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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 1

TENEMENT NAME TENTH LEGION No. 53M/75

PLAN – MAP REFERENCE TASM 2 TASM 12

CO-ORDINATES 4923.5N 5397.3E AZIMUTH 180° GRID DRILLERS S. RIMAK COMMENCED 2.3.81 DEPTH 133.0m HOLE No. TLC2

RL COLLAR 260.15m INCLINATION -50° DRILL TYPE BOYLES 37 COMPLETED 3.3.81 CASING LEFT 21m NW DPO No(s) 26667/26668

DEPTH From (M)	DEPTH To(M)	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 ANALABS.) Cu	Pb	Zn	Ag	Sn	W	Au			
			NQ		0-3.0m TRICONED - NO CORE		877574	7.5	10.5		85	730	2150	4.5	220	30	SLUDGE			
3.0	4.5	0.1	to	q/ss	3.0-7.5 QUARTZITES, minor SILTSTONES	Minor barren qtz 'sweatout' veins.	575	10.5	13.5		145	390	1550	4.0	140	130	SAMPLES.			
4.5	6.5	0.2	133m.		Fragments of very hard f.gr. pinkish brown		576	13.5	16.5		45	465	1400	3.0	140	25	x			
6.5	7.5	0.5			quartzite with qtz segregations, minor thinly	3.0 - 19.5 Highly fractured and	577	16.5	19.5		55	360	1550	3.0	150	65				
7.5	10.5	1.0		↓	bedded contorted grey siltstone interbeds	broken - weathered - no obvious														
10.5	13.5	0.9		Cst	?7.5-10.5 CALC SILICATE ROCK.	mineralisation.	877397	7.6	10.5	1.0	120	50	1850	1.5	270	x				
13.5	16.5	0.2			Highly altered chlorite-actinolite-?talc															
16.5	19.5	0.7			rock - soft, mottled dark greens and greys															
19.5	22.5	2.7			with white tremolite (dolomite?) remnants.															
22.5	25.0	2.5			?10.5-16.5 ? CALC SILICATE ROCK		398	10.5	13.5	0.7	5	360	1850	0.5	240	x				
25.0	27.8	3.0			Highly weathered soft white puggy rock															
27.8	30.9	3.1			with slightly speckled appearance															
				↓	LOST CORE 13.5 - 16.5 m.															
				q/s Cst	?16.5 - 19.5 QUARTZITES/CALC SILICATES.		399	13.5	16.5	0.1	10	55	405	0.5	15	x				
					Most recovered core brownish pink		400	16.5	19.5	0.5	5	50	250	0.5	120	x	x			
					quartzite frags in a matrix of soft															
					shattered rock, some pale green epidote.															
				Css/M	19.5-20.0 DIOPSIDE/TREMOLITE ROCK WITH	Mag 30-35%, ? trace sp.	877501	19.5	20.0	0.5	5	70	330	x	200	x				
					MAGNETITE. Pale greeny grey rock with															
				↓	dissem crystalline mag to 3mm.															
				Csd	20.0-22.5 DIOPSIDE/TREMOLITE ROCK	Small clots of dissem magnetite	502	20.0	22.0	1.7	x	45	260	x	40	x				
					Greyish green crystalline rock, with irregular	with the more fibrous minerals.														
					patches of grey-green tremolite/actinolite in															
					a granular diopside mass. Some green ?hornblende.															
				↓	Contact 70°															
				Cst	22.5-24.4 CALC SILICATE ROCK	1-2% Magnetite along fine fracturing.	503	22.0	24.4	2.4	5	390	350	5.0	25	x				
					Bone coloured f.gr. diopside/tremolite	Traces po, py.														
					rock, well fractured, with epidote veining															
					and talcose alteration along fractures.															
				↓	Contact 50°															
				M	24.4-28.05 MAGNETITE — see next page.															

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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 2

TENEMENT NAME TENTH LEGION No. 53 M/75

PLAN – MAP REFERENCE

CO-ORDINATES AZIMUTH DRILLERS COMMENCED DEPTH HOLE No. TLC 2

RL COLLAR INCLINATION DRILL TYPE COMPLETED CASING LEFT DPO No(s) 26667/26668

DEPTH From (M)	DEPTH To (M)	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 ANALABS) Cu	Pb	Zn	Ag	Sn	W	Au
			NQ		24.4 -26.4 60% f.gr. mag. with irreg.		877504	24.4	26.4	2.0	20	30	165	0.5	230	10	×
					white diopside/tremolite, patches serpentinite, minor veining.												
					26.4-28.05 Mag 50-60% in a matrix of dark green serpentinite. - py 1-2%; trace sp, ga		505	26.4	28.05	1.65	115	40	270	×	60	20	
				↓	Contact 50° from fragment												
30.9	34.0	3.1		Cst	28.05-30.1 CALC SILICATE ROCK	Mag 10% as fine stringers and laminae	506	28.05	30.1	2.05	25	20	70	×	35	×	
34.0	37.0	3.0			Hard bone-white tremolite rock with	within calc silicates. Traces dissen po											
37.0	40.5	3.5		↓	corroded remnants of grey crystalline dolomite.	at base of interval.											
40.5	43.5	3.0		S/M	30.1-31.8 SERPENTINITE WITH MAGNETITE.	Py 1-2% as interstitial blebs in 30-35%	507	30.1	31.8	1.7	85	30	180	×	45	10	
43.5	46.5	3.0		↓	Grey-green serpentinite with dissem mag.	disseminated magnetite											
46.5	49.5	3.0		Cst/Dol	31.8-36.5 CALC SILICATE WITH DOLOMITE	31.8-32.4 Mag 5-15% dissem in 'dolomite'											
49.5	52.5	3.4			31.8-32.4 White crystalline ?dolomitic rock with		508	31.8	33.8	2.0	5	25	85	×	25	×	×
					spots of sepentinous alteration near upper contact.		509	33.8	36.5	2.7	×	60	115	×	35	×	
					32.4-36.5 Yellowish grey f.gr. calc silicate	32.4-36.2 Mag dissem along fine stringers with											
					rock (tremolite/diopside), spotted with	yellowish green serpentinite 3-5%.											
					dissem. black magnetite. Last 30cm mag	36.2-36.5 Mag dissem. 20%.											
					rich, some serpentinite alteration.												
				↓	Contact 35°												
				M/S	36.5-37.2 MAGNETITE WITH SERPENTINITE.		510	36.5	37.2	0.7	5	20	160	×	60	×	
				↓	Mag. 50-60% grey serpentinite with green ?hornblende.												
				Cst/Dol	37.2-38.9 Calc silicate rock; as for		511	37.2	38.9	1.7	5	50	135	×	45	×	
					32.4-36.5m												
				↓	Contact 75°												
				ss/sh	38.9-43.6 GREY SILTSTONE/BLACK SHALE	Py. dissem along bedding as	512	38.9	39.6	0.7	55	60	120	×	15	×	×
					Hard hornfelsed grey and black highly	contorted laminae, veinlets and	513	39.6	41.6	2.0	75	25	65	×	7	×	
					deformed matrix of f.gr sediments.	stringers 10-12%.											
					41.3-43.6 Metasomatised - irregular patches	39.3 Bedding 70°	514	41.6	43.6	2.0	15	100	230	×	30	×	
					of tremolite, carbonates etc.		515	43.6	45.0	1.4	5	95	250	1.0	450	×	
				↓	Gradual Change		516	45.0	46.5	1.5	35	70	390	×	100	×	×
				Css	43.6-50.5 CALC SILICATE (SKARN) ROCK.	No magnetite; fabric originally	517	46.5	48.5	2.0	×	10	110	×	230	×	
					- Amphibolite? Mottled greens, greys, minor	brecciated/deformed; now metasomatised	518	48.5	50.5	2.0	×	10	120	×	180	×	
				↓	pinks and whites - Highly altered metasomatic	with crude replacement banding about breccia clasts.	932281	45	THIN SECTION SAMPLE.								

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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 3

TENEMENT NAME TENTH LEGION No. 53M/25

PLAN – MAP REFERENCE

CO-ORDINATES ..... AZIMUTH ..... DRILLERS ..... COMMENCED ..... DEPTH ..... HOLE No. TLC2

RL COLLAR ..... INCLINATION ..... DRILL TYPE ..... COMPLETED ..... CASING LEFT ..... DPO No(s) 26667/26668

DEPTH From (M)	DEPTH To(M)	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 ANALABS) Cu	Pb	Zn	Ag	Sn	W	Au			
					43.6-50.5 Cont....															
52.5	55.5	2.8	NQ		crystalline fabric with epidote, chlorite, ?diopside	46.1-46.5 Magnetite/Serpentinite														
55.5	58.5	3.1			? hornblende; actinolite; qtz; dolomite	; mag 30-40%														
58.5	61.2	2.8			; pink Mn silicates and patches of residual black															
61.2	64.4	3.2			cherty material.															
64.4	67.3	3.0			Contact 50° 46.5-47.7 Pink matrix with spots of															
67.3	70.5	3.2			green ? hornblende.															
70.5	73.5	3.0			47.7-50.5 Gradually becomes more spotted															
73.5	76.5	2.9			- diopside/hornblende calc silicate hornfels?															
76.5	79.2	2.7		V	Contact 20°															
79.2	82.5	3.3		Csd	50.5-65.0 SPOTTED CALC SILICATE ROCK	Fabric massive/granular; some	877519	50.5	52.5	2.0	5	50	75	0.5	75	x				
					Pinkish brown and white speckled	veinlets and streaks of ?hornblende and	520	52.5	54.5	2.0	5	50	70	0.5	45	x	x			
					matrix, fine grained and hard; spotted	epidote. Minor ≒ 5mm qtz-calcite	521	54.5	56.5	2.0	5	25	80	x	30	x				
					with 1-2 mm green clots of ?hornblende	veining at low angles to LCA.	522	56.5	58.5	2.0	5	15	70	x	30	x				
					and paler green fibrous ? actinolite.		523	58.5	60.5	2.0	5	20	80	x	75	x				
					54.1-65.0 Higher percentage of dark green		524	60.5	62.5	2.0	5	15	70	x	70	x	x			
					?hornblende in a pinkish brown (idocrase?)		525	62.5	64.5	2.0	5	20	80	x	40	10				
					matrix, with lesser white tremolite/actinolite		526	64.5	66.4	1.9	15	55	220	x	45	10				
				V	Gradual change		932282	55	THIN SECTION SAMPLE.											
				Cst	65.0-78.1 CALC SILICATE ROCK	65.0-78.1 Brecciated fabric with	527	66.4	68.4	2.0	10	60	150	x	140	x				
					Bone coloured (tremolite/diopside) f.gr.	pervasive alteration, including ?Mn silicates	528	68.4	70.4	2.0	5	125	210	x	130	10	x			
					rock mottled with pink (Mn?) hard	and epidote along fractures. Rare														
					silicate mineral, with veins and patches	patches f.gr. dissem magnetite.														
					of yellow-green epidote.	70.5-71.6 Increase in fabric size - up to	529	70.4	71.6	1.1	20	40	5550	x	60	x				
					71.6-72.4 Magnetite 30%, with calcite, qtz	8cm white clasts of corroded carbonates;	530	71.6	72.4	0.6	5	50	520	x	90	20				8
					and epidote.	some black shale/chert clasts with much	531	72.4	74.1	1.7	5	15	95	x	100	x				8
					74.1-74.9 Black shale/chert breccia - see	remobilised qtz/calcite, some clots of sp	532	74.1	74.9	0.8	40	85	260	x	15	x	x			26667
					38.9-43.6. Minor calc silicate minerals	and patches of finely dissem magnetite.	533	74.9	76.9	2.0	5	15	230	x	30	x				0
				V	Contact 65°															3
					74.9-78.1 As above, minor serpentinite veins		534	76.9	78.1	1.2	5	x	45	x	55	x				4
				sh/Cst	78.1-80.4 BLACK SHALE/CALC SILICATE BRECCIA.	Graphitic partings, trace py in thin veinlets and	535	78.1	80.4	2.3	50	50	105	x	15	x				
					Black, highly deformed rock; lenses to 3mm of black	dissem. Thin veinlets of green serpentinite.														
				V	shale/grey siltstone, with pinkish patches of calc silicate	minerals.														

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

SHEET No. 4
TENEMENT NAME TENTH LEGION No. 53M/75
PLAN – MAP REFERENCE
CO-ORDINATES AZIMUTH DRILLERS COMMENCED DEPTH HOLE No. TLC2
RL COLLAR INCLINATION DRILL TYPE COMPLETED CASING LEFT DPO No(s) 26667/26668

DEPTH From (M)	DEPTH To(M)	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 ANALABS) Cu	Pb	Zn	Ag	Sn	W	Au
					Contact 65°												
82.5	85.3	2.5	NQ	M/S	80.4-81.7 MAGNETITE with SERPENTINITE	Abundant fine calcite veining and	877536	80.4	81.5	1.1	640	4400	1.2%	13.0	70	x	x
85.3	88.5	3.2			Dark green serp. matrix, spotted with greenish	impregnations in mag. Traces py in veins,											
88.5	91.5	3.0			harder minerals.	with minor sp.											
91.5	94.5	3.0			Contact 75°												
94.5	97.5	3.0		cv	81.7-84.1 BRECCIA WITH CALCITE+PYRITE.	81.7-82.4 15% py/marcasite, some euhedral	537	81.5	83.5	2.0	280	3800	1.7%	6.0	20	x	
97.5	100.5	3.0			White calcite vein, with garnets and black	garnets.	538	83.5	84.1	0.6	2000	1.6%	3.3%	20.0	40	x	
100.5	103.5	3.0			serpentinite as a cavity filling. Clasts of a	82.4-83.5 Massive white calcite with serp.											
103.5	106.5	3.0			dark green-grey calc silicate rock	83.5-84.1 Mag 10%, py 15-20%, lesser											
					preserved	calcite in a grey-green calc silicate matrix.											
					Contact 45°	Strong trace sp, some ga?											
				sh/Csd	84.1-95.5 Interbedded BLACK SHALES/	Calcite veining, small patches of	539	84.1	86.9	2.8	15	260	855	0.5	150	x	
					SILTSTONES and CALC SILICATES.	clissem. magnetite.	540	86.9	88.8	1.9	10	30	65	x	25	x	x
					Dark grey → black finely laminated black	89.1-89.4 White vuggy calcite vein.	541	88.8	90.8	2.0	50	40	120	0.5	4	x	
					shale breccia with some crystalline chlorite	92.8-93.4 Vuggy calcite and veining with	542	90.8	92.8	2.0	30	x	30	x	5	x	
					patches and small intervals of drab green	a matrix of dark green-black talcy	543	92.8	93.4	0.6	105	70	390	x	20	x	
					diopside/tremolite rock with minor idocrase(?)	serpentinite with chlorite material.	544	93.4	96.0	2.6	25	40	100	0.5	15	x	x
					?vesuvianite and ?Mn silicates.		932283	94.8m THIN SECTION SAMPLE									
				Cst	95.5-99.9 CALC SILICATE ROCK		545	96.0	97.1	1.1	1000	105	215	0.5	15	10	
					Mottled whites, creams and greens-highly		546	97.1	97.8	0.7	15	180	300	1.5	40	x	
					altered calc silicate rock - dominantly diopside/		547	97.8	99.9	2.1	5	30	75	x	25	x	
					tremolite with epidote, minor idocrase.		932284	96.6m THIN SECTION SAMPLE.									
					Contact 75° 96.0-97.1 Dark green massive serpentinite												
					with py 10-15% replacing magnetite (now 2-3%)												
					Contact 55°												
				S/M	99.9-101.2 SERPENTINITE WITH MAGNETITE.	Mag 40-50%; traces very fine sp.	548	99.9	101.2	1.3	65	25	230	x	45	10	x
					Dark green → black serp. matrix with black		932285	97.2m THIN SECTION SAMPLE.									
					crystalline magnetite 40-50%, minor grey talc												
					and corroded grey clasts of remnant tremolite.												
				Css	101.2-104.7 TREMOLITE ROCK WITH MAGNETITE.	Mag 20-30%, very finely dissem and in small	549	101.2	103.7	2.5	50	20	7650	x	190	x	
					Grey crystalline matrix with small pink clots of	veinlets. Fine calcite-py-sp-po veinlets, 5%	550	103.7	104.7	1.0	25	20	1800	0.5	120	x	
					?idocrase. The grey colour is due to ultrafine magnetite.												

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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 5

TENEMENT NAME TENTH LEGION No. 53M/75

PLAN – MAP REFERENCE

CO-ORDINATES .... AZIMUTH .... DRILLERS .... COMMENCED .... DEPTH .... HOLE No. ThC2

RL COLLAR .... INCLINATION .... DRILL TYPE .... COMPLETED .... CASING LEFT .... DPO No(s) 26672 26667/26668

DEPTH From (M)	DEPTH To (M)	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 ANALABS) Cu	Pb	Zn	Ag	Sn	W
106.5	109.5	3.0	NQ		Contact 70°		877551	104.7	106.8	2.1	15	10	130	0.5	4	x
109.5	112.5	3.0		qs	104.7–117.2 QUARTZ SERICITE ROCK	Patches of chloritic alteration and some										
112.5	115.5	3.0			Intensely altered sedimentary rock	blebs po, py to 3 mm scattered through	GRIND SAMPLES									
115.5	118.5	3.0			– drab olive greys and pinkish brown	the rock. Some fine calcite-pyrite	877569	106.8	111.8	5.0	24	9	75	<1	4	25
118.5	121.5	3.0			alternating layers of silt rich sediment	veining at low angles to core. 3%–5%	570	111.8	117.2	5.4	71	11	112	1	x	60
121.5	124.5	3.0			to 3 cm. thick. Some qtz segregations		571	117.2	122.2	5.0	86	8	134	2	<4	115
124.5	127.5	3.0			and lenses to 3cm. thick. The paler		572	122.2	127.2	5.0	45	17	280	1	16	55
127.5	130.5	3.0			coloured layers are probably sericite		573	127.2	133.0	5.8	65	19	183	1	<4	65
130.5	133.5	3.0			rich, with the brown areas being		932286	110 m.	} THIN SECTION SAMPLES.							
					hornfelsed siltstones.		287	125 m.	}							
					Bedding? preserved; angles 60°–80° LCA.											
					Some intervals pale grey qtz and sericite											
					only – originally sandstones?											
				↓	Contact 60°											
				SS	117.2–133.0 HORNFELSED SILTSTONE	Some green and white stockworks of										
					Impure tough green-grey rock with	qtz, chlorite and epidote in bleached										
					brown intervals. Finely laminated, minor	pale brown calc silicate rock. Traces py										
					deformation – contact metamorphosed	in veinlets, and as small blebs.										
					impure carbonate? Not a skarn rock.											
					125.3–130.2 Dominantly brownish f.gr.											
					rock (silt-rich argillite?) with green											
					qtz-epidote stockwork.											
					119.8 Bedding 50°											
					122.7 Bedding 50°											
				↓	130.0 Bedding 50°.											
					END OF HOLE 133.0 m.											

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