

DIAMOND DRILLING

010

TOWNSHIP: Foleyet

REPORT NO.: 16

WORK PERFORMED BY: Hudbay Mining Ltd.

CLAIM NO.	HOLE NO.	FOOTAGE	DATE	Νοτε
P 603815	F-82-5	121.9m	Nov/82	(1)
P 626298	F-82-1	129.8m	Oct/82	(2)
	a su an	a second a second s		
	ADDH	251.7	$\sim$	

Notee			
NULESI	(1)	#10-83	
	(2)	#11-83	



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HUDBAY MINING LTD. DDH LOCATION SKETCH

Scole: 1:2000 (Imperiol)

		DI	AMOND DRILL RECORD & LOG									
LOCAT	ION:	ROAD GROUP "A"	PROPERTY: FOLEYET						HOLI	ENO: F-	82-5	
LATIT INCLI AZIMU START COMPL PURPC	TUDE: L IN: -5 JTH: 270 TED: 82- LETED: 8 DSE: To	0+20S DEPARTURE: 1+25E 0 0 11-14 2-11-16 test an EM Conductor	LENGTH: 121.9m CORE SIZE: BQ DIP TESTS: -45 <sup>0</sup> @ 121.9m	ELEVATIO DRILLED DRILLED	DN: BY: B FOR:	radley Hudbay	Bros Ltd Mining L	td.	CLAI SECI LOGO DATH	IM NO. P6 TION: SED BY: SED BY: S LOGGED:	03815 M.P. Corr: 82-11-17	igan
MET	TRES	DESCRIP	TION	SAMPLE	METI	RES	LENGTH			ASSAY	S	
From	ТО			NO.	From	To		Au	Ag			
0 17.1	17.1 36.9	Overburden <u>Talc-Chlorite-Carbonate Unit</u> - medium grey to greenish - fine grained to aphanitic - talc-chlorite alteration has obsect (50-60% talc-chlorite) - unit appears tuffaceous as @ stat - talc imparts a greasy feel to the - 40-50% carbonatized; carbonate of occasionally to 3 cm; @ 40 <sup>O</sup> -60 <sup>O</sup> TC2 (50cm) & 28.8m (30 cm) - fault gouge @ 19.3m (1 cm), 24.2m 31.9m (3 cm) & 32.1 (2 cm); all fau - brecciation is common, as @ 28.9m - talc content decreases with dept - Tr disseminated Py along fracture - lower contact sharp @ 70 <sup>O</sup> TCA	cured the original rock-type rt of the hole e core ccurs within 5-10mm stringers; A; local ankeritic zones @ 17.9m m (10 cm), 25.3m (5 cm),29.4m (1cm), alts @ 60° TCA m h, while carbonate content increases es	1399 1400 1401	21.9 28.0 32.9	23.4 29.5 34.4	1.5 1.5 1.5	nil nil nil	tr nil nil			

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MET	ARES	· · · · · · · · · · · · · · · · · · ·	SAMPLE	MET	RES	LENGTH	T		ASSI	AYS		
From	TO	DESCRIPTION	NO.	From	To	1	Au	Ag	, ,		1	
· · · ·	· ·		1	, <b>,</b>	<u> </u>	·	OZ/T	oz/T			1	
36.9	44.4	<u>Chlorite - Carbonate Unit</u> - fine grained	1402	38.4	39.9	1.5	nil	nil	}			
		<ul> <li>original rock-type obscure</li> <li>unit is much more competant than the previous one</li> <li>60% carbonate + 40% chlorite (includes minor sericite)</li> <li>a crude banding developed owing to alternating chlorite-rich &amp;</li> </ul>										
		- Tr disseminated Py along fractures - Iower contact gradational, set @ 60° TCA									1	
44.4	53.9	Talc-Chlorite-Carbonate Unit - same as @ 17.1 m except.							1		1	
,		- more competant	1403	44.4	45.9	1.5	nil	nil	,		1	
		<ul> <li>@ 48.3m a 1.0 m section becomes very chloritic &amp; 5-10%, 1-2mm, anhedral to subhedral chloritoid xenocrysts occur; no preferred orientation; chloritoid persists throughout the unit</li> <li>@ 49.9m &amp; 51.1m ash &amp; lapilli(?) beds to 30 cm; heterolithic &amp; altered fragments; @ 60° TCA</li> <li>Tr diss Py along fractures</li> <li>lower contact sharp @ 75° TCA</li> </ul>	1404	50.9	52.4	1.5	nil	tr				
53.9	60.5	<pre>Chlorite-Carbonate Unit - same as before @ 36.9m except: - initial 50cm contains a light green talcose mineral (brucite?) - chloritoid re-appears @ 55.0m (1.0m section); &lt;5% in 1-2mm clots - carbonate stringer content decreases to 10% beyond 58.3m; unit becomes much harder &amp; slightly silicified - lower 60 cm is intermixed with underlying graphite zone &amp; displays</pre>	1405 3	59.5	60.5	1.0	0.001	tr				
		- Tr disseminated Py along fractures - lower contact sharp @ 70° TCA										

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MET	RES		SAMPLE	MET	RES	LENGTH			ASSA	YS		
From	То	DESCRIPTION	NO	From	То		Au	Aq	Zn			
	·						oz/T	oz/T	8			
60.5	76.5	Rhyolitic Tuff									1	ĺ
		- hosts the conductor (62.2m to 75.0m)	1406	60 5	<b>60 0</b>					. [	1	İ
		- light grey to buff coloured	1400	00.5	60.9	0.4	nil	tr	0.09	. 1	ł	i
1		- fine grained	1407	60.9	62-2	1.3	nil	nil				1
		- initially sericitized but silicification increases with depth	1408	62.2	64.1	1.9	nil	tr	-	1		l
		- @ 60.5m a 40 cm zone of finely laminated & silicified graphite	1410	65 0	65.0	0.9	nil	tr	0.60		I	1
		which is weakly to non-conductive; minor Py in whisps parallel to	1411	66 5	67 4	1.5	tr	tr	0.06	1	i	1
1		Dedding @ 80° TCA	1412	67.4	69 1		0.002	tr	0.04	1	I	
		massive by some limitly (?) appear; cream coloured; marks the start of the	1413	69.1	70.0	0.9	nil		-	1	i	
		- @ 62 2m massive By in blacks in 25	1414	70.0	71.5	1.5	nil	tr tr			•	
		in-situ: a subsdral fine grained Du alean to have been brecciated	1415	71.5	72.8	1.3	nil	++				
		"marcasitic" massive-type of Py	1416	72.8	74.3	1.5	nil	nil	_			
	•	- unit becomes banded @ 62.5m; may be a fragment survey a la track	1417	74.3	76.5	2.2	nil	tr				
		bed; % graphite increases with depth in this portion of the										
		- @ 64.1m a 90 cm zone of silicified graphite with folcie fragments										l
		- @ 65.0m a 5.0m mixed zone of graphitic fragmental and massive Bu	}		}			1	}			{
		bands (sulfides end @ 68.8m) @ 70°-80° TCA										1
		- breccia zones @ 67.6m (30cm) & 68.3 (5cm); both contain angular		1					1			
1		to subrounded, non-aligned fragments in a quartz-carbonate cement			· ·							
		- @69.1m, distinct 0.5-1cm, fusiform-shaped, light grey lapilli in										
		a black matrix $= 870$ $\oplus$ the matrix			{	(	(					
		colour.										
		- @72.8m graphitic fragmental gener De forework (a)							1			
		@ 73.lm; graphitic sections are not as silicones as he for						}	1		1	
		- lower 70 cm is kaolinized and displays broosistic		}								
		- $<5$ % matrix carbonate + 50% carbonate in 1-2mm stringers & waring							ļ		i	]
		angles within the graphitic zones									l	
· [ ·	1	- lower contact diffuse, set @ 75° TCA				1					l	
1					1							
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MET	RES		SAMPLE	MET	RES	LENGTH			ASSA	/S	~	
From	To	DESCRIPTION	NO.	From	То		Au	Ag				
							oz/T	oz/T				
76.5	121.9											
		- light brown to greenish/grey	1418	76.5	78-0	1.5	nil	ni 1				
		= asn & [ap]]]]				1.5	1111	1177			1	
		stringers @ 300-500 mca	1419	79.4	80.4	1.0	nil	tr	ł	1	1	
		- @80.4m a l.0m graphitic-lapilli breccia zone za iz zuwie	1420	80.4	81.4	1.0	nil	nil				
		(non-conductive with 1-3% disseminated Po)	1421	81.4	82.4	1.0	nil	nil				
		- indistinct grey (darker than the matrix) lapilli occur beyond the	1422	83.6	84.6	1.0	nil	nil			Ì	ļ
		graphitic unit.	1423	95 2			1				1	
}		- very tight, negligible carbonate; very highly silicified	1423	03.3	80.8	1.5	nil	nil		.	•	
	ľ	- distinct white plagioclase ash beds common	•									
		rock fragments)	1424	96.3	97.8	1.5	nil	nil				
		- alternating lapilli and ash have 6 co0 mon a station of										
		more distinct & common with donthy the selection of the s	1425	106.4	107.9	1.5	nil	nil		l l	1	ĺ
		and a control of control with depth; tan coloured lapilli to 5cm.	1426	112.2	113.7	1.5	nil	nil				
1 .		NOTE: Core checked with spectrometer & UV lamps no success	1427	117.7	119.2	1.5	nil	nil			ı	
		were obtained.									j •	
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						}			1			

4 . -100'20 لام F-82-1 -50° 075°Az. 626298 : 2 |---3 <del>ېلې دې پېلېرې د دې ور وې ورو دې د</del>ې د د دې وکېلې کې ولوکې کې وکېلې د د وې وکېلې د د وې د د وې د د وې و د د د وې HUDBAY MINING LTD. DDH LOCATION SKETCH Scole: 1:2000 (Imperial)

PROPERTY:

FOLEYET

LOCATION: MAG GROUP (EAST CONDUCTOR)

To test EM Conductor

DEPARTURE: 2+40E

LATITUDE: L8+00S

AZIMUTH: 0750

INCLIN:

PURPOSE:

-50<sup>0</sup>

STARTED: 1982-10-28

COMPLETED: 1982-10-30

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LENGTH: 129.8m CORE SIZE: B.Q. DIP TESTS: 129.8m, -50° ELEVATION:

DRILLED BY: Bradley Bros. Ltd. DRILLED FOR: Hudbay Mining Ltd.

CLAIM NO. P626298 SECTION: LOGGED BY: M.P. Corrigan DATE LOGGED: 1982-11-01

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HOLE NO: F-82-1

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MET	TRES	DESCRIPTION	SAMPLE	METH	RES	LENGTH			ASS	SAYS	 
From	То		NO.	From	То		Au	Aσ			
0 ·	8.5	Overburden	-		•		oz/T	oz/T			
8.5	21.9	DACITE TUFF - medium green in colour - initially ash, but lapilli are common in the heterolithic central portion of the unit (@ 10.8m to 13.7m); bedding @ 30-40° TCA - lapilli are rounded to subangular and inter-mixed with angular graphitic clasts to 4 cm - brecciation evident @ 18.6m; fragments are encompassed by carbonate. - 0.5 to 2 cm quartz-carbonate veinlets @ various angles TCA; <5% carbonate overall, locally to 50% over 0.2m - concentrically-zoned pisolites (?) to 1 cm in chill-zone @ 14.2m - undulatory laminae @ 14.4m - rusty slickenside surface (parallel to strike) @ 19.1m, 1-2mm wide - tr disseminated Po along fractures, locally to 5% intermixed with graphitic clasts - unit is silicified & chloritic - lower contact gradational based on decrease in hardness due to an increase in chlorite content; @ 35° TCA	701	10.8	11.8	1.0	nil	nil			

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MET	.'RES	1	SAMPLE	MET	IRES	LENGTH	1		ASS/	AYS		
From	To	DESCRIPTION	NO.	From	To	1	Au	Ag	· · · · · · · · · · · · · · · · · · ·	· · ·		
	1	1 · · · · · · · · · · · · · · · · · · ·	,	,			oz/T	oz/T	,	,	,	-
21.9 /	1 29.11	DACITIC FLOWS	/	1					1	-{ ·	1 '	
,	1 . 1	- medium to light green	,						1 '	'	1 '	
<b>,</b>	1	- upper contact chloritized and bleached; grades into a 10cm zone							1	'	1 '	
, <b>,</b>	1 1	or 3-5cm randomly-oriented acicular olivene (?) crystals			•					1 '	1 '	
, ,	1	very fine grained "chilled" zones (the combination of the two may					1			'	1 '	
, ,	1 1	( represent one flow); $\sim$ 5-8 flows								·   '	1 '	
1	1	- if this unit consists of pillows, the selvages are obscure							1	,	1 '	
i '	1 '	- unit is silicified & chloritized with 5-8% carbonate in fractures			}					1 '	1	1
I '	1 )	- 0.50m muscovito (2. brown might aleta a								1	· ·	.]
ł '	1 1	- flow top breccia @ 23.9. 26.9. fragments in a carbonate metuin							1	·   ·	1	
1	1	- lower 0.5m of unit is intermixed with tuffaceous beds							1	1 '	1	
1	1. 1	- no significant mineralization							ł	, , , , , , , , , , , , , , , , , , ,		
ľ	1 '	- lower contact sharp @ 40° TCA				1						
29.1	36.0	DACITIC TUFF										
1 .	1 '	- as before @ 8.5m. except:										
1	1 '	- rare lapilli			1							1
1	1	- 4cm quartz-carbonate veinlet, with acicular tourmaline crystals,						1				
1	1 '	@ upper contact; followed by 1.5m of sausseritized ash & 3-5mm										}
	1	pisolites (this portion of the unit contains 10% carbonate, locally to 50% over 30-40 cm)										
1	1 '	- 1 cm concordant carbonate veinlets (beds?) common; @ 30-40° TCA									ł	
1	'	- pisolites re-appear @ 31.1m to 31.6m and 32.3m to 32.6m; lower					1				1	
1	1 '	- breccia zone @ 34.1m to 34.4m	}									
1	1 - 7	- ash and rarer lapilli common beyond breccia zone										
1	1 '	- tr disseminated Po along fractures, locally to 3% in breccia zone								1		
1	1	- lower contact sharp @ 50° TCA.		•								
1	1 '	1				ł						
<u>.</u>	,											
1	1 '										•	
1	1 '											'
												!
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MET	RES		SAMPLE	MET	RES	LENGTH			ASSAYS		_
From	To	DESCRIPTION	NO	From	To		Au	Aq			
36.0	47.5	DACITIC FLOWS - as before @ 21.9m - several flows present - one flow @ 39.2m to 41.2m has medium grained crystal mats; appears gabbroic textured the field (2) @ 22.4 to 20.0	702	45.0	45.6	0.6	oz/T	oz/T			
		<ul> <li>turf bed (?) @ 37.4m to 38.3m; possibly a very fine grained flow</li> <li>acicular olivene crystals(?) appear to be less randomly oriented than previous unit; does not appear to be a spinifex texture</li> <li>bleached, aphanitic, portions of unit between olivene(?)-bearing zone:</li> <li>@43.7m, 7cm quartz-carbonate veinlet parallel to bedding</li> <li>@ 44.4m, 2 cm quartz-carbonate veinlet + tourmaline</li> <li>@45.0m, 60cm quartz-carbonate vein + very coarse grained euhedral carbonate crystals</li> <li>fractures @ 70-80° TCA</li> <li>unit is very highly silicified</li> <li>Tr disseminated Po along fractures</li> <li>lower contact is undulatory &amp; gradational; based on disappearance of olivene(?) crystals &amp; chlorite content increase; @ 50° TCA</li> </ul>									
47.5	64.7	<pre>DACITIC TUFF - as before @ 8.5m except: - initially, ash size fragments - flow occurs @ 50.8m to 51.9m; upper contact is gradational, lower contact displays "chilling" - fragment size increases to lapilli beyond the flow - interstitial to the lapilli are concordant to discordant quartz- carbonate veinlets; quartz-carbonate constitutes 10-15% of unit, locally to 30-40% over 2.0m - @60.3m, a 60cm pisolitic zone occurs; flattened (4:1 ratio) 1-2cm x 2-5 cm pisolites @ 50° TCA</pre>	703 704 705	53.6 55.1 56.7	55.1 56.7 58.2	1.5 1.6 1.5	nil nil nil	nil nil nil			

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MET	RES		SAMPLE	MET'	RES	LENGTH	Τ		ASSAY	(S	
From	To	DESCRIPTION	NO	From	To		Au	Ag			
		<ul> <li>-@ 63.lm, 1.0m of brecciated ash; fragments are outlined by quartz-carbonate veinlets</li> <li>- @ 64.3m, bleached chill-zone; aphanitic, displays cooling-related fractures perpendicular to the lower contact; similar sequence occurs</li> <li>@ 64.5m.</li> <li>- 3-5% PO as disseminations and fragments (locally conductive) locally to 10-15% over 10-20 cm; increased sulfide content is intimately associated with the occurence of quartz-carbonate veinlets</li> <li>- lower contact is undulatory but sharp, @ 15<sup>o</sup> TCA.</li> </ul>			•		oz/T	oz/T			
64.7	65.9	<u>GRAPHITIC PELITE/PSAMMITE</u> - conductive - silicified graphite + several "net-textured" Po bands to 2 cm, intercalated with pelite and psammite beds; @30-40 <sup>o</sup> TCA - tr cpy in Po; 3-8% Po, locally massive over 1-2 cm - unit is transected by several 0.5 cm to 1 cm concordant & discor- dant quartz-carbonate veinlets - lower contact is gradational, but sharp; based on the decrease of graphitic clasts with respect to an increase in volcanic fragments; @ 40 <sup>o</sup> TCA	706	64.7	65.9	1.2	tr	nil			
65.9	99.0	<u>RHYOLITE LAPILLI TUFF</u> <ul> <li>buff-coloured siliceous, aphanitic, lapilli in a grey ash matrix;</li> <li>bedding @ 40-60° TCA</li> <li>lapilli to several cm's x ??; generally angular and fusiform-shaped;</li> <li>occasionally with 1-3mm clear quartz eyes</li> <li>Po occurs interstially and/or as fragments; intimately associated</li> <li>with % carbonate; 3-5% locally to 10-15% in graphite-rich zones</li> <li>initial 1.5m of the unit is intermixed with graphitic metasediments</li> <li>chloritic fragments impart a green colour to some portions of unit</li> </ul>	707 708 709 710 711 712 713	65.9 66.9 71.8 74.8 77.8 81.1 84.1	66.9 68.8 73.3 76.3 79.3 82.1 85.1	1.0 1.9 1.5 1.5 1.5 1.0 1.0	nil nil nil nil nil nil	nil nil nil nil nil nil			

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MET	RES	1	SAMPLE	MET!	RES	LENGTH	T		ASSA	YS		
From	To	DESCRIPTION	NO.	From	To	<u> </u>	Au	Aq	Zn	1		
1	1 1	1	1		, ,		pz/T	OZ/T	8	1		1
1	1	- siliceous labilli display cooling fractures and reaction rims	1	1 1	1	1	1 '	1 '	1 1	1		1 '
ļ	1 * *	(welding?)	714	96 4	1 07 9	1 1 5		1 -11	1_1	1	1	1 '
1	1 1	( - portions of the unit appear to be fragments within blocks	715	89.7	1 91_1	1 1 4	nil nil	nil	$I \equiv I$	1	1	ť '
ļ	1 1	- sulfide fragments @ 91.7m	1 716	91.1	91.8	0.7	nil '	1 nil		1		ŧ '
1	1 1	1	717	91.8	1 93.4	1 1.6	nil '	nil	1 - 1	1		1 '
ļ	1 1	- unit is very tight, few quartz-carbonate veinlets or fractures	718	93.4	1 94.8	1.4	nil	nil	1 - 1	1	1	1 '
ļ	1 1	1	719	94.8	95.0	0.2	nil '	nil '	10.08	1	ļ	1 '
ļ	1	-23cm graphite-rich (Po-bearing) zone @ 94.1m	720	95.0	96.0	1.0	nil '	nil '	1 - 1	1	1	1 '
•	1 '	- 5-10% carbonate; increases to 15-20% with depth	721	98.0	99.0	1.0	nil '	nil '	1 - 1	1	l I	1 7
1	1 1	- lower contact gradational, but sharp; intermixed with underlying	1	1 1	1	1	· / ·	1 '	1 1	1	J	1 '
1	1 1	graphitic unit; @ 40° TCA	1	1 1	1 '	1	1	1 '	1 1	1	ļ	1 /
99.0	1 100.6	GRAPHITIC PELITE/PSAMMITE	1	1 1	1 '	1	'	1 '	1	1	ļ	1 1
1	1 . 1	-Silicified graphite beds alternating with pelite/psammite laminae	722		1 100 6	116		' _ ـ ـ '	1 1	1	ł	1 /
,	1 1	to several cm's	122	99.0	1 100.0	1.0	0.003	/ nii ,	1 1	1	ļ	1 1
, ,	1 1	- graded bedding @ 99.4m, fining downhole	1	1 1	1 '		'	1 '	1	1	J.	1 7
!	1 '	- 8-10% Po as whisps & disseminations; whisps are concordant to	1	1 '	1		1 '	1 '	1 !	1	}	1 7
,	1 '	discordant ; Po is intimately associated with carbonatized fractures	1	1 '	1		} '	1	1 1	1	ļ	1 1
, ,	1 '	(Po is likely remobilized or secondary)	1	1 '	1	1	1 '	1 '	1 )	1	ļ	1 7
, ,	1 !	- offsetting of graphite beds evidenced by "Z" fractures & outlined	1	1 '	1	1		'	1	1	1	1 7
,	1 '	by carbonate & crenulations	1		1		,	1	1 1	1	ļ	1 7
· · /	1 1	- tr Cpy in & about Po	1	'	1	1	1	1	1 1	1	ļ	1 1
1	1 '	1 - 10 - 20% carbonate	1	1				1		1	1	1 7
1	1 7	- lower contact sharp @ 45°C	1	·   ·				1 '	1	1	. 1	1 1
100.6 /	129.8	RHYOLITIC LAPILLI TUFF	1	'				1	+	1	ļ	
,	1	- as before @ 65.9m	723	100.6	102.1	1.5	nil	nil	1 '	1	, I	1 7
,	1 '	[- @ 114.2m, whisps of Cpy	724	102.1	103.6	1.5	nil	nil	1 - '	1	. 1	1 1
. /	1 '	- @ 120.1m, minor fold or slump	725	103.6	105.1	1.5	nil	nil	1 - '	1	, I	1
· /	1 '	- up to 20% carbonate in chlorite-rich portion of the unit	726	108.7	110.2	1.5	nil	nil	1 - '	1	, I	1 7
,	1 '	1	727	112.9	114.4	1.5	nil	nil	1 - '	1	, I	1
,	1 '	1 · · · · · · · · · · · · · · · · · · ·	728	114.4	116.1	1.7	nil	nil	- '	1	, I	1 7
'	1 '	1	729	116.1	118.5	2.4	nil	nil	- '	1 1	, J	1 1
,	1 '	1	730	121.0	122.5	1.5	nil	nil	'		ر <u>ا</u>	1
•	1 '	NOTE: Core sharked with encohromator and II IV James no provelance	731	125.4	126.9	1.5	0.001	_ nil	- '		1	1
,	1	NOTE: Core checked with spectrometer and U.V. Lamp; no anomalous	732	128.7	129.8	1.1	nil	nil	- '		. !	
I	1 '	resurts were obtained.	1.						'	1 1	. 1	
1	1		1						1		, 1	

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