GEORGINA PROJECT

NORTHERN TERRITORY

TENEMENTS EL27547, EL27198, EL27990 EL27991 AND EL27614

DRILL REPORT

RC DRILLING PROGRAM (17TH JULY - 24TH AUGUST 2012)

Submitted by: VALE Exploration Pty Ltd
ABN 87 127 080 219
ACN 127 080 219

4th Floor, 66 Kings Park Road
WEST PERTH WA 6005

Compiled by: Miguel Ricardo

Date: 22nd October 2012

Distribution: VALE Library

Table of Contents

List of Figures

List of Tables

List of Appendices

Executive Summary

Field-based exploration for phosphate at the Georgina Project consisted of targeted Reverse Circulation (RC) drilling on the Vale Australia Pty Ltd owned tenements as follows:

- Barkly (21 holes numbered VGRC082-102 for 1544m drilled creating 817 2m composite drill and QA/QC samples; 564 which were sent for analysis)
- Brunchilly (9 holes numbered VGRC103-111 for 645m drilled creating 340 2m composite drill and QA/QC samples; 305 of which were sent for analysis)
- Whistle Duck (4 holes numbered VGRC112-115 for 182m drilled creating 101 2m composite drill and QA/QC samples; 54 of which were sent for analysis)

Targeting of the drill holes was based on anomalous P in previous drill hole assays in conjunction with the MIRA depth to basement model. The model was used to identify shallow (< 100m) basement, interpreted as fringing reefs and embayments as hosts for P mineralisation. Drill spacing was determined based on the size of ore body required to provide 100 million tons of 17% P_2O_5 rock.

In addition to drill planning, brief field mapping and sampling was performed in the Whistle Duck tenements as well as a compilation of Mining Management Plans for the three project areas. Halfway through the program exploration was cut short due to budgetary constraints. A total of 34 of the 60 RC drill holes planned were completed.

Assay results from holes VGRC082-115 returned six anomalous results, most of the best result came from the Barkly area. The highlights are as follows:

From Barkly:

- VGRC089 24m @ 3.29% P_2O_5 from 44m
- VGRC090 20m @ 3.98% P_2O_5 from 42m
- VGRC094 22m @ 4.53% P_2O_5 from 24m
- VGRC094 10m @ 7.25% P_2O_5 from 30m
- VGRC098 14m @ 4.62% P_2O_5 from 38m

From Brunchilly:

- VGRC111 14m @ 1.98% P_2O_5 from 56m

Although the assays have returned the highest-grade phosphate numbers to date they are still not high enough to reach the minimum cut off of 17% P_2O_5 for phosphate ore.

Results from 2012 although the highest seen on the Georgina project are still insufficient to constitute a phosphate reserve. In addition current 2012 drill density and location has sufficiently tested the resource volumes for a feasible phosphate deposit in the Georgina tenements that reside within 100km of the Northern Territory railway.

It is recommended that no further exploration be undertaken for phosphate on the Georgina tenements of the northern territory and the tenure be relinquished. At present Vale feels there are no options to farm out parts or obtain value.

1 Introduction

1.1 Location and Access

Vale's Georgina tenements span a vast area of Australia's Northern Territory. Figure 1 contains the tenement groupings where Vale performed exploration in 2012 (Barkly, Brunchilly and Whistle Duck). Refer to tables 1 through 3 for the tenement details of these three project areas. All tenement data sourced from: \\AUWST3VALECN004\data\AUSTechnical\Projects\01_Oceania\01_Australia\02_Northern Territory\00_CurrentProjects\Georgina_Phosphate\Tenement\ NT_Expenditure Compliance_20120810_V2.xlsx

Access to the Barkly Project is approximately 66 km east of Tennant Creek and is comprised of four contiguous tenements on the Tennant Creek (SE53-14) and Alroy (SE53-15) 1:250,000 and the Balmore (6058), Barkly (5859), Dalmore (6058), Favenc (5958), Frewena (5959) and Playford (6059) 1:100,000 map sheets. The project straddles parts of Tennant Creek (PPL1142), Dalmore Downs (PPL988, NT Por 773) and Alroy Downs (PPL985, NT Por 651) cattle stations. The Barkly Roadhouse is located near the eastern margin of the project area and was only used during the rehabilitation portion of the exploration program. Dalmore Downs and Rockhampton Downs are both 75 km from the access track for the 2012 project area. Of the four Barkly tenements exploration drilling was performed solely on EL27198. Access to the Barkly Project is 23 km north of Tennant Creek thence 134 km eastwards from Three Ways Roadhouse along the Barkly Highway. The sealed Barkly Highway transects the two easternmost tenements (EL27197 and EL27200). Vehicular access to EL27198 is achieved by way of a 61km track that was cleared in 2011. The tenement is on crown land and had to be accessed in this fashion since there are no station roads.

The Brunchilly Project is located approximately 90 km north east of Tennant Creek at the nearest point and 235 km north east of Tennant Creek at the north easternmost corner (Figure 1). The Brunchilly Project consists of contiguous tenements located on the Helen Springs (SE53-10) and Tennant Creek (SE53-14) 1:250,000 and the Barkly (5859), Brunchilly (5760), Flynn (5759) and Munkaderry (5860) 1:100,000 map sheets. The project area also straddles parts of Banka Banka (PPL938, NT Por 1311), Brunchilly (PPL, NT Por 283), Phillip Creek (NT Por 408) and Rockhampton Downs (NT Por 1484) stations. All are operating cattle stations. Access to the tenements is via the Stuart Highway and 72 km north from Tennant Creek, then easterly of Attack Creek for 26 km on the Brunchilly Station access road. Internal access is good via a network of station tracks which range from excellent to fair. Of the Brunchilly tenements operated by Vale, exploration was performed on EL27547 and EL27614 only.

Whistle Duck tenements are approximately 85km SE of Tennant Creek township on the Bonney Well (SF53-02) and Frew River (SF53-03) 1:250,000 map sheets, and the Epenarra (5957) and Ooradidgee (5857) 1:100,000 map sheets. The bulk of EL27990 is located on Kurrundi Station (NT portions 716, PPL1109). The eastern tenement, EL27991, is located on Epenarra Station (NT portions 4030, PPL1026). Access to the Whistle Duck tenements is 87 km south of Tennant Creek on Stuart Highway, thence 82 km E from turn-off Bonney Bore on Epenarra Station access road to access southern part of EL27990. The central part accessed by NE trending track running to the south, and parallel to, Kurundi Creek. Access to EL27991 is via Epenarra Station access road, travelling east, through Wire Yard and on to Epenarra Homestead. Exploration drilling and sampling was performed on EL27990 and mapping and sampling on both Whistle Duck tenements.

1.2 Tenement Details

The Barky Project consists of four contiguous tenements held by Vale Australia EA Pty Ltd and operated by Vale Exploration Pty under Authorization 0554-01. There are two exclusion zones within the project.

EL27199: Excludes NT Por 1416; small parcel of private land far NE corner;
EL27200: Excludes NT Por 5738; Barkly Homestead Roadhouse.

Table 1: Barkly project tenement details

License	Holder	Blocks	Granted	Expiry	Current Commitment Period	Current Expenditure
EL 27197	Vale Australia EA Pty Ltd	181	26-Oct-09	25-Oct-15	26.10.11 to 31.12.12	$ 14,000
EL 27198		234	17-Sep-09	16-Sep-15	17.9.11 to 31.12.12	$ 143,288
EL 27199		192	17-Sep-09	16-Sep-15	17.9.11 to 31.12.12	$ 76,594
EL 27200		99	26-Oct-09	25-Oct-15	26.10.11 to 31.12.12	$ 23,173
						$ 257,055

The Brunchilly Project is comprised of six contiguous tenements held by Vale Australia EA Pty Ltd and Operated by Vale Exploration Pty Ltd under Authorization 0553-02.

Table 2: Brunchilly project tenement details

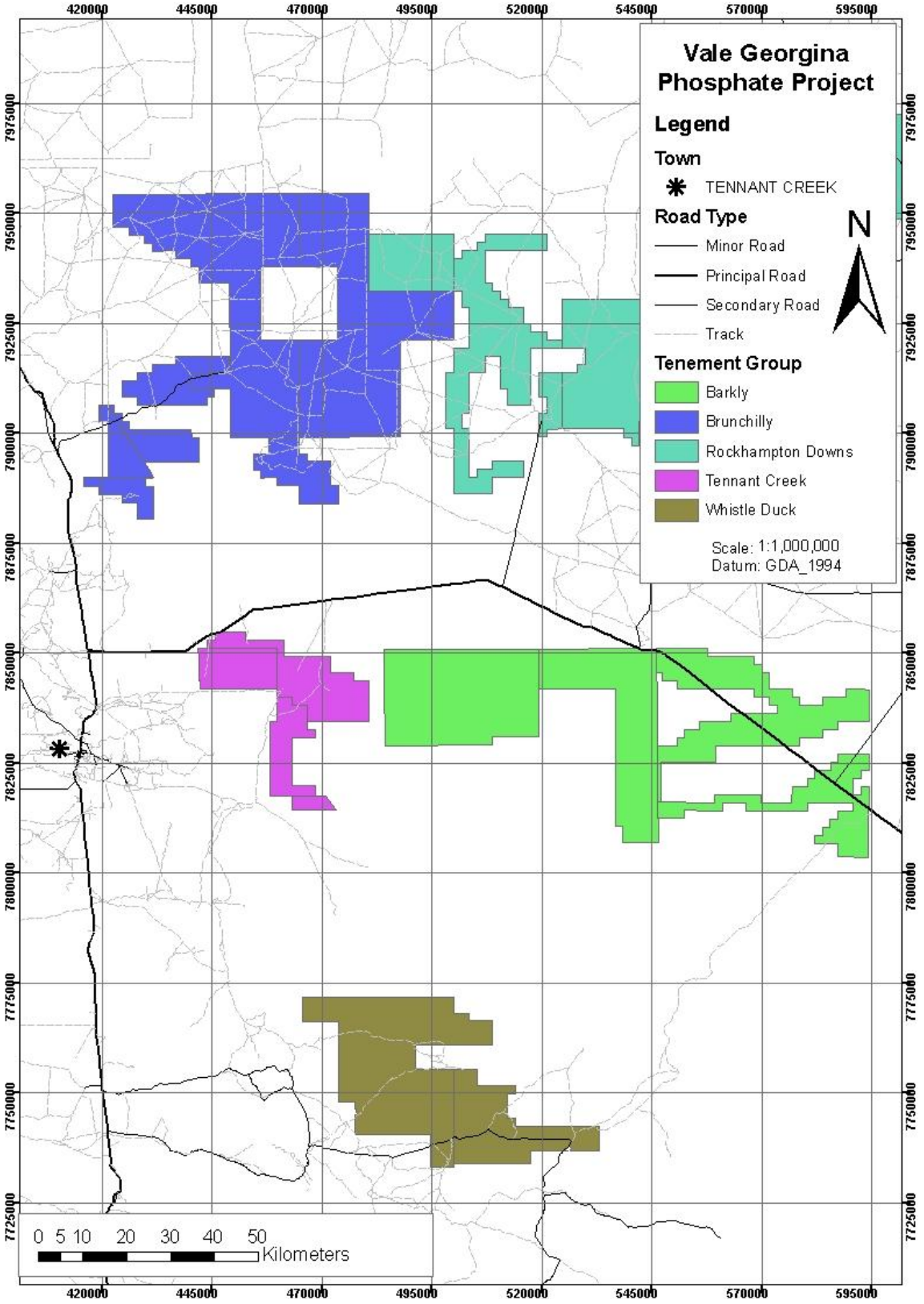
Licence	Holder	Blocks	Granted	Expiry	Current Commitment Period	Current Expenditure
EL 27191	Vale Australia EA Pty Ltd	339	26-Oct-09	25-Oct-15	26.10.11 to 31.12.12	$ 113,394
EL 27192		349	26-Oct-09	25-Oct-15	26.10.11 to 31.12.12	$ 101,442
EL 27547		54	4-Mar-10	3-Mar-16	4.3.12 to 31.12.12	$ 7,314
EL 27612		36	8-Jul-10	7-Jul-16	8.7.11 to 31.12.12	$ 12,700
EL 27613		56	13-May-10	12-May-16	13.5.12 to 31.12.12	$ -
EL 27614		44	8-Apr-10	7-Apr-16	8.4.12 to 31.12.12	$ 3,123
						$ 237,973

The Whistle Duck Project is comprised of two contiguous tenements held by Vale Australia EA Pty Ltd and Operated by Vale Exploration Pty Ltd under Authorization

Table 3: Whistle Duck project tenement details

Licence	Holder	Blocks	Granted	Expiry	Current Commitment Period	Current Expenditure
EL 27990	Vale Australia EA Pty Ltd	276	26-Oct-10	25-Oct-16	26.10.11 to 31.12.12	$ 8,300
EL 27991		132	26-Oct-10	25-Oct-16		$ 3,387

Figure 1: Georgina tenement locations



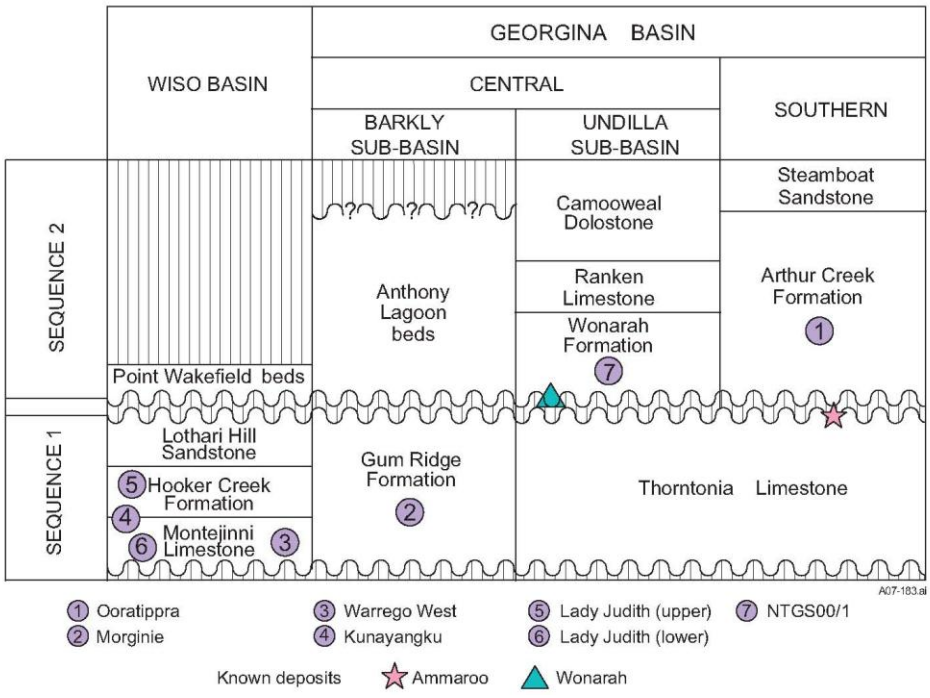
2 Regional Geology

The Georgina Project covers Cambrian rocks of the Georgina Basin. The rocks of the Georgina Basin range in age from Late Proterozoic to Early Palaeozoic. To the north, they overlie Mid Proterozoic rocks of the South Nicholson and McArthur Basins and to the east they unconformably overlie Mid Proterozoic rocks of the Cloncurry-Mt Isa Block. Georgina Basin rocks overlie Arunta Block rocks on the southern margin of the Georgina Basin and to the west, Georgina Basin rocks unconformably overlie basement composed of rocks of the ?Early Proterozoic Hatches Creek and Warramunga Groups and their equivalents (Cook, 1986).

The Georgina Basin rocks show complex facies relationships and no single stratigraphic column can be provided for the Georgina Basin (Smith, 1972; Cook 1986). Figure 2 shows the schematic stratigraphic relationship of formations across the Wiso Basin and Georgina Basin. Stratigraphic locations of phosphate occurrences are also identified (Khan et al., 2007). The Undilla Sub-Basin sequence has been sourced from Kruse and Radke (2008) and the southern Georgina Basin after Dunster et al (2007).

Figure 2 is a useful guide but it should be noted that Rio Tinto geologists who worked at Wonarah considered the Wonarah Deposit occurred within the Gum Ridge Formation (Lilley, 2002). However, the Wonarah is identified here as occurring in the Wonarah Formation, as others consider that the phosphorite interval on the Alexandria-Wonarah basement high is more likely to be the basal Wonarah Formation (Kruse et al., 2010).

Figure 2: Schematic west to east stratigraphic transect across Wiso and Georgina basins (Khan et al., 2007).



Major phosphate deposition occurred in the Middle Cambrian (Templetonian), a period which corresponds to a major rise in sea level. It was the time of maximum phosphate deposition with up to 100m of siltstones, fine-grained sandstones, cherts and phosphorites being deposited around the eastern margins of the basin and adjacent to the Alexandria-Wonarah High (Cook, 1986).

Drill hole data indicates a consistent thickness of 141-151m for the Gum Ridge Formation across the Georgina Sub-basin, thinning to approximately 51m near the Wonarah basement high (Kruse et al. 2010). The formation consists of two successive marine limestone units, each underlain by a thin (8-10m) peritidal siliciclastic unit. Basal rocks consist of brecciated, brown-red dolomitic siliciclastic siltstone.

3 Local Geology

The geology of Barkly is difficult to discern as outcrop is limited with much of the geology concealed beneath red/orange sands and sand dunes. Where outcrop is present it contains minor carbonate rocks dominated by siliceous sediments with pebbles of chert and pisolitic ironstone gravel.

The Brunchilly tenements explored in 2012 were very flat and contained limited to non-existant outcrop. Cover is dominated by hard, light brown silty clay.

The Whistle Duck tenements contain the most extensive outcrop. Most of it is along the south western portion of the tenements. In select locations along this trend there is outcropping rock of the Gum Ridge formation. Mapping along the southern boundary turned up mostly siliceous sedimentary rocks dominated by nodular chert. Some samples were of siliceous poor, iron rich rocks. But their presence was patchy at best. The Davenport range is visible to the south easily distinguishable by east/west trending Proterozoic quartzites hills. Devils Marbles intrusive is encountered along station roads just off the tenements to the west. The north eastern portions of the Whistle Duck tenements contained fewer outcrops. Most of the area is flat and the geology is overlain by sand to clay cover.

4 Previous Exploration

Vales's exploration activity on each of the tenements is summarized below. For details of other historic work, refer to 2010 Annual reports that summarize literature reviews and other work completed for each tenement package. This data is also present on Vale's Perth server at:
P:\AUSTechnical\Projects\01_Oceania\01_Australia\02_Northern Territory\00_CurrentProjects\Georgina_Phosphate\Literature Reviews or
P:\AUSTechnical\Projects\01_Oceania\01_Australia\02_Northern Territory\00_CurrentProjects\Georgina_Phosphate\Reports_OpenFile_Other

2010 Exploration season included:

- RC Drilling – 32 holes, m, 1723 3m composite samples and QA/QC samples (Refer to pink circles on Figure 3 and Table 4 for significant assays)

Table 4: Significant results from 2010 Georgina RC drilling

HOLEID	Location	SAMPLEID	FROM	TO	P_ppm	P_2O_5 _ME_%	P_2O_5 %	Width	Interval
VGRC001	BRN	CIA106731	81	84	**4810**	**1.10**			
VGRC001	BRN	CIA106732	84	87	**5860**	**1.34**	1.22	6	81-87
VGRC001	BRN	CIA106744	117	120	**4570**	**1.05**	1.05	3	117-120
VGRC004	BRN	CIA106888	57	60	**4540**	**1.04**			
VGRC004	BRN	CIA106889	60	63	**6210**	**1.42**	1.23	6	57-63
VGRC004	BRN	CIA106895	75	78	**5660**	**1.30**	1.30	3	75-78
VGRC005	BRN	CIA106934	48	51	**>10000**	**3.87**			
VGRC005	BRN	CIA106935	51	54	**>10000**	**4.17**			
VGRC005	BRN	CIA106936	54	57	**>10000**	**2.69**			
VGRC005	BRN	CIA106937	57	60	**>10000**	**2.40**			
VGRC005	BRN	CIA106938	60	63	**>10000**	**5.99**			
VGRC005	BRN	CIA106939	63	66	**>10000**	**3.52**			
VGRC005	BRN	CIA106941	66	69	**>10000**	**2.29**			
VGRC005	BRN	CIA106942	69	72	**8640**	**1.98**	3.36	24	48-72
VGRC007	BRN	CIA107022	27	30	**8030**				
VGRC007	BRN	CIA107023	30	33	**>10000**	**2.34**			
VGRC007	BRN	CIA107024	33	36	**>10000**	**3.06**			
VGRC007	BRN	CIA107025	36	39	**>10000**	**2.35**			
VGRC007	BRN	CIA107026	39	42	**>10000**	**2.48**	2.56	15	27-42
VGRC009	BRN	CIA107129	90	93	**6650**	**1.52**			
VGRC009	BRN	CIA107131	93	96	**4450**	**1.02**	1.27	6	90-96
VGRC009	BRN	CIA107145	132	135	**4690**	**1.07**	1.07	3	132-135
VGRC010	BRN	CIA107169	48	51	**8970**	**2.06**			
VGRC010	BRN	CIA107171	51	54	**>10000**	**5.99**	4.02	6	48-54
VGRC011	BRN	CIA107204	39	42	**>10000**	**2.85**	2.85	3	39-42
VGRC013	BRN	CIA107309	66	69	**7230**	**1.66**			

HOLEID	Location	SAMPLEID	FROM	TO	P_ppm	P_2O_5 _ME_%	P_2O_5 %	Width	Interval
VGRC013	BRN	CIA107311	69	72	**5900**	**1.35**			
VGRC013	BRN	CIA107312	72	75	**4560**	**1.04**	1.35	9	66-75
VGRC014	BRN	CIA107366	69	72	**4370**	**1.00**	1.00	3	69-72
VGRC014	BRN	CIA107385	120	123	**5180**	**1.19**	1.19	3	120-123
VGRC017	BKY	CIA107552	120	123	**4710**	**1.08**			
VGRC017	BKY	CIA107553	123	126	**5220**	**1.20**	1.14	6	120-126
VGRC017	BKY	CIA107566	159	162	**5670**	**1.30**			
VGRC017	BKY	CIA107567	162	165	**>10000**	**3.22**			
VGRC017	BKY	CIA107568	165	168	**6540**	**1.50**			
VGRC017	BKY	CIA107569	168	171	**8770**	**2.01**			
VGRC017	BKY	CIA107571	171	174	**7580**	**1.74**			
VGRC017	BKY	CIA107573	177	180	**5950**	**1.36**	1.59	21	159-180
VGRC018	BKY	CIA107625	138	141	**4740**	**1.09**	1.09	3	138-141
VGRC019	BKY	CIA107658	78	81	**6540**	**1.50**			
VGRC019	BKY	CIA107661	84	87	**6050**	**1.39**	0.96	9	78-87
VGRC019	BKY	CIA107668	105	108	**4730**	**1.08**			
VGRC019	BKY	CIA107671	111	114	**5290**	**1.21**			
VGRC019	BKY	CIA107672	114	117	**>10000**	**3.32**			
VGRC019	BKY	CIA107673	117	120	**>10000**	**6.00**	2.32	15	105-120
VGRC019	BKY	CIA107678	132	135	**7600**	**1.74**			
VGRC019	BKY	CIA107679	135	138	**>10000**	**2.24**			
VGRC019	BKY	CIA107681	138	141	**5330**	**1.22**			
VGRC019	BKY	CIA107683	144	147	**6500**	**1.49**			
VGRC019	BKY	CIA107684	147	150	**4450**	**1.02**	1.29	18	132-150
VGRC020	BKY	CIA107695	27	30	**4690**	**1.07**	1.07	3	27-30
VGRC020	BKY	CIA107711	69	72	**8290**	**1.90**			
VGRC020	BKY	CIA107712	72	75	**9100**	**2.09**	1.99	6	69-75
VGRC020	BKY	CIA107717	87	90	**7400**	**1.70**			
VGRC020	BKY	CIA107718	90	93	**>10000**	**2.92**			
VGRC020	BKY	CIA107719	93	96	**>10000**	**2.96**			
VGRC020	BKY	CIA107721	96	99	**>10000**	**3.02**			
VGRC020	BKY	CIA107722	99	102	**>10000**	**2.60**			
VGRC020	BKY	CIA107723	102	105	**8540**	**1.96**			
VGRC020	BKY	CIA107725	108	111	**5210**	**1.19**	2.04	24	87-111
VGRC021	BKY	CIA107792	138	141	**5270**	**1.21**			
VGRC021	BKY	CIA107793	141	144	**4840**	**1.11**	1.16	6	138-144
VGRC022	ELT	CIA107824	75	78	**5270**	**1.21**	1.21	3	75-78
VGRC023	ELT	CIA107875	63	66	**4540**	**1.04**	1.04	3	63-66
VGRC024	ELT	CIA107925	60	63	**6640**	**1.52**	1.52	3	60-63
VGRC025	ELT	CIA108009	90	93	**8440**	**1.93**	1.93	3	90-93
VGRC026	ELT	CIA108064	87	90	**7280**	**1.67**	1.67	3	87-90

HOLEID	Location	SAMPLEID	FROM	TO	P_ppm	P_2O_5 _ME_%	P_2O_5 %	Width	Interval
VGRC027	ELT	CIA108114	72	75	**4590**	**1.05**			
VGRC027	ELT	CIA108115	75	78	**6000**	**1.37**	1.21	6	72-78
VGRC028	ELT	CIA108172	78	81	**7890**	**1.81**			
VGRC028	ELT	CIA108173	81	84	**7770**	**1.78**	1.79	6	78-84

- Mapping and sampling of Brunchilly, Barkly, Elliott and Newcastle Waters – 399 rock chip samples (Refer to green circles on Figure 4 for rock chip locations)
    - No results above 1% P_2O_5 we obtained
- Analysis of samples – 1723 3m RC composites and 399 rock chip samples were assayed by SGS

2011 Exploration season included:

- RC Drilling – 49 holes, 5854m, 3217 2m RC composite samples and QA/QC samples and 219m for 44 1m diamond drill lengths and QA/QC (Refer to blue circles on Figure 3 and Table 5 for significant assays)

Table 5: Significant results from 2011 Georgina RC drilling

HOLEID	Location	SAMPLEID	FROM	TO	P_ppm	P_2O_5_ME_%	P_2O_5 %	Width	Interval
VGRC032	BRN	CIA110022	42	44	**5440**	**1.36**	1.36	2	42-44
VGRC032	BRN	CIA110037	74	76	**4520**	**1**	1.00	2	74-76
VGRC040	BRN	CIA110596	102	104	**27100**	**6.27**			
VGRC040	BRN	CIA110597	104	106	**39000**	**8.64**			
VGRC040	BRN	CIA110598	106	108	**22500**	**4.88**	6.60	6	102-108
VGRC041	BRN	CIA110639	56	58	**4820**	**0.96**			
VGRC041	BRN	CIA110641	58	60	**6340**	**1.59**	1.28	4	56-60
VGRC042	BRN	CIA110687	36	38	**14700**	**3.21**			
VGRC042	BRN	CIA110688	38	40	**7350**	**1.67**			
VGRC042	BRN	CIA110691	44	46	**5580**	**1.21**			
VGRC042	BRN	CIA110692	46	48	**6470**	**1.41**	1.50	12	36-48
VGRC042	BRN	CIA110711	82	84	**4790**	**1.14**			
VGRC042	BRN	CIA110712	84	86	**5760**	**1.33**			
VGRC042	BRN	CIA110713	86	88	**4310**	**0.98**			
VGRC042	BRN	CIA110714	88	90	**4640**	**1.08**			
VGRC042	BRN	CIA110715	90	92	**5510**	**1.29**			
VGRC042	BRN	CIA110717	94	96	**5560**	**1.33**			
VGRC042	BRN	CIA110718	96	98	**6890**	**1.78**	1.12	16	82-98
VGRC046	BRN	CIA110949	42	44	**4330**	**1.16**			
VGRC046	BRN	CIA110950	44	46	**6270**	**1.46**			
VGRC046	BRN	CIA110951	46	48	**6810**	**1.64**			
VGRC046	BRN	CIA110952	48	50	**4360**	**0.96**	1.31	8	42-50

HOLEID	Location	SAMPLEID	FROM	TO	P_ppm	P_2O_5_ME_%	P_2O_5 %	Width	Interval
VGRC050	BRN	CIA111235	60	62	**5460**	**1.23**			
VGRC050	BRN	CIA111236	62	64	**26400**	**6.04**			
VGRC050	BRN	CIA111237	64	66	**18700**	**4.39**			
VGRC050	BRN	CIA111238	66	68	**24200**	**5.62**			
VGRC050	BRN	CIA111239	68	70	**24300**	**5.73**			
VGRC050	BRN	CIA111241	70	72	**4890**	**1.25**	4.04	12	60-72
VGRC065	ELT	CIA112151	48	50	**40400**	**9.26**			
VGRC065	ELT	CIA112152	50	52	**16200**	**3.71**			
VGRC065	ELT	CIA112153	52	54	**15200**	**3.48**			
VGRC065	ELT	CIA112154	54	56	**9440**	**2.16**			
VGRC065	ELT	CIA112155	56	58	**11000**	**2.52**			
VGRC065	ELT	CIA112156	58	60	**11200**	**2.57**			
VGRC065	ELT	CIA112157	60	62	**10600**	**2.43**			
VGRC065	ELT	CIA112158	62	64	**12700**	**2.91**			
VGRC065	ELT	CIA112159	64	66	**9660**	**2.21**	3.47	18	48-66
VGRC066	ELT	CIA112211	36	38	**10400**	**2.38**			
VGRC066	ELT	CIA112212	38	40	**5880**	**1.35**	1.87	4	36-40
VGRC067	ELT	CIA112263	48	50	**9590**	**2.20**			
VGRC067	ELT	CIA112264	50	52	**23300**	**5.34**	3.77	4	48-52
VGRC068	ELT	CIA112309	38	40	**16700**	**3.83**	3.83	2	38-40
VGRC068	ELT	CIA112323	64	66	**4530**	**1.04**	1.04	2	64-66
VGRC068	ELT	CIA112325	68	70	**5350**	**1.23**	1.23	2	68-70
VGRC069	ELT	CIA112376	46	48	**8370**	**1.92**	1.92	2	46-48
VGRC069	ELT	CIA112385	62	64	**5450**	**1.25**			
VGRC069	ELT	CIA112386	64	66	**11900**	**2.73**			
VGRC069	ELT	CIA112387	66	68	**4610**	**1.06**	1.68	6	62-68
VGRC072	ELT	CIA112532	78	80	**6790**	**1.56**	1.56	2	78-80
VGRC073	BKY	CIA112612	86	88	**9870**	**2.26**			
VGRC073	BKY	CIA112613	88	90	**7780**	**1.78**			
VGRC073	BKY	CIA112614	90	92	**8200**	**1.88**			
VGRC073	BKY	CIA112615	92	94	**5800**	**1.33**			
VGRC073	BKY	CIA112616	94	96	**6650**	**1.52**	1.76	10	86-96
VGRC073	BKY	CIA112625	112	114	**7120**	**1.63**			
VGRC073	BKY	CIA112626	114	116	**4330**	**0.99**			
VGRC073	BKY	CIA112627	116	118	**4550**	**1.04**			
VGRC073	BKY	CIA112629	118	119	**6720**	**1.54**	1.30	7	112-119
VGRC074	BKY	CIA112667	70	72	**5260**	**1.21**			
VGRC074	BKY	CIA112668	72	74	**9690**	**2.22**			
VGRC074	BKY	CIA112669	74	76	**6450**	**1.48**			
VGRC074	BKY	CIA112670	76	78	**5240**	**1.20**	1.53	8	70-78
VGRC074	BKY	CIA112675	86	88	**4730**	**1.08**	1.08	2	86-88

HOLEID	Location	SAMPLEID	FROM	TO	P_ppm	P_2O_5_ME_%	P_2O_5 %	Width	Interval
VGRC074	BKY	CIA112686	106	108	**5980**	**1.37**			
VGRC074	BKY	CIA112687	108	110	**5600**	**1.28**	1.33	4	106-110
VGRC074	BKY	CIA112690	114	116	**4520**	**1.04**			
VGRC074	BKY	CIA112691	116	118	**11300**	**2.59**	1.81	4	114-118
VGRC075	BKY	CIA112741	90	92	**5600**	**1.28**			
VGRC075	BKY	CIA112742	92	94	**5280**	**1.21**			
VGRC075	BKY	CIA112743	94	96	**5490**	**1.26**			
VGRC075	BKY	CIA112744	96	98	**7150**	**1.64**			
VGRC075	BKY	CIA112745	98	100	**9370**	**2.15**			
VGRC075	BKY	CIA112746	100	102	**5980**	**1.37**			
VGRC075	BKY	CIA112747	102	104	**5540**	**1.27**			
VGRC075	BKY	CIA112748	104	106	**5240**	**1.20**	1.42	16	90-106
VGRC077	BKY	CIA112828	56	58	**9240**	**2.12**			
VGRC077	BKY	CIA112829	58	60	**5940**	**1.36**	1.74	4	56-60
VGRC078	BKY	CIA112858	12	14	**4350**	**1.00**			
VGRC078	BKY	CIA112859	14	16	**12400**	**2.84**			
VGRC078	BKY	CIA112861	16	18	**19300**	**4.42**			
VGRC078	BKY	CIA112862	18	20	**31100**	**7.13**			
VGRC078	BKY	CIA112863	20	22	**22000**	**5.04**			
VGRC078	BKY	CIA112864	22	24	**18100**	**4.15**			
VGRC078	BKY	CIA112866	26	28	**41700**	**9.56**	4.27	16	12-28
VGRC078	BKY	CIA112884	60	62	**5160**	**1.18**	1.18	2	60-62
VGRC080	BKY	CIA113001	90	92	**39500**	**9.05**	9.05	2	90-92

- Mapping and sampling of Rockhampton downs, Soudan and Tennant Creek – 101 rock chip and QA/QC samples (Refer to yellow circles Figure 4 for rock chip locations)
    - No results above 1% P_2O_5 we obtained
- Analysis of samples – 3217 2m RC composites, 44 1m diamond drill hole, 101 rock chip and QA/QC samples were assayed by SGS

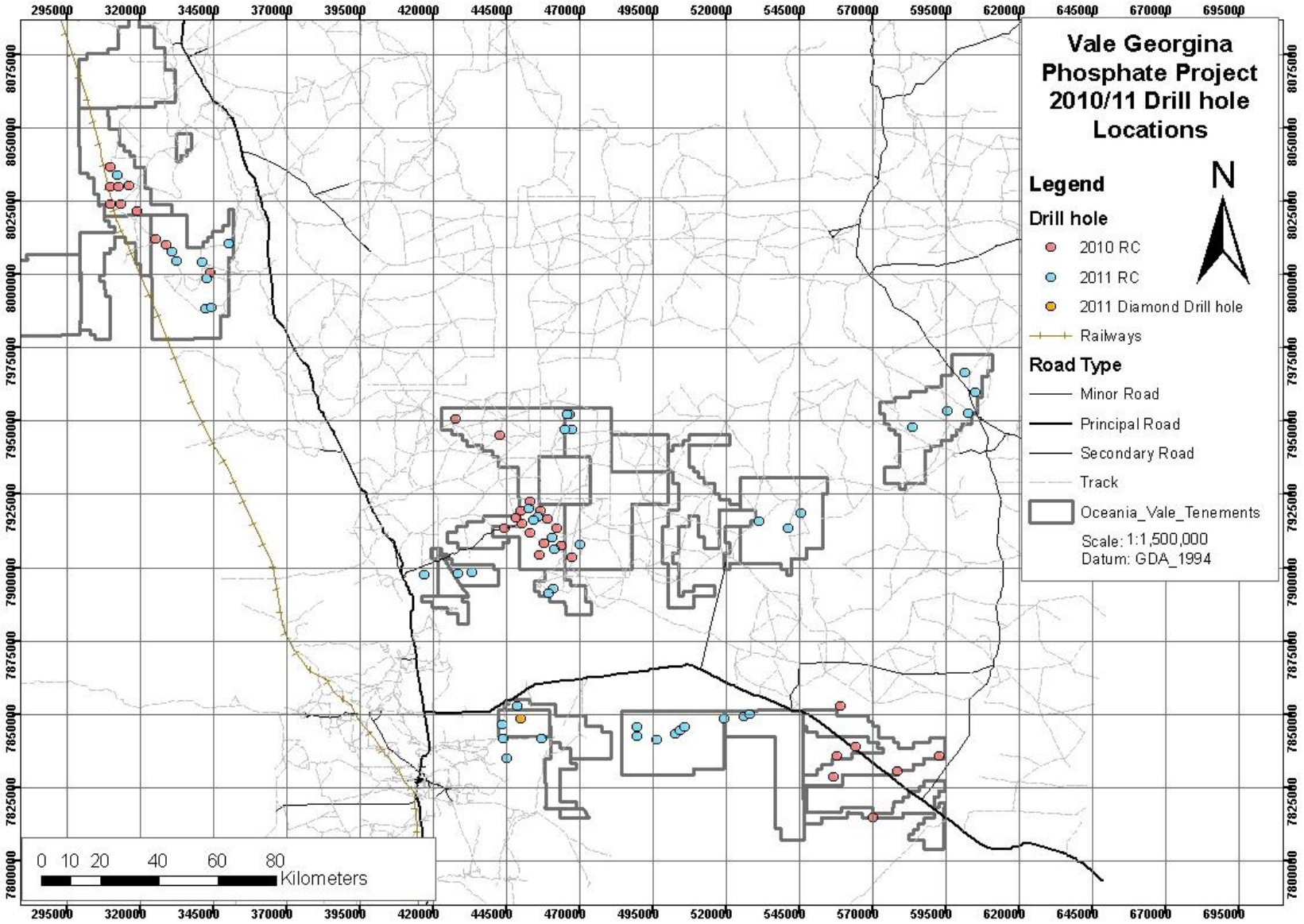


Figure 3: Georgina phosphate 2010/11 drill hole locations

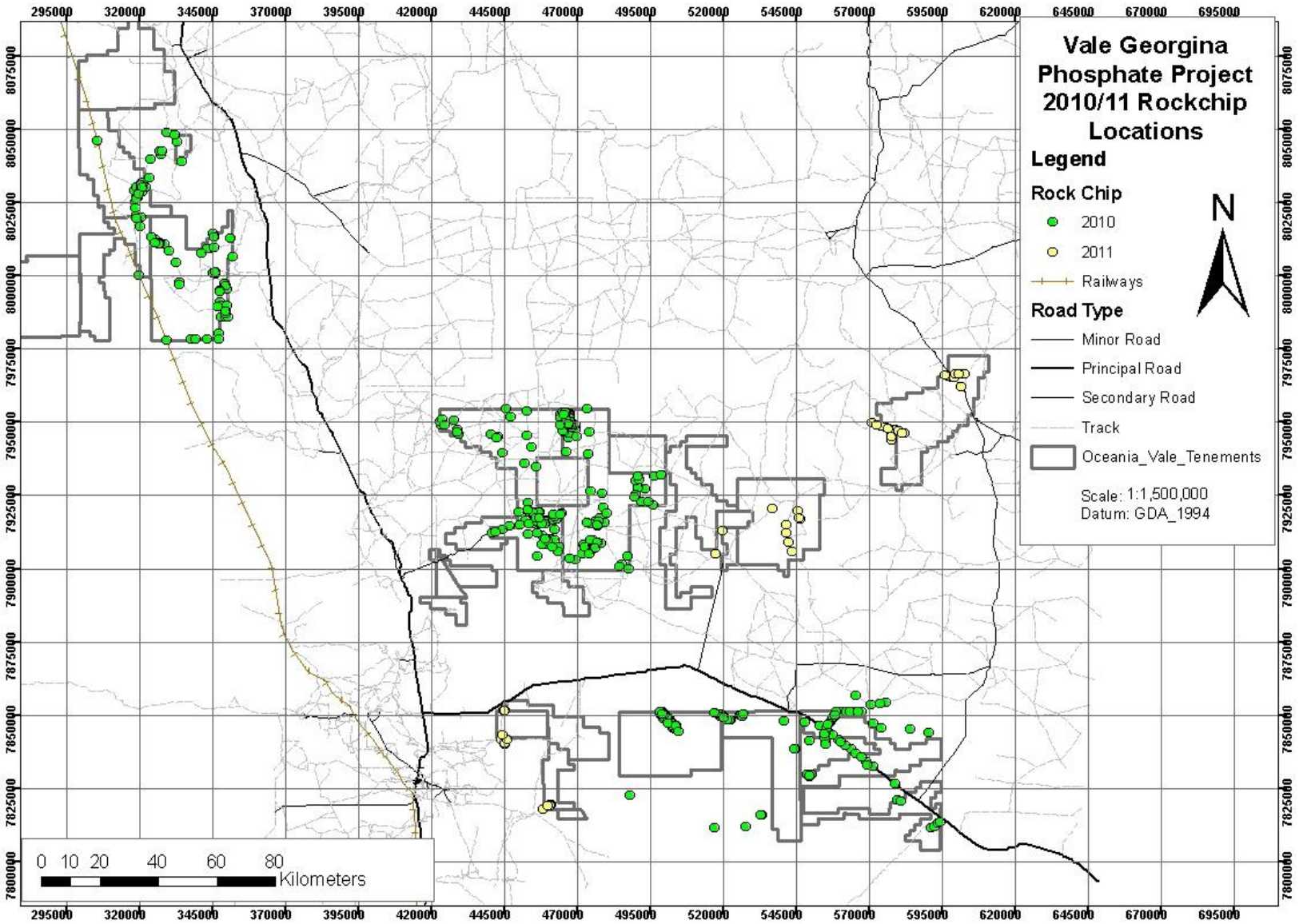


Figure 4: Georgina phosphate 2010/11 rock chip samples

5 Targeting

There were five main aspects that determined targeting for the 2012 exploration season.

- 100km railway buffer (refer to Figure 6)
- 2010/11 significant assays (refer to Appendix 2)
- MIRA geoscience basement model (refer to Figure 5 for reference of output)
- Shelf morphology
- Ore body geometries (refer to Appendix 2)

It was determined prior to the 2012 exploration season that any phosphate resource that is discovered needs to be within 100km of the main Northern Territory railway in order for the resource to be economic. This was based on a figure of approximately $2.5million/km of railway built from the existing railway to a discovered ore body. For that reason the 100km corridor was used as an overriding factor when selecting target tenements (Refer to Figure 6). Using the 100km envelope as an overlay it was quick to ascertain which tenements were desirable and which were not. (Railway corridor report)

Of the remaining tenements two different approaches were used, one for areas that had been explored and another for areas that had not. For areas that had been explored, prior to 2012, targets were selected primarily on previous rock chip and drill assays that contained P_2O_5 highs while using the MIRA basement model as a guide to determine depth to basement highs. For areas that had not been explored by Vale, the MIRA model was used primarily with particular focus on basement highs and apparent embayments that could potentially trap phosphate during the sea level rise of the middle Cambrian. From 2010/11 drilling, basement was encountered at depths different from the MIRA model. For that reason 2012 drill targeting using the MIRA basement model was used as a rough guide and not as true depths.

Drill spacing was chosen on the basis of finding a "Vale" sized deposit. This was specified as a 100 million ton 17% average grade P_2O_5 reserve. The minimum area for a deposit this size to fit inside would be 5km x 1km but more likely to be around 6km x 2km. Using that morphology the drilling in Barkly, the only area explored in 2012 where previous drilling had been completed, required a drill spacing between 2-4km. In Brunchilly and Whistle Duck drill spacing was a bit larger between 3-6km. (refer to Appendix 2 for simple morphologies)

6 Current Exploration

Exploration in the reporting period consisted of:

- RC Drilling - 34 holes, 2371 m, 1259 2m composite samples and QA/QC samples (Refer to Figure 6 for a project overview of where drilling was completed and Figures 7-9 for Barkly, Brunchilly and Whistle Duck drill location with high samples and rock chip sample location maps)
- Mapping and sampling in the Whistle Duck tenements – 24 map points and 21 rock chip samples (Refer to Figure 9 for rock chip samples)
- Analysis of RC samples – of the 1259 2m composite and QA/QC samples taken 923 were sent to ALS Chemex for analysis
- Rehabilitation of all 2012 drill pads, tracks and campsites as well as any remaining areas from 2011

Work also completed at the Georgina Project during the third year of tenure included analysis of previous sampling data (Rock chip and drill core), compilation and review of publicly available geological maps, interpretation of geophysical data, selection of drill targets and a Mining Management plans.

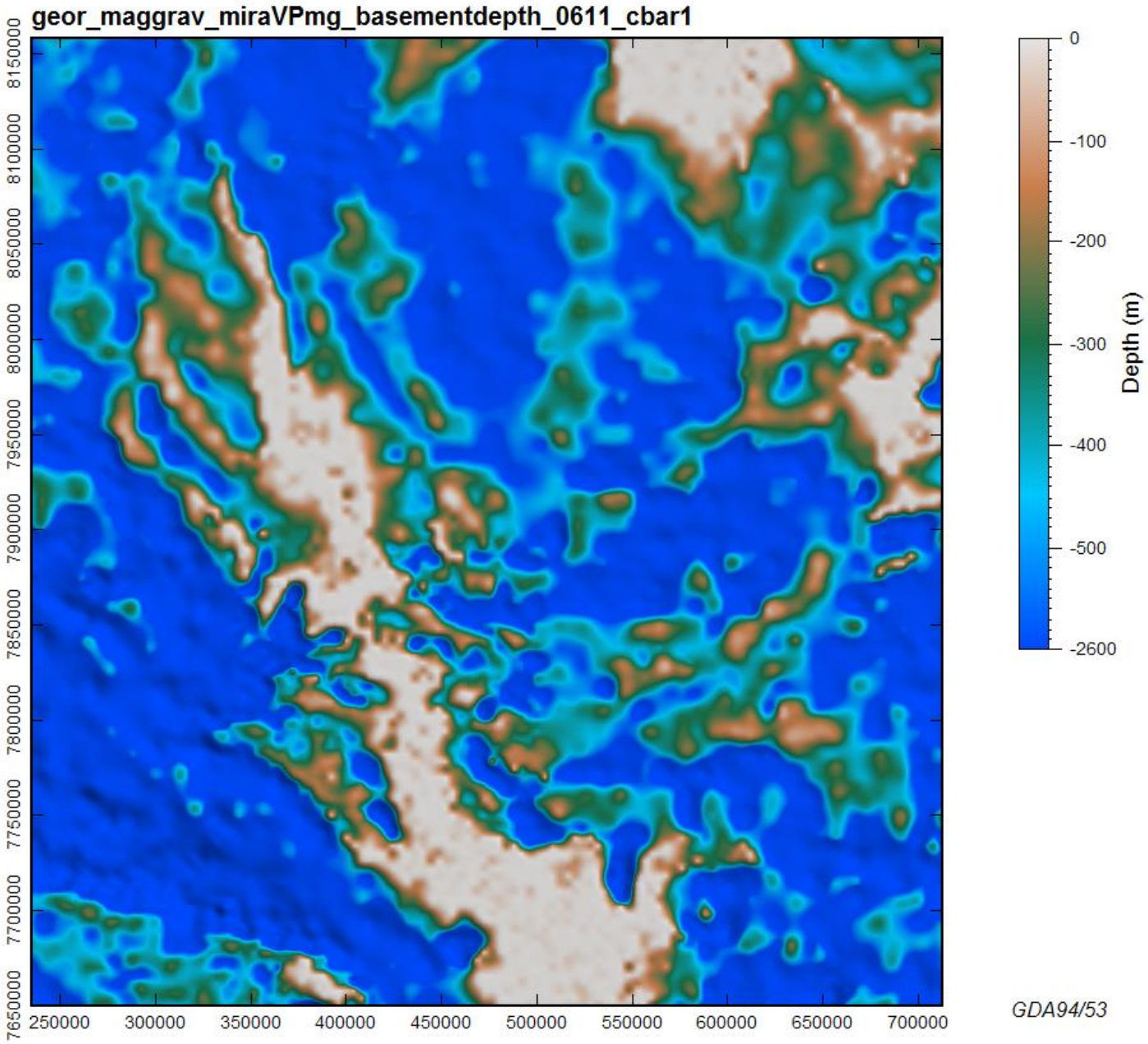


Figure 5: MIRA Geoscience basement model output

Figure 6: Georgina project – RC drill hole locations

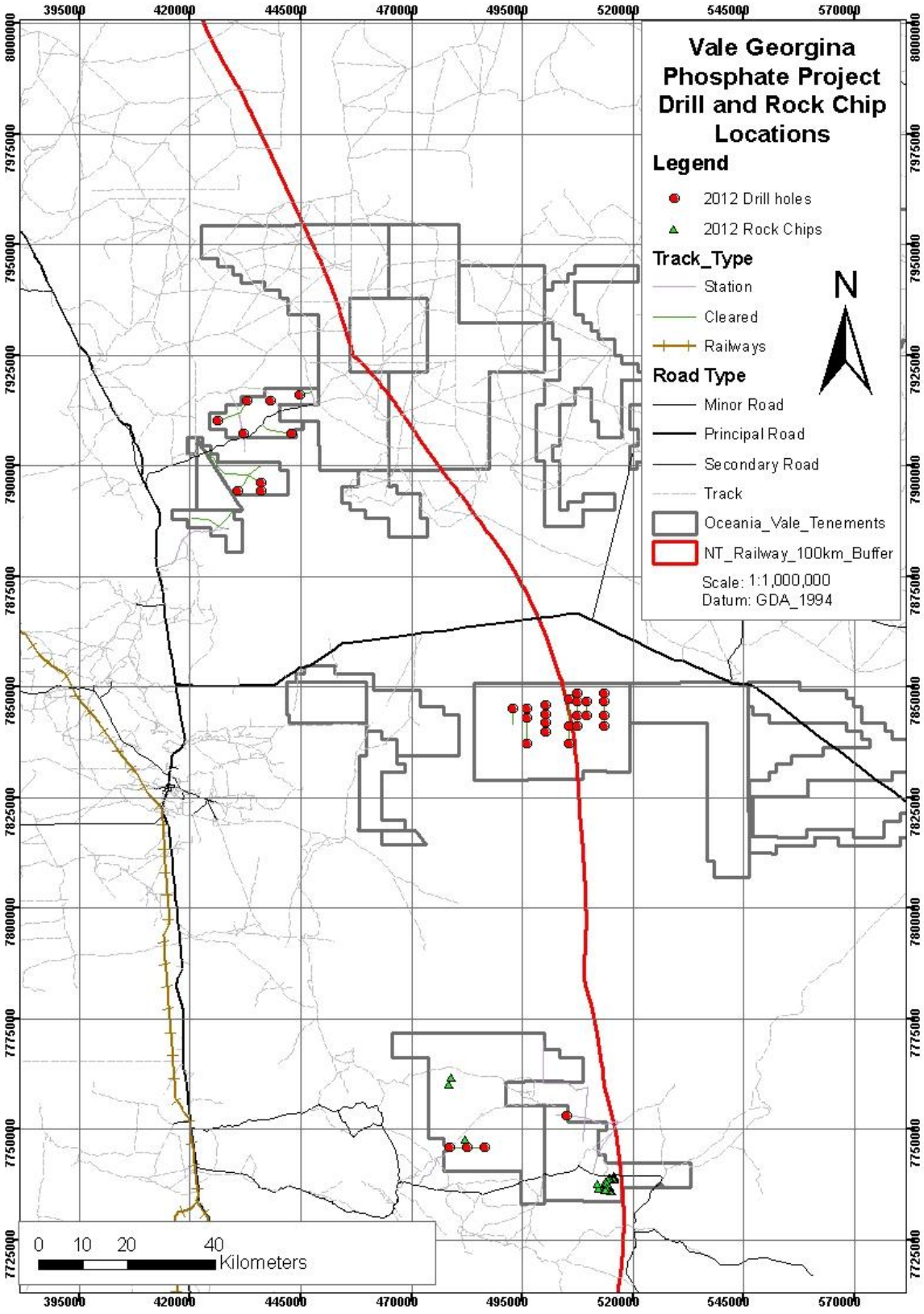


Figure 7: Georgina phosphate 2012 Barkly drill locations

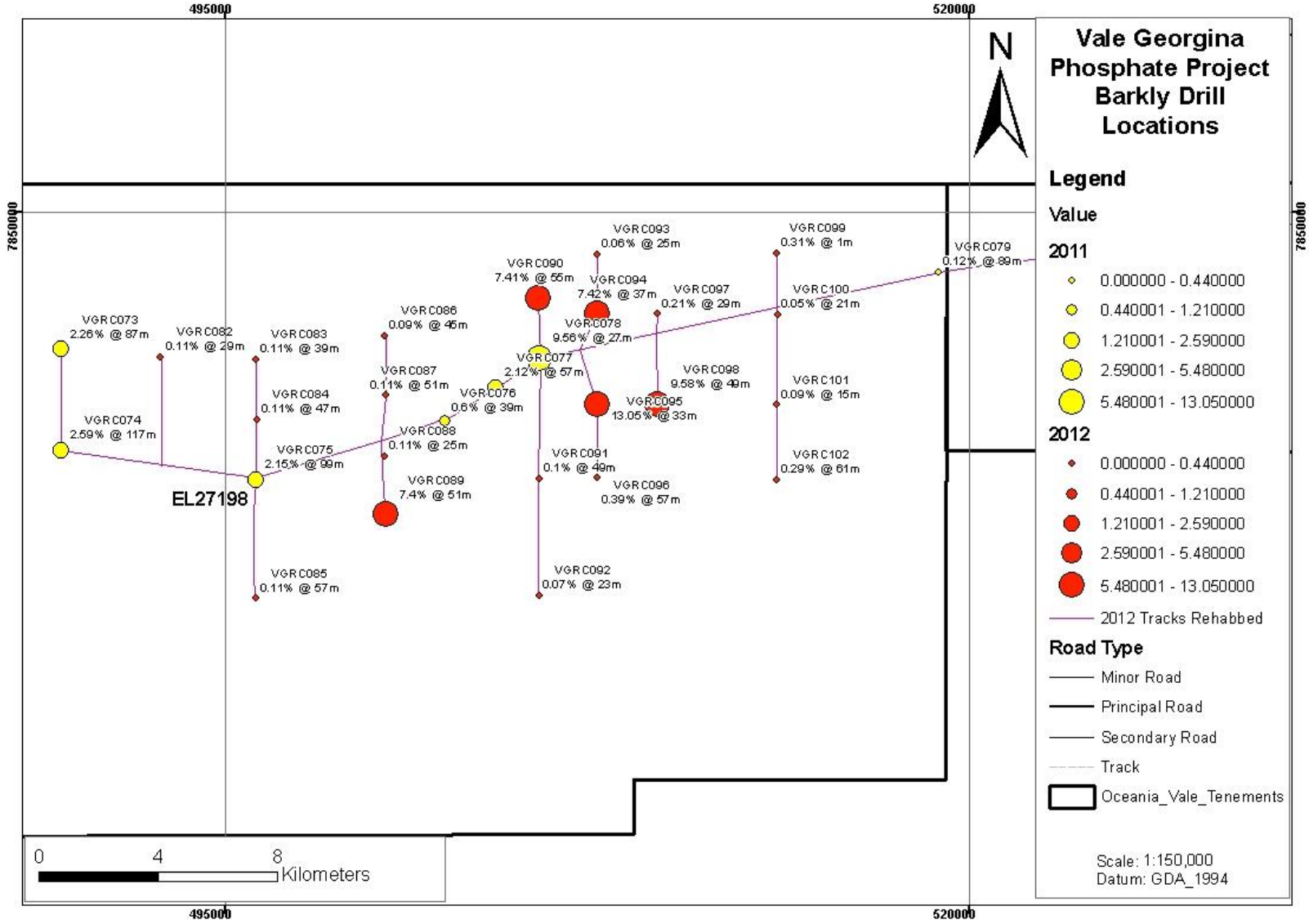


Figure 8: Georgina phosphate 2012 Brunchilly drill locations

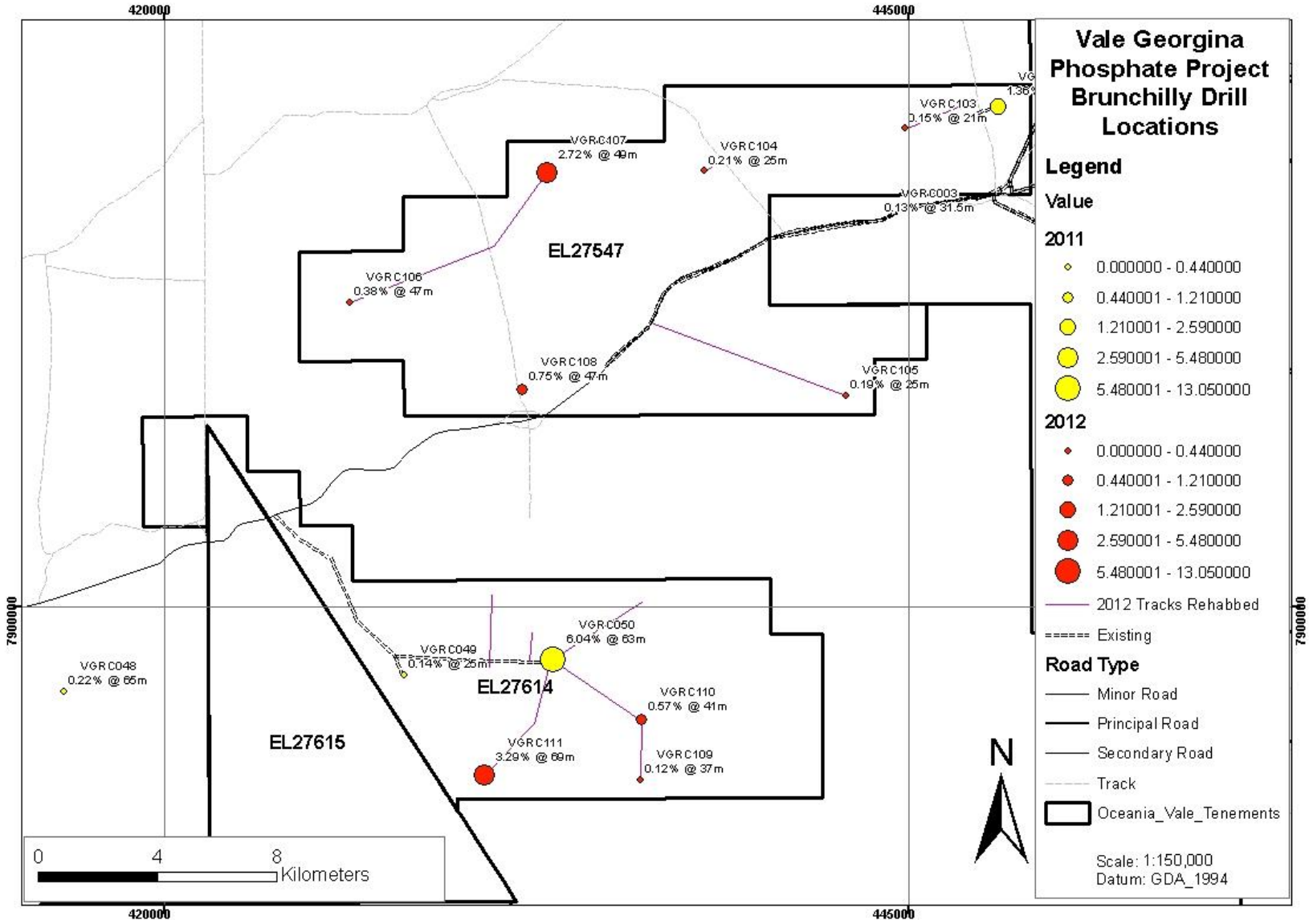
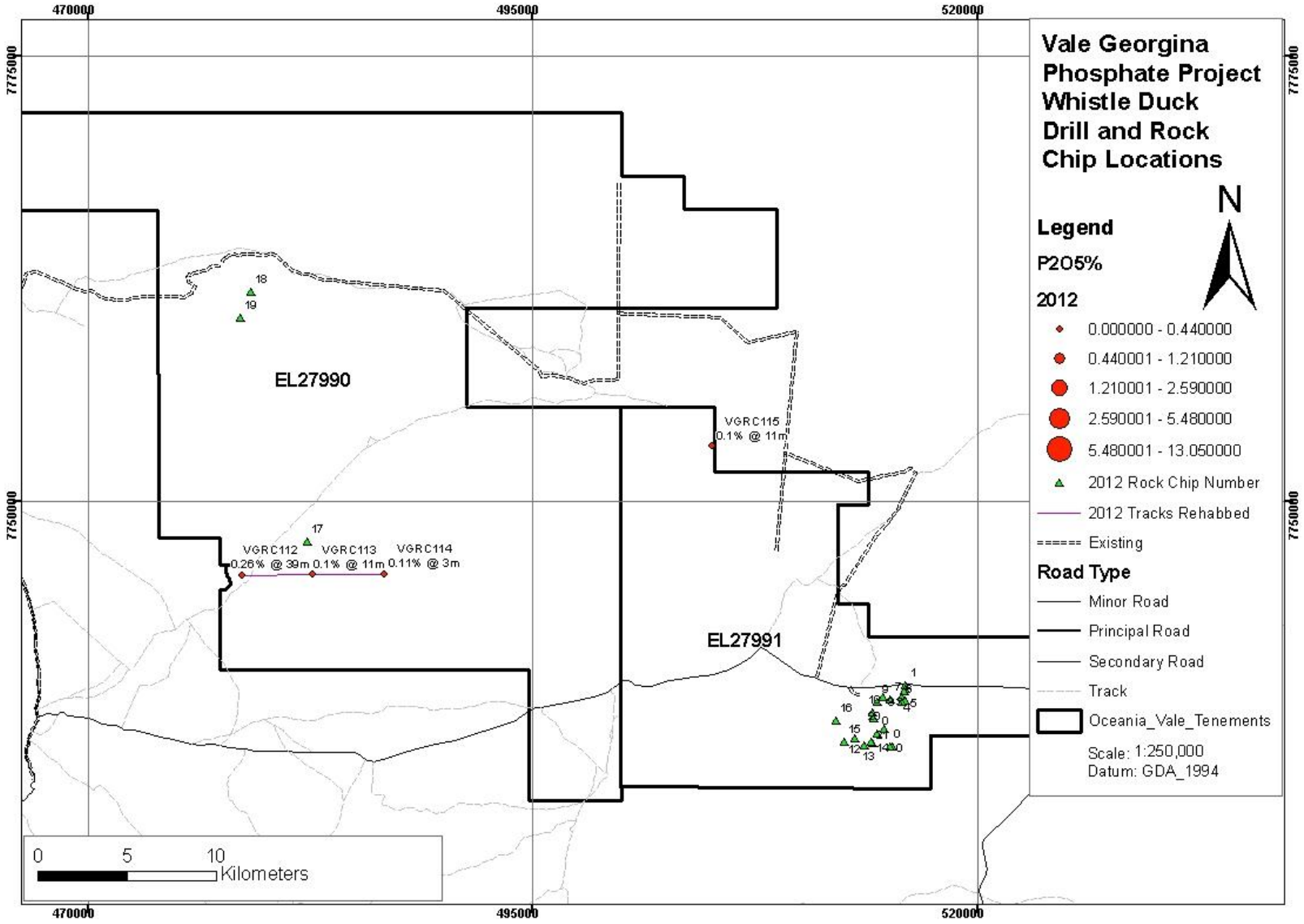


Figure 9: Georgina phosphate 2012 Whistle Duck rock chip and drill hole locations



6.1 Rehabilitation

Rehabilitation was completed as soon as drilling concluded and was conducted between August 29th and September 6th 2012. Rehabilitation practice included the following: drill holes were plugged after each hole was drilled. Access tracks were ripped and topsoil was re-spread at the end of exploration activities.

Revegetation involved scarifying compacted surfaces, and re-spreading topsoil (and its contained seed bank) over disturbed surfaces. Any vegetation stockpiled during clearing processes was then spread/placed on top of the topsoil. The seed bank will be allowed to germinate naturally.

The change over the disturbed area was documented by photographs which were taken on each drill hole before clearing, after drilling and after rehabilitation. Photos were taken where camp was initially set up and after it was taken down. Tracks were photographed in a few select locations.

Vegetation within the project area will be monitored before and after the wet season each year to document the occurrence of noxious weeds in exploration areas and evaluate revegetation success and whether reseeding is warranted.

As of the end of the 2012 exploration season Vale has fulfilled its rehabilitation. For documentation on 2012 rehabilitation refer to the following location:
P:\AUSTechnical\Projects\01_Oceania\01_Australia\02_Northern Territory\00_CurrentProjects\Georgina_Phosphate\Reporting\Reports_Environmental\Georgina Environmental Reporting

6.2 Mapping and sampling

Most of the Georgina mapping and sampling was completed in 2010/11. Whistle Duck was the only area mapped and sampled in 2012 because those tenements were only granted at the end of October 2010 and did not make the exploration program in 2011.

Rock chips were taken in areas of exposure that the NTGS listed as the Gum ridge formation. Most of the samples taken contained chert nodules and/or were heavily oxidized. A list of the rock chip assays can be found in Appendix 1. Of significance were four samples that contained between 0.14-1.18% P_2O_5 and, unexpectedly, 34.43-79.21% Fe_2O_3. The anomalous samples were not laterally extensive and are at best patchy outcrops on meter scale. Figure 10 is a picture of from the highest grade Fe_2O_3 sample. Figures 11 and 12 show the relationship of rock types within the respective lithology units of the Whistle Duck tenements.

Anomalous Fe_2O_3 could have potentially been transported or part of the hematitic shales from the Warramunga group or the volcanics from the Davenport group. The explanatory notes for the Frew River 1:250,000 map sheet indicate that the presence of accessory iron is associated with tungsten as well as molybdenum, copper, bismuth and tin of the Hatches Creek Group; the Hatches Creek group area is currently being explored by Thor Mining Plc. Transport could explain the high iron values present in the south east of the tenements. The Waucoupe tungsten fields may also be responsible for the high iron sample present to the west of the tenements. Transport from the Hatches Creek group provides a slightly different source rock for iron present in samples but maintains that the iron-rich assayed samples are not in situ and are from a source off the Whistle Duck tenements.

Figure 10: Field photograph of oxidized iron rich sample from the southern part of the Whistle Duck tenements

Figure 11: Whistle Duck tenement rock type distribution

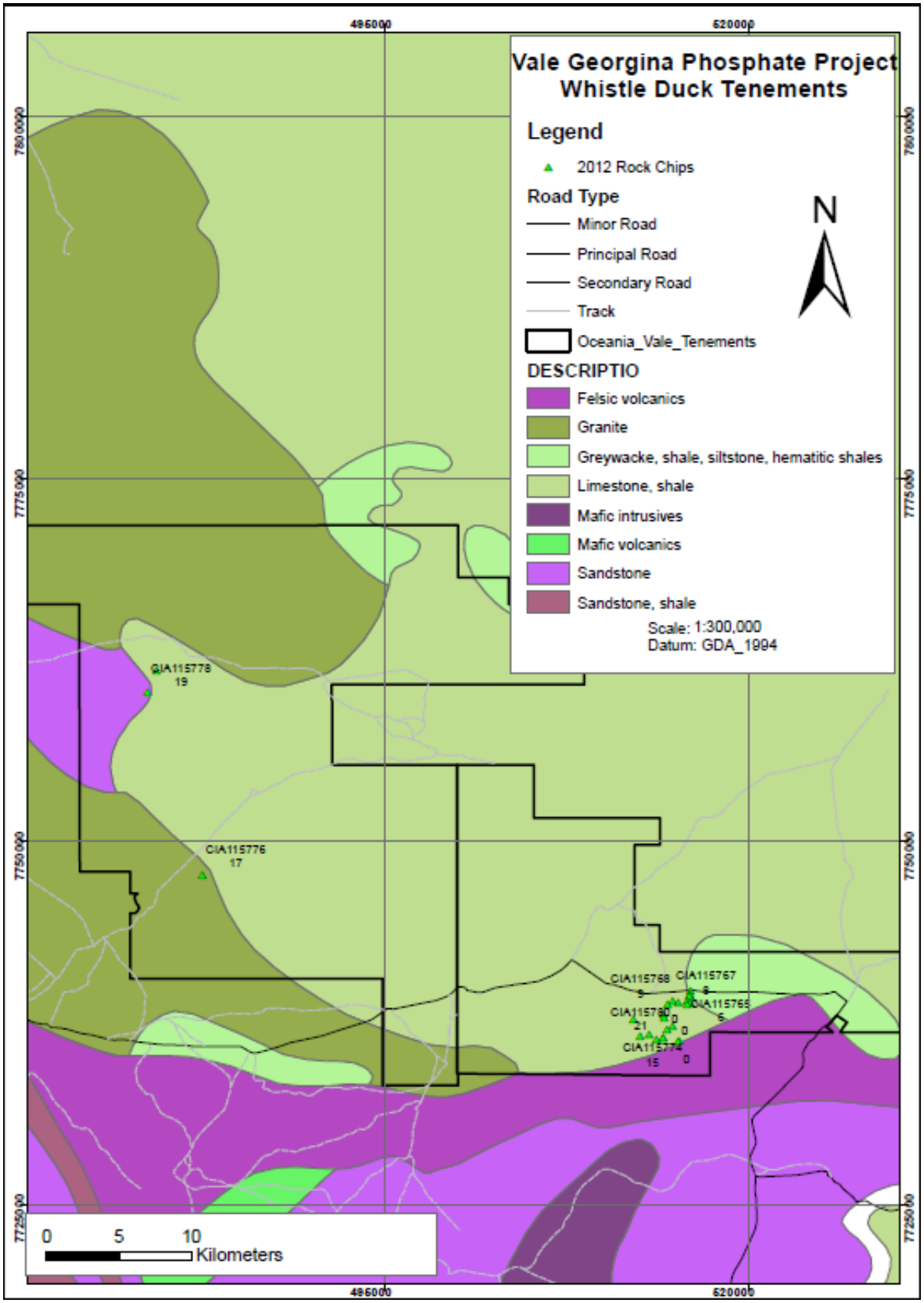
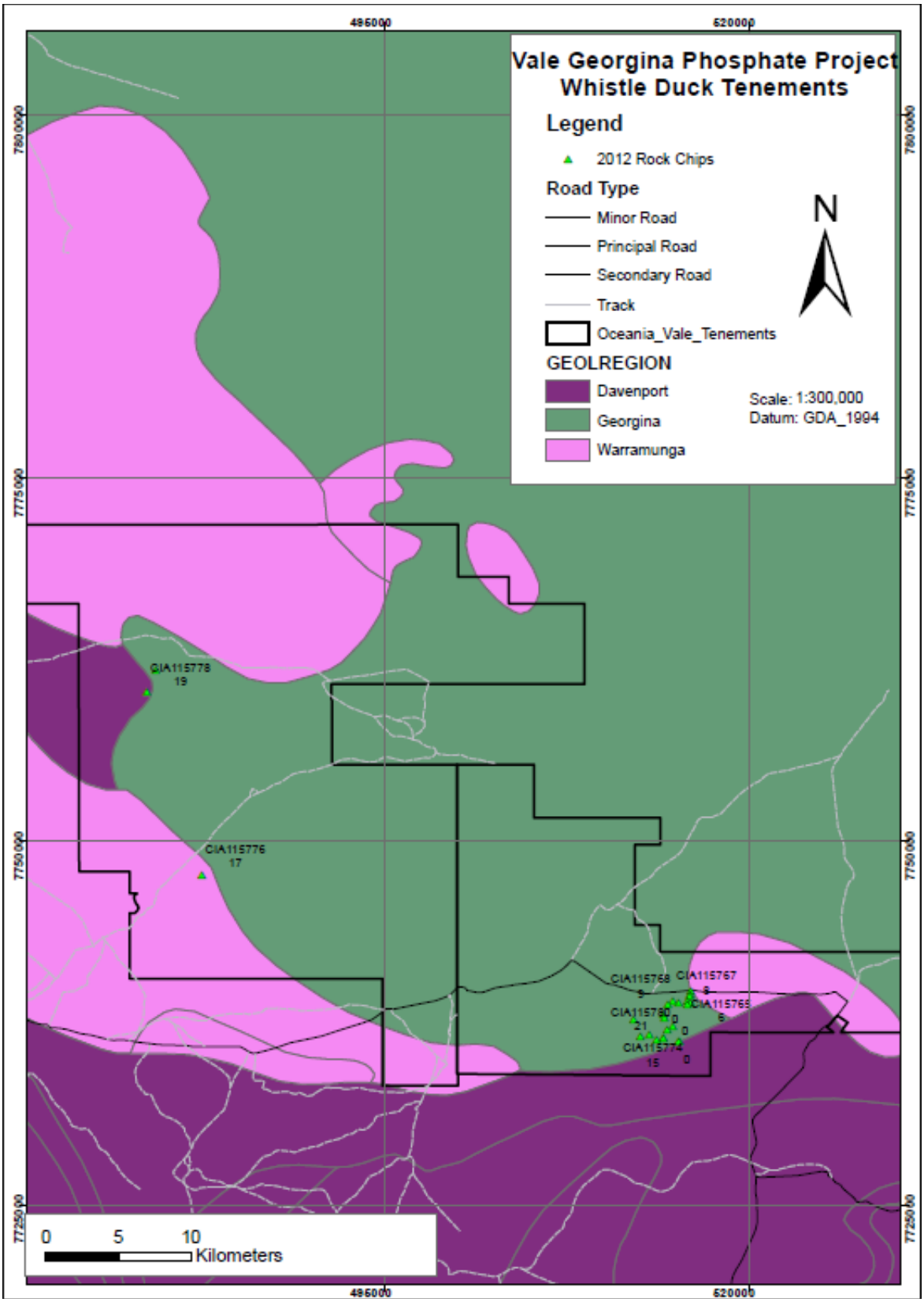


Figure 12: Whistle Duck tenement province terraine distribution



6.3 RC Drilling

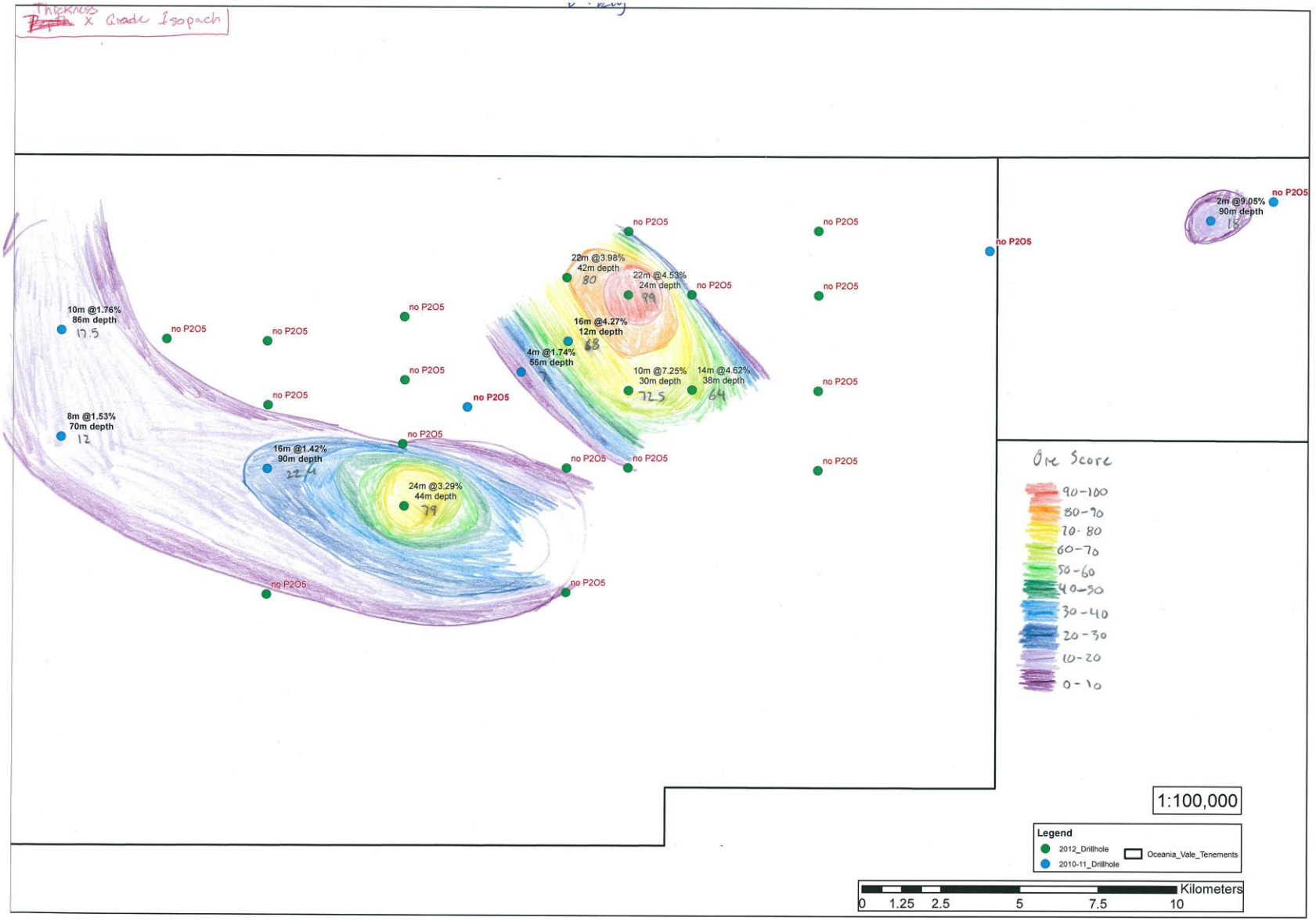
The Georgina RC drill program consisted of 34 holes placed with the aid of assays returned from 2010/2011 drilling, MIRA geoscience basement depth modeling, being within 100km of the established railway and being in favorable rock types based on NTGS geological maps.

All assays have been returned from ALS for the 2012 exploration season. Results are the highest received to date. Virtually all of the high results were attained from Barkly drilling. In 2012 Brunchilly drilling returned one interval above 1% P_2O_5 and Whistle Duck didn't return any significant results. Refer to Appendix 2 for a list of the significant assays returned from 2012 drilling.

For Barkly and Brunchilly drilling at the top of the hole intersected between 5-20m of variably weathered siliciclastic sediments, followed by approximately 20 m of clastic sediments going into a thick package of carbonate (dolomitic) rich sequences, suggesting deep water facies. Whistle Duck drill holes encountered 25-35 meters of sandstone, gravel and conglomerate before encountering the Devils Marbles granitic intrusive. Assays were selected on the basis that dolomitic deep water and intrusive rocks would not contain phosphate.

Figures 13 (Barkly) and 14 (Brunchilly) are isopach maps showing scores that are factors of interval thickness by grade (Ore Score) for all drilling done over the project area. It shows that the most prospective area resides in tenement EL27198 of Barkly. Outlining a geometry that contains a Vale target size resource but with a grade that is far below 17% P_2O_5 cutoff. It also shows that the shape of the high phosphate zone in Barkly is elliptical with a highpoint just off centre.

Figure 13: Barkly ore score isopach map



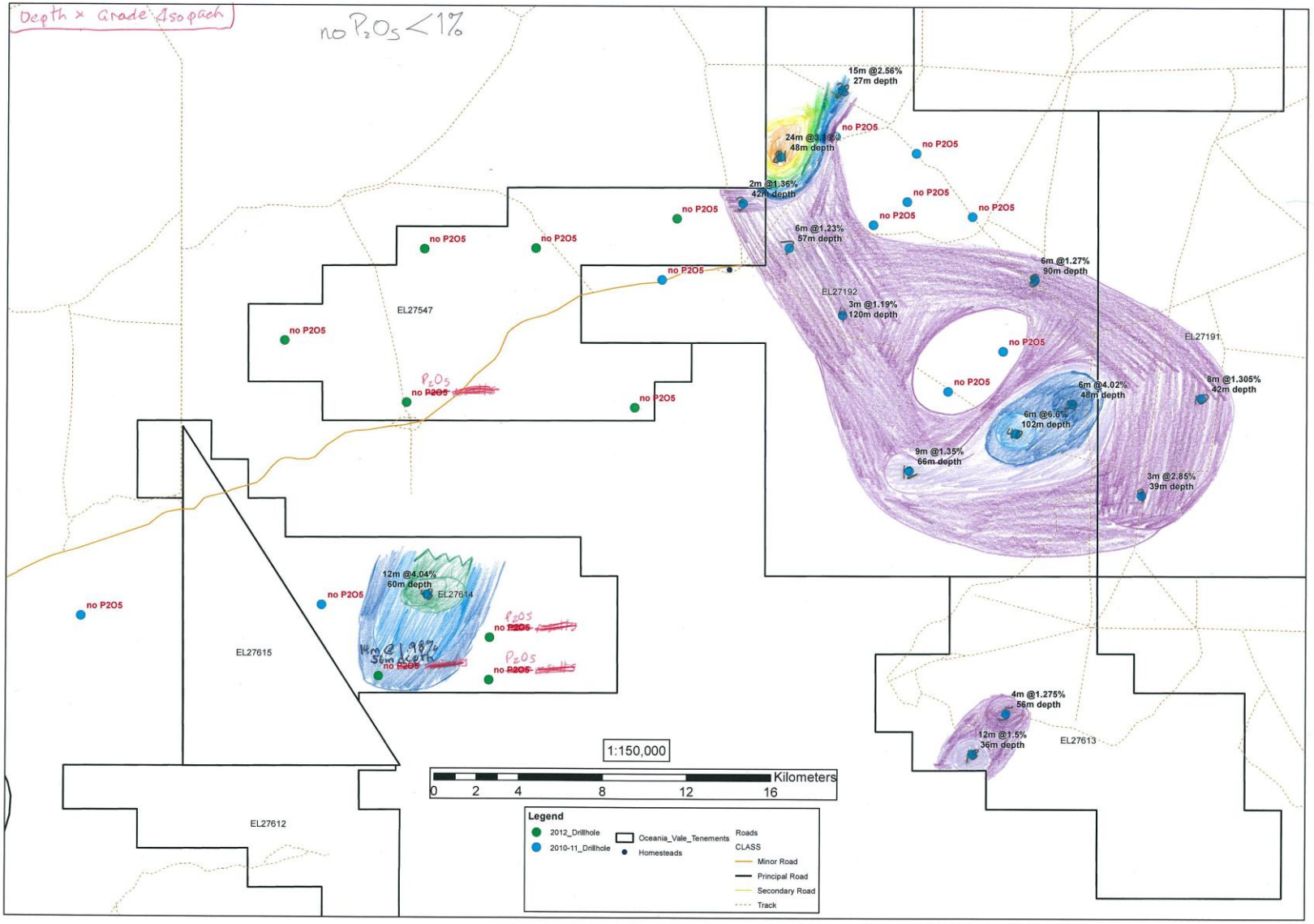


Figure 14: Brunchilly ore score isopach map

Figure 15 shows the location of cross section A-A' and B-B' which are displayed in Figures 16 and 17 respectively. These two cross sections are through the most prospective area of Barkly and help further illustrate the geometry and grade of the most prospective phosphate ore zone from Georgina exploration. In general it is apparent that mineralisation and mineralisation thickness increases when it is encountered at shallower depths. This fits with the model of mineralisation being concentrated on basement highs. In this case the basement high is the Helen Springs volcanic unit encountered at the end of holes VGRC090 and VGRC095 and in VGRC077 and VGRC078 (interpreted as such but logged as saprock) drilled in 2011. For detailed drill sections refer to Appendix 2.

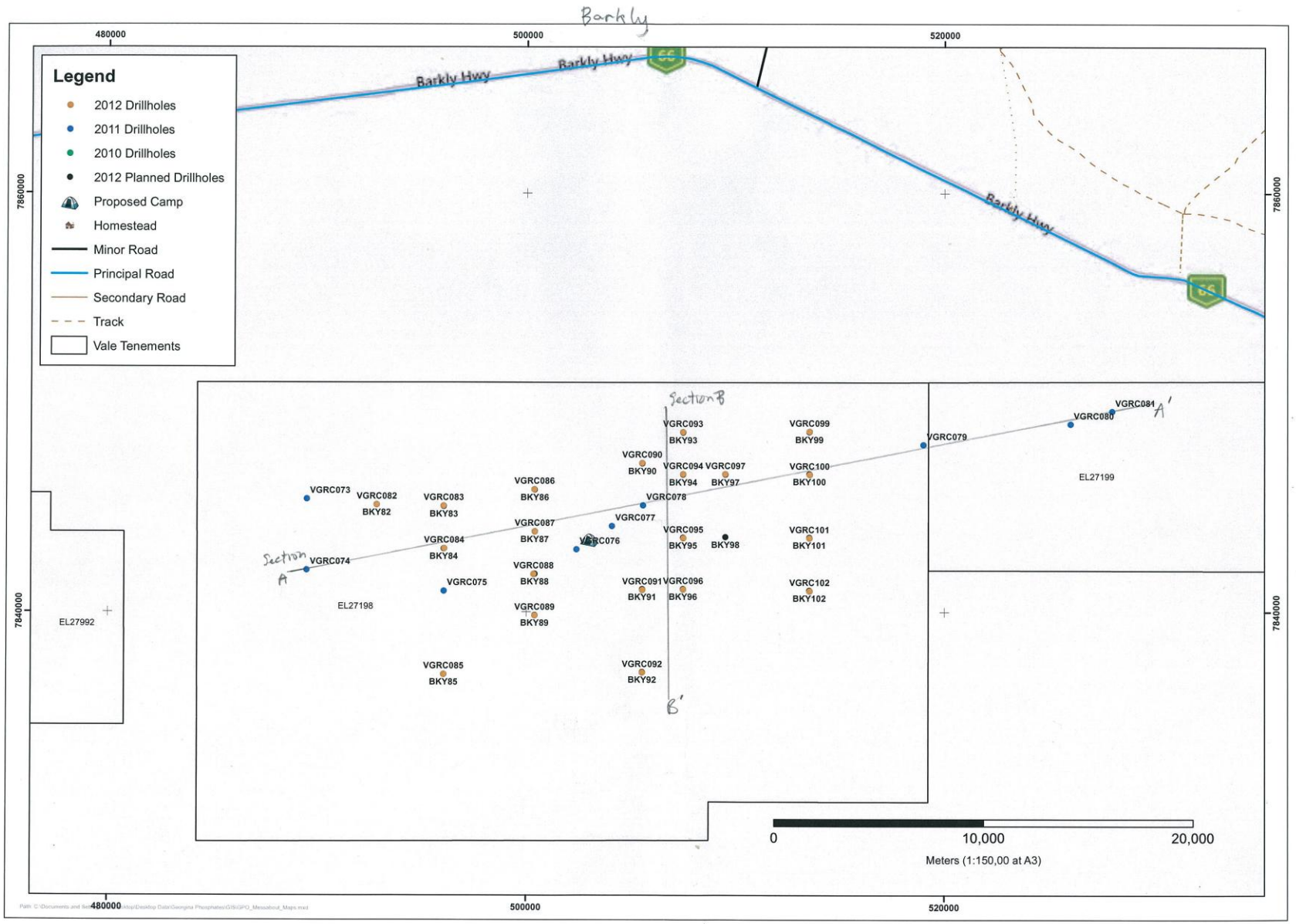


Figure 15: Barkly cross section locations

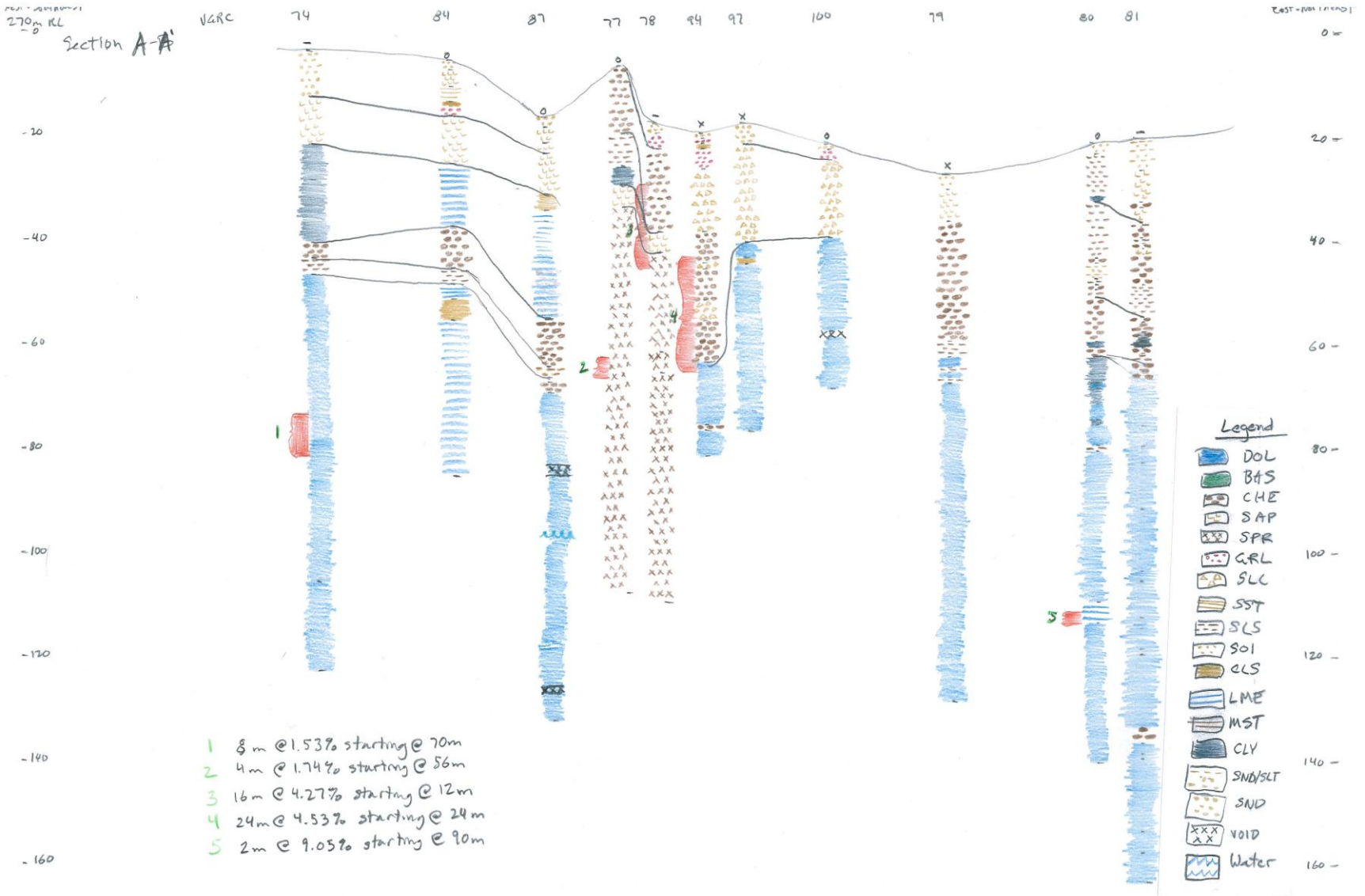


Figure 16: Barkly cross section A-A'

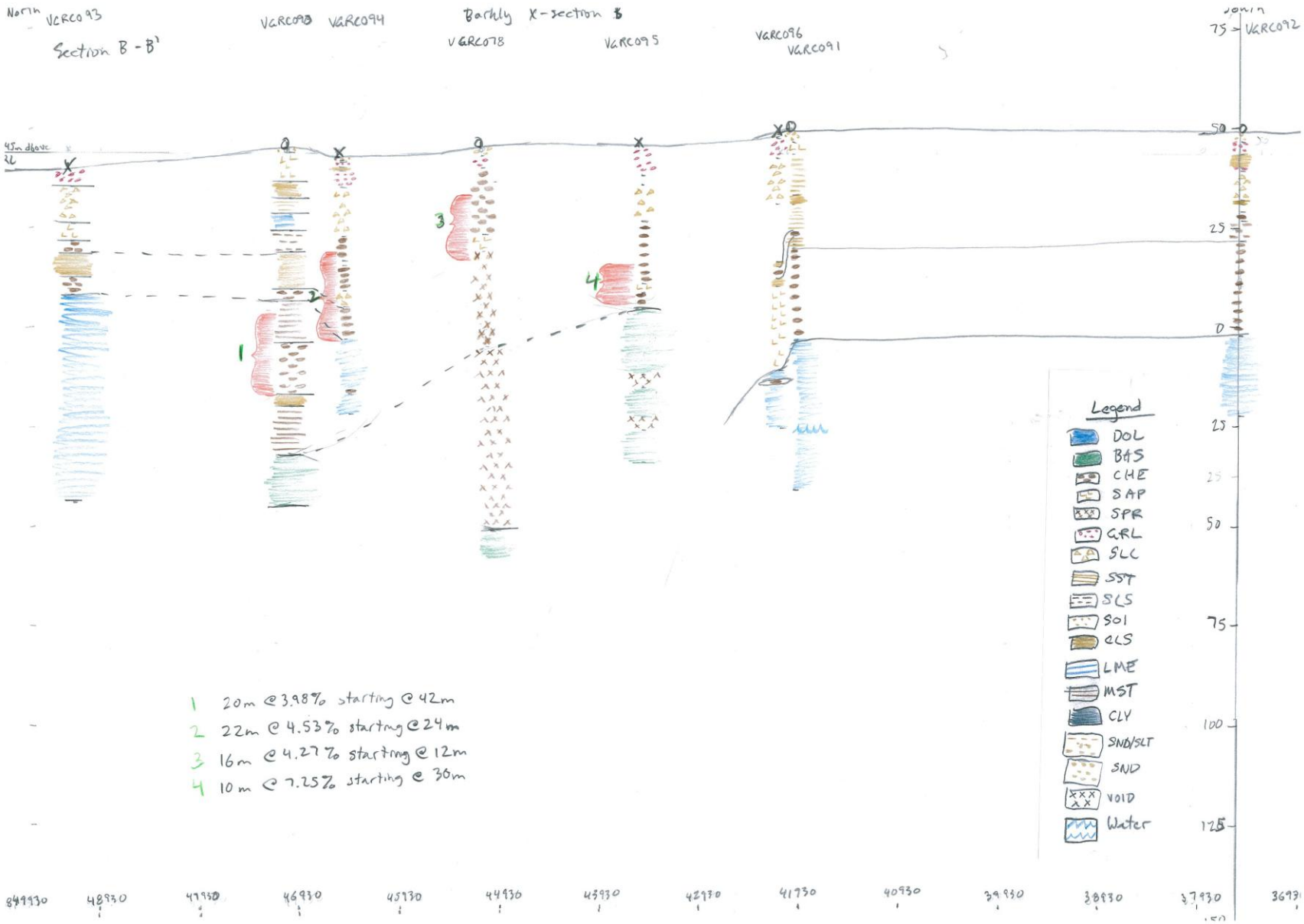


Figure 17: Barkly cross section B-B'

A map from the most prospective area of Barkly outlines a rough ore shell for grades of 1, 3 and 9% (Figure 18). It is uncertain whether the grades would connect between drill holes but for illustrative purposes and assuming no major changes in grade the shapes drawn are the ideal and most prospective results attained for phosphate from drilling in the Georgina basin.

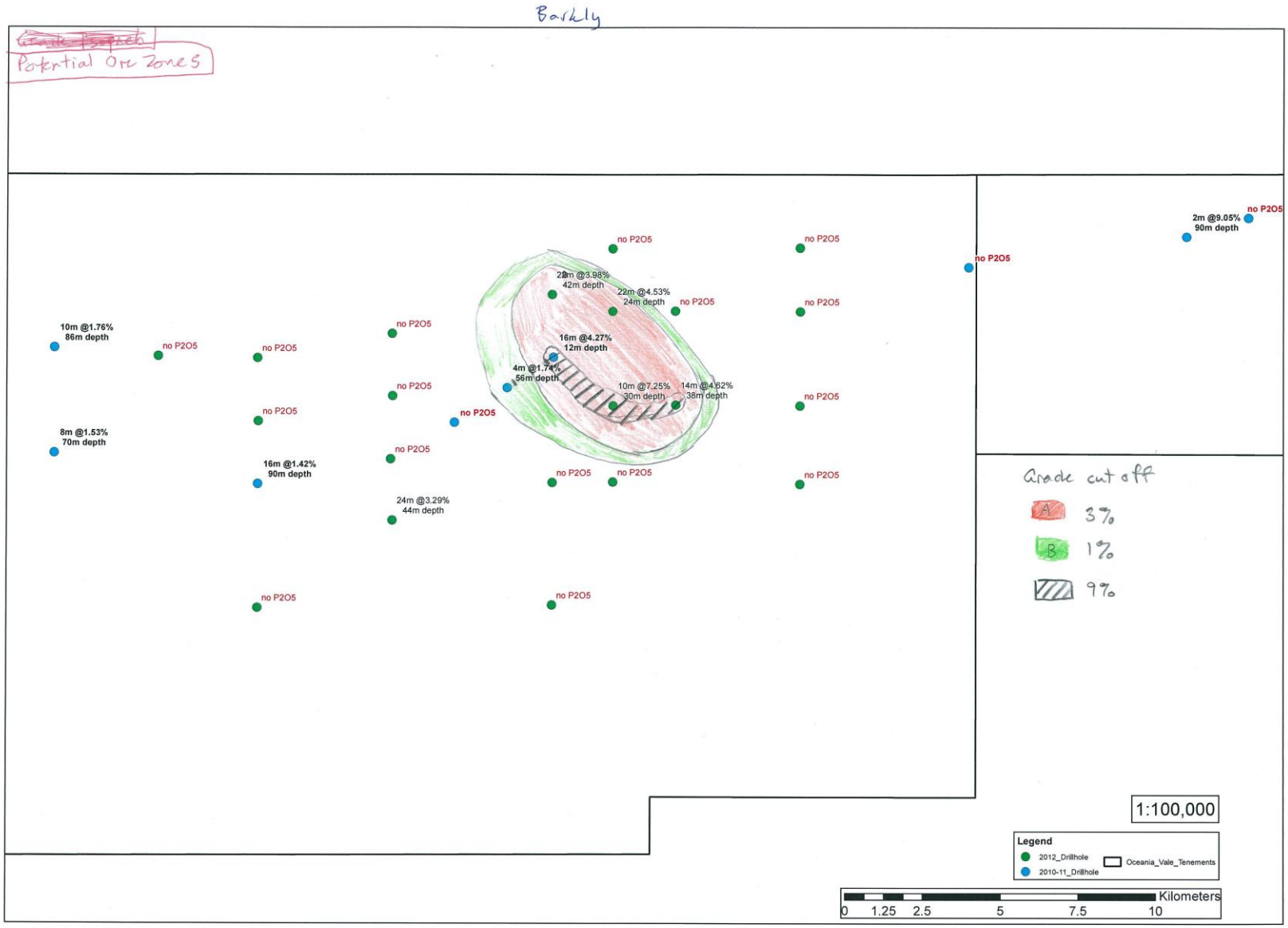


Figure 18: Barkly potential ore zones

A very simple model was used to determine the area that a deposit of desired tonnage and grade would fit into (refer to Appendix 2). The morphology of the embayment that contains the 1% P_2O_5 shell in Barkly is roughly 5km x 9km x 15m thick. This gives a 6.75 x 10^8 m^3 volume which at 2.0tons/m^3 give 1.35 x 10^9 ton deposit size. Vale's target size for phosphate is a 100 million tons deposit at 17% P_2O_5. The volume of phosphorite discovered is substantially larger than the minimum desired but the grade is far too small for the reserve to be feasible or warrant further drilling.

More detailed analysis of Barkly drill data indicates that mineralisation lies in chert-rich zones that are just above and fringing a shallow area of Helen springs volcanics. The Helen springs volcanics is a separate formation from the Georgina basin lithounit, the bottom of which is expected to contain the richest P_2O_5 phosphorite. Holes that do not encounter basalt get into thick packages of silicified dolomite sequences that are mostly fresh but can be variably weathered, interpreted to be deeper areas of the Georgina basin and hence phosphate poor. Above the sequence of carbonate and volcanic rocks, clastic intervals of variable thickness and weathering are typical. Chert that is relatively barren of phosphate can be encountered at shallower depths even in the main mineralised zone. The weathering profile goes to depths between 10-30m from surface and the intensity can be moderate to completely texture destructive. There is no phosphate enrichment in the weathered zone. Sand and/or soil are common from surface for a meter or up to five meters.

For a full list of drill results and other drill reference material refer to Appendix 2.

6.4 Sample preparation and analysis

A total of 1259 2m composite samples were gathered from 34 RC drill holes for a total of 2371 m. These samples were riffle split immediately at the rig. Each 1m sample was passed through the riffle splitter as soon as it came from the sample return and the sample bags were tied and gathered once they contained 2m of drill chips, unless the hole ended on an odd number or if void space was encountered (voids were encountered on a few holes in Barkly). 923 of the 1259 samples were sent to ALS Chemex for analysis. Four batches were sent to ALS with the largest being approximately 500 samples. Preparation of the samples included:

- WEI-21 – weigh and dry
- CRU-21 – crush
- SPL-21 – split
- PUL-24 – pulverize entire sample to nominal 85% passing 75 microns.

Analysis performed on each sample was ME-XRF24 which tested for the following analytes: Al_2O_3, CaO, Fe_2O_3, K_2O, MgO, MnO_2, Na_2O, P_2O_5, SiO_2, TiO_2 and LOI at 1000C reporting all values in percent with a 0.01% detection limit.

7 Conclusion

Exploration for phosphate at the Georgina Project was completed between July-August and consisted of targeted Reverse Circulation (RC) drilling. For financial reasons a total of 34 of the 60 RC drill holes planned were completed and a short mapping exercise in the Whistle Duck tenements gathered 21 rock chip samples.

Of the total drilling 6 of the 34 drill holes returned assays with intervals above 1% and longer than 2m. The best result coming from the Barkly area with a section of 22m @ 4.53% P_2O_5 from 24m in VGRC 094. Although the assays returned contain the highest-grade phosphate numbers to date and the volume of phosphorite present is desirable it is evident from the data that the grade is not nearly high enough to reach the average cut off of 17% P_2O_5 for phosphate ore.

Due to the similar, although slightly higher, results from Georgina as in years past it is the recommendation that no further exploration be undertaken by Vale for phosphate in the Georgina basin and that the tenements are relinquished.

APPENDIX 1

ROCK CHIPS - ASSAY LABORATORY RESULTS

APPENDIX 2

DRILL HOLE DATA - DIGITAL COLLAR, SURVEY, ASSAY, LITHOLOGY

APPENDIX 3

PDF FILES OF REPORT FIGURES