

ORRA EXPLORATION PTY. LIMITED  
DRILL-HOLE SUMMARY LOG

428023  
Graphic Log

HOLE NAME: DD962A1  
PROSPECT: AVEGWAY  
EL: ZEEHAN 1 EL28189 RL 172m. DEPTH 284.5m  
AMG EAST 354793 NORTH 5357206  
GRID EAST NORTH

DATE DRILLED: 11/12/96  
LOGGED BY: B. THOMAS  
DRILLING CO.: ALMAC  
DRILL TYPE: DIAMOND  
DRILL RIG: LF70  
DC DRILL CORE: ZEEHAN

SURVEYS:

DEPTH	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
0	000°	65°	250	343°	68°
50	341°	67°	290	<del>340</del> 301°	68°
97	352°	67.5°			
180	353°	67.5°			
200	352°	67.5°			

OBJECTIVES OF HOLE:  
Diamond drilltest of the helimag anomaly - 6000nT anomaly

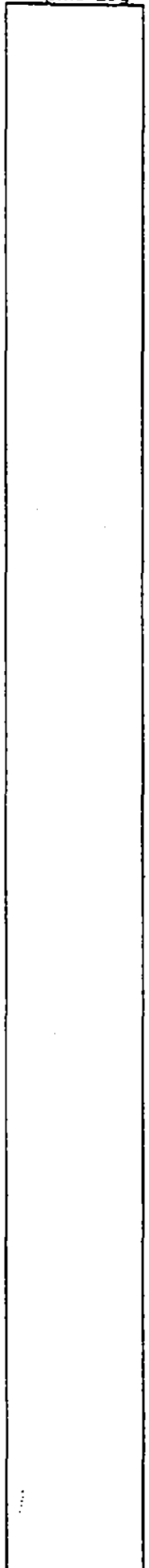
LITHOLOGICAL SUMMARY:

FROM	TO	FORM CODE	COMMENTS
0	2	Qha	Overburden
2	24		Ferruginous rotted conglomerate
24	43.9		Chloritic conglomerate
43.9	57.5		Chloritised volcanics - highly sheared
57.5	62.8		Broken core - fault zone
62.8	72.0		Chloritised volcanics
72.0	83.3		Chloritised hornfels
83.3	84.2		Fault breccia zone
84.2	93.7		White quartz/carbonate unit with magnetite
93.7	104.6		Serpentinite
104.6	130.7		White quartz/carbonate unit with magnetite (argillaceous limestone)
130.7	147.8		Uniform fine grained serpentinite
147.8	151.3		Multicoloured serpentinite
151.3	163.1		Mixed serpentinite and white replaced limestone units
163.1	284.5		Serpentinite with green/yellow and white/green blotches

MINERALISATION SUMMARY:

FROM	TO	COMMENTS

CONCLUSIONS:



C.R.A. EXPLORATION PTY. LIMITED  
DRILL CORE LOG

TENEMENT NAME Zeehanle 28/8 No. ....

F = Fracture  
V = Vein  
B = Bedding  
C = claystone

RD DATA  
1 = > 30cm  
2 = 10-30cm  
3 = 3-10cm  
4 = 1-3cm  
5 = < 1cm

COORDINATES 354793mE  
5357206mN AZIMUTH 008 (AMG) DRILLERS ALMAC COMMENCED 11/2/96  
RL COLLAR ..... INCLINATION 65° DRILL TYPE DIAMOND COMPLETED ..... CASING LEFT ..... DPO No(s) ST Tear

DEPTH		Core Rec. %	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....			
From (M)	To (M)									(From To)	(m)	%	
0	3	-	-	Overburden no recovery						0	3	30	-
3	4.5	60	5X	Red/brown rotted bedrock probably pink quartzite with scattered iron blebs (? pyrite)	Heavily limonitic (+/- minor hematite alteration/weathering)					30	4.5	105	70
4.5	5.0	75	5X	~4cm of sst (pink med gr) then into red/brown rotted bedrock Brecciated appearance - rounded clasts of pink sst (up to 5cm fractured and manganese veins within clasts) Also smaller, red clasts up to 1cm + v. white small clasts - finer	Fe staining + mn veins possibly along fractures. Strike Brecciated appearance - rounded clasts of pink sst (up to 5cm fractured and manganese veins within clasts) Clay matrix supported (80%) Also smaller, red clasts up to 1cm clay = 10%					4.5	5.0	80	70
5.0	6.5	80	5X	As above with 5-10cm quartzite (med gr) at 6m. Last 40cm very brecciated - manganese rich veins + redness	Becomes very red at 6.3-6.5m. Sensitive or fractured at similar orientations to Mn					5.0	6.5	80	70
6.5	7.5	80	5X	1st 40cm - v. brecciated/red Manganese rich. Last 6cm same as 4.5-5m	- Small (0.5mm) voids could possible be weathered away pyrite cubes?					6.5	7.5	80	70
7.5	8.5	70	5X	1st 5cm = v. fine grained quartzite (chert) - broken up (1-4cm angular clasts - very little clay matrix - 7.5-8.45 is same as 4.5-5m although red clasts dominate. Last 5cm is med gr. sst (quartzite) and a coarser grained rock - v. coarse gr sst (last few cms) v. weathered + sennitised (pink-white colour).	Red clasts very brightly coloured after chert.					7.5	8.5	70	70



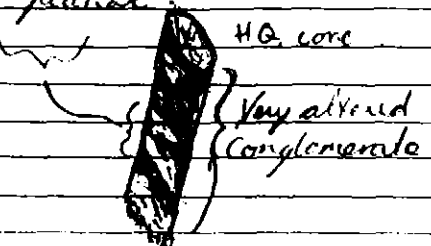








DEPTH		Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)										
From (M)	To (M)										%										
41.3	42.8				<p>Brecciated, weathered conglomerate with green matrix. Some lenticular looking masses are quite large (~10x5cm) and become more common. The green silt and to silt matrix now makes up the majority of the rock (~60%) and the clasts are small (except for a few lg. clasts at 41.3-41.7m). Cream silicified, rounded clasts are small (~0.5-1cm). They are common in column and are often fractured.</p>	<p>Manganese veins are and very thin (1cm) - Fe stained areas common - after along fractures. There is no preferred fracturing direction seen.</p>		41.3	42.8	1.4											
42.8	43.9				<p>Some white areas probably where cream clasts were concentrated as now cream, whitish patches within the green matrix. Round clasts are very rare, most are unrecognizable as clasts or are fractured with green matrix between the fractures.</p>	<p>Whitish, cream col. veins generally intersect the log core axis at roughly 45° and are generally planar.</p>		42.8	43.9	1.0											





































428048

DRILL CORE LOG

TENEMENT NAME..... No. ....

PLAN - MAP REFERENCE.....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. **DD962A1**

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Vaining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)											
From (M)	To (M)																					
149.5	152.5	3.0			<p>The first 2 m of this section are dark bluish grey serpentinite with irregularly shaped and <del>bluish</del> greenish cream, wispy patches of green serpentinite and calcium carbonate (dolomite? + calcite). The amount of cream and green blocks (wispy patches) within the blue/grey serpentinite varies considerably (from faint serpentinite to zones of mainly cream and green material, white wispy patches of quartz occur (small over the last 1.1 m. (ie 151.4 to 152.5 m).</p>	<p>*Note: Some creamy quartz (often anhedral shaped) described earlier (mainly 104 - 125m) may have been possibly dolomite? rather than qz.</p>		149.5	152.5	3.0												
152.5	164.5	12.0			<p>Dark grey/blue, very fine grained serpentinite that contains large patches of light grey to white wispy patches of quartz. (10-40 cm long). Within the quartz rich zones, qz usually makes</p>	<p>Magnetite patches occur throughout the qz rich and serpentinite zones. (very magnetic rock). Pyrite or possibly Pyrrhotite occurs as disseminated concentrations within some areas of serpentinite.</p>	1'	152.5	155.5	3.0												
								155.5	158.5	3.0												
								158.5	161.5	3.0												
								161.5	164.5	3.0												

between 154 & 154.8 m mainly.



428050 DRILL CORE LOG

TENEMENT NAME..... No.....

PLAN - MAP REFERENCE.....

COORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. **10962A1**

RL COORDINATES..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH (M)		Core No.	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)													
177.4	178.9			• 177.4 to 178.9 = Bluish dark grey serpentinite with only minor green blebs of green serpentine.	Some areas of the serpentinite have more (higher percentage) than others.		197.1	198.8	1.3														
				• 178.9 to 179.5 = section of large (15-20cm long) fractures filled with calcite & minor fibrous serpentine. Cut long core axis at ~15-20°.	Magnetite and less common pyrite occur as wispy blebs and small veins throughout the serpentinite. - Also form as circular blebs.		198.8	200.5	1.65														
				• 181.7 to 182.3 = long carbonate & serpentine (fibrous) filled, irregularly orientated fracture.	Small creamy roundish blebs, sometimes ring shaped, occur within the rocks.		200.5	203.5	3.0														
				• 182.7 to 182.85 = Brecciated core with serpentine (fibrous) + calcite filled fractures.			203.5	206.5	2.95														
				• 190 - Start to be more greenish cream wispy blebs within serpentinite.			206.5	209.5	3.0														
				• 194.4 - 194.6 = large fracture with white calcite & fibrous alluminite along it.			204.5	212.5	3.0														
				• 195.0 to 199.0 = Core more fractured.			212.5	215.5	3.0														
				• 209.8 = calcite filled fracture.			215.5	217.7	2.1														
							217.7	220.2	2.5														
							220.2	221.2	1.0														
							221.2	224.4	3.2														
							224.4	227.0	2.6														
							227.0	230.1	3.1														
							230.1	233.1	3.0														
							233.1	236.1	3.0														
							236.1	239.2	3.1														
							239.2	242.3	3.1														
							242.3	244.9	2.6														
							244.9	248.0	3.1														
							248.0	251.1	3.1														
							251.1	253.4	2.1														
							253.4	256.4	2.9														
							256.4	259.5	3.0														
							259.5	262.6	3.0														
							262.6	265.7	3.1														
							265.7	268.8	3.0														
							268.8	270.8	1.8														
							270.8	272.5	1.7														
							272.5	275.5	3.0														
							275.5	278.5	3.0														
							278.5	281.5	3.0														

