### PROSPERITY RESOURCES LTD

## **TENNANT CREEK PROJECT**

# Combined Annual Technical Report for the Period 04 February 2008 to 03 February 2009

**Tenements:** ELs 23738, 23818, 23819, 23828, 23846, 23873,

23890, 23895, 23918, 24158

**Location:** Tennant Creek, NT

**Mapsheets:** 1:250,000: TENNANT CREEK (SE53 - 14)

1:100,000: TENNANT CREEK (5758) and FLYNN

(5759)

**Datum(s):** MGA Zone 53, GDA94

**AMG Co-ordinates:** 420,000mE 7,840,000mN

Keywords: Tennant Creek Inlier, IOCG Deposits, Gold,

Geophysical Modelling, Prospectivity Modelling, LANDSAT 7 ETM+ Interpretation, RC Drilling,

**Diamond Drilling** 

**Commodities:** Au, Cu

Analyses: Au, Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe,

Ga, K, La, Mg, Mn, Mo, Na, Ni, P, Pb S, Sb, Sc,

Sr, Th, Ti, Tl, U, V, W, Zn

Date: March 2009

Author: Scott R. Matheson

Abstract:

Location Tennant Creek, Northern Territory.

Geology Tennant Creek Inlier – Warramunga Formation.

Exploration Modelling of EM and IPsurvey data, Prospectivity Modelling using

published and open file data, mineral alteration and structural interpretation of LANDSAT 7ETM+ data, 28 RC (PTCRC1 to 24, PTCD1 to 4) and one diamond (PTCD4) drill hole completed to test 9 targets, geological field

investigations and rock chip sampling also conducted.

#### Results

64 targets were delineated from aeromagnetic and gravity data, 26 of these targets selected for follow-up by 3D IP and EM surveys. 146 targets delineated from Prospectivity Modelling of Tennant Creek area, 22 targets with probability factor >0.99. 52 LANDSAT 7 ETM+ targets delineated, of these 28 high priority targets. The best intersection reported was from PTCRC2 - 4m @ 2.64 g/t Au (131-135m) including 2m @ 1.75% Cu (133-135m). No shearing or alteration typical of the Tennant Creek IOCG was intersected in any of the drill holes.

#### Conclusion

Numerous targets delineated from gravity, magnetic, IP, EM, LANDSAT 7 ETM+ data and Prospectivity Modelling of published geological and open file exploration data. A thorough review of these targets with the aim of prioritising them for further exploration is required. This review should include:-

- Further review of geological and open file data
- Field investigations which may include ground magnetic surveying, geological mapping and geochemical surveys as appropriate.
- Modelling of geophysical data were appropriate to refine drill targets and planning of drill holes
- Prioritisation of targets for testing based on realistic economic targets
- RC and/or diamond drilling to test targets

## **File Verification List**

Exploration Work Type	File Name	Format
Office Studies		
Literature search		
Database compilation		
Computer modelling Reprocessing of data		
General research		
Report preparation	Combined Annual Report 2009	pdf
	Prosperity-tennant-creek-3dip-em-2008-INTERP-report	pdf
	Iron Oxide Copper, Gold and Bismuth in the Tennant Creek Region: Prospectivity Model and Exploration Review	pdf
	Structural and Mineral Interpretation from LANDSAT 7 ETM+ Satellite Data	pdf
Other (specify)		
Geological Legend		
Airborne Exploration S  Aeromagnetics	urveys	<u> </u>
Radiometrics		
Electromagnetics		
Gravity		
Digital terrain modelling		
Other (specify) Remote Sensing		
Aerial photography		
LANDSAT		
SPOT		
MSS		
Radar		
Other (specify) Quickbird		
Ground Exploration		
Geological Mapping		
Regional		
Reconnaissance		
Prospect		
Underground Other (specify)		
Ground Geophysics		
Radiometrics		
Magnetics		
Gravity		
Digital terrain modelling		
Electromagnetics		
SP/AP/EP		
IR		
AMT		
Resistivity Complex registivity		
Complex resistivity Seismic reflection		
Seismic refraction		
Well logging		
Geophysical interpretation		
Downhole magnetic Susceptibility		
Downhole EM		
Geochemical Surveying		
Drill sample		
Stream sediment		

Soil		
Rock chip		
Laterite		
Water		
Biogeochemical		
Isotope		
Whole rock		
Mineral analysis		
All surface geochemistry	SurfaceGeochem	CSV
Drilling		
Diamond		
RC		
Rotary air blast (RAB)		
Aircore (AC)		
Groundwater drilling		
All Drilling	TC_DRILLHOLE_assays_2008	csv
	TC_DRILLHOLE_collars_2008	CSV
	TC_DRILLHOLE_composites_2008	csv
	TC_DRILLHOLE_lithology_2008	csv
	TC_DRILLHOLE_samples_2008	csv
	TC_DRILLHOLE_surveys_2008	csv
Downhole Surveys	PTRD1, PTCD4 and PTCRC1 to PTCRC24	xls
Downhole Geophysics	Prosperity Tennant Creek Final Reports (1)	zip
	Prosperity Tennant Creek Final Reports (2)	zip
	Prosperity Tennant Creek Final Reports (3)	zip
	Prosperity Tennant Creek Final Reports (4)	zip
	Prosperity Tennant Creek Final Reports (5)	zip

