EXPLORATION REPORT

XRF & ALS ASSAYING OF WATER BORE CHIPS - CORE FACILITY: ALICE SPRINGS

Title Holder	**NATURAL RESOURCES EXPLORATION PTY. LTD.**
Operator	Natural Resources Exploration Pty. Ltd.
Tenement Manager	Becana Devencorn, Natural Resources Exploration Pty. Ltd.
Titles / Tenements	ELs: 27640, 27667, 27668, 27819, 28726, 27721, 27722, 27723, 27749, 27768, 28274, 28278, 27882, 27846, 28023, 28164, 28319, 28320, 27748, 27757, 27840, 27841, 27842, 27843, 27844, 27845, 27848, 28395, 28396, 28401, 27846, 27847, 27897, 28082, 28780, 28798, 28303, 28304, 28305, 28330, 28763, 28580 & 28581.
Project Names	South Nicholson, Barkly, Brunette Downs, McArthur, Tennant Creek, Epenarra, Southern Georgina, Jervois, Amadeus, Arunta & Pedirka Basin (NB: These project areas consist of a number of tenements)
Report Title	**XRF & ALS Assaying of Water Bore Chips – Core Facility: Alice Springs**
Type of Report	Report required by the Northern Territory Department of Resources for studies conducted on material at its Core Facilities.
Author(s)	Devencorn, B
Company Ref:	NTGen:2011:XRFAliceSprings
Target Commodities	Base Metals, Precious Metals & Phosphate
Date of Report	12 September 2011
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Request to Hold Report Confidential

Natural Resources Exploration Pty. Ltd. ('NRE') kindly requests that the Northern Territory Department of Resources keeps this Report confidential for a period of two (2) years from the date of lodgement the Report. This request is sought on the basis that this report relates to a number of NRE's current granted tenures and tenures in application.

Please find below a detailed list of tenures covered by this report:

EL / EL(A)	Exploration Licence Numbers
Tenures Granted - ELs:	27640, 27667, 27668, 27819, 28726, 27721, 27722, 27723, 27749, 27768, 28274, 28278, 27882, 27846, 28023, 28164, 28319, 28320, 27757, 27840, 27841, 27842, 27843, 27844, 27845, 27848, 28395, 28396, 28401, 27846, 27847, 27897, 28082, 28303, 28304, 28305, 28330, 28580 and 28581.
Tenure Applications – EL(A)s:	27748, 28763, 28780 and 28798

We hope that this information is sufficient in order for the Department to consider our request. Should the Department require any further information in support of the request, please feel free to contact us on (07) 5510 3707.

We look forward to hearing from the Department in relation to same.

Kind regards,
NATURAL RESOURCES EXPLORATION

Becana Devencorn
Project Manager

Summary

Natural Resources Exploration Pty. Ltd. (hereinafter 'NRE') has acquired a number of tenements in the Northern Territory located in various regions including the Southern Georgina Basin, Jervois Aileron Region, Arunta Region, Amadeus and Pedirka Basins. The first tenure granted to NRE was Exploration Licence Number 27640 in the Southern Nicholson Region, which was granted to NRE on 20 April 2010 along with a number of other Exploration Licences around this time. Within the first year of NRE's exploration licences, NRE has conducted XRF Assaying of all water bore chips available for each project area at the Alice Springs Core Facility.

This exploration activity was completed in order to define mineral potential within the project areas. The XRF Assaying of water bore chips at the Alice Springs Core Facility involved:

- Delineation of all water bores drilling in the project areas;
- Compilation and data entry of all relevant information recorded at the time of drilling, including geology intersected and water chemistry;
- Determination of water bore chips available for XRF analysis held at the Alice Springs Core Facility;
- Assessment and correlation of XRF results and geological data within each hole and across the project areas.

The XRF Analysis of water bore chips held at the Northern Territory Department of Resources' ('the Department') Alice Springs Core Facility has proved to be valuable to NRE in determining the mineral prospectivity of each of its project areas and specifically, in respect of each tenement. After compilation and detailed interrogation of all currently available data within each tenement with the XRF results, NRE was provided with valuable insight into the mineral potential of each of its tenements.

Rationale

NRE recognises the numerous advantages in conducting XRF assaying and ALS assaying of water bore chips available in its project areas.

Firstly, NRE views the XRF assaying of available water bore chips at the Alice Springs Core Facility as a somewhat 'innovative', cost effective and convenient way of obtaining indications of mineral prospectivity within its tenements.

Innovative

NRE saw an opportunity to use recent technology in order to re-evaluate historical data in the hope of discovering new findings and / or alternative information contained in the historical data that has not become apparent from that data, due to the lack of technology at the time that the historical data was collected. NRE also saw this opportunity as one which should be taken up in its early stages of exploration in order to make the most of available historical data in order to provide NRE with a direction for its future field activities.

NRE also believes that the XRF assaying of water bore chips is a means to avoid destroying material and allowing the material to remain available for the benefit of other explorers, future technology and the future exploration of the Northern Territory.

Cost Effective & Convenient

NRE believes that the use of the XRF assaying of water bores at the Alice Springs Core Facility has been a cost effective and convenient way to re-evaluate data.

NRE engaged geological consultants, Terra Search Pty. Ltd. to carry out this exploration activity on site at the Alice Springs Core Facility. The Alice Springs Core Facility was kind enough to accommodate our geologists and it was possible for them to set-up within the core facility to carry out the XRF assay.

Two (2) personnel from Terra Search attended the facility, set up the XRF device and conducted the XRF assaying over a period of two (2) weeks.

The information gained from this exercise has proved to be valuable to NRE in the planning of its exploration activities at a cost of which NRE views as a reasonable cost, given the data it has obtained from the XRF assaying of water bores.

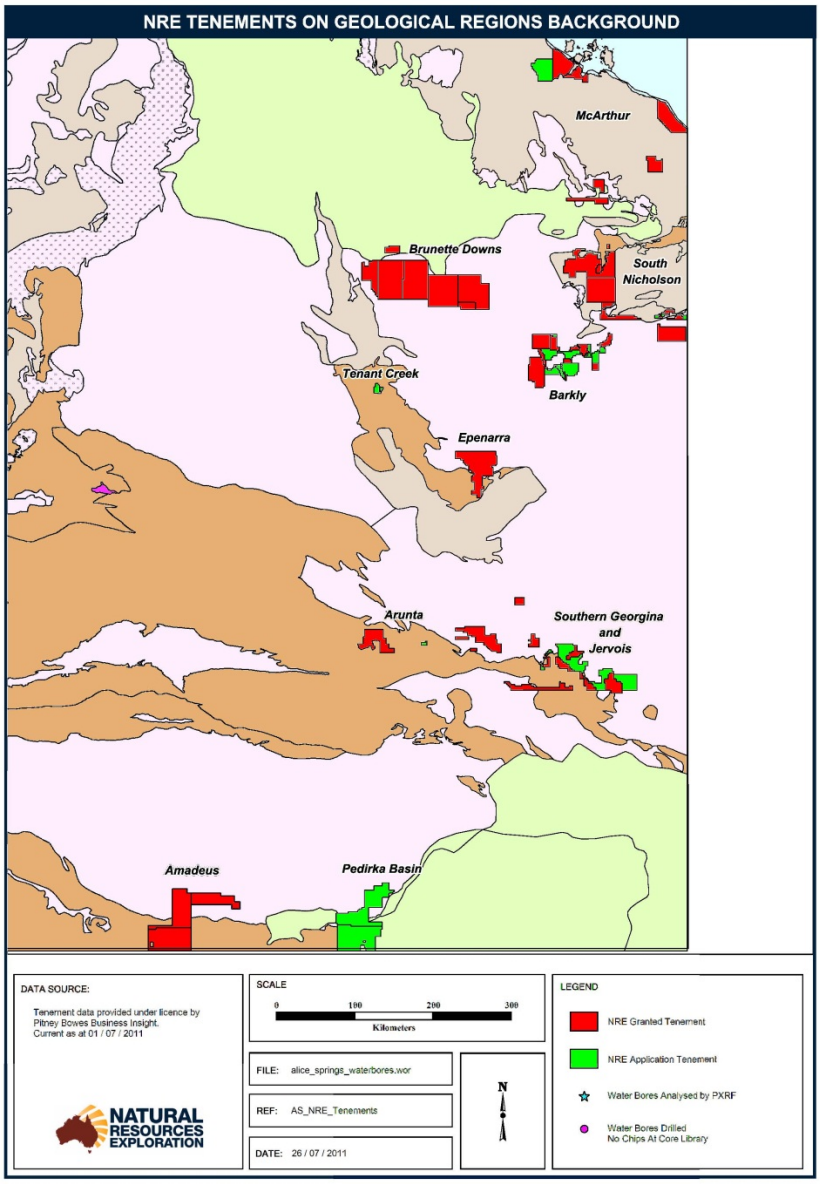
XRF Assaying

NRE conducted XRF assaying of 84 water bores across its eleven (11) project areas covering NRE's thirty nine (39) granted tenures and four (4) tenure applications.

1. Project Areas & Tenements

NRE conducted XRF assaying of historical water bores in respect of its tenures located in its South Nicholson, Barkly, Brunette Downs, McArthur, Tennant Creek, Epenarra, Southern Georgina, Jervois, Amadeus, Arunta and Pedirka Basin Projects. The licences are generally located in the east portion of the Northern Territory across the northern, central and southern regions ***(Figure 1)***.

Figure 1. Map of NRE Project Areas and Tenements



A summary of the tenements falling within each project and the specific dates of relevance for each tenement are detailed in ***Table 1***.

Table 1. Project & Tenement Summary.

Project Name	Tenement Name	Title No. (EL)	Sub-blocks	Sq. Km	Status	Grant Date	Term (Yrs)	Expiry Date
South Nicholson	Flemington	27640	374	1180.29	Granted	20-Apr-10	6	19-Apr-16
Barkly	Alexandria	27667	62	193.26	Granted	20-May-10	6	19-May-16
	Limestone Ridges	27668	45	146.15	Granted	20-May-10	6	19-May-16
	Bore 50	27670	17	55.14	Granted	20-May-10	6	19-May-16
	Crows Nest South	28726	8		Application			
Brunette Downs	Monmoona	27721	499	1624.85	Granted	27-Jul-10	6	26-Jul-16
	Eva Downs	27722	500	1630.64	Granted	27-Jul-10	6	26-Jul-16
	Tarrabool Lake	27723	484	1577.32	Granted	27-Jul-10	6	26-Jul-16
	Mudges Bore	27749	451	1469.69	Granted	27-Jul-10	6	26-Jul-16
	Brunette Dam	27768	61	198.58	Granted	27-Jul-10	6	26-Jul-16
	Indamilly Waterhole	28274	199	627.26	Granted	3-May-11	6	2-May-17
	Eagles Nest	28278	52	169.94	Granted	3-May-11	6	2-May-17
Tenant Creek	Station Hill	27748	40	129	Application	-	-	-
Epenarra	Epenarra	27757	485	1560.35	Granted	25-Oct-10	6	24-Oct-16
Southern Georgina	Putta Putta	27840	35	111.48	Granted	11-Aug-10	6	10-Aug-16
	Corella Bore	27841	20	63.51	Granted	11-Aug-10	6	10-Aug-16
	Elkera	27842	10	31.71	Granted	11-Aug-10	6	10-Aug-16
	Arapunga	27843	254	789.09	Granted	11-Aug-10	6	10-Aug-16
	Lucy Creek	27844	51	161.91	Granted	11-Aug-10	6	10-Aug-16
	Arthur Creek	27845	50	158.57	Granted	11-Aug-10	6	10-Aug-16
	Mt Ewing	27848	121	382.31	Granted	11-Aug-10	6	10-Aug-16
	Limestone Creek	28395	106	341	Granted	8-Jul-11	6	7-Jul-17
	Paradise Bore	28396	219	705	Granted	8-Jul-11	6	7-Jul-17
	Mars Bore	28401	148	480	Granted	8-Jul-11	6	7-Jul-17
Jervois	Talton	27846	58	183.77	Granted	11-Aug-10	6	10-Aug-16
	Hay Creek	27847	51	161.34	Granted	11-Aug-10	6	10-Aug-16
	Plenty River	27897	145	454.24	Granted	11-Aug-10	6	10-Aug-16
	Unca Creek	28082	23	72.89	Granted	30-Dec-10	6	29-Dec-16
McArthur	Calvert River	27882	260	793.01	Granted	7-Jul-10	6	6-Jul-16
	Selby	27946	110	361.39	Granted	31-Jan-11	6	30-Jan-17
	Surprise Creek	28023	57	181.39	Granted	17-Dec-10	6	16-Dec-16
	Bluey Creek	28164	82	268.37	Granted	3-May-11	6	2-May-17
	Bing Bong	28319	343	985.03	Granted	3-May-11	6	2-May-17
	Batten Creek	28320	206	663	Application	-	6	
Amadeus	Mulga Park	28303	500	1523.42	Granted	3-May-11	6	2-May-17
	Curtin Springs	28304	411	1244.83	Granted	3-May-11	6	2-May-17
	Lyndavale	28305	262	813.24	Granted	3-May-11	6	2-May-17
Arunta	Atartinga	28330	245	718.5	Granted	17-May-11	6	16-May-17
	Dingo Creek	28763	9		Application	-	6	-
Pedirka Basin	Lilla Creek	28580	500		Application	-	6	-
	Corella Creek	28581	500		Application	-	6	-

2. Process

Natural Resources Exploration first delineated all water bores that had been drilled in each of its project areas. It also received all relevant information recorded at the time of drilling, including geology intersected and water chemistry.

Then on a project by project basis, there was a determination of water bore chips available for XRF analysis whereby each drill hole had to be assessed against the Department's records to establish whether all (or any) chips were available and held in the Darwin Core Library. (see ***Appendix 1*** for Geological Observations and core cutting availability).

After thorough review, it was determined that there were 84 water bores with cuttings held in the Core Library available to Natural Resources Exploration for testing. Please see ***Table 2*** for a complete list of water bores tested across all eleven (11) of Natural Resources Exploration's project areas.

Table 2. List of water bores tested.

HOLE ID	MGA_E	MGA_N	HOLE ID	MGA_E	MGA_N
RN004019	402509.9	7179465	RN012854	773926.5	7130813
RN006839	470026.6	7999668	RN012855	743594.6	7125649
RN007450	407128	7145171	RN012856	798866.5	7125805
RN007453	387492	7162725	RN012857	780288.6	7126040
RN007454	395060	7153838	RN012877	430447.5	7507470
RN007494	702018.5	7483494	RN012902	500932.7	7719763
RN007848	438075.9	7957597	RN012917	629950.8	7492572
RN008130	475010.6	7979505	RN012918	631126.8	7496170
RN010032	400068	7124874	RN012919	626490.8	7496242
RN010309	655944.6	7513914	RN012989	614104.8	7511906
RN010311	646221.7	7501226	RN016903	400174.7	7195080
RN010312	648126.7	7502170	RN016904	424127.9	7199571
RN010315	651126.7	7505170	RN016916	561326.6	7716844
RN010316	652840.6	7512153	RN016918	526846.8	773619.2

RN010317	649280.7	7510097	RN016974	746996.4	7474355
RN010318	648714.7	7509701	RN016997	689526.6	7452771
RN010448	527652.7	7738129	RN017002	529804.7	7760294
RN010806	798004.4	7171016	RN017024	671726.6	7497570
RN010807	794595.4	7187539	RN017025	667326.6	7492971
RN010808	206250.4	7189236	RN017026	661626.7	7490771
RN010877	579127	764170.4	RN017194	735526.4	7473971
RN011209	427489.5	7508463	RN017288	418227.1	7844169
RN011680	411676.5	7510202	RN020443	479473.6	7994690
RN011789	767667.5	7131796	RN023300	626265.1	7853744
RN011790	777076.4	7196844	RN024306	552831.2	8430461
RN011791	790858.4	7182107	RN024508	512926.4	7981568
RN011796	210670.4	7172651	RN024509	519354.4	7973825
RN011865	777189.6	7196951	RN024522	709004.4	7951135
RN011949	389495	7144938	RN025307	549570.2	7969316
RN011950	385242	7144795	RN025562	447307.8	7959839
RN012121	741364.4	7475311	RN026266	461229.7	7956866
RN012315	383128	7154171	RN027842	722880	8206421
RN012316	376956	7131592	RN028414	440629.8	7997013
RN012429	585740	7466705	RN028418	634589.9	7903096
RN012582	371557	7518634	RN028419	646050.9	7906009
RN012587	400434	7516591	RN030137	530920.3	7969862
RN012668	586127	7462170	RN032555	421372	7964032
RN012695	527126.7	7740169	RN032556	432006.9	7960308
RN012713	5199324	7721544	RN033533	535617	7974335
RN012755	764555.4	7202499	RN033744	545611	7976156

A total of 84 water bores were tested across Natural Resources Exploration's tenures. ***Figures 2*** through to ***Figure 10*** below show the location of all water bores located in each of Natural Resources Exploration's project areas and indicated the bores tested by Natural Resources Exploration using a portable XRF device.

Figure 2. South Nicholson Project

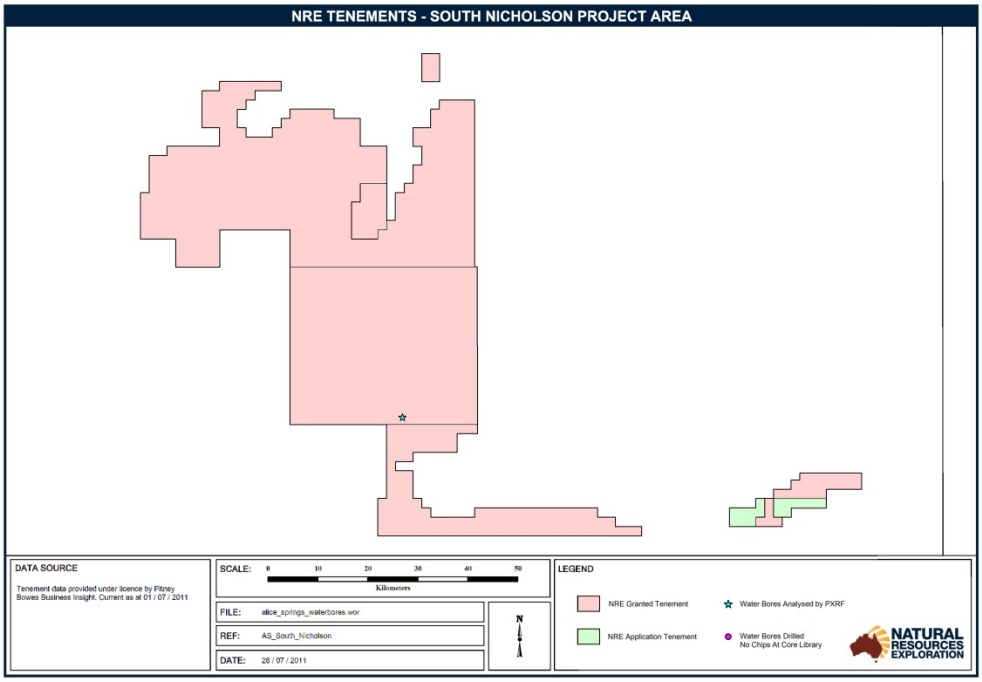


Figure 3. Barkly Project

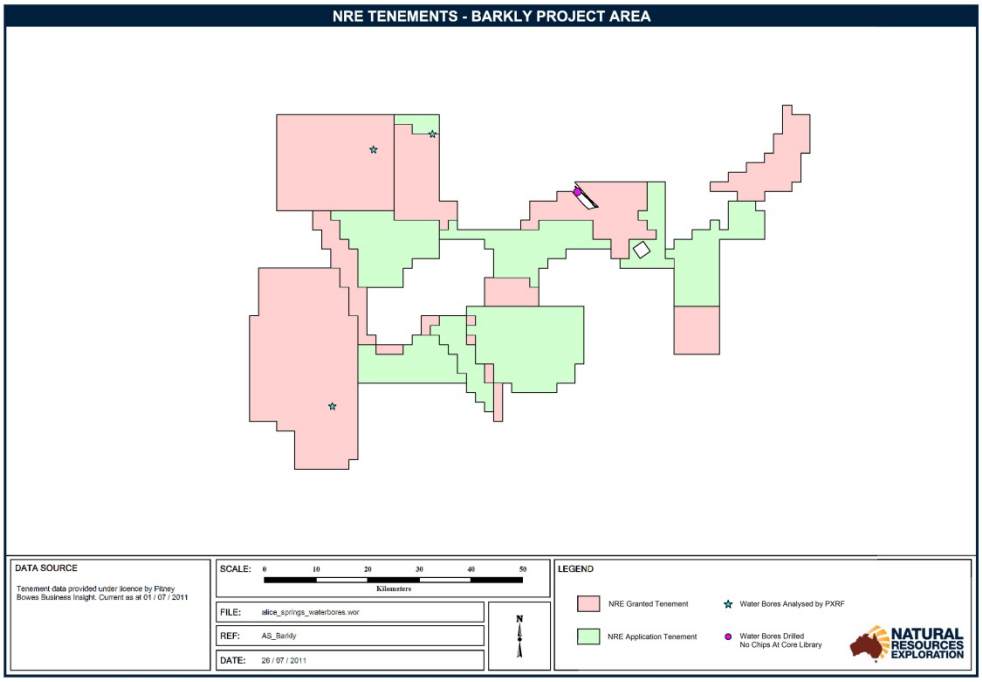


Figure 4. Brunette Downs Project

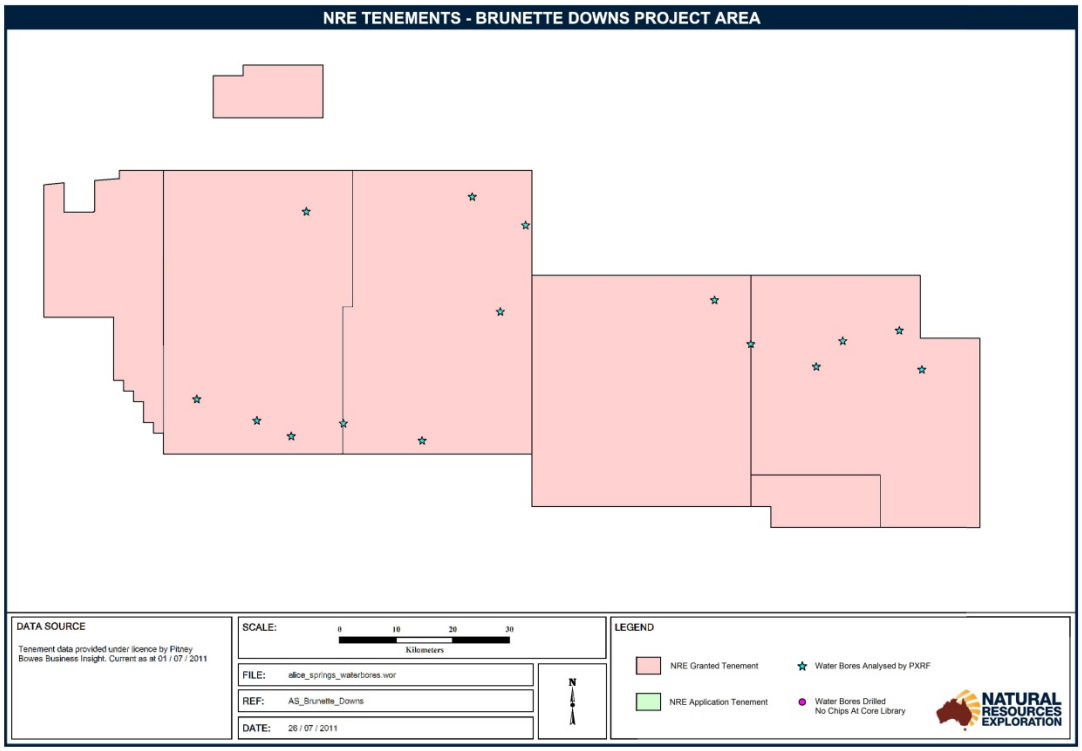


Figure 5. McArthur Project

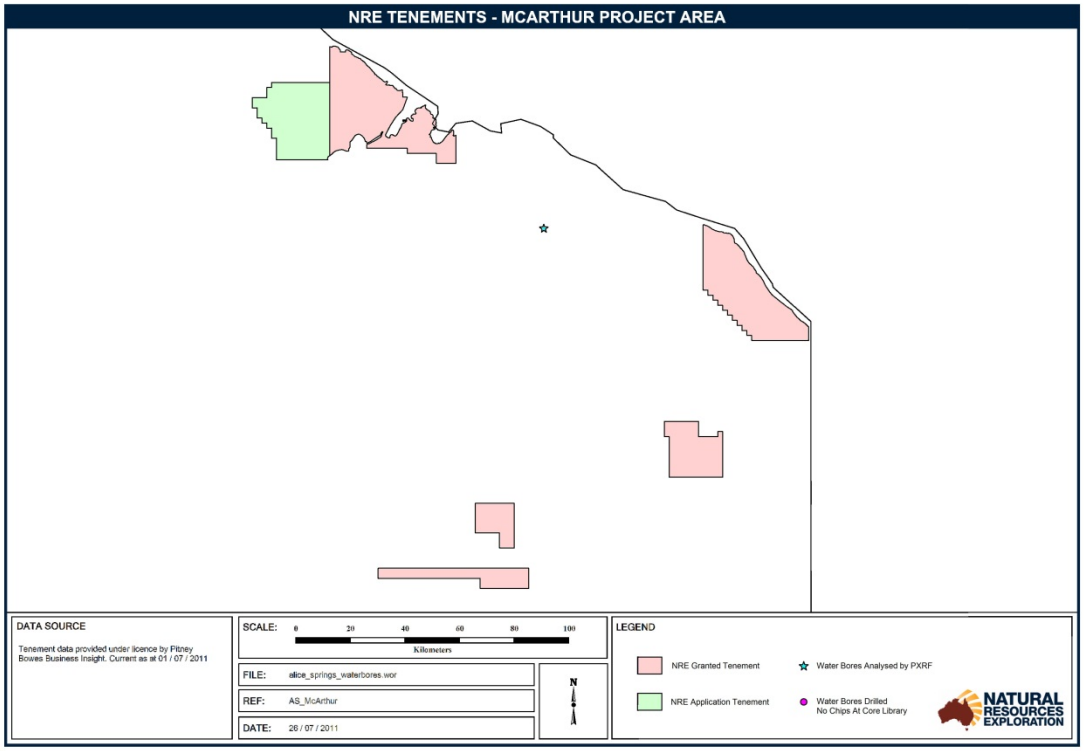


Figure 6. Tennant Creek Project

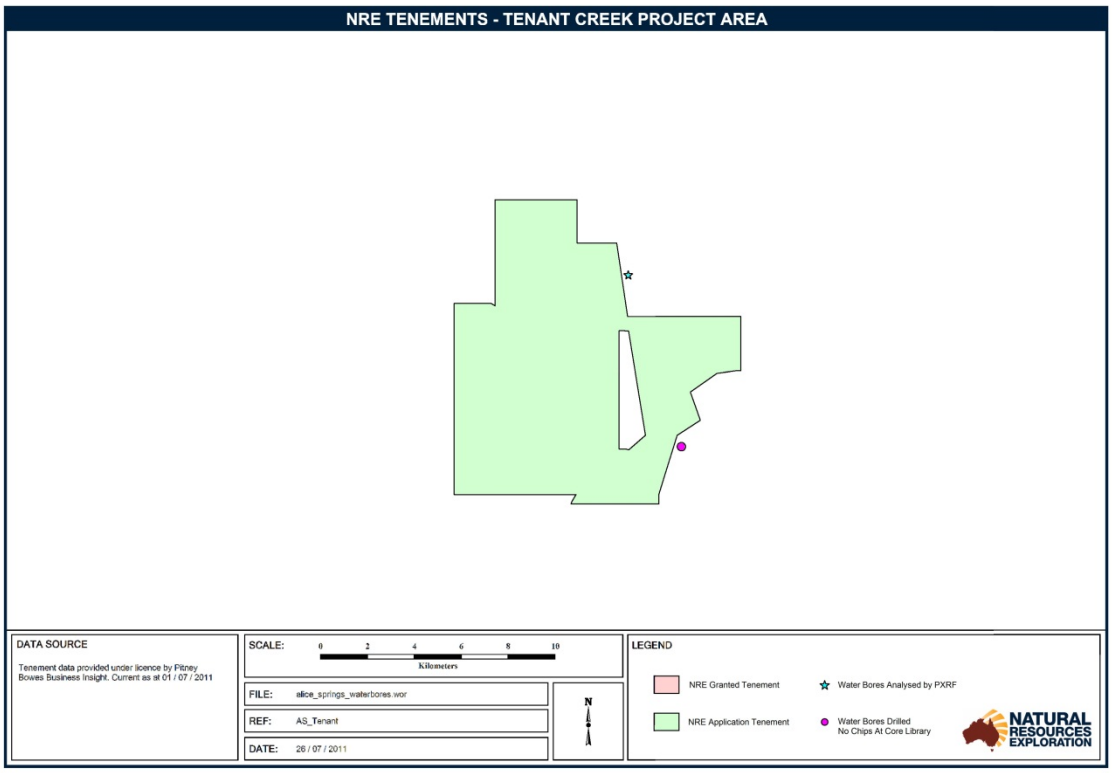


Figure 7. Epenarra Project

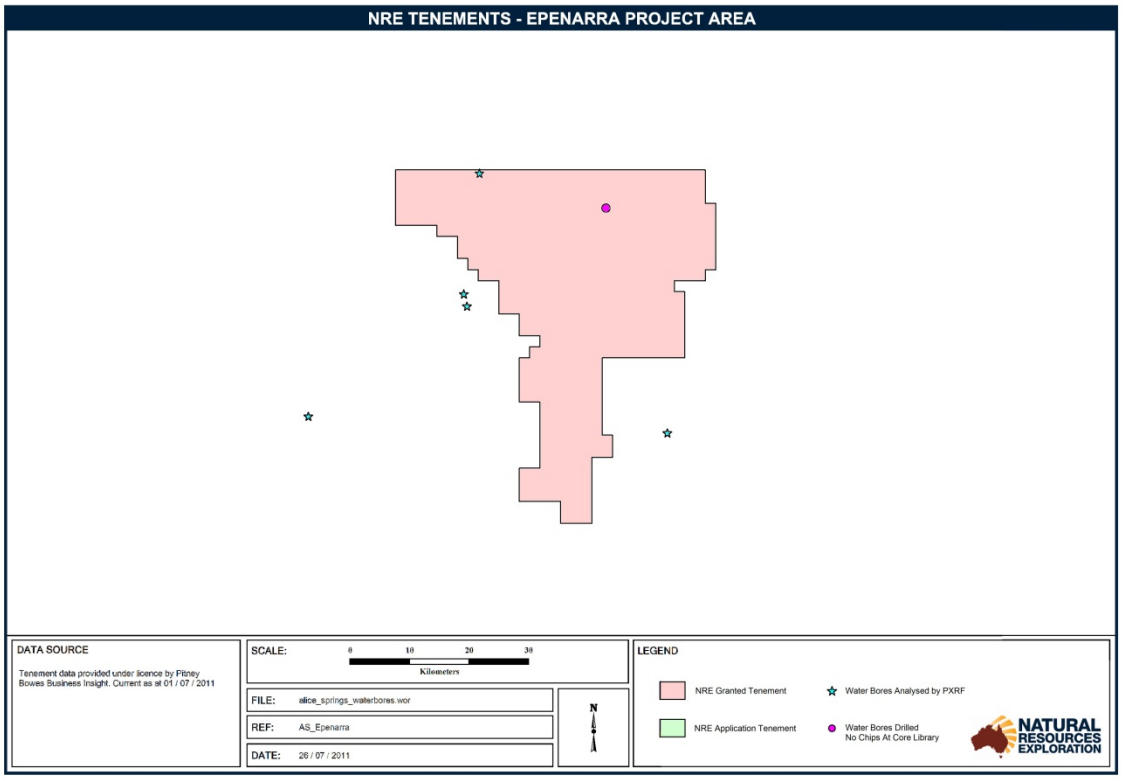


Figure 8. Southern Georgina & Jervois Projects

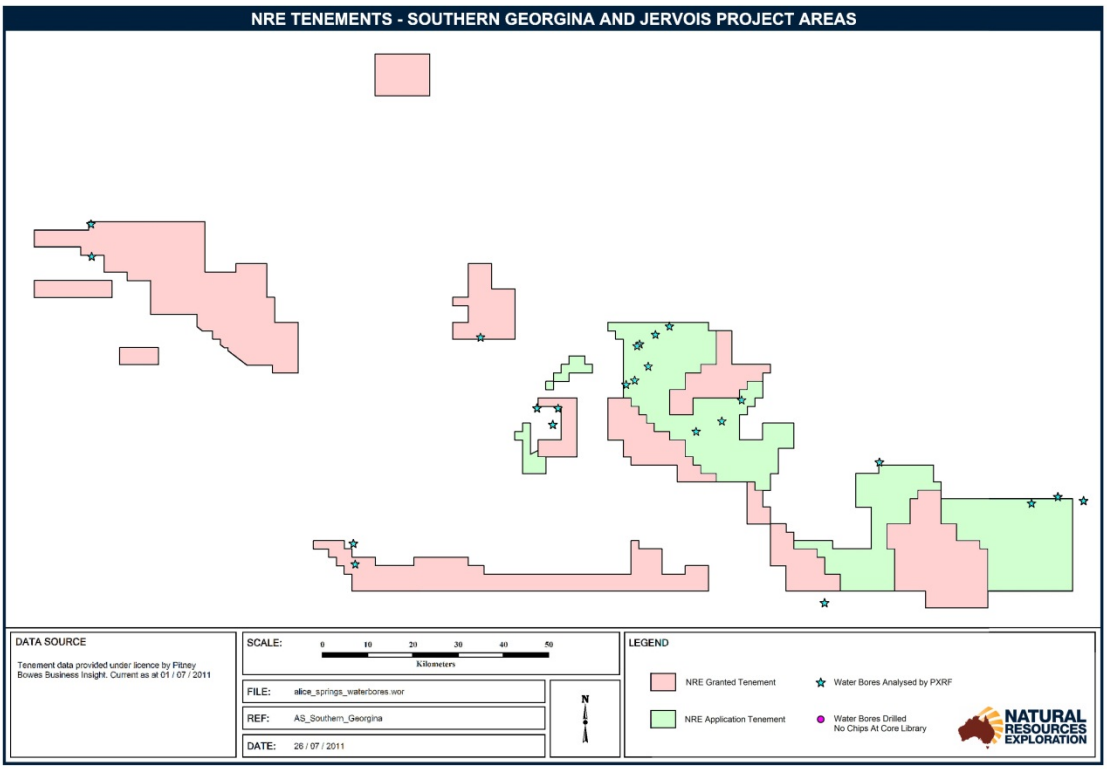


Figure 9. Arunta Project

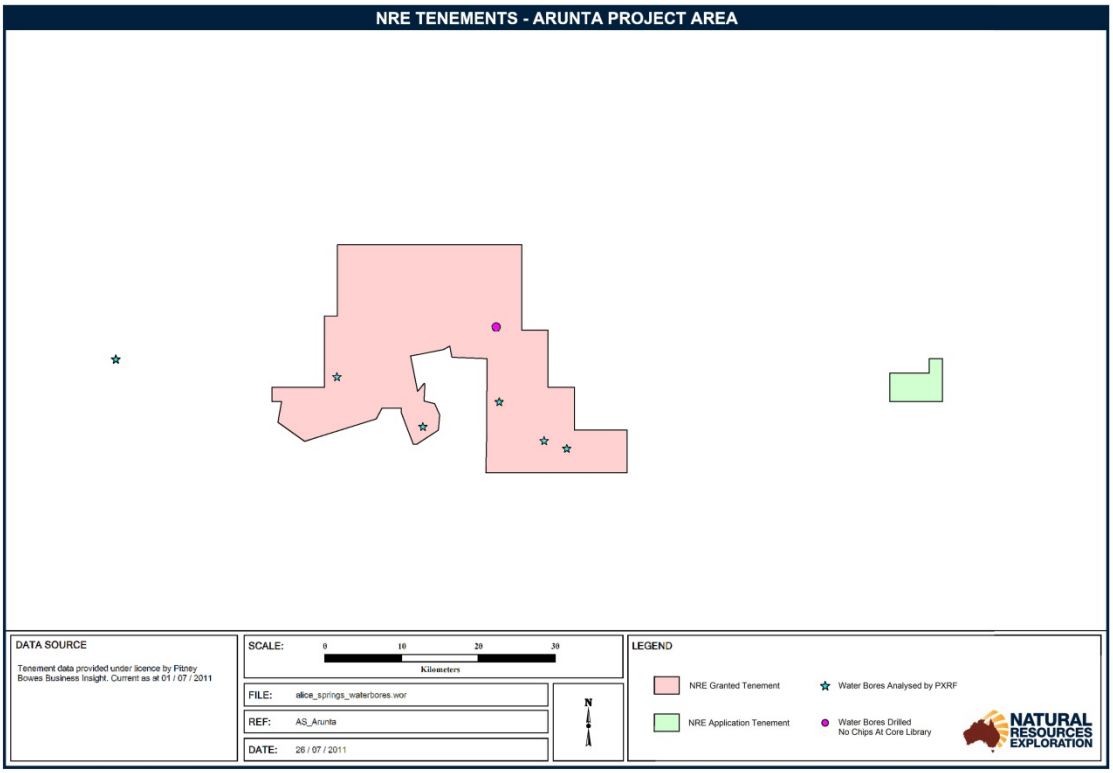
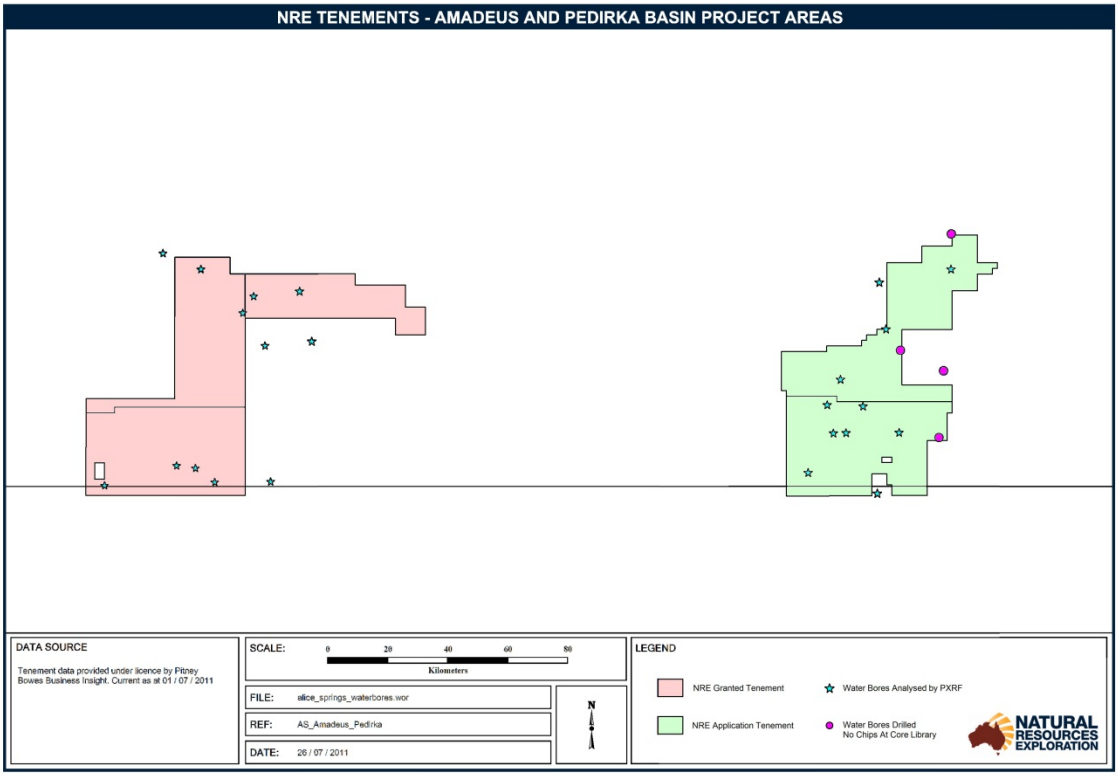


Figure 10. Amadeus & Pedirka Basin Projects



Natural Resources Exploration also engaged ALS Laboratories to re-assay selected samples for further confirmation of mineral anomalies. ALS Laboratories tested for a suite of minerals from light elements (P) through to Base Metals and Precious Metals (Au and Ag).

3. Results

NRE obtained data in the form of XRF mineral assay results as well as ALS mineral assay results in relation to particular samples which were anomalous according to the XRF.

A. XRF Mineral Assay Results

Mineral results for all water bore chips assayed and held in the Alice Springs Core Facility are provided in ***Appendix 2***. These results include all mineral results obtained from the XRF device however, it should be noted that the XRF does have limitations in respect of the minerals and levels of detection of particular minerals. The XRF mineral assay results are tabulated in such a way to provide for the results to be easily matched back to the sampled material using original hole numbers and depths.

B. ALS Mineral Assay Results (Selected Samples only)

Selected samples were sent to ALS Laboratories for re-assay to confirm any mineral anomalies identified with the XRF device. The results from ALS Laboratories are included in ***Appendix 3***. 34 elements in total were tested at ALS Laboratories.

Conclusion

Natural Resources Exploration found that the results of the XRF assaying provided it with valuable insight and leads for further exploration. This was particularly in the case of areas which had very little previous exploration in terms of sampling, or petroleum or exploration drilling.

An example of this is in Natural Resources Exploration's Jervois Project where intervals of phosphate have been identified. The Jervois area has historically been known for base metal mineralisation however there is indication that phosphate mineralisation may exist along the edge of the Southern Georgina Basin and Aileron Province. The results also returned anomalous base metal values which are not surprising given the close proximity of NRE's Jervois Project to the Jervois copper-lead-silver mine. NRE have interpreted this data in order to define follow up targets for a helicopter reconnaissance program which will involve mapping the areas in detail and collecting further soil and rock chip samples within the project areas.

In relation to Brunette Downs, Barkly and South Nicholson, these areas had already been tested by XRF analysis through water bore cuttings held at the Darwin Core Library. There were a number of scattered bores over these projects whereby core cuttings had found themselves to be held at the Alice Springs Core Library rather than in the Darwin Core Library with the majority of water bores for these areas. The most interesting result obtained out of these few water bores in these areas from the Alice Springs Core Library was 3% Cu at 0 – 3m in Barkly. Given the nature of these results, NRE is sceptical of the results obtained at this interval given that it does not appear to fit in with the stratigraphy of this region. NRE believes that this sample is most likely contaminated. NRE will nevertheless follow up this area with further field work (sampling program) but will approach with caution.

Specifically in relation to Brunette Downs, this activity has neither proved nor disproved Natural Resources Exploration's theory of possible gold mineralisation in this area. The results obtained by the XRF assay and ALS Laboratories have however provided Natural Resources Exploration with follow up ground exploration activities. The XRF Results were initially indicative of gold mineralisation within this project area (relatively high Bismuth values were returned) however these were not confirmed by ALS Laboratories. The discrepancy in the results is possibly due to the limited cuttings available in the Department's Core Library whereby not all core cuttings had a sufficient amount of cuttings to enable samples to remain at the core library and for ALS Laboratories to conduct sampling.

Natural Resources Exploration has engaged Terra Search Pty. Ltd. to further continue to analyse and interpret the results for Natural Resource Exploration's other project areas. Terra Search will examine the results obtained by the XRF device and ALS Laboratories'

mineral assessments against historical exploration data and geophysical imagery. Terra Search will also conduct integration of all results to define mineral prospectivity within each tenement.

Attachments:

Appendix 1. Geological Observations and core cutting availability.

Appendix 2. XRF Mineral Assay Results.

Appendix 3. ALS Laboratories Mineral Assay Results.