6123768	68	580600.9	6123485
17	578821.1	6123777	69	580649.2	6123491
18	635945	6176388	70	580673.1	6123493
19	631897.6	6173832	71	580744.2	6123487
20	631771.6	6173859	72	580813.3	6123472
21	581532.5	6122901	73	580891.5	6123433
22	581435.2	6123017	74	581098.8	6123344
23	578961.9	6123698	75	581189.9	6123264
24	579146.9	6123619	76	581228.3	6123228
25	579159.7	6123613	77	581259.3	6123205
26	579478.3	6123493	78	581270	6123193
27	579498.5	6123485	79	581414.2	6123113
28	579521.4	6123477	80	581391.4	6123072
29	579542.2	6123469	81	581400.2	6123042
30	579587	6123454	82	581996	6122689
31	579625.6	6123440	83	581824.8	6122750
32	579651.8	6123431	84	582195.5	6122618
33	579687.1	6123419	85	581996	6122689
34	579714.8	6123410	86	582268.4	6122592
35	579744.1	6123400	87	582440.7	6122548
36	579779.1	6123388	88	582662.9	6122491
37	579800	6123380	89	582704.2	6122478
38	579832.6	6123369	90	582804.9	6122482
39	579867.2	6123357	91	582839	6122492
40	579896.1	6123347	92	582963.3	6122434
41	579914.2	6123341	93	578821.1	6123777
42	579937	6123333	94	578787.6	6123801
43	579972.3	6123321	95	578755.7	6123827
44	580006.1	6123309	96	578725.3	6123854
45	580029.6	6123301	97	578670.1	6123906
46	580055	6123293	98	578644.7	6123916
47	580073	6123288	99	578501.6	6124051
48	580094.9	6123283	100	578447.4	6124103
49	580113.4	6123280	101	578426.4	6124136
50	580130.2	6123278	102	578373.8	6124186
51	580152.8	6123275	103	578358.4	6124242
52	580175.2	6123274	104	578314.4	6124284

12. APPENDICES

Point ID	East	North	Point ID	East	North
105	581713.2	6122808	157	596310.5	6149520
106	581693.2	6122807	158	596478.9	6149673
107	581685.1	6122811	159	596655.1	6149948
108	581674.3	6122828	160	596762.9	6150025
109	580366.9	6136989	161	599821.4	6150118
110	580660.1	6137386	162	600470.4	6150110
111	580917.7	6137510	163	600712.3	6150099
112	580971.2	6137524	164	601387.8	6150092
113	581853.4	6137915	165	601758.1	6150449
114	582266	6138160	166	601951.5	6150636
115	582469	6138159	167	602450	6151479
116	582996.5	6138155	168	615579.6	6158663
117	583273.2	6138153	169	615621.5	6161721
118	584095	6138148	170	616188.1	6162357
119	584150.9	6138147	171	618505.8	6165254
120	584176	6138309	172	573710.5	6130622
121	584667.3	6138946	173	574306.2	6130617
122	585391.9	6139884	174	577094.6	6124541
123	585565.6	6140109	175	576817.7	6124606
124	589937	6144671	176	576677.6	6124701
125	590625.7	6144664	177	576628.6	6124730
126	591139.2	6144845	178	576594	6124745
127	591178.8	6144849	179	576558.1	6124757
128	591266.6	6144865	180	576520.7	6124767
129	591312.3	6144926	181	575675.7	6124936
130	591396.8	6144978	182	575495.1	6124972
131	589059.2	6143969	183	575409.7	6124993
132	589448.2	6144104	184	575326.7	6125022
133	589523.6	6144195	185	574778.9	6125239
134	589656.4	6144212	186	574704.4	6125265
135	589671.9	6144220	187	574628.7	6125285
136	589684.6	6144238	188	574551.6	6125300
137	589921.6	6144433	189	574473.5	6125308
138	589923.9	6144658	190	574395.1	6125311
139	592432.8	6145515	191	574316.7	6125308
140	592787.7	6145777	192	574240.3	6125299
141	592865.4	6145922	193	574228.6	6125297
142	592937.4	6145956	194	574213.1	6125321
143	593129.9	6146029	195	574213.7	6125410
144	593410.9	6146236	196	573649.1	6125414
145	593519.9	6146343	197	573654.8	6126136
146	593604.7	6146389	198	573657	6126417
147	594038.6	6146792	199	573653	6126541
148	595175.1	6147840	200	573656	6126920
149	595527.6	6147990	201	573661.2	6126950
150	595609.6	6148055	202	573690.3	6130602
151	595886.6	6148431	203	574326.4	6130626
152	595919.7	6148659	204	573710.5	6130622
153	596154.1	6148949	205	573710.3	6130602
154	596230.1	6149113	206	573690.3	6130602
155	596237	6149148	207	574718.6	6130799
156	596252.7	6149227	208	574718.7	6130799

12. APPENDICES

Point ID	East	North	Point ID	East	North
209	574648.9	6130867	261	607539.3	6154629
210	580108.2	6136799	262	607961.2	6154898
211	579745.2	6136388	263	608910.1	6155089
212	579687.3	6136367	264	610628.8	6154793
213	579416	6136368	265	610750.9	6154829
214	579387.1	6136376	266	614535.1	6157828
215	577994.4	6135300	267	578898.6	6136174
216	578049.4	6135355	268	578922	6136318
217	578343.5	6135743	269	578971.4	6136378
218	578406.9	6135786	270	578585.2	6135784
219	577937.3	6135059	271	578714.7	6135930
220	576687.7	6133919	272	621107.7	6167379
221	576832.3	6134527	273	621422.4	6167454
222	577715	6134783	274	622247	6167965
223	577890.5	6134880	275	622273.7	6167970
224	577931.3	6135034	276	623035.6	6168442
225	576156.5	6133397	277	623046.1	6168461
226	576148.4	6133377	278	623567.3	6168784
227	575083	6132331	279	623588	6168785
228	574642.8	6130882	280	623680.6	6168842
229	574647.8	6131459	281	585844	6141286
230	574648.9	6130867	282	585914.2	6141431
231	574647.9	6130868	283	586463.6	6142122
232	574646.9	6130869	284	586462	6142136
233	574646.1	6130870	285	586501.2	6142185
234	574645.3	6130872	286	586515.2	6142187
235	574644.7	6130873	287	586701.9	6142421
236	574644.1	6130874	288	586999.7	6142592
237	574643.6	6130876	289	587282	6142637
238	574643.3	6130877	290	587320	6142650
239	574643	6130879	291	587601	6142652
240	574642.9	6130880	292	587742	6142620
241	574642.8	6130882	293	587796	6142626
242	596902.5	6150124	294	588176.3	6142862
243	597069.8	6150154	295	588240.8	6143168
244	597234	6150109	296	588263.1	6143292
245	597403.3	6149933	297	588262	6143338
246	597757	6149621	298	588270.5	6143375
247	597869.5	6149583	299	588285.3	6143392
248	598581.9	6149642	300	588305.9	6143413
249	599387.5	6149592	301	588574.9	6143645
250	601528.6	6150193	302	588720.6	6143770
251	619559.8	6165428	303	588892.6	6143884
252	603723.3	6151860	304	591441.2	6145470
253	603897.3	6151960	305	591772.2	6145524
254	604357.6	6152456	306	591420.6	6145450
255	604449.3	6152619	307	591423.4	6145202
256	604570.7	6152902	308	591426.4	6145162
257	605039.2	6153376	309	591416	6145124
258	605681.5	6153774	310	611088.3	6154814
259	605940.8	6154127	311	611477.4	6154802
260	607367.1	6154563	312	611828.1	6154812

12. APPENDICES

Point ID	East	North
313	613570.2	6156450
314	614536.1	6157829
315	625475	6170442
316	625225.2	6170225
317	625017.9	6170073
318	625723.2	6170522
319	626310.6	6170485
320	628955.2	6172124
321	628976.2	6172126
322	574777.4	6130628
323	574809.2	6130660
324	574815.1	6130674
325	574815.9	6130702
326	574763.1	6130622
327	574763.1	6130622
328	574764.5	6130622
329	574766	6130623
330	574767.4	6130623
331	574768.8	6130623
332	574770.2	6130624
333	574771.5	6130624
334	574772.8	6130625
335	574774	6130625
336	574775.2	6130626
337	574776.3	6130627
338	574777.4	6130628
339	574809.2	6130660
340	574795.1	6130674
341	574815.1	6130674
342	574809.3	6130718
343	574815.9	6130702
344	574795.9	6130703
345	574809.3	6130718

12. APPENDICES

12.2. Summary of Gaseous Emissions by Source

12. APPENDICES

Activity	NO _x (kg/yr)	SO ₂ (kg/yr)	CO (kg/yr)	PM ₁₀ (kg/yr)	VOCs (kg/yr)
PIPELINE CONSTRUCTION					
<u>Travel to and from site</u>					
Cars	70	7	72	13	12
Buses	2031	54	1028	116	368
Normal truck	612	17	241	47	197
Semi-trailers	1225	33	482	95	394
Total	3938	111	1822	270	970
<u>On-site equipment</u>					
4WD vehicles	4	0	2	0	0
Excavators	12	1	5	1	1
Forklift	0	0	0	0	0
Graders	3	0	1	0	0
Roller	1	0	0	0	0
Trucks	8	1	3	0	0
Trenchers (1x small, 2x large)	3	0	1	0	0
Side booms (or pipelayers)	3	0	1	0	0
Marookas - welding tack rigs	2	0	1	0	0
Total	36	3	15	3	3
MINE AND CONCENTRATOR CONSTRUCTION					
<u>Travel to and from site</u>					
Cars	70	7	72	13	12
Buses	2031	54	1028	116	368
Normal truck	931	25	366	72	299
Oversize trucks	10	0	4	1	3
Concrete trucks	466	13	183	36	150
Semi-trailers	1863	50	733	144	599
Total	5371	149	2386	381	1430
<u>On-site equipment - mobile</u>					
4WD vehicles	3577	303	1	293	328
Forklift	660	56	0	54	61
Trucks	5137	560	2	317	237
Cranes	3302	279	1	270	303
Total (mobile)	12677	1198	5	935	927
<u>On-site equipment - stationary</u>					
Gensets (1MW)	18690	14916	8387	98	791
Total (stationary)	18690	14916	8387	98	791

12. APPENDICES

Activity	NO _x (kg/yr)	SO ₂ (kg/yr)	CO (kg/yr)	PM ₁₀ (kg/yr)	VOCs (kg/yr)
PORT INFRASTRUCTURE CONSTRUCTION					
<u>On-site equipment - mobile</u>					
4WD vehicles	2	0	1	0	0
Forklift	0	0	0	0	0
Trucks	2	0	1	0	0
Cranes	2	0	1	0	0
<u>Cutter Suction Dredge</u>					
Main Engines	1107439	717621	82873	58852	17719
Auxillary Engines	196950	35745	21353	1666	7298
<u>Trailer Hopper Dredge</u>					
Main Engines	2649024	1717561	224818	140858	42409
Auxillary Engines	815111	141490	87146	6595	28982
<u>Survey/Workboat</u>					
Main Engines	68642	22240	2173	1824	549
Total (mobile)	4837172	2634657	418366	209796	96958
<u>On-site equipment - stationary</u>					
Gensets (1MW)	12220	9753	5484	64	517
Total (stationary)	12220	9753	5484	64	517
MINING					
<u>Travel to and from site</u>					
Buses	3650	97	1847	208	661
Cars	501	53	514	90	86
Total	4151	150	2361	298	746
<u>Earthmoving Fleet</u>					
Face Shovel	211019	17848	88044	17274	19331
Wheel Loader	15400	1496	4720	1404	2068
Off-Highway Dump Truck	301840	32912	129360	18656	13904
Wheel Loader	6738	655	2065	614	905
Off-Highway Dump Truck	16464	1795	7056	1018	758
Stemming Loader	662	56	276	54	61
Track Dozer	12899	1091	5382	1056	1182
Track Dozer	9426	797	3933	772	864
Wheel Dozer	7471	815	3202	386	344
Wheel Dozer	4669	509	2001	241	215
Motor Grader	4104	504	884	359	207
Water Cart	12348	1044	5152	1011	1131
Service Truck	1029	112	441	64	47
Fuel Truck	1029	112	441	64	47
Heavy Equipment Low-Loader	1764	149	736	144	162
Total	606861	59895	253693	43115	41226

12. APPENDICES

Activity	NO _x (kg/yr)	SO ₂ (kg/yr)	CO (kg/yr)	PM ₁₀ (kg/yr)	VOCs (kg/yr)
Light Vehicles					
Light Vehicles	1323	112	552	108	121
Total	1323	112	552	108	121
SHIPPING					
<u>Ships</u>					
Ships					
Main Engines	2649024	1717561	224818	140858	42409
Auxillary Engines	815111	141490	87146	6595	28982
Total	3464135	1859051	311964	147453	71391
TOTAL ELECTRICITY					
<u>Electricity Usage</u>					
Electricity Usage	161787478	548628582	17386117	579537	2656212
Total	161787478	548628582	17386117	579537	2656212
FUGITIVE ORE EMISSIONS					
<u>Dust</u>					
Dust				2400000	
Total				2400000	
Total Emissions t/yr	165864	550548	17955	3171	2770

12. APPENDICES

12.3. Explanation of Conservation Codes for Flora and Fauna, Vegetation Condition and Strata Classification

12. APPENDICES
Explanation of Conservation Codes for Flora
Environment Protection and Biodiversity Conservation Act 1999

At a National level, flora and fauna are protected under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Act contains a list of species that are considered Critically Endangered, Endangered, Vulnerable, Conservation Dependent, Extinct or Extinct in the Wild (Table D1.1).

Table A3.1: Definition of Categories described under the EPBC Act.

CONSERVATION CATEGORY	DEFINITION
Extinct	A species is extinct if there is no reasonable doubt that the last member of the species has died.
Extinct in the wild	A species is categorised as extinct in the wild if it is only known to survive in cultivation, in captivity or as a naturalised population well outside its past range; or if it has not been recorded in its known/expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
Critically Endangered	The species is facing an extremely high risk of extinction in the wild in the immediate future.
Endangered	The species is likely to become extinct unless the circumstances and factors threatening its abundance, survival or evolutionary development cease to operate; or its numbers have been reduced to such a critical level, or its habitats have been so drastically reduced, that it is in immediate danger of extinction.
Vulnerable	Within the next 25 years, the species is likely to become endangered unless the circumstances and factors threatening its abundance, survival or evolutionary development cease to operate.
Conservation Dependent	The species is the focus of a specific conservation programme, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

Wildlife Conservation Act 1950

Rare Flora are also protected under the *Western Australian Wildlife Conservation (Rare Flora) Notice 2003* of the *Wildlife Conservation Act 1950*. The notice lists protected flora taxa that are extant and considered likely to become extinct or rare. Generally speaking, species of flora are considered as being of Declared Rare Flora (DRF) or Priority conservation status where their populations are restricted geographically or threatened by local processes. DEC maintains a list of all DRF and Priority Flora taxa within Western Australia (Atkins, 2003). Definitions of categories of DRF and Priority Flora are provided in Table D1.2. Priority Flora are either poorly known, believed to be uncommon, rare or under threat but have not been designated as DRF and thereby legally protected because the detailed survey work to justify this has not been carried out. Priority species are maintained on a “Reserve List” and assigned to one of four Priority categories (Atkins, 2003).

12. APPENDICES
Table A3.2: Definition of Declared Rare and Priority Categories

CODE:	DEFINITION
DRF Declared Rare Flora - Extant Taxa.	Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection.
1: Priority One Poorly Known Taxa.	Taxa which are known from one or a few (generally <5) populations which are under threat.
2: Priority Two Poorly Known Taxa.	Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat.
3: Priority Three Poorly Known Taxa.	Taxa which are known from several populations, at least some of which are not believed to be under immediate threat.
4: Priority Four Rare Taxa.	Taxa which are considered to have been adequately surveyed and which whilst being rare, are not currently threatened by any identifiable factors.

(From Atkins, K.J., Declared Rare and Priority Flora List April 2003, DEC)

Table A3.3: Explanation of Codes for Declared Weeds in Western Australia.

PRIORITY	REQUIREMENTS
P1 Prohibits movement	The movement of plants or their seeds is prohibited within the State. This prohibits the movement of contaminated machinery and produce including livestock and fodder.
P2 Aim is to eradicate infestation	Treat all plants to destroy and prevent propagation each year until no plants remain. The infested area must be managed in such a way that prevents the spread of seed or plant parts on or in livestock, fodder, grain, vehicles and/or machinery.
P3 Aims to control infestation by reducing area and/or density of infestation	<p>The infested area must be managed in such a way that prevents the spread of seed or plant parts within and from the property, on or in livestock, fodder, grain, vehicles and/or machinery.</p> <p>Treat to destroy and prevent seed set for all plants:-</p> <ul style="list-style-type: none"> • Within 100 metres inside of the boundaries of the infestation; • Within 50 metres of roads and high-water mark on waterways; • Within 50 metres of sheds, stock yards and houses; and • Treatment must be done prior to seed set each year. <p>Of the remaining infested area:-</p> <ul style="list-style-type: none"> • Where plant density is 1-10 per hectare treat 100% of infestation; • Where plant density is 11-100 per hectare treat 50% of infestation; and • Where plant density is 101-1000 per hectare treat 10% of infestation. <p>Properties with less than 2 hectares of infestation must treat the entire infestation.</p> <p>Additional areas may be ordered to be treated.</p>

12. APPENDICES

PRIORITY	REQUIREMENTS
<p>P4</p> <p>Aims to prevent infestation spreading beyond existing boundaries of infestation</p>	<p>The infested area must be managed in such a way that prevents the spread of seed or plant parts within and from the property on or in livestock, fodder, grain, vehicles and/or machinery.</p> <p>Treat to destroy and prevent seed set all plants:-</p> <ul style="list-style-type: none"> • Within 100 metres inside of the boundaries of the infested property; • Within 50 metres of roads and high-water mark on waterways; • Within 50 metres of sheds, stock yards and houses; and • Treatment must be done prior to seed set each year. Properties with less than 2 hectares of infestation must treat the entire infestation. <p>Additional areas may be ordered to be treated.</p> <p>Special considerations:</p> <ul style="list-style-type: none"> • In the case of P4 infestations where they continue across property boundaries there is no requirement to treat the relevant part of the property boundaries as long as the boundaries of the infestation as a whole are treated. There must be agreement between neighbours in relation to the treatment of these areas.
<p>P5</p>	<p>Infestations on public lands must be controlled</p>

12. APPENDICES

Explanation of Conservation Codes for Vertebrate Fauna

Environment Protection and Biodiversity Conservation Act 1999

Schedule 1 of the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* contains a list of species that are considered Critically Endangered, Endangered, Vulnerable, Extinct, Extinct in the wild and Conservation Dependent. See Table D2.1.

Table A3.4 Classification of species under the EPBC Act.

CONSERVATION CATEGORY	DEFINITION
Critically Endangered	The species is facing an extremely high risk of extinction in the wild in the immediate future.
Endangered	The species is likely to become extinct unless the circumstances and factors threatening its abundance, survival or evolutionary development cease to operate or its numbers have been reduced to such a critical level, or its habitats have been so drastically reduced, that it is in immediate danger of extinction.
Vulnerable	Within the next 25 years, the species is likely to become endangered unless the circumstances and factors threatening its abundance, survival or evolutionary development cease to operate.
Extinct	A species is presumed extinct if it has not been located in the last 50 years, or it has not been located in the last 10 years despite thorough searching.
Extinct in the wild	The species is only known to survive in cultivation, in captivity, or as a naturalised population well outside its past range, or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a timeframe appropriate to its life cycle and form.
Conservation Dependent	The species is the focus of a specific conservation programme, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

12. APPENDICES
WA Wildlife Conservation Act 1950

The WA Wildlife Conservation (Specially Protected Fauna) Notice 2003 classifies rare and endangered fauna into four distinct schedules, listed below.

Table A3.5 Explanation of codes under the WA Wildlife Conservation Notice

CODE	DEFINITION
Schedule 1	"fauna which are Rare or likely to become extinct, are declared to be fauna that is in need of special protection"
Schedule 2	"fauna which are presumed to be extinct, are declared to be fauna that is in need of special protection";
Schedule 3	"birds which are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is in need of special protection";
Schedule 4	"declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in paragraphs (a), (b) and (c)."

DEC Priority Fauna

Species on the DEC Priority Fauna list include those removed from the scheduled fauna list and other species known from only a few populations or in need of monitoring.

Table A3.6 : Explanation of DEC Priority Fauna Categories

PRIORITY CATEGORY	DEFINITION
Priority One Taxa with few, poorly known populations on threatened lands.	Taxa which are known from few specimens or sight records from one or a few localities, on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
Priority Two Taxa with few, poorly known populations on conservation lands.	Taxa which are known from few specimens or sight records from one or a few localities, on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna
Priority Three Taxa with several, poorly known populations, some on conservation lands.	Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
Priority Four Taxa in need of monitoring	Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could if present circumstances change. These taxa are usually represented on conservation lands.
Priority Five Taxa in need of monitoring	Taxa which are not considered threatened but are subject to a specific conservation programme, the cessation of which would result in the species becoming threatened within five years.

12. APPENDICES
IUCN Redbook v3.3
Table 2.4: Explanation of IUCN Fauna Categories.

CATEGORY	DEFINITION
EXTINCT (EX)	A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.
EXTINCT IN THE WILD (EW)	A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.
CRITICALLY ENDANGERED (CR)	A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Section V), and it is therefore considered to be facing an extremely high risk of extinction in the wild.
ENDANGERED (EN)	A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (see Section V), and it is therefore considered to be facing a very high risk of extinction in the wild.
VULNERABLE (VU)	A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (see Section V), and it is therefore considered to be facing a high risk of extinction in the wild.
NEAR THREATENED (NT)	A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.
LEAST CONCERN (LC)	A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.
DATA DEFICIENT (DD)	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases great care should be exercised in choosing between DD and a threatened status. If the range of a taxon is suspected to be relatively circumscribed, and a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.
NOT EVALUATED (NE)	A taxon is Not Evaluated when it has not yet been evaluated against the criteria.

12. APPENDICES

IUCN categories are further classified based on the following criteria:

CRITICALLY ENDANGERED (CR)

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing an extremely high risk of extinction in the wild:

A. Reduction in population size based on any of the following:

1. An observed, estimated, inferred or suspected population size reduction of 90% over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are clearly reversible AND understood AND ceased, based on (and specifying) any of the following:

- (a) direct observation
- (b) an index of abundance appropriate to the taxon
- (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
- (d) actual or potential levels of exploitation
- (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.

2. An observed, estimated, inferred or suspected population size reduction of 80% over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

3. A population size reduction of 80%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1.

4. An observed, estimated, inferred, projected or suspected population size reduction of 80% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

B. Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both:

1. Extent of occurrence estimated to be less than 100 km², and estimates indicating at least two of a-c:

- a. Severely fragmented or known to exist at only a single location.
- b. Continuing decline, observed, inferred or projected, in any of the following:
 - (i) extent of occurrence
 - (ii) area of occupancy
 - (iii) area, extent and/or quality of habitat
 - (iv) number of locations or subpopulations
 - (v) number of mature individuals.
- c. Extreme fluctuations in any of the following:
 - (i) extent of occurrence
 - (ii) area of occupancy
 - (iii) number of locations or subpopulations
 - (iv) number of mature individuals.

2. Area of occupancy estimated to be less than 10 km², and estimates indicating at least two of a-c:

- a. Severely fragmented or known to exist at only a single location.
- b. Continuing decline, observed, inferred or projected, in any of the following:
 - (i) extent of occurrence
 - (ii) area of occupancy

12. APPENDICES

- (iii) area, extent and/or quality of habitat
 - (iv) number of locations or subpopulations
 - (v) number of mature individuals.
- c. Extreme fluctuations in any of the following:
- (i) extent of occurrence
 - (ii) area of occupancy
 - (iii) number of locations or subpopulations
 - (iv) number of mature individuals.
- C. Population size estimated to number fewer than 250 mature individuals and either:
1. An estimated continuing decline of at least 25% within three years or one generation, whichever is longer, (up to a maximum of 100 years in the future) OR
 2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a-b):
 - (a) Population structure in the form of one of the following:
 - (i) no subpopulation estimated to contain more than 50 mature individuals, OR
 - (ii) at least 90% of mature individuals in one subpopulation.
 - (b) Extreme fluctuations in number of mature individuals.
- D. Population size estimated to number fewer than 50 mature individuals.
- E. Quantitative analysis showing the probability of extinction in the wild is at least 50% within 10 years or three generations, whichever is the longer (up to a maximum of 100 years).

ENDANGERED (EN)

A taxon is Endangered when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing a very high risk of extinction in the wild:

A. Reduction in population size based on any of the following:

1. An observed, estimated, inferred or suspected population size reduction of 70% over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are clearly reversible AND understood AND ceased, based on (and specifying) any of the following:
 - (a) direct observation
 - (b) an index of abundance appropriate to the taxon
 - (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
 - (d) actual or potential levels of exploitation
 - (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.
2. An observed, estimated, inferred or suspected population size reduction of 50% over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.
3. A population size reduction of 50%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1.
4. An observed, estimated, inferred, projected or suspected population size reduction of 50% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not

12. APPENDICES

have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

B. Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both:

1. Extent of occurrence estimated to be less than 5000 km², and estimates indicating at least two of a-c:

- a. Severely fragmented or known to exist at no more than five locations.
- b. Continuing decline, observed, inferred or projected, in any of the following:
 - (i) extent of occurrence
 - (ii) area of occupancy
 - (iii) area, extent and/or quality of habitat
 - (iv) number of locations or subpopulations
 - (v) number of mature individuals.
- c. Extreme fluctuations in any of the following:
 - (i) extent of occurrence
 - (ii) area of occupancy
 - (iii) number of locations or subpopulations
 - (iv) number of mature individuals.

2. Area of occupancy estimated to be less than 500 km², and estimates indicating at least two of a-c:

- a. Severely fragmented or known to exist at no more than five locations.
- b. Continuing decline, observed, inferred or projected, in any of the following:
 - (i) extent of occurrence
 - (ii) area of occupancy
 - (iii) area, extent and/or quality of habitat
 - (iv) number of locations or subpopulations
 - (v) number of mature individuals.
- c. Extreme fluctuations in any of the following:
 - (i) extent of occurrence
 - (ii) area of occupancy
 - (iii) number of locations or subpopulations
 - (iv) number of mature individuals.

C. Population size estimated to number fewer than 2500 mature individuals and either:

- 1. An estimated continuing decline of at least 20% within five years or two generations, whichever is longer, (up to a maximum of 100 years in the future) OR
- 2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a-b):
 - (a) Population structure in the form of one of the following:
 - (i) no subpopulation estimated to contain more than 250 mature individuals, OR
 - (ii) at least 95% of mature individuals in one subpopulation.
 - (b) Extreme fluctuations in number of mature individuals.

D. Population size estimated to number fewer than 250 mature individuals.

E. Quantitative analysis showing the probability of extinction in the wild is at least 20% within 20 years or five generations, whichever is the longer (up to a maximum of 100 years).

12. APPENDICES

VULNERABLE (VU)

A taxon is Vulnerable when the best available evidence indicates that it meets any of the following criteria (A to E), and it is therefore considered to be facing a high risk of extinction in the wild:

A. Reduction in population size based on any of the following:

1. An observed, estimated, inferred or suspected population size reduction of 50% over the last 10 years or three generations, whichever is the longer, where the causes of the reduction are: clearly reversible AND understood AND ceased, based on (and specifying) any of the following:

- (a) direct observation
- (b) an index of abundance appropriate to the taxon
- (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
- (d) actual or potential levels of exploitation
- (e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.

2. An observed, estimated, inferred or suspected population size reduction of 30% over the last 10 years or three generations, whichever is the longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

3. A population size reduction of 30%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer (up to a maximum of 100 years), based on (and specifying) any of (b) to (e) under A1.

4. An observed, estimated, inferred, projected or suspected population size reduction of 30% over any 10 year or three generation period, whichever is longer (up to a maximum of 100 years in the future), where the time period must include both the past and the future, and where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible, based on (and specifying) any of (a) to (e) under A1.

B. Geographic range in the form of either B1 (extent of occurrence) OR B2 (area of occupancy) OR both:

1. Extent of occurrence estimated to be less than 20,000 km², and estimates indicating at least two of a-c:

- a. Severely fragmented or known to exist at no more than 10 locations.
- b. Continuing decline, observed, inferred or projected, in any of the following:
 - (i) extent of occurrence
 - (ii) area of occupancy
 - (iii) area, extent and/or quality of habitat
 - (iv) number of locations or subpopulations
 - (v) number of mature individuals.
- c. Extreme fluctuations in any of the following:
 - (i) extent of occurrence
 - (ii) area of occupancy
 - (iii) number of locations or subpopulations
 - (iv) number of mature individuals.

2. Area of occupancy estimated to be less than 2000 km², and estimates indicating at least two of a-c:

- a. Severely fragmented or known to exist at no more than 10 locations.
- b. Continuing decline, observed, inferred or projected, in any of the following:
 - (i) extent of occurrence
 - (ii) area of occupancy
 - (iii) area, extent and/or quality of habitat
 - (iv) number of locations or subpopulations

12. APPENDICES

- (v) number of mature individuals.
- c. Extreme fluctuations in any of the following:
 - (i) extent of occurrence
 - (ii) area of occupancy
 - (iii) number of locations or subpopulations
 - (iv) number of mature individuals.
- C. Population size estimated to number fewer than 10,000 mature individuals and either:
 - 1. An estimated continuing decline of at least 10% within 10 years or three generations, whichever is longer, (up to a maximum of 100 years in the future) OR
 - 2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a-b):
 - (a) Population structure in the form of one of the following:
 - (i) no subpopulation estimated to contain more than 1000 mature individuals, OR
 - (ii) all mature individuals are in one subpopulation.
 - (b) Extreme fluctuations in number of mature individuals.
- D. Population very small or restricted in the form of either of the following:
 - 1. Population size estimated to number fewer than 1000 mature individuals.
 - 2. Population with a very restricted area of occupancy (typically less than 20 km²) or number of locations (typically five or fewer) such that it is prone to the effects of human activities or stochastic events within a very short time period in an uncertain future, and is thus capable of becoming Critically Endangered or even Extinct in a very short time period.
- E. Quantitative analysis showing the probability of extinction in the wild is at least 10% within 100 years.

12. APPENDICES

Vegetation Description and Strata Classification

EXPLANATION OF CODES

* = Introduced species

† = Priority species

subsp. = subspecies

var. = variety

underlined species indicate dominant species in strata

VEGETATION CONDITION

(Adapted from Keighery, 1994)

Pristine: Vegetation pristine; no disturbance evident at all.

Excellent: Strata essentially intact: some signs of human non native disturbance; e.g. feral scats, litter, minor tracks.

Good: One or more strata significantly impacted; e.g. grazing, some weeds, some vegetation removal.

Poor: One or more strata severely impacted; e.g. dense weed invasion, substantial logging or tracks.

Degraded: Native vegetation largely or totally removed.

DENSITY (Vegetation, leaf litter, woodlitter)

Scattered 0-2% total cover

Sparse 2-10%

Open 10-30%

Moderately dense 30-70%

Dense 70-100%

FIRE HISTORY

Recent: 0-2 years (completely devoid of vegetation or vegetation re-seeding/re-shooting. Eucalypts and shrubs may have juvenile foliage from rootstock and/or branches. Shrubs, spinifex, herbs and grasses may evident as seedlings)

Moderate: 2-5 years (burn scars on shrubs and Mallee still obvious, shrubs and spinifex may not be fully mature but species composition resembles original vegetation)

Old: 5 years + (Vegetation mature but burn scars evident on Mallee, no evidence of fire damage on shrubs, grasses, herbs and spinifex)

None evident: No burn scars evident. Vegetation mature.

All GPS locations are given as WGS 84.

12. APPENDICES

**12.4. Flora Species Recorded from the Southdown
Magnetite Proposal Flora Survey**

12. APPENDICES

FERNS			
Family	Species	Mine Site	Pipeline
ADIANTIACEAE	<i>Cheilanthes austrotenuifolia</i>		X
AZOLLACEAE	<i>Azolla filiculoides</i>		X
CYATHEACEAE	* <i>Cyathea cooperi</i>		X
DENNSTAEDTIACEAE	<i>Pteridium esculentum</i>		X
	* <i>Histiopteris incisa</i>		X
LINDSAEACEAE	<i>Lindsaea linearis</i>		X
CYCADS			
Family	Species	Mine Site	Pipeline
ZAMIACEAE	<i>Macrozamia riedlei</i>	X	X
FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
AIZOACEAE	* <i>Carpobrotus edulis</i>		X
	* <i>Lampranthus glaucus</i>		X
	* <i>Tetragonia decumbens</i>		X
AMARANTHACEAE	* <i>Amaranthus powellii</i>		X
ANTHERICACEAE	<i>Agrostocrinum hirsutum</i>		X
	<i>Agrostocrinum scabrum</i>	X	X
	<i>Caesia micrantha</i>		X
	<i>Caesia occidentalis</i>		X
	<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>	X	X
	<i>Chamaescilla spiralis</i>	X	X
	<i>Johnsonia acaulis</i>	X	X
	<i>Johnsonia lupulina</i>		X
	<i>Laxmannia brachyphylla</i>	X	
	<i>Laxmannia omnifertilis</i>	X	X
	<i>Laxmannia ramosa</i> subsp. <i>ramosa</i>	X	
	<i>Laxmannia sessiliflora</i>	X	X
	<i>Laxmannia sessiliflorasubsp.</i> <i>australis</i>	X	
	<i>Laxmannia squarrosa</i>	X	
	<i>Thysanotus dichotomus</i>		X
	<i>Thysanotus multiflorus</i>		X
	<i>Thysanotus sparteus</i>	X	X
<i>Tricoryne elatior</i>	X	X	
<i>Tricoryne humilis</i>		X	
ASTERACEAE	<i>Angianthus preissianus</i>	X	
	* <i>Arctotheca calendula</i>	X	X
	* <i>Carduus pycnocephalus</i>		X
	* <i>Cirsium vulgare</i>	X	X
	* <i>Conyza bonariensis</i>		X
	* <i>Conyza parva</i>	X	
	* <i>Conyza sumatrensis</i>	X	
	<i>Cotula australis</i>	X	
	* <i>Cotula coronopifolia</i>		X
	* <i>Cotula turbinata</i>		X

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
ASTERACEAE cont.	<i>*Gamochaeta calviceps</i>	X	
	<i>Gnephosis tenuissima</i>	X	
	<i>Hyalosperma demissum</i>	X	
	<i>*Hypochaeris glabra</i>	X	X
	<i>Millotia tenuifolia</i> var. <i>tenuifolia</i>	X	X
	<i>Olearia</i> sp.		X
	<i>Pithocarpa pulchella</i> var. <i>melanostigma</i>		X
	<i>*Pseudognaphalium luteoalbum</i>	X	X
	<i>Quinetia urvillei</i>	X	
	<i>Senecio hispidulus</i>		X
	<i>Senecio quadridentatus</i>	X	
	<i>Senecio ramosissimus</i>		X
	<i>Siloxerus filifolius</i>	X	X
	<i>Sonchus hydrophilus</i>		X
	<i>*Sonchus oleraceus</i>	X	X
	<i>*Symphyotrichum subulatum</i>		X
	<i>*Ursinia anthemoides</i>	X	
	<i>*Vellereophyton dealbatum</i>	X	X
	<i>Vittadinia gracilis</i>	X	
	BRASSICACEAE	<i>*Brassica tournefortii</i>	
<i>*Cakile maritima</i>			X
<i>*Raphanus raphanistrum</i>			X
CARYOPHYLLACEAE	<i>*Cerastium glomeratum</i>	X	X
	<i>*Petrohragia dubia</i>		X
CASUARINACEAE	<i>Allocasuarina fraseriana</i>		X
	<i>Allocasuarina huegeliana</i>	X	X
	<i>Allocasuarina humilis</i>	X	X
	<i>Allocasuarina microstachya</i>		X
	<i>Allocasuarina thuyoides</i>	X	X
CENTROLEPIDACEAE	<i>Aphelia cyperoides</i>	X	X
	<i>Centrolepis aristata</i>	X	X
	<i>Centrolepis mutica</i>	X	X
	<i>Centrolepis polygyna</i>	X	
CEPHALOTACEAE	<i>Cephalotus follicularis</i>		X
CHENOPODIACEAE	<i>*Chenopodium murale</i>		X
	<i>Halosarcia lepidosperma</i>		X
	<i>Rhagodia baccata</i> subsp. <i>baccata</i>		X
	<i>Threlkeldia diffusa</i>		X
COLCHICACEAE	<i>Burchardia umbellata</i>	X	X
CRASSULACEAE	<i>*Crassula alata</i>		X
	<i>Crassula colligata</i>	X	
	<i>Crassula colorata</i>	X	
	<i>Crassula decumbens</i> var. <i>decumbens</i>	X	X
	<i>Crassula exserta</i>	X	X
CYPERACEAE	<i>Baumea acuta</i>		X

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
CYPERACEAE cont.	<i>Baumea articulata</i>	X	
	<i>Baumea juncea</i>	X	X
	<i>Baumea rubiginosa</i>		X
	<i>Carex inversa</i>		X
	<i>Caustis dioica</i>	X	X
	<i>Cyathochaeta avenacea</i>	X	X
	<i>Cyathochaeta equitans</i>	X	X
	* <i>Cyperus congestus</i>		X
	* <i>Cyperus tenellus</i>	X	X
	<i>Evandra aristata</i>		X
	<i>Ficinia nodosa</i>		X
	<i>Gahnia ancistrophylla</i>	X	X
	<i>Gahnia decomposita</i>		X
	<i>Gahnia trifida</i>	X	X
	<i>Isolepis cernua</i> var <i>cernua</i>	X	X
	* <i>Isolepis marginata</i>		X
	* <i>Isolepis prolifera</i>		X
	<i>Isolepis stellata</i>	X	
	<i>Lepidosperma brunonianum</i>		X
	<i>Lepidosperma carphoides</i>	X	X
	<i>Lepidosperma effusum</i>		X
	<i>Lepidosperma gladiatum</i>		X
	<i>Lepidosperma longitudinale</i>	X	
	<i>Lepidosperma pubisquamum</i>		X
	<i>Lepidosperma ?viscidum</i>		X
	<i>Lepidosperma squamatum</i>	X	X
	<i>Lepidosperma striatum</i>	X	X
	<i>Lepidosperma tenue</i>		X
	<i>Mesomelaena graciliceps</i>	X	X
	<i>Mesomelaena stygia</i>	X	X
	<i>Mesomelaena tetragona</i>	X	X
	<i>Schoenus ?brevisetis</i>	X	
	<i>Schoenus ?sesquispiculus</i>	X	
	<i>Schoenus breviculmis</i>		X
	<i>Schoenus brevisetis</i>		X
	<i>Schoenus caespititius</i>	X	X
	<i>Schoenus curvifolius</i>	X	
	<i>Schoenus laevigatus</i>	X	
	<i>Schoenus lanatus</i>		X
	<i>Schoenus multiglumis</i>		X
	<i>Schoenus nanus</i>	X	
	<i>Schoenus obtusifolius</i>	X	X
	<i>Schoenus odontocarpus</i>		X
	<i>Schoenus pleiostemoneus</i>	X	X
	<i>Schoenus subbarbatus</i>	X	X
	<i>Schoenus subbulbosus</i>	X	
	<i>Schoenus subfascicularis</i>	X	X
<i>Schoenus sublateralis</i>	X	X	
<i>Schoenus sublaxus</i>	X	X	
<i>Tetragia capillaris</i>	X	X	
<i>Tetragia octandra</i>	X	X	
<i>Tricostularia compressa</i>	X		
<i>Tricostularia neesii</i> var <i>neesii</i>		X	
<i>Tricostularia neesii</i> var. <i>elatior</i>	X		
DASYPOGONACEAE	<i>Calectasia grandiflora</i>		X

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
DASYPOGONACEAE cont.	<i>Calectasia obtusa</i> P3	X	X
	<i>Dasyogon bromeliifolius</i>	X	X
	<i>Kingia australis</i>	X	X
	<i>Lomandra ?hermaphrodita</i>		X
	<i>Lomandra ?nutans</i>	X	
	<i>Lomandra brittanii</i>		X
	<i>Lomandra caespitosa</i>	X	X
	<i>Lomandra hastilis</i>	X	X
	<i>Lomandra micrantha</i> subsp. <i>micrantha</i>	X	X
	<i>Lomandra nigricans</i>	X	X
	<i>Lomandra pauciflora</i>	X	X
	<i>Lomandra preissii</i>		X
	<i>Lomandra purpurea</i>		X
	<i>Lomandra rupestris</i>	X	X
	<i>Lomandra sericea</i>		X
	<i>Lomandra sonderi</i>		X
	DILLENACEAE	<i>Hibbertia acerosa</i>	
<i>Hibbertia amplexicaulis</i>			X
<i>Hibbertia commutata</i>			X
<i>Hibbertia cuneiformis</i>			X
<i>Hibbertia cunninghamii</i>			X
<i>Hibbertia gracilipes</i>			X
<i>Hibbertia hibbertioides</i> var. <i>meridionalis</i>		X	
<i>Hibbertia lineata</i>		X	X
<i>Hibbertia microphylla</i>			X
<i>Hibbertia recurvifolia</i>			X
	<i>Hibbertia silvestris</i>		X
DROSERACEAE	<i>Drosera bulbosa</i> subsp. <i>bulbosa</i>		X
	<i>Drosera dichrosepala</i>		X
	<i>Drosera erythrorhiza</i>	X	X
	<i>Drosera</i> aff. <i>erythrorhiza</i>		X
	<i>Drosera fimbriata</i> P4		X
	<i>Drosera glanduligera</i>	X	X
	<i>Drosera huegelii</i>	X	
	<i>Drosera leucoblata</i>	X	X
	<i>Drosera macrantha</i>		X
	<i>Drosera menziesii</i> subsp. <i>menziesii</i>	X	X
	<i>Drosera paleacea</i> subsp. <i>paleacea</i>	X	X
	<i>Drosera paleacea</i> subsp. <i>trichocaulis</i>	X	
	<i>Drosera pallida</i>	X	X
	<i>Drosera platypoda</i>	X	X
	<i>Drosera pulchella</i>		X
	<i>Drosera scorpioides</i>		X
<i>Drosera subhirtella</i>		X	
EPACRIDACEAE	<i>Andersonia caerulea</i>		X
	<i>Andersonia depressa</i>		X
	<i>Andersonia simplex</i>	X	X
	<i>Andersonia sprengelioides</i>	X	X
	<i>Astroloma baxteri</i>		X
	<i>Astroloma drummondii</i>	X	X

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
EPACRIDACEAE cont.	<i>Astroloma pallidum</i>	X	X
	<i>Astroloma tectum</i>		X
	<i>Leucopogon atherolepis</i>		X
	<i>Leucopogon australis</i>		X
	<i>Leucopogon capitellatus</i>		X
	<i>Leucopogon conostephioides</i>	X	
	<i>Leucopogon corynocarpus</i>	X	
	<i>Leucopogon cucullatus</i>	X	X
	<i>Leucopogon dielsianus</i>		X
	<i>Leucopogon distans</i>		X
	<i>Leucopogon distans subsp. contractus</i>	X	X
	<i>Leucopogon distans subsp. distans</i>	X	X
	<i>Leucopogon elatior</i>		X
	<i>Leucopogon elegans</i>		
	<i>Leucopogon aff. elegans</i>	X	
	<i>Leucopogon gibbosus</i>	X	X
	<i>Leucopogon glabellus</i>		X
	<i>Leucopogon obovatus</i>		X
	<i>Leucopogon pendulus</i>		X
	<i>Leucopogon polymorphus</i>		X
	<i>Leucopogon propinquus</i>		X
	<i>Leucopogon revolutus</i>		X
	<i>Leucopogon verticillatus</i>		X
	<i>Leucopogon woodsii</i>	X	X
	<i>Lysinema ciliatum</i>	X	X
	<i>Monotoca aristata</i> P2	X	
	<i>Monotoca tasmariscina</i>	X	
	<i>Oligarrhena micrantha</i>	X	
	<i>Sphenotoma capitatum</i>		X
	<i>Sphenotoma dracophylloides</i>	X	
<i>Sphenotoma gracile</i>		X	
EUPHORBIACEAE	<i>Amperea ericoides</i>		X
	<i>Amperea protensa</i> P3		X
	<i>Monotaxis grandiflora</i> var. <i>grandiflora</i>	X	
	<i>Poranthera ericoides</i>	X	
	<i>Poranthera microphylla</i>	X	
	<i>Stachystemon polyandrus</i>	X	
	<i>Stachystemon vermicularis</i>	X	
GERANIACEAE	<i>*Erodium botrys</i>		X
	<i>Erodium cygnorum</i>	X	
	<i>Geranium retrorsum</i>		X
	<i>*Pelargonium capitatum</i>		X
	<i>Pelargonium littorale</i> subsp. <i>littorale</i>	X	
GOODENIACEAE	<i>Anthotium humile</i>	X	
	<i>Dampiera alata</i>		X
	<i>Dampiera fasciculata</i>		X
	<i>Dampiera juncea</i>	X	X
	<i>Dampiera leptoclada</i>		X
	<i>Dampiera linearis</i>		X
	<i>Dampiera pedunculata</i>	X	X

12. APPENDICES

FLOWERING PLANTS				
Family	Species	Mine Site	Pipeline	
GOODENIACEAE cont.	<i>Dampiera sacculata</i>	X	X	
	<i>Goodenia affinis</i>	X		
	<i>Goodenia filiformis</i> P3	X		
	<i>Goodenia incana</i>	X	X	
	<i>Goodenia pterigosperma</i>	X	X	
	<i>Goodenia pulchella</i>	X		
	<i>Lechenaultia formosa</i>	X	X	
	<i>Lechenaultia biloba</i>		X	
	<i>Scaevola calliptera</i>		X	
	<i>Velleia trinervis</i>	X	X	
HAEMODORACEAE	<i>Anigozanthos flavidus</i>		X	
	<i>Anigozanthos humilis</i>	X	X	
	<i>Anigozanthos rufus</i>	X		
	<i>Conostylis aculeata</i> subsp. <i>aculeata</i>		X	
	<i>Conostylis pusilla</i>	X	X	
	<i>Conostylis serrulata</i>		X	
	<i>Conostylis setigera</i>		X	
	<i>Conostylis setigera</i> subsp. <i>setigera</i>		X	
	<i>Conostylis vaginata</i>	X		
	<i>Haemodorum discolor</i>		X	
	<i>Haemodorum laxum</i>	X	X	
	<i>Haemodorum</i> sp.	X	X	
	<i>Haemodorum spicatum</i>	X	X	
	<i>Phlebocarya ciliata</i>		X	
HALOGORACEAE	<i>Glischrocaryon aureum</i> var. <i>angustifolium</i>	X		
IRIDACEAE	* <i>Chasmanthe floribunda</i>		X	
	* <i>Crocasmia</i> x <i>crocosmiiflora</i>		X	
	* <i>Freesia alba</i> x <i>leichtlinii</i>		X	
	* <i>Hesperantha falcata</i>		X	
	* <i>Gladiolus undulatus</i>		X	
	* <i>Moraea miniata</i>		X	
	<i>Patersonia juncea</i>	X	X	
	<i>Patersonia lanata</i> forma. <i>lanata</i>	X		
	<i>Patersonia maxwellii</i>		X	
	<i>Patersonia occidentalis</i>	X	X	
	<i>Patersonia pygmaea</i>		X	
	<i>Patersoniasp.</i> Swamp Form (N.Gibson & M.Lyons 544)	X		
	<i>Patersonia umbrosa</i> subsp. <i>umbrosa</i>		X	
	* <i>Romulea rosea</i>		X	
	* <i>Watsonia meriana</i> var. <i>bulbillifera</i>		X	
	JUNACEAE	* <i>Juncus bufonius</i>	X	X
		<i>Juncus caespiticus</i>		X
<i>Juncus kraussii</i> subsp. <i>australiensis</i>			X	
<i>Juncus pallidus</i>		X	X	
<i>Juncus subsecundus</i>			X	
LAMIACEAE	<i>Hemiandra pungens</i>	X	X	
	<i>Microcorys lenticularis</i> P2	X		
	<i>Westringia dampieri</i>		X	

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
LAURACEAE	<i>Cassytha glabella</i> forma		
	<i>casuarinae</i>		X
	<i>Cassytha racemosa</i>		X
	<i>Cassytha racemosa</i> forma <i>pilosa</i>	X	X
LENTIBULARIACEAE	<i>Utricularia multifida</i>		X
	<i>Utricularia simplex</i>	X	
LOBELIACEAE	<i>Lobelia alata</i>		X
	<i>Lobelia gibbosa</i>		X
	* <i>Monopsis debilis</i>		X
LOGANIACEAE	<i>Logania serpyllifolia</i> subsp.		
	<i>serpyllifolia</i>	X	X
	<i>Logania stenophylla</i>	X	
	<i>Phyllangium divergens</i>		X
LOGANIACEAE	<i>Phyllangium paradoxum</i>	X	
LORANTHACEAE	<i>Nuytsia floribunda</i>	X	X
LYTHRACEAE	* <i>Lythrum hyssopifolia</i>	X	X
MENYANTHACEAE	<i>Villarsia parnassifolia</i>	X	X
MIMOSACEAE	<i>Acacia applanata</i>		X
	<i>Acacia baxteri</i>		X
	<i>Acacia biflora</i>	X	X
	<i>Acacia browniana</i> var. <i>browniana</i>		X
	<i>Acacia browniana</i> var. <i>intermedia</i>		X
	<i>Acacia crassiuscula</i>		X
	<i>Acacia cyclops</i>	X	X
	<i>Acacia delphina</i>	X	X
	<i>Acacia drummondii</i> subsp. <i>elegans</i>		X
	<i>Acacia</i> sp.	X	
	<i>Acacia hastulata</i>		X
	<i>Acacia leioderma</i>		X
	* <i>Acacia longifolia</i>		X
	<i>Acacia luteola</i>	X	X
	<i>Acacia myrtifolia</i>		X
	<i>Acacia pulchella</i> var. <i>glaberrima</i>	X	
	<i>Acacia pulchella</i> var. <i>goadbyi</i>	X	
	<i>Acacia saligna</i>	X	X
	<i>Acacia subcaerulea</i>	X	X
	<i>Acacia tetragonocarpa</i>	X	X
<i>Acacia varia</i> var. <i>parviflora</i>		X	
<i>Acacia varia</i> var. <i>varia</i>		X	
MYRTACEAE	<i>Actinodium cunninghamii</i>		X
	<i>Actinodium calocephalum</i> N.G.		
	Marchant ms	X	
	<i>Agonis flexuosa</i>		X
	<i>Agonis theiformis</i>	X	X
	<i>Astartea aspera</i>	X	
	<i>Astartea astarteoides</i>		X
	<i>Astartea glomerulosa</i>	X	
<i>Astartea laricifolia</i>		X	

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
MYRTACEAE cont.	<i>Astartea scoparia</i>		X
	<i>Astartea</i> sp. southern ranges (T.E.H. Aplin 2108)		X
	<i>Baeckea preissiana</i>		X
	<i>Beaufortia anisandra</i>	X	X
	<i>Beaufortia decussata</i>		X
	<i>Beaufortia empetrifolia</i>	X	X
	<i>Beaufortia schaueri</i>		X
	<i>Beaufortia sparsa</i>		X
	<i>Callistemon glaucus</i>		X
	<i>Calothamnus gracilis</i>	X	X
	<i>Calothamnus quadrifidus</i>		X
	<i>Calytrix flavescens</i>	X	X
	<i>Calytrix acutifolia</i>		X
	<i>Calytrix leschenaultii</i>	X	X
	<i>Calytrix similis</i>	X	
	<i>Conothamnus aureus</i>	X	X
	<i>Corymbia calophylla</i>		X
	<i>Darwinia citriodora</i>		X
	<i>Darwinia diosmoides</i>	X	X
	<i>Darwinia oederoides</i>		X
	<i>Darwinia thymoides</i>		X
	<i>Darwinia vestita</i>	X	X
	<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	X	
	<i>Eucalyptus angulosa</i>	X	
	<i>Eucalyptus</i> sp.		X
	<i>Eucalyptus buprestium</i>	X	
	<i>Eucalyptus decipiens</i> subsp. <i>adesmophloia</i>	X	X
	<i>Eucalyptus decurva</i>	X	X
	<i>Eucalyptus falcata</i>	X	X
	* <i>Eucalyptus globulus</i>		X
	* <i>Eucalyptus gomphocephala</i>		X
	* <i>Eucalyptus leucoxylon</i> var. <i>rosea</i>		X
	<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	X	X
	<i>Eucalyptus loxophleba</i> subsp. <i>loxophleba</i>	X	
	<i>Eucalyptus occidentalis</i>	X	X
	<i>Eucalyptus pleurocarpa</i>	X	
	<i>Eucalyptus preissiana</i>	X	
	* <i>Eucalyptus robusta</i>		X
	<i>Eucalyptus rudis</i>		X
	<i>Eucalyptus salicola</i>		X
	* <i>Eucalyptus saligna</i>		X
	* <i>Eucalyptus ?scaphocalyx</i>		X
	<i>Eucalyptus staeri</i>	X	X
	<i>Eucalyptus uncinata</i>	X	
	<i>Homalospermum firmum</i>		X
	<i>Hypocalymma cordifolium</i> subsp. <i>cordifolium</i>		X
	<i>Hypocalymma strictum</i> subsp. <i>elongatum</i>	X	
<i>Hypocalymma strictum</i> subsp. <i>strictum</i>		X	
<i>Kunzea ericifolia</i> subsp. <i>ericifolia</i>		X	

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
MYRTACEAE cont.	<i>Kunzea micrantha</i> subsp. <i>oligandra</i>		X
	<i>Kunzea preissiana</i>	X	
	<i>Kunzea recurva</i>	X	X
	* <i>Leptospermum laevigatum</i>		X
	<i>Melaleuca acuminata</i> subsp. <i>acuminata</i>		X
	<i>Melaleuca</i> sp.		X
	<i>Melaleuca carrii</i>		X
	<i>Melaleuca concinna</i>	X	
	<i>Melaleuca cuticularis</i>	X	X
	<i>Melaleuca densa</i>		X
	<i>Melaleuca microphylla</i>		X
	<i>Melaleuca pentagona</i>		X
	<i>Melaleuca preissiana</i>		X
	<i>Melaleuca rhapsiophylla</i>		X
	<i>Melaleuca striata</i>	X	X
	<i>Melaleuca suberosa</i>	X	X
	<i>Melaleuca subtrigona</i>	X	X
	<i>Melaleuca thymoides</i>	X	X
	<i>Melaleuca violacea</i>		X
	<i>Pericalymma ellipticum</i>	X	X
	<i>Pericalymma ellipticum</i> var. <i>floridum</i>	X	X
	<i>Rinzia schollerifolia</i>	X	
	<i>Taxandria angustifolia</i>		X
	<i>Taxandria juniperina</i>		X
	<i>Taxandria linearifolia</i>		X
	<i>Taxandria marginata</i>		X
	<i>Taxandria parviceps</i>		X
	<i>Taxandria spathulata</i>	X	X
	<i>Verticordia</i> sp.	X	
	<i>Verticordia densiflora</i> var. <i>cespitosa</i>	X	
	<i>Verticordia habrantha</i>	X	
	<i>Verticordia sieberi</i> var. <i>lomata</i>	X	
	<i>Verticordia plumosa</i> var. <i>plumosa</i>	X	
	ORCHIDACEAE	<i>Caladenia cairnsiana</i>	X
<i>Caladenia flava</i>		X	X
<i>Caladenia fuscolutescens</i>		X	
<i>Caladenia heberleana</i>		X	
<i>Caladenia latifolia</i>		X	
<i>Caladenia nana</i> subsp. <i>nana</i>		X	
<i>Caladenia pectinata</i>			X
<i>Cryptostylis ovata</i>			X
* <i>Disa bracteata</i>		X	X
<i>Diuris corymbosa</i>		X	
<i>Diuris longifolia</i>		X	X
<i>Elythranthera brunonis</i>		X	X
<i>Leporella fimbriata</i>		X	X
<i>Lyperanthus serratus</i>		X	X
<i>Microtis media</i> subsp. <i>media</i>		X	
<i>Paracaleana nigrita</i>		X	
<i>Praecoxanthus aphyllus</i>		X	
<i>Prasophyllum parvifolium</i>		X	
<i>Prasophyllum</i> sp.		X	

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
ORCHIDACEAE cont.	<i>Pterostylis recurva</i>	X	
	<i>Pterostylis turfosa</i>	X	
	<i>Pterostylis vittata</i>	X	X
	<i>Thelymitra canaliculata</i>		X
	<i>Thelymitra ?crinita</i>		X
	<i>Thelymitra graminea</i>		X
	<i>Thelymitra ?macrophylla</i>		X
	<i>Thelymitra villosa</i>	X	
	<i>Thelymitra vulgaris</i>	X	X
OROBANCHACEAE	* <i>Orobanche minor</i>	X	X
OXALIDACEAE	* <i>Oxalis corniculata</i>		X
	* <i>Oxalis glabra</i>		X
	<i>Oxalis perennans</i>	X	
	* <i>Oxalis pes-caprae</i>		X
	* <i>Oxalis purpurea</i>		X
PAPILIONACEAE	<i>Aotus intermedia</i>		X
	<i>Aotus passerinoides</i>		X
	? <i>Bossiaea eriocarpa</i>	X	
	<i>Bossiaea linophylla</i>		X
	<i>Bossiaea ornata</i>	X	X
	<i>Bossiaea praetermissa</i>	X	X
	<i>Bossiaea rufa</i>		X
	<i>Bossiaea aff. preissii</i>		X
	<i>Callistachys lanceolata</i>		X
	* <i>Chamaecytisus palmensis</i>		X
	<i>Chorizema aciculare</i> subsp. <i>aciculare</i>		X
	<i>Chorizema cytisoides</i>	X	
	<i>Chorizema diversifolium</i>	X	
	<i>Chorizema glycinifolium</i>	X	X
	<i>Chorizema nanum</i>	X	
	<i>Daviesia alternifolia</i>		X
	<i>Daviesia flexuosa</i>		X
	<i>Daviesia gracilis</i>	X	X
	<i>Daviesia incrassata</i> subsp. <i>incrassata</i>	X	X
	<i>Daviesia inflata</i>	X	X
	<i>Daviesia oppositifolia</i>		X
	<i>Daviesia preissii</i>	X	
	<i>Euchilopsis linearis</i>		X
	<i>Gastrolobium bracteolosum</i>	X	X
	<i>Gastrolobium retusum</i>	X	
	<i>Gastrolobium velutinum</i>		X
	<i>Gompholobium baxteri</i>	X	
	<i>Gompholobium burtonioides</i>	X	X
	<i>Gompholobium capitatum</i>	X	X
	<i>Gompholobium confertum</i>	X	X
<i>Gompholobium knightianum</i>	X	X	
<i>Gompholobium polymorphum</i>	X	X	
<i>Gompholobium scabrum</i>	X	X	
<i>Gompholobium tomentosum</i>	X		
<i>Gompholobium venustum</i>	X	X	
<i>Hardenbergia comptoniana</i>		X	

12. APPENDICES

FLOWERING PLANTS				
Family	Species	Mine Site	Pipeline	
PAPILIONACEAE cont.	<i>Hovea chorizemifolia</i>		X	
	<i>Hovea trisperma</i>	X	X	
	<i>Jacksonia capitata</i>	X	X	
	<i>Jacksonia grevilleoides</i>	X		
	<i>Jacksonia horrida</i>		X	
	<i>Jacksonia spinosa</i>		X	
	<i>Kennedia coccinea</i>	X	X	
	* <i>Lathyrus ?latifolius</i>		X	
	* <i>Lathyrus tingitanus</i>		X	
	<i>Latrobea ?diosmifolia</i>	X		
	* <i>Lotus subbiflorus</i>		X	
	* <i>Ornithopus compressus</i>	X	X	
	<i>Phyllota barbata</i>		X	
	* <i>Psoralea pinnata</i>		X	
	<i>Pultenaea aspalathoides</i>		X	
	<i>Pultenaea ericifolia</i>		X	
	<i>Pultenaea reticulata</i>		X	
	<i>Pultenaea verruculosa</i>	X	X	
	<i>Sphaerolobium alatum</i>	X		
	<i>Sphaerolobium drummondii</i>	X	X	
	<i>Sphaerolobium grandiflorum</i>		X	
	<i>Sphaerolobium sp.</i>		X	
	<i>Sphaerolobium vimineum</i>		X	
	* <i>Trifolium campestre</i> var. <i>campestre</i>	X	X	
	* <i>Trifolium subterraneum</i>	X	X	
	* <i>Vicia sativa</i>		X	
	PHORMIACEAE	<i>Dianella revoluta</i> var. <i>revoluta</i>		X
		<i>Stypandra glauca</i>	X	X
	PHYTOLACCACEAE	* <i>Phytolacca octandra</i>		X
	PITTOSPORACEAE	<i>Billardiera coriacea</i>		X
<i>Billardiera fusiformis</i>			X	
<i>Billardiera heterophylla</i>			X	
<i>Billardiera laxiflora</i>			X	
<i>Billardiera variifolia</i>		X	X	
<i>Marianthus bicolor</i>			X	
* <i>Pittosporum undulatum</i>			X	
PLANTAGINACEAE	* <i>Plantago coronopus</i> subsp. <i>coronopus</i>		X	
	* <i>Plantago lanceolata</i>		X	
POACEAE	* <i>Agrostis capillaris</i> var. <i>capillaris</i>		X	
	* <i>Agrostis ?capillaris</i>		X	
	* <i>Aira caryophyllea</i>	X	X	
	<i>Amphipogon amphipogonoides</i>	X	X	
	<i>Amphipogon avenaceus</i>	X		
	* <i>Anthoxanthum odoratum</i>		X	
	<i>Austrodanthonia caespitosa</i>	X	X	
	? <i>Austrodanthonia pilosa</i>	X		
	<i>Austrostipa campylachne</i>		X	
	<i>Austrostipa flavescens</i>	X		
	<i>Austrostipa hemipogon</i>	X		

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
POACEAE cont.	<i>Austrostipa mollis</i>		X
	<i>Austrostipa trichophylla</i>		X
	* <i>Avellinia michelii</i>	X	
	* <i>Avena barbata</i>	X	X
	* <i>Briza maxima</i>		X
	* <i>Briza minor</i>		X
	* <i>Bromus diandrus</i>	X	X
	* <i>Cortaderia selloana</i>		X
	* <i>Cynodon dactylon</i>		X
	<i>Cyperochloa hirsuta</i>	X	
	<i>Deyeuxia quadriseta</i>	X	X
	* <i>Digitaria sanguinalis</i>		X
	* <i>Echinochloa crus-pavonis</i>		X
	* <i>Ehrharta calycina</i>	X	X
	* <i>Ehrharta longiflora</i>	X	X
	* <i>Eragrostis curvula</i>		X
	* <i>Holcus lanatus</i>		X
	* <i>Hordeum leporinum</i>	X	X
	* <i>Lagurus ovatus</i>	X	X
	* <i>Lolium rigidum</i>	X	X
	<i>Neurachne alopecuroidea</i>	X	X
	* <i>Paspalum dilatatum</i>		X
	* <i>Pennisetum clandestinum</i>	X	X
	* <i>Polypogon monspeliensis</i>		X
	* <i>Sporobolus africanus</i>		X
	<i>Sporobolus virginicus</i>		X
	* <i>Stenotaphrum secundatum</i>		X
	<i>Tetrarrhena laevis</i>		X
	* <i>Vulpia myuros</i> var. <i>megalura</i>	X	
	POLYGALACEAE	<i>Comesperma calymega</i>	X
<i>Comesperma ciliatum</i>			X
<i>Comesperma virgatum</i>			X
<i>Comesperma flavum</i>		X	X
POLYGONACEAE	* <i>Acetosella vulgaris</i>	X	X
	* <i>Rumex crispus</i>	X	X
	<i>Muehlenbeckia adpressa</i>	X	X
PRIMULACEAE	* <i>Anagallis arvensis</i>		X
	* <i>Anagallis arvensis</i> var. <i>caerulea</i>	X	X
PROTEACEAE	<i>Samolus repens</i>		X
	<i>Adenanthos apiculatus</i>	X	X
	<i>Adenanthos cuneatus</i>	X	X
	<i>Adenanthos obovatus</i>		X
	<i>Banksia attenuata</i>	X	X
	<i>Banksia baueri</i>	X	X
	<i>Banksia baxteri</i>	X	X
	<i>Banksia coccinea</i>	X	X
	<i>Banksia dryandroides</i>	X	X
	<i>Banksia gardneri</i> var. <i>gardneri</i>	X	X
	<i>Banksia grandis</i>	X	X
	<i>Banksia ilicifolia</i>		X
	<i>Banksia littoralis</i>	X	
	<i>Banksia nutans</i> var. <i>nutans</i>	X	X
	<i>Banksia repens</i>	X	X

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
PROTEACEAE cont.	<i>Banksia sphaerocarpa</i> var. <i>sphaerocarpa</i>		X
	<i>Conospermum caeruleum</i> subsp. <i>caeruleum</i>	X	X
	<i>Conospermum coerulescens</i> subsp. <i>adpressum</i>	X	
	<i>Conospermum flexuosum</i> subsp. <i>flexuosum</i>		X
	<i>Conospermum teretifolium</i>	X	
	<i>Dryandra arctotidis</i>	X	
	<i>Dryandra baxteri</i>		X
	<i>Dryandra brownii</i>	X	
	<i>Dryandra calophylla</i> P3	X	
	<i>Dryandra cuneata</i>	X	X
	<i>Dryandra falcata</i>	X	X
	<i>Dryandra lindleyana</i> var. <i>mellicula</i>		X
	<i>Dryandra mucronulata</i> subsp. <i>mucronulata</i>		X
	<i>Dryandra plumosa</i> subsp. <i>plumosa</i>	X	X
	<i>Dryandra pteridifolia</i> subsp. <i>pteridifolia</i>	X	X
	<i>Dryandra tenuifolia</i> var. <i>tenuifolia</i>	X	
	<i>Dryandra</i> sp.	X	
	<i>Franklandia fucifolia</i>	X	
	<i>Grevillea depauperata</i>		X
	<i>Grevillea fasciculata</i>	X	X
	<i>Grevillea pilulifera</i>		X
	<i>Grevillea pulchella</i> subsp. <i>pulchella</i>		X
	<i>Grevillea trifida</i>		X
	<i>Hakea amplexicaulis</i>		X
	<i>Hakea baxteri</i>	X	X
	<i>Hakea ceratophylla</i>		X
	<i>Hakea corymbosa</i> var. <i>corymbosa</i>	X	X
	<i>Hakea cucullata</i>	X	X
	<i>Hakea denticulata</i>	X	X
	<i>Hakea ferruginea</i>	X	X
	<i>Hakea florida</i>		X
	<i>Hakea laurina</i>	X	
	<i>Hakea linearis</i>		X
	<i>Hakea marginata</i>		X
	<i>Hakea nitida</i>	X	X
	<i>Hakea oleifolia</i>		X
	<i>Hakea pandanicarpa</i> subsp. <i>crassifolia</i>	X	X
	<i>Hakea prostrata</i>	X	X
	<i>Hakea ruscifolia</i>	X	X
	<i>Hakea sulcata</i>	X	
<i>Hakea trifurcata</i>	X	X	
<i>Hakea varia</i>	X	X	
<i>Isopogon attenuatus</i>	X	X	
<i>Isopogon formosus</i> subsp. <i>formosus</i>		X	
<i>Isopogon longifolius</i>		X	
<i>Isopogon trilobus</i>	X		
<i>Lambertia inermis</i> var. <i>inermis</i>	X	X	
<i>Persoonia graminea</i>		X	
<i>Persoonia striata</i>	X	X	

12. APPENDICES

FLOWERING PLANTS				
Family	Species	Mine Site	Pipeline	
PROTEACEAE cont.	<i>Petrophile divaricata</i>	X	X	
	<i>Petrophile diversifolia</i>		X	
	<i>Petrophile ericifolia</i> subsp. <i>ericifolia</i>	X		
	<i>Petrophile media</i>	X	X	
	<i>Petrophile seminuda</i>	X	X	
	<i>Petrophile squamata</i> subsp. <i>squamata</i>	X	X	
	<i>Petrophile teretifolia</i>	X		
	<i>Stirlingia anethifolia</i>	X		
	<i>Stirlingia latifolia</i>		X	
	<i>Stirlingia tenuifolia</i>		X	
	<i>Synaphea petiolaris</i> subsp. <i>petiolaris</i>	X	X	
	<i>Synaphea polymorpha</i>	X	X	
	RANUNCULACEAE	<i>Clematis aristata</i> var. <i>occidentalis</i>		X
	RESTIONACEAE	<i>Anarthria gracilis</i>	X	X
<i>Anarthria laevis</i>		X	X	
<i>Anarthria prolifera</i>		X	X	
<i>Anarthria scabra</i>		X	X	
<i>Chordifex capillaceus</i>		X		
<i>Chordifex crispatus</i>		X		
<i>Chordifex isomorphus</i> P4				X
<i>Chordifex laxus</i>				X
<i>Chordifex leucoblepharus</i> P2		X		
<i>Chordifex sphacelatus</i>		X		X
<i>Desmocladius austrinus</i>				X
<i>Desmocladius fasciculatus</i>		X		X
<i>Desmocladius flexuosus</i>				X
<i>Empodisma gracillimum</i>				X
<i>Harperia confertospicata</i>		X		X
<i>Harperia lateriflora</i>				X
<i>Hypolaena exsulca</i>		X		X
<i>Hypolaena fastigiata</i>		X		X
<i>Leptocarpus tenax</i>				X
<i>Lepyrodia drummondiana</i>		X		
<i>Lepyrodia hermaphrodita</i>				X
<i>Lepyrodia macra</i>		X		
<i>Loxocarya striata</i>		X		X
<i>Lyginia barbata</i>		X		X
<i>Lyginia imberbis</i>		X		X
<i>Meeboldina denmarkica</i>				X
<i>Meeboldina scariosa</i>			X	
<i>Tremulina tremula</i>			X	
RHAMNACEAE	<i>Spyridium majoranifolium</i>	X		
	<i>Trymalium floribundum</i> subsp. <i>trifidum</i>		X	
ROSACEAE	* <i>Rosa chinensis</i> x <i>moschata</i>		X	
	* <i>Rubus ulmifolius</i>		X	
RUBIACEAE	<i>Opercularia apiciflora</i>		X	
	<i>Opercularia hispidula</i>	X	X	

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
RUBIACEAE cont.	<i>Opercularia vaginata</i>	X	X
	<i>Boronia albiflora</i>	X	
	<i>Boronia crassifolia</i>	X	X
	<i>Boronia crassipes</i> P3		X
	<i>Boronia crenulata</i> var. <i>crenulata</i>	X	X
	<i>Boronia ramosa</i> subsp. <i>anethifolia</i>	X	X
	<i>Boronia spathulata</i>	X	X
	<i>Boronia subsessilis</i>	X	
	<i>Philotheca nodiflora</i> subsp. <i>lasiocalyx</i>	X	
	<i>Rhadinothamnus anceps</i>		X
SANTALACEAE	<i>Exocarpos sparteus</i>	X	X
	<i>Leptomeria lehmannii</i>	X	
	<i>Leptomeria squarrulosa</i>		X
SCROPHULARIACEAE	* <i>Parentucellia latifolia</i>	X	
	* <i>Parentucellia viscosa</i>		X
	* <i>Verbascum virgatum</i>		X
	<i>Veronica plebeia</i>		X
SOLANACEAE	* <i>Solanum laciniatum</i>		X
	* <i>Solanum nigrum</i>	X	X
STACKHOUSIACEAE	<i>Stackhousia scoparia</i>		X
	<i>Commersonia</i> sp. Mt Groper (R.G. Cranfield & D.Kabay 9157)		
STERCULIACEAE	P1	X	
	<i>Thomasia stelligera</i>	X	
STYLIDIACEAE	<i>Levenhookia dubia</i>	X	
	<i>Levenhookia pauciflora</i>	X	
	<i>Levenhookia pusilla</i>		X
	<i>Levenhookia stipitata</i>		X
	<i>Stylidium amoenum</i>		X
	<i>Stylidium assimile</i>		X
	<i>Stylidium brunonianum</i>	X	
	<i>Stylidium caespitosum</i>	X	
	<i>Stylidium calcaratum</i>	X	X
	<i>Stylidium corymbosum</i> var. <i>corymbosum</i>	X	
	<i>Stylidium</i> sp.	X	
	<i>Stylidium diuroides</i>		X
	<i>Stylidium imbricatum</i>	X	
	<i>Stylidium junceum</i>		X
	<i>Stylidium luteum</i>	X	
	<i>Stylidium piliferum</i>		X
	<i>Stylidium piliferum</i> subsp. <i>minor</i>	X	X
	<i>Stylidium repens</i>	X	X
	<i>Stylidium rupestre</i>	X	X
	<i>Stylidium scandens</i>	X	X
	<i>Stylidium schoenoides</i>	X	X
	<i>Stylidium spathulatum</i>	X	X
	<i>Stylidium spinulosum</i>		X

12. APPENDICES

FLOWERING PLANTS			
Family	Species	Mine Site	Pipeline
THYMELAEACEAE	<i>Pimelea ?angustifolia</i>		X
	<i>Pimelea brevifolia</i> subsp. <i>brevifolia</i>	X	X
	<i>Pimelea longiflora</i> subsp. <i>longiflora</i>		X
	<i>Pimelea rosea</i>	X	X
	<i>Pimelea spectabilis</i>		X
	<i>Pimelea suaveolens</i> subsp. <i>suaveolens</i>	X	X
	<i>Pimelea sulphurea</i>	X	X
	<i>Pimelea tinctoria</i>	X	
TREMADRACEAE	<i>Platytheca galioides</i>	X	
	<i>Tetratea affinis</i>		X
	<i>Tetratea pubescens</i>	X	
	<i>Tetratea setigera</i>		X
	<i>Tremandra diffusa</i>		X
	<i>Tremandra stelligera</i>		X
TROPAEOLACEAE	* <i>Tropaeolum majus</i>		X
TYPHACEAE	* <i>Typha orientalis</i>	X	X
VIOLACEAE	<i>Hybanthus floribundus</i> subsp. <i>floribundus</i>		X
XANTHORRHOEACEAE	<i>Xanthorrhoea platyphylla</i>	X	X
	<i>Xanthorrhoea preissii</i>		X
XYRIDACEAE	<i>Xyris lanata</i>		X

12. APPENDICES

**12.5. Priority Flora Recorded from the Southdown
Magnetite Proposal Flora Survey**

12. APPENDICES

***Commersonia* sp. Mt Groper (RG Cranfield & D. Kabay 9157), Priority 1**

Commersonia sp. Mt Groper R.G Cranfield & D. Kabay 9157 (Sterculiaceae) is a small shrub to about 40 cm in height that carries small cream-coloured flowers in spring. The shrub occurs on sandy-clay in seasonally-waterlogged sites with *Anarthria laevis* (mine site vegetation unit 5: *Eucalyptus occidentalis* woodland on clay basins). The taxon typically occurs as isolated individual plants.

It is only known from three collections. The first collection was made in 1993 off the Boat Harbour Rd near Mt Groper, with the second collection made during the September 2005, in the *ecologia* Southdown mine site survey. Further targeted searches in January and March 2006 on the mine site were not successful, however a population was found in a wetland outside of the Project impact area during a targeted search in October 2006. Measures to ensure recovery of this species will be outlined in the Threatened Flora Conservation Management Plan (in consultation with the WA Threatened Species and Communities Unit of DEC) prior to ministerial approval.

Apart from parts of the fringe of Mettler Lake, two wetlands on private land between Mettler Rd and the South Coast Highway and the original collection site (searched by Dr Wilkins and R. Davis) there appears to be little habitat suitable for this taxon remaining in the district in Good condition.

***Chordifex leucoblepharus*, Priority 2**

Chordifex leucoblepharus (Restionaceae) is a perennial rhizomatous twine rush that is restricted to the Esperance bioregion (FloraBase, 2006). It occurs in sandy soils with heath, mallee and scrub. Two small populations (<2% cover) were located in Sites 28 (mine site vegetation unit 2: *Eucalyptus* spp. mallee-heath on laterite) and Site 18 (mine site vegetation unit 1b: *Lambertia inermis* and other tall shrubs scrub-heath on waterlogged laterite) during the *ecologia* survey. *Chordifex leucoblepharus* was previously known from fewer than about ten populations in and around the Stirling Ranges National Park, at South Stirlings Nature Reserve, Camel Lake Nature Reserve and on the ITC Cheynes Tree Farm.

***Microcorys lenticularis*, Priority 2**

Microcorys lenticularis (Lamiaceae) is a sparse shrub to about 1 m in height that flowers in late summer and grows in sandy soils. It typically occurs in small populations. Several plants were found along a track in the main bushland remnant on the mine site (mine site vegetation unit 1b: *Lambertia inermis* and other tall shrubs scrub-heath on waterlogged laterite) and in the regional vegetation reconnaissance survey on the Kojaneerup Rd roadside and the roadside near the South Stirlings Nature Reserve. It was previously known from about ten populations (several of these on ITC Tree Farms) mainly in the Esperance Bioregion but also less commonly in the southern part of the Avon Wheatbelt and Mallee Bioregions (FloraBase, 2006).

***Monotoca aristata*, Priority 2**

Monotoca aristata (Epacridaceae) is a medium shrub that grows to over 1 m in height and is restricted to the Esperance bioregion (FloraBase, 2006). It occurs on sandy soils in mallee, scrub and heath. Several populations were located within the mine site and on the nearby privately-owned Lot 6830 (mine site vegetation unit 3: *Eucalyptus staeri* mallee heath on deep sand). *Monotoca aristata* was previously known from about seven populations (Wellstead to Fitzgerald River National Park). One population is on a tree farm near Mettler Lake.

***Calectasia obtusa*, Priority 3**

Calectasia obtusa (Dasypogonaceae) is a sparse, perennial herb to about 30 cm in height with stiff, papery, star-shaped flowers in spring that are a bright blue-purple colour. It generally inhabits poorly

12. APPENDICES

drained laterite or clay situations where it occurs as scattered individuals. It was previously known from approximately 14 collections from Kojonup to Newdegate and the Fitzgerald River National Park. In this survey it was collected from waterlogged laterite on the main ridge of the mine site (vegetation unit 1b: *Lambertia inermis* and other tall shrubs scrub–heath on waterlogged laterite) and from the pipeline route at Site 36 at the Kojaneerup Springs Rd road reserve (*Hakea corymbosa* subsp. *corymbosa* dominated scrub-heath on laterite)

***Dryandra calophylla*, Priority 3**

Dryandra calophylla (Proteaceae) is a prostrate shrub less than 0.5 m in height. Restricted to the Esperance and Jarrah Forest Bioregions, *Dryandra calophylla* is usually found on rocky sandy clay or white sand with gravel and was previously known from about 28 populations (many on private lands). Two sparse populations were observed during the current survey on the mine site around Site 50 and Site 5 on the main laterite ridge (mine site vegetation unit 1b: *Lambertia inermis* and other tall shrubs scrub–heath on waterlogged laterite) and on deep sand at Site 37 (mine site vegetation unit 3: *Eucalyptus staeri* mallee heath on deep sand) in a small bush remnant in the north of the mine footprint.

***Goodenia filiformis*, Priority 3**

Goodenia filiformis (Goodeniaceae) is a delicate perennial herb growing to about 20 cm in height with yellow flowers in summer. It is known from occasional records in seasonally inundated clay basins, damplands and other wetlands in the Swan Coastal Plain, Jarrah Forest and Warren Bioregions but mainly in the Esperance Plains Bioregion east of Albany where it inhabits *Eucalyptus occidentalis* basins. It was previously known from approximately 22 populations. In the current study it was found as scattered individuals on waterlogged laterite of the main ridge of the mine site (vegetation unit 1b: *Lambertia inermis* and other tall shrubs scrub–heath on waterlogged laterite) and two large populations occurred in vegetation unit 5 (*Eucalyptus occidentalis* woodland on clay basins) in the mine site footprint.

***Chordifex isomorphus*, Priority 4**

Chordifex isomorphus (Restionaceae) is a rhizomatous, perennial herb, growing between 0.5 and 0.8 m high. It has brown, reduced flowers between March and May and occurs on seasonally-waterlogged ironstone flats or ridges (often as the dominant component of the sedge layer). One large population was recorded in the Parker Brook Recreational Reserve LR3124/121 and the Albany Highway road reserve adjoining this (Sites 11, 13, 14 & 59) during the pipeline survey. It is found in the Whicher Range area of the Blackwood Plateau at Treeton and the Scott Coastal Plain and also occasionally from the Stirling Ranges and south-east to Manypeaks. The occurrence on the pipeline route is a notable outlier from its Albany range.

12. APPENDICES

12.6. Significant Flora as Defined by EPA Guidance Statement No. 51

12. APPENDICES

Apart from the Priority Flora Species found in the Southdown Flora and Vegetation Survey conducted by *ecologia* in 2005-2006, a number of other flora species of conservation significance were found in this survey that are not currently protected under the Federal EPBC Act or the Western Australian Wildlife Conservation Act. These taxa are considered to be significant under the Western Australian Environmental Protection Authority Guidance Statement 51 (EPA, 2004). Significant flora under this Guidance Statement include those taxa that are:

1. Keystone species having important ecological and other functions in particular habitats;
2. Contributing a significant proportion of the regional population of a species at the location in question;
3. Relictual taxa of ancient origin, the range of which has often contracted to refugia due to climatic or edaphic fluctuations that occurred in the arid periods of the Pleistocene era; these taxa are important in the evolutionary history of the biota;
4. Anomalous with regard to taxonomic characters that indicate a potential new discovery;
5. Important at the location in question because they may be at the extreme of their biogeographical range or ecological tolerance, or are recently discovered range extensions, or are isolated outliers of the main range;
6. Restricted subspecies, varieties, or naturally occurring hybrids;
7. Local endemics or have a restricted distribution; and/or
8. Poorly reserved.

As could be expected of small remnants of very species-rich bushland situated within the highly cleared landscape of the Pallinup Sandplain, the mine site and the bushlands of the proposed pipeline route harbour an appreciable number of significant species in the above categories.

A number of species found at the mine site are more or less endemic to the Pallinup Sandplain and have their eastern range ends near to Wellstead. There is also a suite of species on the mine site with a bimodal distribution ie with two disjunct small areas of occurrence. These species are restricted to the mine site and the Fitzgerald National Park and are absent from the intervening cleared sandplain. In the discussion below, all references to species distribution were sourced from FloraBase (2006).

1. Keystone species in particular habitats. Little information is readily available about such taxa in the literature, however one species noted in the Southdown survey (*Empodisma gracillimum*) clearly has a keystone function in the wetlands it inhabits.

Empodisma gracillimum (Restionaceae) is a widespread twine rush of permanently waterlogged near-coastal wetlands centred mainly on the humid Warren Bioregion from Margaret River to West Cape Howe. In the Albany area, *Empodisma gracillimum* is found in isolated outliers outside the main climatic range (above) but only where the annual rainfall is supplemented by other water sources such as flow from the Pallinup aquifer. *Empodisma gracillimum* occurs in the Kratochvill wetland (where the wetland vegetation is in very good condition) and at several other wetlands (Site 5 at the Walmsley wetland and at Site 7 in the particularly degraded wetland at the Cuming Rd reserve) along the proposed pipeline route. *Empodisma* twine rushes are endemic to southern Australia and New Zealand and have specialized capillaroid roots (Lamont, 1982) and physiological adaptations that enable them to absorb large volumes of water, to reduce water loss by transpiration to a minimum and to decay very slowly (Agnew *et al.*, 1993). *Empodisma* thus constitutes the major peat-building element in the southern hemisphere wetlands in which it occurs. In this respect, *Empodisma* twine rushes are very similar in ecological function to

12. APPENDICES

Sphagnum mosses that are keystone species of northern hemisphere peat bogs (Campbell and Williamson, 1997). Peat bogs are relatively rare in Western Australia (and particularly so in Albany east of the main range of *Empodisma gracillimum*). Many of these wetlands have been degraded by farming activities, feral pigs and frequent fires. The peat wetlands that remain in good condition are important carbon sinks and form dry season refugia for wetland biota by buffering the effect of extended periods of dry weather due to their ability to efficiently hold water and prevent desiccation of the soil. These wetlands can host uncommon or rare assemblages of wetland plants and animals including relictual taxa such as the carnivorous plant *Cephalotus follicularis*. Predicted climate change is expected to increase the importance of the role of these wetlands as future refugia.

2. A significant proportion of the regional population of a species

Many taxa, particularly those in the family Proteaceae, found on the mine site and along the pipeline form a significant proportion of the regional populations of these species. Examples include *Eucalyptus staeri*, *Banksia baueri*, *Hakea baxteri*, *Banksia dryandroides*, *Pterostylis turfosa*, *Adenanthos apiculatus*, *Chordifex capillaceus*, and *Dryandra plumosa* subsp. *plumosa*. Most of these are discussed below, as they are also significant because of their range characteristics. Since the Pallinup Sandplain is extensively cleared, the mine site is effectively an isolated island of biodiversity in a large sea of species-depauperate cropland and tree plantations. Thus the populations of many native species found on the mine site are significant because elsewhere in the region these species often persist as scattered individuals along roadsides rather than as a viable population of significant size.

3. Relictual taxa

a. *Cephalotus follicularis* (Cephalotaceae). Cephalotaceae is a monotypic family endemic to permanently-waterlogged wetlands between Augusta and Albany. *Cephalotus follicularis* (the carnivorous Albany Pitcher Plant) is the sole species in this relictual family that dates back to the Gondwanan era when Australia was covered in rainforest (Hopper and Gioia, 2004). It is therefore of scientific and conservation significance. *Cephalotus follicularis* is listed as vulnerable by the International Union for the Conservation of Nature (2006) Red List of Threatened Species (category VU A2ac). This category denotes that this species is threatened because of recent and significant decline in its area of occupancy, extent of occurrence and the quality of habitat.

Although widespread and relatively common in peat wetlands of the humid Warren Bioregion west of Albany, *Cephalotus follicularis* is now quite uncommon around Albany. Despite being the first recorded site of occurrence of this species, Albany is at the eastern range end of this species. Thus *Cephalotus follicularis* is more vulnerable to climate change and increased fire frequency here than in the Warren Bioregion where the rainfall is much higher. Although there are 25 specimens from the Albany area held by the WA Herbarium (FloraBase, 2006) most of these collections were made many years ago (from 1829-1980) when local bushland areas were much more extensive. Subsequently, most of the wetland habitat of this plant in the Albany area has been cleared or degraded. From FloraBase records, *Cephalotus follicularis* now appears to be limited to about six known locations in the vicinity of Albany (populations at Goode Beach, Betty's Beach, Gull Rock, Cheyne Beach Rd and Torndirrup NP). It may however still be present in small remnants on private land. The occurrence of this species at the Kratochvill wetland is of conservation significance.

4. Anomalous taxa with features that indicate a potential new discovery

a. *Commersonia* sp. Mt Groper (Sterculiaceae) found at the mine site was first thought to be an anomalous specimen of *Commersonia crispa* but was confirmed by Dr C Wilkins as the undescribed taxon *Commersonia* sp. Mt Groper and was subsequently listed as Priority One Flora. This taxon has been fully discussed elsewhere in the report.

12. APPENDICES

b. *Lepidosperma ?viscidum* (Cyperaceae) recorded at the Parker Brook Reserve along the originally proposed pipeline route is potentially a new species as it does not conform well to the current circumscription of *Lepidosperma viscidum* (E. Sandiford, pers. comm).

5. Representative of their range (particularly, at the extremes of range, recently discovered range extensions, or isolated outliers of the main range)

a. *Azolla filiculoides* (Azollaceae) is a tiny species of aquatic fern that has previously been recorded several times from wetlands on the Swan Coastal Plain and once from a farm dam near Albany (FloraBase, 2006). The collection of this fern in the Southdown survey is only the second time this species has been noted in Western Australia outside the Perth region. This occurrence is unlikely to be of conservation significance, as this fern also occurs throughout Australia and beyond (Bennett, 1987). It is uncertain if this taxon is indeed a native plant or a naturalized alien (Hussey *et al.*, 1997). The paucity of recorded occurrences in Western Australia is probably due to lack of dedicated survey rather than genuine rarity.

b. *Rinzia schollerifolia* (Myrtaceae). This small shrub has a narrow range from about Mt Lindesay near Denmark to the Stirling Range and east on the Pallinup sandplain. The record from the Southdown mine site is the most easterly collection of this species (FloraBase, 2006). It occurs mainly on granite and other hills such as the Porongorup Range, Stirling Range, Mt Lindesay, Willyung Hill and Mt Martin. Its occurrence on seasonally-waterlogged, low-lying clay soil at the Southdown mine site is unusual.

c. *Pterostylis turfosa* (Orchidaceae). This orchid is known from 21 collections between Busselton and Albany and two outliers at Dempster Head Esperance and East Mt Barren (FloraBase, 2006). Its occurrence at the Southdown mine site marks an isolated outlier of this species away from its main range.

d. *Deyeuxia quadriseta* (Poaceae). The collection of this grass on the mine site is an eastern range extension for the species. It is otherwise known from Perth through the Jarrah Forest and Warren Bioregion to Torndirrup National Park at Albany and the Stirling Range.

f. *Agrostocrinum hirsutum* (Anthericaceae). This herb was found at Site 57 (Chester Pass Rd) and Site 58 (Churchlane Rd) along the pipeline route. The extreme eastern range end of this species is the Pallinup River however, in total, only five collections of the species have been made east of Albany (FloraBase, 2006) apart from the Southdown collection. It appears that east of Albany this species has been impacted by widespread clearing; as a result it can be considered to be existing as isolated outliers in the pipeline sites above.

g. *Patersonia maxwellii* (Iridaceae). This herb is known from only seven specimens on FloraBase, 2006. It has been recorded at Esperance, east of Esperance, Collie, Margaret River and Mt Cooke in the Darling Range. The collection of this species at Site 35 along the pipeline route (Deep Creek Rd) is significant, as it is an outlier from the previously recorded occurrences of the species.

h. *Gymnoschoenus anceps* (Cyperaceae). This sedge was found at the margin of the Walmsley wetland in the Gledhow Nature Reserve along the originally proposed pipeline route. This wetland is at the junction of the Holocene and Pleistocene landforms and is maintained by a combination of relatively high rainfall because of its near-coastal situation, seepage from the adjacent deep sand dune over laterite and possibly some contribution from the Pallinup aquifer. *Gymnoschoenus anceps* at this site is an eastern outlier from its main range (which is centred on the humid Warren Bioregion between Margaret River and West Cape Howe).

i. *Gompholobium baxteri* (Papilionaceae). The collection of this species at the mine site constitutes a significant range extension west from the Fitzgerald National Park (current western range end, FloraBase, 2006). This occurrence is consistent with an observed trend in this study for a number of taxa found in the

12. APPENDICES

Fitzgerald NP to also occur at the mine site with few, if any, collections having been recorded between these two locations.

j. *Hibbertia hibbertioides* var. *meridionalis* (Dilleniaceae). The occurrence of this taxon on the mine site is a large range extension. It occurs west of its previously known range between Hopetoun, Ravensthorpe and Munglinup and it is known from only ten records (FloraBase,2006).

k. *Drosera dichrosepala* (Droseraceae). This species was found at Parker Brook Reserve along the initially proposed pipeline route. This marks a western range extension for the species. It is otherwise known from a very small range east of Albany (Cheyne Beach Rd to Manypeaks) from only 14 collections (FloraBase, 2006).

l. *Drosera bulbosa* subsp. *bulbosa* (Droseraceae). This herb was found at Site 13 near the Albany harbour along the proposed pipeline route. The record is a small eastern range extension for this otherwise common and widespread species.

m. *Leucopogon verticillatus* (Epacridaceae). This shrub was recorded at Site 35 Hazard Rd along the proposed pipeline route. This occurrence, just north of Albany, is very close to its eastern range at this latitude, although further south on the coastal hills it extends east of Albany to Mt Manypeaks.

n. *Banksia grandis* (Proteaceae). The mine site occurrence is very near to the eastern range end of this species at Sandalwood Rd, Cape Riche.

o. *Banksia littoralis* (Proteaceae). The eastern range end of this species is at Wellstead (apart from an outlier at Bremer Bay) so the occurrence on the mine site is significant.

p. *Hakea baxterii* (Proteaceae). The mine site record denotes a range extension south east of its current range. Only two occurrences are known of this species south of the Stirling Range (one at South Stirling Rd and another poorly documented record from “the Kalgan Plains”).

q. *Utricularia simplex* (Lentibulariaceae). The occurrence of this tiny herb in the Eucalyptus pleurocarpa wetland at the proposed mine site is a considerable range extension east of its previously known range near Albany and a new record for the Esperance Sandplain Bioregion.

r. *Eremaea pauciflora* var. *pauciflora*. The occurrence of this shrub at the proposed mine site is a southern range extension from the Borden area.

s. *Banksia nutans* var. *nutans* (Proteaceae). This small shrub has a disjunct distribution with centres located around Esperance, Bremer Bay and the Boxwood Hills east of the mine site. Its occurrence at the mine site is an isolated outlier and should be viewed as a significant, as it is a substantial population and the taxon does not appear to occur elsewhere on the Pallinup Sandplain or Stirling Range west of the Pallinup River.

t. *Banksia baueri* (Proteaceae). This taxon mainly occurs in the Fitzgerald NP to Esperance area. However two other disjunct nodes of occurrence occur at the Tarin Rock – Jitarning area in the wheatbelt and at the Pallinup Sandplain to Stirling Range area. The mine site occurrence of this species forms a significant population in the latter area.

u. *Dryandra pteridifolia* subsp. *pteridifolia* (Proteaceae). The population at the mine site is a western range extension of this species.

v. *Stylidium caespitosum* (Stylidiaceae). This small herb occurs at the mine site where it is a significant eastern range extension from the nearest known population near Gull Rock east of Albany.

12. APPENDICES

6. Restricted subspecies, varieties, or naturally occurring hybrids

a. *Hibbertia hibernioides* var. *meridionalis* (Dilleniaceae). The occurrence of this restricted variety of *Hibbertia meridionalis* on the mine site is significant, as the variety has previously only been known from ten records in a very restricted range near Ravensthorpe (FloraBase,2006).

7. Local endemics or taxa with a restricted distribution

a. *Actinodium calocephalum* N.G. Marchant ms (Myrtaceae). This showy form of the Albany Swamp Daisy is mostly restricted to the Pallinup Sandplain from Narrikup to the Pallinup River (with outlying populations in Fitzgerald National Park). It was recorded at the Southdown mine site where it was present as several small populations on the waterlogged laterite of the main ridge and around *Eucalyptus occidentalis* wetlands.

b. *Caladenia fuscolutescens* (Orchidaceae). This orchid was previously known from four collections restricted to the Pallinup Sandplain between Two Peoples Bay, Warriup and the Hassell Hwy 110 km west of Jerramungup (FloraBase, 2006). The collection of this species on the Southdown mine site is a significant population of this narrowly endemic species. The conservation status of this orchid is yet to be determined and although it appears to be rare, the survey effort has not been sufficient to confirm this.

c. *Cyperochloa hirsuta* (Poaceae). This grass is restricted to the fringes of *Eucalyptus occidentalis* and other wetlands on the Pallinup Sandplain from about Manypeaks to Bremer Bay. It was collected at a wetland on the mine site and is present in other wetlands in good condition nearby.

d. *Adenanthos apiculatus* (Proteaceae). This small shrub is restricted to the Pallinup Sandplain and foothills of the Stirling Range from Albany to its eastern range end at the mine site (apart from an easterly outlier of this species at Bremer Bay).

e. *Chordifex capillaceus* (Restionaceae). This twine rush is a narrow endemic restricted to the Pallinup Sandplain from Manypeaks to Boat Harbour. It is known only from about nine populations apart from that found on the mine site.

f. *Schoenus multiglumis* (Cyperaceae). This sedge is typical of peat wetlands of the humid south coastal areas between Walpole and West Cape Howe. It is very uncommon around Albany, as the climate is much drier and most peat wetlands have been destroyed. Therefore the population is significant and is close to its eastern range end at Walmsley wetland along the proposed pipeline route.

g. *Drosera dichrosepala* (Droseraceae). This species was found at Parker Brook Reserve along the initially proposed pipeline route. It is otherwise known from a very small range east of Albany (Cheyne Beach Rd to Manypeaks) from only 14 collections (FloraBase, 2006).

h. *Andersonia depressa* (Epacridaceae). This species was recorded once at Site 34 at the Belfield remnant along the initially proposed pipeline route. It is otherwise known from about 16 collections in a very narrow range around Albany on rocky hills such as Mt Martin, Mt Clarence and at Cheyne Beach. As this group of plants is poorly known identification can be difficult and, given that the habitat at the Belfield remnant differs from that where previously know collections of the species have been made, the identification of this specimen from the Belfield remnant (which was collected in autumn 2005) may be a taxonomic error.

i. *Leucopogon atherolepis* (Epacridaceae). This is a shrub with a very narrow distribution. Apart from one record from Ongerup it is almost totally endemic to the Stirling Range. In this study it was collected from Gravel Hill in autumn 2005 (Site 10). This may need to be re- examined as it seems anomalous.

12. APPENDICES

j. *Leucopogon corynocarpus* (Epacridaceae). This shrub is a narrow endemic of the Pallinup Sandplain between Albany and Fitzgerald NP (and also occurs in the Stirling Range). It was found at the mine site.

k. *Leucopogon elegans* (Epacridaceae). This is a narrow range endemic that occurs from the Porongorup Range to the Pallinup River (FloraBase, 2006). It was recorded from the proposed pipeline route at Site 48 on Minjidup Rd near the Belfield property.

l. *Banksia dryandroides* (Proteaceae). This taxon has a disjunct distribution with small numbers of populations near Busselton, around Millbrook near Albany and near Wellstead. The occurrence at the mine site marks the eastern range end of the species.

m. *Dryandra plumosa* subsp. *plumosa* (Proteaceae). This is restricted to the area between Kojaneerup Spring Rd and Fitzgerald National Park. The mine site occurrence is close to the western range end of this species.

8. Poorly reserved taxa

a. *Boronia crassipes* (Rutaceae). This has been discussed in the section regarding Priority Species in the Southdown Flora and Vegetation report.

b. *Cephalotus follicularis* is poorly reserved in the Albany area.

c. *Pterostylis turfosa* (Orchidaceae). See above.

d. *Patersonia maxwellii* (Iridaceae). This herb is known from only seven specimens on FloraBase, 2006.

e. *Drosera dichrosepala* (Droseraceae). See above.

12. APPENDICES

**12.7. Fauna Species Recorded from the Southdown
Magnetite Proposal Vertebrate Fauna Survey**

12. APPENDICES
TABLE A1: MAMMAL SPECIES RECORDED DURING THE PROPOSED SOUTHDOWN MINE SITE SURVEY.

Key:

Numbers indicate total number of records for each species

OPP = opportunistic records

S = Secondary evidence only

A= recorded using Anabat detector

* = Introduced Species

Bold species recorded during spring/summer survey

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	OPP
PERAMELIDAE												
	<i>Isoodon obesulus fusciventer</i>	Southern Brown Bandicoot	S, -	S, 1	S, -	S, 1					-, 1	S, -
BURRAMYIDAE												
	<i>Cercartetus concinnus</i>	Western Pygmy-Possum										-, 1
TARSIPEDIDAE												
	<i>Tarsipes rostratus</i>	Honey Possum	15, 4	5, 2	8, 2	2, -						
PHALANGERIDAE												
	<i>Trichosurus vulpecula vulpecula</i>	Common Brushtail Possum								-, 4		-, 3
MACROPODIDAE												
	<i>Macropus fuliginosus</i>	Western Grey Kangaroo	4, 3	2, -	S, 2		-, 4	1,		1, -		12,
MOLOSSIDAE												
	<i>Mormopterus planiceps</i> (long-penis form)	Western Freetail Bat		-, A					-, A		-, A	-, A
	<i>Tadarida australis</i>	White-striped Freetail Bat			A, -		A, -	A, -				A, -
VESPRTLIONIDAE												
	<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	-, A		A, A	A, A	-, A	A, A	-, A	-, A	A, A	A, A
	<i>Chalinolobus morio</i>	Chocolate Wattled Bat	A, -				A, -	A, -			A, -	
	<i>Falsistrellus mackenziei</i>	Western False Pipistrelle					-, A					

12. APPENDICES

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	OPP
	<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat	-, A	-, A	-, A	A, -		A, A		A, A	A, -	
	<i>Nyctophilus gouldi</i>	Gould's Long-eared Bat								-, A		
	<i>Vespadelus regulus</i>	Southern Forest Bat		-, A	-, A			A, A	-, A	-, A	-, A	
MURIDAE												
	<i>Pseudomys albocinereus</i>	Ash-grey Mouse		-, 1	-, 2				-, 2	-, 8	-, 1	
	<i>Rattus fuscipes</i>	Bush Rat	7, 16	8, 29	8, 19	18, 46	4, -		-, 5		-, 1	
	* <i>Mus musculus</i>	House Mouse	17, 1	10, 11	8, -	10, 4	12,	14,	-, 16	-, 6	-, 11	
CANIDAE												
	* <i>Vulpes vulpes</i>	European Red Fox			S, -	S, 1				S, -		S, -
FELIDAE												
	* <i>Felis catus</i>	Feral Cat										S, -
LEPORIDAE												
	* <i>Oryctolagus cuniculus</i>	European Rabbit	1, 3	S, -	S, -	S, -	S, -	S, 1	-, 3	S, -	S, -	S, 2
BOVIDAE												
	* <i>Bos taurus</i>	Cattle					40, -					
	* <i>Ovis aires</i>	Sheep						S, -		S, -	S, -	S, -

12. APPENDICES

TABLE A2: MAMMAL SPECIES RECORDED DURING THE PROPOSED SOUTHDOWN PIPELINE ROUTE SURVEY.

Key:

Numbers indicate total number of records for each species

OPP = opportunistic records

S = Secondary evidence only

A= recorded using Anabat detector

* = Introduced Species

Bold species recorded during spring/summer survey

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	OPP
DASYURIDAE							
	<i>Sminthopsis griseoventer</i>	Grey-bellied Dunnart				-, 5	
PERAMELIDAE							
	<i>Isoodon obesulus fusciventer</i>	Southern Brown Bandicoot	2, 3	1, 31	5, 8	4, 12	
PSEUDOCHERIDAE							
	<i>Pseudocheirus occidentalis</i>	Western Ringtail Possum	2, 2				
PHALANGERIDAE							
	<i>Trichosurus vulpecula vulpecula</i>	Common Brushtail Possum				1, 5	
TARSIPEDIDAE							
	<i>Tarsipes rostratus</i>	Honey Possum			1,-		
MACROPODIDAE							
	<i>Macropus fuliginosus</i>	Western Grey Kangaroo	-, S	S, 2		1, 1	S, 11
MOLOSSIDAE							
	<i>Tadarida australis</i>	White-striped Freetail Bat	A, -	A, -	-, A		
VESPRTLIONIDAE							
	<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	-, A	-, A		A, -	A, -
	<i>Chalinolobus morio</i>	Chocolate Wattled Bat			-, A	A, -	A, -
	<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat	-, A	A, -	-, A		A, -
	<i>Nyctophilus gouldi</i>	Gould's Long-eared Bat	-, A		-, A	A, -	
	<i>Vespadelus regulus</i>	Southern Forest Bat	-, A		-, A	A, -	A, -

12. APPENDICES

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	OPP
MURIDAE							
	<i>Rattus fuscipes</i>	Bush Rat	33, 85	40, 43	30, 37	4, 1	
	* <i>Rattus rattus</i>	Black Rat		-, 2	-, 1		-, 5
	* <i>Mus musculus</i>	House Mouse		2, -		8, -	
CANIDAE							
	* <i>Vulpes vulpes</i>	European Red Fox					S, 4
LEPORIDAE							
	* <i>Oryctolagus cuniculus</i>	European Rabbit		S, S	S, 1	-, 5	S, S
BOVIDAE							
	* <i>Bos taurus</i>	Cattle					S, S
	* <i>Ovis aires</i>	Sheep					S, -

12. APPENDICES

TABLE A3: BIRD SPECIES RECORDED DURING THE PROPOSED SOUTHDOWN MINE SITE SURVEY.

Key:

Numbers indicate total number of records for each species

OPP = opportunistic records

S = Secondary evidence only

* = Introduced Species

Bold species recorded during spring/summer survey

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	OPP
PHASIANIDAE												
	<i>Coturnix pectoralis</i>	Stubble Quail										1, -
TURNICIDAE												
	<i>Turnix varia</i>	Painted Button-quail	-, 3									
ANATIDAE												
	<i>Cygnus atratus</i>	Black Swan										1, -
	<i>Tadorna tadornoides</i>	Australian Shelduck										3, 18
	<i>Chenonetta jubata</i>	Australian Wood Duck					1, -					25, 19
	<i>Anas superciliosa</i>	Pacific Black Duck					4, 6				2, -	2, 8
	<i>Anas gracilis</i>	Grey Teal					-, 15	-, 13				1, 18
	<i>Malacorhynchus membranaceus</i>	Pink-eared Duck					-, 1					1, 10
	<i>Biziura lobata</i>	Musk Duck					-, 3					-, 9
RALLIDAE												
	<i>Fulica atra</i>	Eurasian Coot					-, 4					-, 23
	<i>Porzana pusilla</i>	Baillon's Crake					-, 2					
PODICIPEDIDAE												
	<i>Poliiocephalus poliocephalus</i>	Hoary-headed Grebe					-, 5					-, 4
	<i>Tachybaptus novaehollandiae</i>	Australasian Grebe					2, 1					
PHALACROCORACIDAE												
	<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant										-, 5

12. APPENDICES

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	OPP
	<i>Phalacrocorax varius</i>	Pied Cormorant				-, 4	-, 8					
ARDEIDAE												
	<i>Ardea pacifica</i>	White-necked Heron	-, 1				-, 6	-, 3	-, 1	-, 3	-, 1	-, 2
	<i>Ardea novaehollandiae</i>	White-faced Heron		-, 3	-, 6		-, 22	-, 2	-, 1	-, 2		12, 21
THRESKIORNITHIDAE												
	<i>Threskiornis molucca</i>	Australian White Ibis					-, 6				1, -	
	<i>Threskiornis spinicollis</i>	Straw-necked Ibis	1, -				-, 28					-, 4
	<i>Platalea flavipes</i>	Yellow-billed Spoonbill		-, 1								1, 2
OTIDIDAE												
	<i>Ardeotis australis</i>	Australian Bustard										-, 3
ACCIPTRIDAE												
	<i>Elanus caeruleus</i>	Black-shouldered Kite	-, 1	1, -	1, -		1, -				-, 1	
	<i>Haliastur sphenurus</i>	Whistling Kite			-, 1		-, 1					
	<i>Circus assimilis</i>	Spotted Harrier	1, -									-, 1
	<i>Circus approximans</i>	Swamp Harrier	-, 2		-, 1		-, 1				-, 1	
	<i>Accipiter fasciatus</i>	Brown Goshawk								-, 3		
	<i>Accipiter cirrhocephalus</i>	Collared Sparrowhawk	1, -									
	<i>Aquila audax</i>	Wedge-tailed Eagle									-, 1	1, 1
FALCONIDAE												
	<i>Falco berigora</i>	Brown Falcon									-, 1	1, -
	<i>Falco longipennis</i>	Australian Hobby					2, 1				-, 1	
	<i>Falco cenchroides</i>	Australian Kestrel	2, -									-, 1
	<i>Falco peregrinus</i>	Peregrine Falcon									-, 1	
RECURVIROSTRIDAE												
	<i>Himantopus himantopus</i>	Black-winged Stilt										2, -

12. APPENDICES

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	OPP
CHARADRIIDAE												
	<i>Charadrius ruficapillus</i>	Red-capped Plover										-, 4
	<i>Vanellus tricolor</i>	Banded Lapwing	1, -									
COLUMBIDAE												
	<i>Phaps chalcoptera</i>	Common Bronzewing	-, 6	2, 5		-, 7		1, 3	-, 2	-, 3	-, 3	8, 3
	<i>Phaps elegans</i>	Brush Bronzewing		-, 2	1, 1			2, -				
	<i>Ocyphaps lophotes</i>	Crested Pigeon	10, 1	-, 2	4, 2		1, -			2, -	-, 7	3, 4
PSITTACIDAE												
	<i>Calyptorhynchus latirostris</i>	Carnaby's Cockatoo			1, -	-, 2		-, 2		-, 3		
	<i>Cacatua roseicapilla</i>	Galah				4, -	3, -			-, 4	-, 2	4, 1
	<i>Glossopsitta porphyrocephala</i>	Purple-crowned Lorikeet			-, 6	-, 1	1, 1	5, 8	-, 3	-, 2		2, -
	<i>Polytelis anthopeplus</i>	Regent Parrot	-, 18	-, 6	3, 73		8, -	3, 17	-, 45	-, 309	-, 25	-, 191
	<i>Platycercus icterotis icterotis</i>	Western Rosella		1, -	2, -		1, -	54, -		3, -	17, -	
	<i>Platycercus zonarius</i>	Australian Ringneck	2, -	1, 2	1, 5		11, -	10, -	-, 9	2, -		5, 2
	<i>Platycercus spurius</i>	Red-capped Parrot	1, -	1, -	4, 5	-, 5	6, -	5, 3	-, 2	5, 8	-, 2	10, 7
	<i>Neophema elegans</i>	Elegant Parrot	39, 7	3, -	58, -	2, 5		4, -	-, 14	2, 15	-, 17	54, -
CUCULIDAE												
	<i>Chrysococcyx basalis</i>	Horsfield's Bronze-Cuckoo							-, 1	-, 1	-, 3	
	<i>Chrysococcyx lucidus plagosus</i>	Shining Bronze-Cuckoo						-, 6				
	<i>Cuculus pallidus</i>	Pallid Cuckoo										1, -
	<i>Cuculus flabelliformis</i>	Fan-tailed Cuckoo		3, -	7, -	5, -	2, -	5, -				1, -
PODARGIDAE												
	<i>Podargus strigoides</i>	Tawny Frogmouth		-, 1			2, -	1, -				-, 3

12. APPENDICES

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	OPP
AEGOTHELIDAE												
	<i>Aegotheles cristatus</i>	Australian Owlet-nightjar						1, -				
HALCYONIDAE												
	<i>Dacelo novaeguineae</i>	Laughing Kookaburra				1, -		2, -		3, 4		
MALURIDAE												
	<i>Malurus splendens splendens</i>	Splendid Fairy-wren		2, -	2, 3		1, 3	6, 6				
	<i>Malurus elegans</i>	Red-winged Fairy-wren	-, 1									
	<i>Malurus pulcherrimus</i>	Blue-breasted Fairy-wren	-, 3		-, 1	-, 3			-, 1			
	<i>Stipiturus malachurus</i>	Southern Emu-wren		5, -								
PARDALOTIDAE												
	<i>Pardalotus punctatus punctatus</i>	Spotted Pardalote					21, -	1, -	-, 1	2, -	-, 1	3, -
	<i>Pardalotus striatus</i>	Striated Pardalote				-, 1	3, -	4, -				1, -
ACANTHIZIDAE												
	<i>Sericornis frontalis maculatus</i>	White-browed Scrubwren	22, 14	10, 7	5, 14	5, 6	7, 4	10, -	-, 11	3, -	-, 15	4, 10
	<i>Gerygone fusca fusca</i>	Western Gerygone		2, -		1, -	1, -	8, -		1, -	1, -	2, -
	<i>Acanthiza apicalis</i>	Inland Thornbill	2, 4	1, 2	1, -		3, -	2, -	-, 1	1, -	-, 1	-, 2
	<i>Acanthiza inornata</i>	Western Thornbill						1, -				
	<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	9, 5	9, 4		2, 2	17, 3	67, 5	-, 46	25, -	2, 20	32, -
	<i>Hylacola cauta</i>	Shy Heathwren							-, 1			
MELIPHAGIDAE												
	<i>Anthochaera carunculata</i>	Red Wattlebird	4, 4	2, 47	2, 32	2, 39	6, 7	23, 23	-, 13	-, 15	1, 18	4, 3

12. APPENDICES

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	OPP
	<i>Anthochaera lunulata</i>	Western Little Wattlebird		-, 36	-, 4	-, 8	-, 1					
	<i>Manorina flavigula</i>	Yellow-throated Miner	1, 6	-, 39	1, 4		6, 8	5, -		-, 1		19, 35
	<i>Lichenostomus ornatus</i>	Yellow-plumed Honeyeater								2, 13	-, 4	
	<i>Melithreptus albogularis</i>	White-throated Honeyeater				-, 4	19, 1	30, 6	-, 7	6, 20	3, 18	-, 1
	<i>Melithreptus brevirostris leucogenys</i>	Brown-headed Honeyeater						-, 1			-, 3	
	<i>Lichmera indistincta</i>	Brown Honeyeater		-, 47	-, 24	-, 25	-, 8	-, 31	-, 9	-, 2	-, 3	-, 5
	<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	5, 11	36, 137	41, 155	21, 127	27, 2	56, 46	-, 66	1, -	2, 52	16, 6
	<i>Phylidonyris nigra</i>	White-cheeked Honeyeater	27, 15									
	<i>Phylidonyris melanops</i>	Tawny-crowned Honeyeater	2, 22	-, 7	2, 13	-, 2		1, 2				2, -
	<i>Acanthorhynchus superciliosus</i>	Western Spinebill				-, 8						
	<i>Epthianura albifrons</i>	White-fronted Chat									-, 2	-, 6
NEOSITTIDAE												
	<i>Daphoenositta chrysoptera pileata</i>	Varied Sittella			10, -							
PACHYCEPHALIDAE												
	<i>Pachycephala rufiventris rufiventris</i>	Rufous Whistler	1, -	1, -	1, -	2, 4	2, -	11, 4	-, 6	-, 8	1, 6	-, 1
	<i>Colluricincla harmonica rufiventris</i>	Grey Shrike-thrush		-, 1	2, 2	2, 4		4, 4		-, 3		
DICURIDAE												
	<i>Myiagra inquieta</i>	Restless Flycatcher		1, -	1, -	1, -	4, 7	7, 8	-, 6	1, 28	1, 4	1, -
	<i>Grallina cyanoleuca</i>	Magpie-lark	4, -	-, 7		2, -	9, 2	7, -	-, 4	2, 6	2, -	3, 2

12. APPENDICES

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	OPP
	<i>Rhipidura fuliginosa preissi</i>	Grey Fantail	12, 4	3, 7	4, 3	3, 2	23, 5	22, 23	-, 7	2, 5	1, 1	3, 1
	<i>Rhipidura leucophrys</i>	Willie Wagtail	6, 4	2, 9	3, 2	3, 7	19, 13	13, 3	-, 11	3, 36	1, 10	2, 8
EPHAGIDAE												
	<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	4, -	4, -	15, -	11, -	27, 2	17, -			40, 1	
	<i>Lalage tricolor</i>	White-winged Triller	-, 3					-, 7	-, 2	-, 1	-, 1	
ARTAMIDAE												
	<i>Artamus cinereus</i>	Black-faced Woodswallow								1, -		
	<i>Artamus cyanopterus</i>	Dusky Woodswallow	-, 1		1, -	-, 6		21, 5		-, 35	6, 12	-, 1
	<i>Cracticus torquatus</i>	Grey Butcherbird	7, 6	4, -	8, -	4, 1	7, 1	6, -		1, 1	1, 2	3, 1
	<i>Gymnorhina tibicen dorsalis</i>	Australian Magpie	11, 2	3, -	4, 4	7, -	7, 3	11, -	-, 6	3, 4	2, 11	7, 3
	<i>Strepera versicolor plumbea</i>	Grey Currawong	1, -	5, -	2, -	4, -	5, -	10, -	-, 2	1, 5		
CORVIDAE												
	<i>Corvus coronoides perplexus</i>	Australian Raven	8, 9	5, 9	18, 29	9, 10	10, 3	17, 12	-, 11	2, 21	1, 10	11, 8
MOTACILLIDAE												
	<i>Anthus australis bilbali</i>	Richard's Pipit	1, -					1, -	-, 1			-, 22
ALAUDIDAE												
	<i>Cincloramphus cruralis</i>	Brown Songlark	-, 1					-, 1				-, 1
HIRUNDINIDAE												
	<i>Hirundo neoxena</i>	Welcome Swallow	1, -		3, -	-, 11	2, -	8, -			5, -	-, 22
	<i>Hirundo nigricans</i>	Tree Martin	-, 6	-, 8	1, 38	-, 15		1, 6	-, 3		1, 9	
ZOSTEROPIDAE												
	<i>Zosterops lateralis gouldi</i>	Silvereye	30, 23	11, 43	5, 10	7, 14	25, -	25, 13	-, 62	8, -	5, 69	29, 39

12. APPENDICES

TABLE A4: BIRD SPECIES RECORDED DURING THE PROPOSED SOUTHDOWN PIPELINE ROUTE SURVEY.

Key:

Numbers indicate total number of records for each species

OPP = opportunistic records

S = Secondary evidence only

* = Introduced Species

Bold species recorded during spring/summer survey

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	OPP
CASUARIIDAE							
	<i>Dromaius novaehollandiae</i>	Emu					2, -
ANATIDAE							
	<i>Tadorna tadornoides</i>	Australian Shelduck	1, -		1, -	3, -	2, -
	<i>Chenonetta jubata</i>	Australian Wood Duck	4, -		1, -	2, 2	4, 2
	<i>Anas superciliosa</i>	Pacific Black Duck	1, -	5, -	3, -	1, -	6, 12
	<i>Anas gracilis</i>	Grey Teal					-, 24
	<i>Malacorhynchus membranaceus</i>	Pink-eared Duck					-, 5
RALLIDAE							
	<i>Fulica atra</i>	Eurasian Coot					-, 9
PHALACROCORACIDAE							
	<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant					2, -
	<i>Phalacrocorax carbo</i>	Great Cormorant					14, 93
	<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant					-, 10
PELECANIDAE							
	<i>Pelecanus conspicillatus</i>	Australian Pelican			1, -		1, 22
ARDEIDAE							
	<i>Ardea alba</i>	Great Egret					-, 1
	<i>Ardea novaehollandiae</i>	White-faced Heron		1, -	1, -		3, 2
THRESKIORNITHIDAE							
	<i>Threskiornis molucca</i>	Australian White Ibis					-, 2
SCOLOPACIDAE							
	<i>Tringa hypoleucos</i>	Common Sandpiper					-, 3
ACCIPTRIDAE							

12. APPENDICES

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	OPP
	<i>Elanus caeruleus</i>	Black-shouldered Kite					-, 1
	<i>Haliastur sphenurus</i>	Whistling Kite			1, 3		1, -
	<i>Circus approximans</i>	Swamp Harrier			2, -		
	<i>Accipiter fasciatus</i>	Brown Goshawk			-, 1	-, 1	1, 1
	<i>Aquila audax</i>	Wedge-tailed Eagle				-, 2	-, 2
	<i>Aquila morphnoides</i>	Little Eagle			1, -		
FALCONIDAE							
	<i>Falco longipennis</i>	Australian Hobby	-, 1				
	<i>Falco cenchroides</i>	Australian Kestrel		1, -			-, 2
HAEMATOPODIDAE							
	<i>Haematopus fuliginosus</i>	Sooty Oystercatcher					-, 1
CHARADRIIDAE							
	<i>Vanellus tricolour</i>	Banded Lapwing				1, -	
	<i>Pluvialis squatarola</i>	Grey Plover					-, 1
LARIDAE							
	<i>Larus novaehollandiae</i>	Silver Gull					62, 8
	<i>Sterna bergii</i>	Crested Tern					-, 1
ALCEDINIDAE							
	<i>Phaps chalcoptera</i>	Common Bronzewing	4, 9	-, 1	5, 3	-, 1	5, 2
PSITTACIDAE							
	<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black-Cockatoo	-, 2	1, -	2, -	1, 2	3, 10
	<i>Calyptorhynchus latirostris</i>	Carnaby's Cockatoo			-, 2	-, 1	1, 5
	<i>Cacatua roseicapilla</i>	Galah	2, 5	-, 2	2, 3	2, 6	-, 4
	<i>Glossopsitta porphyrocephala</i>	Purple-crowned Lorikeet	1, -	1, -			
	<i>Platycercus icterotis icterotis</i>	Western Rosella	7, 4	4, 6	6, 4	13, 7	7, 10
	<i>Platycercus zonarius</i>	Australian Ringneck	2, -	1, -	6, 2	10, 6	8, 8
	<i>Platycercus spurius</i>	Red-capped Parrot	9, 3	8, 5	4, 2	5, 8	7, 11
	<i>Neophema elegans</i>	Elegant Parrot	1, 5	8, 1	-, 2		1, 3
CUCULIDAE							
	<i>Cuculus flabelliformis</i>	Fan-tailed Cuckoo					2, -
TYTONIDAE							
	<i>Tyto alba</i>	Barn Owl				-, 1	

12. APPENDICES

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	OPP
PODARGIDAE							
	<i>Podargus strigoides</i>	Tawny Frogmouth					1,-
AEGOTHELIDAE							
	<i>Aegotheles cristatus</i>	Australian Owlet-nightjar	-, 1				-, 2
HALCYONIDAE							
	<i>Dacelo novaeguineae</i>	Laughing Kookaburra	1, 4	4, 5	5, 2	5, 6	5, 15
	<i>Todiramphus sanctus</i>	Sacred Kingfisher	-, 2		-, 1		-, 1
CLIMACTERIDAE							
	<i>Climacteris rufa</i>	Rufous Treecreeper				-, 1	1, 2
MALURIDAE							
	<i>Malurus splendens splendens</i>	Splendid Fairy-wren	1, -	37, 45	3, -	13, 6	3, 6
	<i>Malurus elegans</i>	Red-winged Fairy-wren	45, 37	10, 19	21, 36	3, 26	7, 43
	<i>Stipiturus malachurus</i>	Southern Emu-wren			-, 6		
PARDALOTIDAE							
	<i>Pardalotus punctatus punctatus</i>	Spotted Pardalote	4, 3		1, -	1, 8	1, 8
	<i>Pardalotus striatus</i>	Striated Pardalote				1, 4	1, 7
ACANTHIZIDAE							
	<i>Sericornis frontalis maculatus</i>	White-browed Scrubwren	1, 6	5, 7	3, 9	6, 11	8, 8
	<i>Smicromis brevirostris</i>	Weebill				1, -	
	<i>Gerygone fusca fusca</i>	Western Gerygone	11, 20	-, 4	7, 14	6, 16	3, 16
	<i>Acanthiza apicalis</i>	Inland Thornbill	8, 3	15, 9	5, 8	17, 11	5, 9
	<i>Acanthiza inornata</i>	Western Thornbill				11, 4	1, -
	<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	6, -	8, -	17, 6	13, 7	8, 31
MELIPHAGIDAE							
	<i>Anthochaera carunculata</i>	Red Wattlebird	8, 8	17, 17	6, 8	7, 10	9, 18
	<i>Manorina flavigula</i>	Yellow-throated Miner					1, 2
	<i>Melithreptus albobularis</i>	White-throated Honeyeater	7, 8	5, 4	1, 2	8, 10	16, 21
	<i>Lichmera indistincta</i>	Brown Honeyeater	6, 32	2, 35	-, 3	3, 12	2, 9
	<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	9, 12	10, 36	10, 49	6, 4	105, 7
	<i>Phylidonyris nigra</i>	White-cheeked Honeyeater		1, -			
	<i>Acanthorhynchus superciliosus</i>	Western Spinebill	19, 10	5, 8	13, 10	20, 8	2, 1
PETROICIDAE							

12. APPENDICES

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	OPP
	<i>Petroica multicolour</i>	Scarlet Robin				2, 6	4, -
	<i>Eopsaltria australis griseogularis</i>	Western Yellow Robin				4, -	
	<i>Eopsaltria georgiana</i>	White-breasted Robin			-, 4	-, 1	
NEOSITTIDAE							
	<i>Daphoenositta chrysoptera pileata</i>	Varied Sittella			4, -	1, -	3, -
PACHYCEPHALIDAE							
	<i>Pachycephala pectoralis fuliginosa</i>	Golden Whistler	6, 7	5, 6	8, 12	7, 4	9, 10
	<i>Pachycephala rufiventris rufiventris</i>	Rufous Whistler			5, -	4, -	2, 2
	<i>Colluricincla harmonica rufiventris</i>	Grey Shrike-thrush	1, -	-, 2	1, 3	6, 6	5, 3
DICRURIDAE							
	<i>Myiagra inquieta</i>	Restless Flycatcher					1, 5
	<i>Grallina cyanoleuca</i>	Magpie-lark	3, 1	5, -	6, 2	2, 2	2, 21
	<i>Rhipidura fuliginosa preissi</i>	Grey Fantail	14, 21	11, 20	9, 8	6, 21	12, 24
	<i>Rhipidura leucophrys</i>	Willie Wagtail		-, 1	2, -	1, -	1, 5
CAMPEPHAGIDAE							
	<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	2, 1	3, 4		2, 1	1, 3
ARTAMIDAE							
	<i>Artamus cyanopterus</i>	Dusky Woodswallow				-, 3	1, 2
	<i>Cracticus torquatus</i>	Grey Butcherbird		4, -			2, 2
	<i>Gymnorhina tibicen dorsalis</i>	Australian Magpie	8, 12	18, 15	11, 8	10, 13	14, 20
	<i>Strepera versicolor plumbea</i>	Grey Currawong					1, 5
CORVIDAE							
	<i>Corvus coronoides perplexus</i>	Australian Raven	5, 1	9, 15	6, 5	9, 6	20, 16
MOTACILLIDAE							
	<i>Anthus australis bilbali</i>	Richard's Pipit		1, -	2, -		-, 1
ESTRILDIDAE							
	<i>Stagonopleura oculata</i>	Red-eared Firetail		2, -	1, 2	1, -	2, 4
HIRUNDINIDAE							
	<i>Hirundo neoxena</i>	Welcome Swallow	1, 2		4, -	2, 1	-, 3
	<i>Hirundo nigricans</i>	Tree Martin	-, 3	-, 5	1, -	-, 19	1, 33
ZOSTEROPIDAE							
	<i>Zosterops lateralis gouldi</i>	Silvereye	89, 22	29, 43	62, 31	18, 13	79, 27

12. APPENDICES
TABLE A5: REPTILE SPECIES RECORDED DURING THE PROPOSED SOUTHDOWN MINE SITE SURVEY.

Key:

Numbers indicate total number of records for each species

OPP = opportunistic records

Bold species recorded during spring/summer survey

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	OPP
GEKKONIDAE												
	<i>Christinus marmoratus</i>	Marbled Gecko		-, 2	-, 1		3, 3		-, 13	1, 7	-, 3	2, 6
PYGOPODIDAE												
	<i>Delma australis</i>		1, -		-, 2							-, 2
	<i>Aprasia striolata</i>	Lined Worm-lizard		1, -					-, 1			1, 1
	<i>Pygopus lepidopodus</i>	Common Scaly-foot			-, 1							
VARANIDAE												
	<i>Varanus rosenbergi</i>	Heath Monitor		-, 1		-, 4						
SCINCIDAE												
	<i>Acritoscincus trilineatum</i>	Western Three-lined Skink	1, 3	1, 2	3, 3	1, 2	5, -	2, -	-, 5	-, 2	-, 7	1, 1
	<i>Cryptoblepharus sp.</i>		1, -									
	<i>Ctenotus gemmula</i>								-, 1			
	<i>Ctenotus labillardieri</i>				-, 2	-, 1					-, 2	
	<i>Egernia napoleonis</i>					-, 3						
	<i>Hemiergis initialis</i>		-, 2	1, 6	-, 2			3, -		2, -	-, 2	1, 2
	<i>Hemiergis peronii</i>			2, -	1, -							
	<i>Lerista microtis</i>								-, 1		-, 1	
	<i>Menetia greyii</i>						5, -					
	<i>Morethia obscura</i>		1, 3	-, 1	-, 2	-, 2	1, -		-, 8		-, 9	
	<i>Tiliqua rugosa</i>	Bobtail	7, 8	2, 6	2, 12	-, 6	2, -		-, 5	1, 3	-, 3	1, 5
ELAPIDAE												
	<i>Echiopsis curta</i>	Bardick	1, -				1, -		-, 1		-, 1	
	<i>Elapognathus coronatus</i>	Crowned Snake	-, 1		1, -			-, 1	-, 1		-, 1	-, 2
	<i>Notechis scutatus</i>	Tiger Snake	1, -		2, 1		2, 1		-, 3	-, 2	-, 2	1, 1
	<i>Pseudonaja affinis</i>	Dugite	2, -		1, -							

12. APPENDICES
TABLE A6: REPTILE SPECIES RECORDED DURING THE PROPOSED SOUTHDOWN PIPELINE SURVEY.

Key:

Numbers indicate total number of records for each species

OPP = opportunistic records

Bold species recorded during spring/summer survey

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	OPP
GEKKONIDAE							
	<i>Christinus marmoratus</i>	Marbled Gecko	-, 4	-, 4		-, 1	2, 13
PYGOPODIDAE							
	<i>Delma australis</i>			-, 1			
	<i>Aprasia striolata</i>	Lined Worm-lizard					-, 1
VARANIDAE							
	<i>Varanus rosenbergi</i>	Heath Monitor					-, 4
SCINCIDAE							
	<i>Acriscincus trilineatum</i>	Western Three-lined Skink	-, 6	-, 6	1, -	-, 5	1, 4
	<i>Cryptoblepharus plagiocephalus</i>						
	<i>Ctenotus catenifer</i>					-, 4	
	<i>Ctenotus labillardieri</i>		-, 1		-, 10		-, 1
	<i>Egernia kingii</i>		-, 5		-, 4		-, 23
	<i>Egernia luctuosa</i>	Mourning Skink			1, 15		-, 1
	<i>Egernia napoleonis</i>		-, 2	-, 1	-, 6	-, 2	
	<i>Hemiernia initialis</i>			-, 9	-, 1		
	<i>Hemiernia peronii</i>		1, 6	1, 9	-, 2	1, 10	4, 31
	<i>Lerista distinguenda</i>					-, 1	
	<i>Menetia greyii</i>					-, 4	-, 4
	<i>Morethia obscura</i>			-, 1		1, -	-, 7
	<i>Tiliqua rugosa</i>	Bobtail	-, 1	-, 4	-, 1		-, 2
ELAPIDAE							
	<i>Elapognathus coronatus</i>	Crowned Snake		-, 1			
	<i>Notechis scutatus</i>	Tiger Snake		-, 1			-, 1

12. APPENDICES
TABLE A7: AMPHIBIAN SPECIES RECORDED DURING THE PROPOSED SOUTHDOWN MINE SITE SURVEY.

Key:

Numbers indicate total number of records for each species

OPP = opportunistic records

C = identified by call

Bold species recorded during spring/summer survey

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	OPP
MYOBATRACHIDAE												
	<i>Crinia georgiana</i>	Quacking Frog								-, 1	-, 1	
	<i>Crinia glauerti</i>	Glauert's Froglet										-, 2
	<i>Crinia pseudinsignifera</i>	Bleating Froglet	1, -	8, -	1, -	1, -	2, -	3, -				
	<i>Crinia subinsignifera</i>	South Coast Froglet		1, -		1, -	2, -					
	<i>Crinia sp.</i> †		-, 15	-, 61	2, 7	1, 1			-, 2		-, 1	
	<i>Heleioporus psammophilus</i>	Sand Frog	3, 1	1, -	3, -	2, 1	3, -	3, -				
	<i>Limnodynastes dorsalis</i>	Banjo Frog	12, 32	3, 290	2, 378	2, 223	26, -	1, -	-, 437	-, 269	-, 335	-, 46
	<i>Neobatrachus albipes</i>	White-footed Trilling Frog	12, 8	6, 10	9, 10	1, 1		5,	-, 8		-, 6	-, 2
	<i>Pseudophryne guentheri</i>	Günther's Toadlet	-, 1	-, 1			1,	1,	-, 16		-, 5	
HYLIDAE												
	<i>Litoria adelaidensis</i>	Slender Tree Frog		1, 1	1, 4	1, -	3, -	3, -				-, C
	<i>Litoria cyclorhyncha</i>	Spotted-thighed Frog	5, -	3, -	3, 6	2, -		1, -				-, 7
	<i>Litoria moorei</i>	Motorbike Frog								-, 1		-, 2

 † Juvenile *Crinia* frogs unable to be identified to species

12. APPENDICES

TABLE A8: AMPHIBIAN SPECIES RECORDED DURING THE PROPOSED SOUTHDOWN PIPELINE SURVEY.

Key:

Numbers indicate total number of records for each species

OPP = opportunistic records

C = identified by call

Bold species recorded during spring/summer survey

FAMILY	SPECIES	COMMON NAME	SITE 1	SITE 2	SITE 3	SITE 4	OPP
MYOBATRACHIDAE							
	<i>Crinia georgiana</i>	Quacking Frog	-, 1	2, 3	6, 6	3,	9, 100+
	<i>Crinia glauerti</i>	Glaurt's Froglet	-, C	1, -	2, C	1, -	8, C
	<i>Crinia pseudinsignifera</i>	Bleating Froglet		1, -	-, 1		1, -
	<i>Crinia subinsignifera</i>	South Coast Froglet		1, -			2, C
	<i>Geocrinia leai</i>	Lea's Frog			2, -		5, -
	<i>Heleioporus eyrei</i>	Moaning Frog	4, 5		-, 3		
	<i>Heleioporus psammophilus</i>	Sand Frog	1, 1		-, 1		
	<i>Limnodynastes dorsalis</i>	Banjo Frog	-, 2		-, C	3, 20	-, C
HYLIDAE							
	<i>Litoria adelaidensis</i>	Slender Tree Frog	-, 3	1, 1	-, C	-, 1	-, C
	<i>Litoria moorei</i>	Motorbike Frog	-, 1		-, C		1, -

12. APPENDICES

TABLE A9: FISH SPECIES RECORDED DURING THE PROPOSED SOUTHDOWN PIPELINE SURVEY.

Key:
X = present

Family	Species Name	Common Name	Site E	Site I	Site J	Site K
POECILIIDAE	<i>*Gambusia holbrooki</i>	Gambusia	X	X		
GOBIIDAE	<i>Pseudogobius olorum</i>	Swan River Goby		X		X
GALAXIIDAE	<i>Galaxias occidentalis</i>	Western Minnow		X	X	
NANNOPERDICA	<i>Edelia vittata</i>	Western Pygmy Perch	X	X	X	X

12. APPENDICES

12.8. Search Area for Non-indigenous Heritage Desktop Survey

12. APPENDICES

The search area has been divided into 5 areas with the following co-ordinates;

Search area A:

Top Right Corner: 653 000 E, 6190 000 N

Bottom Left Corner: 625 000 E, 6164 000 N

Search Area B:

Top Right Corner: 625 000 E, 6173 000 N

Bottom Left Corner: 613 000 E, 6146 000 N

Search Area C:

Top Right Corner: 613 000 E, 6155 000 N

Bottom Left Corner: 601 000 E, 6136 000 N

Search Area D:

Top Right Corner: 601 000 E, 6145 000 N

Bottom Left Corner: 587 000 E, 6132 000 N

Search Area F

Top Right Corner: 613 000 E, 6160 000 N

Bottom Left Corner: 601 000 E, 6155 000 N

Search Area G

Top Right Corner: 601 000 E, 6155 000 N

Bottom Left Corner: 587 000 E, 6145 000 N

Search Area E:

Top Right Corner: 587 000 E, 6145 000 N

Bottom Left Corner: 570 000 E, 6122 000 N

Search Area Ea

Top Right Corner: 587 000 E, 6145 000 N

Bottom Left Corner: 570 000 E, 6130 000 N

Search Area Eb

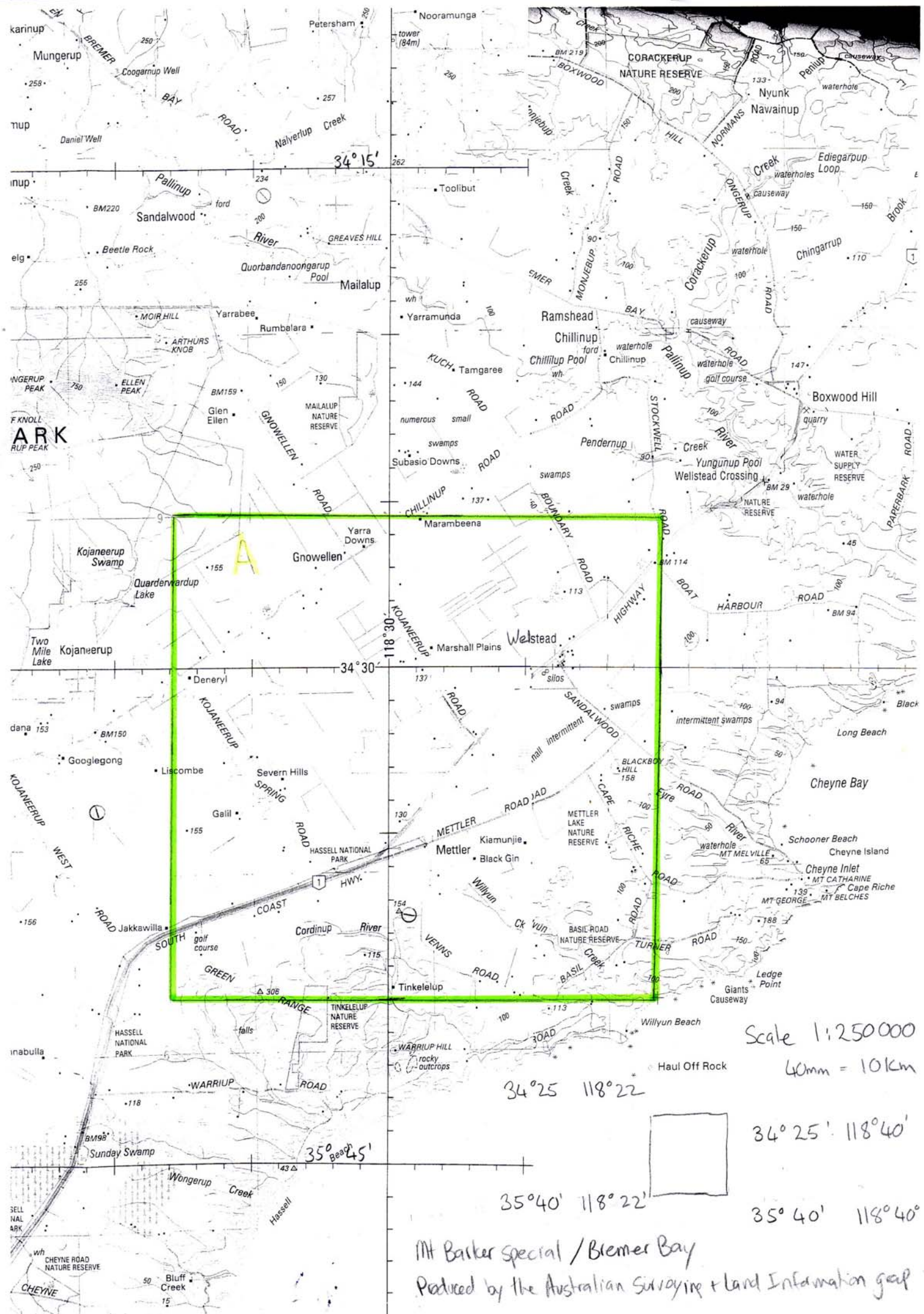
Top Right Corner: 584 000 E, 6125 000 N

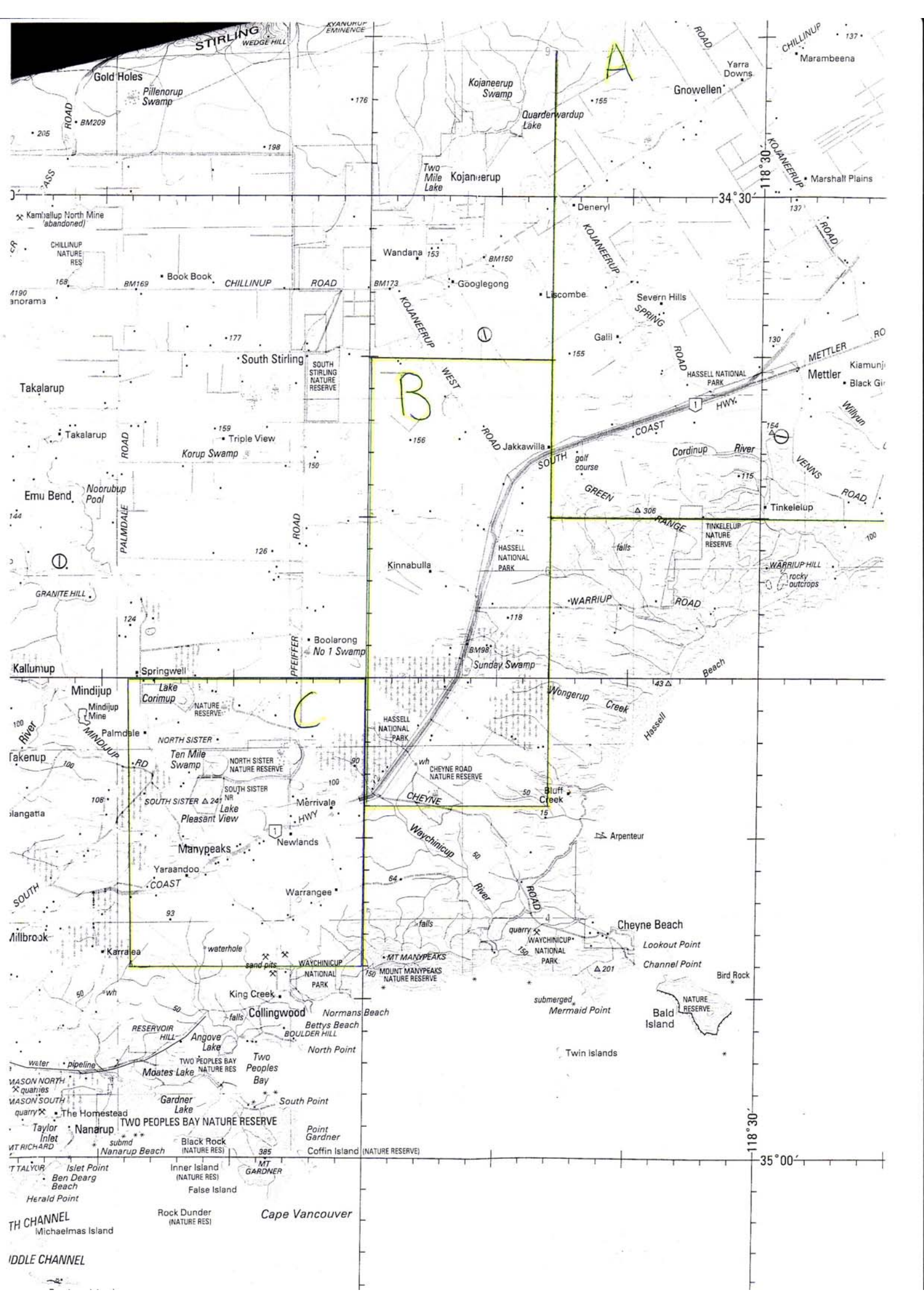
Bottom Left Corner: 570 000 E, 6122 000 N

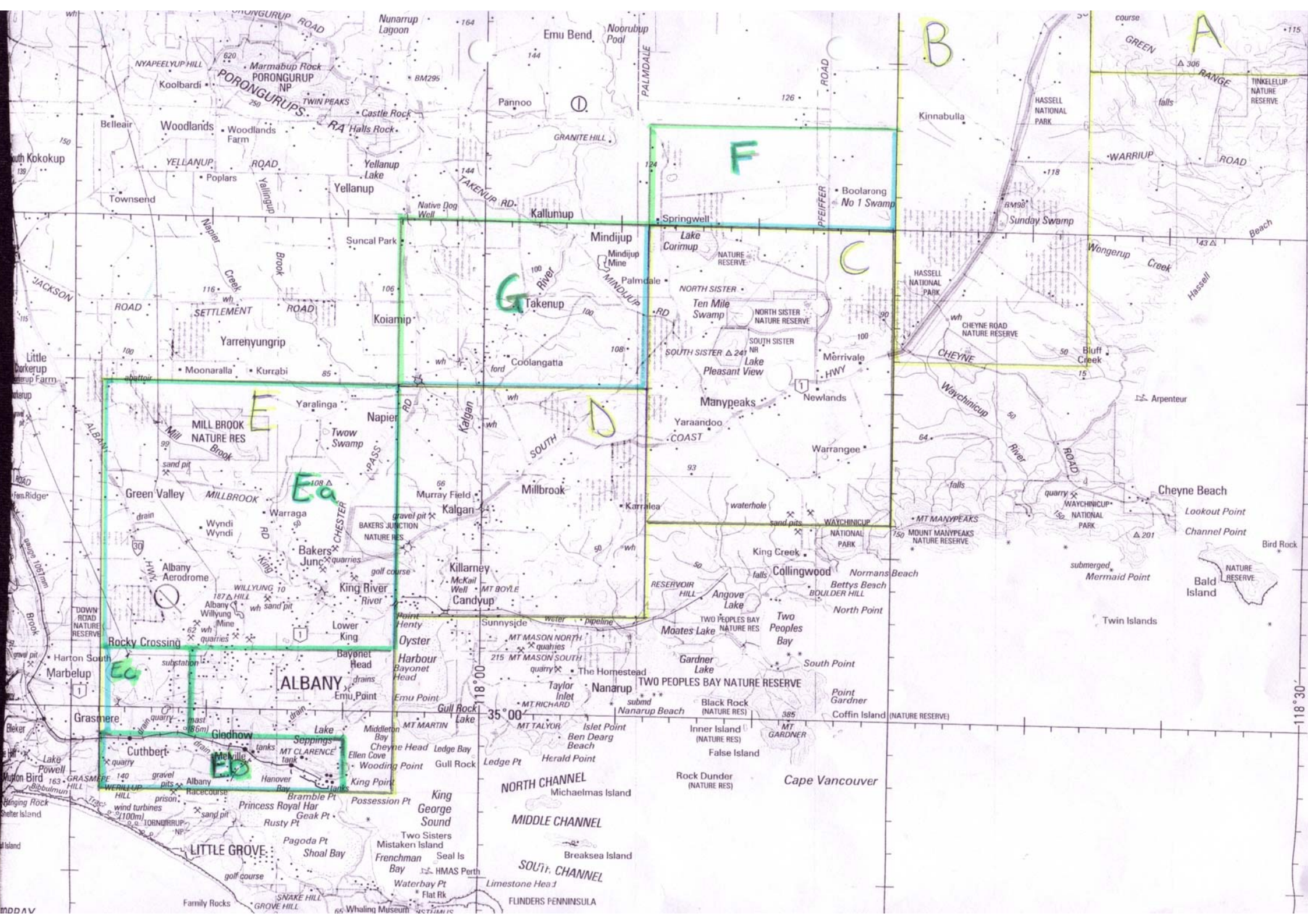
Search Area Ec

Top Right Corner: 575 000 E, 6130 000 N

Bottom Left Corner: 570 000 E, 6125 000 N







12. APPENDICES

12.9. Aboriginal Register Search



Search Criteria

Easting: 576580mE; Northing: 6191328mN; Zone: 50
Easting: 660824mE; Northing: 6190255mN; Zone: 50
Easting: 659048mE; Northing: 6088584mN; Zone: 50
Easting: 575734mE; Northing: 6089672mN; Zone: 50

Disclaimer

Copyright in the information contained herein is and shall remain the property of the Government of Western Australia. All rights reserved. This includes, but is not limited to, information from the Register of Places and Objects (often known as the 'Sites Register') established and maintained under the *Aboriginal Heritage Act 1972* (AHA).

Aboriginal sites exist that are not recorded on the Sites Register, and some registered sites may no longer exist. Consultation with Aboriginal communities is on-going to identify additional sites. The AHA protects all Aboriginal sites in Western Australia whether or not they are registered.

Legend

Restriction	Status	Access
N No Restriction	I Interim Register	C Closed
M Male Access Only	P Permanent Register	O Open
F Female Access Only	S Stored Data	V Vulnerable

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map, i.e. '5000000;Z50' means Easting=5000000, Zone=50.

Reliable – The spatial information recorded in the site file is deemed to be reliable, due to methods of capture.

Unreliable – The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
636	P	O	N	OYSTER HARBOUR (total)	Mvthological			34 58'14"S / 117 57'38"E 587675mE / 6129801mN Zone 50 [Reliable]	S02888
637	P	O	N	GREEN ISLAND	Mythological, Historical			34 58'51"S / 117 57'37"E 587641mE / 6128646mN Zone 50 [Unreliable]	S02889
4419	P	O	N	LAKE PLEASANT VIEW EAST	Artefacts / Scatter			34 49'36"S / 118 11'27"E 608908mE / 6145524mN Zone 50 [Reliable]	S02792
4455	P	O	N	MORANDE LAKE	Quarry, Artefacts / Scatter			34 45'34"S / 117 55'6"E 584041mE / 6153247mN Zone 50 [Reliable]	S02763

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
4456	P	O	N	LAKE VANCOUVER	Artefacts / Scatter			35 5'6"S / 117 55'47"E 584741mE / 6117136mN Zone 50 [Reliable]	S02764
4457	I	O	N	NORTH POINT	Grinding patches / grooves			34 56'21"S / 118 12'32"E 610391mE / 6133047mN Zone 50 [Reliable]	S02767
4458	I	O	N	CHEYNE BEACH	Grinding patches / grooves			34 52'44"S / 118 24'31"E 628741mE / 6139497mN Zone 50 [Unreliable]	S02768
4588	S	O	N	YELLANUP LAKE	Artefacts / Scatter			34 43'11"S / 117 56'7"E 585641mE / 6157647mN Zone 50 [Unreliable]	S02505
4589	P	O	N	TAKALERUP RD	Artefacts / Scatter			34 36'38"S / 118 3'15"E 596641mE / 6169647mN Zone 50 [Unreliable]	S02506
4597	S	O	N	KOJANEERUP	Artefacts / Scatter			34 34'14"S / 118 26'6"E 631641mE / 6173647mN Zone 50 [Unreliable]	S02515
4662	P	O	N	CHILLINUP ROAD WEST	Artefacts / Scatter			34 32'50"S / 118 3'51"E 597641mE / 6176647mN Zone 50 [Unreliable]	S02268

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
4784	P	O	N	ALBANY ENGRAVINGS	Engraving			35 0'59"S / 118 1'35"E 593641mE / 6124646mN Zone 50 [Reliable]	S01905
4837	P	O	N	LIMEKILNS POINT	Man-Made Structure, Fish Trap			35 5'3"S / 117 54'24"E 582641mE / 6117246mN Zone 50 [Reliable]	S01904
4911	P	O	N	HERALD POINT.	Artefacts / Scatter	Shell, [BP Dating: 1812]		35 0'53"S / 118 1'5"E 592891mE / 6124846mN Zone 50 [Unreliable]	S01739
4935	I	O	N	CHEYNE BAY	Artefacts / Scatter			34 34'32"S / 118 44'26"E 659641mE / 6172647mN Zone 50 [Unreliable]	S01709
5112	P	O	N	KAMBALLUP POOL	Artefacts / Scatter			34 34'14"S / 117 59'33"E 591041mE / 6174147mN Zone 50 [Unreliable]	S01503
5113	I	O	N	KALGAN DOWNS SITE	Artefacts / Scatter			34 35'1"S / 118 1'16"E 593641mE / 6172647mN Zone 50 [Unreliable]	S01504
5114	S	O	N	WONGENILLUP ROAD N-T	Artefacts / Scatter			34 31'4"S / 118 2'4"E 594941mE / 6179947mN Zone 50 [Reliable]	S01505
5115	P	O	N	GOLD HOLES	Artefacts / Scatter			34 26'4"S / 118 4'21"E 598541mE / 6189147mN Zone 50 [Reliable]	S01506

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
5116	P	O	N	LAKE PLEASANT VIEW	Artefacts / Scatter			34 49'50"S / 118 11'15"E 608578mE / 6145101mN Zone 50 [Reliable]	S01507
5117	P	O	N	GULL ROCK LAKE ROAD	Artefacts / Scatter			34 59'58"S / 118 0'35"E 592141mE / 6126546mN Zone 50 [Reliable]	S01508
5118	P	O	N	LEDGE BEACH ROAD	Artefacts / Scatter			35 0'33"S / 117 59'15"E 590091mE / 6125496mN Zone 50 [Unreliable]	S01509
5145	S	O	N	KOJANEERUP	Artefacts / Scatter			34 22'39"S / 118 21'40"E 625142mE / 6195147mN Zone 50 [Unreliable]	S01409
5161	I	O	N	MORANDE ROAD WEST	Artefacts / Scatter			34 45'22"S / 117 52'52"E 580641mE / 6153647mN Zone 50 [Unreliable]	S01498
5162	S	O	N	ARIZONA POOL	Artefacts / Scatter			34 31'50"S / 117 54'41"E 583641mE / 6178647mN Zone 50 [Unreliable]	S01499
5163	I	O	N	MORANDE LAKE	Artefacts / Scatter			34 45'21"S / 117 55'29"E 584641mE / 6153647mN Zone 50 [Unreliable]	S01500

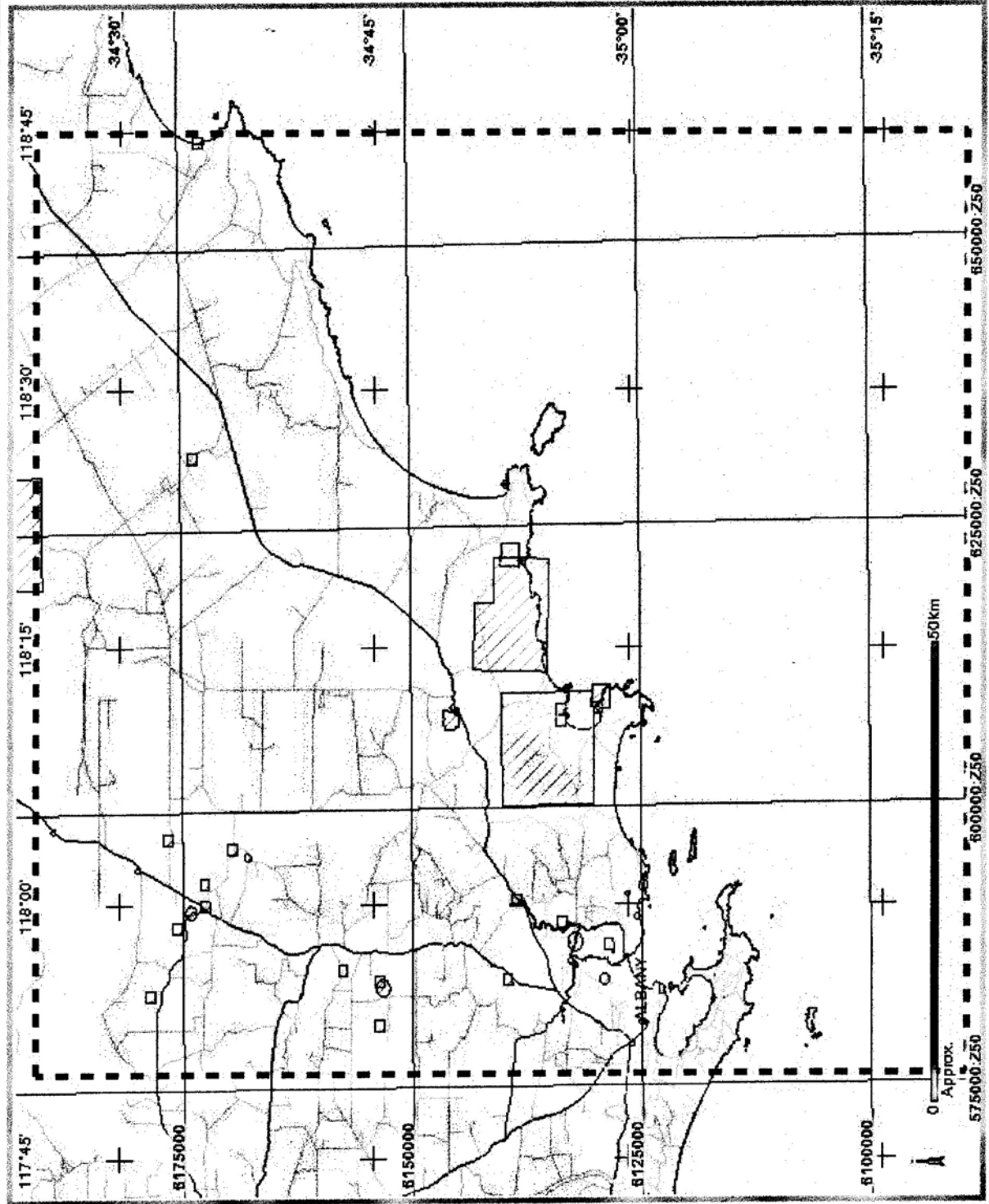
Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
5164	I	O	N	SECOND POOL SITE	Artefacts / Scatter			34 33'25"S / 117 58'38"E 589641mE / 6175647mN Zone 50 [Unreliable]	S01501
5165	S	O	N	KAMBALLUP BRIDGE SITE	Artefacts / Scatter			34 35'2"S / 117 59'57"E 591641mE / 6172647mN Zone 50 [Unreliable]	S01502
5171	S	O	N	COUNTRY COTTAGES	Artefacts / Scatter			34 56'9"S / 117 58'54"E 589641mE / 6133647mN Zone 50 [Unreliable]	S01304
5188	I	O	N	DEADMANS LAKE.		Camp, Water Source, [Other: FOOD SOURCE]		35 0'15"S / 117 51'47"E 578741mE / 6126146mN Zone 50 [Reliable]	S01379
5521	P	O	N	TAKYLARUP	Artefacts / Scatter			34 37'33"S / 118 2'48"E 595941mE / 6167947mN Zone 50 [Unreliable]	S00614
5523	P	O	N	KALGAN HALL	Artefacts / Scatter			34 53'26"S / 118 0'10"E 591641mE / 6138647mN Zone 50 [Unreliable]	S00616
5524	I	O	N	KYLIE SITE.		[Other: KYLIE (BOOMERANG)]		34 58'36"S / 117 55'34"E 584541mE / 6129146mN Zone 50 [Unreliable]	S00617

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
5572	I	O	N	ALBANY	Quarry			34 55'15"S / 118 94"E 605141mE / 6135146mN Zone 50 [Unreliable]	S00574
5689	S	O	N	ALBANY BURIAL	Skeletal material/Burial			35 1'3"S / 117 52'40"E 580080mE / 6124667mN Zone 50 [Reliable]	S00455
5743	P	O	N	KING POINT, ALBANY.		[Other: FOOD RESOURCE]		35 2'2"S / 117 55'1"E 583635mE / 6122822mN Zone 50 [Unreliable]	S00397
5744	P	O	N	OYSTER HARBOUR, ALBANY.	Fish Trap, Artefacts / Scatter	Camp, [Other: PA 03, NE ACMCRES:98087]		34 56'53"S / 117 57'45"E 587891mE / 6132296mN Zone 50 [Unreliable]	S00398
5746	P	O	N	KALGAN RIVER	Mythological, Fish Trap			34 53'26"S / 118 0'10"E 591641mE / 6138647mN Zone 50 [Unreliable]	S00400
5747	I	O	N	TWO PEOPLE BAY.	Artefacts / Scatter	Camp		34 56'2"S / 118 10'43"E 607641mE / 6133647mN Zone 50 [Unreliable]	S00401
5748	P	O	N	SWEEP ROCK	Grinding patches / grooves			34 58'12"S / 118 11'24"E 608641mE / 6129647mN Zone 50 [Unreliable]	S00402
5750	P	O	N	TWO PEOPLES BAY NORTH	Grinding patches / grooves			34 56'2"S / 118 11'22"E 608641mE / 6133647mN Zone 50 [Unreliable]	S00404

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
15111	I	O	N	YUNGUP.		Camo		34 52'55"S / 117 55'34"E 584641mE / 6139647mN Zone 50 [Unreliable]	S03026
17229	S	O	N	LAKE PLEASANT VIEW RESERVE	Historical	Camp, Hunting Place	Date: 14-Apr-2000 Primary: [Woods, T. - Woods, Treasy (Mrs)] And [Williams, J. - Williams, Jack (Mr)]	34 49'33"S / 118 10'43"E 607785mE / 6145636mN Zone 50 [Reliable]	
17262	S	O	N	MANYPEAKS TERMITE MOUND				34 49'47"S / 118 11'13"E 608529mE / 6145211mN Zone 50 [Reliable]	
17473	P	C	N	WAITCHINICUP / WAYCHINICUP	Mythological, Skeletal material/Burial	Plant Resource, Natural Feature, Water Source		34 53'10"S / 118 20'23"E 622414mE / 6138783mN Zone 50 [Reliable]	
17474	I	C	N	YOOLBERUP	Ceremonial, Mythological	Plant Resource, Named Place, Water Source		34 53'22"S / 118 16'45"E 616893mE / 6138473mN Zone 50 [Reliable]	
17475	P	C	N	TOOLERBERUP	Mythological, Historical	Named Place, Natural Feature, Water Source		34 58'42"S / 118 12'1"E 609547mE / 6128708mN Zone 50 [Reliable]	
17476	I	O	N	RAILWAY'S FOOTBALL CLUB	Ceremonial, Historical	Birthplace, Meeting Place, Camp		35 0'46"S / 117 53'4"E 580691mE / 6125196mN Zone 50 [Reliable]	

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
17698	P	O	N	LAKE PLEASANT VIEW TURTLE SITE		Rockshelter	Date: 6-Sep-2000 Primary: [Williams, J. - Williams, Jack (Mr)]	34 49'59"S / 118 10'40"E 607705mE / 6144831mN Zone 50 [Reliable]	
20047	I	O	N	Ovster Harbour Scarred Tree	Modified Tree		Date: 24-Mar-2003 Primary: [Williams Family] And [Minor Coyne Family] And [Eades Family]	34 56'36"S / 117 57'44"E 587856mE / 6132817mN Zone 50 [Reliable]	
20214	I	O	N	Cape Riche Ochre Site	Quarry, Artefacts / Scatter	Ochre, Camp, Rockshelter, Water Source	Date: 4-Jul-2003 Primary: [Peterson, Carol (Ms)]	34 34'48"S / 118 44'25"E 659628mE / 6172144mN Zone 50 [Reliable]	
21498	I	O	N	Windemere Scatter	Artefacts / Scatter	Ochre, [Other: Associated with ethnographic camp site]	Date: 23-Aug-2004 Primary: [Wagyl Kaip Native Title Claimant - Knapp, Lynette (Ms)]	34 57'30"S / 117 56'39"E 586193mE / 6131168mN Zone 50 [Reliable]	
21520	S	O	N	Lake Pleasant View Dune		Birthplace, Camp, Hunting Place	Date: 2-Mar-2000 Primary: [Knapp, L. - Knapp, Lynette (Mrs)] And [Cummings, M. - Cummings, Michael (Mr)]	34 49'54"S / 118 11'20"E 608725mE / 6144972mN Zone 50 [Unreliable]	

REGISTER OF ABORIGINAL SITES SITE SEARCH MAP



Legend

- Selected Site
- Town
- Map Area
- Search Area

Copyright for base map information shall at all times remain the property of the Commonwealth of Australia, Geoscience Australia - National Mapping Division. All rights reserved.

Copyright for Native Title Land Claim and Local Government Authority boundaries shall at all times remain the property of the State of Western Australia, Dept of Land Information. All rights reserved.

Copyright for Mining Tenement boundaries shall at all times remain the property of the State of Western Australia, Dept of Industry and Resources. All rights reserved.

53 Aboriginal Heritage Sites found in Polygon

Coordinates:	Eastings	Northing	Zone
	576580	6191328	50
	660824	6190255	50
	659048	6088584	50
	575734	6089672	50

12. APPENDICES

12.10. Native Title Claim Areas

**SEARCH RESULTS****Prepared for Ecologia Environment**

Geospatial Job: 2005/0860

Your Reference: Mt Barker region: coordinates and maps attached to search request

Requested by: Rina Mattinson

Date: 11 April 2005

DISCLAIMER

This information product has been created to assist in understanding the spatial characteristics and relationships with native title matters and is intended as a guide only. Spatial data used has been sourced from the relevant custodians in each jurisdiction. The Registrar, the National Native Title Tribunal and its staff and officers and the Commonwealth, accept no liability and or give no undertakings, guarantees or warranties concerning the accuracy, completeness or fitness for purpose of the information.

NOTES FOR INTERPRETING THE RESULTS

The search is based on the external boundary of the application or agreement. To determine whether any search area is subject to claim, determination or agreement, you need to refer to the accompanying extracts and associated documents. An "explanation of terms" follows the search results.

Results of spatial analysis as at 14 April 2005**Register of Native Title Claims**

Search Area	Area (sqkm)	% of Area within NTDA	Tribunal Number	Fed Court Number	Name	Reg Test Status	Registration Date
Area A	729.6520	100.00	WC96/109	WG6134/98	Southern Noongar	Accepted	18/11/1996
Area A	729.6520	100.00	WC98/070	WG6286/98	Wagyl Kaip	Accepted	29/09/1998
Area B	316.5267	100.00	WC96/109	WG6134/98	Southern Noongar	Accepted	18/11/1996
Area B	316.5267	100.00	WC98/070	WG6286/98	Wagyl Kaip	Accepted	29/09/1998
Area C	225.5478	100.00	WC96/109	WG6134/98	Southern Noongar	Accepted	18/11/1996
Area C	225.5478	100.00	WC98/070	WG6286/98	Wagyl Kaip	Accepted	29/09/1998
Area D	182.3609	76.96	WC96/109	WG6134/98	Southern Noongar	Accepted	18/11/1996
Area D	182.3609	99.68	WC98/070	WG6286/98	Wagyl Kaip	Accepted	29/09/1998
Area E	394.4566	61.50	WC96/109	WG6134/98	Southern Noongar	Accepted	18/11/1996
Area E	394.4566	93.93	WC98/070	WG6286/98	Wagyl Kaip	Accepted	29/09/1998
Area Ea	255.7010	50.40	WC96/109	WG6134/98	Southern Noongar	Accepted	18/11/1996
Area Ea	255.7010	99.53	WC98/070	WG6286/98	Wagyl Kaip	Accepted	29/09/1998
Area Eb	43.6054	82.56	WC96/109	WG6134/98	Southern Noongar	Accepted	18/11/1996
Area Eb	43.6054	82.56	WC98/070	WG6286/98	Wagyl Kaip	Accepted	29/09/1998
Area Ec	25.0154	100.00	WC96/109	WG6134/98	Southern Noongar	Accepted	18/11/1996
Area Ec	25.0154	100.00	WC98/070	WG6286/98	Wagyl Kaip	Accepted	29/09/1998
Area F	61.4059	100.00	WC96/109	WG6134/98	Southern Noongar	Accepted	18/11/1996
Area F	61.4059	100.00	WC98/070	WG6286/98	Wagyl Kaip	Accepted	29/09/1998
Area G	137.8191	39.27	WC96/109	WG6134/98	Southern Noongar	Accepted	18/11/1996
Area G	137.8191	100.00	WC98/070	WG6286/98	Wagyl Kaip	Accepted	29/09/1998

**Schedule of Applications - Federal Court**

Search Area	Area (sqkm)	% of Area within NTDA	Tribunal Number	Fed Court Number	Name	Application Type	Reg Test Status
Area A	729.6520	100.00	WC98/070	WG6286/98	Wagyl Kaip	Claimant	Accepted
Area A	729.6520	100.00	WC03/006	W6006/03	Single Noongar Claim (Area 1)	Claimant	Not Accepted
Area A	729.6520	100.00	WC96/109	WG6134/98	Southern Noongar	Claimant	Accepted
Area A	729.6520	100.00	WC96/105	WG6130/98	Wom-Ber	Claimant	Not Accepted
Area B	316.5267	100.00	WC98/070	WG6286/98	Wagyl Kaip	Claimant	Accepted
Area B	316.5267	100.00	WC03/006	W6006/03	Single Noongar Claim (Area 1)	Claimant	Not Accepted
Area B	316.5267	100.00	WC96/109	WG6134/98	Southern Noongar	Claimant	Accepted
Area B	316.5267	100.00	WC96/105	WG6130/98	Wom-Ber	Claimant	Not Accepted
Area C	225.5478	100.00	WC98/070	WG6286/98	Wagyl Kaip	Claimant	Accepted
Area C	225.5478	100.00	WC03/006	W6006/03	Single Noongar Claim (Area 1)	Claimant	Not Accepted
Area C	225.5478	100.00	WC96/109	WG6134/98	Southern Noongar	Claimant	Accepted
Area C	225.5478	100.00	WC96/105	WG6130/98	Wom-Ber	Claimant	Not Accepted
Area D	182.3609	99.68	WC98/070	WG6286/98	Wagyl Kaip	Claimant	Accepted
Area D	182.3609	100.00	WC03/006	W6006/03	Single Noongar Claim (Area 1)	Claimant	Not Accepted
Area D	182.3609	76.96	WC96/109	WG6134/98	Southern Noongar	Claimant	Accepted
Area D	182.3609	100.00	WC96/105	WG6130/98	Wom-Ber	Claimant	Not Accepted
Area E	394.4566	93.93	WC98/070	WG6286/98	Wagyl Kaip	Claimant	Accepted
Area E	394.4566	100.00	WC03/006	W6006/03	Single Noongar Claim (Area 1)	Claimant	Not Accepted
Area E	394.4566	61.50	WC96/109	WG6134/98	Southern Noongar	Claimant	Accepted
Area E	394.4566	100.00	WC96/105	WG6130/98	Wom-Ber	Claimant	Not Accepted
Area Ea	255.7010	99.53	WC98/070	WG6286/98	Wagyl Kaip	Claimant	Accepted
Area Ea	255.7010	100.00	WC03/006	W6006/03	Single Noongar Claim (Area 1)	Claimant	Not Accepted
Area Ea	255.7010	50.40	WC96/109	WG6134/98	Southern Noongar	Claimant	Accepted
Area Ea	255.7010	100.00	WC96/105	WG6130/98	Wom-Ber	Claimant	Not Accepted
Area Eb	43.6054	82.56	WC98/070	WG6286/98	Wagyl Kaip	Claimant	Accepted
Area Eb	43.6054	100.00	WC03/006	W6006/03	Single Noongar Claim (Area 1)	Claimant	Not Accepted
Area Eb	43.6054	82.56	WC96/109	WG6134/98	Southern Noongar	Claimant	Accepted
Area Eb	43.6054	100.00	WC96/105	WG6130/98	Wom-Ber	Claimant	Not Accepted
Area Ec	25.0154	100.00	WC98/070	WG6286/98	Wagyl Kaip	Claimant	Accepted
Area Ec	25.0154	100.00	WC03/006	W6006/03	Single Noongar Claim (Area 1)	Claimant	Not Accepted
Area Ec	25.0154	100.00	WC96/109	WG6134/98	Southern Noongar	Claimant	Accepted
Area Ec	25.0154	100.00	WC96/105	WG6130/98	Wom-Ber	Claimant	Not Accepted
Area F	61.4059	100.00	WC98/070	WG6286/98	Wagyl Kaip	Claimant	Accepted
Area F	61.4059	100.00	WC03/006	W6006/03	Single Noongar Claim (Area 1)	Claimant	Not Accepted
Area F	61.4059	100.00	WC96/109	WG6134/98	Southern Noongar	Claimant	Accepted
Area F	61.4059	100.00	WC96/105	WG6130/98	Wom-Ber	Claimant	Not Accepted
Area G	137.8191	100.00	WC98/070	WG6286/98	Wagyl Kaip	Claimant	Accepted
Area G	137.8191	100.00	WC03/006	W6006/03	Single Noongar Claim (Area 1)	Claimant	Not Accepted
Area G	137.8191	39.27	WC96/109	WG6134/98	Southern Noongar	Claimant	Accepted
Area G	137.8191	100.00	WC96/105	WG6130/98	Wom-Ber	Claimant	Not Accepted



There is **NO** overlap with any determination of native title as per the **National Native Title Register**.

There is **NO** overlap with any registered indigenous land use agreements as per the **Register of ILUAs**.

There is **NO** overlap with any indigenous land use agreements **notified (but not registered)** by the Tribunal.

Representative Aboriginal and Torres Strait Islander Body Area

Search Area	Area (sq km)	% of Area within RATSIB Area	Name
Area A	729.6520	100.00	South West Aboriginal Land and Sea Council Aboriginal Corporation
Area B	316.5267	100.00	South West Aboriginal Land and Sea Council Aboriginal Corporation
Area C	225.5478	100.00	South West Aboriginal Land and Sea Council Aboriginal Corporation
Area D	182.3609	100.00	South West Aboriginal Land and Sea Council Aboriginal Corporation
Area E	394.4566	100.00	South West Aboriginal Land and Sea Council Aboriginal Corporation
Area Ea	255.7010	100.00	South West Aboriginal Land and Sea Council Aboriginal Corporation
Area Eb	43.6054	100.00	South West Aboriginal Land and Sea Council Aboriginal Corporation
Area Ec	25.0154	100.00	South West Aboriginal Land and Sea Council Aboriginal Corporation
Area F	61.4059	100.00	South West Aboriginal Land and Sea Council Aboriginal Corporation
Area G	137.8191	100.00	South West Aboriginal Land and Sea Council Aboriginal Corporation

Local Government Area

Search Area	Area (sq km)	% of Area within LGA	Name
Area A	729.6520	0.16	Shire of Plantagenet
Area A	729.6520	99.85	City of Albany
Area B	316.5267	100.00	City of Albany
Area C	225.5478	100.00	City of Albany
Area D	182.3609	100.00	City of Albany
Area E	394.4566	4.05	Shire of Plantagenet
Area E	394.4566	91.15	City of Albany
Area Ea	255.7010	5.77	Shire of Plantagenet
Area Ea	255.7010	94.24	City of Albany
Area Eb	43.6054	84.24	City of Albany
Area Ec	25.0154	100.00	City of Albany
Area F	61.4059	100.00	City of Albany
Area G	137.8191	0.78	Shire of Plantagenet
Area G	137.8191	99.23	City of Albany



DATA STATEMENT

Prepared by Geospatial Services, National Native Title Tribunal.

Spatial analysis based on native title boundary data compiled by the National Native Title Tribunal or sourced from the Land Claims Mapping Unit (DLI, WA) data set. Attribution maintained by NNTT.

Tenement/Licence/Permit data sourced from Dept of Industry and Resources, WA (Jul 2003).

Non Freehold data sourced from Dept of Land Information, WA (May 2003).

EXPLANATION OF TERMS

National Native Title Register (NNTR)	Contains determinations of native title where native title does and does not exist in a particular area of land or waters.
Register of Native Title Claims (RNTC)	Contains claimant applications which have passed the Registration Test and those applications filed before 30/09/1998 that are still undergoing the Registration Test.
Schedule of applications – Federal Court	Contains active applications and non finalised determinations before the Federal Court.
Register of ILUAs	Contains indigenous land use agreements (ILUAs) that have been accepted for registration
Notified applications for indigenous land use agreements	Contains applications for ILUAs which have been notified but not yet registered
Area (sq km)	Total area of the Search Area (in sq km)
Tribunal Number	National Native Title Tribunal reference number (including identifier to record part applications)
Fed Court Number	Federal Court reference number
Name	Application or agreement name
Determination Date	Date on which the determination was made
Registration Date	Date on which the application was first placed on the Register of Native Title Claims with regard to its current 'registered' status or date on which an ILUA was registered
Reg Test Status	Registration test status (e.g. Accepted for registration, Currently identified for Reg. Test, Not currently identified for Reg. Test)
Application Type	Claimant, non-claimant or compensation
ILUA Status	In notification, notified, Registered