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RC Drilling Activity - Field Report

#### RESOURCE STAR LIMITED

# Field Activity Report on Pine Creek Uranium RC Drilling Program Exploration Licences 24432 (Hayes Creek South) & 23568 (Edith River)

Pine Creek Region, Northern Territory

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MAUSIMM

For:	Approved

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### 2 Introduction

CSA Global was requested to carry out a reverse circulation percussion drilling program on Exploration Licences 24432 (Hayes Creek South) & 23568 (Edith River) located in the Pine Creek area, Northern Territory by Resource Star Ltd. The work was supervised and carried out by Jim Clavarino, Associate Senior Geologist to CSA Global.

Following preparation of access to the proposed drill sites, drilling commenced on 14<sup>th</sup> November 2010 and was completed on 24<sup>th</sup> November 2010. A drilling summary is presented in Table 1 and complete drill hole logs are presented in Technical Report A which accompanies this field activity report.

This report only details the work done by Jim Clavarino in the field and no final conclusions can be made about any future work until the results of geochemical analyses carried out on selected samples are reported by Amdel Ltd. This field activity report has been prepared at the request of Resource Star Limited as an update on field activities to date.

A final detailed report with recommendations will be issued at a future date and this will highlight figures with drill hole locations, analytical results and geological interpretation.



### 3 Field & Drilling Activity

#### 3.1 Location & Access

The exploration Licences 24432 & 23568 held by Resource Star Limited, are situated adjacent to the Stuart Highway between Hayes Creek and Katherine, approximately 150 - 250 km south-southeast of Darwin.

Access to the Hayes Creek drill sites is via the Stuart highway to the Douglas-Daly road approximately 7 km north of Hayes Creek, thence west for approximately 5 km and then south on the bitumen road for approximately 18 km to the Douglas Station cattle yards, then a further 2.5 km to a cattle grid, turning off to the east along station tracks on the north side of the fence for a distance of 5-6 km.

Access to the YMCA No 2 drill sites is via the Stuart Highway to the Edith Falls turnoff to the east, on the south side of the Edith River, thence east for about 1.2 km before turning off to the south along an access track that follows the Darwin-Katherine power line for a distance of approximately 1 km.

Access to the various Tennyson's Prospects drill sites is via the Stuart Highway to where the old Katherine-Darwin road turns off to the west, about 2 km south of the Edith River, thence west for about 1 km to a locked gate on the south side. Station tracks run south from this gate and then west on the southern side of the Edith River for a distance of approximately 6 km to the westernmost drill sites.

#### 3.2 Drilling Activity & Work Details

Following preparation of access to proposed drill sites, drilling commenced on 14<sup>th</sup> November 2010 and was completed on 24<sup>th</sup> November 2010 with 25 holes totalling 891 metres (see Table 1). Eight holes were drilled on the Hayes Creek South EL, and 17 holes were drilled on the Edith River EL - three holes at the YMCA No 2 prospect east of the Stuart Highway and 14 holes at 5 locations in the Tennyson's Prospects area west of the Stuart Highway.

Prior to commencement of drilling, land-owner contact and preparation of drill site access was undertaken initially by Mr Andrew Margereson, and then by the writer during the week ending Saturday 13 November 2010.

Access preparation was undertaken by local contractor Oolloo Investments with a Caterpillar 955 articulated loader (Photo 1). Care was taken to minimize disturbance of soil and vegetation.

Drilling was undertaken by Darwin-based contractor Johannsen Drilling, utilizing a Isuzu 4x4 truck mounted Edson top-drive drill (Photo 2). Compressed air was supplied by an auxiliary compressor (1200 cfm/350 psi) also mounted on a Isuzu 4x4 truck (Photo 2).



Before commencing drilling operations all drilling and geological site personnel were given instructions and briefing on safety and operational procedures for the drilling operation as well as a separate briefing on the radiation management plan and radiation safety for the drilling and sampling operation.

Drilling utilized a 4½ inch face-sampling hammer with a button bit and dual tube reverse circulation drill rods. Drill cuttings were collected for each metre drilled via a cyclone and splitter (Photo 3). The splitter provided 2 -5 kg samples in cloth bags for geochemical analysis if required and the balance of the cuttings were retained in large green plastic bags (Photo 3).

Samples were laid out in orderly rows on the ground adjacent to the drill hole (Photo 4).

A small amount of material was taken from each sample for sieving and washing to remove dust and representative rock chips from each 1 metre interval were placed in plastic chip trays for later reference (Photo 5).

All chip trays were subsequently photographed (Photo 6). Descriptive geological logs were prepared from examination of both dry samples and wet-sieved drill cuttings (see Technical Report A).

All bulk samples were subjected to preliminary checked for total count radioactivity levels utilising a Radiation Solutions Inc RS125 handheld spectrometer (Photo 7). Every second bulk sample (i.e. alternate 1 metre samples) from selected drill holes were subjected to spectrometer assay over the complete length of the hole and for every metre over selected intervals in some holes (see Technical Report A).

Drilling commenced on Sunday November 14<sup>th</sup> 2010 in the Hayes Creek area. The auxiliary compressor failed around mid-day and drilling was halted until a replacement compressor was brought from Darwin on Monday 15<sup>th</sup> November 2010. On Wednesday 17<sup>th</sup> November 2010 after the 3<sup>rd</sup> drill hole had been collared at 4m, a large thunderstorm dumped more than 25 mm of rain between 8.00 and 9.00 a.m. The storm resulted in considerable surface water runoff along access tracks (Photo 8).

A decision was made to postpone further drilling in the Hayes Creek area to avoid bogging in the drilling equipment in the event of further rain and to move to the Edith River drill sites. Both the drill and the compressor truck were bogged three times before reaching the main road 5 km east of the drill sites (Photos 9 & 10).

Drilling resumed at the YMCA area (YMCA 001-003) late on the  $17^{th}$  November 2010. The Tennyson's Prospects drill holes (TY 001-014) were completed on  $22^{nd}$  November 2010 and the drilling equipment was moved back to the Hayes Creek area where drill holes HCK 003-008 were completed on  $24^{th}$  November 2010.

On 25<sup>th</sup> November 2010 the drilling contractor de-mobilised to Darwin. Completion of spectrometer assays and collection of samples for geochemical assay was also completed on the 25<sup>th</sup> November 2010 before widespread thunderstorms in the area rendered access tracks to the drill sites impassable.

#### **CSA Global Technical**



Hole No	Zone	East (m) 765,601	North (m) 8,484,999	Altitude (m) (approx) 128	Azimuth (Mag)	Declination (degrees)	T.D. (m) 56	Samples From (m)	To (m)	Radioactivity Incomplete for all holes (See notes below) No significant radioactivity (see note 2 below)	Comment	Start Date	Finish Date
HCK 002	52	765,585	8.484.976	120	230	-60	60			No significant radioactivity (see note 2 below)		16/Nov/10	16/Nov/10
HCK 003	52	765,561	8.484.962	120	226	-60	4		-	No significant radioactivity (see note 2 below)	Terminated due to rain	16/Nov/10	16/Nov/10
HCK 003	52	765,561	8,484,962	120	224	-60	30	-	-	No significant radioactivity (see hote 2 below)	Completed from previous 4 to 30 m.	24/Nov/10	24/Nov/10
YMCA 001	53	182,325	8,428,857	136	087	-60	40	13	22	No significant radioactivity	Target 'hot' rocks 9 - 10 m E of collar	17/Nov/10	17/Nov/10
YMCA 002	53	182,350	8,428,793	130	076	-60	40	11	14	Minor radioactivity 12-13 m	Target 'hot' rocks 9 - 10 m E of collar	17/Nov/10	17/Nov/10
YMCA 003	53	182,376	8,428,696	130	084	-60	43	22	25	Anomalous radioactivity 23-24 m		18/Nov/10	18/Nov/10
TY 001	52	821,926	8,428,028	110	062	-60	40	21	26	Minor radioactivity 23-24 & 37-38 m	Target 'hot' rocks 11 - 12 m E of collar	19/Nov/10	19/Nov/10
TY 002	52	821,906	8,428,059	120	086	-60	46	31	36	Minor radioactivity 32-35 m	Hot' rock #202 - 13 - 14 m E of collar	19/Nov/10	19/Nov/10
TY 003	52	821,893	8,428,077	110	080	-60	31		-	No significant radioactivity	Hot' rock #201 - 12 m E, 7 m S of collar	19/Nov/10	19/Nov/10
TY 004	52	822,783	8,425,785	133	067	-60	25	13	18	Minor radioactivity 15-17 m	Target 'hot' rocks 7 - 8 m E of collar	19/Nov/10	20/Nov/10
TY 005	52	822,340	8,425,402	140	072	-60	31	21	26	Minor radioactivity 23-24 m	Shear zone target 3 - 19 m E of collar	20/Nov/10	20/Nov/10
TY 006	52	822,344	8,425,484	136	103	-60	31	22	29	Anomalous radioactivity 24-25 m	Hot' rock #241 - 9 m E of collar	20/Nov/10	20/Nov/10
TY 007	52	822,368	8,425,553	139	098	-60	31	7	11	Minor radioactivity 08-10 m	Target 'hot' rocks 4 & 13 m E of collar	20/Nov/10	20/Nov/10
TY 008	53	176,352	8,426,465	119	070	-60	34	23	27 15	Anomalous radioactivity 13-14 m	Target 'hot' rocks 5 & 14 m E of collar	20/Nov/10	21/Nov/10
TY 009	53	176,314	8,426,545	118	085	-60	34	9	12	Minor radioactivity 10-11 & 25-27 m		21/Nov/10	21/Nov/10
								24	28				
TY 010	53	176,245	8,246,509	121	176	-60	40	20	40	No significant radioactivity		21/Nov/10	21/Nov/10
TY 011	53	177,065	8,426,554	140	270	-60	19		-	No significant radioactivity	Target 'hot' rocks 5 - 6 m W of collar	21/Nov/10	21/Nov/10
TY 012	53	176,999	8,426,739	132	251	-60	19	9	17	Minor radioactivity 15-16 m	Shear zone target 5 - 6 m W of collar	21/Nov/10	21/Nov/10
TY 013	53	176,949	8,426,949	133	245	-60	25	-	-	No significant radioactivity	Shear zone target 3 - 13 m W of collar	22/Nov/10	22/Nov/10
TY 014	53	176,895	8,427,168	133	265	-60	28		-	No significant radioactivity	Shear zone target 2 - 13 m W of collar	22/Nov/10	22/Nov/10
HCK 004	52	766,294	8,484,342	120	227	-60	28	_	-	No significant radioactivity (see note 2 below)	Hole terminated before target depth of 60m due to clay and water.	23/Nov/10	23/Nov/10
HCK005	52	766,230	8,484,369	120	222	-60	32		-	No significant radioactivity (see note 2 below)	As for HCK 004	23/Nov/10	23/Nov/10
HCK 006	52	766,257	8,484,400	120	220	-60	40	- 1	-	No significant radioactivity (see note 2 below)	As for HCK 004	23/Nov/10	23/Nov/10
HCK 007	52	766,241	8,484,383	121	225	-60	28	-	-	No significant radioactivity	In-fill hole	24/Nov/10	24/Nov/10
HCK 008	52	766,214	8,484,353	121	224	-60	30		-	No significant radioactivity	In-fill hole	24/Nov/10	24/Nov/10
HCK 003	52	765,561	8,484,962	120	224	-60	30		-	No significant radioactivity	Completed from previous 4 to 30 m.	24/Nov/10	24/Nov/10
						Total metres	895						
	co-ordinates Projection: Datum:		Magn	etic Declina	ation:	3.7°			Note 1 Note 2	Spectrometer assays on every second sample, Samples checked for Total Count only	selected zones every metre		

Table 1

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#### 3.3 Drill Holes completed

#### 3.3.1 EL 24432 (Hayes Creek South)

Eight holes totalling 276 m were drilled on two lines to test a northwest-southeast trending airborne radiometric anomaly (see Table 1).

Drill holes HCK 001 – 003 (see Photo 11) encountered weathered siltstones and shale (Possible Burrel Creek Formation). No significant levels of radioactivity were identified in any of the drillholes and no samples were selected for geochemical analysis.

Drill holes HCK 004 - 008 (see Photo 12) also encountered weathered siltstones and shale (Possible Burrel Creek Formation). No significant levels of radioactivity were identified in any of the drill holes and no samples were selected for geochemical analysis.

#### 3.3.2 EL 23568 (Edith River) – YMCA No 1 Prospect

Three holes (YMCA 001 - 003) totalling 123 m were drilled over a strike length of 160 m to test a north-south trending shear zone in granite with anomalous levels of radioactivity (see Table 1). An old mineshaft with strongly anomalous radioactivity (up to 3,300 cps total count) is located on this shear zone between holes YMCA 001 & 002 (see Photo 13).

The holes encountered variably sheared granitic rocks with hematite replacing chlorite within granite wall rocks. Minor levels of radioactivity are present over small intervals that were sampled for geochemical analysis (see Table 1).

#### 3.3.3 EL 23568 (Edith River) – Tennyson's Prospects

Three holes (TY 001 - 003) totalling 117 m (see Table 1) were drilled to test the northern part of a north-northwest trending quartz stringer and hematite-bearing shear zone in granite (see Photo14 & 15).

The holes encountered hematite bearing shear zones granite. Minor levels of radioactivity are present over small intervals in TY 001 and TY 002, and these were sampled for geochemical analysis (see Table 1)

One hole (TY 004) was drilled to test the northern part of a north-northwest trending quartz stringer and hematite-bearing shear zone in granite (see Photo16).

The hole encountered a hematite bearing shear zone in granite. Minor levels of radioactivity are present over a small interval that was sampled for geochemical analysis (see Table 1)



Three holes (TY 005 - 007) totalling 93 m (see Table 1) were drilled to test part of a north-northeast trending quartz stringer and hematite-bearing shear zone in granite (see Photo17).

The holes encountered possible hematite bearing shear zones in granite. Minor levels of radioactivity are present in each hole over small intervals that were sampled for geochemical analysis (see Table 1).

Three holes totalling 108 m (TY 008 - 010) were drilled in this area (see Table 1). Two holes (TY 008 - 009) were drilled to test part of a north to north-northwest trending quartz stringer and hematite-bearing shear zone (see Photo 18). A third hole (TY 010) was drilled to test one of two east-west trending quartz veins that intersect the main northerly trending shear zone.

Drill holes TY 009 & 009 encountered hematite bearing shear zones in granite. Minor levels of radioactivity are present over small intervals in both holes, and these were sampled for geochemical analysis (see Table 1). Drill hole TY 010 encountered sheared chloritic granite in depth but no significant levels of radioactivity.

Four widely-spaced holes (TY 011 - 014) totalling 91 m (see Table 1) were drilled to test a north-northwest trending quartz stringer and hematite-bearing shear zone (see Photo 19).

Drill holes TY 011 - 013 encountered hematite bearing shear zones in granite. Minor levels of radioactivity are present over small intervals only in hole TY 012, which was sampled for geochemical analysis (see Table 1). TY 014 encountered only granite with no significant levels of radioactivity.

#### 3.4 Conclusions

The reverse circulation drilling program adequately tested the selected target zones.

#### 3.5 Final Reporting

 Further conclusions on the results of the drilling program will be dependent on the results of geochemical analyses of selected samples.



### 4 References

Interim Report – Mapping in the Edith River and Hayes Creek Projects, EL 23568, EL 26219: EL 24432, by David Pearcey; unpublished report by CSA Global Pty Ltd for Resource Star Limited, July 2010

Pine Creek Uranium Project, Edith River Spectrometry Survey Results & Target Definition, Northern Territory, by Karl Lindsay Park, unpublished report by CSA Global Pty Ltd for Resource Star Limited, September 2010.





### **Photographs**







Photo 1: Establishing drill site access at Tennyson's, south of Edith River



Photo 2: Drill rig and compressor, YMCA 003





Photo 3: Sample cyclone, splitter & sample bags



Photo 4: One-metre samples, TY 013





Photo 5: Placing sieved/washed drill cuttings into chip tray



Photo 6: Drill cuttings, YMCA 003





Photo 7: Spectrometer assay of one-metre bulk sample and data recording



Photo 8: Stormwater runoff on drill access track





Photo 9: Drill bogged on site of drill hole HCK 003



Photo 10: Compressor truck bogged on Hayes Creek access track





Photo 11: Drill holes HCK 001 – 003, view northeast



Photo 12: Drill holes HCK 004 – 008, view northeast





Photo 13: Drill hole YMCA 002 with old mineshaft, view southwest



Photo 14: Target shear zone, drill hole TY 002, view south





Photo 15: Drill hole TY 003, target shear zone left to centre, view south



Photo 16: Drill hole TY 004, view south-southwest, target shear zone rocks in foreground





Photo 17: Drill hole TY 006, view west, "hot" rock #241 target zone in foreground



Photo 18: Drill hole TY 009, view northwest, target rocks in foreground





Photo 19: Drill hole TY 011, view southeast, target shear zone at front right