Ground Water Assessment

Suplejack/Tregony Gold Project

ORD River Resources

Revision No 1
July 2013

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Report

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Table of Contents

Figures

Tables

Appendices

Executive Summary

Background

Pendragon Environmental Solutions Pty Ltd was engaged by EcOz, on behalf of ORD River Resources (ORD), to undertake a desk study assessment of ground water resources around the vicinity of the Tregony and Crusade deposits at Suplejack Northern Territory.

Objectives of investigation

The primary aims and objectives of this desktop ground water investigation are to assist with:

- the preparation of an Environmental Impact Assessment for the project and
- in selecting potential drilling targets for production bores,

by investigating and assessing:

- all readily available and relevant hydrogeological data around the Tregony and Crusade deposits,
- likely sustainability of ground water reserves, and
- ground water quality.

Scope of work

The scope of works entailed:

- A detailed desktop study and assessment of the geological, hydrogeological and hydrogeochemical data gathered during earlier investigations.
- Compile a report with conclusions and recommendations pertaining further requirements for investigation, bore installation, testing and sampling.

Hydrogeology of the Area and Implications for Mining

Significant groundwater yields up to 3.8L/s at intermediate depths ranging between 40mbgl and 50mbgl are related to fractured siltstones with occasional interbedded sandstones and gravels. Deep fractured basalts and gneiss (more than 50mbgl) also host significant water yields, up to 2.0L/s. Near surface shallow ground water regimes have low ground water yield capacity, in the order of <0.5 L/s, and sustainability of these systems would be an impediment to large scale exploitation of ground water.

The demand for water during care and maintenance of the camp is low: <0.1L/s. Exploration activities will require about 0.5L/s whilst the water demand for construction, processing and mining would increase exponentially increase to between 20L/s and 45L/s.

Current water demand for both consumption and exploration needs are met by two existing bores. Whilst these bores seem capable of meeting the water requirement for the camp and exploration (Table 1), they would not be able to meet or sustain the water requirement for construction and/or mining.

Based upon average yields, a large number of bores will be required to meet the water requirement for processing and mining. However, interpretation of Google photography indicates the presence of several geological structures which appear to provide suitable drilling targets (to be confirmed on the ground with geophysical surveys) for high yielding production bores with relative good quality water.

Exploration of these targets will require a refined water balance and application to the DME/DLPE.

1. Introduction

1.1 Background

Pendragon Environmental Solutions Pty Ltd was engaged by EcOz, on behalf of ORD River Resources (ORD), to undertake a desk study assessment of ground water resources around the vicinity of the Tregony and Crusade deposits at Suplejack Northern Territory (Figures 1 and 2).

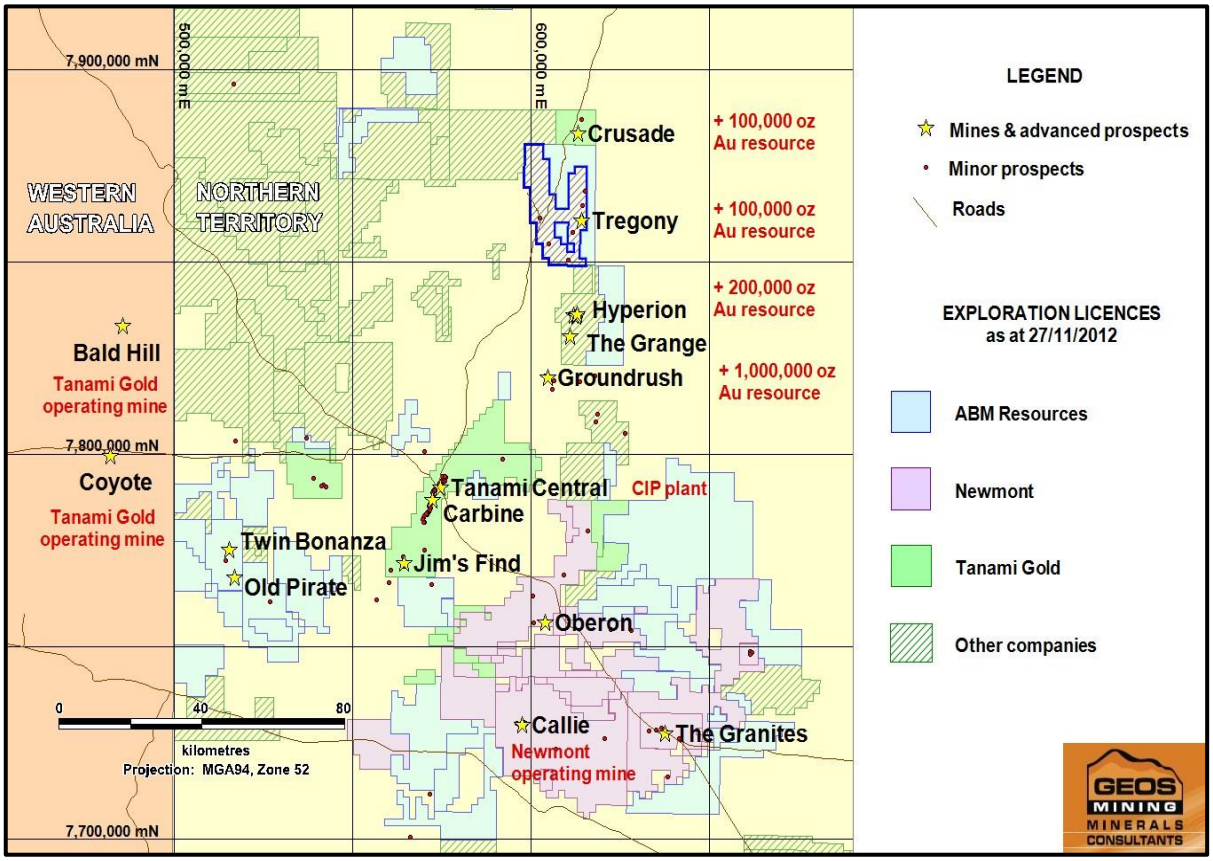

Figure 1: Regional Location of Crusade and Tregony Deposits.

ORD are targeting an aggressive drilling campaign for the 100% owned Suplejack Gold Project based in the Tanami region of the NT. The Tregony resource is located on the same structure or 'the Suplejack' shear.

The Suplejack Project, also include the Crusade, Thomas and Boco areas. Crusade is located 100km north-east of the Tanami mill and lies on tenement ML172 (Figures 1 and 2). Geological interpretation of the mineralised systems indicates the mineralization occurs in some twenty separate quartz veins with a number of them closely associated. Whilst ore mineralization in Crusade tends to be wider in nature with various grades, mineralization at Thomas varies from 59m to deeper than 71m. Limited drilling took place at Boco with mineralization from 66m.

ORD recently collected rock chip samples along the gold prospective Five Mile, PhD and PhD North trend on the western portion of the current license area. These chips have been submitted for gold and multi-element analysis with results expected in the coming weeks. Additionally, potential drill sites at the Tregony prospect were also assessed in preparation for drilling which will target extensions to the known gold mineralisation.

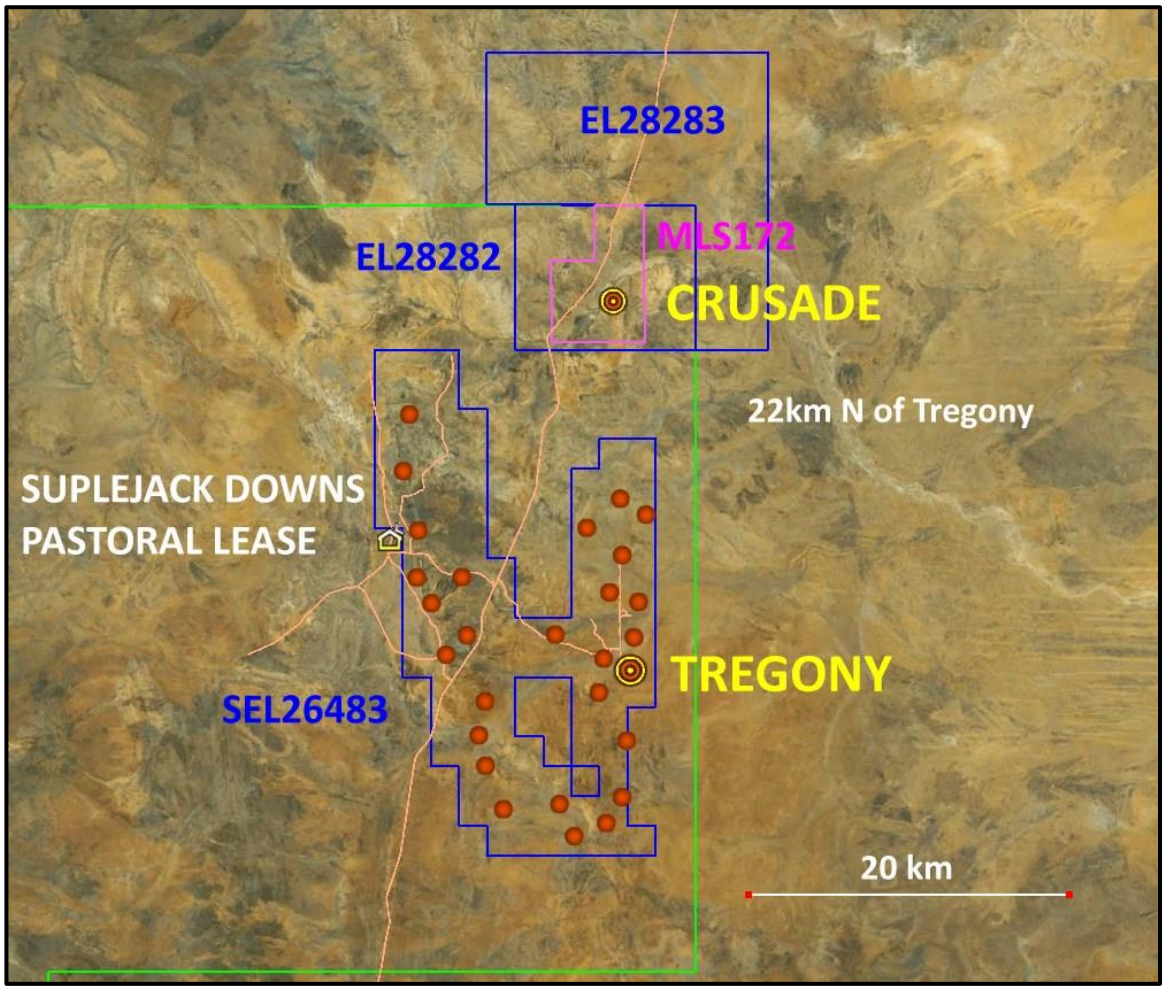

Figure 2: Tregony and Crusade Prospect Areas.

1.2 Objectives

The primary aims and objectives of this desktop ground water investigation are to assist with:

- the preparation of an Environmental Impact Assessment for the project and
- in selecting potential drilling targets for production bores,

by investigating and assessing:

- all readily available and relevant hydrogeological data around the Tregony and Crusade deposits,
- likely sustainability of ground water reserves, and
- ground water quality.

1.3 Scope of Work

The scope of works entailed:

- A detailed desktop study and assessment of the geological, hydrogeological and hydrogeochemical data gathered during earlier investigations.
- Compile a report with conclusions and recommendations pertaining further requirements for investigation, bore installation, testing and sampling.

2. Project Description

2.1 Brief Project Description

The Tanami Region contains several major gold deposits, including Tanami Gold's Groundrush mine (40km to the south), ABM Resource's Hyperion gold exploration project (25km to the south) and Newmont's Callie Mine (135km to the south). Airfields are situated at Tanami Gold's Central processing plant (78km south of SEL26483) and at the Suplejack Downs Station.

The project is located within easy access to essential infrastructure and to existing gold processing facilities. Access to the tenement is via Stuart Highway (sealed) and the Tanami Road (mostly unsealed) from Alice Springs to Tanami Central Gold Mine, then via the Lajamanu Road to Suplejack Downs Pastoral Lease, a total distance of around 750 km. Intermittently maintained pastoral tracks provide access to the various prospect sites within the tenement.

2.2 Water Requirements

Potable water for the camp is obtained from the 5 Mile Bore (11km west of Tregony) through an arrangement with the owners of Suplejack Downs Station. Water for drilling programs is obtained from a water bore drilled by ORD (RN012456, 3.6km northwest of Tregony camp), which was left open at the end of the drilling program for use by the station owners.

Current and short term water requirements are tabulated below:

Table 1: Water Demand.

Year	Potential Requirement (L/s)	Primary Source	Additional Source	Proposed Activities
2013	<0.1	5 Mile Bore	NIL	Camp care and maintenance
2014	0.5	5 Mile Bore and RN012456	Implement new bore(s)	Camp care and maintenance (February to March), exploration drilling program (June to September): 10,000L/day to 20,000L//day
2015	0.5	5 Mile Bore and RN012456		Pre-feasibility site activities (May to October) and exploration drilling program (June to September): 10,000L/day to 20,000L//day.
2016	3.2 (estimated peak) 20 to 45	Implement bore-field and investigate other water sources		Road construction, mine infrastructure and mill commissioning following by commencement of mining: 50,000L/day to 70,000L//day. Toll/Heap Leach or CIL.
Processing options include heap leach, gravity +/- CIL or toll treatment. Preliminary economic analysis suggests toll treatment likely with heap leach. Water requirements for heap leach could be ~500 ML for 6 months leach cycle (10L/m^2/hr) assuming 200,000t per annum production. For CIL on site processing expect 30% to 40% more water accounting for about 1,300 ML per annum similar production rate.				

3. Topography, Climate and Hydrology

3.1 Topography

The region is generally characterised by breakaways and low relief terrain with a regional fall to the inland drainage areas of Lake Buck and associated salt pans. Aeolian sand is widespread and up to several metres thick (Temby, 2007). The vegetation is dominated by desert scrubland and sparse woodlands with abundant Spinifex grasses. Some good grassland occurs around the Suplejack Downs Homestead.

3.2 Climate

Mean annual rainfall for Rabbit Flat (100km south of Suplejack Downs) is 426mm with a mean number of 35 rainfall days. Approximately 75% or 330mm rainfall falls during the months November to March. Mean maximum temperatures for Rabbit Flat range from 25.9°C in July to 39.2°C in December (Figure 3). Mean minimum temperatures range from 6.6°C in July to 23.6°C in January.

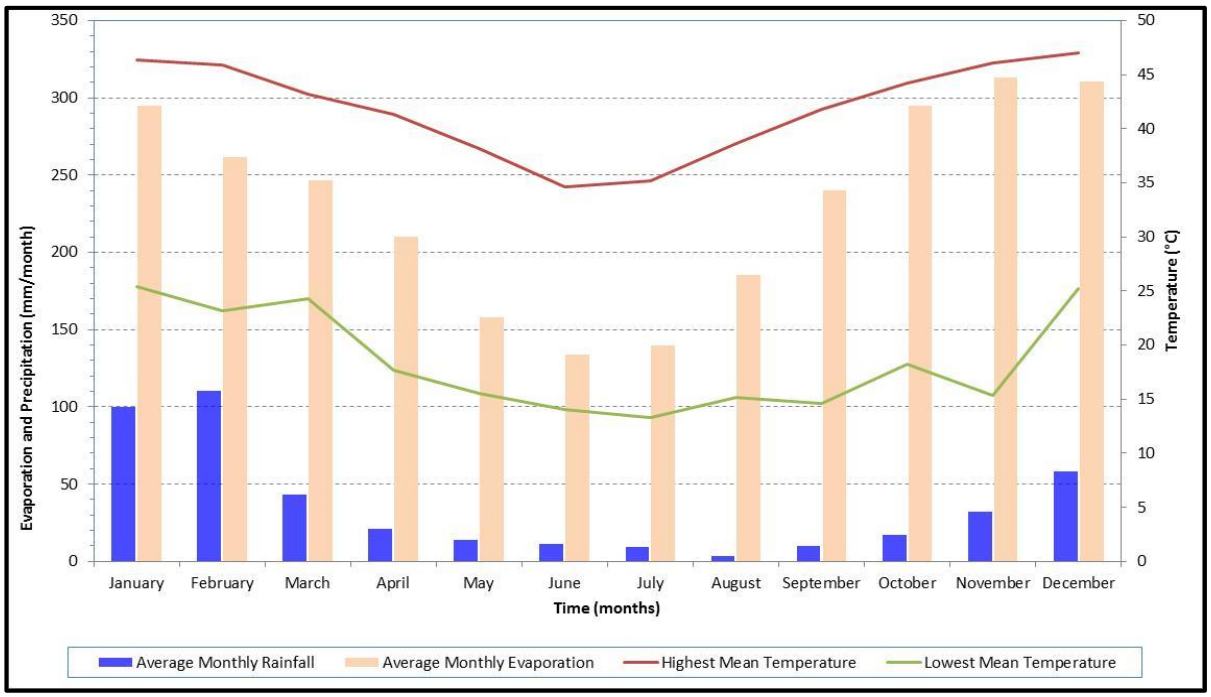

Figure 3: Climate Data at Rabbit Flat Station.

Annual evaporation exceeds rainfall by about 6 times indicative of a semi-arid climate characterised by hot, dry summers and moderate to mild winters, typically with low average rainfall.

3.3 Hydrology

The local catchments around Suplejack are generally well defined due to the local relief. In this area several ephemeral creeks such as Wilson and Nanny Goat Creeks drain the eastern side of the plateau. Birthday Creek, the primary surface water course in the area close to the Suplejack Downs Homestead, is relatively well defined. Although ephemeral, most of the creeks are flooded during the wet season. Lake Buck and associated salt pans control the local inland drainage.

4. Ground Water Assessment

4.1 Regional Geology

The Tanami Group which was deposited on the extended Achaean basement underlies the area and is termed to be equivalent to the Pine Creek Geosyncline sequences and to the Eastern Halls Creek Belt.

The Dead Bullock Formation is the basal unit in the Tanami Group, dated at about 1,840Ma. The MacFarlane Peak Group consists of mafic volcanics, turbiditic sandstone, siltstone and minor calc-silicate. The Killi Killi Formation is dated at approximately 1,835Ma and consists of fine grained turbiditic sediments, mostly siltstones, some of which are carbonaceous, and also rare cherts and calcareous units. Dolerite sills were intruded into the Killi Killi Formation during deposition.

The Tanami Group was deformed and regionally metamorphosed to greenschist and amphibolite facies at about 1,830Ma by the Tanami Orogenic Event (TOE) and is unconformably overlain by the Ware Group. The Ware Group consists of basal Mount Winneke Formation, the Nannygoat Volcanics and Wilson and Century Formations. The Century Formation consists of conglomeratic sandstone, siltstone and fine-grained sandstone and is overlain by lithic sandstone, quartz sandstone and siltstone of the Wilson Formation. The Nannygoat Volcanics within SEL26483 area have been identified as feldspathic quartz sandstones, some of which are lithic and pebbly to cobbly, olivine basalts and fine grained felsic igneous rocks including dacites, some of which may be ignimbrites.

Mineralization located throughout the Tanami region is associated with faulted and sheared hinge zones within tightly and complexly folded sediments and volcanic rocks.

4.2 Local Geology

Gold mineralization across the Suplejack Project occurs within dilatant zones and interpreted fault and shear intersections within stratigraphy dominated by the Dead Bullock Formation, Killi Killi Formation, and Suplejack Downs Sandstone. Graphitic units and banded iron formation of the Callie Member of the Dead Bullock Formation host most lode-gold deposits in the Tanami Region (Huston *et al*, 2007). The Killi Killi Formation, which consists of turbiditic siliciclastic rocks, also hosts gold, but is less extensively mineralised.

The Suplejack Downs Sandstone, consists of fine grained quartzose sandstone units with thick interbedded siltstone units and structural interpretation refers the Suplejack Downs Sandstone was folded with the regional scale Tanami Synform and is cut by the structures that control gold mineralisation at Tanami. The structural history, molasse type lithologies and probable unconformable relationship to the overlying Birrindudu Group suggests it may be an equivalent of the Pargee Sandstone. Thrust faults that appear to be mineralised are present in the Suplejack Downs Sandstone immediately west of the Boco prospect area. Overlying this plat-formal cover is Cambrian age Antrim Plateau Basalt. Alluvium, partly related to paleochannels, is present overlying other lithologies.

Because of similar lithologies, the Suplejack Downs Sandstone is normally correlated with the Birrindudu Group. Though, earlier stratigraphic interpretations suggest that the Suplejack Downs Sandstone underlies the Birrindudu Group.

Recent investigations at the Tregony prospect indicated that gold bearing quartz veins that may have previously unrecognized appears to extend north and south of the current, near surface mineralized zone “plunge” component of relatively higher grades. The Five Mile to PHD North Trend, composed of quartz veining and altered rocks also resulted in up to 380 ppb, confirming that the Five Mile to PHD structure may have been a conduit for gold mineralization.

In conclusion it appears that potential ground water aquifers will occur in fractured, faulted and sheared bedrock underlying weathered strata of variable thickness.

4.3 Hydrogeology

4.3.1 Background Data

The data gathered from a search of registered bores (Northern Territory Land Information System) around 25 km from the Suplejack Pastoral Lease Station may be found in Appendix A including detailed physical and chemical details. Several bores were reported to be *dry* and/or *not available*.

Four of the registered bores are within a 5km radius from the Pastoral Station (Table 2), seventeen boreholes are located within the 10km radius (Table 3) and 5 boreholes are around the 15km radius. Most of the boreholes were installed prior to 2003 at an average depth of 47mBGL (metres below ground level).

Table 2: Bores within a 5km radius from Suplejack Pastoral Lease.

RN Number	Grid Reference			Date of Completion	Total Depth (m)	Yield (L/s)
	Zone	Easting	Northing			
RN011281	52	598773	7863251	1/01/1971	35	-
RN004668	52	602128	7861518	7/10/1964	47	1.2
RN011280	52	602378	7861418	1/01/1971	12	-
RN011279	52	601460	7856823	1/01/1991	9	-

Table 3: Bores within a 10km radius from Suplejack Pastoral Lease.

RN Number	Grid Reference			Date of Completion	Total Depth (m)	Yield (L/s)
	Zone	Easting	Northing			
RN015291	52	593755	7861233	12/04/1988	90	0.25
RN015293	52	594695	7858525	13/07/1988	120	0.25
RN015292	52	593908	7857639	12/07/1988	60	-
RN011278	52	600365	7854027	1/01/1971	9	-
RN015294	52	607475	7855437	14/07/1988	90	-
RN015450	52	605188	7865704	8/05/1989	53	2.00
RN012436	52	611221	7864218	22/11/1979	40	-
RN018023	52	602468	7853469	28/10/2003	24	-
RN018021	52	602436	7851312	26/10/2003	73	-
RN018024	52	609303	7853470	29/10/2003	49	2.50
RN004592	52	598817	7867368	18/09/1964	61	1.20
RN010065	52	599225	7867854	3/02/1971	24	0.95
RN014675	52	596108	7869194	2/11/1986	30	3 (poor quality)
RN006973	52	599140	7867863	13/02/1970	30.5	0.63
RN015302	52	599140	7867863	20/08/1988	42	1.80
RN006974	52	599077	7867917	20/02/1970	18.3	1.26
RN007188	52	599137	7868160	5/04/1970	24.4	0.32

Table 4: Bores within a 15km radius from Suplejack Pastoral Lease.

RN Number	Grid Reference			Date of Completion	Total Depth (m)	Yield (L/s)
	Zone	Easting	Northing			
RN014344	52	608314	7867993	5/07/1985	66	Seepage
RN015296	52	610535	7868461	16/07/1988	68	2.50
RN015297	52	606031	7871148	17/07/1988	98	1.13
RN011277	52	599488	7850468	1/01/1971	39	-
RN011276	52	598628	7847689	1/01/1971	10	-

Registered bores within the Tregony prospect area are indicated in Figure 4. Bore RN015293 is the deepest at 120mBGL and is within 10km from the Pastoral Lease to the west. Some of the bores were reported to have been either partially or fully backfilled to the ground level (e.g. RN015293).

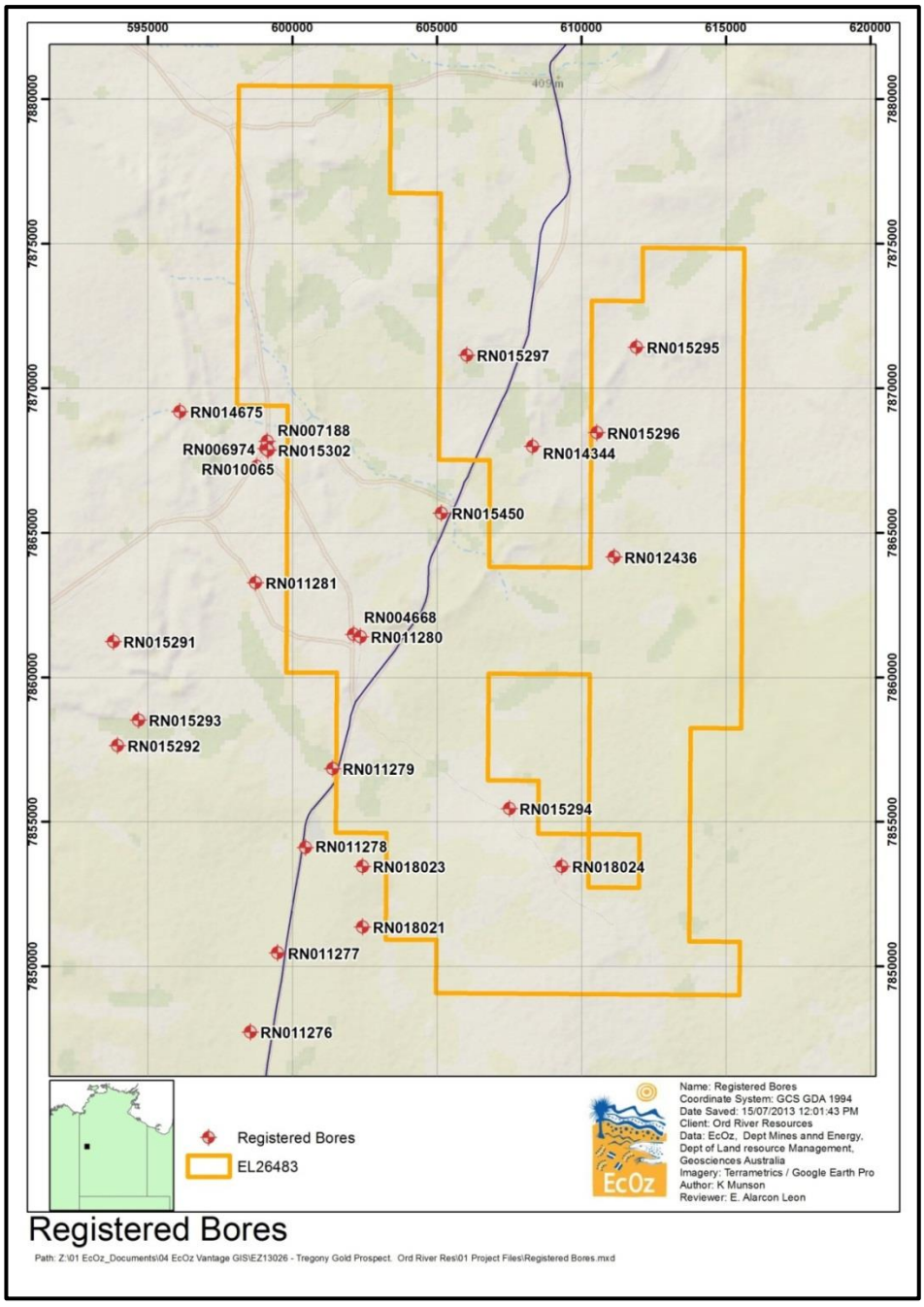

Figure 4: Registered Bores within the Tregony Prospect.

4.4 Ground Water Strikes and Water Yields

4.4.1 Ground Water Strikes

Ground water was encountered between 7.0mbgl and 76.0mbgl (Table 5). Whilst the shallow water strikes in bore RN004668 is within a 5 km radius, the deepest water strikes among basalt with bands of shales are in bores 15km from the Pastoral Lease to the north-east of the Tregony Prospect. The deepest water strike (76mbgl) is within sandstone units which locally overlay basalt and underlay siltstones.

Table 5: Lithology, Depth of Ground Water Strikes and Airlift Yields.

RN Number	Grid Reference			Lithology	Water Strike (mbgl)	Airlift Yield (L/s)
	Zone	Easting	Northing			
RN004668	52	602128	7861518	VERY FINE SILTSTONE	19.5	1.20
RN015291	52	593755	7861233	SANDSTONE	32.0	0.25
RN015293	52	594695	7858525	SANDSTONE	40.0	0.25
RN015450	52	605188	7865704	SILTSTONE/QUARTZ VEINS	31.0	2.00
RN018024	52	609303	7853470	SILTSTONE/QUARTZ VEINS	43.0	2.50
RN004592	52	598817	7867368	BROWN SHALE	28.98	1.20
RN010065	52	599225	7867854	LIMESTONE and RED SHALE	7.63 and 12.20	0.63 and 0.95
RN014343	52	596167	7840173	HARDEN BROWN SANDSTONE	18.00	0.25
RN012511	52	597139	7837467	HEAVY GREY CLAY	9.00	0.40
RN004593	52	597139	7837467	BROWN SANDY CLAY	9.15	0.11
RN012512	52	597139	7837467	HEAVY GREY CLAY	9.00	0.40
RN013957	52	583002	7859678	SILTSTONE & SANDSTONE	35.00	3.79
RN014675	52	596108	7869194	SILTSTONE	20.00	3.00
RN006973	52	599140	7867863	LIMESTONE & GRAVEL	10.68	0.63
RN015302	52	599140	786786	BASALT	24.00	1.80
RN006974	52	599077	7867917	LIMESTONE and GRAVEL	7.63 and 12.20	0.63 and 1.26
RN007188	52	599137	7868160	LIMESTONE & CLAY	18.30	0.32
RN014344	52	608314	7867993	SANDSTONE	48.50	
RN015296	52	610535	7868461	BASALT WITH BANDS OF SHALE	58.00	2.50
RN015297	52	606031	7871148	SANDSTONE	76.00	1.13
RN015301	52	598825	7878068	SANDSTONE	48.00	3.00
RN007187	52	598382	7872095	CLAY, GRAVEL AND LIMESTONE	13.73	0.95
RN006976	52	600132	7876162	GREY SANDSTONE	19.83	0.05
RN012438	52	595189	7880097	MUDSTONE	17.00	
RN010064	52	596706	7880256	RED SHALE and MUDSTONE	13.73 and 25.00	0.63 and 0.95
RN012474	52	597153	7880114	GRAVELL CLAY LIMESTONE	10.68	
RN007181	52	597372	7879059	LIMESTONE GRAVEL & CLAY	13.73	0.32
RN007186	52	599898	7880461	GRAVEL CLAY & LIMESTONE	13.73	0.63
RN007184	52	600132	7880162	CLAY, GRAVEL & LIMESTONE	10.68	0.32
RN007182	52	600132	7880162	CLAY, GRAVEL & LIMESTONE	13.73	0.32
RN007185	52	600132	7880162	FRACTURED GNEISS	50.00	0.42
RN018020	52	607000	7879999	FRACTURED GNEISS	73.00	2.00
Average					**25.50**	**1.09**
Maximum					**76.00**	**3.79**
Minimum					**7.63**	**0.05**

The dominant lithology in which water is encountered is sandstone between 32mbgl and 76mbgl. Siltstones generally overly these sequences and these in turn are underlying near surface limestone with clay and gravel layers. These siltstones may provide a semi-confined to confining ground water regime limiting recharge to the underlying aquifers. Mudstones, generally between 15mbgl and 30mbgl are occasionally present. Basalts and fractured gneiss are also present but generally occur below the sandstones.

4.4.2 Ground Water Yields

Most of the aquifer types within the Tregony and Crusade Prospects areas are weathered and fractured rocks and are generally of local scale. Bore yields are most likely to fall in the range between 0.05L/s and 2.5L/s (Tickell, 2011). Although there are no indications that pump testing was undertaken to accurately characterise the regional and local ground water sources and their sustainability, locally, the average yield is 1.09L/s ranging from 0.05L/s to a maximum of 3.79L/s (Table 5). These yields are most likely yields during short term airlift during bore development and as such are not suitable to ascertain bore sustainability over the medium to long term.

The highest yielding bore (RN013957: 3.79 L/s) is located at about 40km south-west from the Tregony Camp. Ground water is hosted within siltstone and sandstone units. The highest yielding (2.5L/s) bores within the Tregony area are the RN018024 and the RN15296 bores. These are located at about 8km to the south-west and north-west (Figure 5) and were drilled into fractured siltstones and basalts. The second highest yielding (1.8L/s) RN015302 bore is located about 15 km to the north-west (Figure 5) and was drilled into fractured basalts at depths of 24 mBGL.

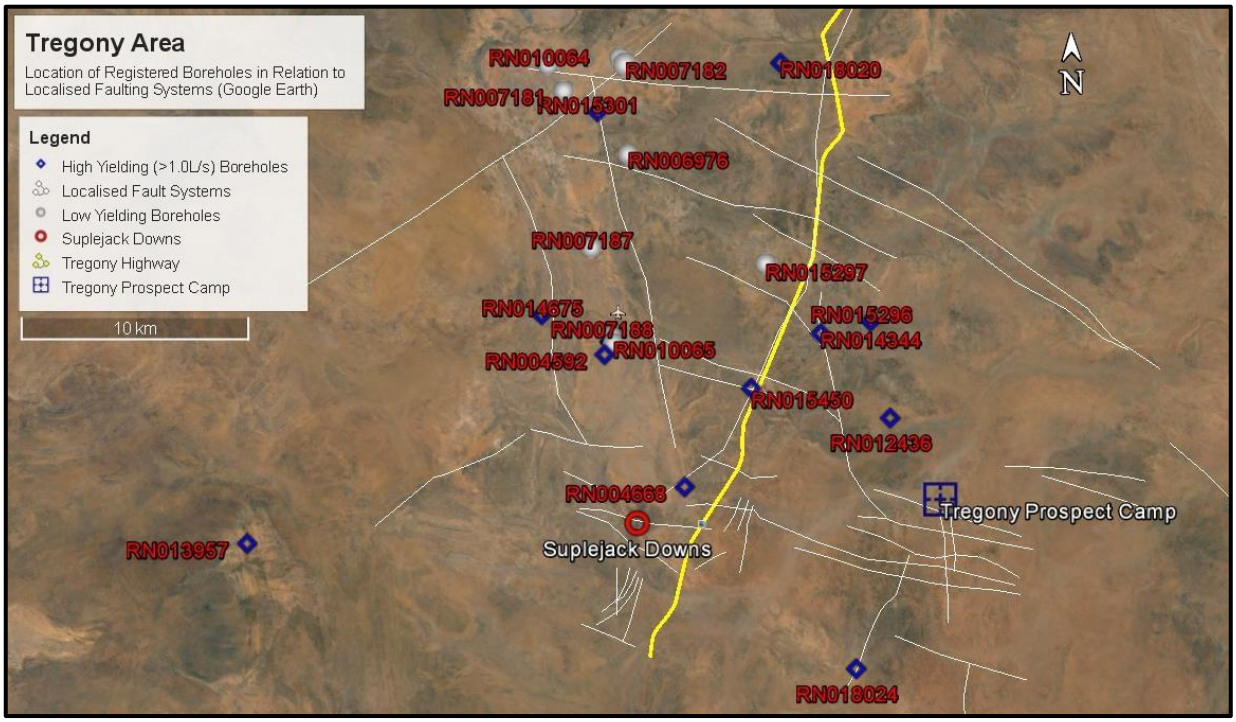

Figure 5: High Yielding Bores within the Tregony Prospect.

The sandstone units, particularly those located at intermediate (around 30mbgl) depths (e.g. bores RN015301 and RN015297) encountered significant water yields of up to 3.0L/s. The siltstone layers, particularly those that are interlayered with sandstones and gravels and are located above fractured sandstones and basalts also encountered significant water yields of up to 3.79L/s. The deeper lying

fractured basalts (e.g. RN015296 bore) and gneiss (e.g. RN007185 bore) have also significant water yields of up to 2.5L/s.

Near surface interbedded limestone, clays and gravels do not have significant yields: reported yields are generally below 0.5L/s.

4.5 Ground Water Levels

Ground water level measurements were taken after drilling. There are no recent measurements. The shallowest ground water levels are at about 9.0mbgl and the deepest at about 65.0mbgl, averaging about 28mbgl (Table 6).

Table 6: Ground Water Levels.

RN Number	Easting	Northing	Date	Ground Water Level (mBGL)	mAHD (Google Earth)	Ground Water Level (mAHD)
RN004593	597139	7837467	12/09/1964	9.2	451	441.85
RN004592	598817	7867368	18/09/1964	25.9	418	392.08
RN006976	600132	7876162	24/01/1970	65.0	421	356.00
RN006974	599077	7867917	20/02/1970	25.0	436	411.00
RN007181	597372	7879059	12/03/1970	20.0	453	433.00
RN007182	600132	7880162	18/03/1970	20.0	441	421.00
RN007186	599898	7880461	20/03/1970	20.0	441	421.00
RN007187	598382	7872095	28/03/1970	20.0	436	416.00
RN007188	599137	7868160	5/04/1970	40.0	447	407.00
RN010065	599225	7867854	3/02/1971	25.0	452	427.00
RN010064	596706	7880256	25/03/1971	23.0	448	425.00
RN013957	583002	7859678	28/02/1984	24.0	439	415.00
RN014343	596167	7840173	11/07/1985	12.4	438	425.60
RN014675	596108	7869194	2/11/1986	10.0	436	426.00
RN015296	610535	7868461	16/07/1988	47.2	420	372.80
RN015297	606031	7871148	17/07/1988	57.6	424	366.40
RN015302	599140	7867865	20/08/1988	16.1	444	427.90
RN015301	598825	7878068	20/08/1988	55.3	418	362.70
RN015450	605188	7865704	8/05/1989	29.0	455	426.00
RN018020	607000	7879999	26/10/2003	33.5	465	431.50
RN018024	609303	7853470	29/10/2003	13.6	451	437.40
Average				**28.18**	**439.71**	**411.53**
Maximum				**65.00**	**465.00**	**441.85**
Minimum				**9.15**	**418.00**	**356.00**

Regional ground water flow appears to be to the north and north-east. However to the north and north-east of the Tregony Prospect ground water seems to drain to the south, south-east forming a likely sink system within the area. This would need to be confirmed by further targeted ground water investigations.

4.6 Ground Water Quality

Measurements of ground water quality were obtained on completion of the bore. Regional groundwater quality is characterised with circumneutral pH and a slightly elevated electrical

conductivity (1,403µS/cm) ranging from 200µS/cm to 4,020µS/cm. Total dissolved solids (TDS) are also relatively high with an average of 910mg/L ranging from 329mg/L to 2,498mg/L (Table 7). Salinity as expressed by sodium chloride (NaCl) ranges from 33mg/L to 1351mg/L averaging 314mg/L. These waters can be classified as being fresh to brackish and can be used for human consumption and other uses such as domestic, irrigation and stock (Tickell, 2011).

Waters from bores RN015297, RN015450 and RN007188 in the northern part of the Tregony Prospect were previously classified as being suitable for drinking, whilst none of those located within the central and southern parts were deemed suitable but with similar drinkable characteristics. The lithologies in which the water was encountered are predominantly claystone and limestone.

Hydrogeochemical assessment of water within the Tregony Prospect area indicate that all waters are very hard (>181mg/L of calcium carbonate concentration) with an average of 609.7mg/L $CaCO_3$. Whilst waters of the northern and central parts of the Tregony Prospect are Base Exchange waters of the Ca-Na HCO_3 type, waters from the southern parts of the area are recharging waters of the Na-Cl $(HCO_3)_2$ types (Figure 6 overleaf).

Table 7: Regional Ground Water Quality.

Analytes	Units	Average	Maximum	Minimum
pH lab	pH unit	7.89	8.5	7.3
Conductivity Lab	uS/cm	1403.42	4020	200
TDS	mg/L	910.76	2498	329
Total Hardness	mg/L	384.45	551	179
Bicarbonate	mg/L	594.71	937	245
Carbonate	mg/L	6.33	19	0
Total Alkalinity	mg/L	479.77	750	201
Calcium	mg/L	39.31	86	6
Chloride	mg/L	157.19	820	2
Sulphate	mg/L	91.69	446	17
Fluoride	mg/L	0.71	1.8	0.4
Magnesium	mg/L	101.03	760	29
Sodium Chloride	mg/L	313.55	1351	33
Nitrate	mg/L	14.89	39	1
Silica	mg/L	55.38	101	12
Sodium	mg/L	168.90	488	49
Total Iron	ug/L	2.96	23	0.1

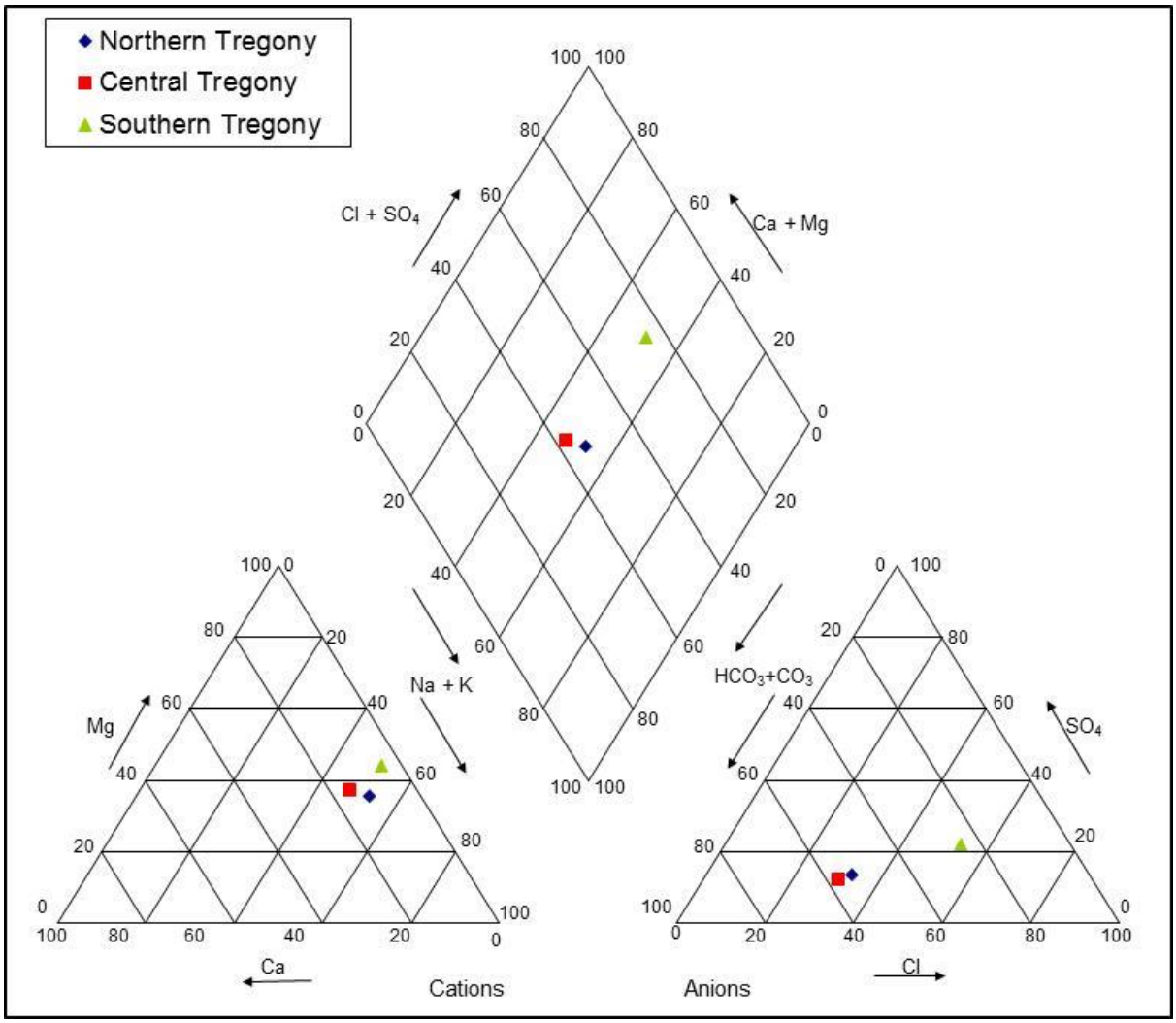

Figure 6: Piper Diagram of the Tregony Prospect Area.

5. Implications for Mining

Significant groundwater yields up to 3.79L/s are reported to be related to fractured siltstones with occasional interbedded sandstones and gravels. These are normally located at intermediate depths ranging between 40mbgl and 50mbgl. Deep fractured basalts and gneiss (more than 50mbgl) also host significant water yields, up to 2.0L/s. Near surface shallow ground water regimes have low ground water yield capacities, in the order of <0.5 L/s and thus sustainability of these systems would be an impediment to large scale ground water exploitation.

The demand for water during care and maintenance of the camp is low <0.5L/s. Exploration activities requires about 0.5L/s but the water demand would exponentially increase to between 60L/s and 90L/s for the construction of roads and mine infrastructure and subsequent commissioning of a mill and mining.

Current water demand for both consumption and exploration needs are met by:

- Bore RN004668, 11km west of the Tregony Camp.
- An unregistered bore (Bore RN012436 ?), 4km north-west of the Tregony Camp.

Reported yields for these boreholes are about 1.2L/s and 1.0L/s respectively; thus a total of 2.2L/s. These bores seem capable of meeting the water requirement for the camp and exploration (Table 1) but would not be able to meet the water requirement for construction and/or mining (estimated at between 20L/s and 45L/s). Based upon average yields, a large number of bores will be required to meet the water requirement for processing and mining.

Structural features as depicted in Figures 5 and 7 appear to provide suitable drilling targets (to be confirmed on the ground with geophysical surveys) for high yielding production bores with relative good quality water.

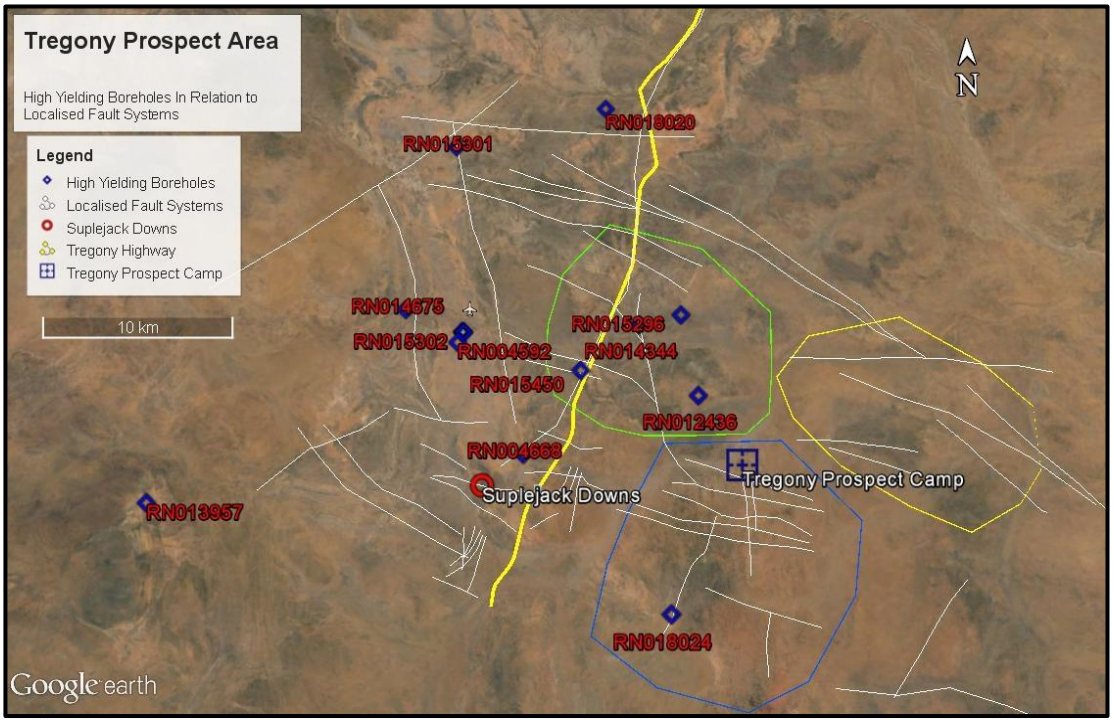

Figure 7: High Yielding Bores in relation to Fault Systems.

Abbreviations

ADWG	Australian Drinking Water Guidelines
AHD	Australian Height Datum
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
CoC	Chain of Custody
DoW	Department of Water
DSI	Detailed Site Investigation
DQO	Data Quality Objectives
EIL	Ecological Investigation Level
FOI	Freedom of Information
GPS	Geographical Positioning System
HIL	Health Investigation Level
IL	Investigation Level
LoR	Limit of Reporting
mBGL	metres below ground level
NATA	National Association of Testing Authorities
NEPM	National Environment Protection Measure
QA/QC	Quality Assurance/Quality Control
SAP	Sampling and Analysis Program or Plan
SMP	Sampling Management Plan

ha	hectare
km	kilometre
m	metre
yr	year
d	day
hr	hour
min	minute
s	second
L	litre
mg	milligram

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