PITTSTON

Bruce T. Walsham
President

Pittston Mineral Ventures International Ltd.
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BTW:AMC:MPS

15th July, 1991.

Mr T. Hogan
Director General
Department of Manufacturing and Industry Development
115 Victoria Parade
FITZROY VIC 3065

Dear Sir,

Please find enclosed the six monthly report on E.L.2548 from December 21st 1990 to June 20th 1991. I trust this information meets the necessary requirements, if not please advise.

Yours sincerely,

A. Clayton

pp BRUCE WALSHAM.

ENCS.

BIB 4463

PITTSTON MINERAL VENTURES INTERNATIONAL LIMITED

SIX MONTH REPORT

E.L.2548

Malmsbury-Taradale

21st December 1990 to 20th June 1991

by
Andrew M. Clayton B.Sc.(Hons)
July, 1991.

E.L. REPORT 2548

E.L.2548 was granted on December 21st 1990 for an initial period of two years.

The prime exploration target is the Leven Star reef which was first discovered in 1936 but not exploited by the early miners because of metallurgical difficulties due to the presence of antimony in the form of stibnite (Sb^2S^3).

The most recent work of significance was in 1968 to 1972 when Planet Gold Ltd ("Planet") and Centaur Mining N.L. ("Centaur") explored for gold antimony.

Planet recognised a silicified zone up to 8m wide and traced the reef over a strike length of about 245 m. Percussion drill hole samples and channel samples returned average assay values from 6 g/t to 7.5 g/t over width of about 2m and a strike length of 245 m (Taylor 1968).

Centaur undertook geological mapping and limited sampling of reefs. They recommended underground exploration and in 1970-71 sunk an exploration shaft on the Leven Star reef to a depth of 231 feet. Levels were opened up at 100 ft and 200 ft and a strong quartz reef was intersected. The reef was vertical and varied from 39 to 45 inches. Centaur abandoned this project in 1972 due to lack of funds and the low price of gold.

The Leven Star reef is situated within MRC 3110 held by Mr A.L. Booth who recently concluded a Joint Venture agreement with Pittston. In 1990 six holes were drilled within this MRC to test for strike and depth projections of the reef structures. Assays returned encouraging results and further drilling was contemplated upon granting of the E.L.

Australian Diamond Drillers were contracted for a minimum coring programme of 1100 metres. Drilling commenced on the 22nd of April and was completed on the 8th of June. Seven holes were drilled for a total of 1195 metres. Initial field observations are encouraging as the structure was intersected in every hole.

In the near future the cores will be split and assayed and from these results an appropriate course of action will be taken.

Pittston had also envisaged drilling two holes on the anticline which hosts the May Queen, United Kingdom and Achilles mines. The objective was to explore for superimposed saddle reefs beneath the May Queen saddle.

This work has been postponed for the time being. The landowner Mrs H. Burke has shown reluctance to conclude a compensation agreement. Several factors emerged explaining her reluctance. She had difficulties with Southern Continental in 1985, the lambing season was in progress and heavy rainfall was imminent. These issues were all sensitive to her and for discretionary reasons it was decided to curtail the drilling to hopefully drier times later in 1991 following more detailed negotiations.

EXPENDITURE:- to date

Geological Services	$ 12,532.00
Drilling	$112,590.66
Nightwatchman	5,880.00
Site Preparation & rehabilitation	3,040.00
Core Trays	5,030.65
Surveying	3,862.00
Total :	$142,935.31

COMMITMENT: $28,700 in the First Year
$32,000 in the Second Year.

AC:PS
2.7.91.

BID 4463

SUMMARY OF DRILL HOLES

LSDDH7

This hole was drilled to test for possible depth projections of the Leven Star reef and was a crucial hole in terms of potential tonnes and reserves. The structure was intersected between 290-315 metres and consisted of numerous cross-cutting quartz veins and sulphides. Assaying of the quartz veins is underway.

LSDDH8

This interesting hole served dual purposes:

(1) To test for SE strike projection of the Leven Star reef
(2) To test for possible extension of the Crown Reef (or Missing Link lode).

The Leven Star was probably intersected at 135-145 metres but indicated probably poor mineralisation. From 160 to 190 metres, a silicified siltstone with cross-cutting quartz veins, pyrite, stibnite and arsenopyrite was intersected. No visible gold was seen. Old records indicate the Crown Reef to be quite rich.

LSDDH9

This hole was drilled in a SE direction to test for the Leven Star reef at depth. It is well mineralised between 170-190 metres. The intersection within a siltstone carried extensive mineralisation, with predominant pyrite and arsenopyrite. Shearing and fracturing were present, giving the zone good potential for gold.

LSDDH10

A disappointing hole, as only a short zone of mineralisation was intersected. Drilling difficulties were encountered with a burnt bit and the hole subsequently had to be abandoned at 98.5 m.

LSDDH11

This short hole was sighted on a hard rock band corresponding to the Leven Star, with a strike of 10055 N. The objective was to see if the gold was present at surface to extend the known strike length.

LSDDH12

This was drilled beneath two old mullock heaps from old workings situated in Butchers Gully. There was only a short mineralised zone.

LSDDH13

This hole was drilled in a SE direction testing for depth extensions of the Leven Star structure. A silicified siltstone/sandstone band with strong mineralisation was intersected between 160-180 m which corresponds to a 10100N strike. This may be evidence of some faulting and could be encouraging.

STATUTORY DECLARATION

IN THE MATTER of the Mines Act 1958

-and-

IN THE MATTER of Exploration Licence No. 2548 the registered holder of which is Pittston Australasian Mineral Exploration Pty. Ltd.

I, BRUCE TAYLOR WALSHAM of 454 Collins Street, Melbourne in the State of Victoria, Director, DO SOLEMNLY AND SINCERELY DECLARE:

1. I am a director of PITTSTON AUSTRALASIAN MINERAL EXPLORATION PTY. LTD., which is the registered holder of Exploration Licence No. 2548.

2. I verily believe that the report annexed hereto is true and correct in all aspects and accurately reflects results of the surveys and operations conducted in the area of Exploration Licence No. 2548 during the period [21/12/90] to [26/6/91].

AND I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of an Act of Parliament of Victoria rendering persons making false declarations punishable for wilful and corrupt perjury.

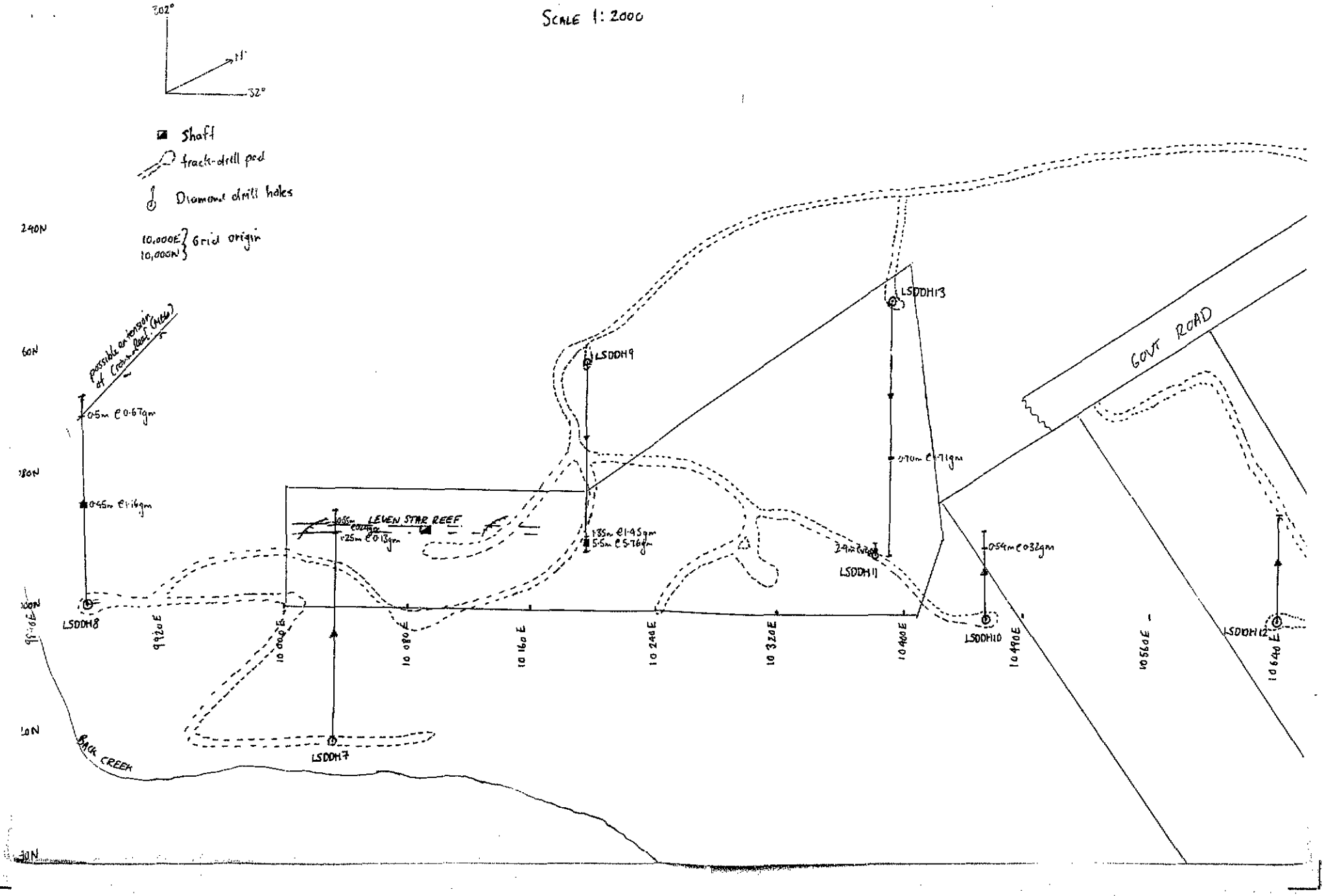
DECLARED at in the)
State of Victoria this day of)
, 1991)

Before me:

B/VAM0179-FR 370778 AR&H 16/8/91

MRC 3110 - MALMSBURY

SCALE 1: 2000



Summary

HOLE NUMBER LS-DDH1 DATE 1.5.90

PROJECT MALMSBURY
BELLTOPPER HILL
LEVER AND STAR

GEOLOGY MAP MELBOURNE 1:250,000

TOPO MAP DRUMMOND 1:25,000

GRID COORDS E N SHEET 1 OF

R.L. Magnetic declination 11°E

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
HOLE SETUP	302° mag	-50°			
52m	302° mag	-50°			
100.6m E.O.H.	301° mag	-50°			

DESCRIPTION	GRAPHIC LOG	M

HOLE NUMBER LS-DDH1 Sidetracks | PROJECT MALMSBURY - BELLTOPPER HILL - LEVER & STAR | DATE 1·5·90 4·5·90 | AZIMUTH 302° mag | DIP -50 | LOGGED BY UZ | SHEET 1 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
0	2	BLADE BIT				0-2.0m CLAY-SHALE - orange brown, mottled cream and red fragments.									
2·0	2·6	0·6	100	HQ		2.0-8.00 SILTSTONE - finely laminated, weathered to									
2·6	4·10	1·5	100	HQ		limonitic brown to dark pink, micaceous, interbeds									
						of very fine grained sst, showing more distinct									
						bedding. Sediment slumping parts in fine grained									
						sediments Eg 4·0m									
4·10	4·60	0·5	100	HQ		4·10m Qtz vein 15° to core axis 5mm wide									
4·60	6·10	1·50	100	HQ		CBA @ 5·0m = 55°									
						Qtz crystals grown across fracture, limonite staining									
						CBA 6·90 = 70°									
6·10	7·60	1·50	100	HQ		from 7·30m grey brown colour, coarsens down									
						to next unit.									
7·60	9·10	1·50	100	HQ											
						8·00 - 11·14 SANDSTONE - grey brown, fine grained,									
						closed ferruginous joints									
9·10	10·60	1·50	100	HQ		8·30m Qtz vein 4-12mm wide 40° to Core axis									
						CBA 8·90 45°									
10·60	12·10	1·50	100	HQ		micaceous, quartz grains + black mineral,									
						limonite grains, massive bedding poorly									
						defined									
12·10	13·60	1·45	92·5	HQ		11·14 - 13·60 SILT-SANDSTONE coarsens down to SST by									
						12·1, grey to brown grey, lots of limonitic grains									
						CBA @ 11·4m 30°									
13·60	15·10	1·60	115	HQ		Qtz vein at 11·20 // to bedding 5mm wide									
						13·0 20° to core 5mm									
						crystals grown into open joint, limonitic margins									
15·10	16·60	1·45	92·5	HQ		along centre of vein, distinct bedding in silt, SST									
						massive									
						13·60-26·25 SILT-SANDSTONE - coarsening down sequence									
16·60	18·10	1·50	100	HQ		CBA @ 14·1 30°									

HOLE NUMBER LS-00H1 PROJECT DATE AZIMUTH DIP LOGGED BY

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	Sb			Sample No
							LAB ALS BENDIGO								
18.10	19.60	1.45	92.5	HQ		15.5 Qtz vein 2-xcut one 20° one 10° 5x2mm.									
19.60	21.10	1.53	101.5	HQ		CBA 15 40°									
						CBA 16.5 40°									
						Small scale cross bedding in silt Eg 14.8									
						17.05 Qtz vein 40mm 30°, weak ferruginous contact									
						cuts bedding at acute angle, fractured									
						18.40-18.60 Fracture Zone - no qtz, very limonitic sediments									
						70° to core									
21.10	22.60	1.45	92.5	HQ		19.9 Q vein 10mm 45° to core									
						21.30-22.40 Fracture Zone - silt very limonitic									
						CBA 22.0 50°									
22.60	24.10	1.55	103.5	HQ											
24.10	25.60	1.50	100	HQ											
25.6	27.10	1.50	100	HQ		25.8 Q vein 15-30mm wide 10° to core, 5-10mm									
						crystals grown into fracture, limonite margin									
						26.25-30.70 Silt-Sandstone ferruginous staining									
27.10	28.60	1.45	92.5	HQ		26.25 Q vein irregular 15mm									
						CBA 26.35 40°									
						27.10 Q vein // to bedding on contact with SST 15mm 60°									
28.6	30.10	1.50	100	HQ		Silt more ferruginous than SST									
						28.65-29.05 medium grained SST, below SST very									
						pale, 29.05 silt becomes ↓ to SST & becomes fractured.									
30.10	31.60	1.55	107.5	HQ		CBA 29.30 40°									
						Manganese joint surfaces - open joints									
						30.70-31.20 Silt-Sandstone, coarsening down sequence	31.0	32.0		0.19	280	40			1/1
31.60	32.70	1.15	80.5	HQ		irregular, wavy sedimentary contact at 31.20, slumps,									
	(Cavity)					& silt sediment deformation	32.0	33.0		0.51	790	210			1/2
						CBA @ 31.20 40°									
32.9	33.5	0.60	100	HQ		31.20-39.10 Silt-Sandstone coarse down sequence	33.0	34.0		0.65	740	195			1/3

HOLE NUMBER LS-DDH1 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 3 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	Sb			Sample No
33.5	34.6	1.10	100	HQ		31.65 joint with quartz infilling, below - grey sst to quartzite cross fractured - contorsion as sandstone	34.0	35.0		0.23	<60	210			1/4
34.6	35.0	0.40	100	HQ		32.70 LOST CIRCULATION									
35.0	36.0	0.95	95	HQ		33.85 Q veining 10-30mm - micro faulted 5-20mm clayboundant, vugs 20-30° to c'axis from 34.7 fracture	35.0	36.0		0.34	680	300			1/5
36.0	37.5	1.50	100	HQ		two intense still lot of joints + vugs	36.0	37.1		0.27	300	80			1/6
37.5	39.6	2.1	100	HQ		37.20 Q vein, acute angle to core axis very broken to 37.95	37.1	37.85		0.32	460	170			1/7
						CBA 38.2 m 30°	37.85	38.5		0.47 0.48	620	130			1/8
						38.3 Q vein 15mm 20° to c'axis									
						(32.9-38.0 lot of problems with lost circulation)	38.5	39.3		0.16	940	85			1/9
39.6	40.4	0.70	93	HQ		39.10 - 46.60 SILT - SANDSTONE - fine grained contact 30°									
						Q vein below 20° 15mm very vuggy cryst grown									
40.4	42.0	1.55	92	HQ		into joint opening									
						39.6-40.4 very broken soft sst, bleached, pale white yellow									
						CBA 40.9 40°									
42.0	42.80	0.80	100	HQ		42.10 Q vein 15mm cuts bedding dip 25° - 90° to bedding									
42.8	46.1	1.30	100	HQ		CBA 42.20 35°									
						Limonite staining + cuts bedding by 150° @ 41.5m									
						CBA 43.65 48°									
46.1	45.6	1.5	100	HQ		(42.20 - 43.65) - coarse down sequence									
						43.91 Q veins 20-25mm broken									
						44.4 " " 20mm 20°									
45.6	46.6	1.0	100	HQ		45.0 " " 20 mm 25°									
						CBA 46.25 bare f/sst 35°	46.0	46.6		0.02	135	35			1/10
46.6	48.2	1.6	100	HQ			46.6	47.0		0.03	160	170			1/11
						46.60 - 47.95 FRACTURE ZONE - very broken, highly limonitic	47.0	47.95		0.12	700	720			1/12
						qtz veining 35mm, clay filled joints, water loss									
48.2	49.7	1.5	100	HQ		Sandstone. FAULT?	47.95	48.80		0.01	130	75			1/13
						47.95 - 48.80 - SANDSTONE - very pale yellow brown	48.80	49.20		0.08	640	400			1/14
						48.80 - 49.20 - FRACTURE - vein qtz - limonite margins + sst									
49.7	50.3	0.6	100	HQ		49.20 - 50.70 - SANDSTONE - yellow brown, medium grained	49.2	50.0		0.03	250	105			1/15

HOLE NUMBER LS-DDH1 | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET 4 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	Sb			LAB Sample No
50·3	51·8	1·50	100	HQ		49·5 Qvein broken - displaced 15-20mm	50·0	50·70		0·04	160	65			1/16
						CBA 49·8 40°									
						50·7-51·30 QTZ VEIN, manganese and limonite joint surfaces	50·7	51·3		0·62 0·60	390	120			1/17
51·8	52·60	0·65	88	HQ		(*) Frond Phyllite & Siltstone fine to medium disseminations and in	51·3	52·0		0·03	410	90			1/18
52·60	54·0	1·40	100	HQ		vugs. Milky white quartz Top 15° Bottom 20° to c axis	52·0	52·8		0·07/0·04	115	55			1/19
						51·30 - 52·80 SANDSTONE - medium grained, yellow brown limonite									
						51·70 Qvein ±10mm 10° to c axis widens to 20mm	52·8	53·25		0·10	740	165			1/20
						with depth & bifurcates almost parallel to core axis	53·25	54·2		0·04	380	125			1/21
54·0	55·5	1·50	100	HQ		52·80 - 53·25 Fracture Zone - possibly slip between silt & sst	54·2	54·9		0·03	110	20			1/22
						CBA 52·70 30° - minor qtz + sandstone very limonitic									
						53·25 - 55·75 SANDSTONE - orange to pink brown, medium grained	54·9	55·65		0·02	175	35			1/23
55·5	57·0	1·50	100	HQ		numerous quartz veins 5-35mm									
						55·75 - 56·15 QTZ VEIN - milky white - highly fractured joints coated	55·65	56·05		0·18	690	90			1/24
						limonite Top 20° Bottom 15° to c axis veins x cuts bedding	56·05	57·0		<0·01	150	15			1/25
57·0	58·20	1·20	100	HQ		at 90°	57·0	58·0		0·17 0·15	220	20			1/26
						56·15 - 57·2 SANDSTONE fine to medium grained pale orange brown									
58·2	59·7	1·5	100	HQ		56·45 Qvein ±15mm 20° to c axis									
						56·60 Qvein ±5mm 40° to c axis									
						CBA @ 57·0 30° = base of medium grained sst below									
59·7	61·2	1·5	100	HQ		fg sst									
						57·2 - 57·4 Fracture Zone. brecc sst + Qtz + limonite									
						57·4 - 58·6 SANDSTONE medium grained, small ≤ 5mm joints									
61·2	62·7	1·55	1075	HQ		infilled with qtz x cut each other & bedding									
						CBA 58·6 - base of medium grained sst 40°									
						58·60 - 60·7 SILTSTONE - to very fine sst									
62·7	64·2	1·50	100	HQ		60·0 Qvein ±15mm 30° to c axis									
						60·3 Qvein 5-15mm 30°									
						CBA 60·3 40° Qtz parallel to slide steeper than bedding									
64·2	65·8	1·60	100	HQ		60·7 - 61·10 QUARTZ VEIN - highly fractured, milky white,									
						limonite joints, vuggy 20° to c axis at top									
						61·1 - 68·20 SANDSTONE fine grained yellow brown, limonite									
65·8	67·4	1·60	100	HQ		61·65 Qvein 20mm 20-25° & 5mm vein at 5° and									
						90° rotation to larger one									

HOLE NUMBER LS-DDH1 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 5 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	Sb			Sample No
						CBA 62.70 40°									
						62.7-63.1 4 quartz vein 5-10mm - joint infilling									
67.4	68.9	1.5	100	HQ		63.6 - Fracture, distribution some quartz infilling ±5mm.									
						From 66.20 - purple ferruginous + weak fracture.									
						64.90 Q vein ±5mm 20° to c'axis									
68.9	69.8	0.9	100	HQ		From 65.90 sandstone medium grained mottled purple grey.									
						66.5 Q vein ±70mm 20° purple, laminatic									
69.8	71.3	1.5	100	HQ		67.70 - 68.0 Vein quartz infilling joints Top 30° Bottom 60°									
						Sandstone no rafts in joint + cemented by quartz.									
						68.20 - 69.50 SANDSTONE - coarse. pale yellow grey - massive									
71.3	72.8	1.5	100	HQ		CBA 68.3 40°									
						68.55 Q vein 5-10mm 10									
						lower contact. based on bedding plane slip									
72.8	73.9	1.1	100	HQ		69.50 - 76.55 SILTSTONE coarsens down to fg sst pale brown									
						CBA 69.70 30°									
73.9	75.4	1.5	100	HQ		light grey pink ferruginous mottling									
						72.10 Q vein - displaces smaller veins, 60mm 15-20° to c'axis									
						Sandstone cross faulted + infilled with quartz									
75.4	76.6	1.2	100	HQ		72.85 - 73.9 4 quartz veins 5-35mm x cut 20-30°									
						CBA 75.0 40°									
76.6	77.8	1.2	100	HQ		75.70 Q vein 15mm 30° - laminatic									
						76.55 - 78.0 SANDSTONE coarse grained, minor quartz veining									
77.8	79.3	1.5	100	HQ		and joint infilling ±5mm - random orientation, pink red									
						mottling, even grained massive									
						78.0 - 83.0 SILTSTONE to fine grained SST									
						78.4 - 78.6 5 small Q veins 5-10mm random orientation									
79.3	80.9	1.6	100	HQ		80.6 Q vein 10-15mm 15° sugar.									
						CBA @ 80.35 40°									
80.9	82.4	1.45	92.7	HQ		81.70 Q vein ±30mm 20° irregular joint infilling									
						82.20 ferruginous mottling	80.95	81.70		0.05	330	45			1/27
						82.35-82.0 - general red brown ferruginous appearance									
82.4	83.4	1.05	105	HQ			81.7	82.4		0.19	750	110			1/28
						83.0 - 84.35 SILTSTONE	82.4	83.0		0.03	250	150			1/29

HOLE NUMBER LS-DDH1 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 6 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	Sb			LAB Sample No
						CBA 83.5 40°	83.0	84.35		0.03	270	250			1/30
83.4	84.9	1.50	100	HQ											
						84.35-86.55 SANDSTONE - fine grained cross fractured - sealed	84.35	85.5		20.1 18.5	1100	2150			1/31
						and open joints, quartz veining, lightly limonitic, dark brown									
84.9	86.4	150	100	HQ		cataclasmic fracturing									
							85.5	86.55		3.03 2.62	1500	2050			1/32
86.4	87.9	150	100	HQ		86.55-88.9 SANDSTONE - SILICIFIED (ORE ZONE ?) grey,	86.55	87.2		3.68 3.43	1350	1100			1/33
						sealed fractures randomly orientated. Fresh pyrite	87.2	88.2		2.01 2.40	450	270			1/34
						disseminated throughout									
87.9	89.4	1.5	100	HQ		86.9 - fracture - limonitic sandstone + grey sst + medium	88.2	88.9		0.07 0.08	290	155			1/35
						grained									
						87.5 - purplish ferruginous mottling	88.9	90.0		0.46	730	350			1/36
89.4	91.0	1.6	100	HQ		88.9 - Fracture vuggs 10° to c'axis, seems to be base of									
						silicification.	90.0	91.0		0.76	720	180			1/37
91.0	92.5	1.5	100	HQ		88.9-100.6 SILTSTONE - orange brown limonitic to	91.0	92.0		0.26	210	105			1/38
						olive brown									
						89.45-89.55 Grey siltstone, not silicified but									
92.5	93.3	0.8	100	HQ		contains disseminated pyrite on specks + along joint									
						surfaces.									
93.3	94.6	1.3	100	HQ		90.25 Q vein and cross fracturing to 90.35 vuggy									
						limonite 40° to c'axis									
94.6	95.3	0.7	100			91.4-91.8 fracturing with purplish ferruginous staining									
95.3	96.5	1.2	100			limonite									
						CBA 92.6 40-65°									
						From 92.25 fracture ± every 5cm, limonitic joints									
96.5	98.0	1.5	100			93.4 Q vein 15mm 25°									
						CBA 94.7 40°									
						95.8 Q vein - joint infilling 40° 5-10° to bedding									
98.0	99.5	1.5	100			96.6 sealed fracturing									
						97.2 Q veins - discontinuous - vuggs + open joint									
						infilling ± 10mm 30° to c'axis. Orange brown									

HOLE NUMBER LS-DDH1 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 7 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
99.5	100.6	1.1	100	HQ		purplish - ferruginous jasper									
						97.7 Q vein 5-40mm ±10° - bifurcated, irregular dip									
						98.7 Q vein ±10mm 40° numerous veins to 99.8 random orientation <5mm ± 40°									
						100.0 Q vein ± 90mm 65°, massive quartz, parallel to strike dip steeper than bedding									
						CBA 100.5 40°									
						100.60m E.O.H.									

Summary

HOLE NUMBER LS-DDH2

DATE 5.5.90 TO 9.5.90

PROJECT MALMSBURY
BELLTOPPER HILL
LEREREA STAR

GEOLOGY MAP MELBOURNE 1:250,000

TOPO MAP DRUMMOND 1:25,000

GRID COORDS E N SHEET / OF

H.S.o Aug. 11 Magnetic declination 11°E

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
HOLE SET UP	302	-65°			
50.0 m	304° mag	-66.5°			
102.4 m	305° mag	-66.0°			
162.4 m E.O.H.	301° mag	-66°			

DESCRIPTION	GRAPHIC LOG	M

HOLE NUMBER LS-DDH2 PROJECT MALMSBURY - BELLTOPPER HILL - LEVER & STAR DATE 5.5.90 to 9.5.90 AZIMUTH 302° mag DIP 65° LOGGED BY UZ SHEET 1 OF 10

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	Sb			Sample No
							LAB ALS Renorigo								
0	5.50	BLADE BIT				0-1.0m CLAY- orange brown + sand fragments									
						2.0-5.50m - CLAY- red brown + sand fragments									
						5-5.50m CLAY- brown + sand fragments									
5.50	7.0	1.5	100	HQ		5.50-11.40 SILTSTONE to very fine grained sandstone mottled shade of brown and yellow, micaceous, limonite and manganese coated joint surfaces	5.50	7.50		0.29	200	25			2/1
7.0	8.0	1.0	100	HQ		Qtz infills joints, randomly orientated. Pink - ferruginous spotting and mottling	7.5	9.5		<0.01	34	15			2/2
8.0	9.5	1.50	100	HQ											
						CBA @ 9.2 25°									
9.5	11.0	1.50	100	HQ			9.5	11.4		0.01	70	10			2/3
11.0	12.5	1.5	100	HQ		CBA @ 11.2 20°									
						11.40-16.8 SANDSTONE fine grained, massive grey green, limonite joint and fracture surfaces.	11.4	13.4		0.01	400	15			2/4
12.5	14.0	1.5	100	HQ		13.1 Q vein ± 5mm irregular orientation vuggs. Siltstone alone grades down to sandstone, well compacted - over grained, micaceous	13.4	15.4		<0.01	60	20			2/5
14.0	15.5	1.5	100	HQ		14.0-14.90 Q veining, irregular, joint infilling 3-10mm - medium euhed crystals.									
15.5	17.0	1.5	100	HQ			15.4	16.8		<0.01	28	15			2/6

HOLE NUMBER LS-DDH2 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 2 OF 10

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		LAB Au	As	Sb			Sample No
17.0	18.5	1.5	100	HQ		16.80 - 17.35 Siltstone coarsens down to sandstone.	16.8	17.35		<0.01	24	10			2/7
						CBA @ 17.2 25°	17.35	19.3		0.24	16	35			2/8
						17.35 - 19.30 Sandstone fine grained, as above									
18.5	20.0	1.5	100	HQ		18.0 minor sedimentary slumping									
						19.30 - 22.5 Siltstone coarsens down to sandstone	19.3	20.9		0.17	50	55			2/9
20.0	21.5	1.5	100	HQ		by 21.30									
						CBA @ 19.5 35° and 21.30 25°									
							20.9	22.5		0.09	36	125			2/10
21.5	23.0	1.5	100	HQ											
						22.5 - 23.4 Fracture siltstone below - bedding plane slip	22.5	23.4		0.09	100	20			2/11
23.0	24.5	1.6	106.7	HQ		5cm ferruginous halo around fracture grades									
						down to sandstone 30° to C axis									
						23.4 - 28.8 Silt to fine grained sandstone, coarsens down	23.4	24.7		<0.01	50	20			2/12
24.5	26.0	1.4	93.3	HQ		CBA 23.4 30°									
						from 26.0 ferruginous yellow brown	24.7	26.0		0.12	32	10			2/13
						24.6 Q vein + 5mm leached halo									
26.0	27.5	1.5	100	HQ		26.35 QV fracture ± 50mm 45° to c' axis + limonite	26.0	27.4		0.33	620	35			2/14
						clay sediments below pale buff grey - leached									
						27.0 Q vein 15mm 60°									
27.5	29.0	1.5	100	HQ		+ 5mm 45° different orientation	27.4	28.8		0.13	270	25			2/15
						27.5 Q vein broken. 27.70 10mm 40°									
						28.0 Q vein 30mm 40° - limonite + manganese	28.8	29.25		0.11	970	670			2/16
29.0	30.5	1.5	100	HQ		27.10 sediments less limonite	29.25	30.50		0.22	220	80			2/17
						28.80 - 29.25 Fracture Zone + Q vein infilling highly limonitic									
						open vertical fractures in quartz, sediments shattered									
30.5	32.0	1.45	96.7	HQ		C axis to top of core 40° bottom 70°	30.8	32.35		0.08	95	20			2/18
						29.25 - 33.9 Silt to Sandstone highly weathered, limonitic									
						30.1 - 30.35 Fracture Zone + Q vein ± 60mm 25°									
32.0	33.5	1.55	103.3	HQ		Quartz vein 30.50 - 25mm - 50° 32.10 - 20mm 50°	32.35	33.9		0.03	155	15			2/19
						32.5 - 10mm - 50° at contact of silt + sandstone									
						33.15 - 15mm - 40°; 33.70 - 15mm - 40° broken									

HOLE NUMBER LS-DDH2 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 3 OF 10

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	LAB Sb			Sample No
33.5	35.0	1.4	93.3	HQ		highly limonitic, cryptob green in open joint									
						33.9 - 36.9 SILTSTONE - finely laminated yellow to pale	33.9	35.4		0.07	260	15			2/20
						green brown. limonite staining x cuts bedding,									
35.0	36.5	1.6	106.7	HQ		CBA @ 34.2 30°									
						parallel to strike 55° to c'axis at 34.2	35.4	36.9		0.03	220	15			2/21
						36.6 - Q vein 10-15mm 30°									
36.5	38.0	1.4	93.3	HQ		35.80 grades to fine grained sandstone									
						36.9 - 41.3 SILT TO SANDSTONE fracture contact, limonitic	36.9	39.1		0.02	310	5			2/22
						and grey mottling 38.0 - 38.15 Dark grey mottling									
38.0	39.5	1.6	106.7	HQ		CBA @ 38.1 25°									
						38.4 Q vein ± 5mm 5° to c'axis									
						39.30 fracture - bleached below & above for 30mm	39.1	41.3		0.02	60	10			2/23
39.5	41.0	1.5	100	HQ		due to water percolation.									
						40.2 Fracture + Q vein 5mm 70°									
						From 40.3 sediments become darker & grey									
41.0	42.5	1.5	100	HQ			41.3	42.3		0.03	17	5			2/24
						41.3 - 47.5 SILT TO SANDSTONE fine grained by 42.5									
						CBA top silt unit 40°									
42.5	44.0	1.4	93.3	HQ		Grey massive, finely laminated, few fractures									
							43.3	45.3		0.20	9	10			2/25
44.0	45.5	1.5	100	HQ											
							45.3	47.5		0.10	28	15			2/26
45.5	46.0	0.5	100	HQ		45.4 - 45.5 Fracture Zone, quartz, broken limonite									
						CBA 45.5 30°									
46.0	47.5	1.5	100	HQ											
							47.5	48.45		0.05	280	10			2/27
47.5	49.0	1.6	106.7	HQ		47.5 - 49.35 SILT TO SANDSTONE limonite initially then									
						grey									
49.0	50.0	0.9	90	HQ		47.85 - Q vein 20mm 25° x cuts bedding at 180°	48.45	49.25		0.02	150	10			2/28
						limonite									

HOLE NUMBER LS-0042 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 4 OF 10

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	LAB Sb			Sample No
50.0	51.5	1.5	100	HQ		49.35 - 49.6 FRACTURE ZONE limonite, sediment fragments	49.25	49.90		0.64	1200	90			2/29
						quartz veining - discontinuous	49.9	51.5		0.31	720	60			2/30
						49.6 - 55.7 SILT TO SANDSTONE limonite, orange brown									
51.5	53.0	1.5	100	HQ		well jointed	51.5	53.0		0.22	390	25			2/31
						50.8 - joint fracture rein qtz 20° - split									
						51.3 Q rein - shatter zone 15mm 60°									
53.0	54.5	1.4	93.3	HQ		51.6 Q rein 5mm 60°	53.0	53.55		0.03	320	25			2/32
						52.4 Q rein 5mm 10°	53.55	54.0		0.48	210	40			2/33
						CBA 50.2 25°	54.0	55.7		0.03	120	20			2/34
54.5	55.4	1.0	89	HQ		53.3 Fracturing - qtz veining rubbly 5-10mm									
						from 53.6 purple ferruginous mottling									
55.4	56.0	0.6	100	HQ		from 54.2 medium grained sandstone massive well	55.7	57.2		0.05	95	20			2/35
56.0	57.5	1.5	100	HQ		jointed from 55.6 fewer less joints									
						55.7 - 58.80 SILT - SANDSTONE coarsens down to									
						medium grained sandstone	57.2	58.8		0.21	220	240			2/36
57.5	57.0	1.5	100	HQ		CBA 55.75 35°									
						CBA 58.0 30°									
57.0	60.3	1.30	100	HQ		58.80 - 63.0 SILT TO SANDSTONE fine to medium	58.8	60.8		0.20	155	10			2/37
						grained, yellow brown to grey, even grained,									
						59.2 Q rein 5-10mm 40°									
60.3	61.9	1.6	100	HQ		59.5 " " " joint infilling									
						massive, joints and fractures randomly orientated	60.8	63.0		0.035	195	10			2/38
						with limonite and manganese coatings									
61.9	63.4	1.5	100	HQ											
						63.0 - 67.8 SILT TO SANDSTONE as above, contact	63.0	64.5		0.01	100	10			2/39
63.4	65.0	1.6	100	HQ		shows soft sediment deformation, slump									
						structure									
						CBA @ 63.0 ±25°	64.5	66.0		0.05	450	15			2/40
65.0	66.0	0.5	50	HQ		Quickly coarsens down to medium grained sandstone									
						by 63.2, generally pale grey, limonite staining									
66.0	66.3	0.3	100	NQ		associated with joints and fractures	66.0	67.8		<0.01	185	5			2/41

HOLE NUMBER LS-DDH2 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 5 OF 10

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	LAB Sb			Sample No
66.3	68.1	1.8	100	NQ											
							67.8	69.3		0.18	890	15			2/42
68.1	71.2	3.1	100	NQ		CBA 67.8 35°									
						67.8 – 73.3 SANDSTONE 30cm of silt then sandstone									
						initially limonitic. From 69.1 grey fresh	69.3	71.3		0.23	75	20			2/43
						contains very fine disseminated pyrite									
						68.35 Q vein ± 10mm 5° + minor pyrite & stibnite									
						By 70.6 sulphide no longer present (or to fine)									
71.2	74.3	3.1	100	NQ		69.5 Q vein ± 5mm 5°	71.3	73.3		<0.01	42	15			2/44
						70.2 Q vein broken + pyrite – joint infilling									
						70.8 CBA 30° – tone coarse sandstone.									
						(limonite reflects weathered sulphide)									
							73.3	74.95		<0.01	12	10			2/45
						73.3 – 74.95 SILT – SANDSTONE from 74.3 grey to pale									
74.3	76.4	2.1	100	NQ		grey green around fractures + joints									
						CBA 73.4 35°									
						Possibly very fine sulphide present	74.95	77.0		<0.01	120	10			2/46
						74.95 – 77.0 SILT – SANDSTONE fine grained pale grey to green									
						CBA 74.95 40°									
76.4	77.8	1.4	100	NQ		75.8 – limonitic joint + quartz ± 10mm 50° 180° to									
						bedding	77.0	77.9		0.01	18	10			2/47
⊛ 77.8	80.8	0.3	15	NQ		77.0 – 82.90 SILT TO SANDSTONE fine grained, predominantly									
(Core Loss)						sandstone, grey to grey green	77.9	80.8		0.24	370	20			2/48 ⊛
						CBA 77.0 40° contact micro faulted 10mm displacement	Core Loss								
						From 77.8 weathered mottled orange brown, limonitic									
						fractured, sulphide mottling									
80.8	83.2	2.4	92	NQ		CBA 81.8 20°									
						81.9 becomes coarse grained									
							80.8	82.9		0.09	165	50			2/49

HOLE NUMBER 45-DDH2 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 6 OF 10

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	Sb			LAB Sample No
83.2	86.4	1.2	86	NQ		82.9-83.6 SHEAR ZONE - shattered and cono fractured	82.9	83.6		1.82	620	800			2/50
						sediments, quartz veining 82.80-82.90 50° to	83.6	84.9		0.02	90	60			2/51
						Cores									
84.4	86.5	2.1	100	NQ		83.6-85.5 SANDSTONE mottled orange brown to purplish									
						brown 84.70 - pale buff leached	84.9	86.2		0.06	75	125			2/52
						84.40 Q vein broken ± 50mm									
						CBA 85.5 20°	86.2	87.2		0.05	85	110			2/53
86.5	87.2	0.7	100	NQ		85.5-87.2 SILT TO SANDSTONE pale greenish brown, leached,									
87.2	90.3	3.1	100	NQ		even grained becomes massive with coarsening down	87.2	88.1		<0.01	80	100			2/54
						86.35-86.55 fracture + quartz, fractured at base									
						of cycle.	88.1	90.0		0.24	420	370			2/55
						87.2-88.1 SILTSTONE pale kahai									
						CBA 87.60 30°									
						Q vein 87.55 ± 10mm 40°									
						88.1-100.1 SANDSTONE fine to medium grained, mottled	90.0	92.0		0.29	340	890			2/56
90.3	93.4	3.1	100	NQ		brown green to ferruginous purple, silicified,									
						coarsens down, well fractured, fractures sealed									
						with limonite, several coarsening down sequences									
						to non coarse grained	92.0	93.8		0.10	230	130			2/57
						89.5 Q vein ± 10 mm 10° to c'axis, thins to 5mm									
						and pinch // to core to 91.5.									
93.4	96.4	3.0	100	NQ		Pale yellow Altered grains weathered (Arkose!) Cg 91.4									
						Quartz veins vuggy slow crystal growth at 90° to joint	93.8	95.0		0.02	55	70			2/58
						92.65 Q vein ± 10mm 35°									
						from 93.8 less purple colouration 94.8 - purple colour returns	95.0	96.65		0.64	240	110			2/59
						94.1 Q vein 30mm 30° cuts bedding at 90°									
						CBA 92.70 40°									
96.4	99.4	3.0	100	NQ		From 94.4 coarse sandstone.	96.65	97.25		0.02	44	25			2/60
						95.7 - Open joint, orange brown limonite (lost circulation)	97.25	98.2		0.06	130	65			2/61
						97.6 Q vein ± 60mm 40°									
						CBA 98.65 base coarse sandstone 40°	98.2	98.95		0.05	50	40			2/62
						99.0 Q vein 15mm 25°									
							98.95	100.1		0.25	280	105			2/63

HOLE NUMBER LS-DDH2 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 7 OF 10

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To		Au	As	Sb			Sample No
99.4	102.4	3.0	100	NQ											
							100.1	100.7		0.59	450	320			2/64
						100.1-100.7 FRACTURE ZONE - quartz veining + sandstone	100.7	102.65		0.26	400	125			2/65
						fragments, highly limonite									
						100.7-107.7 SANDSTONE fine to medium grained									
						mottled ferruginous purple grey green and orange									
102.4	105.4	3.0	100	NQ		brown, some silicification	102.65	104.6		0.38	290	55			2/66
						101.5 Q vein 10mm 10° sealed fracture.									
						CBA 103.8 ± 15° base medium grained sandstone									
						wavey contact to fine grained sandstone. Few									
						small quartz veins ± 5mm	104.6	106.0		0.09	200	35			2/67
						104.4 Q vein 25mm-60° 20mm 10° - intersect									
105.4	107.8	2.4	100	NQ		at 90° sugary									
						105.3 Q vein ± 20mm 20° - broken.	106.0	107.7		0.06	175	25			2/68
						105.4-105.65 irregular quartz veining									
						106.2 Q vein ± 10cm massive									
							107.7	109.7		0.04	105	25			2/69
107.8	109.5	1.7	100	NQ		107.7-114.1 SILTSTONE grey green + orange brown limonite									
						staining, limonite spots finly bedded - even grained									
						CBA @ 107.8 45°									
109.5	111.0	1.5	100	NQ		109.6 Q vein ± 10cm broken typ 15° to core	109.7	111.7		0.17	115	25			2/70
						110.9 Fracture - limonite									
						CBA 112.6 30°									
111.0	112.3	1.3	100	NQ		From 112.4 purplish ferruginous colouration spots + stripes									
						114.1 pale grey colour to grey green	111.7	112.3		0.03	120	35			2/71
112.3	114.4	2.10	100	NQ		by 114.1 very fine grained sandstone - grades down	112.3	112.25		0.01	105	10			2/72
							112.25	114.1		<0.01	105	10			2/73
							114.1	116.1		<0.01	13	10			2/74
114.4	116.1	1.5	88.2	NQ		114.1 - 125.3 SILT - SANDSTONE, fine grained pale grey to									
						grey green and dark grey, even grained massive.									
						Rhythmic fining down sequences. Pale bedded									

HOLE NUMBER LS-00H2 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 8 OF 10

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To		Au	As	Sb			Sample No
116·1	117·4	1·3	100	NQ		appearence around joints - fractures	116·1	118·1		<0·01	9	5			2/75
117·4	118·7	1·3	100	NQ											
							118·1	120·1		0·02	9	15			2/76
118·7	120·4	1·7	100	NQ											
						119·9 - Shear 5-10° to c'axis below which sandstone is	120·1	122·1		0·03	13	10			2/77
120·4	122·6	2·2	100	NQ		pale grey and may contain very fine disseminated pyrite (+ slight									
						or arsenopyrite), also associated with joint infillings									
						122·8 Qvein 25mm 10° sulphides + ferruginous halo	122·1	124·1		<0·01	100	15			2/78
122·6	124·2	1·6	100	NQ		CAA 123·5 30°									
						From 124·5 ferruginous - not fresh rock - orange brown +									
124·2	125·9	1·7	100	NQ		purplish spots	124·1	125·3		0·18	190	40			2/79
							125·3	126·7		0·02	250	20			2/80
						125·3 - 128·0 SILT - SANDSTONE fine grained sandstone orange									
125·9	127·5	1·6	100	NQ		125·6 Qvein 20mm 15° to c axis									
						125·9 Qvein 10cm 30-35° - base contact broken	126·7	128·0		0·01	95	15			2/81
						brown to purple mottling									
127·5	129·4	1·2	63·2	NQ		127·85 grey + disseminated sulphides on joint surface									
							128·0	129·4		0·22	310	30			2/82
						128·0 - 129·25 SHEAR ZONE - grey green siltstone, highly fractured									
						disseminated sulphides									
129·4	132·4	3·0	100	NQ		129·25 - 131·8 SILT - SANDSTONE fine grained, orange brown	129·4	131·4		0·03	820	35			2/83
						limonite to pale grey green, water fractures picked out by									
						limonite haloes									
						130·1 Qvein 60mm 50°									
						130·8 Fracture, sediments in quartz infilling	131·4	133·4		0·02	170	40			2/84
						131·0 - 131·25 - Grey colour, fresh sulphides in silt									

HOLE NUMBER LS-DDH2 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 9 OF 10

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To		Au	As	Sb			Sample No
132.4	135.3	2.9	100	NQ		131.8 – 139.4 SILT - SANDSTONE fine grained grey, fresh									
						sulphide particularly on joints. Becomes mottled grey									
						green & orange brown & purplish ferruginous colour	132.4	134.4		0.02	135	35			2/85
						many small < 5mm quartz veins									
						CBA 131.7 ∠45°	134.4	136.0		0.01	95	30			2/86
135.3	138.1	2.8	100	NQ		Sulphides in vugs in sediments, sulphide rich relations permeated									
						sediments, cubic & framboidal pyrite									
						134.4 – 134.95 Fresh grey colour + fresh sulphide disseminated	136.0	137.5		0.01	145	20			2/87
						134.95 – 135.55 Orange brown - limonite									
						135.55 – 136.05 Fresh grey + sulphide									
						136.05 – 139.4 Orange brown, limonite - pot kaki with depth	137.5	139.4		0.07	165	20			2/88
138.1	140.1	2.0	100	NQ		Quartz vein 137.4 - broken ; 137.8 Sand 30mm 30°									
						139.0 broken vuggy - irregular									
						137.7 Shatter Zone - fault									
						CBA 138.8 · 30°	139.4	141.4		0.01	24	20			2/89
140.1	141.4	1.3	100	NQ		139.4 – 156.1 SILT - SANDSTONE fine grained, predominantly									
						silt, fresh disseminated sulphide in sediments and									
						139.6 Q vein, broken, limonitic joints									
141.4	142.8	1.4	100	NQ		joints. Soft sediment deformation Eg 140.6	141.4	143.4		0.03	9	15			2/90
						CBA 140.6 40°									
						142.3 Q vein broken limonitic joint surfaces									
142.8	144.0	1.2	100	NQ		144.0 Q vein broken pyrite									
						From 144.3 Dark grey siltstone, minor quartz veins	143.4	145.4		<0.01	5	10			2/91
144	147.4	3.4	100	NQ		CBA 144.8 30°									
						in fill joints, various shades of grey to grey green									
						145.2 Joint 25° to c'axis									
						145.25 Q vein 5mm 20° 145.4 Q vein 5mm 25°	145.4	147.4		<0.01	2	10			2/92
						Minor quartz veins									
147.4	150.4	3.0	100	NQ			147.4	149.4		<0.01	2	<5			2/93
						CBA 148.1 40°									

HOLE NUMBER LS-DDH2 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 10 OF 10

CORE RECOVERY From	To	Rec	%	Size	Graph Loc	DESCRIPTION	ASSAYING From	To		Au	As	Sb			LAB Sample No
							149.4	150.55		<0.01	1	5			2/94
150.4	153.4	3.0	100	NQ		151.2 Joint or small shear + Q vein ± 10° to c'axis	150.55	151.5		0.02	7	10			2/95
						deamination of pyrite associated with veining + stibnite									
						(or arsenopyrite)	151.5	153.0		0.03	3	10			2/96
						153.6 Q vein 25mm 30°									
						154.4 Q vein 20mm 20°; 154.5 15mm 30°									
						154.8 10mm 15° all with sulphides	153.0	154.5		0.02	10	105			2/97
153.4	156.4	3.0	100	NQ											
							154.5	156.1		<0.01	30	25			2/98
						156.1-156.5 QUARTZ VEIN broken - lots of fine pyrite and stibnite	156.1	156.55		0.94	1900	60			2/99
156.4	158.3	1.9	100	NQ	Q-U	(or arsenopyrite)	156.55	157.9		0.05	175	45			2/100
						156.5-162.4 SILTSTONE pale grey green ≤ 5% sulphide as									
						CBA 157.4 40°									
158.3	159.4	1.1	100	NQ		deamination as spots + on joint surfaces	157.9	159.2		0.03	38	20			2/101
						157.1 Q vein broken + sulphide									
						159.15 Q vein 15mm 10° to c'axis	159.2	160.8		<0.01	3	10			2/102
159.4	162.4	3.0	100	NQ											
						CBA 160.3 60°									
						Soft sediment slumping	160.8	162.4		<0.01	2	15			2/103
						162.4 m E.O.H.									

Summary

HOLE NUMBER LS-DDH5 DATE 15·4·90

PROJECT MALMSBURY
BELLTOPPER HILL
LEVEN STAR

GEOLOGY MAP Mc QUANE 1:250,000

TOPO MAP DRUMMOND 1:25,000

GRID COORDS E N SHEET / OF

Magnetic declination: 11°E

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
HOLE SET UP	302° mag	-65°			
51·5 m	301° mag	-65·25°			
102·0 m	299 [illegible]° mag	-64°			
140·7 m E.O.H.	[illegible] mag	-63°			

DESCRIPTION	GRAPHIC LOG	M

HOLE NUMBER LS-DDH5 PROJECT MALMSBURY - BELLTOPPER HILL LEVEN STAR DATE 15.4.90 AZIMUTH 302° mag DIP -65° LOGGED BY UF SHEET 1 OF 9

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
0	1.9	1.7	89.5	HQ		0-0.3m CLAY - mottled orange brown to grey green.									
						0.3 - 10.85m SANDSTONE fine to medium grained, orange									
						brown, limonitic purple mottling, very broken									
1.9	3.4	1.7	113.3	HQ		1.4m Q vein ± 5mm 10°									
						2.2m Q vein broken vuggy, crystals grown in open									
						joint 20mm 5° to c'axis									
3.4	6.3	2.0	69.0	HQ		3.2m Q vein 5mm 20° with limonite halo.									
(core loss at 4.3)						4.3 Q vein - very broken (core loss)									
						Sandstone becomes orange to kakai, red orange brown									
						limonite spots. From 5.7m pink-purple coloration with									
						limonite coloration of joints									
6.3	8.0	1.45	85.3	HQ		Coarsens down to 9.2m then fine grained sandstone									
						Even grained, massive, well sorted and compacted.									
8.0	9.5	1.5	100	HQ											
9.5	11.0	1.5	100	HQ											
11.0	12.5	1.4	93.3	HQ		10.85 - 21.80m SILT TO SANDSTONE fine to medium grained									
						initially a grey brown silt then quickly coarsens									
						down to fine grained sandstone by 11.3. Becomes									
12.5	13.3	0.9	112.5	HQ		limonite 11.3 - 11.6 spots of orange limonite after									
13.3	14.0	0.6	85.7	HQ		sulphide. 11.6 mottled orange and grey brown, purple,									
						limonitic and manganese coatings on joint surfaces.									
14.0	15.5	1.5	100	HQ		Micaceous, well sorted and compacted, even grained									
						massive									
15.5	17.0	1.45	96.7	HQ											

HOLE NUMBER LS-DDH5 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 2 OF 9

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
17.0	18.5	1.5	100	HQ											
18.5	20.0	1.45	96.7	HQ		18.4 Quartz ± 5mm 10° to c' axis									
20.0	21.0	1.0	100	HQ		From 20.15m becomes broken and possibly some silicification, highly limonite especially 21.45 to 21.65, with often sulphide									
21.0	22.6	1.6	100	HQ											
22.6	23.5	0.9	100	HQ		21.8 – 28.05 m SANDSTONE now commencing down sequence fine to medium grained grey brown, grey, orange mottling, yellow-purple. Even grained massive, well cemented and compacted, microcross									
23.5	23.5	0.2	20	HQ											
23.9	26.5	1.4	87.5	NQ											
26.5	27.5	1.0	100	NQ											
27.5	30.5	2.85	95.0	NQ											
						CBA 28.05 30°									
						28.05 – 29.4 SILTSTONE grey to grey green, contorted microfaulting or soft sediment deformation. Limonite on joint surfaces + veins of fresh sulphide from 28.85 fresh rock.									
						29.4 – 37.6 SANDSTONE fine grained, initially limonite then becomes fresh from 30.05m									
30.5	33.5	3.0	100	NQ											
						32.0 Quartz vein ± 3mm 20°									

HOLE NUMBER LS-DDH5 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 3 OF 9

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To	Sample No
33.5	36.5	3.0	100	NQ					
						From 34.0 rooted fractures with limonite holes, 3st massive even grained, well cemented and sorted			
						grey to grey green			
36.5	37.6	1.1	100	NQ					
37.6	39.5	0.9	47.4	NQ					
						37.6 - 39.05 CLAY - yellow brown + silt fragments (core loss)			
39.5	40.8	1.3	100	NQ		39.05 - 41.9 SILTSTONE pale green grey, limonite at joint surfaces, sulphide spots			
40.8	41.9	1.1	100	NQ		40.6m @ vein 5-10mm 50°			
						CBA 41.05m 60°			
41.9	44.8	2.9	100	NQ		Contact is bedding plane slip or shear			
						41.9 - 43.5m SANDSTONE fine grained mottled grey to grey green according to looking at joints slight coarsening down			
						43.5 - 50.2 SILTSTONE - SANDSTONE fine grained by 43.7 grey to grey green, greenish spots after sulphide - pyrite even grained massive			
44.8	46.2	1.4	100	NQ					
46.2	48.5	2.3	100	NQ		CBA @ 46.35m 40°			
						Sulphides on joint surfaces			
48.5	50.1	1.3	81.2	NQ					
						49.0 broken quartz vein - milky white - core loss			

HOLE NUMBER LS-0045 | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET 4 OF 9

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
50·1	51·5	1·4	100	NQ		50·2 - 51·05 SILT TO SANDSTONE very fine grained, contact shear and broken quartz vein, grey to grey green									
51·5	53·9	1·9	79·2	NQ		50·6 Q vein ± 5mm 20°, + sulphide pyrite and stibnite 50·9 Fracture + Q vein.									
						51·05 - 53·8 SANDSTONE fine grained sulphide spots on on CBA contact 20° joint surfaces 53·1 Q vein ± 5mm 20°; 53·25 broken milky white cavernoidal texture									
53·9	55·8	2·1	110·5	NQ		53·8 - 55·1 SILTSTONE pale grey green. Dark green spots of sulphide soft sediment deformation									
						55·1 - 55·7 SANDSTONE - fine grained grey green CBA contact 20°									
55·8	57·5	1·6	94·1	NQ		Dark sulphide spots + cajoints, coarse grained, massive well sorted									
						55·7 - 68·1 SILTSTONE CBA contact 10°									
57·5	59·2	1·7	100	NQ		Pale grey green - sulphide spots 57·5 Quartz vein ± 10mm 10° - discontinuous vuggs fresh pyrite									
59·2	60·1	0·9	100	NQ											
						Thin beds of very fine grained sandstone ± 20mm									
60·1	63·2	3·1	100	NQ											
						60·5m - soft sediment deformation, plume structure - break up of thin very fine grained sandstone bed. CBA 61·4m 20° 60·8 discontinuous quartz vein ± 15mm. + sulphide Soft sediment slumping continues to 63·3									
63·2	66·3	3·10	100	NQ											

HOLE NUMBER LS-DDH5 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 5 OF 9

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
66·3	68·4	2·1	100	NQ											
68·4	69·5	1·1	100	NQ		From 67·9 bed of very fine sandstone become thicker to 68·1									
						CBA @ 68·1m 30°									
69·5	72·5	3·0	100	NQ											
						68·1 - 80·3 Silt + Sandstone - interbedded very fine grained grey to grey green. Greenish spots after sulphide. Soft sediment deformation, due to break up of thin sandstone layers. 69·0 Qvein - broken 60°									
72·5	75·5	2·9	96·7	NQ		CBA @ 71·6 50°									
						73·25m fracture - core 320									
75·5	77·8	2·15	93·5	NQ											
77·8	80·3	1·4	56	NQ											
						CBA 80·2m 40°									
80·3	81·5	1·2	100	NQ		80·3 - 81·3 Sandstone very fine grained, pale grey, sulphides pyrite, silicified slightly									
81·5	82·3	0·7	87·5	NQ		Qvein @ 80·8 50mm 50° 81·05 15mm 30°									

HOLE NUMBER LS-00H5 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 6 OF 9

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
82.3	83.5	1.1	91.7	NQ		81.3 - 96.6 SILTSTONE grey green with green spots									
						after sulphide.									
83.5	85.0	1.4	93.3	NQ		CBA @ 82.0m 35°									
						Well laminated compacted but poorly cemented (soft).									
						from 86.6m green spots greatly reduced									
85.0	87.5	1.4	93.3	NQ		Octahedral crystals of sulphide mineral on joint surfaces									
						Sp @ 87.1 arsenopyrite (stibnite?)									
87.5	88.7	1.3	108.3	NQ											
88.7	90.0	1.4	107.7	NQ		88.0 - 88.9 very broken									
90.0	92.6	2.6	100	NQ		89.9 fractured sediments, slightly silicified, rocked fractures									
						Sediments seem to be more silicified with depth									
						CBA @ 91.8m 40°									
92.6	93.4	0.8	100	NQ		92.1 Broken quartz vein									
						20-30cm of very fine grained sandstone									
93.4	95.9	2.5	100	NQ		92.75 - Soft sediment deformation									
						Sulphides on spots and on joint surfaces, pyrite +									
						arsenopyrite (stibnite)									
						95.2m Q vein ± 5mm 10° crystals grown in joint									
						irregular angle to core.									
95.9	96.5	0.5	83.3	NQ		CBA @ 96.0 40°									
96.5	97.7	1.35	112.5	NQ		96.6 - 99.75 SANDSTONE very fine grained grey to grey									
						green, massive, well compacted, sorted and cemented									
97.7	99.2	1.3	96.7	NQ		98.8 Q vein broken, coarse sulphide pyrite + arsenopyrite (stibnite)									

HOLE NUMBER LS-DDH5 | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET 7 OF 9

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
99.2	102	2.9	103.6	NQ											
						99.75 - 116.8 Silt to Sandstone 30cm of silt then very fine grained sandstone. Grey to grey green. Interbedded siltstone and sandstone. Soft sediment slumping + sulphide pyrite arsenopyrite (?stibnite)									
102	105.1	3.1	100	NQ											
						104.5 Q vein ±15mm 35°									
105.1	106.7	1.6	87.5	NQ											
						105.5 Broken quartz vein - silicified sediments									
						105.8 Q vein irregular orientation runs along core to 106.5 5-15mm + vuggs									
106.7	108.5	1.8	100	NQ											
108.5	110.1	1.6	100	NQ											
						CBA @ 109.2 40°									
						109.5 very broken to 110.1									
110.1	111.5	1.6	100	NQ											
						110.85 fine grained sandstone very silicified - quartzite									
						111.25 Sandstone more silicified than silt									
111.5	112.6	1.1	100	NQ											
112.6	114.5	1.9	100	NQ											
						CBA @ 114.0 50°									
114.5	116.7	2.2	100	NQ											

HOLE NUMBER LS-DDH5 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 8 OF 9

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION
116·7	117·7			NQ		
						116·8 – 118·6 BROKEN ZONE – silt + sandstone grey green + quartz
117·7	118·4	0·4	57·1	NQ		milky white, fracture or shear zone + pyrite, stibnite
						(arsenopyrite) partly silicified.
118·4	119	0·75	125	NQ		
						118·6 – 119·0 SILTSTONE soft grey green + fresh pyrite
119	120·5	1·4	93·3	NQ		119·0 – 119·6 SANDSTONE very fine, silicified, fresh pyrite quartz
						vein broken
120·5	121·4	0·95	67·9	NQ		119·6 – 120·1 SILT grey green sulphide spots pyrite CBA 120·1 35°
						120·1 – 121·1 SANDSTONE very fine, grey, silicified fresh pyrite
121·4	123	1·6	100	NQ		Quartz veins 120·55 5mm 35° 120·95 7-8mm 40°
						121·1 – 127·65 SILTSTONE grey to grey green, silicified, fresh pyrite
						sulphide, very broken, interbedded very fine grained
123	124·2	1·2	100	NQ		sandstone, difficult to see boundary between silt
						and sandstone ∵ of broken ground
124·2	125·8	1·6	100	NQ		
						CBA@ 124·4 30°
						possibly less silicified from 124·4
125·8	128·9	3·1	100	NQ		
						127·65 – 129·9 SANDSTONE very fine, grey to grey green at
						joints. Spots of sulphide and on joint surfaces
						massive well cemented possibly silicified less sulphide
128·9	131·5	1·6	100	NQ		than silts
						CBA top contact 30°
						129·9 – 133·85 SILTSTONE grades down to very fine grained
						sandstone, Grey to grey green
						CBA@ 130·3 40°
131·5	132·5	1·0	100	NQ		Fresh spots of sulphide and on joint surface

ASSAYING LAB ALS Bendigo

From	To		Au	As	Sb			Sample No
115·0	116·0		0·02	28	10			5/1
116·0	116·8		<0·01	32	25			5/2
116·8	117·7		2·22	2150	90			5/3
117·7	118·6		0·56	450	55			5/4
118·6	119·0		1·02	400	35			5/5
119·0	119·6		0·14	70	30			5/6
119·6	120·1		0·07	44	25			5/7
120·1	121·1		<0·01	20	20			5/8
121·1	122·1		<·01	15	10			5/9
122·1	123·0		0·06	65	35			5/10
123·0	124·0		0·63	200	350			5/11
124·0	125·0		0·30	50	30			5/12
125·0	125·8		0·15	48	25			5/13
125·8	127·0		0·05	30	20			5/14
127·0	127·65		<0·01	11	<5			5/15
127·65	128·7		<0·01	46	<5			5/16
128·7	129·9		<0·01	7	10			5/17
129·9	131·0		<0·01	12	10			5/18
131·0	132·0		0·13	10	5			5/19

HOLE NUMBER LS-DDH5 | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET 9 OF 9

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION
						132.0 Quartz vein 20mm 20°
132.5	135.4	2.9	100	NQ		
						133.85 – 134.25 QUARTZ VEIN faulted - coarse sulphide
						134.25 – 136.1 SILT - grey green to grey, silicified, grades down to very fine grained sandstone + fresh pyrite
135.4	136.7	1.3	100	NQ		134.65 Qvein 30° pyrite + chalcopyrite - blue, several stringers
						135.5 Qvein 10mm 50°
136.7	138.5	1.8	100	NQ		136.1 – 136.7 FRACTURE ZONE + small quartz vein silicified grey green fresh pyrite very fine grained sandstone
						136.7 – 137.0 SANDSTONE very fine grained grey to grey green CBA @ 136.75 40°
138.5	140.7	2.2	100	NQ		137.0 – 140.7 SILT TO SANDSTONE very fine grained, grades down. Grey to grey green. Even grained well cemented Fresh sulphide spots on joints
END OF HOLE						
						140.7m E.O.H

ASSAYING From	To		Au	As	Sb			Sample No
132.0	133.0		0.03	20	25			5/20
133.0	133.7		0.74	135	25			5/21
133.7	134.25		0.63	240	25			5/22
134.25	135.1		0.39	18	35			5/23
135.1	136.1		0.03	18	10			5/24
136.1	137.0		0.97	240	15			5/25
137.0	138.0		<0.01	18	10			5/26

Summary

HOLE NUMBER LS-DDH6 DATE 18·5·90

PROJECT MALMSBURY
BELLTOPPER HILL
LEVEN STAR

GEOLOGY MAP MELBOURNE 1:250,000

TOPO MAP DRUMMOND 1:25,000

GRID COORDS E N SHEET / OF

Mag Declination 11E

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
HOLE SET UP	302 mag	-55°			
51·5 m	300·5° mag	-54·5°			
60·5 E.O.H.					

DESCRIPTION	GRAPHIC LOG	M

HOLE NUMBER LS-DDH6 PROJECT MALMSBURY BELLTOPPER HILL LEKEN STAR DATE 18.5.90 AZIMUTH 302° mag DIP -55° LOGGED BY VJ SHEET 1 OF 4

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To	Sample No
0	1.5	1.4	93.3	HQ		0-5.7m SILTSTONE mottled red brown, red, orange; micaceous, limonite and manganese joint surfaces. Grey brown.			
1.5	2.6	1.1	100	HQ		Fairly laminated, soft			
2.6	4.2	1.5	93.8	HQ					
4.2	5.7	1.3	86.7	HQ		CBA @ 4.2m 25°			
5.7	6.2	0.5	100	HQ		CBA @ 5.7m 10°			
6.2	8.0	1.3	72.2	HQ		5.7-9.2m SANDSTONE fine grained mottled orange pink to			
(core ground away)						pink brown. Micaceous, poorly cemented soft well			
						sorted			
						6.2 10cm silt horizon.			
8.0	9.0	1.0	100	HQ					
9.0	9.2	0.2	100	HQ					
9.2	10.7	1.4	93.3	HQ		9.2-11.25 SILTSTONE dark red brown to purple			
10.7	12.2	1.6	106.7	HQ					
						CBA lower contact 20°			
						11.25-13.1 SANDSTONE mottled purple to purple brown, orange			
12.2	13.8	1.5	93.8	HQ		micaceous, very fine grained			
						CBA lower contact 10°			
						13.1-16.5m SILTSTONE mottled purple brown to grey orange brown			
13.8	15.4	1.6	100	HQ		CBA @ 13.9 20°			
						Red spots after sulphide, micaceous, becomes grey with			
						depth			
15.4	17.0	1.6	100	HQ		Sharp but wavy contact CBA 10° (lower)			

HOLE NUMBER LS-DDH6 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 2 OF 4

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	Sb			Sample No
							LAB ALS Bonsaigo								
17.0	18.5	1.5	100	HQ		16.5 - 20.1 SANDSTONE brown to purple brown and grey brown limonite, red spots after sulphides, micaceous									
						joints have limonite below									
18.5	20.0	1.4	93.3	HQ		19.2 - 19.3 highly ferruginous joint, vuggy, in surrounding sandstone									
20.0	21.5	1.5	100	HQ		CAA lower contact 20°									
						20.1 - 26.4m SILT (SHALE) initially grey, then becomes pale grey green (bleached) then to orange brown									
21.5	23.0	1.4	93.3	HQ		and back to pale grey green by 22.5. Finely laminated, manganese and limonite coated joints									
						CAA @ 22.5 30°									
23.0	23.8	0.8	100	HQ											
						23.8 LOST CIRCULATION									
23.8	24.7	0.8	88.9	HQ		Highly limonite at joints & fractures, red brown spots after sulphides. Manganese growths in open joints (dendrites)									
24.7	26.0	1.1	84.6	HQ		Micro faults & shears, sediment dislocated.	24.7	25.5		0.03	520	15			6/1
							25.5	26.4		<0.01	100	10			6/2
26.0	26.7	0.65	92.9	HQ											
26.7	27.5	0.6	75.0	NQ		26.4 - 35.43m SHATTER ZONE, silts and sandstones, fractured	26.4	26.7		0.12	210	30			6/3
						and mineralised joints, open joints & vuggs. Lost	26.7	27.7		0.14	270	25			6/4
27.5	30.0	2.6	104	NQ		circulation. Very limonitic, little vein quartz	27.7	28.7		1.05	610	20			6/5
						Sandstone more silicified than silts	28.7	29.7		2.97	1150	60			6/6
						orange brown to grey green									
						29.4 - 33.3 highly fractured, limonite, vuggs	29.7	30.7		3.33	1700	50			6/7
30.0	30.5	0.4	80.0	NQ											
30.5	33.5	3.0	100	NQ			30.7	31.7		5.42	4000	40			6/8
							31.7	32.7		2.26	1550	25			6/9
						32 - 32.8 discontinuous dislocation									
							32.7	33.8		0.99	1050	35			6/10

HOLE NUMBER LS-DD46 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 3 OF 4

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	Sb			Sample No
33.5	36.0	2.0	80.0	NQ			33.8	34.6		4.73	1700	65			6/11
							34.6	35.4		5.13	1250	70			6/12
							CORE	LOSS							
						35.45 - 46.65m SILT (SHALE) grey green to orange brown	35.4	36.4		0.16	830	30			6/13
36.0	37.2	1.1	91.7	NQ		very limonite x broken.									
						Brown spots after sulphide	36.4	37.4		0.03	165	5			6/14
37.2	38.6	1.1	78.6	NQ		37.6 - 37.8, remoulded shatter zone									
							37.4	38.4		0.46	570	15			6/15
38.6	39.4	0.8	100	NQ			38.4	39.4		0.03	65	<5			6/16
39.4	40.3	0.6	66.7	NQ											
40.3	41.1	0.6	75.0	NQ											
41.1	42.5	0.9	64.3	NQ		CBA 41.2 20°									
42.5	43.8	1.2	92.3	NQ											
43.8	45.5	1.65	97.1	NQ		43.5m large joint highly limonite									
						44.15 - 44.45 very fine grained sandstone									
45.5	46.2	0.8	114.3	NQ		CBA @ 45.2 30°									
46.2	48.5	1.1	47.8	NQ			46.2	46.65		0.02	65	<5			6/17
1m lost in soft clay							46.65	48.5		0.08	60	<5			6/18
						46.65 - 50.35 FRACTURE ZONE silt + vein quartz + clay	CORE	LOSS							
						Quartz vein irregular fractured, vuggy, crystals grown									
						in cavity. Silt pale green to orange brown, limonite									
48.5	49.2	0.6	85.7	NQ			48.5	49.2		0.79	30	<5			6/19
						Fresh stibnite in quartz (minor)	49.2	50.35		<0.01	19	<5			6/20
49.2	50.5	0.7	53.9	NQ			CORE	LOSS							

HOLE NUMBER LS-0046 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 4 OF 4

CORE RECOVERY From	To	Rec	%	Size	Graph	DESCRIPTION
50.5	51.5	0.95	95.0	NQ		50.35-60.5 SANDSTONE orange brown to 50.45 then grey to grey green
51.5	53.7	1.6	72.7	NQ		50.55 Q vein 5mm 30°
						Occasional fresh sulphide in fine grained sandstone
						Even grained, massive
53.7	54.5	1.2	150	NQ		
54.5	57.5	3.0	100	NQ		CBA @ 54.7 55°
						Closed joints. Limonite spots after sulphide
57.5	60.5	2.65	88.7	NQ		
HOLE ABANDONED DUE TO BIT BEING CUT OFF IN HOLE						
						60.5m Lost circulation, hole cemented, pipe cut of down hole
					E.O.H.	Pieces of vein quartz at bottom of hole

ASSAYING From	To		Au	As	Sb			Sample No.
50.35	51.5		0.07	28	90			6/21

Summary

HOLE NUMBER LS-DDH3 DATE 9.5.90

PROJECT Malmsbury
Belltopper Hill
Leven Star

GEOLOGY MAP Melbourne 1:250,000

TOPO MAP Drummond 1:25,000

GRID COORDS E N SHEET 1 OF

Magnetic declination 11°E

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
Hole Set up	302° mag	-50°			
51.5 m	303° mag	-50.5°			
110.4 m E.O.H.	299.5° mag	-51.5°			

DESCRIPTION	GRAPHIC LOG	M

HOLE NUMBER LS-DDH3 PROJECT MALMSBURY LEVEN STAR BELTOPPER HILL DATE 9·5·90 AZIMUTH 302° mag DIP -50° LOGGED BY VF

SHEET 1 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
0	3	ROTARY (RR)				0-1m CLAY + sand fragments dark orange brown									
						1-2m CLAY + sand fragments, orange brown									
						2-3m CLAY sandy - Kaolin									
						3.0 - 21.3m SILTSTONE brown, predominantly silt with									
3·0	3·7	0·7	100	HQ		a few coarsening down cycles to fine grained									
3·7	5·0	1·3	100	HQ		sandstone. Grey and limonite streaks and spots									
						especially around joints and fractures.									
						6.2m Q vein ruggy crystals grown in open fracture									
5·0	6·5	1·5	100	HQ		± 15mm 25° to c'axis									
						Soft sediment deformation									
6·5	8·0	1·5	100	HQ											
						CBA 7.1m 30°									
8·0	9·5	1·5	100	HQ		8.3m Q vein ± 10mm 40°									
						CBA 9.3m 35°									
9·5	10·6	1·1	100	HQ		9.4m ± 10mm 30° x cutts bedding parallel to strike									
						10.3 - 10.5m Fracture zone - broken sediments, limonite joints									
10·6	12·2	1·6	100	HQ		CBA 11.1m 30°									
						11.6m Q vein 5-15mm 35°									
12·2	13·8	1·6	100	HQ		12.2m Grey to grey green light to dark depending on									
						joints - predominantly silt									
13·8	15·0	1·2	100	HQ											
15·0	18·2	3·2	100	NQ											
						CBA 15.5m 25°									

HOLE NUMBER LS-DDH3 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 2 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
18·2	21·3	3·1	100	NQ		18·3 m Soft sediment deformation									
						CBA 19·3 m 35°									
						Very fine disseminated pyrite + (?arsenopyrite) particularly at joints & fractures.									
						21·4 m Q vein ± 5 mm 20° 21·6 m Q vein ± 10 mm 35°									
21·3	23·5	2·1	95·5	NQ		21·3 - 23·0 m SANDSTONE, fine grained grey massive even grained well sorted, sharp upper contact 20° to c'axis microcrack, limonite joint/fracture surfaces + holes depending on sign of opening.									
23·5	24·5	1·0	100	NQ		23·0 - 23·35 m FRACTURE ZONE Sandstone + quartz, broken, limonite top contact 25° to c'axis									
24·5	26·0	1·5	100	NQ		23·35 - 25·3 m SILT TO SANDSTONE fine grained, green brown to 24·1 then grey									
						Q Veins 24·5 m ±10 mm 45° 25·05 broken 30°									
26·0	28·6	2·4	92·3	NQ		25·3 - 27·8 m FRACTURE ZONE, sandstone, fine grained - kakai limonite									
						Q veins 26·6 15 mm 20° 26·7 10 mm 30°									
						27·0 + 27·2 broken									
28·6	30·5	1·90	.79	NQ		27·8 - 37·4 m SANDSTONE grey to grey green fine grained, micaceous, fresh sulphide, disseminated spots, massive, even grained, pale colouration associated with fractures, pyrite + stibnite or arsenopyrite.									
						30·1 - 30·5 Fracture Zone - vein quartz broken, milky white									
30·5	33·2	2·7	100	NQ											
33·2	34·5	1·2	92·3	NQ											

HOLE NUMBER LS-DDH3 | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET 3 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
						34.2-34.5m Q vein ± 60° to c'axis of top, milky white massive + sulphide									
36.5	37.6	2.9	93.8	NQ	Q-V	Slight increase in grain size with depth to medium grained									
						36.2-36.45m Q vein broken, massive milky white + sulphide pyrite and stibnite									
37.6	38.6	0.2	20	NQ		37.4-38.6m FRACTURE ZONE - quartz + fine grained sandstone very broken									
38.6	39.4	0.8	100	NQ											
39.4	40.2	0.8	100	NQ		38.6-42.05m SILT - SANDSTONE fine grained grey to grey green bedded around joints. Disseminated sulphides, spots giving blotchy appearance, foliated on joints									
40.2	42.4	2.20	100	NQ		40.55 Q vein 5mm 15° - veggs									
						CAA 40.3m 20°									
						42.05 Q vein broken limonite - milky white micaceous clay in joint									
						Sandstone massive (minor silt bands)									
42.4	46.5	1.8	90.0	NQ		42.05-46.7 SANDSTONE fine grained, grey, massive even grained, micaceous									
						44.0 fracture pyrite on joint surface.									
44.5	45.5	0.95	95	NQ											
45.5	46.8	1.1	84.6	NQ											
						46.7-47.2 FRACTURE quartz veining - broken milky white + sandstone fragments									
46.8	48.0	1.0	83.3	NQ		47.2-49.05 SANDSTONE fine grained, grey, massive, even grained, well jointed, pyrite on joint surfaces									
48.0	50.4	1.7	70.8	NQ											
(@ loss picked up on next run)						49.05-50.05 QUARTZ VEIN broken, milky white, fresh coarse sulphide, pyrite + stibnite + left (#5) green mineral									
					QV										

HOLE NUMBER LS-DDH3 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 4 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
					QV	(exotic?)									
50.4	51.5	1.9	172.7	NQ		50.05 – 55.1m SANDSTONE fine coarsening down to medium grained with second cycle of fine grained.									
51.5	54.4	2.4	72.8	NQ		50.4–50.5 Q vein milky white, broken, vuggy									
						Grey pale to Qz grey green at joints due to bleaching.									
						massive even grained, disseminated sulphide, particularly									
						at joints, micaceous. Sulphide in sediment around									
						joints									
54.4	55.1	0.70	100	NQ		54.35 broken joint + quartz									
55.1	55.9	0.60	75.0	NQ											
						55.1–55.7m FRACTURE ZONE – quartz – milky white,									
55.9	57.5	1.6	100	NQ		sulphide pyrite and stibnite									
						55.7–59.7m SANDSTONE fine to medium grained, grey to									
						grey green, disseminated sulphide at joints and in									
57.5	58.7	1.2	100	NQ		sediment particularly at joints, pyrite + (?arsenopyrite).									
						Massive, even grained.									
58.7	60.5	1.8	100	NQ		57.75 Q vein 5mm 10° white – vuggy									
						59.7–69.9m SILT TO SANDSTONE fine grained, coarsens									
60.5	63.5	2.9	96.7	NQ		down to sandstone.									
						60.1 Q vein ± 5mm vuggy 20° solution filling of cavity									
						pyrite + stibnite + mica – sericite									
						CBA 61.3, 20°									
						Second coarsening down cycle at ± 1.5m intervals									
						Dark to pale grey and grey green, disseminated									
63.5	65.3	1.8	100	NQ		sulphide particularly on joint surfaces, pyrite +									
						likely blue sulphide									
						CBA 62.9m 20°									
						67.5 Q vein broken, quartz crystals grown in open joint									
65.3	66.5	1.2	100	NQ		30mm limonite blebs 10° to c' axis									

HOLE NUMBER LS-0043 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 5 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
66·5	68·7	2·2	100	NQ											
68·7	69·5	0·8	100	NQ											
69·5	72·5	2·7	90·0	NQ											
						69·9 – 74·6 SANDSTONE fine grained grey, even grained massive									
						CBA top contact 10°									
						72·5m Q vein ± 5mm broken 20°									
72·5	75·5	3·0	100	NQ		72·9 Q vein ± 10mm ± 15° broken + fresh sulphide									
						CBA lower contact 20°									
						74·6 – 78·7 SILTSTONE grey to grey green, micaceous									
75·5	78·2	1·7	63·	NQ		poorly bedded									
78·2	81·4	2·5	78	NQ		78·2 Q vein, splits into 3 <5 mm 20°									
						78·7 – 82·2 SANDSTONE fine to medium grained, contact									
						very acute to c' axis 10° possibly a shear.									
						Grey to pale green, even grained massive									
						80·8 Joint with quartz infilling + pyrite + stibnite									
81·4	86·5	2·6	86·7	NQ											
						82·2 – 90·8 SILTSTONE grey to grey green + mottled sulphide									

HOLE NUMBER LS-DDH3 | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET 6 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	Sb			LAB Sample No
						top contact 10°									
84.5	87.5	2.3	76.7	NQ		84.4 Broken zone.									
						CBA 85.5 m 10°									
87.5	88.2	0.7	100	NQ		87.7 Q vein broken milky white vuggy specks of sulphide									
88.2	89.8	1.5	93.8	NQ											
						CBA 88.9m 15°									
89.8	90.5	0.7	100	NQ		Contact to fine grained sandstone at 88.9									
							90	91		<0.01	13	60			3/1
90.5	93.5	2.8	93.3	NQ											
						90.8 - 96.5 FRACTURE ZONE - SHEAR + silt, pale grey green	91	92		<0.01	17	85			3/2
						very broken, sulphides on joint surfaces and spotted in									
						sediments, pyrite + stibnite (arsenopyrite)	92	92.95		0.04	13	65			3/3
						93.25 - 93.50 Q vein milky white + sulphide top 60° to c'									
						axis 30cm. Below highly sheared, silicified sediment	92.95	93.25		0.52	60	130			3/4
93.5	94.1	0.6	100	NQ		+ sulphide grey green	93.25	93.5		0.52	90	15			3/5
94.1	95.3	0.5	41.7	NQ		Silicification decreases with depth, markedly less by 95.3	93.5 (CORE	95.1 LOSS)		0.74	36	1400			3/6
						as does degree of shattering, contains broken with									
95.3	96.3	1.2	120	NQ		95.1 - 95.3 Q vein - broken, minor sulphide	95.1	95.3		0.04	8	<5			3/7
						small quartz veins to 96.5.	95.3	96.5		0.03	65	35			3/8
96.3	97.2	1.0	111	NQ											
						96.5 - 102.2 SILTSTONE grey to grey green, even grained	96.5	97.5		0.02	36	40			3/9
97.2	98.2	0.7	70	NQ		grades down to fine grained sandstone. Sulphides									
						on joint surfaces + as very fine disseminations,	97.5	98.5		0.11	13	35			3/10
98.2	99.5	1.3	100	NQ		in black spots									
						97.3 - 98.2 Broken zone minor vein quartz									

HOLE NUMBER LS-DDH 3 PROJECT DATE AZIMUTH DIP LOGGED BY

SHEET 7 OF 7

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
99.5	102.4	2.9	100	NQ											
102.4	105.5	3.0	96.8	NQ		102.2 – 109.6 SANDSTONE – fine grained, grey marbure,									
						even grained, grey green at joints									
105.5	107.8	2.2	95.7	NQ											
107.8	108.5	0.7	100	NQ		107.6-107.5 Siltstone.									
						107.8 Qrex ± 10mm 10° c disseminated sulphide									
108.5	109.6	1.1	100	NQ											
						Few sulphide specs									
109.6	110.4	0.8	100	NQ											
END OF HOLE						109.6 – 110.4 SILTSTONE – grey green									
						110.4m E.O.H.									

Summary

HOLE NUMBER LS-DDH4 DATE 13·5·90

PROJECT MALMSBURY
BELLTOPPER HILL
LEVEN STAR

GEOLOGY MAP MELBOURNE 1:250,000

TOPO MAP DRUMMOND 1:25,000

GRID COORDS E N SHEET / OF

Magnetic declination 11°E

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
HOLE SET UP	302° mag	-55°			
49·5 m E.O.H.	299° mag	-54·5°			

DESCRIPTION	GRAPHIC LOG	M

HOLE NUMBER LS-DDH4 PROJECT MALMSBURY BELLTOPPER HILL LEVEN STAR DATE 13.5.90 AZIMUTH 302° mag DIP -55° LOGGED BY VJ SHEET 1 OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	As	Sb			Sample No.
0	1.8	1.8	100	HQ		0-0.7 CLAY - orange brown + silt fragments	0	0.7		4.01	1450	50			4/1
						0.7-14.2 SILTSTONE mottled pale green brown, grey green to	0.7	1.7		2.73	1200	30			4/2
1.8	3.0	1.2	100	HQ		brown, limonite	1.7	2.7		2.92	1100	25			4/3
						CBA 3.4m 40°									
						Becomes softer from 5.0 - less silicified	2.7	3.7		0.11	690	40			4/4
3.0	4.0	1.0	100	HQ											
4.0	5.0	0.7	70	HQ											
5.0	6.4	1.6	114.3	HQ											
						From 6.15 brownish colouration then from 6.4m									
6.4	8.0	1.6	100	HQ		purplish mottling									
						CBA @ 7.3m 40°									
8.0	9.5	1.6	106.7	HQ											
9.5	11.0	1.5	100	HQ											
11.0	12.5	1.5	100	HQ		11.95 - 12.15 fine grained sandstone, mottled orange									
						brown to buff									
						CBA 11.95 (approximate) 40° wavey contact									
12.5	14.0	1.4	93.3	HQ		Areas of purplish colouration parallel to bedding +									
						spots - oxidized sulphides									
14.0	15.3	1.6	123	HQ											
						14.2 - 17.15 SANDSTONE - fine grained + silt frags, yellow									
						orange brown to buff. From 14.7-15.5 orange									
15.3	17.0	1.5	100	HQ		brown, dark.									
						CBA @ 14.6m 30°									
						Green brown colour + oxidized spots after sulphides									

HOLE NUMBER LS-DDH4 | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET 2 OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		Au	Ag	Sb			Sample No
17.0	18.2	1.2	100	HQ											
						17.15 - 18.9 SANDSTONE fine grained pale grey green to									
18.2	19.7	1.4	93.3	HQ		brown, limonitic joint surfaces									
						18.9 - 21.5m SILT - SANDSTONE - fine grained, grey green to									
19.7	20.0	0.3	100	HQ		pale brown, limonitic spots after sulphides. Silt									
20.0	21.5	1.5	100	HQ		even grained, finely laminated almost whole									
						CBA @20.7 45°									
21.5	23.0	1.4	93.3	HQ		21.5 - 23.0m SILT to SANDSTONE, coarsens down, grey green,									
						limonite. From 22.8 fine grained sandstone									
						CBA top contact 45-50°									
23.0	24.5	1.6	106.7	HQ		CBA lower contact 50°, fracture contact with quartz									
						vein ± 5mm									
						23.0 - 23.7 SILT to SANDSTONE - fine grained, orange brown limonite									
24.5	25.6	1.1	100	HQ		23.7 - 25.4 SILT to SANDSTONE - fine to medium grained, mottled									
						pale brown to grey green. 24.05m Q vein, broken, limonite									
25.6	27.2	1.6	100	HQ		fracture surfaces 15° 24.15 QV parallel - strike 40° vuggy									
						25.4 - 26.2 SILTSTONE grades to fine grained sandstone, mottled									
						pale orange brown, purplish spots after sulphide									
27.2	28.7	1.5	100	HQ		26.2 - 27.0m SILT - SANDSTONE	27.2	27.8		0.02	240	15			4/5
						27.0 - 28.5 SILTSTONE pale green, finely laminated.	27.8	28.5		0.04	105	10			4/6
						CBA contact 35°. From 28.5 ferruginous thin mottled									
28.7	30.2	1.6	106.7	HQ		brown to purple. Coarsens down quickly to medium grained	28.5	29.2		0.69	270	20			4/7
						28.5 - 33.3 SANDSTONE - very fine grained, silicified, mottled	29.2	30.2		0.43	1150	50			4/8
						(Or Zone?) orange, green, red, purple, limonite veined zones, ferruginous									
30.2	31.5	1.2	92.3	HQ		30.3 Q vein 30° 40mm fractured + veined.	30.2	31.2		1.27	1350	240			4/9
						(30) (28.5 lost circulation) 30.5 open fracture - water loss, yellow									
						orange, limonite + manganese joint surfaces.	31.2	32.2		0.10	290	70			4/10
31.5	32.0	0.5	100	HQ		31.8 - 31.2 pitting after sulphide									
32.0	33.3	0.9	89.2	HQ		32.0 Q vein 25mm 60° from 32.8 low silicification	32.2	33.3		0.07	410	15			4/11
						varying shades of yellow									
33.3	35.5	0.7?	?				33.3	340		0.01	320	<5			4/12

HOLE NUMBER LS-DDH4 | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET 3 OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
						33.3–36.5m SILT-SANDSTONE - fine grained, yellow to 33.6									
						thin pink to purplish, micaceous, finely laminated									
						CBA @ 33.6 40°. From 33.8 brick red colour									
						CBA 34.7 40°, becomes red brown and yellow orange									
35.5	37.0	1.5	100	HQ											
						36.5–41.75 SILT-SANDSTONE, mottled as above, ferruginous									
37.0	38.0	0.85	85	HQ		spots after sulphides - pyrite									
38.0	39.5	1.6	106.7	HQ											
39.5	41.0	1.6	106.7	HQ											
						41.3 Q vein 40mm 30°									
41.0	42.5	1.4	93.3	HQ		41.7 Q vein 20mm 65°									
						CBA @ 41.55 30°									
						41.75–46.65 SANDSTONE fine to medium grained,									
42.5	44.0	1.5	100	HQ		mottled pale kaki to purplish pink after sulphide to									
						grey. Even grained massive									
						43.6 Q vein 15-20mm 30° + 2 small veins									
44.0	45.5	1.5	100	HQ		Quartz veins at 44.2 25mm 30°; 44.35 5mm 60°									
						46.65 10mm 30°									
45.5	47.0	1.4	93.3	HQ											
						46.65–49.5 SILT-SANDSTONE fine grained									
47.0	48.2	1.2	91.7	HQ		46.65 CBA 40°, purplish colour as above, red to orange									
						47.4 Q vein 5mm 30°									
48.2	49.5	1.3	100	HQ		brown and grey green, coarsens down, even grained fine									
END OF HOLE						bedding in silt, sandstone massive									
						49.5m E.O.H.									

Summary

HOLE NUMBER #LSDDH17. DATE 22/4/91 Completed: 3/5/91.

PROJECT Mainsbury. BELLTOPPER HILL LEMON STAR

GEOLOGY MAP Melbourne 1:250,000

TOPO MAP Drummond 1:25,000

GRID COORDS 10046 9946 E 9995 N SHEET OF

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
Starting Hole - probably	302°	60°	249.0m	284.3	60°
99.0m.	289°	61	302.5m.	282.5°	59.5°
149.5m	287.5°	60°	EOH 333.0		
201m	283°	60°			

DESCRIPTION	GRAPHIC LOG	M
Dominant rock is a silicified siltstone/sandstone. Pyrite (disseminated & euhedral xtls) present since 45m. Zone of interest 290-315m. Numerous x-cutting Qtz veins, chlorite alteration, pyrite & arsenopyrite (stibnite) calcite present in the cavities (dilational features?). Brecciation the structure was ~~passed~~ drilled through but unsure of the ~~max~~ extent of mineralisation (suspects its not all that promising		
Azimuth swung 19.5 degrees W in 333.0 metres and shallowed 0.5° in dip		

HOLE NUMBER 7 | PROJECT MALMSBURY | DATE 22/4 | AZIMUTH 302 | DIP 60 | LOGGED BY AC | SHEET 1 OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
0·0	2·8			BLADE		0.0-3.7. CLAY/SHALE yellow, topsoil. Loose unconsolidated oxidation colours, poorly sorted fine to coarse grain some places almost a conglomerate.									
2·8	4·3	1·1	73	HQ											
4·3	5·8	1·5	100	HQ		3.7-7.35 SILTSTONE. fine gr. grey massive, silicified with chlorite flakes. 4.4. finely disseminated pyrite with some dark larger irregular grains of arsenopyrite									
5·8	7·3	1·5	100	HQ		5.8: less silica with alternating finely disseminated pyrite zones with massive siltstone bands, quite soft due to lack of silica.									
7·3	8·8	1·5	100	HQ		7.35-16.6 SILTSTONE/SANDSTONE grey, fine to med/coarse gr. becoming more silicified some qtz veining, maximum width 5 mm.									
8·8	10·3	1·5	100	HQ		11.3-14.6: alternating bands of siltstone/sandstone									
10·3	11·8	1·5	100	HQ											
11·8	12·3	1·5	100	HQ											
12·3	14·8	1·5	100	HQ		15.3-16.6: Silicified sandstone with disseminated pyrite (±arsenopyrite) Hard to tell if banding present due to core loss.									
14·8	15·3	0·45	90	HQ		15.6: Qtz ven, 15mm width with associated euhedral pyrite. Small fractures infilled by fibrous white needles - calcite & pyrite.									
15·3	16·8	0·35	23	HQ											
@ core loss															

HOLE NUMBER 7 | PROJECT MALMSBURY | DATE | AZIMUTH | DIP | LOGGED BY | SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
16.8	17.2	0.35	70	HQ		16.6 - 17.8 CLAY, grey, soft, peppered with pyrite rich zones. May relate to a small shear zone?.									
17.2	18.2	0.7	70	HQ		17.2 - Pyrite veining X-cuts. Euhedral x'ls randomly dispersed throughout the clay. 17.8 - 32.8. SILTSTONE/SANDSTONE grey, fine to med/coarse gr sdstone. Some chlorite alteration associated with qtz veining									
18.2	19.4	1.2	100	HQ											
19.4	20.3	0.7	78	HQ		18.4-19.0: Med/coarse grs.s with grey/greenish colouration due to chlorite alteration.									
20.3	21.8	1.5	100	HQ											
21.8	23.0	0.8	75	HQ		19.0-23.0: Alternating fine s.s with siltstone. Lack of silica and fine laminations. shale-like rock. pyrite still randomly dispersed throughout the rock matrix. Some chlorite alteration.									
23.0	24.5	1.5	100	HQ		23.4-25.5: Pods of pyrite and minerals stringers at an angle of 30° to CBA.									
24.5	25.5	1.0	100	HQ											
25.5	27.0	1.2	80	HQ											
27.0	27.8	1.0	125	HQ		27.9: Qtz vein: 10mm in width, pyrite in varying concentrations throughout. Some fracturing and occasional loosely consolidated rock.									
27.8	29.2	1.3	86	HQ											

HOLE NUMBER 7. PROJECT HALMSBURY DATE AZIMUTH DIP LOGGED BY AC SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
29·2	30·0	0·8	100	HQ											
						31·6. Qtz vein: Large qtz vein stained by weathered pyrite, small amounts of fresh pyrite are also present									
30·0	31·4	1·4	100	HQ											
						32·8-43·8. GRIT/SANDSTONE coarse, some oxidation colours, yellows/red/st, lack of sulphides, but evidence of sulphides in the past with pyritic weathering									
31·4	32·2	0·8	100	HQ											
32·2	32·6	0·4	100	HQ											
						34·2-35·4: Yellow oxidised colour of the grit.									
32·6	33·7	1·1	100	HQ											
33·7	33·9	0·2	100	HQ											
33·9	35·4	1·5	100	HQ		36·0: Qtz vein:									
35·4	36·0	0·6	100	HQ											
						37·2-37·4: Clay/shale small band, weathered									
36·0	36·3	0·3	100	HQ											
36·3	37·8	1·5	100	HQ											
37·8	39·0	1·2	100	HQ											
39·0	40·5	1·5	100	HQ		41·8: Qtz vein 80 mm									
40·5	41·1	0·5	83	HQ											
						43·5: Grit fines down to a sandstone/siltstone. Was this all a cycle?									
41·1	42·6	1·5	100	HQ											
42·6	43·8	1·2	100	HQ											
43·8	45·3	1·5	100	HQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY AC SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
45.3	46.3	1.0	100	HQ		43.8–61.3: SANDSTONE/SILTSTONE: grey, fine to med gr. greater sulphides than present in the grey. Fining thinning sequences & coarsening cycles									
46.3	46.9	0.7	117	HQ			49.8	50.8	1.0						7/15
							50.8	51.8	1.0						7/16
46.9	48.4	1.5	100	HQ		46.3: Qtz vein 25mm, trace pyrite disseminated throughout, seems to be less silicious from 43.6.									
							51.8	52.8	1.0						7/17
48.4	49.8	1.4	100	HQ		46.9. Coarse gr. s.s/silt with minor Qtz veining. fines down at 47.6 to a very fine gr s.s. with small x'ls of pyrite scattered throughout. Dark mineral = amphiboles?. Pyrite may also be in pods/blotches									
49.8	50.7	0.8	89	HQ											
50.7	51.5	0.4	50	HQ											
	@ core loss														
51.5	52.8	1.3	100	HQ											
52.8	53.8	1.1	110	HQ		54.3: Qtz vein 30mm, broken, becomes more spotted at 54.6 coarse euhedral grains of calcite. The spotted appearance coincides with increase in the silica cementation.									
53.8	55.3	1.4	93	HQ											
55.3	56.5	1.2	120	HQ		56.8: Qtz vein 100mm. containing arsenopyrite & pyrite with dark sulphide stringers									
56.3	57.8	1.6	100	HQ											
57.8	59.3	1.5	100	HQ		59.9. Clay band, grey, the cause of the core loss.									
59.3	61.6	1.2	52	NQ											
	@ core loss.														

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
61.2	62.5	0.9	69	NQ		61.3-71.0 SILTSTONE, fine gr. grey, silicified with pyrite disseminations, some weathering									
62.5	64.5	2.2	110	NQ		62.7 Qtz vein 5mm sulphide rich with small orange x'ls weathered feldspar?									
64.5	65.4	0.6	67	NQ											
65.4	66.8	1.4	100	NQ											
66.8	67.2	0.4	100	NQ											
67.2	68.4	1.4	100	NQ		67.2: Siltstone becoming darker, with more arsenopyrite (stibnite) present (grey mineral enclosed with well developed cleavage faces. Disseminated within the qtz. Fore pods of pyrite till 68.2									
68.4	71.0	0.5	219	NQ		68.2 Spotty siltstones due to alternating layers of sulphide rich and sulphide poor siltstone									
⊗	Major core loss														
71.0	72.8	0.9	50	NQ		68.4-71.0 Qtz in a grey clay matrix, almost a breccia. This qtz contributes core loss.									
72.8	73.9	1.1	100	NQ		71.0-80.3: SHALE/SILTSTONE, fine gr. soft, grey with minor laminations. Shall get the odd large piece of qtz which cause coring problems									
73.9	75.0	1.0	93	NQ											
75.0	78.0	3.2	107	NQ		75.8: Qtz vein 10mm 76.9: Qtz vein. 10mm with grey/green mineral epidote? or chlorite 77.0: Colour change to dark grey									

HOLE NUMBER | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
78·0	78·6	0·6	100	NQ		80·3 - 103·8: SILTSTONE. grey, fine g. Silicified with disseminated pyrite.									
78·6	79·0	0·4	100	NQ											
79·0	80·3	1·3	100	NQ											
						82·1: Qtz vein 10mm: minor sulphides									
80·3	83·3	3·0	100	NQ		83·4. Qtz vein ± pyrite & green mineral - epidote?									
83·3	84·2	0·9	100	NQ		84·8: Qtz vein									
84·2	87·0	2·8	100	NQ		86·0. Qtz vein									
87·0	90·0	3·0	100	NQ											
90·0	92·2	2·2	100	NQ											
92·2	93·8	1·6	100	NQ											
93·8	96·0	2·2	100	NQ		95·1 - 95·9. Qtz vein 25mm. Sulphide mineralisation									
96·0	97·5	1·5	100	NQ		96·3. Qtz vein 30mm ± pyrite + arsenopyrite, minor Qtz stringers. Altered veins running throughout.									
97·5	99·0	1·5	100	NQ		98·0 - 99·0: Clay/shale creamy white.									
99·0	102·0	3·0	100	NQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
102.0	103.8	1.8	100	NQ		103.8-106.9: SANDSTONE, coarse gr. silicified, Alternating bands of spotted (pyrite rich) & siltstone bands.									
103.8	106.9	3.1	100	NQ		105.7 Qtz vein 45° to CBA. Vuggy cavities infilled by sulphides, well formed euhedral x'ls of pyrite fashion the cavities									
106.9	109.0	2.1	100	NQ		106.9-120.0: SILTSTONE: fine gr. silicified with disseminated pyrite throughout									
109.0	112.0	3.0	100	NQ		107.8-108.6. Qtz with veins of sandstone running through Vuggy cavities with well formed x'ls of arsenopyrite/pyrite form. Chlorite alteration is also present									
112.0	114.6	2.6	100	NQ		109.3: Highly silicified siltstone. Finer qtz veins than before the odd coarser band. Finer grained pyrite which seems to be less than in previous 10m.									
114.6	117.0	2.4	100	NQ		113.2 Qtz vein: 3mm pyrite & stibnite (arsno?).									
117.0	120.0	3.0	100	NQ		115.5 Qtz vein: 75mm, chlorite alteration, green well developed cleavage sericite (mica) Pockets of arsenopyrite									
120.0	123.0	3.1	103	NQ		120.0-126.6 SANDSTONE/GRIT, grey/green (chlorite alteration) med/coarse gr alternating bands, alot of stibnite/pyrite well cemented. X-cutting small qtz veins. Euhedral x'ls of pyrite & stibnite									
123.0	126.0	3.0	100	NQ		122.6: Qtz veining ± pyrite									
126.0	129.0	3.0	100	NQ		126.6-173.4. SILTSTONE/SANDSTONE, grey/light grey in some places bleached slightly. Ah veining & mineralisation (poor) calcite.									
129.0	131.0	2.0	100	NQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
131.0	134.0	3.0	100	NQ		131.0: Qtz vein 30mm Pyrite + Arsenopyrite									
134.0	136.0	2.0	100	NQ											
136.0	138.4	2.4	100	NQ											
138.4	141.5	3.1	100	NQ											
141.5	143.4	1.9	100	NQ											
143.4	145.0	1.6	100	NQ		142.0: Qtz vein 15mm minor pyrite + arsenopyrite, small chlorite calcite x'l's									
145.0	147.1	2.1	100	NQ											
147.1	149.5	2.4	100	NQ											
149.5	152.0	2.5	100	NQ		151.5-151.8: Fracture zone - spotted siltstone, minor x-cutting fractured altered veining.									

HOLE NUMBER | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET | OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
152·0	153·3	1·3	100	NQ											
153·3	156·0	2·7	100	NQ											
						155·0-156·0: Qtz vein well formed + pyrite + arsenopyrite + cutting minor veins									
156·0	157·0	1·0	100	NQ											
157·0	157·8	0·8	100	NQ											
						158·5-162·5: Alot of cutting Qtz veins + bilges, minor									
157·8	158·4	0·6	100	NQ		mineralisation - en-echelon type.									
158·4	161·5	3·1	100	NQ											
						162·5: Qtz vein 250mm, external X'lls of pyrite + arsenopyrite.									
161·5	164·6	3·1	100	NQ											
164·6	167·7	2·1	100	NQ		166·0-166·25: Qtz veins cutting, + minor mineralisation									
						167·0: Siltstone becoming more silicified									
167·7	170·2	2·5	100	NQ											
170·2	173·2	3·0	100	NQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To		LAB					Sample No
173.2	176.3	3.1	100	NQ		173.2-214.2: SILTSTONE-SILICIFIED, fine gr. sugary texture, v. hard									
176.3	179.4	3.1	100	NQ											
179.4	182.5	3.1	100	NQ		179.7: Qtz vein 15mm, calcite + x'lls of pyrite + sericite									
182.5	185.6	3.1	100	NQ		181.7-182.3 sericite/chlorite alteration.									
185.6	188.7	3.1	100	NQ		184.2 Qtz vein 200mm pyrite + sericite + calcite									
188.7	189.8	0.9	100	NQ											
188.9	192.0	3.1	100	NQ											
192.0	195.0	3.0	100	NQ											
195.0	198.0	3.0	100	NQ											
198.0	201.0	3.0	100	NQ											
201.0	204.0	3.0	100	NQ			202.0	203.0	1.0						7/18
						203.3-204.0 Qtz vein parallel to CBA, arsenopyrite	203.0	204.0	1.0						7/19
204.0	207.0	3.0	100	NQ		pyrite + chalcopyrite	204.0	205.0							7/20
207.0	210.0	3.0	100	NQ											
210.0	213.0	3.0	100	NQ		210.0 X-cutting Qtz veins becomes softer at 212.7 - grey clay/shale shear? abundant arsenopyrite									
213.0	214.7	1.7	100	NQ		213.7: Qtz vein 10mm barren									

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
214.7	215.3	0.6	100	NQ		214.7-216.5: SHALE/SLATE broken, green sericite + chlorite alteration.									
215.3	216.0	0.7	100												
216.0	217.4	1.4	100			216.5-269.0: SILTSTONE. SILICIFIED, grey, sugary texture, intermittent qtz veining									
217.4	219.6	2.2	100				218.6	219.6	10						7/21
219.6	222.0	2.4	100			219.6-222.1: Qtz + sericite + minor pyrite + minor calcite + arsenopyrite. Some en-echelon type of folding stringers. 2nd generation of qtz.	219.6	220.6	10						7/22
							220.6	221.6	10						7/23
222.4	225.0	3.0	100				221.6	222.6	10						7/24
225.0	228.0	3.0	100												
228.0	231.0	3.0	100												
231.0	234.0	3.0	100			231.0-234.0: X-cutting qtz veins + broken shale + small cavities. At 233.6 more silicified + blue/grey mineral (another sulphide?)									
234.0	236.4	2.4	100												
236.4	239.5	3.1	100												
239.5	241.7	2.2	100												
241.7	243.2	1.5	100												
243.2	246.0	2.8	100			243.0-246.2: Numerous X-cutting qtz veins, small + often drusy, also parts of qtz + sericite + pyrite									
246.0	249.0	3.0	100												

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
249.0	252.0	3.0	100			249.0-252.0: X-cutting Qtz veins, increasing sericite corresponding with less pyrite									
252.0	255.0	3.0	100												
255.0	257.4	2.4	100												
257.4	259.5	2.1	100												
259.5	263.6	3.1	100												
263.6	266.7	3.1	100			264.2: Qtz vein: 15mm + minor calcite + sericite. irregular smaller Qtz veins in with other veins coming off them.									
266.7	269.0	2.3	100												
269.0	270.2	1.2	100												
270.2	272.8	2.8	100			269.0-286.0 SILTSTONE: lighter colour, softer, more broken in some places almost a breccia, evidence of faulting, alot of chloritic alteration + minor pyrite. Some shearing as evidenced by the dark shale/siltstone									
272.8	275.0	2.2	100												
275.0	276.0	1.0	100				275.0	276.0	1.0						7/25
						272.3-272.5: Qtz + black sulphide.									
276.0	279.0	3.0	100				276.0	277.0	1.0						7/26
							277.0	278.0	1.0						7/27
						275.0-276.0: Shear zone. still broken with shale/siltstone	278.0	279.1	1.1						7/28
279.0	281.0	2.0	100			becoming harder at 277.8.									
281.0	284.0	3.0	100			279.4: Qtz vein 900mm minor arsenopyrite									
284.0	285.0	1.0	100			281.0: Fault zone									
285.0	288.0	3.0	100												

HOLE NUMBER | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET | OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION
288·0	291·0	3·0	100			286·0 - 315·0 SILTSTONE (ORE ZONE) Silicified
						numerous X-cutting qtz veins, + a lot of pyrites &
291·0	294·0	3·0	100			arsenopyrite + chloritic alteration infilled fractures
						+ vertical calcite X'ls. Wall rock alteration. BTW
294·0	296·6	2·6	100			unsure of mineralisation extent.
296·6	300·0	3·4	100			
300·0	302·5	2·5	100			
302·5	305·6	3·1	100			
305·6	308·7	3·1	100			
308·7	311·8	3·1	100			
311·8	314·9	3·1	100			
314·9	317·5	2·6	100			315·0 - 333·0 : SILTSTONE - SILICIFIED fine grn grey
						(dark) sugary texture some minor sulphides but
317·5	321·0	3·5	100			passed through interesting zone.
321·0	324·0	3·0	100			
324·0	327·0	3·0	100			
327·0	330·0	3·0	100			
330·0	333·0	3·0	100			
						E·O·H: 333·0m.

ASSAYING From	To				LAB Au			Sample No
286·95	288·0	1·05			0·06			7/1
288·0	289·1	1·1			0·15			7/2
289·1	290·3	1·2			0·15			7/3
290·3	291·4	1·1			<0·01			7/4
291·4	292·4	1·0			0·01			7/5
292·4	293·3	0·85			<0·01			7/6
293·3	294·5	1·2			0·02			7/7
299·0	300·0	1·0			0·01			7/8
300·0	301·0	1·0			0·01			7/9
301·0	302·0	1·0			0·25			7/10
305·5	306·5	1·0			0·07			7/11
306·5	307·5	1·0			0·04			7/12
309·6	310·5	0·9			<0·01			7/13
311·2	312·2	1·0			0·13			7/14

Summary

HOLE NUMBER CSDDH18 DATE 5/5/90 completed: 12/5/90

PROJECT Molmsbury, Bellerophon Hill, Leven Star.

GEOLOGY MAP MELBOURNE 1:250,000

TOPO MAP DRUMMOND 1:25000

GRID COORDS 9890 E 10005 N SHEET OF

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
0.0m hole set-up	302°	60°			
54.0m	301°	63°			
101.0m	301.5°	63°			
152.6m	302°	62.5°			
199.0m E.O.H.	298°	62°			

DESCRIPTION	GRAPHIC LOG	M
Interesting hole with double aims of intersecting the Leven Star & Missing Link (Crown Reef) lodes. The irregular weathered pyrite zones @ 18.0m may carry Leven Star was probably intersected at 135-145m - evidence of some sulphide and hydrothermal fluids. The bleached zones @ 95-130m are also worthing looking at. The MLL was intersected at 170-190m - numerous x-cutting Qtz veins (stockwork of Qtz) with coarse granular arsenopyrite & pyrite. Stibnite may also be present. In some places the MLL was consisted of a stockwork of Qtz veins with enclosed x'ls of arsenopyrite & stibnite) and pyrite. F Milky feldspar was also present in this zone. Azimuth swung 4 degrees west at 199.0 metres as dip steepened 2°.		

HOLE NUMBER LSDDH8 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY AC

SHEET 1 OF 11

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING Au From	To	core recovered		LAB ALS Au			Sample No
0.0	2.7		BLADE			0.0-7.2 CLAY/SHALE - mottled, brown, weathered range of oxidation colours. Some topsoil. Grades into a grey shale and into a coarse sandstone								
2.7	4.2	1.5	100	HQ										
4.2	7.2	2.8	93	HQ		7.2-12.0 GRIT/SANDSTONE medium to coarse gr. limonitic weathering. Some minor qtz veining.								
7.2	8.7	1.5	100	HQ		9.1: Finer softer unit, red/purple sandstone. X-cutting Qtz veins random orientation till 11.0								
8.7	9.5	0.5	63	HQ		11.9: Qtz vein 10mm, numerous minute fractures infilled with dark (chloritic?) mineral								
9.5	11.0	1.5	100	HQ		12.0-12.6 SHALE: fine gr, soft, weathered								
11.0	11.6	0.45	66	HQ										
11.6	12.7	1.1	100	HQ		12.6-16.0: SANDSTONE, fine to med gr. Qtz veining with pyritic staining, alternating fine & coarse bands.	11.6	12.7	1.0		001			8/1
12.7	14.0	1.3	100	HQ		13.0-13.6: Brecciated s.s - possible faulting? X-cutting fractures infilled with Qtz + sediments.	13.5	14.7	0.7		<003			8/2
14.0	14.5	0.25	50	HQ		14.0: Qtz vein 10mm; parallel to CBA, weathered pyrite (burnt Qtz?), may carry.								
14.5	16.0	1.5	100	HQ										

HOLE NUMBER LSDDH8 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
16.0	17.5	1.5	100	HQ		16.0 - 29.0. SHALE/SANDSTONE fine to medium gr. predominantly red/purplish. Some yellow coloration. Some qtz veins the odd soft clay band. Alternating colour change of rock.									
17.5	18.3	0.4	50	HQ											
18.3	19.3	0.75	75	HQ											
19.3	21.0	1.3	76	NQ		20.1. Qtz vein 5mm, pyritic staining									
21.0	24.0	2.3	77	NQ											
						29.0 - 38.0 SANDSTONE, med to fine gr. qtz veining with weathered pyrite. Fresh sulphides also present as euhedral xll's and finely disseminated minerals. Tendency for the sulphides to infill minor fractures. Bedding is present.									
24.0	27.0	0.2	7	NQ											
	⊗ Core Loss														
27.0	28.0	0.5	50	NQ											
28.0	29.0	1.0	100	NQ		28.8: Yellow orange SS with some qtz veining looks similar to the ore zone?.									
29.0	31.5	2.0	80	NQ											
						31.0-31.5: Qtz vein // to CBA, alot of weathered pyrite in a sandstone matrix.									
31.5	34.5	1.5	50	NQ											
34.5	35.5	0.85	85	NQ											
35.5	36.5	0.8	80	NQ											
						36.3: Colour change to a grey sandstone									
36.5	37.3	0.6	75	NQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAY From	To				LAB Au			Sample No
37.3	38.0	0.6	86	NQ		36.5: Fresh sulphides present as well as weathered pyrite. Sulphides infill minor fractures and form crude banding, also well formed pyrite X'ls.									
						37.6: Qtz vein 15mm, fresh pyrite + arsenopyrite 45° to CBA. inc fine grained grey sandstone									
38.0	40.0	1.0	50	NQ		38.0 - 50.3: SILTSTONE/SANDSTONE, fine grained grey ~~beg~~ fresh sulphides as disseminated parts of pyrite infilling fractures, random orientation									
40.0	40.7	0.27	39	NQ		also stringers of sulphides									
40.7	42.0	0.7	54	NQ											
						42.4 - 46.0: Numerous pyrite/sulphide stringers									
42.0	42.4	0.2	50	NQ											
42.4	43.4	0.35	35	NQ											
							45.4	46.4	1.0			0.23			813
							46.4	47.4	1.0			0.14			814
45.0	46.0	1.0	100	NQ			47.4	48.4	0.65			0.01			815
							48.4	49.4	0.80			0.03			816
46.0	46.4	0.4	100	NQ											
46.4	47.4	0.7	70	NQ											
47.4	48.0	0.5	83	NQ		49.0: Increase in silica corresponding to less sulphides, and color change to a darker grey.									
48.0	49.0	0.9	90	NQ											

HOLE NUMBER | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET | OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
49.0	50.3	1.3	100	NQ		50.3-69.0 SANDSTONE, fine to med grained, some small zones of silicification. Pyrite as interstitial xl's and disseminated blebs.									
50.3	51.3	1.0	100	NQ											
51.3	54.0	1.7	63	NQ											
54.0	55.5	1.4	93	NQ		54.0-56.0: Pyrite-rich zone, stringers and disseminated parts									
55.5	56.0	0.5	100	NQ											
56.0	56.5	0.4	80	NQ		56.2-56.3 Fracture zone. Qtz broken with sericite & pyrite. v. rich arsenopyrite parts, often 95% of the total rock.									
56.5	58.5	1.5	75	NQ											
						58.95 Qtz vein 10mm ± sericite + pyrite									
58.5	59.0	0.5	100	NQ		59.6 Colour change from light grey → dark grey. Corresponding to increase of sulphides, massive & disseminated									
59.0	60.0	0.8	80	NQ											
60.0	61.7	0.7	42	NQ											
61.7	62.3	0.6	100	NQ											
62.3	62.7	0.3	75	NQ		62.15 Qtz vein with an echelon folding-shearing? 10- mm ± disseminated pyrite & stringers.									
62.7	63.8	0.9	100	NQ											
63.8	65.1	1.3	100	NQ											
65.1	65.5	0.4	100	NQ											
65.5	66.8	1.3	100	NQ											

HOLE NUMBER | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET | OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To	Sample No
66.8	69.0	0.15	17	NQ		66.8-69.0 Fracture Zone: grey S.S/siltstone v. broken & unconsolidated major core loss			
	⊗ core loss								
69.0	70.0	0.7	70	NQ		69.0-71.8 SHALE/CLAY soft, grey, fine gr clay (sheer?) dominated by ≤ cutting pyrite veins. Alternating hard & soft panels. The softer rock contains most of the sulphide			
70.0	70.4	0.4	100	NQ					
70.4	70.9	0.5	100	NQ					
70.9	71.8	0.9	100	NQ		71.8-91.4 SANDSTONE, grey, fine to coarse gr with fine/coarse gr cavities infilled by pyrite & arsenic.			
71.8	73.5	1.7	100	NQ					
73.5	74.3	0.8	80	NQ					
74.5	75.2	0.6	86	NQ		75.2-77.5 Fracture Zone fine/coarse gr S.S, minor mineralisation, alternating consolidated and unconsolidated layers.			
75.2	77.5	0.45	20	NQ					
77.5	78.0	0.65	130	NQ		77.5-78.0: S.S/Grit, grey/green coarse gr + sericite silicious gr of Qtz + Feldspar. Grades into a fine unit at			
						78.0-79.0. S.S/siltstone & sulphide stringers			
78.0	78.5	0.35	70	NQ					
78.5	79.0	0.55	110	NQ					
79.0	79.5	0.6	120	NQ					
79.5	80.5	0.27	27	NQ					
	⊗ core loss								
80.5	81.5	0.8	80	NQ					

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
81·5	83·0	1·5	100	NQ		81·0-83·0: Cycles of fine & coarse gr rock becomes more silicified with minor Qtz vein									
83·0	83·9	0·9	100	NQ		& vughy rills & pyrites									
83·9	85·3	1·6	100	NQ											
85·3	87·8	2·5	100	NQ											
87·8	89·3	1·6	100	NQ											
89·3	91·4	2·1	100	NQ											
91·4	92·4	1·0	100	NQ		91·4-104·1 SILTSTONE. Light grey fine gr siltstone disseminated pyrite infilling joints & fractures. Some alternating bands of fine gr lmstg.									
92·4	94·4	2·0	100	NQ		94·1: Qtz vein 10mm, vughy rills pores infilled with pyrite & arsenopyrite.									
94·4	96·0	1·1	69	NQ											
96·0	97·0	0·65	65	NQ		96·3-96·5 } Fracture Zone: v. broken, soft clay dark 96·7-97·0 } grey indicative of numerous sulphides									
97·0	98·5	0·5	33	NQ		98·0: Qtz vein 25mm - essentially barren only minor sulphides.									

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
98·5	99·5	0·95	95	NQ											
99·5	101·5	1·5	100	NQ											
						99·8: Qtz vein 7mm tensional fracture infilled with sulphides - some calcite									
101·0	102·0	1·0	100	NQ											
						102·0-102·7: soft grey clay (core loss)									
102·0 core loss	102·7	0·05	7	NQ		103.9: Qtz 5mm barren.									
102·7	104·1	1·6	114	NQ		104·1-135·5: SANDSTONE/SILTSTONE, rock becoming darker, alternating sandstone & siltstone									
104·1	105·7	1·6	100	NQ		104·9: Qtz vein 200mm parallel to CBA, replacement of qtz by dark sulphides surrounded by a green chlorite halo.									
105·7	106·3	0·6	100	NQ		Dark band chlorite									
106·3	108·2	1·9	100	NQ		106·65-107·2: Severe folding + numerous sulphide stringers in a grey → dark grey siltstone. Minor veining also present.									
108·2	110·3	1·9	90	NQ											
						110·3: Euhedral xls of pyrite & arsenopyrite in a bleached siltstone.									
110·3	111·5	1·2	100	NQ											
						111·5-120·0 Bleached white siltstone with some chloritic alteration & sulphide bands.									
111·5	113·7	2·2	100	NQ											
113·7	117·6	3·9	100	NQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB Au			Sample No
117.6	118.5	0.9	100	NQ											
						118.9: Qtz vein 5mm ±arsenopyrite/pyrite ±calcite									
118.5	119.5	1.0	100	NQ											
						120.0-135.5: fine gr Sandstone									
119.5	120.5	1.0	100	NQ											
						122.15-123.4: Qtz vein parallel to CSA. barren									
120.5	121.3	0.8	100	NQ		except for very minor Sulphides									
121.3	122.2	0.9	100	NQ											
122.2	123.4	1.2	100	NQ											
123.4	124.4	1.2	120	NQ		124.25: Qtz vein 10mm, sericite ±minor pyrite.									
124.4	128.3	3.9	100	NQ											
						125.0: More siliceous S.S (not as broken) with minor Qtz veining									
128.3	131.2	2.9	100	NQ											
131.2	134.2	3.0	100	NQ											
134.2	135.0	0.8	100	NQ		134.6 S: Colour change from grey S.S to a green/grey mudstone with sulphides. at 135.3 graded back to a grey S.S.									
135.0	135.5	0.5	100	NQ			135.5	136.5	0.8			<0.01			8/7
							136.5	137.5	0.9			0.05			8/8
							137.5	138.5	0.80			1.16			8/9

HOLE NUMBER | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB Au			Sample No
135.5	136.4	0.8	92	NQ		135.5-146.4: SILTSTONE, fine/v.fine gr. grey c									
136.4	137.0	0.6	100	NQ		bands of Sulphides, fractured & jointed Sulphides in the form of disseminated blebs or euhedral x'ls.									
137.0	138.0	0.65	65	NQ		135.8: Qtz veir 5mm, v.ghy. barren.									
138.0	139.5	1.4	92	NQ		136.8-137.1 Qtz veir, v.ghy some calcite x'ls abd of pyrite-euhedral blocky some disseminated. Some alteration/stibnite	137								
139.5	140.5	1.0	100	NQ		138.0: Qtz veins 7.5-10mm & cutting abd of Sulphide stringers & mineralisation.	138.8	139.5	0.85			<001			8/10
140.5	141.1	0.6	0.45	NQ		138.1-139.0: Fracture Zone: fine g. broken, jointing still large pyrite stringers	139.5	140.5	1.0			004			8/11
142.5	143.6	1.1	100	NQ		139.0-141.0: Fine g./green, laminated, alternating clay units (kaolin?)	140.5	141.5	1.0			<001			8/12
143.6	144.6	1.0	100	NQ		142.1-142.25: Qtz veir & mineralisation showing additional fractures.	141.5	142.5	0.9			005			8/13
144.6	145.6	1.0	100	NQ			142.5	143.5	1.0			0.14			8/14
						144.2: Qtz stockworks.	143.5	144.5	1.0			051			8/15
145.6	146.4	0.8	100	NQ											
						144.9-145.1 Clay/shale	144.5 @core 105	146.4	0.75			0.07			8/16
						145.2-146.4: Fracture Zone, broken Qtz + clay bands (shear?) gouge in 6" siliceous rock, 146.4	146.4	147.4	1.0			0.04			8/17
146.4	149.5	3.1	100	NQ		146.4-199.0: SILICIFIED SILTSTONE, fine g., grey → dark grey hard. Qtz veir & cutting + good sulphide alisation. Corresponds to the Missing Link lode.									

HOLE NUMBER | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET | OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB ALS Au			Sample No
149.5	158.6	3.1	100	NQ		145.4: Qtz vein 15mm. X-cutting veins: minor PY									
						unveins pyrite/arsenopyrite injections in the									
						Siliceous rock.									
152.6	155.6	3.0	100	NQ											
						153.9: Qtz vein 1mm: ± pyrite (reflected/disseminated)									
155.6	158.4	2.7	100	NQ		155.4: Qtz veining stops: essentially silicified siltstone									
						157.0: Siltstone dominated by 2 sulphides, pyrite									
158.4	160.5	2.1	100	NQ		+ green/yellow chalcopyrite: Still v. hard									
160.5	163.6	3.1	100	NQ											
163.6	166.1	2.5	100	NQ											
						164.0: Qtz blow/vein + pyrite.									
166.1	168.0	1.9	100	NQ		164.9-165.2: Qtz stockwork X-cutting + chlorite + pyrite	165.1	166.1	1.0			009			8/18
						166.2-166.8. Major veins + Arsenopyrite + Pyrite additional	166.1	167.1	1.0			0.10			8/19
168.0	169.6	1.6	100	NQ		features.									
						169.6-170.0. large Qtz vein c̄ disseminated pyrite.	169.6	170.6	1.0			0.05			8/20
169.6	172.7	3.1	100	NQ		Some bleaching in vein indicative of pulsed? Sericite									
						chlorite, arsenopyrite/stibnite infill fractures.									
172.7	175.8	2.9	100	NQ											
							174.8	175.8	1.0			0.18			8/21
						175.6-175.9. Elevated pyrite + chalcopyrite in silicified									
175.8	178.9	3.1	100	NQ		siltstone + chlorite	175.8	176.8	1.0			0.16			8/22
						178.9-185.0: Minor Qtz veining, relatively									
178.9	182.0	3.1	100	NQ		barren									

HOLE NUMBER | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION
182·0	185·0	3·0	100	NQ		185·1 Qtz blow emplacement type veining + large d'lls of arsenopyrite/stibnite. Some milky quartz is also present.
185·0	186·0	1·0	100	NQ		
186·0	188·3	2·3	100	NQ		186·3-187·9 Fracture Zone, broken quartz minor mineralisation.
188·3	191·3	3·0	100	NQ		191·1-191·9 Qtz vein parallel to CSA, numerous arsenopyrite veins cutting the main vein
191·3	194·0	2·7	100	NQ		194·0 Slight colour change 194·0 to a darker grey silicified sediment. Still sulphides but less to the same degree. More passed through interesting zone.
194·0	195·8	1·8	100	NQ		
195·8	199·0	3·2	100	NQ		199·0: E.O.H

ASSAYING From	To				LAB Au			Sample No
184·7	185·6	0·9			0·10			8/23
186·0	187·0	0·9			005			8/24
187·0	188·02	1·1			067			8/25
191·1	192·1	1·0			0·03			8/26
192·83	193·83	1·0			0·02			8/27
194·5	195·5	1·0			0·04			8/28
196·1	197·17	1·1			0·12			8/29

Summary

HOLE NUMBER LSDDH9 DATE 13/5/ completed 18/5

PROJECT Malmsbury Bellcopper Hill Leven Star

GEOLOGY MAP MELBOURNE 1:250,000

TOPO MAP DRUMMOND 1:25,000

GRID COORDS E 10,200 N 10165 SHEET OF

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
0·0m.	132°	50°			
60·0m	130·6	52°			
149·5m	128°	52·5°			
201·m E.O.H.	125°	52·5°			

DESCRIPTION	GRAPHIC LOG	M
The first hole the has been drilled in a certain direction into the ore body. Very promising hole with a possible ore body width of ≈ 10 metres (true width) 170-195m bleached zone which grades into a highly pyritic zone (175-190), with clay present indicative of shearing? Numerous pyrite stringers chlorite alteration, extensive pyrite veins & disseminated blebs pots.		
~~Before this the domin~~		
Dominant rock is a shale/siltstone relatively soft (lack of silica) with heavy irregular qtz veining surrounded by a brown (weathered pyrite?) halo. The qtz was very fractured/pinked alteration was present.		
This type may ~~ca~~ possibly carry?		

HOLE NUMBER LSDDH9 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY AO SHEET 1 OF 11

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
0.0	2.7	BLADE				0.0-4.2. SHALE/CLAY. Brown mottled clay poorly sorted grades into a Sandstone/Shale at 4.2.									
2.7	4.2	1.5	100	HQ											
4.2	5.7	1.5	100	HQ		4.2-8.7 SANDSTONE/SHALE weathered, fine gr. various oxidation colours purple/red/yellow. 5.6: Qtz vein 10mm barren.									
5.7	7.2	1.5	100	HQ		8.10: laminated shale with alternating clay-s.s layers									
7.2	8.7	1.5	100	HQ											
8.7	10.2	1.5	100	HQ		8.7-30.8 SANDSTONE weathered, fine gr. oxid zone of clay. Some qtz veining with weathered pyrite - may carry. Fractured & jointed. Predominantly purple/red - manganese staining.									
10.2	11.7	1.5	100	HQ											
11.7	13.2	1.5	100	HQ											
13.2	14.7	1.5	100	HQ		13.5-13.65: Shale									
14.7	16.2	1.5	100	HQ											
16.2	16.7	0.6	120	HQ		14.70-15.60 - Clay.									
16.7	17.1	0.4	100	HQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
17.1	17.8	0.6	92	HQ		17.8-19.4: laminated shale/s.s minerals carbonised weathered veins (feldspar?), & purple/red.									
						19.1: Qtz vein 10mm - carbonised s.s iron staining									
17.8	19.4	1.6	100	HQ											
						21.4: Qtz vein 5mm + weathered pyrite.									
19.4	21.0	1.6	100	HQ											
21.0	22.6	1.6	100	HQ											
22.6	24.1	1.5	100	HQ											
						23.0-23.15 Clay band									
24.1	25.6	1.5	100	HQ		24.2: Qtz vein 7mm, + minor staining									
25.6	27.1	0.9	60	HQ		26.7-27.1 Clay									
27.1	27.7	0.6	100	HQ											
27.7	29.3	1.6	100	HQ											
						28.45: Qtz stockwork: 150mm + weathered pyrite									
29.3	30.9	1.6	100	HQ		29.3. Minor Qtz veining 5mm. Some calcification									
30.9	31.8	0.9	100	HQ		30.8-93.6. SANDSTONE/SHALE Alternating sandstone & shale bands with softer rock. Changes in colour from dark grey → yellow.									

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
31.8	32.4	0.6	100	HQ		31.3: Qtz 10mm ± pyrite (weathered) + calcite									
32.4	34.0	1.6	100	HQ											
34.0	35.6	1.6	100	HQ											
35.6	37.2	1.6	100	HQ		37.2: laminated orange/yellow shale									
37.2	38.2	1.0	100	HQ											
38.2	39.8	1.6	100	HQ											
39.8	41.0	1.2	100	HQ		40.0: Qtz vein 1-2 cm thick 15mm: minor mineralisation									
41.0	42.6	1.6	100	HQ		40.0-41.2: Fracture: broken rock, some qtz stud weathered									
42.6	44.0	1.4	100	HQ		41.3-43.6: weathered, pyritic black staining becoming more silicified									
44.0	45.6	1.6	100	HQ		43.6-53.4: SHALE, soft, grey, fine gr, minor Qtz veining, weathered feldspar brown. Some banding of coarser gr - sandstone, laminated.									
45.6	47.2	1.6	100	HQ											
47.2	48.8	1.6	100	HQ		50.3-50.6 Fracture Zone, broken clay/shale									
48.8	50.3	1.6	100	HQ											
50.3	50.6	0.3	100	HQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
50.6	53.4	1.6	57	HQ		53.2: Soft clay - core loss)									
	@ core loss														
						53.4 - 74.9: SANDSTONE/SHALE, fine g = grey/green									
53.4	54.4	1.0	100	NQ		weathered qtz veins + halos. X-cutting veins									
						& clay bands. alt of current weathering products									
54.4	56.6	2.2	100	NQ											
						54.75: Qtz vein									
56.6	57.0	0.4	100	NQ		55.4: " " } pyritic weathering, dilational									
						57.13 " } fractures									
57.0	60.0	3.0	100	NQ											
						57.0 - 60.0: Numerous bands of iron weathering									
60.0	61.6	1.6	100	NQ		also of X-cutting veins, evidence of soft sediment									
						deformation.									
61.6	63.4	0.6	33	NQ											
@ core loss						61.1 - 61.5: Grey ss grades into an orange weathered									
						shale									
63.4	64.8	1.4	100	NQ		61.65: Qtz vein. 5mm									
64.8	65.8	1.0	100	NQ											
65.8	67.2	1.4	100	NQ		66.15: Small Qtz veinlets - folded									
67.2	69.8	2.6	100	NQ											
						73.9 - 74.05: Fracture zone, broken + weathering									
69.8	72.2	2.4	100	NQ											
72.2	74.1	1.9	100	NQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY					Graph	DESCRIPTION	ASSAYING					LAB			
From	To	Rec	%	Size	Log		From	To							Sample No
74·1	76·0	1·9	100	NQ		74·9 - 99·8 SANDSTONE, grey, fine gr. qtz veins + clay bands									
76·0	79·2	2·8	88	NQ		76·15 - 76·25: Qtz stockwork									
79·2	81·4	2·2	100	NQ											
81·4	83·1	1·7	100	NQ		82·8 Qtz vein 7·5mm + weathered pyrite									
83·1	85·0	1·9	100	NQ											
						85·35 - 86·6: Fractured Qtz vein + weathered pyrite maybe worth assaying 1 metre either side?									
85·0	86·5	1·5	100	NQ											
86·5	89·1	2·6	100	NQ											
						87·9 Minor Qtz veining									
89·1	92·2	3·1	100	NQ											
92·2	93·7	1·5	100	NQ											
						92·0 - 92·2: Qtz + weathered pyrite + oil like stains - yellow/pink. Possibly weathered copper?									
93·7	96·0	2·3	100	NQ											
96·0	99·3	2·3	100	NQ		98·0 - 98·35: Qtz vein bulge + weathered pyrite. Qtz is segmented + altered. deformation. Brown halo exists around outside of the veins.									

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
98·3	99·0	0·7	100	NQ		99·85-101·5: Grey shale grades into a white soft clay/shale.									
99·0	101·0	2·0	100	NQ		100·9: Qtz ven + limonitic weathering									
101·0	102·5	1·2	80	NQ		101·5: Coarse gr S·S (weathered) poorly sorted with Qtz veining - silicified									
102·5	105·0	2·5	100	NQ		102·5-121·3 SANDSTONE, fine to med gr, grey to brown; appearance of fresh sulphides									
105·0	106·1	1·1	100	NQ		102·5 Colour change brown → grey (mica)									
106·1	108·3	2·0	85	NQ		103·7-104·1: Fracture zone clay/s·s, + chlorite 105·5: Qtz ven 5mm.									
108·3	109·8	1·3	85	NQ		107·8: Slight colour change from grey S·S to a lighter grey fine S·S + mica.									
109·8	111·0	1·1	92	NQ		107·9: Qtz ven 10mm + calcite, some pyrite (limonitic weathering)									
111·0	113·1	2·1	900	NQ		108·0: Fresh sulphides small disseminated blebs									
113·1	115·1	1·9	95	NQ		111·0: Colour change to a grey purplish S·S. some manganese weathering 112·1: Qtz veni 3mm + fresh pyrite + arsenopyrite v-fine gr.									
115·1	117·0	1·9	100	NQ		117·0: Colour change dark grey → light grey. 117·6-117·75: Sulphide stringers increase in clay %									
117·0	118·3	1·6	120	NQ		117·9-118·3: Fracture zone: broken recrystallized S·S.									
118·3	120·0	1·4	82	NQ		118·3: Sandstone + mica + some sulphides. 119·8-120·1. weathered zone + Qtz.									
120·0	121·4	1·6	114	NQ		120·3-121·3: occasional shale bands finely laminated									

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
121·4	123·0	1·6	100	NQ		121·3-124·1 GRIT poorly sorted coarse g. upto 3 mm in discrete Qtz grains + feldspar? Green chlorite alteration. Some finely laminated shale bands under beneath									
123·0	124·1	1·1	100	NQ											
124·1	125·0	0·9	100	NQ		124·1-127·3: SANDSTONE: grey, med → coarse g.									
125·0	126·2	1·2	100	NQ		125·2: Qtz vein 5mm									
126·2	127·5	1·3	100	NQ		126·3: "									
						127·4-127·5: Small fracture/gouge - yellow clay + sandstone									
127·5	128·2	0·7	100	NQ		127·5-133·4: SILTSTONE: yellow fine g.									
128·2	129·4	0·8	100	NQ		128·2: Colour change from weathered siltstone → grey siltstone + interstitial pyrite + stringers									
129·4	130·9	1·5	100	NQ											
130·9	132·4	1·5	100	NQ											
132·4	133·9	1·5	100	NQ		133·4-166·0: SANDSTONE/GRIT med to coarse g. with shale/clay band - (shearing) chlorite, fresh sulphide, evidence of hydrothermal alteration? Misc. Qtz veining									
133·9	136·3	2·4	100	NQ		134·5: Qtz vein 25mm barren except for surface weathering									
136·3	137·5	0·9	75	NQ		135·7: Qtz vein 20mm + weathered pyrite, interstitial									
137·5	138·3	1·3	163	NQ		XTLs of pyrite (fresh) calcite & lik + minor arsenopyrite									
						137·48: Qtz vein 10mm									
138·3	141·0	2·4	89	NQ											

HOLE NUMBER | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET | OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
141·0	142·3	1·3	100	NQ		142·3: More sulphides									
142·3	143·0	0·7	100	NQ		144·25-144·6: Shale band laminated + chlorite alteration.									
143·0	144·2	1·2	100	NQ		146·1-147·15: Shale band in the gritt/s-s matrix									
144·2	145·1	0·9	100	NQ		147·35-147·4. Qtz stockwork - barren 147·5-147·55 " "									
145·1	147·5	2·4	100	NQ		147·8: X-cutting Qtz veins									
147·5	148·5	1·0	100	NQ		149·5-150·5: Folded laminated grey/green shale									
148·5	149·5	1·0	100	NQ		152·0-153·5 Shale becoming more spotted (sulphide Mch).									
149·5	152·5	3·0	100	NQ											
152·5	153·4	0·9	100	NQ											
153·4	155·9	2·5	100	NQ											
155·9	157·0	1·2	100	NQ		155·7: Fresh sulphides large blebs, possibly start of LS.									
157·0	158·8	1·8	100	NQ		157·9-158·8: Minor Qtz veining, becoming finer gr 158·1 (better sorted), still patches of sulphide to 160·2.									
158·8	159·7	0·9	100	NQ											

HOLE NUMBER | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET | OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB AL			Sample No
159.7	161.9	2.2	100	NQ											
161.9	163.5	1.6	100	NQ											
163.5	166.0	2.5	100	NQ											
166.0	168.5	2.5	100	NQ		166.0-180.1 - SILTSTONE Light grey fine g. blended some qtz veining. Fle actd Starts green chlorite rich band).									
168.5	169.6	1.1	100	NQ											
169.6	171.3	1.7	100	NQ											
171.3	172.3	1.0	100	NQ		172.9. Fresh sulphide stringers									
							172.8	173.8	1.0			0.43			9/1
172.3	174.3	2.0	100	NQ											
							173.8	174.8	0.85			0.69			9/2
174.3	175.8	0.6	40	NQ			174.8	176.8	1.1			0.22			9/3
	(B) Core loss						(B) core loss								
							176.8	177.9	1.0			<0.01			9/4
175.8	177.9	2.1	100	NQ			177.9	179.0	1.1			1.52			9/5
							179.0	180.0	1.0			1.25			9/6
177.9	179.0	1.3	118	NQ			180.0								
179.0	182.1	3.1	100	NQ											

HOLE NUMBER | PROJECT | DATE | AZIMUTH | DIP | LOGGED BY | SHEET | OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB ACS Au	check		Sample No
182·1	184·1	2·0	100	NQ		180·1-201·0: SILTSTONE/SANDSTONE: Darker grey	182·1	183·1	1·0			009			9/7
						more silicified, probable start of lower Stb. (dre zone)	183·1	184·1	1·0			084			9/8
						Fresh sulphides + numerous pyrite stringers	184·1	185·1	1·0			027			9/9
184·1	185·9	1·8	100	NQ		associated with chlorite + well formed x'lls									
						of pyrite & arsenopyrite.	185·1	186·1	1·0			007			9/10
							186·1	187·1	1·0			630	604		9/11
185·9	187·1	1·2	100	NQ											
						185·9: Fine grained sandstone/siltstone with numerous									
187·1	188·0	0·9	100	NQ		pyrite stringers. Grey colour which grades at	187·1	188·2	1·1			366			9/12
						186·6 into a dark grey/black siltstone									
						peppered with numerous sulphides. Euhedral x'lls	188·2	189·2	0·9			019			9/13
188·0	188·2	0·15	75	NQ		as well as disseminated blebs. Some fracturing									
						as broken rock & occasional clay band (shearing?)									
188·2	189·0	1·1	100	NQ											
						188·4-189·55: Chlorite rich rock stud a lot of	189·2	190·1	0·9			0·90			9/14
						sulphide. Jointing & fracture zones									
190·1	190·6	0·5	100	NQ											
							190·1	191·2	1·0			9·90	105		9/15
190·6	191·5	0·9	100	NQ		190·2-192·6: Shear zone: clay + a lot of sulphides									
						good mineralisation especially in this zone arsenopyrite									
						pyrite + stibnite.									
191·5	192·0	0·5	100	NQ			191·1	192·1	0·95			19·5	15·7		9/16
						191·7-191·85: Abs stockwork minor mineralisation									
							192·1	193·1	1·0			9·90	10·7		9/17
192·0	193·0	1·0	100	NQ		192·6-194·9: More silicified rock. less sulphides									
						but minor amounts infilling fractures. Grey/green	193·1	193·9	0·8			084	0·77		9/18
						siltstone indicative of chlorite/sericite									
193·0	194·2	1·2	100	NQ			193·9	194·7	0·8			1·02	1·08		9/19
194·2	197·2	3·0	100	NQ		194-201·0: Infrequent bands of sulphides - barren									
						siltstone/sandstone									
197·2	199·0	1·8	100	NQ											
199·0	201·0	2·0	100			E.O.H. 201·0m									

Summary

HOLE NUMBER LSDDH10

DATE 20/5 Completed 23/5

PROJECT Malmsbury BELLTOPPER HILL LEVEN STAR.

GEOLOGY MAP MELBOURNE 1:250,000

TOPO MAP DRUMMOND 1:25,000

GRID COORDS 10463 E 10005 N SHEET OF

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
Hole Set up	301°	55°			
56.0m	297°	57°			
98.5m E.O.H.	295°	57°			

DESCRIPTION	GRAPHIC LOG	M
Had to end hole prematurely as problems encountered with lost circulation & jaming. Predicted intersection of ore body ≈ 90m. Sulphides at 80.0m ≈ 7/8 metres - probably the Levan Star, or just a zone.		

HOLE NUMBER LSDDH10 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
0.0	2.2	BLADE				0.0-2.2: TOPSOIL. mottled brown clay/shale + soil									
2.2	5.2	2.0	100	HQ		2.2-10.1: SHALE, fine gr, v.soft, grey/blue some selective staining-manganese, laminated + broken up									
5.2	6.6	0.8	57	HQ		places-joints. Grades into a siltstone at 10.1.									
6.6	7.8	1.6	133	HQ											
7.8	9.8	1.0	50	HQ											
9.8	11.9	1.8	86	HQ		10.1-18.1: SILTSTONE: reef, fine gr, fractured, oxid shale band interbedded within the siltstone.									
11.9	13.6	1.7	100	HQ		12.9-13.1: Shale band, white									
						13.7-15.1: Shale band, white									
13.6	15.1	1.5	100	HQ											
15.1	16.6	1.5	100	HQ											
16.6	18.	1.5	100	HQ											
18.1	19.3	1.2	100	HQ		18.1-22.8: SANDSTONE/SILTSTONE bleached white reef/fine gr: grades quickly into typical grey s.s									
19.3	21.1	1.8	100	HQ		are weathered & some minor veining									
						Broken Zone: 19.9-21.1									
21.1	23.0	1.9	100	HQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
23.0	24.2	1.0	83	HQ		21.1: Sandstone with numerous small cavities some qtz vein remnants vuggs limonitic weathering minor silicification									
24.2	25.6	1.0	71	HQ											
25.6	28.2	2.6	100	HQ		24.2-28.2: Softer shale unit with purple remnant veins (stringers) - manganese. Small zones of weathered pyrite.									
28.2	29.8	1.6	100	HQ											
29.8	31.4	1.6	100	HQ											
31.4	33.0	1.6	100	HQ		31.0-34.9: Shale sandstone, predominantly a pink/purplish shale - manganese.									
33.0	34.4	1.4	100	HQ											
34.4	36.0	1.6	100	HQ											
36.0	37.6	1.6	100	HQ		37.9: 15mm weathered rare black product deceptively really look like pyrite - maybe the burnt qtz. Similar zone at 39.2 & 39.6 but this is also v. broken - poss bly fractures?									
37.6	39.1	1.5	100	HQ											
39.1	39.6	0.5	100	HQ		39.6: Shale									
39.6	41.2	1.6	100	HQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
41.2	42.8	1.6	100	HQ											
42.8	44.4	1.6	100	HQ											
44.4	47.5	3.1	100	HQ		45.0m - 5mm / small weathered zones									
		recovered.				46.3 - 5mm }									
47.5	50.0	2.5	100	NQ		46.5-48.0. weathered veins, replacement, small cavities									
50.0	53.2	3.2	100	NQ											
						49.0-51.0: Grey/green sh=6, some weathered veins									
						chloritic weathering: grades into a darker									
53.2	55.4	2.2	100	NQ		grey/green with depth.									
55.4	56.2	0.8	100	NQ											
56.2	57.3	1.1	100	NQ											
						59.95: Qtz vein 5mm limonitic halo									
57.3	60.0	2.7	100	NQ											
						60.0-62.0: Obvious sediment slumping in the softer									
						units - almost a shale - sometimes in the weathered zones.									
60.0	61.5	1.5	100	NQ											
						66.4: 20mm weathered zone.									
61.5	64.6	3.1	100	NQ											
						67.7. Colour change from the grey/green shale laminated									
64.6	67.5	2.9	100	NQ		to a dominantly grey shale/siltstone - minor weathering.									

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB Au			Sample No
67.5	69.5	2.0	100	NQ											
69.5	71.3	1.7	100	NQ											
						71.0-71.3: Fracture zone: little unconsolidated rock									
71.3	72.6	0.6	46	NQ											
						72.0-72.6: Clay band, unconsolidated - cause of the core loss.	72.4	73.4	1.0						10/9
							73.4	74.4	1.0						10/10
72.6	74.4	1.4	78	NQ			74.4	75.4	1.0						10/11
						72.8-98.5: SILTSTONE. fine gr, chloritic alteration	75.4	76.4	1.0						10/12
						more competent, small weathered zones, some fresh sulphides as stringers									
74.4	75.3	0.9	100	NQ			76.4	77.4	1.0						10/13
							77.4	78.4	1.0						10/14
75.3	78.0	2.7	100	NQ		78.8-80.0: Soft sediment deformation, increase									
						in the chlorite concentration as the siltstone has	79.8	81.0	1.2						10/15
						a greenish hue - more pronounced.									
78.0	79.8	1.8	100	NQ			81.0	82.0	1.0						10/16
						80.0-81.2. Siltstone is becoming more spotted									
						and (increase in sulphides)									
79.8	81.0	1.2	100	NQ			82.0	83.0	1.0						10/17
						82.0-83.6: Shale band									
81.0	82.8	1.8	100	NQ		83.8: Siltstone + minor silicification	83.0	83.5	1.5						10/18
						83.9: Abs per minor sulphides, chlorite halo &									
						some calcite.									
82.8	83.5	0.7	100	NQ											
83.5	86.4	2.9	100	NQ		86.3: Appearance of fresh sulphides in a bleached									
						siltstone	85.25	86.4	1.05			0.04			10/1
86.4	87.0	0.6	100	NQ			86.4	87.4	0.5			0.33			10/2
							@ core loss					0.02			

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB Au			Sample No
87.0	88.5	1.5	100	NQ		86.5-87.3: Sulphide rich zone in a bleached siltstone peppered c sulphides, disseminated blebs c euhedral xlls. Some fine white fibrous xlls. (needle-like) calcite? Possible leucoxene.	87.4	88.5	0.9			0.02			10/3
88.5	89.6	1.1	100	NQ			88.5	89.6	0.85			0.01			10/4
89.6	90.6	1.0	100	NQ		88.5-89.0: Sulphide rich zone dies out back to a siltstone in some places - quite broken & unconsolidated	89.6	90.6	0.65			<0.01			10/5
							90.6	92.0	1.2			0.01			10/6
90.6	92.0	1.4	100	NQ											
92.0	92.8	0.8	100	NQ		91.15: Qtz vein, specably formed arsenopyrite xlls. Targeted single xll. enclosed + stibnite. Minor pyrite. Unfortunately coring has scarred & half the vein is left in chlorite hole.	92.0	93.1	1.1			0.01			10/7
							93.1	94.0	0.8			<0.01			10/8
							94.0	95.0	1.0						10/19
92.8	93.9	1.1	100	NQ			95.0	96.0	1.0						10/20
							96.0	97.0	1.0						10/21
93.9	95.8	1.9	100	NQ		95.4: Qtz vein 5mm + pyrite + arsenopyrite in a chlorite-rich hole	97.0	98.0	1.0						10/22
95.8	95.5	2.7	100	NQ			98.0	98.5	0.5						10/23
						98.5: E.O.H									

Summary

HOLE NUMBER LSDDH 11 DATE 23/5/91 - 23/5/91

PROJECT MALMSBURY BELLTOPPER HILL LEVEN STAR

GEOLOGY MAP MELBOURNE 1:250,000

TOPO MAP DRUMMOND 1:25,000

GRID COORDS 10365 E 10055 N SHEET OF

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
Hole Set up	294°m	52.5°			
E.O.H. 9.0m.					

DESCRIPTION	GRAPHIC LOG	M

HOLE NUMBER LSDDH11 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	core recovered			LAB AC3 Au			Sample No
0.0	1.5	0.8				0.0-3.0: CLAY/SHALE. broken unconsolidated, v. weathered. Some jointing	0.0	1.0	0.75			0.14			11/1
							1.0	2.0	0.55			0.87			11/2
1.5	2.5	0.6													
2.5	3.0	0.35					2.0	3.0	0.80			0.56			11/3
3.0	3.5	0.35				3.0-9.0: SANDSTONE. more competent & increase in silica. Still v. weathered. Some minor Qtz veining. Some small weathered pyrite spots	3.0	4.0	0.85			0.26			11/4
3.5	4.1	0.5													
4.1	4.3	0.15					4.0	5.0	0.90			0.04			11/5
4.3	4.5	0.2													
4.5	5.2	0.7													
							5.0	6.0	0.85			<0.01			11/6
5.2	6.0	0.8													
6.0	7.0	0.8					6.0	7.0	0.50			<0.01			11/7
7.0	8.5	1.5													
							7.0	8.0	1.0			<0.01			11/8
8.5	9.0	0.5													
							8.0	9.0	1.0			<0.01			11/9

Summary

HOLE NUMBER LSDDH12 DATE 24/5 till 28/5

PROJECT Malmsbury GEOLOGY MAP MELBOURNE 1:250,000

TOPO MAP DRUMMOND 1:25,000

GRID COORDS 10640 E 9997 N / SHEET OF

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
0.0m.	310°	55°			
58.6m	309.5°	55°			
106.2m E.O.H.	308°	55°			

DESCRIPTION	GRAPHIC LOG	M
Problems with core loss from 44-72m. Cu retrospect reduced to early.		
Some zones of weathered pyrite in Qtz veins		
dominant rock type - sandstone		
Fresh sulphide mineralisation encountered at		
90-98m. - Position we not expect. Not the		
abundance of sulphides as seen in LSDDH19. may		
have pinched out.		

HOLE NUMBER LSDDH12 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
0.0	2.5	BLADE				0.0-2.5: TOPSOIL. Coarse mottled, clay/soil.									
2.5	3.5	1.0	100	HQ		2.5-18.0: CLAY/SHALE: poorly sorted clay/silt. white/grey, finely laminated, partly limonitic staining.									
3.5	4.5	1.0	100	HQ		6.0-7.1: Sandstone band, fine g., weathered									
4.5	6.0	1.5	100	HQ											
6.0	7.5	1.5	100	HQ											
7.5	9.0	0.8	55	HQ											
9.0	10.0	1.0	100	HQ											
10.0	11.5	1.5	100	HQ											
11.5	12.3	0.8	100	HQ		11.9-13.5: V. broken soft shale, grey/white some staining									
12.3	13.5	1.2	100	HQ											
13.5	14.8	1.6	1	HQ											
14.8	15.5	0.4	50	HQ											
15.5	17.0	1.2	75	HQ		16.9-18.1: Clay band									
17.0	19.0	2.5	125	HQ											
						18.1-21.0: grey/green sandstone/shale weathering oxidation products									
19.0	21.4	2.4	100	HQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
21.4	22.9	1.5	100	HQ		22.8-40.0 SANDSTONE/SILTSTONE; fine to med gr									
						range of oxidation colours yellow/purple/orange.									
						Also shale/clay band.									
22.9	24.5	1.6	100	HQ											
24.5	26.0	1.5	100	HQ											
26.0	27.5	1.5	100	HQ											
27.5	28.2	0.7	100	HQ		27.9; qtz veln lamin in broken laminated									
						shale, fractured + some chlorite									
28.2	29.4	1.2	100	HQ											
						29.3-29.6: Stockwork of qtz, small amounts of									
29.4	30.0	0.1	18	HQ		weathered pyrite									
30.0	31.0	1.0	100	HQ											
31.0	32.6	1.4	88	HQ											
32.6	34.0	1.5	107	HQ											
34.0	35.5	1.5	100	HQ		35.4-38.4 Increase in sandstone.									
35.5	37.0	1.5	100	HQ		34.9 } Broken qtz vnlet, staining									
						38.5 }									
37.0	38.0	1.0	100	HQ											
38.0	39.8	1.8	100	HQ											
						40.5-42.1: Clay/shale v. broken yellow/grey.									
39.8	40.8	1.0	100	HQ											
40.8	42.2	1.4	100	HQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY					Graph Log	DESCRIPTION	ASSAYING					LAB			
From	To	Rec	%	Size			From	To							Sample No
42.2	43.8	1.6	100	HQ		43.8 - 72.2: CLAY/SHALE fine gr, unconsolidated									
		REDUCED				hence core loss. The odd competent band, but									
43.8	44.0	0.2	100	NQ		still v. weathered, range of oxidation colours. Some									
						weathered pyrite on the odd pyrite vein									
44.0	45.5	1.0	75	NQ											
45.5	46.5	0.5	50	NQ											
46.5	48.5	1.0	50	NQ											
48.5	49.5	0.5	50	NQ											
49.5	51.0	1.5	100	NQ											
51.0	52.0	1.0	100	NQ											
52.0	53.0	0.8	80	NQ											
53.0	53.8	0.4	50	NQ											
53.8	54.3	0.4	80	NQ											
54.3	55.1	0.5	63	NQ											
55.1	56.1	0.5	50	NQ											
56.1	57.1	0.4	40	NQ											
57.1	58.0	0.6	67	NQ		57.9: Qtz vein parallel to CBA. 15mm wide									
						fractured + weathered pyrite.									
58.0	58.6	0.4	67	NQ											
58.6	59.0	0.4	40	NQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
59.6	60.0	0.2	50	NQ		59.7-60.6. Broken Qtz, barren + minor staining limonitic									
60.0	60.5	0.1	20	NQ											
60.5	61.7	0.4	33	NQ		61.7. Qtz vein 7.5mm + pyritic staining									
61.7	63.3	1.0	63	NQ											
63.3	65.0	0.3	18	NQ											
65.0	66.2	0.5	42	NQ											
66.2	68.0	0.3	17	NQ		67.4-68.0 Broken Qtz, weathered pyrite.									
68.0	70.0	0.5	25	NQ											
70.0	71.0	0.6	60	NQ		69.0-72.0 Increase in S.S, dark weathered rock, broken, possible fracture zone - may carry Au? Some Qtz. The sandstone has small calcites & some remnant Qtz veins within the S.S									
71.0	72.2	0.8	75	NQ											
72.2	73.5	1.		NQ		72.2-106.2 SANDSTONE grey, fine → med gr. some dated clay bands. Some coarsening and fining up sequences.									
73.5	74.9	1.4	100	NQ											
74.9	75.7	0.8	100	NQ		72.2-74.9. weathered S.S + clay component, fine gr. orange/yellow									
75.7	76.7	1.0	100	NQ		74.9 → 76.7 Grades into a grey Shale/clay till 76.7.									
76.7	79.8	3.1	100	NQ											
79.8	82.0	2.2	100	NQ		76-73 is brey sandstone coarsening & fining up sequence, med/fine g.									
82.0	83.0	1.0	100	NQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB Au			Sample No
83.0	84.2	1.2	100	NQ		77.7: Appearance of sulphides, blotches & stringers									
						contrite previous cutting rod. Sulphides die out at 79.8									
84.2	85.0	0.8	100	NQ		becomes lighter grey at 79.85									
85.0	86.7	1.7	100	NQ		83.0-83.6. Qtz vein v.weathered in a shale/f.s.									
						Some evidence of pyrite (weathered chlorite, much realed									
86.7	88.5	1.8	100	NQ		with numerous fractures - Mercury?									
88.5	89.3	0.8	100	NQ		86.7: weathered S.S is replaced by fresh S.S.	85.0	86.0	0.8			0.02			12/1
							86.0	87.0	0.75			0.01			12/2
89.3	92.0	2.7	100	NQ		87.5: Qtz vein 5mm width, minor calcite fractured									
						chlorite halo.	87.0	88.5	1.5			0.03			12/3
92.0	93.5	1.5	100	NQ											
						91.0: V.small sulphide stringer	88.5	89.5	0.9			0.01			12/4
93.5	95.0	1.5	100	NQ		93.4: Qtz vein 3mm									
							91.0	92.0	0.9			0.02			12/5
95.0	96.3	1.3	100	NQ											
						96.0-97.2: Cumontic weathering in the S.S.									
96.3	97.2	0.9	100	NQ			94.4	95.4	1.0			<0.01			12/6
						98.4-98.8: Qtz vein 25mm heavily stained c/pyrite									
97.2	98.8	1.6	100	NQ		& some fresh sulphides; Cataclysic fracturing - Part of a	95.4	96.45	1.05			0.01			12/7
						vein system, chlorite halo - good potential	96.45	97.45	1.0			0.05			12/8
98.8	100.2	1.4	100	NQ			97.45	98.51	1.06			0.01			12/9
100.2	102.0	1.8	100	NQ		101.65-102.0: Qtz vein + fresh pyrite + arsenopyrite	98.51	99.51	1.0			0.01			12/10
						chlorite, + clots of chlorite. Some ½-cutting qtz veins	99.51	100.41	0.9			0.01			12/11
102.0	102.6	0.6	100	NQ		more siliceous rock.									
							100.41	102.0	1.6						12/12
102.6	103.5	0.9	100	NQ		102.0-106.2: Sandstone fine-medium, no mineralisation									
						and hole terminated.	102.0	103.0	1.0						12/13
103.5	106.2	2.7	100	NQ											
						E.O.H. 106.2									

Summary

HOLE NUMBER CSDDH13 DATE 29/5 to 8/6

PROJECT Malmsbury GEOLOGY MAP MELBOURNE 1:250,000

TOPO MAP DRUMMOND 1:25,000

GRID COORDS 10403 E 10201 N SHEET OF

SURVEY DEPTH	AZIMUTH	DIP	SURVEY DEPTH	AZIMUTH	DIP
0.0 Hole Set up	122°	50°			
51.3m	119°	51°			
160.0m	114°	49°			
231.0m	110°	48.5°			
E.O.H. 247.8m					

DESCRIPTION	GRAPHIC LOG	M
Disappointing hole with no significant mineralisation at of any great metreage. the odd patch showed some minerals. Interestingly this hole showed a dramatic increase in the silica content. And the occassional very siliceous grits bands.		
Charged specimen altho used with Brew. - who thought it was the most promising!		
Main zone 155-180m: looks v. interesting. highly siliceous + mineralisation		

HOLE NUMBER LSDDH13 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
0.0	2.7		BLADE			0.0-5.1: CLAY/SHALE/SANDSTONE: mottled brown Clay + weathered poorly sorted + unconsolidated									
2.7	3.8	0.4	36	HQ											
3.8	4.4	0.4	66	HQ											
4.4	5.1	0.3	43	HQ		5.1-22.1: SILTSTONE/SHALE: fine gr. soft. carbonaceous minor veining + pyrite staining									
5.1	6.7	0.7	64	HQ											
6.7	7.9	1.7	100	HQ											
7.9	9.7	1.8	100	HQ											
9.7	10.5	1.2	150	HQ											
10.5	12.5	1.6	80	HQ											
12.5	14.0	1.2	80	HQ											
14.0	15.5	0.2	13	HQ		14.0-15.5: V. soft unconsolidated zone - possibly fracture zone.									
15.5	17.0	1.5	100	HQ											
17.0	17.9	0.9	100	HQ											
17.9	18.8	0.9	100	HQ											
18.8	19.7	0.9	100	HQ		19.3 Qtz vein 10mm X-cutting & limonitic staining									
						20.0: Qtz vein 10mm + pyrite staining									
19.7	20.5	0.8	100	HQ											

HOLE NUMBER LSDDH13 PROJECT HALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
20.5	22.3	1.8	100	HQ											
22.3	24.6	2.0	87	HQ		22.1-48.9: SILTSTONE/SANDSTONE. Fine gr, oxidised more competent than before, some veining but no fresh sulphides.									
24.6	25.7	0.15	14	HQ											
25.7	27.1	1.4	100	HQ		24.3-25.7: V soft clay, weathered & dol coarser unit causing the core loss.									
27.1	28.6	1.5	100	HQ											
28.6	30.1	1.5	100	HQ		30.6-30.95: Qtz lump (not a vein) weathered pyrite + some other type of Shaunny-copper/iron?									
30.1	31.3	1.2	100	HQ											
31.3	32.3	1.0	100			31.6-33.1: V broken weathered shale									
32.3	33.1	0.8	100												
33.1	34.2	1.1	100												
34.2	35.9	1.7	100			34.9-37.2: Broken zone, very soft becoming more competent, shale/s.s. finely laminated									
35.9	37.1	1.2	100												
37.1	38.7	1.6	100												
38.7	39.9	1.2	100												
39.9	41.5	1.6	100												
41.5	43.1	1.6	100												

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
43.1	44.3	1.2	100	HQ		44.3: Weathered S.S/siltstone orange/yellow open cavities w. the remnant qtz viens - weathered pyrite staining.									
44.3	47.3	3.0	100	NQ											
47.3	49.7	2.4	100	NQ		48.1-48.9: A lot of weathered pyrite. Qtz veins heavily fractured, minerals up also of pyrite staining - may carry Au.									
49.7	51.0	1.3	100	NQ											
51.0	53.0	2.0	100	NQ		48.9-76.3. SANDSTONE - fine to medium grained with some qtz veining. 48.9: light grey S.S with limonitic weathering continues till 52.5.									
53.0	54.0	0.8	80	NQ											
54.0	55.4	1.4	100	NQ		52.5-52.7: Broken zone. Fracture?									
55.4	58.8	3.4	100	NQ		52.7-55.4: X-cutting qtz viens of weathered pyrite stained qtz. At 55.4 grades down into a clay/S.S band unconsolidated laminations + cleavage (broken along), almost a shale.									
58.8	59.7	0.9	100	NQ											
59.7	63.0	1.6	53	NQ		59.7 Increase in clay content + unconsolidated									
63.0	64.5	1.2	80	NQ		62.7-62.8: Siltstone pink/purplish staining manganese.									
64.5	66.2	1.7	100	NQ											
66.2	67.4	1.2	100	NQ											
67.4	69.0	1.6	100	NQ											
69.0	70.6	1.4	92	NQ		71.5 Qtz vein 5mm weathered pyrite									

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To							LAB Sample No
70.6	71.9	1.3	100	NQ		71.6-73.7: loose unconsolidated clay/siltstone oxidised brown/yellow, broken except for S.S band 72.2-72.5 - fine gr + mica									
71.9	73.7	1.0	56	NQ											
73.7	75.2	1.2	80	NQ											
75.2	76.3	1.0	91	NQ		76.3-130.6: SILTSTONE, fine gr, soft occasional band of S.S. increase in concentration of pyrite & arsenopyrite. Qtz veining present + calcite.									
76.3	78.0	1.7	100	NQ		76.3-79.3: Clay/shale, fine gr + laminations and banding of oxidised zones (v small) some fresh pyrite & mica. v soft									
78.0	79.3	1.3	100	NQ											
79.3	81.1	1.8	100	NQ		80.5: Qtz vein 7.5mm peppered with arsenopyrite still the occassional sandstone band and some weathering still evident.									
81.1	82.7	1.6	100	NQ											
82.7	85.0	2.3	100	NQ											
85.0	88.5	3.5	100	NQ		89.4: Qtz vein 2-5mm, centres infilled + arsenopyrite + mica. still laminations present & banding.									
88.5	90.2	1.7	100	NQ		89.5: The fine gr sandstone is bleached, some limonite weathering. Fresh sulphides.									
90.2	91.1	0.9	100	NQ											
91.1	92.3	1.2	100	NQ		92.1-92.3: Broken core, v rich in sulphides pyrite + arsenopyrite giving the rock a dark grey colour									

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
92.3	93.6	0.3	73	NQ		92.2-93.6: Bleached white siltstone, some limonitic									
@ core loss.						weathering soft & unconsolidated.									
93.6	94.6	1.0	100	NQ											
94.6	95.3	0.5													
95.3	97.2	1.9	100	NQ											
97.2	100.0	2.4	100	NQ		100.0-101.0: Fine gr. grey siltstone with small veins									
						of finely disseminated pyrite throughout.									
100.0	102.6	2.6	100	NQ		Some milky qtz and arsenopyrite stringers.									
102.6	105.0	2.4	100	NQ		103.0: 30mm fracture zone, wide zone of coarser band									
						with sulphides infilling minor fractures.									
105.0	106.6	1.6	100	NQ											
106.6	107.7	1.1	100	NQ		106.1-112.1: Milky qtz veinlets & xtls of pyrite +									
						arsenopyrite in a finely laminated siltstone, also									
						disseminated sulphides 75-80% of siltstone									
107.7	111.0	3.3	100	NQ		covered in sulphides.									
111.0	112.0	1.0	100	NQ											
112.0	114.0	2.0	100	NQ											
114.0	116.0	2.0	100	NQ		117.0-177.4: Broken zone + Qtz veinlets PY + calcite									
						+ green hole (chlorite)									
						117.5: Small faults / sh. APY, calcite in Qtz and									
116.0	117.5	1.5	100	NQ		laminated [illegible] medium APY									

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY					Graph	DESCRIPTION	ASSAYING					LAB			
From	To	Rec	%	Size	Log		From	To							Sample No
117.5	119.0	1.5	100	NQ											
119.0	120.2	1.2	100	NQ		119.7-119.9: X-cutting qtz veins, chlorite alteration + mica (sericite). The qtz veins have small calcite needles									
120.2	122.3	2.1	100	NQ											
122.3	124.6	2.3	100	NQ											
124.6	126.0	1.4	100	NQ		124.3: Bleached some, siliceous + mica, possible secondary qtz event, sugary texture									
126.0	127.9	1.9	100	NQ		124.3-130.0 Alternating greenish s.s with dark grey/purplish s.s and qtz veining but some more arsenopyrite stringers. The s.s has some places been bleached.									
127.9	128.8	0.9	100	NQ											
128.8	129.7	0.9	100	NQ		130.6-175.0: SILTSTONE-SILICIFIED fine grained sugary texture, dark grey to light grey, slot of pyrites arsenopyrite pyrite, dissemated fault zones. qtz veining									
129.7	130.5	0.8	100	NQ											
130.5	131.3	0.8	100	NQ		134.4-134.55: Py & APY in a mottled siltstone small stringers infilling fracture zones.									
131.3	132.2	0.9	100	NQ											
132.2	133.3	1.1	100	NQ											
33.3	134.0	0.7	100	NQ											
134.0	135.3	1.3	100	NQ											

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB Au			Sample No
135·3	136·4	1·1	100	NQ		137·4-137·5: Stockwork of qtz + APY filling the fissures									
						in the qtz. (3%) APY									
136·4	138·0	1·6	100	NQ											
						142·0-142·5: Grey/green PY & APY grade into dark									
138·0	140·0	2·0	100	NQ		grey siltstone both with minor veining + sugary texture.									
140·0	142·0	2·0	100	NQ		145·1: Qtz vein 5mm small blebs of sulphide									
142·0	143·0	1·0	100	NQ											
143·0	143·6	0·6	100	NQ											
143·6	146·7	3·1	100	NQ		148·2-149·7: Grey/green fine gr. siltstone + small									
						Qtz vein (5mm) Milky Qtz + minor PY.									
146·7	148·3	1·5	100	NQ		149·75: Minerals chl & + at 151·2 grade to a									
						predominantly green chlorite rich siltstone + Qtz									
148·3	151·2	2·9	100	NQ		veining									
151·2	153·9	2·7	100	NQ		154·0-178·0: Possible ore zone green/dark grey									
						siltstone, in some places quite silicious, numerous	153·9	154·8	0·9			0·20			13/1
153·9	156·0	2·1	100	NQ		Qtz veins x-cutting & some stockworks, also of	154·8	156·0	1·0			0·02			13/2
						PY & APY some en echelon type Qtz - maybe related									
156·0	157·7	1·7	100	NQ		to a shearing event.	156·0	157·1	1·1			0·30			13/3
						154·0: Qtz vein 100mm + PY									
157·7	159·5	1·8	100	NQ		156·1-156·25: Qtz + elongated APY & PY, milky Qtz	157·1	158·15	1·05			0·04			13/4
							158·15	159·15	1·00			0·09			13/5
159·5	162·0	2·5	100	NQ		158·9-159·1: Qtz en echelon type folding + PY + APY	159·15	159·95	0·8			006			13/6
							159·95	160·9	1·0			0·03			13/7
162·0	165·0		100	NQ		161·7: Qtz stockwork minor PY or APY on a									
						dominantly greenish siltstone, only minor veining	160·9	162·0	1·0			0·03			13/8
						with milky Qtz	162·0	163·0	1·0			0·22			13/9
165·0	165·8	0·8	100	NQ			165·0	166·0	1·0			0·02			13/10

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION
165.8	167.6	1.8	100	NQ		
						167.0-169.0. Stockwork of clear & milky Qtz, Py/G
167.6	169.4	1.8	100	NQ		APY. at 167.6 more silicous + increased Qtz
						veins till 169.4 minerals X cutting & mineralised
169.4	170.5	1.1	100	NQ		zones: PY+APY/+calcite.
170.5	172.4	1.9	100	NQ		169.9: lines green tinge, slight purple/grey more
						silicous + sugary feature
172.4	174.0	1.6	100	NQ		
174.0	177.0	3.0	100	NQ		174.0: Dark grey siltstone no minerals, odd
						band of chert red siltstone 174.3-174.55
177.0	180.0	3.0	100	NQ		
						179: 175.0-248.0: SILICIFIED SILTSTONE/SANDSTONE/GRIT
						coarsening & ~~fining~~ down & fining up sequences
180.0	182.3	2.3	100	NQ		highly silicous especially in the coarser units
182.3	183.2	0.9	100	NQ		179.8: Qtz stockwork 10mm sericite + minor PY
						181.9: Qtz stockwork & coarse s.s - Evidential PY
183.2	185.0	0.7	39	NQ		chlorite alteration at 182.1 highly silicous coarse s.s
						with sulphides zone continues till 182.25
185.0	187.7	2.7	100	NQ		
						185.5-186.6: GRIT/Qtz fragments in highly silicous
187.7	191.1	3.4	100	NQ		rock
191.1	192.7	1.6	100	NQ		189.7-190.0: Zone of broken sil/G. sbb-Qtz s.s.
						Qtz veining minor PY
192.7	195.0	2.3	100	NQ		
						193.0: Qtz vein 70mm + stringers PY & APY some mushy
						qtz

ASSAYING Au LAB ALS

From	To				Au			Sample No
164.0	165.0	1.0			<0.01			13/11
165.0	166.1	1.1			<0.01			13/12
166.1	167.2	1.15			0.06			13/13
167.2	168.2	1.0			0.17			13/14
168.2	169.4	1.15			1.71			13/15
169.4	170.5	1.1			0.15			13/16
170.5	171.57	1.0			0.01			13/17
171.5	172.6	1.1			0.02			13/18
172.6	173.7	1.1			<0.01			13/19
173.7	174.8	1.1			<0.01			13/20
174.8	175.8	1.0			0.01			13/21
175.8	177.0	1.16			0.02			13/22
177.0	178.0	1.0			0.14			13/23

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
195·0	198·0	2·1	70	NQ		196·3-196·9: Siliceous grit/S·S with sulphides, medium gr pyrites + arsenopyrite stringers. Rock seems to be									
198·0	201·0	3·0	100	NQ		more associated with the coarser fraction (grit).									
						196·9-202·2: Dark grey fine-gr silicified siltstone									
201·0	204·0	3·0	100	NQ											
						202·2: Qtz vein 15mm PY & APY in fractures.									
204·0	206·5	2·5	100	NQ											
206·5	209·5	3·0	100	NQ		206·3: Qtz vein: 10mm small stockwork with mineralisation, some alteration.	206·5	207·5	1·0						13/24
209·5	210·8	1·3	100	NQ			207·5	208·5	1·0						13/25
						206·0-210·: Minor PY also of chloritic alteration	208·5	209·5	1·0						13/26
						but minor veining.	209·5	210·5	1·0						13/27
210·8	212·5	1·7	100	NQ			210·5	211·5	1·0						13/28
						212·0-212·6: Chloritic alteration + abd of sulphides	211·5	212·5	1·0						13/29
212·5	214·3	1·8	100	NQ		Extended X'/s of PY & halos. Some veining + clay	212·5	213·5	1·0						13/30
						(Shearing?) Remnant Qtz veins. Thin zone quite soft									
214·3	218·3	2·0	100	NQ		but hardens towards silicified at 212·65.	215·3	216·3	1·0						13/31
							216·3	217·3	1·0						13/32
216·3	218·5	2·2	100	NQ		215·0: Qtz vein 15mm, mainly Qtz + PY + APY.									
							217·3	218·3	1·0						13/33
218·5	221·5	3·0	100	NQ		217·0-217·6: Chloritic alteration of siltstone, Qtz veins									
						with large cavities infilled with epidote?, minor sulphides									
221·5	223·4	1·9	100	NQ		x-cutting veins, arsenopyrite stringers.									
						217·6-217·5: Fracture zone-broken Qtz.	220·1	222·1	1·0						13/34
223·4	224·5	1·1	100	NQ		221·4-221·6: Slightly bleached siltstone + PY + APY									
						disseminated X'/s.									

HOLE NUMBER	PROJECT	DATE	AZIMUTH	DIP	LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To		Sample No
229.5	227.6	3.1	100	NQ		226.0-227.0: Shear zone. Slightly sheared siltstone more sliphicite.	225.9	226.9	1.0	13/34
227.6	230.7	3.1	100	NQ						
230.7	233.7	3.0	100	NQ		230.0-235.7: Banding silicified siltstone. Some zones of chlorite alteration + v. small veins ±5mm.				
233.7	238.0	4.3	100	NQ		238.4-238.8: bit barrel				
238.0	241.3	3.3	100	NQ		238.8-245.1: Silicified siltstone, green chlorite alteration. The chlorite alteration seems to be selective	240.0	241.0	1.0	13/35
241.3	244.3	2.8	92	NQ		laminations present. Minor qtz veining. Trace of spot of Py in the more siliceous rock.	241.0	242.0	1.0	13/36
244.3	245.1	0.8	100	NQ			242.0	243.0	1.0	13/37
245.1	247.3	2.2	100	NQ		243.3: X cutting qtz veins, no minerals but alteration, small stockwork of veins; 100mm wide. 244.9: Qtz vein 10mm in a grit layer. S.S. minerals.	243.0	244.3	1.3	13/38
247.3	247.8	0.5	100	NQ						
						E.O.H. 247.80 m.				

HANOVER PROSPECT

HOLE NUMBER HMDDH1 PROJECT MALMSBURY DATE 16/12/91 AZIMUTH 270° DIP 50° LOGGED BY AC SHEET 1 OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB Sample No
0.0	2.2	BLADE				2.2-16.6: SHALE/SANDSTONE, fine gr. light brown (fresh) grey with minor qtz veining & weathered joints in places - broken core.			
2.2	3.7	1.3	87	HQ					
3.7	5.0	1.3	100						
						5.4: Qtz vein 50mm 15°/ca - barren.			
5.0	6.5	1.5	100						
6.5	8.0	1.5	100			9.4: Qtz vein 100mm black biotite + weathered pyrite			
8.0	9.5	1.5	100						
9.5	10.6	1.1	100						
10.6	11.3	0.3	43						
11.3	12.0	0.6	86						
12.0	15.0	3.0	100						
						14.1: Qtz vein 20°/ca 5mm quite broken clear qtz.			
15.0	16.0	1.0	100						
16.0	17.2	1.2	100						
						16.6-23.0: GRIT/SANDSTONE med - coarse gr. becoming harder & more competent with depth. Detrital qtz x'ls up to 5mm in diameter in grit matrix			
17.2	18.0	0.8	100						
18.0	19.5	1.5	100						
						17.4-17.55: Qtz vein 15°/ca 3mm wide			
19.5	21.0	1.5	100	NQ		18.0: Qtz vein 20mm minor Py staining			
						18.4: X-cutting small qtz veins 3-5mm width.			
21.0	24.0	1.6	53						

HOLE NUMBER HMDDH1 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
24.0	27.0	2.4	80	NQ		18.0: Qtz vein 20mm minor Py staining									
						18.4: x-cutting small Qtz veins 3-5mm width									
27.0	30.0	1.8	60												
						19.5-23.0: coarse gr S.S interbedded with clay									
30.0	34.8	4.8	100			/shale patches, minor siliceous patches · cavities									
						upto 3-5mm in diameter									
34.8	35.8	1.0	100												
						23.0-61.0: SANDSTONE/SILTSTONE - minor SHALE									
35.8	37.5	1.1	65			range of colours - but some mangaese staining									
						predominantly brownish red - interbedding present +									
37.5	39.0	1.3	87			minor qtz - little mineralisation, locally fractured									
						@ jointed									
39.0	40.5	1.4	93												
						27.0: Qtz vein 100mm: barren									
40.5	41.3	0.7													
						32.2-34.3: Shale brown									
41.3	43.0	0.4													
						34.4-34.6: Sandstone - siliceous - small infill veins									
43.0	44.5	1.2													
						36.0-36.2: Qtz vein 10% clear mineral - tourmaline									
44.5	45.6	1.0				fractured into small chips. or amphibole									
45.6	46.5	0.8				34.8-40.5: Alternating shale-sandstone									
46.5	47.2	0.7	100			40.5-43.8: Fracture zone: v. broken core high clay!									
47.2	48.6	1.6	100			43.3-43.45: Qtz vein broken - soft rock									
48.6	50.2	1.75				44.6-47.0: Grit/coarse S.S.									
50.2	51.3	1.1	100			52.0-52.4: Partly silicified siltstone + Qtz vein									
						15mm width									
51.3	52.6	1.5													

HOLE NUMBER HMDDH1 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
52.6	53.6	1.0	100			52.8: Qtz vein 200mm wide 15° to ca. weathered									
						brown needlelike xlls.									
53.6	58.7	5.1	100												
						53.5: Manganese trace - numerous coloured rocks									
missing core block															
						56.8: Qtz vein - broken - milky Qtz.									
58.7	61.1														
						53.1-61.1: More competent rock - less broken									
61.1	62.4	1.3	100			core.									
62.4	65.5	3.1	100			61.1 - 91.3: Zone of Qtz veining & X-cutting									
						veins more silicified chert of weathered pyrite.									
65.5	66.9	1.4	100			Possibly start of the East reef projection (45 metres									
						vertically) grain size coarsens up to a well →									
66.9	69.0	2.1	100			coarse gr. S.S. Reasonable potential for Au?									
						Dominantly a brown rock. Qtz veins & pulses									
69.0	70.7	1.7	100			upto 75mm width.									
70.7	73.7	3.0	100			65.5-67.0: 8-10 sets of Qtz veins 5mm									
						in width.									
73.7	76.0	2.3	100												
						67.0-70.5: Numerous Qtz veins & blows, in places									
						looks similar to rock under L.S. shaft - good									
76.0	78.0	2.0	100			potential.									
						68.0-68.5: Siliceous zone + cavities + weathered P/.									
78.0	79.3	1.3	100			70.5: Interbedded fine gr. sutstone grey, most of									
						the veining shallow angle to ca 5-20°									
						79.3-82.0: Soft shale/clay - problems & lost circulation									
79.3	82.0	2.7	100												

HOLE NUMBER HMDDH1 PROJECT MALMSBURY. DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
82·0	83·0	1·0	100			84·1-85·85: Similar to Cover Stor high grade rock.									
83·0	83·8	0·8	100												
83·8	85·7	1·9	100			85·85: Qtz veining dwing out + Silicification also seems to be fresher rock. Still weathered where qtz veining occurs-									
85·7	87·0	1·3	100												
87·0	88·5	1·5	100			91·35: Qtz vein 2mm + dark mineral - amphibole									
88·5	91·5	3·0	100			91·3-180·7: SILTSTONE grey, fresh little oxidation, & quite soft with an increase in clay content. Small qtz veining									
91·5	94·5	3·0	100			with brown weathered halos: remnant sulphide stringers. This sudden change may indicate the end of the East reef from 81·1-93·3:									
94·5	97·5	3·0	100												
97·5	100·5	3·0	100			99·5: Fresh sulphide pyrite in a fracture + weathered pyrite. More siliceous with depth, minor arsenopyrite									
100·5	103·0	2·5	100			102·7-102·85: Broken Qtz - clear + milky. Fracture zone minor mineralisation									
103·0	105·3	2·3	100			103·1-103·4: Sulphide stringers textured x 1% of PY Disseminated blebs of PY contained within white clay + minor chlorite alteration + sericite.									
105·3	108·0	2·7	100			105·4-108·1: Silicified siltstone + stringers - dark grey.									
108·0	111·0	3·0	100			108·1: Light grey - more bleached.									
111·0	113·5	2·5	100												

HOLE NUMBER HMDDH1 PROJECT DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
113.5	116.5	3.0	100			108.4: Qtz veins 10mm wide X-cutting. calcite +PY+APY - euhedral X'ls									
116.5	119.5	3.0	100			110-111.0: Qtz vein 1/ to 1cm, good mineralisation in a bleached siltstone sstt with disseminated									
119.5	120.6	1.1	100			sulphides throughout - good potential: - chloritic alteration. 111.0-112.5: Fracture zone - broken, minor dark clay									
120.6	123.0	2.4	100			+sulphides, silicification dies out.									
						115.5: More silicified - darker sulphide stringers.									
123.0	129.0	1.0	100			117.4: Qtz vein 7mm.									
						118.3: Qtz vein (broken) 50mm minor mineral^n either side - PY & APY disseminated + stringers									
						Some chloritic alt^n									
						121.6: Qtz vein 5mm minor mineral^n									
						122.0: Qtz vein 15mm recalcite (euhedral) X'ls +PY+APY (stibnite) 15° to c.a.									
						124.0-124.5: Fracture zone, minor clay broken									
124.0	126.6	2.6	100			+stibnite, sericite alt^n.									
						125.2-126.2: Qtz veining + a lot of sulphides in places - broken (shear?)									
126.6	129.0	2.4	100												
						128.4-128.6: Qtz veins 5mm PY+APY.									
129.0	132.0	3.0	100			130.0: Qtz vein + stibnite?, euhedral									
						131.5-131.7: Shear zone: Clay based sulphide rich thin APY rich + bleached + chloritic-minor qtz with PY									

HOLE NUMBER MMDDH1 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
132.0	135.0	3.0	100												
						131.8-132.0: Broken possible fracture zone									
						or drill induced.									
135.0	137.1	2.1	100												
137.1	140.2	3.1	100			136.0-138.0: Multiple qtz veins. X-cutting + sulphides									
						30°-35° ica-average. clear qtz + calcite infilling									
140.2	142.2	2.0	100			fractures									
142.2	146.3	3.0				138.4: Sheer - thin soft zone qtz + calcite									
						sulphide stringers.									
146.3	149.4	3.1	100												
						148.4-150.2: Silicified siltstone - banded average									
						Spacing 2-3cm - sugary texture.									
149.4	151.8	2.4	100			 lightish band									
151.8	154.9	3.1	100												
						153.0-155.1: Qtz veining - broken in places (jointed)									
						Extensive sulphides + chloritic/sericite alteration.									
154.9	157.6	2.7	100			162.9-163.1: Fracture zone + PY + APY									
						164.65: Qtz vein 10mm + APY (stibnite)									
157.6	160.6	3.0	100												
						167.8: Qtz vein - milky + APY & PY : 20-25%									
160.6	165.0	4.4	100			172.9-173.4: Fracture zone + Qtz.									
	(rest core block)					Drill induced. Cattle movement on qtz but some									
						sulphides in the siltstone.									
165.0	168.0	3.0	100												

HOLE NUMBER HMDDH1 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
168·0	171·0	3·0	100			169·8-171·3: Multiple Qtz vein injections good mineral.									
171·0	173·2	2·2	100												
						177·0-180·7: SHEAR ZONE: v. broken rock & clay band									
173·2	176·0	2·8	100			some qtz with mineralisation - possible strike of									
						Mudelle Reef. Broken qtz PY + APY & copper coloured									
						mineral - chalcopyrite. Major problems with									
176·0	178·2	1·6				lost circulation, casing - cementing did not work.									
						2 bits burnt - pulled rods 5 times.									
178·2	179·1	0·5				179·1: Numerous sulphide stringers + blebs of									
						sulphide - increase in APY (stibnite) in a bleached									
						rock. Looks similar to rock in CSDDH19 150-200m									
179·1	180·7	0·8				good potential for Au & extension of Mudelle									
						Reef 145m vertically down.									
						Forced to abandon hole at 180·7 due to the									
						insurmountable problems encountered drilling.									

HANOVER PROSPECT

HOLE NUMBER HMODH2 PROJECT MALMSBURY DATE AZIMUTH 90° DIP 50° LOGGED BY RC. SHEET 1 OF 3

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
0·0	2·4	BLADE				2·4–16·5: SHALE/SANDSTONE/SILTSTONE.									
						range of weathered colours predominantly red									
2·4	3·9	1·5	100	MQ		purple-manganese, sett. fine gr-broken in places									
						minor qtz veining									
3·9	5·5	1·35	84	MQ											
						5·8: Qtz vein 90°/ca + weathered pyrite.									
5·5	6·5	1·0	100	MQ		6·5–7·2: Bleached - increase in clay-hardness									
						8·8–9·8: Grit - anabelical qtz (clear) in a sandstone									
6·5	7·2	0·7	100	HQ		matrix.									
7·2	8·5	1·3	100	HQ											
8·5	10·0	1·5	100	HQ											
						11·0: More competent rock - less fracturing & jointing									
10·0	11·5	1·5	100	HQ											
11·5	13·0	1·5	100	HQ											
						16·5+ SANDSTONE/GRIT.									
13·0	14·0	1·5	150	HQ		med-coarse gr S.S. Some grit-like - not the									
						range of colours more brown & staining (Fe)									
14·0	17·0	3·0	100	NQ											
						19·0–21·0: Coarse SS/grit.									
17·0	18·8	1·8	100	NQ		21·3: Shale/S.S.									
18·8	21·0	2·2	100	NQ		24·2–24·8: Zone of multiple x-cutting qtz									
						veins upto 10mm in multi, porous, stained weathered									
						pyrite, quite seritous - reasonable potential.									
21·0	23·0	2·0	100	NQ											
						24·8: Sharp change back to the sandstone.									
23·0	26·0	3·0	100	NQ											

HOLE NUMBER HMDDH2 PROJECT MALMSBURY. DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To			LAB Au				Sample No
26.0	27.9	1.9	100	NQ		27.1: Shale/Siltstone - increase clay ↑									
27.9	29.0	1.1	100	NQ		30.5-30.65: qtz veins 20° ca mean width 10 mm									
29.0	31.6	2.6	100	NQ		32.0-37.6: Interbedded fine & coarse bands S.S									
						35.5: Qtz vein + weathered PY.									
31.6	34.6	3.0	100	NQ											
						37.6-37.95: Orange S.S with Qtz stringers en-echelon type structure.									
34.6	37.6	3.0	100	NQ											
						39.8: Fresher rock - less range of colours more									
37.6	39.2	1.6	100	NQ		regular S.S. mostly white.									
39.2	41.0	1.8	100	NQ		40.5: Qtz vein 2mm + cavities									
41.0	42.2	0.6	50	NQ		42.2-42.8: Fracture zone: Broken Grit/SS									
42.2	43.0	0.6	75	NQ		43.85: Qtz vein 85° ca + calcite.									
43.0	46.0	3.0	100	NQ		45.0-46.5: Grit.									
						47.0: More silicous									
46.0	47.9	1.9	100	NQ											
						47.7: Grey coarse S.S - fresher rock, start of									
						intersting zone with potential. Qtz veining									
47.9	50.0	2.1	100	NQ		broken? possible shearing									
50.0	52.4	2.4	100	NQ		50.8-50.95: Qtz vein broken.	50.4	51.4			0.05				15/1
52.4	53.8	1.4	100	NQ		52.4: Mottled coarse grey S.S with some black									
						purple staining, qtz + feldspar - possible cond rock?	51.4	52.4			0.01				15/2
53.8	56.0	2.2	100	NQ											

HOLE NUMBER HMDDH2 PROJECT MALMSBURY. DATE AZIMUTH DIP 50° LOGGED BY AC.
SHEET 3 OF 3

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB Au			Sample No
56·0	57·5	1·5	100	NQ		53·8-57·5: qtz veining + burnt pyrite - minor fresh sulphides, alternating medium to fine s.s.	52·4	53·4				0·03			15/3
57·5	59·0	1·2	83	NQ			53·4	54·4				0·33			15/4
						56·3: qtz vein 5°/10 + alot of weathered sulphides, heavily fractured, v. crushed + oxidised.	54·9	55·4				0·04			15/5
59·0	62·0	3·0	100	NQ											
							55·9	56·4				0·67			15/6
						59·0-70·0: Grades clear into a fine g siltstone/shale with minor qtz veining predominantly grey/green, bedding 25°/10.	56·4	57·5				0·01			15/7
62·0	65·0	3·0	100	NQ											
65·0	68·0	3·0	100	NQ			58·9	59·9				0·09			15/8
						63·3-63·45: Qtz vein + weathered PY	59·9	61·1				0·03			15/9
68·0	70·0	2·0	100	NQ		65·7-65·95: Qtz vein + PY weathered									
						67·1-67·3: Qtz vein (clear) + PY (weat)									
						68·4-68·6: Multiple qtz veins stringers of weathered stained PY.									

HANOVER PROSPECT

HOLE NUMBER HMDDH3 PROJECT MALMSBURY DATE AZIMUTH 270° DIP 50° LOGGED BY AC SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING LAB From	To							Sample No
0.0	2.8	BLADE				2.8-50.8 SHALE/SILTSTONE									
						fine gr, soft, often broken, range of weathering colours									
2.8	4.5	1.5	88			manganese-purplish. fine laminations									
						In places high % of clay - kaolin									
4.5	6.0	1.5	100												
6.0	7.5	0.6	90												
7.5	8.5	1.0	100												
						8.3-8.5: Fracture zone v-broken soil/clay									
8.5	8.8	0.3	100												
8.8	9.7	1.0	111												
						11.0-11.9: Sandstone v-fine gr.									
9.7	11.0	1.3	100												
11.0	12.5	1.2	80			12.3-13.5: Incompetent shale, broken v-soft.									
12.5	13.5	1.0	100												
						15.5: More competent rock									
13.5	15.0	1.2	80												
						16.3-18.5: Sandstone - fine gr.									
15.0	16.0	0.9	90												
16.0	17.0	0.7	70			22.3: Qtz vein 5-7mm width - barren.									
17.0	18.2	1.2	100												
18.2	19.6	1.3	92												

HOLE NUMBER HMDDH3 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To	LAB						Sample No
19.6	20.5	0.6	66	N		22.6-28.9: Interbedded S.S and shale-soft.									
20.5	22.0	1.5	100												
22.0	25.0	1.7	57												
25.0	26.0	1.0	100												
26.0	27.3	1.0	77			28.6-28.9: Fracture zone-broken qtz + weathered Py.									
27.3	28.8	0.8	53			29.6-29.7: Broken qtz.									
28.8	29.6	0.5	63												
29.6	30.5	0.7	78			30.7-30.85: Broken qtz - possibly associated with quartz from the shaft SW of the drill hole collar.									
30.5	32.5	0.8	40			33.7-34.4: Fracture zone.									
32.5	33.5	1.0	100												
33.5	34.4	0.4	44												
34.4	36.0	0.9	56			37.2-37.35: Fracture zone									
36.0	37.5	1.3	87			39.3-40.1: Fracture zone - white kaolin clay.									
37.5	38.5	1.0	100			40.1-41.0: qtz veining & weathered Py on a finely laminated shale.									
38.5	40.1	1.6	100			41.0-41.6. V. broken crushed soft-like S.S.									
40.1	41.0	0.9	94												

HOLE NUMBER HMDDH3 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
41.0	41.6	0.35	58												
41.6	42.8	0.9	75												
42.8	44.0	1.1	92			45.8-46.3: Broken rock.									
44.0	45.5	1.2	80												
45.5	46.3	0.7	88												
46.3	47.6	1.2	92												
47.6	49.1	1.3	87												
49.1	50.8	0.9	53	MQ		50.8-69.7: SHALE/SANDSTONE: Alternating beds									
			REDUCE			v-broken w/ placer range of colours - pu, ple/pink.									
				NQ		Mine abz veining but barren. Quite soft rock,									
50.8	52.6	1.1	61			v-weathered. Manganese staining on joint faces.									
52.6	54.0	1.0	71												
54.0	54.8	0.4	50												
54.8	56.3	1.3	87												
56.3	58.7	2.4	100												
58.7	60.0	1.0	77												

HOLE NUMBER HMDDH3 PROJECT MALMSBURY. DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB ALS Au			Sample No
60.0	62.8	2.8	100	NQ											
62.8	65.9	3.1	100												
65.9	68.7	2.0	110												
68.7	69.7	1.4	140												
69.7	71.0	1.2	92			69.7-88.7: sandstone - more competent rock, fine gr, still weathered qtz veining present.									
71.0	74.3	3.1	94												
74.3	77.3	3.0	100												
						71.2-71.4: Fracture zone - v. broken, crumbly soft-like rock, clay + mica.									
77.3	80.4	3.1	100												
						73.2: qtz vein small weathered PY + mica									
							83.5	84.5				006			16/1
80.4	83.5	3.1	100			73.8: Broken s.s, some white clay-shale-like material.	84.5	85.5				002			16/2
83.5	86.6	3.1	100			76.3: qtz vein 3mm with 20% cc. Contains weathered PY + calcite.	85.5	86.4				007			16/3
86.6	89.7	3.1	100												
						77.1: Sandstone less weathered predominantly grey still brown. staining where jointing/fractures qtz veining seen.									
89.7	92.0	2.3	100												
						79.0-80.4: Zone of qtz veining + jointing, quite weathered, coarser gr s.s (med gr)									
						81.4: qtz vein 10mm in a grit-white clay with qtz euhedral x'ls.									

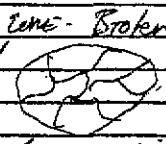
HOLE NUMBER HMDDH3 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
92.0	96.0	4.0	100			82.9: Qtz vein 1mm disseminated peels of stibnite arsenopyrite.									
						84.0: Small clay band - 2mm.									
96.0	98.5	2.5	100			89.5-87.0: x-cutting qtz veins, quite siliceous in places - minor chloritic alteration. Brown staining - infilling fractures. Pyrite staining.									
						88.7-106.5: SANDSTONE/SILTSTONE with numerous quartz veining + silica injections. x-cutting veins often with cavities - spotted appearance. Qtz blows upto 300mm in width. Minor stylolites some PY associated with the veining. Tends of v. weathered S.S & clay → almost Sect-like properties - similar to a breccia. Qtz in a Sed/S.S matrix.									
						90.6-90.85: qtz blow - weathered PY.									
						93.0-93.5: Multiple x-cutting qtz veins with cavities	94.0	95.0			0.95				16/26
						95.0-95.25: qtz blow weathered PY.] 96.3: Faulting	95.0	96.0			0.48				16/27.
98.5	101.2	2.9				96.9-97.3: Siliceous med/coarse S.S. }									
						97.3-97.45. Incompetent S.S/soil - broken									
						97.8-98.2: V. Siliceous									
						99.5-99.85: Brecciated									
						103.2-103.3: qtz vein									
						103.7-103.95: qtz blow + weathered PY									

HOLE NUMBER HMDDH3 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB ALS Au			Sample No
101.2	103.7	2.8	112												
						107.2:- 119.0 SILTSTONE									
103.7	105.0	2.0	154			Based of pervasive weathering, fine grey, bleached									
						in places & quite broken & shearing. Qtz veining									
105.0	106.0	0.8	80			with sulphides + small stringers - similar rock									
						to HMDDH1 100 m. more silicified with depth									
106.0	110.5	4.5	100												
	(ALST	CORE	BLOCK			108.2 - 108.4 - Bleached siltstone with sulphide									
						stringers.									
110.5	111.7	0.8	67												
						110.6: Dark clay band + sulphides - shearing	112.9	113.9				0.01			16/4
						zone - v. minor iron staining.									
111.7	112.9	1.1	92				113.9	119.9				<0.01			16/5
						111.5 - 111.7: Fracture zone + clay + sulphides - possibly									
112.9	115.4	2.2	88			slickenlinched	119.9	116.0				0.05			16/6
115.4	117.0	1.6	100			116.8 - 116.9: SHEAR - clay/sand band grading down									
						to a light bleached siltstone.									
117.0	121.5	4.5	100												
						118.5 - 118.8: Qtz vein - no minerals 10°/ca.									
121.5	123.0	1.5	100												
						119.0 - 176.4: SILTSTONE - SILICIFIED.									
						sugary texture.									
						121.2: Qtz vein + minor sulphides.									
						121.5 - 121.7: X-cutting Qtz veins + minor sulphides									
						+ somewhat altered									
						121.9 - 122.8: Fracture zone, broken bleached									
						siltstone.									

HOLE NUMBER HMDDH3 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB Au			Sample No
123·0	125·1	2·1	100	NQ											
						123·5: X-cutting qtz veins in a siltstone	123·5	124·5				0·04			16/7
						siltstone + arsenopyrite - enhanced X'lls + minor									
						py = 1st appearance of APY.	124·5	125·5				0·07			16/8
						123·6 - 125·1: FRACTURE ZONE - Broken siltstone + qtz									
						veins heavily fractured  with alot	125·5	126·0				0·06			16/9
125·1	128·6	3·5	100	NQ											
						of PY & Stibnite - Pyrite is disseminated &									
						smeared on the qtz & siltstone. Stibnite is in									
						X'lls. Also got the PY in X'll masses. - Zone has									
128·6	132·0	3·4	100	NQ		good potential									
						121·1 - 134·0: Intermittent veining & minor min^{n}									
						127·6: Siltstone becoming a darker grey									
						131·0: qtz vein 5mm 30°/ca + minor min^{n}									
						132·8: SHEAR ZONE 5cm: clay band dark with	132·0	133·0				0·05			16/10
132·0	134·0	2·0	100	NQ		sulphides									
							133·0	134·0				0·01			16/11
						133·7: Wavy pyrite band + chalcopyrite - irregular									
						shape - infilling joint - different event.	134·0	134·9				0·01			16/12
						134·2: Qtz vein 5mm 30°/ca + PY + APY	134·9	135·9				<0·01			16/13
						stringer, serpentine + veins									
						Just below qtz vein is a disseminated									
						blob of py - bright yellow mineral - chalcop.	135·9	136·9				0·79			16/14
						- isolated patch.									
						135·1: Numerous pyrite stringers usually v thin	136·9	137·9				0·02			16/15
						< 1mm									

HOLE NUMBER HMDDH3 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB ALS Au			Sample No
134·0	137·1	3·1	100			136·1: Qtz vein 10mm vuggy + alot of PY+APY									
						stibnite + calcite x'ls. surrounded by visible bands	137·9	138·9				<001			16/16
						of PY.									
137·1	139·1	2·0	100				138·9	139·5				<001			16/17
						137·2-138·1: Bleached soft zones.									
							139·5								
139·1	141·4	2·3	100			137·6: SHEAR ZONE, small zone 5cmm of soft									
						clay, minor mineralisation.	141·0	142·0				<001			16/18
						138·2 Small disseminated blebs of py-remnant	142·0	143·0				<001			16/19
141·4	144·0	2·6	100			enhedral x'ls of PY.									
							143·0	144·0				001			16/20
						139·3. Qtz vein 20°/ca milky + clear Qtz									
						veins with blue/green halo	144·0	145·0				<001			16/21
						141·2-142·8: Multiple x-cutting Qtz veins. fairly									
						broken: 142·6: Qtz vein vuggy + PY & stibnite	145·0	146·2				0·01			16/22
						purple/grey strong mineral-gered potential zone.									
						143·8: Qtz vein 10mm vuggy - 5mm chromite									
144·0	146·6	2·6	100			enhedral x'ls of PY, bulges in the Qtz vein									
						APY in the halo.									
						145·6: Qtz vein, broken, PY+APY nuggs.									
						146·9: Qtz vein 3mm cavities, anhedral calcite									
						x'ls, infill cavities needle-like x'ls of APY in									
146·6	149·3	3·0	111			10mm grey/green halo.									
						148·2-148·35. Milky Qtz > 80% clear qtz - 20%									
						semi-sulphides.									
						149·0-149·05: 3 small Qtz veins									

HOLE NUMBER HMDDH3 PROJECT MALMSBURY DATE AZIMUTH DIP LOGGED BY SHEET OF

CORE RECOVERY From	To	Rec	%	Size	Graph Log	DESCRIPTION	ASSAYING From	To				LAB			Sample No
149.3	152.4	3.1	100			152.8-153.0: Qtz-broken.									
						153.8-153.9 Silicious chloritic rock with alot									
152.4	153.6	1.2	100			of sulphides									
						155.8: Qtz vein 2mm sheeted with Py +									
153.6	156.0	2.0	83			stibnite a few xlls but predominantly disseminated.									
						156.7: Qtz vein 5mm + sulphides									
156.0	158.5	2.5	100												
						157.0-157.1: white/yellow sandstone + sulphides									
						possibly an old stream gave.									
158.5	161.0	2.5	100												
						157.5: Qtz vein + Py chlorites + APy.									
161.0	162.7	1.7	100			161.8-162.0: Qtz blow/vein enriched xlls of									
						Py + stibnite 5-10% - last of the major Qtz	161.0	162.0				<001			16/23
162.7	164.7	2.0	100			veins.									
							162.0	162.7				0.05			16/24
						168.0-169.0: Numerous X-cutting Qtz veins									
164.7	166.3	1.6	100			a width 5mm, gave mineralisation with Py									
						& APy (stibnite) - maybe ~~west~~ west reef - though									
166.3	168.0	1.7	100			very small.									
						169.0-176.4	168.0	169.0				0.03			16/25
168.0	171.0	3.0	100			Silicified Sediment with minor Qtz veins									
						- barren.									
171.0	174.5	3.5	100												
174.5	176.5	2.0	100												
	E.O.H.														

DRAFT

NO BIB #

E.L. 2548. BELLTOPPER HILL DRILLING PROGRAM, MALMSBURY, VICTORIA
ANNUAL REPORT FOR PERIOD ENDING 20th DECEMBER, 1991.

AUTHOR: A.M. CLAYTON

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APPENDICES:

APPENDIX 1 : ASSAY RESULTS

APPENDIX 2 : (A) PLAN OF ASSAY INTERSECTION
(B) PLAN OF SURVEYING COMPLETED.

ABSTRACT

Drilling was carried out on Belltopper Hill, an area 3.5km NW of Malmsbury. A total of 7 holes were drilled along possible strike and depth extensions of the Leven Star reef.

Assay results returned one encouraging result but overall were quite disappointing.

KEYWORDS

Location name: Belltopper Hill, Malmsbury.
AMF/AESIS Thesaurus; gold.
Environment of mineralisation; sedimentary.
Commodities/mineral name; Au.
Exploration methods; drilling, geochemistry.

AMG MAPSHEETS

Drummond (7723-1-3)

SUMMARY

A series of seven holes were drilled for a total of 1195 metres to test for strike and depth projections at the Leven Star reef. Overall the results were disappointing as only drill hole LSDDH9 showed any significant mineralisation. This was somewhat surprising as the structure was intersected in every hole.

After a break over winter, drilling recommenced in December. The aim of this program was to test for strike extensions of the Hanover System and whether or not this influenced the Leven Star. Assaying is not complete and results will be forwarded in the 6-month summary report.

Further drilling is planned for the Leven Star but the number one priority is to drill the May Queen anticline. The aim is to explore for superimposed saddle reefs beneath the May Queen saddle.

INTRODUCTION AND TENURE

E.L.2548 was granted on December 21st 1990 for an initial period of 2 years.

The prime exploration target is the Leven Star reef which was first discovered in 1936. The Leven Star reef occupies a strongly sheared fault zone, crops out over about 210m and strikes north-easterly, dipping steeply eastwards. The quartz reef is reported to be up to 0.5m wide in a shear zone about 1m wide. Published grades range from 2g/t Au to 9.3g/t Au (Bold 1982). Taylor (1968) stated that metallurgical difficulties due to the presence of antimony in the form of stibnite (Sb^2S^3) led to the lode not being exploited by early miners.

GEOLOGY

The Belltopper Hill area comprises lower Ordovician slates, shales and coarse, massive gritty sandstones, which have been tightly folded about steep axial planes striking north north-west. Wavelength is approximately 300 metres although local reversals in bedding have been recognised which probably define parasitic folding. The sedimentary sequence is covered by alluvials on the northern slopes at Belltopper Hill and the area to the south-west is partly covered by basalt lava flows of the 'Newer Volcanics' of Quarternary age.

Moderate to strong faulting cuts the folded stratigraphy striking dominantly north-west to north-north west and dipping at intermediate to high angles in either direction. Mineralising fluids channeled through these brittle structures formed auriferous quartz lodes with greater width. Antimony as stibnite and other

sulphides are present in the quartz veins.

EXPLORATION RESULTS

A total of seven holes were drilled to test for strike and depth projections of the Leven Star reef. The first drill hole (LSDDH7) was crucial in terms of potential tonnes. It was a deep hole and intersected a well mineralized zone consisting of numerous cross-cutting quartz veins and sulphides between 290-315 metres. It was a disappointing hole as field observations were encouraging but assay values were poor, with a best intersection of 0.55m @ 0.25gm.

The second drill hole was also disappointing. (The Leven Star) — ? structure was intersected between 135-145 metres with a best intersection of 0.45m @ 1.16gm. The Missing Link lode (Crown Reef) was probably intersection between 160-195 metres with a best value of 0.5m @ 0.67gm. This hole cast doubt on the potential of the reef south-west of the shaft.

The next hole (LSDDH9) was drilled in a SE direction and was easily the most encouraging with an intersection of 5.5m averaging 5.76gm. This well mineralised intersection also indicated a shift of approximately 10 metres to the south-east which confirmed Taylor's observation in 1969.

The next two drill holes (LSDDH10 and 12) were drilled on the ridge in the direction of Butchers Gully. These holes were a setback as no significant mineralisation was intersected. From the results it seems the Leven Star reef may die out around the 10400E area.

A shallow hole (LSDDH11) was drilled on a hard rock band corresponding to Leven Star with a strike of 45°. This was an interesting hole as low values were obtained from surface down to 2.5 metres but quickly faded into background values with depth.

The final hole (LSDDH13) was drilled in a south-east direction. A silicified siltstone/sandstone band with strong mineralisation was intersected between 155-185 metres, assay values were poor with a best value of 0.75m averaging 1.71 gm.

DISCUSSION

From the results the strike length of the Leven Star is approximately 300-350 metres. South of the shaft disappointing results were obtained, as only low grades and width were intersected. This may be explained by faulting. Planet (1970) recognised a swing towards the south of the south westerly extension of the Leven Star strike, and thought it was probably due to the influence of the O'Connors shear pattern upon the near surface manifestation of the Leven Star structure.

The northern extension of the Leven Star reef contained some interesting results. LSDDH9 was encouraging with easily the best grades and widths. No significant intersections were recorded in LSDDH10 and 12 which could be due to a number of reasons.

(i) auriferous mineralisation dies out i.e. no strike extension.

(ii) faulting.

If faulting had occurred then drilling may not have been deep enough. The outcrop is poor and thus difficult to test this theory on ground evidence.

The mineralized zone intersected in LSDDH13 corresponds to a strike of approximately 10100N compared to the normal strike of the Leven Star of 10055N. This may be evidence of a shift assuming the mineralised zone is the Leven Star. It may be worth further investigating this area as something peculiar is happening here.

RECENT WORK

In the latter half of the year work slowed down due to winter and the failure to complete a satisfactory landowners compensation agreement with Mrs H. Burke.

Drilling recommenced at Malmsbury in December. The aim of the program was to test for strike extensions of a sub-parallel structure known as the Hanover' System. The Hanover System is composed of 3 parallel reefs, the east middle and west reef, 130 metres separate the east and west reefs.

The first drill hole HMDDH1 was drilled into the southern edge of old workings from the east reef. The aim was to intersect both the east and middle reef and to determine whether or not the Leven Star mineralisation is associated with the Hanover System. There is quartz, sulphide and silicification over a considerable length of this 180 metre hole. The Hanover System to the north of the first drill hole was reportedly very rich.

A second hole nearer the Leven Star shaft was drilled to test for strike extensions at the east reef. Initial field observations are not encouraging as only a small mineralised zone was intersected. A third hole was drilled in a westerly direction to intersect possible extensions of the middle and west reef. There is pyrite, arsenopyrite and quartz over a fair portion of this 176.0 metre hole.

Assay results are unavailable and will be forwarded on in the six-monthly summary report.

PROPOSED FUTURE EXPLORATION

The number one priority is to drill the anticline structure which hosts the May Queen, United Kingdom and Achilles Mines. This requires a landowner's compensation agreement to be negotiated with Mrs H. Burke, who so far has shown a great reluctance to have any dealings with Pittston.

Also of high priority is to drill the United Kingdom area as old records indicate the areas was not thoroughly exploited.

Work on the Leven Star and Hanover System will depend on the most recent drilling, but the Leven Star reef will require further drilling to delineate the structure NE of LSDDH11. Reverse circulation drilling may be used to infill the diamond holes. This will allow a more accurate assessment of grade and width of the Leven Star reef and be more economically viable.