

EXPLORATION REPORT

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

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, 27652, 27817, 28056, 28058, 27647, 27653, 27659, 27665, 27666, 27667, 27668, 27669, 27670, 27671, 27672, 27673, 27819, 28279, 27721, 27722, 27723, 27749, 27768, 28274, 28278, 27882, 27946, 28023, 28164, 28319
Project Names	Barkly, Brunette Downs, Daly Waters, McArthur and South Nicholson. (NB: These project areas consist of a number of tenements)
Report Title	XRF & ALS Assaying of Water Bore Chips – Core Facility: Darwin
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:XRFDawrin
Target Commodity / Commodities	Base Metals, Precious Metals & Phosphate
Date of Report	7 June 2011
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Request to Hold Report Confidential

Natural Resources Exploration Pty. Ltd. 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 of the Report. This request is sought on the basis that this report relates to a number of Natural Resources Exploration'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, 27652, 27817, 28056, 28058, 27647, 27653, 27659, 27665, 27666, 27667, 27668, 27669, 27670, 27671, 27672, 27673, 27819, 28279, 27721, 27722, 27723, 27749, 27768, 28274, 28278, 27882, 27946, 28023, 28164 and 28319.
Tenure Applications – EL(A)s:	28399, 28400, 28331, 28523, 28524, 28525, 28582, 28583, 28579, 28726 and 28320.

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. has acquired a number of tenements in the Northern Territory located in various regions including the McArthur Basin, South Nicholson Region, Barkly Region and in the Dunmarra Basin. The first tenure granted to Natural Resources Exploration was Exploration Licence Number 27640 in the South Nicholson Region, which was granted on 20 April 2010.

Within this first year of Natural Resources Exploration's exploration licence, Natural Resources Exploration has conducted XRF Assaying of all water bore cuttings available for each project area at the Northern Territory Department of Resources' ('the Department') Darwin Core Facility.

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

- Delineation of all water bores drilled in the project areas;
- Compilation and data entry of all relevant information recorded at the time of drilling, including geology intersected and water chemistry; and
- Determination of water bore cuttings/chips available for XRF analysis held at the Darwin Core Facility.

The XRF Analysis of available water bore cuttings held at the Darwin Core Facility has proved to be a valuable exploration activity undertaken by Natural Resources Exploration. The results of the mineral assays have greatly assisted Natural Resources Exploration 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, Natural Resources Exploration was provided with valuable insight into not only the mineral potential of each of its tenements but indicators for follow up exploration activities.

Rationale

Natural Resources Exploration recognises the numerous advantages in conducting XRF assaying and ALS assaying of water bore cuttings available in its project areas.

Firstly, Natural Resources Exploration views the XRF assaying of available water bore chips at the Darwin Core Facility as a somewhat innovative, cost effective and convenient way of obtaining indications of mineral prospectivity within its tenements.

Innovative

Natural Resources Exploration saw an opportunity to use more recent technology to re-evaluate historical data. Natural Resources Exploration did this in the hope of discovering new findings and / or alternative information contained in the historical data that had not previously become apparent, due to the lack of technology at the time that the historical data was collected. Natural Resources Exploration 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 and to provide Natural Resources Exploration with direction, specifically in relation to tenements located in areas of little historical mineral exploration. The use of the Niton XRF device, in Natural Resources Exploration's view, was an innovative way to obtain direction for its future field activities.

Natural Resources Exploration 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. The non-destructive attribute of the Niton XRF on samples, is a great advantage.

Cost Effective & Convenient

Natural Resources Exploration believes the use of the XRF assaying of water bore cuttings at the Darwin Core Facility has been a cost effective and convenient way to re-evaluate data.

Natural Resources Exploration engaged geological consultants, Terra Search Pty. Ltd. to carry out this exploration activity on site at the Darwin Core Facility. The Darwin Core Facility was kind enough to accommodate our geologists and to provide them with the possibility set-up within the core facility to carry out the XRF assaying.

On 2 February 2011, two (2) personnel from Terra Search attended the facility, set up the Niton 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 Natural Resources Exploration in the planning of its exploration activities at a cost of which Natural Resources

Exploration considers as a reasonable cost, particularly given the data it has obtained from the XRF assaying of water bores cuttings

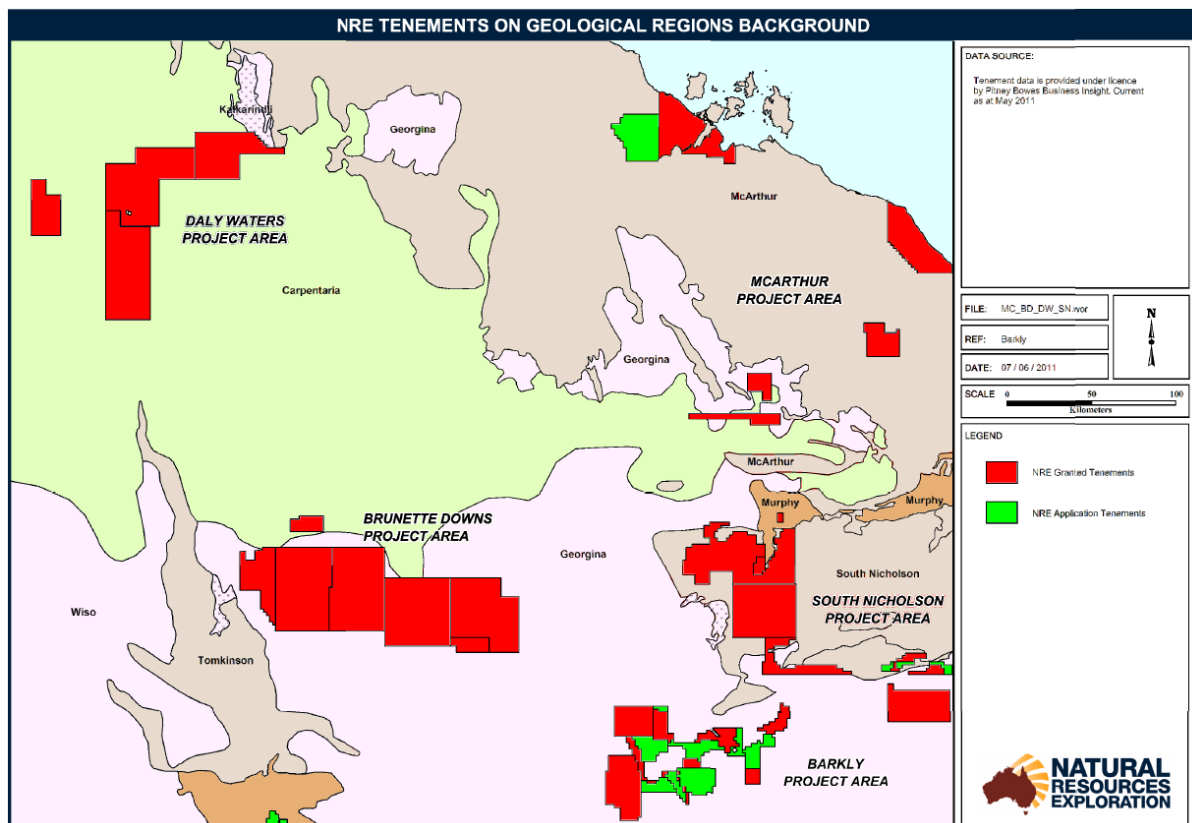
XRF Assaying

Natural Resources Exploration conducted XRF assaying of 102 water bores across its five (5) project areas covering Natural Resources Exploration's thirty one (31) granted tenures and eleven (11) tenure applications.

1. Project Areas & Tenements

Natural Resources Exploration conducted XRF assaying of historical water bore cuttings in respect of its tenures located in its Barkly, Brunette Downs, Daly Waters, McArthur and South Nicholson Projects. The licences cover a total of 21,752 square kilometres across the northern and central regions of the Northern Territory (**Figure 1**).

Figure 1. Map of Natural Resources Exploration's 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**.

Particular Projects are located within areas of little previous mineral exploration and as a result of such, the analysis of water bore cuttings provided Natural Resources Exploration with targets for further exploration work.

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
	Carrara Range	27652	26	78.91	Granted	20-May-10	6	19-May-16
	North Boxer	27817	500	1632.42	Granted	27-Jul-10	6	26-Jul-16
	Murlanba	28056	6	19.61	Granted	17-Dec-10	6	16-Dec-16
	Buddycurrawa	28058	21	68.54	Granted	30-Dec-10	6	29-Dec-16
	Carrara West	28399	8	26.00	Application	-	-	-
	Carrara East	28400	8	26.00	Application	-	-	-
Barkly	McNichol	27647	122	395.32	Granted	20-May-10	6	19-May-16
	Don Creek	27653	22	71.60	Granted	20-May-10	6	19-May-16
	Robies Bore	27659	214	695.43	Granted	20-May-10	6	19-May-16
	Playford River	27665	33	107.00	Granted	20-May-10	6	19-May-16
	Black Plain	27666	52	168.85	Granted	20-May-10	6	19-May-16
	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
	Buchanan	27669	3	9.73	Granted	20-May-10	3	19-May-13
	Bore 50	27670	17	55.14	Granted	20-May-10	6	19-May-16
	Little Buchanan	27671	1	3.24	Granted	20-May-10	2	19-May-12
	Sandy Crossing	27672	1	3.24	Granted	20-May-10	2	19-May-12
	Dolostone Rim	27673	6	19.44	Granted	20-May-10	6	19-May-16
	Boree	27819	130	422.21	Granted	27-Jul-10	6	26-Jul-16
	Shady Camp	28279	25	81.00	Granted	3-May-11	6	2-May-17
	Alroy Downs	28331	216	700.00	Application	-	6	-
	Playford Junction	28523	64	208.00	Application	-	6	-
	Don Creek Waterhole	28524	15	47.00	Application	-	6	-
	Buchanan Creek	28525	56	182.00	Application	-	6	-
	Playford Junction East	28582	58	188.48	Application	-	6	-
	South Buchanan	28583	26	84.49	Application	-	6	-
	Alexandria East	28579	26	84.49	Application	-	6	-
	Crows Nest South	28726	8	26.00	Application			
	Ranken		97	315.22	Application			
	Desert Creek		44	143.00	Application			
Brunette	Monmoona	27721	499	1624.85	Granted	27-Jul-10	6	26-Jul-16

Downs	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
Daly Waters	Nutwood Downs	27877	290	957.82	Granted	27-Jul-10	6	26-Jul-16
	Kalala	27878	495	1628.29	Granted	15-Sep-10	6	14-Sep-16
	Shenandoah	27879	475	1564.00	Granted	3-Aug-10	6	2-Aug-16
	Black Springs	27905	155	511.10	Granted	15-Sep-10	6	14-Sep-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	663.00	Application	-	6	

2. Process

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

After review and on a project by project basis, Natural Resources Exploration in consultation with its consulting geologists, Terra Search Pty. Ltd., made a determination of water bore cuttings available for XRF analysis at the Darwin Core Facility. Each water bore drill hole had to be assessed against the Department's records to establish whether all (or any) cuttings were available and held in the Facility. (See **Appendix 1** for Geological Observations and water bore cutting availability).

After thorough review, it was determined that there were 102 water bores with cuttings held in the Darwin Core Facility available to Natural Resources Exploration for mineral analysis. Please see **Table 2** for a complete list of water bores assessed across all five (5) Natural Resources Exploration's project areas.

Table 2. List of water bores tested.

Hole_ID	MGA_53_Easting	MGA_53_Northing	Hole_ID	MGA_53_Easting	MGA_53_Northing
RN003125	672228.8	7870288.8	RN025701	749448	7904586
RN005395	327727	8201966	RN025702	799060	7924957
RN005760	335245	8196731	RN025710	340377	8149517
RN005761	344327	8196966	RN025711	645905	8268367
RN006222	315263	8212969	RN025712	645425	8258367
RN006223	325216	8226092	RN025713	644425	8253267
RN006511	734525	7916969	RN025860	454679	8004303
RN007032	338527	8212116	RN025862	669626	8008418
RN007148	721225	7936919	RN025997	330727	8155367
RN007189	408827	8242566	RN025998	369527	8239966
RN007191	338750	8235301	RN026467	730475	7948269
RN007192	338971	8222436	RN026824	719940	7919419
RN007193	327477	8196266	RN027070	401230	8000227
RN007248	335183	8198864	RN027302	324527	8136067
RN007672	416118	7954211	RN027328	321132	8209503
RN007692	412977	8233866	RN027948	462741	7947514
RN007711	701394	8012727	RN028122	613060	7869604
RN007716	681390	7991416	RN028222	321327	8148767
RN007749	688455	8007800	RN028349	699325	8224467
RN007754	362790	8221821	RN028677	658025	8237717
RN007759	688014	7999106	RN028921	393855	7978190
RN007798	673205	7993183	RN030655	274788	8212012
RN007872	345074	8227429	RN030871	285122	8187540
RN007874	319477	8204922	RN031600	758625	7918169

RN007876	344832	8215340	RN031860	271467	8218342
RN008017	319037	8167346	RN031861	273862	8217638
RN008167	665455	8016609	RN032409	621626	7911769
RN008179	320687	8189680	RN032464	273140	8197842
RN009852	662825	8240017	RN032600	725525	7917869
RN009905	643625	8238467	RN032601	712526	7922169
RN009906	648625	8240667	RN032603	694126	7954668
RN009907	653625	8243467	RN032607	711826	7922969
RN009908	660325	8241467	RN032691	629915	7911627
RN020201	651925	8235867	RN033276	326027	8202366
RN020399	769294	7912081	RN033445	682842	7944782
RN020444	452780	8010597	RN033446	703321	7944718
RN020445	402380	7971007	RN033447	753072	7911757
RN020575	704139	7891538	RN033449	786650	7911690
RN020576	671834	7881172	RN033463	661100	7848479
RN021471	651925	8235867	RN033466	634326	7881867
RN021708	414322	7973190	RN033482	265978	8187086
RN022802	635025	8259267	RN033530	700397	7918436
RN022863	390211	7996333	RN033607	333842	8189124
RN023361	734547	7902430	RN034175	381070	8232848
RN023905	608984	7859857	RN034176	386315	8227669
RN023909	780924	7915555	RN034182	376115	8229797
RN024517	791295	7919840	RN034186	503016	7986780
RN024521	708739	7933911	RN034472	707082	7927273
RN024693	790981	7896587	RN034473	796497	7917253
RN025318	651765	8234567	RN034704	333626	8169011
RN025700	801510	7911377	RN035922	727947	8220018

A total of 102 water bores were assessed for a suit of minerals across Natural Resources Exploration's tenures. Natural Resources Exploration tested the water bore cuttings through its engagement of Terra Search Pty. Ltd. who attended at the Darwin Core Facility on 2 February 2011. Terra Search conducted all XRF analysis of the water bore cuttings within the Darwin Core Facility across a period of two (2) weeks.

Figures 2 through to **Figure 6** 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. The availability of cuttings varied between projects whereby particular projects had very few cuttings available (or none at all) and others had a number of cuttings available. This greatly affected the conclusions that could be drawn from the results for each tenement and for the project areas generally.

Figure 2. Barkly Project

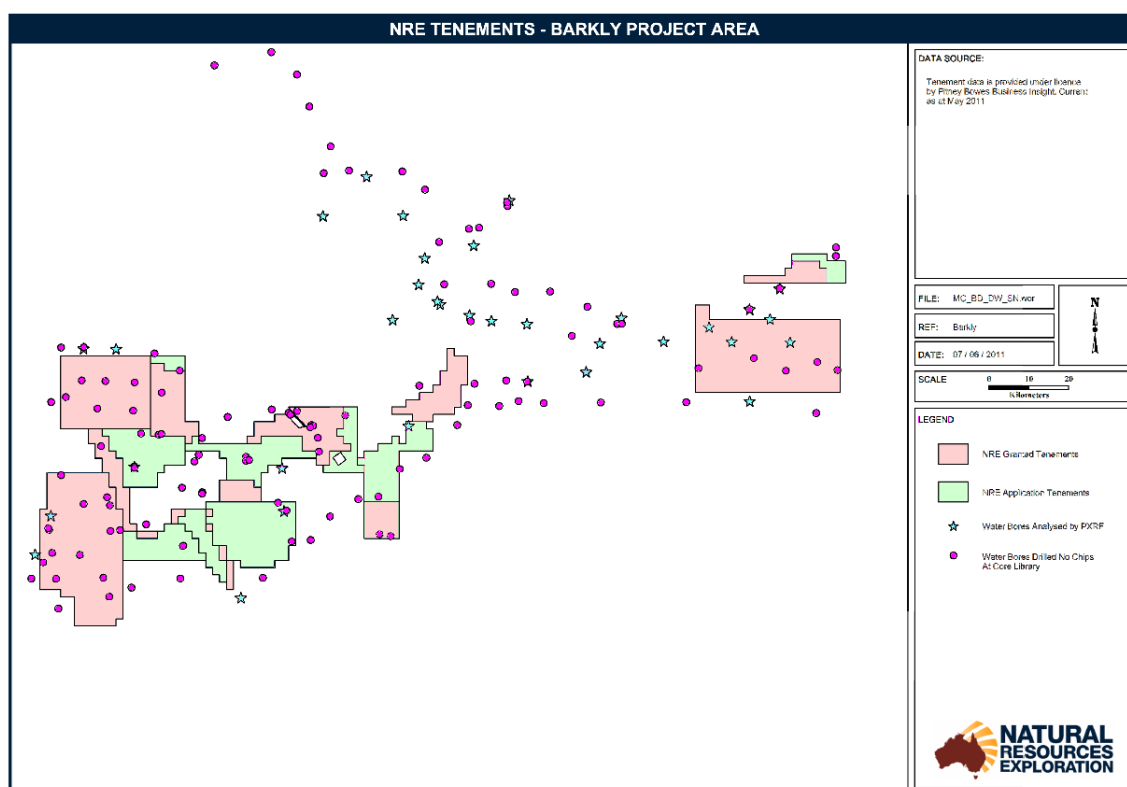


Figure 3. Brunette Downs Project

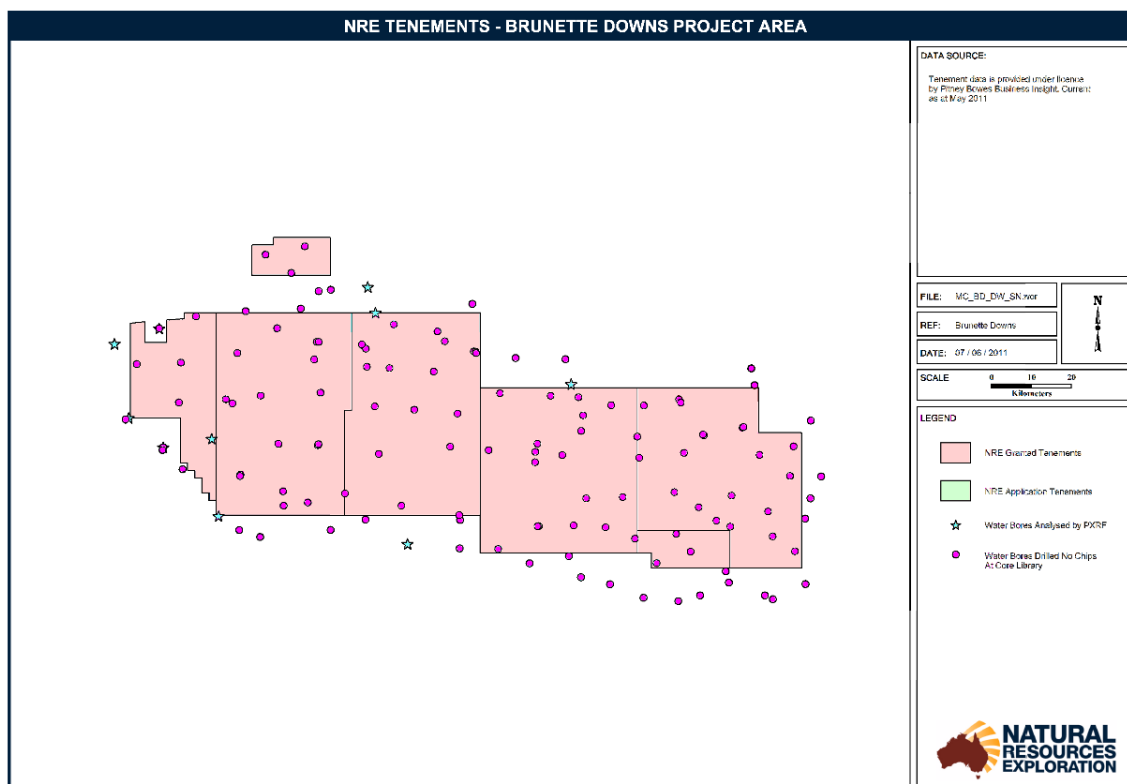


Figure 4. Daly Waters Project

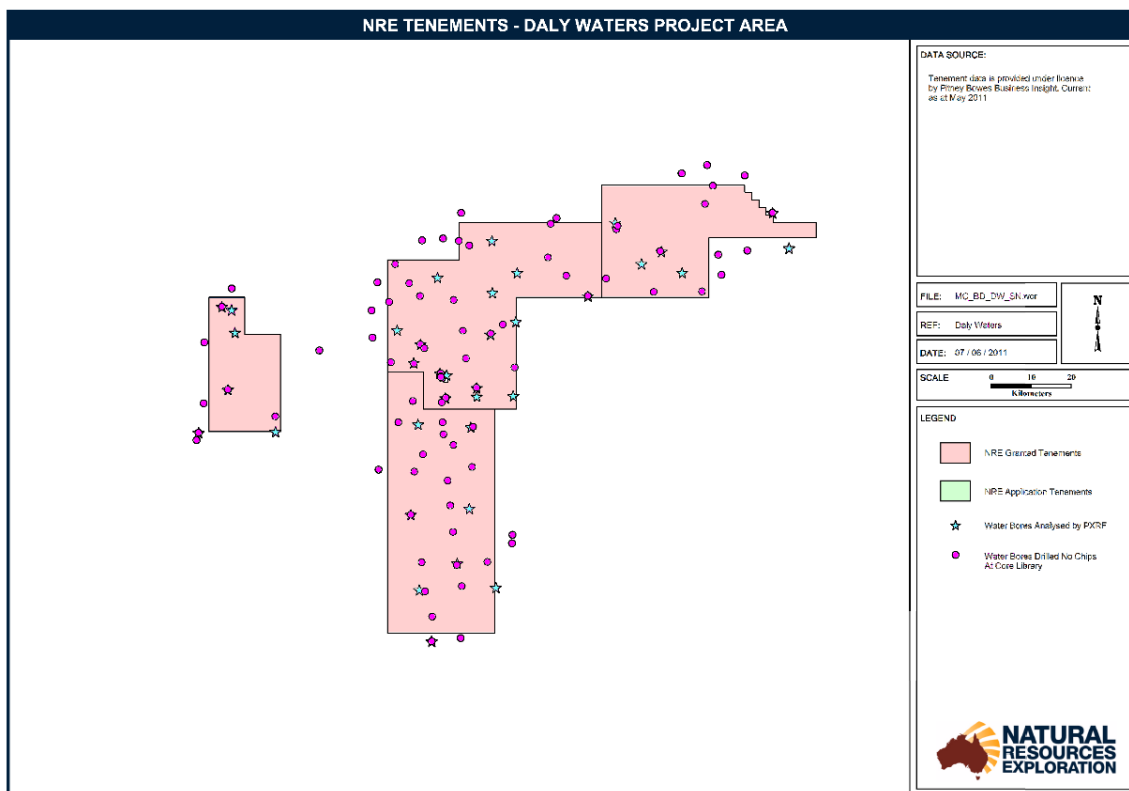


Figure 5. McArthur Project

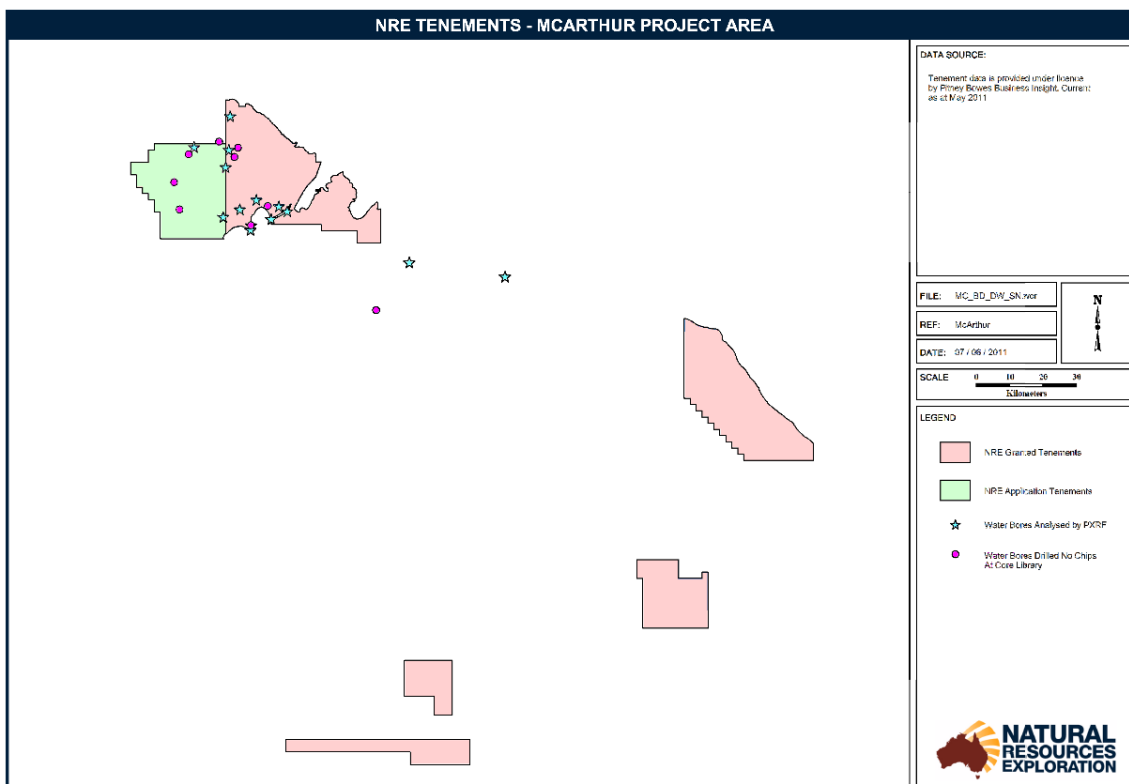
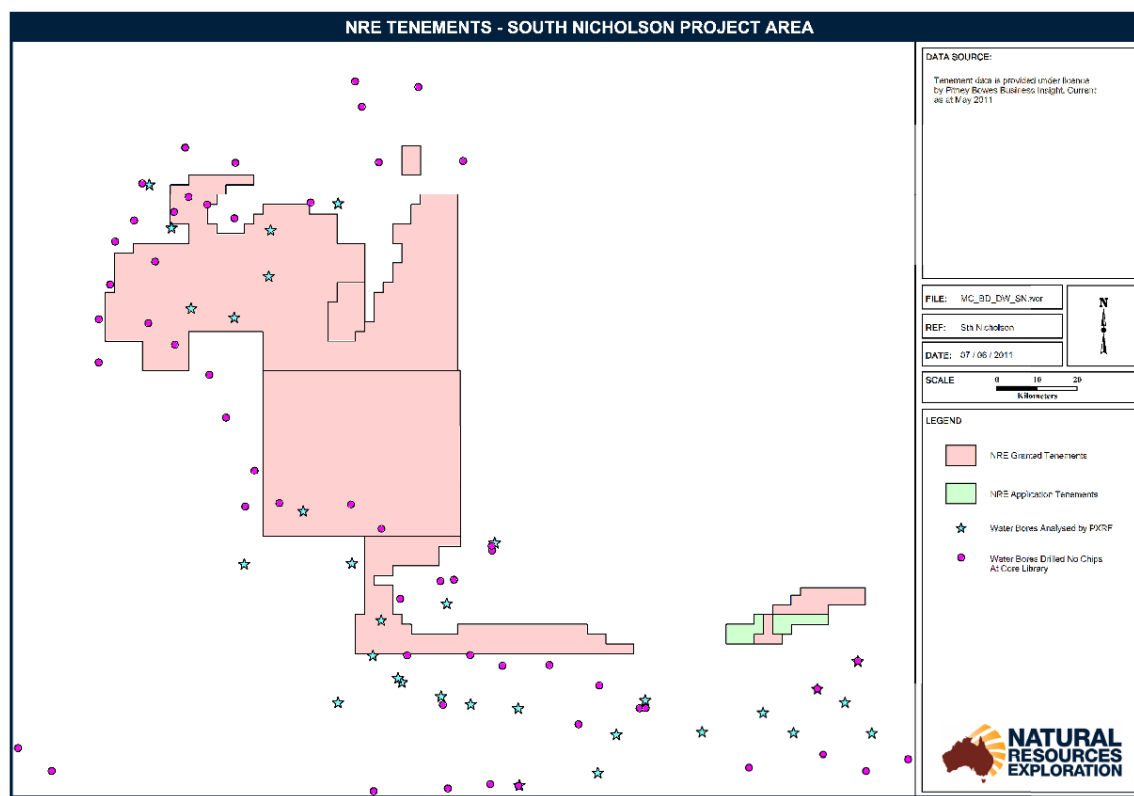


Figure 6. South Nicholson Project



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

Natural Resources Exploration obtained data in the form of XRF mineral assay results as well as ALS Laboratories' 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 cuttings assayed and held in the Darwin 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, as to provide enable the results to be easily matched back to the sampled material using original hole identification 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 the case in tenements 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 Daly Waters Project where Natural Resources Exploration identified a discrete base metal anomaly within a number of water bores which, historically, did not appear to have ever been tested for base metal mineralisation. Natural Resources Exploration, on interpretation of this data and regional datasets, now intend to conduct additional field activities to locate base metal mineralisation that was identified in this mineral assaying activity. Discrete Zinc, Copper and Arsenic were identified in the XRF assaying were confirmed in the ALS Laboratories mineral assays. This activity has provided Natural Resources Exploration with a target in respect of its Daly Waters Project.

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' mineral analyses have however provided Natural Resources Exploration with direction for follow up 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 the ALS Laboratories' mineral assays conducted on those same samples. The discrepancy in the results is possibly due to the limited cuttings available in the Department's Core Library whereby not all core containers had a sufficient amount of cuttings to enable samples to remain at the core library and for ALS Laboratories to conduct sampling. Only a limited number of samples were able to be provided to ALS Laboratories.

Natural Resources Exploration has engaged Terra Search Pty. Ltd. to further 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.

The XRF and ALS Laboratories mineral assessment of cuttings available at the Darwin Core Facility has been a cost effective, innovative, and convenient method in assaying / re-assaying cuttings from historical water bore drill holes in the Northern Territory.

Attachments:

Appendix 1. Geological Observations and core cutting availability.

Appendix 2. XRF Mineral Assay Results.

Appendix 3. ALS Laboratories Mineral Assay Results.