32513

DEPARTMENT OF MINES—TASMANIA

DIAMOND DRILL CORE RECORD

16- Q 29

DETAILED LOG (see also condensed log)

Hole No. 2

Drilled by ALAN DEATH

Core Recovery

Geological Logging by—
K. L. BURNS

Area of Operation FERNDENE, PENGUIN

Location of Site

Date Commenced

Date Completed

Reduced Level of Site

Bearing of Hole 34 315

Dip of Hole

Bore Depth MAP No 1824

Ref No 2008

General AMG co-ords: H18882E 5444174N.

Core held M138

DRILL RECORD				GEOLOGICAL LOG		
Date	From	To	Core Recov.	From	To	Description
	6'0"	8'9"	10" (30%)		10"	Detrital — yellow greywacke sandstone
	8'9"	9'6"	6" (65%)		6"	Greywacke, with irregular patches of barytes (90%).
	9'6"	13'0"	6" (14%)		6"	Greywacke conglomerate, black, with strongly disrupted framework. Pebbles of pyrite & barytes up to ½", av ⅛", forming 30% of rock. Matrix is very black carbonaceous mudstone, with black glossy surfaces at 20° to bore axis (slickensided shear).
	13'0"	15'0"	24" (100%)		24"	Greywacke. Dominant pebbles are 'porphyritic' white mudstone, about 10%, av 1/16", up to 1". Abundant disseminated chalcopyrite. Schistosity 15°, slicks pitch 35°
	15'0"	17'0"	7" (30%)		7"	Black conglomerate. Disseminated pyrite. Pebbles of quartz plus barytes 1" diameter, with barytes in rugs of matrix.
	17'0"	19'1"	10" (50%)		10"	Conglomerate, matrix black, 60%. Pebbles are sandstone 3" long with barytes seams which terminate at the end of the sandstone. Pebbles av. ½" of sandstone and mudstone.

GEOLOGICAL SECTION

ASSAY RESULTS

Sample No.	REG NO	From	To	Fe	Cu	Ba	P	Au	Carbon
6	430	8'9"	9'6"	25.4	NIL	NIL	0.02	NIL	0.12
7	431	9'6"	19'1"	5.4	0.01	NIL	0.05	NIL	1.55

GREYWACKE CONGLOMERATE
MUDSTONE
SANDSTONE & QUARTZITE
BARYTES & SIDERITE etc
IRON ORE
GRANULE CONGLOMERATE

DD 2 IRON CLIFFS DETAILED LOG (See also condensed log) 17 Q29

DRILL RECORD				GEOLOGICAL LOG			GEOLOGICAL SECTION	
Date	From	To	Core Recov.	From	~~To~~	Description	Core	Sample
	19'1"	24'2"	7" (11#)		7"	Black greywacke mudstone with barytes seams and black glossy shears		432
	24'2"	25'3"	7" (55#)		7"	Sheared black mudstone. Mudstone pebbles in ½", form 60% of rock, form augens in black, glossy, sheared matrix. Large scale, strongly formed, cataclastic structure.		432
	25'3"	30'3"	6" (10#)		6"	Sheared greywacke mudstone with 1/16" barytes veins aligned along shear at 25°@80°		432
	30'3"	35'0"	1½" (3#)		1½"	Black, graphitic, sheared greywacke mudstone		
	35'0"	37'0"	2" (8#)		2"	Black, graphitic, sheared greywacke mudstone		
	37'0"	40'0"	2" (5#)		2"	Black, graphitic, sheared greywacke mudstone		
	40'0"	43'9"	2" (4#)		2"	Sheared black mudstone		
	43'9"	51'4"	9" (10#)		9"	GW conglo with subangular quartzite pebbles av ½". Sludge is granular black sand		
	51'4"	55'0"	3" (5#)		3"	GW conglo		

P.T.O.

Note change at 43'9" from black, sheared gw conglomerate with steep cleavage to fine conglomerate with sandstone bands, quartzite pebbles and cleavage and finality pretty flat (~65°).

ASSAY RESULTS 34 316									
Sample No.		From	To	Fe	Cu	Ba	P	Au	Carbon
NO	REG NO								
8	432	19'1"	30'3"	4·5	NIL	NIL	0·03	NIL	0·70

DD2 IRON CLIFFS DETAILED LOG (See also generalised log) 18 Dzy

NOTE: Footage from ~55' to ~71' is drilled twice — log below is original (first) drilling.

34 317

DRILL RECORD				GEOLOGICAL LOG			GEOLOGICAL SECTION		ASSAY RESULTS							
Date	From	To	Core Recov.	From	To	Description	Core	Sample	Sample No.	From	To		Cu	Pb	Au	Ag
	55'0"	58'2"	2" (5%)		2"	Brown gw conglomerate. Cleavage at 45° Partly replaced by Fe.										
	58'2"	58'11	2" (22%)		2"	Limonite,										
					½"	Quartzite (possible)										
	58'11"	63'0"	3" (6%)		3"	Quartzite fragments, granule conglomerate & limonite.										
	63'0"	66'0"	10½" (25%)		6"	Granule conglomerate. Sandstone pebbles up to ¼" average ⅛". Partly replaced by disseminated limonite. Foliation at 75°		10	REG NO 434	65'1"	65'10"		0·08	NIL	NIL	TRACE
					3½'	Coarse white friable fault gouge (?)										
					1"	limonite, replacing conglomerate										
	66'0"	70'6"	23" (50%)		15"	Granule conglomerate, partially replaced by limonite. Sandstone pebbles are ⅛" and mudstone pebbles are 1/16" form 80 percent of rock.										
					3"	Coarse sandstone, top 1" replaced by iron ore										
					4½"	Conglomerate										
					4"	Coarse sandstone										
					½"	Quartzite										
	70'6"	75'1"			1½	Sandstone										
					2	Piece of quartzite as 1"										
					1½	Limonite										

HOLE LOST & REDRILLED (See reported next page)

DD2 IRON CLIFFS RECONCILIATION 2' ≡ 1"

Q29

34 318

DRILL RECORD				GEOLOGICAL LOG		
Date	From	To	Core Recov.	From	To	Description
						ORIGINAL HOLE
				55'0"	58'2"	2" Brown gw conglomerate. Partly replaced by Fe
				58'2"	58'11"	2" Limonite ✓ ½" Qzite (pebble?)
				58'11"	63'0"	3" Fragments qzite, granule cong & limonite
				63'0"	66'0"	6" Granule conglomerate. Partly replaced by Fe 3½" Fault Gouge 1" Limonite, replacing conglomerate
				66'0"	70'6"	15" Granule conglomerate, partly replaced by Fe. 1" Limonite replacing sandstone ✓ 2" Coarse sandstone 4½" Conglomerate 4" Coarse sandstone ½" Quartzite
				70'6"	75'1"	1½" Sandstone 2" Quartzite 1½" Limonite
						END OF ORIGINAL HOLE

GEOLOGICAL SECTION — FOOTAGE: 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77

ASSAY RESULTS		
From	To	
		DEVIATED HOLE
		START OF DEVIATED HOLE
56'0"	71'0"	1½" Granule conglomerate, replaced by iron ore 2½" Sandstone. Bottom 1" with dissem. pyrite 10" Conglomerate 1" Limonite, replacing conglomerate 6½" Conglomerate veined in Fe 2" Limonite replacing conglomerate 3" Conglomerate 2" Limonite replacing conglomerate 1" Sandstone partly replaced by limonite 4" Sandstone 1" Limonite 4½" Mudstone with diffuse patches of iron ore 8" Sandstone and quartzite
71'0"	74'5"	3" Limonite
74'5"	79'0"	12" Limonite

DD2 IRON CLIFFS DETAILED LOG (see also generalized log)

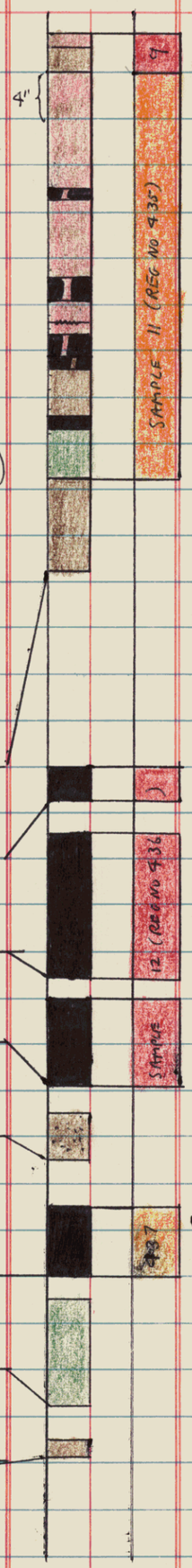
20 039

NOTE: Footage from ~55' to 71' is drilled twice — log below is deviated hole (second drilling)

34 319

DRILL RECORD Date	From	To	Core Recov.	GEOLOGICAL LOG From	To	Description
	56'0"	71'0"		LUNAR CROSSECTION	1½"	Granule conglomerate, replaced by iron ore.
						Planar structure at 50°.
					2½"	Sandstone. Bottom 1" with disseminated pyrite.
					10"	Conglomerate
						Hard, tough, brown rock with planar structure at 60°
					1"	Limonite, replacing conglomerate
					6½"	Conglomerate, with mudstone fragments on ¼".
						Seamed in iron ore
					2"	Solid limonite — replacing conglomerate
					3"	Conglomerate
					2"	limonite — replacing conglomerate
					1"	Sandstone — 50% is solid limonite (limonite replacing sandstone)
					4"	Sandstone
					1"	Limonite
					4½"	Mudstone, with rare pebbles up to ¼".
						Diffuse patches of iron ore
					8"	Sandstone and quartzite
	71'0"	74'5"			3"	Solid limonite
	74'5"	79'0"			12"	solid limonite
	79'0"	81'0"			7½"	limonite - solid
	81'0"	95'0"			4"	Sandstone with much disseminated iron ore
	95'0"	100'0"		From 81' to 100' Recovery was almost entirely white, pink, black, quartz sand washed into hole. Rock probably all sandstone with limonite veins.	6"	Solid limonite
	100'0"	117'5"			9"	Green mudstone
	117'5"	120'8"			1½"	Sandstone with quartz veins

GEOLOGICAL SECTION — Core / Sample



ASSAY RESULTS Sample No.	REG NO	From	To	SiO_2	Fe	Mn	Cu	Ba	P	Pb	Au	Ag
9	433	56'0"	64'6"	61·7	14·6	0·15	0·05	0·66	0·04	ND	NIL	ND
11	435	64'6"	70'4"	49·3	22·0	0·04	TR	0·53	0·12	ND	NIL	ND
12	436	71'	81'	26·7	44·4	0·12	TR	0·47	0·05	ND	NIL	ND
13	437	95	100	23·6	46·4	0·14	TR	NIL	0·04	ND	NIL	ND

DD2 IRON CLIFFS DETAILED LOG

21 #39

34 320

DRILL RECORD				GEOLOGICAL LOG			GEOLOGICAL SECTION		ASSAY RESULTS										
Date	From	To	Core Recov.	From	~~To~~	Description	Core	Sample	Sample No.	From	To	SiO_2	Fe	Mn	Cu	Ba	P	Au
									BD	REG NO									
	120'8"	123'10"			3½"	Limonite — cavernous	4"	438											
	123'10"	124'5"			3½"	Limonite		438											
	124'5"	125'2"			3"	Limonite		438											
	125'2"	125'10"			4"	Limonite		438											
	125'10"	126'11"			½	White Quartz		438											
					½	Limonite			14	438	120'8"	129'5"	30.7	38.7	0.05	Trace	NIL	0.07	NIL
	126'11"	128'10"			3"	Sandstone, almost completely replaced by limonite		438											
	128'10"	129'5"			7"	Limonite replacing mudstone		438											
	129'5"	131'5"			4"	mudstone													
					1"	mudstone saturated with iron ore													
					3"	" with iron ore veins													
					8"	mudstone													
	131'5"	134'6"			1"	quartzite													
					1"	mudstone													
	134'6"	135'6"			1"	mudstone, 50% replaced by limonite													
					2"	limonite		439											
	135'6"	139'11"			2"	limonite		439	15	439	134'6"	144'1"	23.2	45.7	0.13	NIL	NIL	0.08	NIL
	139'11"	144'1"			3"	limonite replacing mudstone		439											
	144'1"	152'2"			1"	Sandstone with disseminated pyrite		440											
					4"	limonite replacing mudstone			16	440	144'1"	155	32.8	39.5	0.20	NIL	NIL	0.07	NIL
	152'2"	155'			4"	limonite		440											
				END	OF	BORE													

DD2 IRON CLIFFS GENERALISED LOG 5' = 1"

22 Q29

DRILL RECORD Date	From	To	Core Recov.	GEOLOGICAL LOG From	To	Description
				Marker 3° with 90/195, apparent plunge 73°W.		73-278 mag
	6'0"	8'9"	10" (30%)			10" Detrital yellow gw sstone must be siderite
	8'9"	9'6"	6" (65%)			6" Greywacke with 90% baryte (irregular patches)
	9'6"	13'0"	6" (14%)			6" Greywacke congte black, disrupted framework. Pebbles of pyrite, barite up to ½" or ⅛" from 30% of rock Black glossy slickensided slaty at 20°
	13'0"	15'0"	24" (100%)			24" Greywacke. Dominant pebble "porphyritic" white mudstone, av ⅛", up to 1", about 10%. Disseminated chalcopyrite. Schistosity 15° slickensides pitch 35°
	15'0"	17'0"	7" (30%)			7" Black conglomerate. Disseminated pyrite. Quartz + barite pebbles 1" diam, baryte in vugs of matrix.
	17'0"	19'1"	10" (50%)			10" Black conglomerate, matrix 60%. sstone, mudst. pebbles av ¼" Pebbles of sandstone up to 3" long with baryte seams in sandstone Terminating at edge of sstone.
	19'1"	24'2"	7" (11%)			7" Black grey mudstone with baryte seams & black glossy slurry
	24'2"	25'3"	7" (55%)			7" Sheared black mudstone. mudstone pebbles av ½" 60% as augens
	25'3"	30'3"	6" (10%)			6" Sheared gw mudstone with ⅛" baryte veins oblique 25°, 80°
	30'3"	35'0"	1½" (3%)			1½" Black, sheared, graphitic gw mudstone
	35'0"	37'0"	2" (8%)			2" " "
	37'0"	40'0"	2" (5%)			2" " "
	40'0"	43'9"	2" (4%)			2" Sheared black mudstone
	43'9"	51'4"	9" (10%)			9" GW congte with subangular qtz pebbles av ½" Sludge is granular black smut.
				NOTE: Change at 43'9" from black, sheared gw congte with steep cleavage TO		Fine conglomerate with sstone bands, qtz pebbles, and cleavage and finishing parallel (~ 65°).
	51'4"	55'0"	3" (5%)			3" GW congte
	55'0"	58'2"	2" (5%)			2" GW congte partly replaced by Fe cleavage at 45°
	58'2"	58'11"	2" (22%)			2" Limonite qtz stone (pebbles?)

GEOLOGICAL SECTION

Core | Sample

SAMPLE 7 (REG NO 431)

SAMPLE 8 (REG NO 432)

ASSAY RESULTS 34 321

Sample No.	Reg No	From	To	SiO_2	Fe	Mn	Cu	Ba	P	Pb	Au	Ag	C
No													
6	430	8'9"	9'6"	25.4		NIL	NIL	0.02		NIL		0.12	
7	431	9'6"	19'1"	5.4		0.01	NIL	0.05		NIL		1.55	
8	432	19'1"	30'3"	4.5		NIL	NIL	0.03		NIL		0.70	

IRON ORE
GREYWACKE
GRANULE CONGTE
SANDSTONE
MUDSTONE
BARYTES, SIDERITE, etc

DD2 IRON CLIFFS GENERALISED LOGS

23

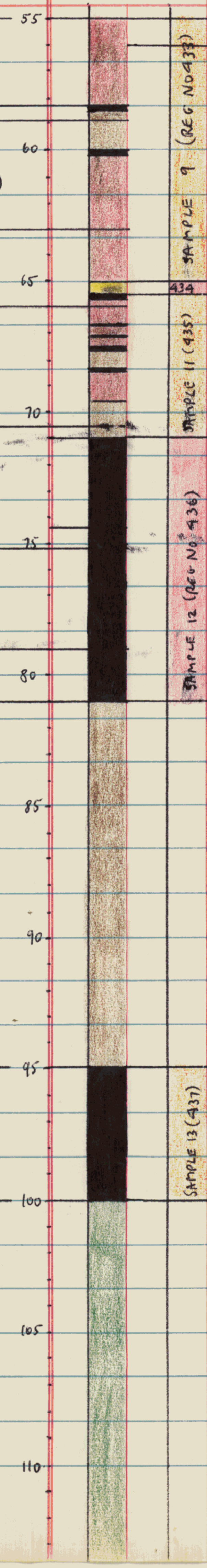
Org

~55' → ~71' combined from original & deviated holes.

34 322

DRILL RECORD				GEOLOGICAL LOG		
Date	From	To	Core Recov.	From	To	Description
	ORIGINAL HOLE					
	55'0"	58'2"		~~55'0"~~	~~58'2~~	2" Brown grit conglomerate partly replaced by Fe (Original Hole) 1½" Granule conglomerate (deviated hole)
	58'2"	58'11"				2" limonite (~~...~~ ½" Qzite (original hole)
	58'11"	63'0"				3" Fragments qzite, granule conglomerate, limonite (original hole) 2½" Sandstone. Bottom 1" with dissem. pyrite (deviated hole)
	63'0"	66'0"				Original hole: 6" Granule conglomerate, partly replaced by Fe; 3½" Fault gouge, Fissility 75°; 1" Limonite, replacing conglomerate Deviated hole: 10" Conglomerate; 1" Limonite, replacing conglomerate
	66'0"	70'6"				15" Granule conglomerate, partly replaced by Fe 1" Limonite replacing sandstone 2" Coarse sandstone 4½" Conglomerate 4" Coarse sandstone ½" Quartzite — 3" Conglomerate 2" limonite replacing conglomerate 1" sandstone partly replaced by limonite 4" sandstone 1" limonite 4½" sandstone with patches of iron ore 8" sandstone and quartzite
	70'6"	75'1"				1½" sandstone 2" Quartzite 1½ limonite — 71'0" - 74'5" 3" limonite
	END OF ORIGINAL HOLE					
						74'5" - 79'0" 12" limonite
						79 - 81 7½" limonite
						81 - 95 4" sandstone with dissem. iron ore
						95 - 100 6" limonite
						100 - 117'5" 9" green mudstone

GEOLOGICAL SECTION (Core, Sample)



ASSAY RESULTS

Sample No.		From	To	SiO_2	Fe	Mn	Cu	Ba	P	Pb	Au	Ag	C
9	433	D) 56'0"	64'6"	61.7	14.6	0.15	0.05	0.66	0.04		NIL		
10	434	D) 65'1"	65'10"				0.08			NIL	NIL	TR	
11	435	D) 64'6"	70'4"	49.3	22.0	0.04	TR	0.53	0.12		NIL		
12	436	D) 71'0"	81'0"	26.7	44.4	0.12	TR	0.47	0.05		NIL		
13	437	D) 95'	100'	23.6	46.4	0.14	TR	NIL	0.04		NIL		

DD2 IRONCLIFFS GENERALISED LOG

24 Org

34 323

DRILL RECORD				GEOLOGICAL LOG			GEOLOGICAL SECTION	
Date	From	To	Core Recov.	From	To	Description	Core	Sample
	110'	117'5"			9"	Green mudstone		
	117'5"	120'8"			1½	Sandstone with qtz veins		
	120'8"	123'10"			3½"	Commences limonite		SAMPLE 14 (REG NO 438)
	123'10"	124'5"			3½	Limonite		
	124'5"	125'2"			3	Limonite		
	125'2"	125'10"			4	Limonite		
	125'10"	126'11"			½	White Quartz ½ Limonite		
	126'11"	128'10"			3	Sandstone, almost completely replaced by limonite		
	128'10"	129'5"			7	Limonite replacing mudstone		
	129'5"	131'5"			4	Mudstone		
					1	Mudstone suit. with iron ore		
					3	" with iron ore veins 8° mudstone		
	131'5"	134'6"			1	Ore with		
					1	Mudstone		
	134'6"	135'6"			1	Mudstone, soft replaced by limonite 2" limonite		SAMPLE 15 (REG NO 439)
	135'6"	139'11"			2	Limonite		
	139'11"	144'1"			3	Limonite replacing mudstone		
	144'1"	152'2"			1	Sandstone with disseminated pyrite		SAMPLE 16 (REG NO 440)
					4	Limonite replacing mudstone		
	152'2"	155'			4	Limonite		
						END OF BORE		

ASSAY RESULTS											
Sample No.		From	To	SiO_2	Fe	Mn	Cu	Ba	P	Pb	Au	Ag	C
No	Reg No												
14	438	120'8"	129'5"	30·7	38·7	0·05	TR	NIL	0·07		NIL		
15	439	134'6"	144'1"	23·2	45·7	0·13	NIL	NIL	0·08		NIL		
16	440	144'1"	155	32·8	39·5	0·20	NIL	NIL	0·07		NIL		