DIAMOND DRILL



010

TOWNSHIP: Ogden

REPORT No.: 21

WORK PERFORMED BY: Amax Minerals Exploration

CLAIM No.	HOLE No.	FOOTAGE	DATE	NOTE
P 567100	1043-01-2	204.0 m	Aug/81	(1)
P 567102	1043-01-3	195.0 m	Aug/81	(1)
P 549066	1043-02-2	201.0 m	Sept/81	(1)
P 549063	1043-02-3	219.0 m	Sept/81	(1)

Notes: (1) #512-81

DIAMOND DRILL RECORD

Hole No. 1043-01-2

	The state of the s				
Hole No. 1043-01-2 Sheet Property 1043-01, Ogden-1	Length 2040 metres Bearing 344	Commenced August 14, 1981 Completed August 21, 1981	Dip: Collar -45 ⁰ 0 344 ⁰	Location Sketch	North
Township Ogden	Dip -45 ⁰	Completed August 21, 1961 Drilling Co. St. Lambert	Etch Test Depth Rdg. True	4 4 4 4 4	·
Location L375E, 400S	Objective Stratigraphy informa-	Core Size BQ	1 150.0m 53 ⁰ 45 ⁰	A THE STYPES	
	tion	Casing Left/Lost in Hole 20 metres	2 200.0m 48° 40°	A River	
Logged By J. MacPherson		- casing			Claim No. P.567100
Core Location Timmins Offic					
				1 1 1-15-1-14003	Scale: 1:30,000
Remarks				1 1 1 1 1 1 1 1 1 1	
· · · · · · · · · · · · · · · · · · ·		***************************************		1045-01-7	

rootage	/ Metres	DESCRIPTION	
From	То		
0	37.0	OVERBURDEN	
37.0	40.7	UNDIFFERENTIATED SEDIMENTS	
40.7	43.25	ULTRAMAFIC FLOW	
43.25	58.50	MUDSTONE - SILTSTONE	
58.50	66.0	SILICIFIED SEDIMENTS	
66.0	70.3	SILICEOUS FLOW TOP BRECCIA	
70.3	87.7	RHYOLITE - RHYODACITE FLOWS	
87.7	90.1	ARGILLITE (INTERFLOW SEDIMENT)	
90.1	91.8	RHYODACITE	
91.8	93.0	INTERMEDIATE TUFF	
93.0	94.6	DACITE	
94.6	98.8	RHYODACITE	
98.8	99.7	INTERMEDIATE TUFF	

g. More Pcherson

Hole No. 1043-01-2
Sheet No. 2

Foo	tage		_
From	То	DESCRIPTION	
_99_7	100.1	DACITE	
100.1	100.3	ARGILLITE	
100.3	104.4	RHYOLITE/RHYODACITE	
104.4	107.0	RHYOLITE	
107.0	111.8	INTERMEDIATE TUFF	
111.8	118.8	RHYODACITE/DACITE FLOWS	
118.8	122.6	INTERMEDIATE TUFF/DACITE FLOWS	
122.6	125.8	RHYOLITE FLOW, FLOW TOP BRECCIA	
125.8	128.2	DACITE-ANDESITE	,
128.2	131.8	ANDESITE-BASALT	
131.8	137.8	INTERBEDDED BASALT FLOWS AND INTERMEDIATE TUFF	
137.8	151.05	BASALT FLOW	
151.05	204.0	CARBONATIZED MAFIC TUFFACEOUS SEDIMENTS AND TUFFS	
	204.0	END OF HOLE	i i
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			1
			1
			-
			-
	l		1

Hole 1	No. 1043-01-2
	No3

Foot		DESCRIPTION
From	То	
_0	37.0	OVERBURDEN
		sand, clay, then clay + boulders
		THE PROPERTY ATER CERTIFIATE
37.0	40.7	UNDIFFERENTIATED SEDIMENTS
		Broken core. Quartz vein intruding sediments. Vein carries <1%
		tourmaline and no sulphides. It contains inclusions of sediments which
		appear to be a siltstone - mudstone poorly bedded, with the occasional
·		quartz eye. Contacts are sharp and sediment is altered for about 5cm
		into host (mainly chlorite). No carbonate present.
		into nost (mainly chiorite). No carbonate present.
	10.05	ULTRAMAFIC FLOW
40.7	43.25	ULTRAMAFIC FLUM
		talcose, soft. No mineralization
		tarcose, sort. No minerarization
	F0 F0	MUDSTONE - SILTSTONE
43.25	58.50	
	<u> </u>	siltstone, as above. Chlorite alteration very apparent. A number of
	 	barren narrow quartz veinlets visible. There are also quartz carbonate
		blebs in sections of the rock.
	 	DICUS III SCOTONO S
		41.3 - 41.5 Quartz veinlet
	 	44.8 - 45.3 Quartz carbonate blebs in mudstone. About 10% carbonate
	 	
	 	Note: from 46.5 to 48.2 the mudstone/siltstone is pervasively carbona-
	-	tized up to 15% Amount of quartz - carbonate eves has disc
		increased, as has the intensity of the alteration around the quartz
		carbonate tourmaline veins.
	 	49.4 - 49.6 Narrow quartz carbonate veinlet. No mineralization.
	 	50 25 50 85 Quartz carbonate tourmaline vein. White bull quartz
	-	with up to 15% tourmaline locally and pervasive carponatization up to
	+	20%. Alteration haloes extended about 10cm into host sediment. No
	+	gulphido minoralization
	 	52.9 52.5 Quantz = carbonate vein as per 50.25 - 50.85. A few
	+	more inclusion of host sediment here. Contacts are also a little more
	 	gradual:
	+	
	+	

DIAMOND DRILL RECORD

Footage		DESCRIPTION
From	То	
		@ 54.3 - Angle of core to faint bedding is 61 ⁰
		Note: that from 52.5 - 55.0 the mudstone is much more altered than
		earlier. Numerous quartz - carbonate veinlets cut the rock
		here at various angles.
		54.4 - 54.9 Highly altered region. Siliceous, carbonatized up to 50%
		54.6 - 57.0 Mudstone is slightly coarser grained.
		@ 57.6 Contact between fine + coarser - grained material is at 58° to
		core axis.
		i i
58.5	66.0	SILICIFIED SEDIMENT
		VALAVA ETT YEAR (UI)
		Rock is much more siliceous but still a sediment. Amount of
		pervasive carbonatization and veining lessens downhole. Rock is
		alternately clean and cherty altered.
		58.5 - 59.8 Silicified mudstone - argillite. Local alteration and
		quartz - carbonate veining apparent. No sulphides.
		59.8 - 66.0 More mafic argillite, which shows higher degree of
		alteration and silicification. About 20% carbonate in unital
	70.0	CTL TOFOUR FLOW TOD DDECCIA
66.0	70.3	SILICEOUS FLOW TOP BRECCIA
		Flow top breccia is present, as well as up to 1% po, py. Carbonatization
		no longer pervasive instead, present as narrow veinlets in flows. Minor
		amount of pervasive carbonatization in and around breccia sections. This
		is where po and py is also. Breccia sections show high degree of alteration.
		They are well rounded and matrix of breccia is less siliceous than clasts.
		THEY are not 1 founded and made 1% of 5.000.
70.3	87.7	RHYOLITE - RHYODACITE FLOWS
		These start out very siliceous and then grade slowly into more mafic.
		Contact between section of flow top breccia and true flow material is
		very sharp. Rock is light greenish grey. $S_10_2 = 70\%$, other = 10%. Silica
		content decreases downhole. There are a number of flows, each topped by
		breccia about 5cm thick.
		Carbonatization occurs in veinlets in the more siliceous flows and in
		veinlets as well as pervasively. In general pervasive carbonatization is a
		good indicator of the less siliceous flows.

Hole No 1043-01-2 Sheet No.

DIAMOND DRILL RECORD

Foo	tage	DESCRIPTION
From	To	
		Rock is cut by a few quartz - carbonate veins and veinlets. Pyrite is
		present, usually in the more siliceous flows or at flow contacts disseminated
		in amounts up to 3%.
		70.3 - 73.0 Rhyolite flow. Pyrite in bands up to lcm wide.
		73.0 - 73.05 Flow top breccia
		73.05 - 77.4 Rhyodacite flow
	•	75.70 - 75.80 Quartz carbonate veinlet
		77.4 - 77.45 Flow top breccia
		Alternating rhyolite and rhyodacite flows from this point
		77.8: quartz carbonate vein
		80.0 - 80.3 quartz ankerite vein
 		81.0 - 81.7 quartz ankerite vein with minor tourmaline. Contacts with
	 	volcanics are very sharp but there is much ankerite alteration
	 	in the wall rock.
		From 82.5 - 87.7 the flows show a high degree of alteration and are pervasively
		carbonatized. Alteration haloes are present around all quartz carbonate veins
		and veinlets, as well as seams.
		and verniets, as were as seams.
87.7	90.1	ARGILLITE (INTERFLOW SEDIMENT)
0/./	1 30-1	
		Interflow sediment, probably argillite. It is well bedded and contains
		pyrite and pyrrhotite in amounts up to 4%. The sulphides are banded and
		occur in narrow beds. Argillite is pervasively carbonatized up to 50%.
	-	Angle of bedding to core at 88.0 metres is 810.
		89.5 metres is 90°.
90.1	91.8	RHYODACITE
	 31.0	
		Rhyodacite flow bordering on a tuff. Carbonate = 40%. There is an
	-	occasional pyrite or pyrrhotite bleb but these are rare.
	 	
	 	91.3 to 91.7 quartz carbonate veinlet. Sharp contacts with wall rocks. Very
	 	little alteration evident.
	-	
	-	
	-	
	+	

Hole No.1043-01-2 Sheet No.___5

т _о 93.0	DESCRIPTION
93.0	ı
	INTERMEDIATE TUFF
	Fragments are siliceous and are flattened and form an 80° angle with core axis. Matrix is dacitic and is fine to medium grained. Carbonatization is much less here and is confined to a few narrow veinlets of quartz carbonate.
	No visible sulphide mineralization.
94.6	DACITE
	Very clean with very minor sulphides. It is a light greenish grey and fine to medium grained. Pervasive carbonatization is local. It is cut by the occasional quartz carbonate veinlet.
98.8	RHYODACITE
	More siliceous flow (rhyodacite). Pervasively carbonatized throughout. It is locally highly altered. Many quartz carbonate stringers and veinlets
	are present. No visible mineralization present.
00.7	INTERMEDIATE THEF
99.7	INTERMEDIATE TUFF
	Fragments are all altered to carbonate. They are moderately well
	rounded. Very little quartz - carbonate veinlets are visible.
100 1	DACITE
100.1	DACTIL
	Massive medium grained, greenish grey in colour. Minor carbonatization. No sulphide mineralization.
100.3	ARGILLITE
	Narrow interflow sediment (argillaceous). Minor pyrite associated. Highly altered by quartz - carbonate veining.
104.4	RHYOLITE/RHYODACITE
	Rhyolite - rhyodacite flows, with interflow and flow top breccia. Strong silicification and carbonatization present locally in flows, generally in the breccia and or rhyodacite. Minor pyrite mineralization rarely visible.
	94.6

Hole No. 1043-01-2	
Sheet No. 6	

Footage		DESCRIPTION
From	То	DESCRITTON
104_4	107.0	RHYOLITE
		Numerous clear quartz eyes are visible. Quartz - carbonate veinlets are visible. No pervasive carbonatization, no sulphide mineralization.
107.0	111.8	INTERMEDIATE TUFF
		Well banded. Fragments are small (<3mm), flattened and siliceous. Rock is highly carbonatized.
		Angle of bedding to core at 108.0 metres is 840.
111.8	118.8	RHYODACITE/DACITE FLOWS
		Alternating rhyodacite and dacite flows. Quartz - carbonate veining is rare. No visible mineralization.
118.8	122.6	INTERMEDIATE TUFF/DACITE FLOWS Fragments only are carbonatize
		118.8 - 119.0 Dacitic matrix, felsic fragments. Fragments only are carbonatized.
		119.0 - 121.5 Alternating intermediate tuff and dacite flow rock generally quite clean, cut by a few quartz carbonate stringers.
		121.3 - 121.5 - Quartz carbonbonate tourmaline vein. 121.5 - 121.5 - Dacite flow
	125.8	RHYOLITE FLOW, FLOW TOP BRECCIA
122.6	1/2.8	Rhyolite flow and flow top breccia. Cut by numerous Q.C. seams and veinlets. Minor pyrite present.
		125.0 to 125.8 Rhyolite breccia. Fragments are mafic, matrix is felsic.
	·	Fragment size varies from a few mm to 2cm. No gradation of size is apparent.
125.8	128.2	DACITE-ANDESITE
		Dacite grading to andesite flow. Rock is massive, medium grained, and

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Sheet No	7

Hole No.1043-01-2
Sheet No. 8

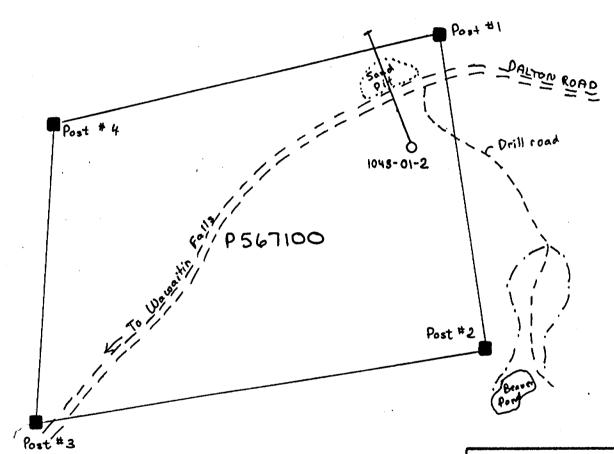
Foo	tage			
From	То	DESCRIPTION		
		greenish-grey in colour. It is cut by the occasional quartz ankerite vein.		
		less than 5cm wide. No visible sulphide mineralization.		
128.2	131.8	ANDESITE-BASALT		
		Medium grained, green and massive, very little carbonate present, except		
	<u> </u>	the occasional filled - in seam. Very minor sulphide mineralization visible.		
	<u> </u>			
		129.6 - 129.9: Quartz carbonate tourmaline vein. 1% ankerite. No sulphides.		
		Cut at very shallow angle to core.		
		130.1 - 130.2: Quartz vein, carbonated only at contact with basalt. Altera-		
		tion halo present around basalt. Up to 2% pyrite, mostly at contact with basalt.		
	-	130.9 - 131.6: Wide quartz carbonate vein with tourmaline and ankerite.		
		Appears to have a series of quartz cores surrounded by		
		quartz carbonate material. 3cm alteration halo present in		
	 	basalt. Ninor (1%) pyrite present.		
	 	busuit. Winor (1%) pyrree present.		
131.8	137.8	INTERBEDDED BASALT FLOWS AND INTERMEDIATE TUFF		
		131.8 - 132.2 Intermediate tuff. Fragments are about 1mm in size and are		
		stretched at 90° to core axis. About 20% CO. present. Quartz		
		eyes. Little quartz veining present, and no ² sulphides.		
		132.2 - 133.2 Basalt with a few felsic tuff fragments as per 131.8 - 133.2.		
ioticea		Noticeably less CO ₂ than tuff. No quartz vein sulphides. 133.2 - 137.8 Intermediate tuff, as per 131.8 - 132.2.		
		133.2 - 137.8 Intermediate tuff, as per 131.8 - 132.2.		
		134.5 - 134.7: Narrow Q.V. with carbonate running nearly parallel with core		
		axis. Tuff fragments noticeably less in the area of the Q.V		
		135.5 - 135.9: Q.V. with carbonate tourmaline. No sulphide alteration.		
	ļ	Quartz and carbonate are spread evenly throughout vein. This vein appears to have some association with more mafic sections		
		of the core, very fine grained and greenish-black.		
		136.0 - 136.1: Quartz carbonate, as per vein at 135.5 - 135.9		
	<u> </u>			
	 	136.5 - 136.9: Quartz carbonate vein, containing pure quartz clasts in a		
	 	heavily carbonated quartz matrix. Mafic section of tuff again associated with this vein. Contact with tuff is		
	1	fairly sharp. Very minor pyrite mineralization only.		
	 	rairry snarp. Very minor pyrice mineralization only.		
	 			

Hole No.10	143-01-2	
Sheet No	9	

Foo	otage	
From	То	DESCRIPTION
		137.3 - 137.9: Quartz carbonate vein, highly fragmented with quartz clasts.
		basalt clasts and tourmaline. A new pink quartz section is
		present. No sulphide mineralization visible.
137.8	151.05	BASALT FLOW
		37.8 - 141.0 Basalt flows, highly altered, with up to 3% massive pyrite
	<u> </u>	in quartz carbonate veinlets. Carbonatization is pervasive
		and in veinlets up to 30%. Small amount of serpentine is
		noted in fracture plane. Most quartz - carbonate stringers
		are at 80° to the core axis.
		141.0 - 144.8 Basalt flows, pervasively carbonatized and cut by a few
		stringers of quartz carbonate. No sulphide mineralization.
		141.3 - 141.8 Quartz carbonate ankerite vein. No sulphides.
		144.8 - 145.2 Intermediate tuff, pervasively carbonatized, cut by numerous
		stringers at 75° to core axis. No sulphide mineralization.
		145.2 - 148.2 Basalt flow 147.4 - 147.55: Quartz carbonate ankerite vein.
		148.2 - 150.5 Intermediate tuff. Up to 60% felsic fragments with highly
		carbonatized stringers running at 70° to core axis. Up to
		5% pyrite in this section.
•		150.5 - 151.05 Basalt flow, very clean. No carbonatization, silicification
		present.
151.05	204.0	CARBONATIZED MAFIC TUFFACEOUS SEDIMENTS AND TUFFS
		Highly carbonatized tuffaceous beds with bedding at 65° to core axis.
		Minor associated pyrite present. Narrow bands are also present, highly
		carbonatized, with a few narrow quartz veins and fragments. Sulphides rare
		165.0 - 166.0 - Zone of quartz vein and higher carbonate. Some pyrit
		associated (up to 5% as cubes and also disseminated).
	<u> </u>	170.6 - 171.0 - Zone of quartz vein and carbonate, up to 5% pyrite.
		From 172.0 pyrite cubes in amounts up to 7%, size from 1mm to 1cm
		From 174.5 there is much less carbonate mineralization as stringers
		Fragments are small and siliceous and laminae are less than 1/2cm wide.
		pyrite cubes may or may not be present, associated with quartz vein, but also
		in sediment only.
		This unit may indicate the end of the cycle.

Footage			
From	To	DESCRIPTION	
		Angles of bedding to core axis:	
		151.5 metres is 61	
		157.8 metres is 68°	
		163 5 metres is 70°	
		1665 metres is 81°	
I		170.5 metres is 73 ⁰	
	·	Slumping of beds is common, as are crenulations. Carbonatization is most	
		strong in the well bedded sections of the core. Pyrite cubes restricted to	
		tuffaceous sections of core.	
		182.6 - 182.7 Quartz carbonate veinlet. Rock around vein is sheared and	
		highly carbonatized.	
		165.0 - 168.0 Highly silicified and carbonatized section of core.	
		Angle of bedding with core axis at 180.2 metres is 66°.	
		198.0 - 198.4 Quartz carbonate vein	
		200.0 to end of hole Much less laminae present there. Rock is talcose and	
		black. A few fragments (siliceous) and less than 1%	
-		pyrite is present.	
	1000	END OF HOLE	
	204.0	END OF HOLE	
	 		
	 		
	 		
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	-		

Hole No. 1043-01-2	
Sheet No. 10	



AMAX MINERALS EXPLORATION

Orill Hole Location Map

HOLE 1043-01-2

Scale: 1:5,00

OGDEN TOWNSHIP

J.Mp.

Timmins

DIAMOND DRILL RECORD

Hole No. 1043-01-3

Hole No. 1043-01-3 Sheet 1 Property 1043-01, Ogden-1 Township Ogden Location L375E, 950S Logged By J. MacPherson Core Location Timmins Office	Length 195 ₀ 0 metres Bearing 344 Dip -45 Objective Stratigraphic testing	Commenced August 22, 1981 Completed August 28, 1981 Drilling Co. St. Lambert Core Size BQ. Casing Left/Lost in Hole .none	Dip: Collar —45° Etch Test Depth Rdg. True 1 125.0m 53.5° 45.0° 2 195.0m 53.0° 44.5°	Location Sketch North Claim No. P - 567 102 Scale: 1:30.000
Remarks				Scale: 1:30,000

Footage/ Metres		DESCRIPTION	
From	То		
0	12.00	OVERBURDEN	
12.0	29.65	INTERBEDDED ARGILLITE AND TUFFACEOUS SEDIMENTS	
29.65	32.40	FELSIC DYKE	
32.40	39.90	MAFIC TUFFACEOUS SEDIMENTS	
39.90	67.80	INTERBEDDED MUDSTONE - SILTSTONE AND TUFFACEOUS SEDIMENTS	
67.80	88.80	FELSIC CRYSTAL TUFF	
<u>8</u> 8.80	129.00	INTERBEDDED ARGILLITE AND TUFFACEOUS SEDIMENTS	
129.00	144.05	INTERMEDIATE TO MAFIC FLOWS AND TUFFS	
144.05	146.60	FELSIC CRYSTAL TUFF	
146.60	169.50	INTERBEDDED ARGILLITE AND INTERMEDIATE TUFF	
169.50	178.80	INTERBEDDED SILICEOUS ARGILLITE AND INTERMEDIATE TUFF	
178.80	191.00	INTERBEDDED TUFFACEOUS SEDIMENT	
191.00	195.00	ANDESITE FLOW	
	195.00	END OF HOLE	

g. More Pcherson

Footage		DESCRIPTION
From	To	
0	12.00	OVERBURDEN
12.00	23.45	INTERBEDDED ARGILLITE AND TUFFACEOUS MAFIC SEDIMENT.
		Rock consists of 70% tuff and 30% argillite.
		Tuff is well laminated, and laminae are often crenulated. Local
		slumping of laminae is also visible. Rock is highly carbonated up to
	· ·	60% in the felsic bands of the tuff. Fragments are less than 5mm in
		size, and are well rounded and highly carbonated. The tuff sections may
		be up to 10-15cm wide, but are more commonly less than 5cm in width.
		Argillite is very fine grained and black. It may show faint signs
-		of bedding. Pyrite is present in amounts of up to 10%, usually conform-
		able with the bedding.
		19.3 - 19.6: Zone of greenish alteration, about 80% carbonate.
		14.1 - 14.6: Quartz carbonate vein, with 5% tourmaline. Carbonate
		generally fills fractures in vein. Host (both sediment
		and tuff) is contorted and brecciated at the contacts with
		the quartz vein.
		16.5 - 16.9: Quartz carbonate vein, with tourmaline, as per 14.1 - 14.6. 17.35 - 17.45: Quartz carbonate vein, as per 16.5 - 16.9.
		17.55 - 17.45. Quartz carbonate vein, as per 10.5 - 10.9.
		Note: From about 20 metres to 23.45 metres the tuff dominates, and has
		become more mafic. It is well fractured, but less carbonated
		than the tuff before 20.0 metres.
		Angle of bedding with core at 12.7 metres is 750
		" " " " at 18.2 metres is 45° (tuff)
		" " " at 19.5 metres is 60°
23.45	24.00	ARGILLITE
		Argillite, greenish black, quite soft. No pervasive carbonatization
		present. Little seam carbonatization present as well. No visible
		mineralization.
	1	

Hole No	043-01-	3
Sheet No	3	····

Footage				
From	То	DESCRIPTION		
_24.00	29.65	UNDIFFERENTIATED MAFIC SEDIMENT		
		Well to moderately bedded, black and fine grained. Up to 2% pyrite.		
		- ROCK IS QUITE SOTT, and has a soaby feel. It is cut by a few narrow		
		quartz carbonate stringers and veinlets.		
		Angle of core to bedding: at 24.3 metres is 60°.		
		at 26.3 metres is 63°.		
		" " " at 27.5 metres is 67°.		
29.65	32.40	FELSIC DYKE		
		Granodiorite dyke, moderately foliated, fine-grained. Porphyritic		
		gradational and dyke contains wall rock fragments. Up to 2% pyrite in		
		dyke.		
		F-3:-1:		
		Foliation at 45° to core axis.		
		at 32.40: Q. C. V. at contact between granodiorite and wallrock.		
		Up_to_20%_carbonate,_5%_tourmaline		
32.40	39.90	MAFIC TUFFACEOUS SEDIMENTS		
		SEMMENTS		
		Fragments less than 2mm and and contamb to 2		
		Fragments less than 2mm and are carbonated. Pervasive carbonatization also present. Moderately bedded, with few crenulations. Then		
	·	black laminae define bedding <1% pyrite.		
		·		
		Angle of bedding to core axis at 33.5 metres is 54°.		
39.90	57.80	MUDSTONE - SILTSTONE		
		Greenish - grey, moderately bedded. May be up to 5% pyrite locally		
		(cubes mainly). Beds show crenulations and local slumping pyrite also		
		UISSEMIMATED THROUGHOUT THE CORE. Lighter heds in rock are highly		
		carbonated, more mafic beds less so. No quartz voining process		
		no quality veriffing present.		
		Angle of core to bedding: at 40.5 metres is 640		
		at 42.5 metres is 67°		
		(2:0 mcores 13 0/ ,		
		Angle of core to bedding: at 40.5 metres is 64°. """ at 42.5 metres is 67°.		

Hole No. 1043-01-3	
Sheet No. 4	

Footage			
From	То	DESCRIPTION	
		Angle of core to bedding at 45.0 metres is 69°.	
		" " " at 47.0 metres is 76°.	
		Amount of pyrite increases downhole. Up to 10% locally at 58.0 metres.	
		Rock generally homogeneous , but is locally silicified. Pyrite less	
		common in silicified areas.	
		Angle of core axis to bedding: 49.5 metres is 47°.	
		" " " " " 54.5 metres is 58°. " " " " " 55.5 metres is 60°.	
57.80	67,80	INTERBEDDED MUDSTONE - INTERMEDIATE SEDIMENT	
	07.00	THIERDEDUCE HOUSTONE - THIERDEDIATE SEPTIMENT	
		Stretched carbonated clasts up to lcm long present in amounts up	
		to 15%.	
		From 62.5 to 67.8, core is mainly greenish - black argillite, with	
		3-4cm wide pods of massive pyrite, which conduct anywhere from 40-90%.	
		Pyrite is a dull brassy colour. Lesser amounts of cubic pyrite also	
		present. Pervasive quartz carbonate alteration present up to 30% of the	
		rock.	
- 77 00	00.00	FELCIC ADVETAL TUPE	
67.80	88.80	FELSIC CRYSTAL TUFF	
	-	Slightly foliated quite ciliague Oursts aver your common Pock	
		Slightly foliated, quite siliceous. Quartz eyes very common. Rock is medium grained and may contain up to 10% disseminated pyrite. It is	
		carbonatized up to 5% (pervasive) There are a few carbonate stringers	
		carbonatized up to 5% (pervasive). There are a few carbonate stringers, all aligned parallel to foliation. Colour of rock is light greenish	
		grey.	
		Angle of foliation to bedding: at 69.0 metres is 60°.	
		From 79.7 - 81.0 - K-spar richer section (purple colour)	
		Faint bedding is visible, parallel to the bedding of the argillaceous	
		sediment above and below this unit. Narrow beds (<lcm) are<="" argillite="" of="" td=""></lcm)>	
		present in the tuff, conformable to bedding also.	
		present in the turn, conformable to bedding also.	
	-		

Hole No 1043-01-3	·····
Sheet No. 5	*****

Footage		
From	То	DESCRIPTION
88.80	129.00	INTERBEDDED ARGILLITE AND TUFFACEOUS SEDIMENTS
<u> </u>		The argillite is medium green, very fine grained and may contain
		up to 1% pyrite. It also usually shows faint bedding patterns. There is about 15% carbonate in the rock.
		The intermediate tuff is green also and contains felsic fragments
		(now highly carbonatized) up to 5mm in diameter. It is well laminated, and some of the laminae show crenulations and signs of slumping.
		Rock is ≃60% tuffaceous sediments, 40% argillite.
		Angle of bedding to core is at 89.0 metres is 63°.
		" " " " at 90.0 metres is 60°.
		" " " " at 93.0 metres is 42°.
		After 95.0 metres the argillite bands are much wider, as are the
		tuffaceous sediments. The bands in the latter are now much more
		contorted and there is minor offset in some of the beds. Remobilization is quite common. The tuffs are highly carbonated.
•		From 104.1 - 104.6 the argillite is altered more than normal, there
		is up to 10% pyrite in carbonatized argillite beds.
		Note here that the tuff fragments downhole are larger and more altered (especially from 105.0 - 129.0)
		97.0 - 101.9 - one large tuff band, highly altered and contorted.
		Slumping and crenulations very common. Pervasive carbonatization
		present up to 60%. This is unlain by the pyrite bearing argillite, followed by the tuff with fragments <5mm and <1cm in size. Pyrite
		present in this rock in amounts up to 3%.
		Further downhole the I/B argillite and tuff contains thin andesite
		flows. These are light to medium green, fine to medium grained and contain little mineralization. These start at around 115.5 metres.
		Bedding in tuffs and argillite not contorted as earlier. Narrow pyrite beds present in argillite. Rock carbonated up to 25%. (Pervasive
		pyrice beds present in argillite. Nock carbonated up to 25%. (Pervasive

Hole :	No.1043-01-3	
Sheet	No6	

DIAMOND DRILL RECORD

		
Foot	tage	DESCRIPTION
From	To	DESCRIPTION
		Quartz carbonate vein at 111.4, 112 and 114.2 metres. All less
		than 10cm wide, with 40% carbonate and accompanied by an orange mineral.
		There is another type of vein present with a light green mineral
		(epidote). These are all <5cm wide, and are up-hole from the previous
		set.
		300.
		Angle of core to hedding: at 120 0 metres is 61°
		Angle of core to bedding: at 120.0 metres is 61°. " " " at 126.0 metres is 63°.
		123.1 - 123.8: Slightly more mafic tuff (matrix), more carbonated,
		well bedded. 1% pyrite.
		124.0 - 124.05: Quartz veinlet, carbonatized at contact with argillite.
		No other visible mineralization.
		124.25 - 124.35: Quartz carbonate - tourmaline vein with 1% pyrite.
		130.0 - 130.05: Silicified and carbonatized section of argillite/tuff.
129.00	142,30	From this area on the argillaceous sections disappear and the rock
	192.00	consists mainly of intermediate to mafic flows and tuffs. The flows
		are medium to dark green, and often contain fragments less than 5%
		abundance. The tuffs are moderately to well laminated and these show
•		signs of slumping. Contacts between flows and tuffs are very
		gradational. Up to 5% sulphides in flows<2% in tuffs.
		<u> </u>
		135.2 - 135.5 carbonatized intermediate tuff
		136.3 - 138.0 carbonatized intermediate tuff, well laminated
		139.8 - 140.6: Area of intense alteration associated with a 10cm wide
		quartz carbonate tourmaline vein. Up to 10% sulphides present.
		Matrix is basalt flow. Wall rock inclusions common. Quartz is
		dark and appears to have been remobilized more than once.
		Carbonate is fracture filling and present in amounts up to 35%.
142.30	144.05	INTERMEDIATE TO MAFIC FLOWS AND TUFFS
172.00		
		Mafic tuff, well laminated, highly carbonatized. Fragments are
		small and felsic and make up <10% of rock. Pyrite in beds (<5mm wide)
		is common (up to 5% sulphides). Cut by the occasional quartz carbonate
		vein. Carbonate is pervasive and present up to 15% of rock.
		Sections of core are granular and are highly carbonatized, silicifi-
		ed and pyritized. (Up to 30% pyrite locally - disseminated).
		ar and by transact the same by transaction
	1 1	

Hole No.1043-01-3 Sheet No.____7

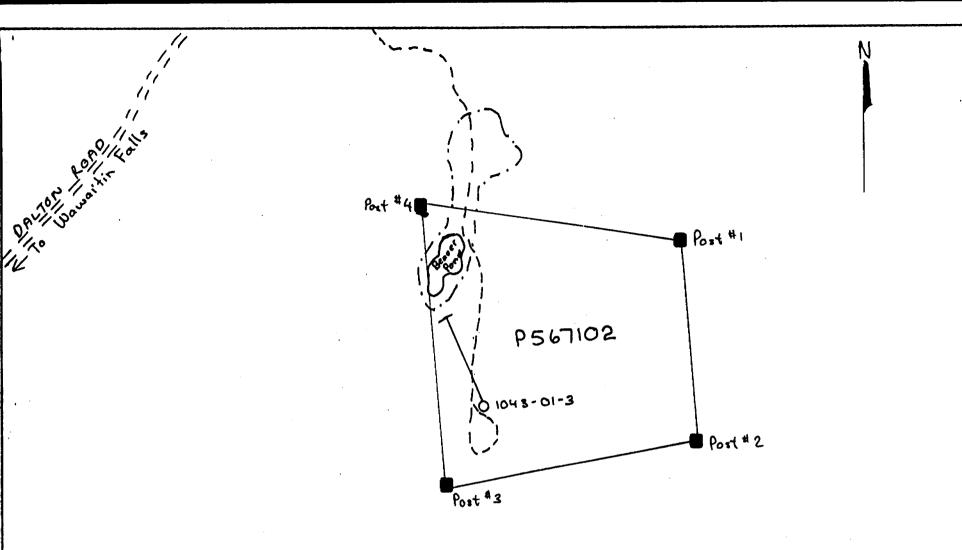
Foo	tage	
From	To	DESCRIPTION
144.05	146.60	FELSIC CRYSTAL TUFF
	140.00	TECOTO ONTOTAL TOTA
		Felsic crystal tuff, with feldspar quartz clasts up to 5mm in size.
-		These are subhedral and are contained in a greyish matrix of quartz,
		feldspar and mafic minerals. Up to 3% finely disseminated pyrite
		present. Carbonated up to 25%. Contains inclusions of argillite / tuff
		with thin pyrite bands. Pyritized sections also occur at each contact
	ļ	of the unit. (Note argillite section at 145.6 metres)
146.60	169.50	INTERBEDDED ARGILLITE AND INTERMEDIATE TUFF
		"Argillite" has a high chert content (50%) and contains up to 5%
 	ļ	finely disseminate pyrite. Tuff is well bedded more so than the argill-
		ite. Local areas of intense carbonate and silica are present. Nuch
		the same character as earlier I/B argillite and tuff, except more
		siliceous.
		Angle of core axis to bedding: at 141.0 metres is 60° .
		" " " " at 148.0 metres is 64°.
		" " " at 162.0 metres is 61°.
		THE PARTY OF THE P
169.50	178.80	INTERBEDDED SILICEOUS ARGILLITE AND INTERMEDIATE TUFF
		Grading to intermediate volcanic tuff. Tuff fragments are about
		2mm in size and often occur as "beds" of up to 3cm wide. Matrix is
		light green and very fine grained carbonate veins and veinlets present
		in amounts up to 15%, with carbonate grading away from vein into
		host ankerite. 5% sulphides associated with highly carbonated sections.
		Pyrite present as cubes and also massive to finely disseminated.
		Angle of core axis to bedding: at 168.0 metres is 90°.
		" " " " at 171.0 metres is 62°.
		" " " " at 176.5 metres is 50°.
170 00	707.00	INTERBEDDED TUFFACEOUS SEDIMENT
178.80	191.00	INTERBEDDED TOFFACEOUS SEDIMENT
		as per 146.6 - 169.5 pyrite present in amounts up to 5%. Quartz
		carbonate veins present, and may contain pyrite at margins.
		185.5 - 185.6: Zone of weakness - shear zone.
		

Hole l	No.1043-01-3	
Sheet	No8	

DIAMOND DRILL RECORD

Footage		DESCRIPTION			
From	То	DESCRIPTION			
_191_00	195.00	ANDESITE FLOW			
		Rock is green and fine grained. Fragments are siliceous carbonated and about 2mm in size.			
		carbonated and about 2mm in Size.			
·		700 A 700 C CI			
		193.4 - 193.6: Sharp contacts, 3% tourmaline, <<1% pyrite. 194.8 - 194.9: Quartz carbonate vein			
	,	194.8 - 194.9: Quartz carbonate Vein			
	195.00	END OF HOLE			
	195.00	END OF ROLE			
					

Hole No. 1043-01-3 Sheet No.



AMAX MINERALS EXPLORATION

Drill Hole Location Map

HOLE 1043-01-3

Scale: 1:5,00

OGDEN TOWNSHIP

J.MP. Timmins

AMAX MINERALS EXPLORATION

(A Division of Amax of Canada Limited)

DIAMOND DRILL RECORD

Hole No. 1043-02-2

Hole No. 1043-02-2 sheet 1 Property 1043-02, 0gden-2 Township 0gden Location Line 375E 1950S Logged By S. Davies Core Location Timmins Office	Length 201 0 metres Bearing 346 Dip -45 Objective Stratigraphic testing	Commenced September 2, 1981 Completed September 7, 1981 Drilling Co. St. Lambert Core Size BQ Casing Left/Lost in Hole	Dip: Collar —45 ⁰ Etch Test Depth Rdg. True 1 125.0m 53.5 ⁰ 45 ⁰ 2 201.0m 53.5 ⁰ 45 ⁰	108 04-2	North Claim No. P549066
Remarks				Busi	Scale: 1:30,000

Footage	/ Metres	D.C.O.D.I.D.T.I.O.V.	
From	То	DESCRIPTION	
0	20.0	OVERBURDEN	
20.0	22.9	ALTERED CRYSTAL TUFF	
22.9	25.0	INTERMEDIATE TUFF	
25.0	28.5	CRYSTAL TUFF	
28.5	29.3	INTERMEDIATE TUFF	
29.3	33.0	HIGHLY ALTERED INTERMEDIATE TUFF	
33.0	38.1	GREYWACKE	
38.1	55.5	CRYSTAL TO INTERMEDIATE TUFF	
55.5	57.5	FLOW TOP BRECCIA	
57.5	63.35	INTERMEDIATE TUFF / BRECCIA	
63.35	103.05	SERICITE CARBONATE ROCK (MAFIC-ULTRAMAFIC FLOW SERIES)	
103.05	104.12	CHERT	
104.12	105.0	GRAPHITE	
105.0	108.8	ARGILLACEOUS SEDIMENT	



AMAX MINERALS EXPLORATION (A Division of Amax of Canada Limited) DIAMOND DRILL RECORD

Hole No. 1043-02-2	
Sheet No2	

Footage		
From	То	DESCRIPTION
108.8	122.4	SERICITE CARBONATE ROCK
122.4	129.0	ALTERED ULTRAMAFIC ROCK
129.0	141.0	INTERBEDDED MAFIC FLOW AND TUFF
141_0	190,0	SERIES OF ULTRAMAFIC FLOWS
190.0	194.4	SILICEOUS FLOW
194.4	201.0	ALTERED MAFIC TUFF
	201_0	END OF HOLE

Footage	
From To O 20.0 OVERBURDEN	
	2
20 0 22 9 ALTERED CRYSTAL THEE (FAULT 70NF?)	
20 0 22 9 ALTERED CRYSTAL TUFF (FAULT 70NF?)	•
	•
Originally grey in colour but appears rusty due to weather	
Moderately bedded, crystals less than 3mm and some stretch	od papalle
to bedding.	ed paralle
≃5-10% sulphides, <5% carbonate (locally).	
Rock cut by numerous quartz stringers up to 10cm but usual	lv <5cm
rarely accompanied by carbonate alteration.	
20.2 metres: bedding angle 30 to core axis (indicates preferr of orientation of fragments)	ed angle
22.7 metres: possible shear zone 5cm in width.	
ZZ.7 metres: possible shear zone schi in width.	
22.9 25.0 INTERMEDIATE TUFF	
Uniform with chloritic blebs. Some sections are more mafi	C.
Massive with no indication of bedding. The odd section may con	tain
quartz and feldspar crystals. No carbonate, <2% sulphides.	
25 0 20 5 CDYSTAL THEF	
25.0 28.5 CRYSTAL TUFF	-
Above unit grades into a crystal tuff. Subhedral to euhed	ral
crystals - uniform in size up to 2mm and appear to be mainly fe	
matrix - mafic, very fine grained and mafic.	
Cut by numerous quartz stringers between 1 and 3cm - conto	rted
and brecciates the tuff in places. Pyrite present in amounts up	to 5%
28.5 29.3 INTERMEDIATE TUFF	
28.5 29.3 INTERMEDIATE TUFF	
Grading back into intermediate tuff as per the other section	on.
29.3 33.0 HIGHLY ALTERED INTERMEDIATE TUFF	
Highly altered intermediate tuff as per 28.5 to 29.3, cut	
numerous quartz carbonate veins and well brecciated. Some remn	
bedding. Locally pervasively carbonatized. Up to 5% ankerite	restricted
to veins. Alteration is mainly to fuchsite - up to 50%, pyrite <2%.	μresent,

Hole No.104	3-02-2
Sheet No	3

Hole	No.1043-02-2	
Sheet	No. 4	-

Foo	age	
From	То	DESCRIPTION
33.0	38.1	GREYWACKE
		Fine to medium grained, no carbonates. Cut by numerous grey quartz
		veinlets up to 2cm in width. 5% fuchsite present, associated with the
		veinlets.
		37.0 - 37.3 quartz vein - appears to have brecciated an earlier vein
		37.0 - 37.3 quartz vern - appears to have brecerated an earrier vern
38.1	55.5	CRYSTAL TO INTERMEDIATE TUFF
		as per 29.3 to 33.0 - some interbedded greywacke
		39.4 to 39.5 rusty sections
		40.2 to 40.3 rusty sections
		From 41.1 to 41.7 - highly altered to fuchsite - 50% early quartz veins
		fragmented by later quartz veins, no carbonate
		present
		From 43.4 to 44.2 highly altered to fuchsite (50%) cut by numerous quartz
		veins up to 5cm in width which brecciated earlier
		veining. As above no carbonate is present. Up to
		5% ankerite restricted to the veins.
		From 45.9 to 47.4 as above but fuchsite alteration up to about 40%.
		Larger quartz vein (about .2 metres) at 46.0 metres
		brecciates a brown unidentifiable mineral
		From 48.3 to 48.8 as above
		From 52.4 to 53.4 shear zone concentrated at 52.7 metres where there is
		extensive rusting at 46.6 preferred orientation is 35° to the core axis.
		at 46.6 preferred orientation is 35 to the core axis. at 51.9 preferred orientation is 30° to the core axis.
		at 51.9 preferred orientation is 30 to the core axis.
55.5	57.5	FLOW TOP BRECCIA
		Medium to dark grey fragments up to 4cm in size. Reaction rims
	 	occur around most of the fragments and numerous milky grey quartz veins
	-	cut the rock.
	 	
	1	

Footage		DESCRIPTION
From	To	DESCRIPTION
57.5	63.35	INTERMEDIATE TUFF / BRECCIA
		Small anhedral fragments less than 3mm in size. Breccia fragments
		up to 5cm show a higher degree of alteration than the matrix.
		Cut by numerous smokey quartz veins making up to 30% of rock
		accompanied by fuchsite.
		Minor pyrite and carbonate alteration is ankerite
	<u> </u>	at 57.5, shear zone with rusty alteration
63.35	103.05	SERICITE CARBONATE ROCK (MAFIC-ULTRAMAFIC FLOW SERIES)
		High dames of alternation and analytical animals.
		High degree of alteration - carbonate/chlorite/sericite
		cut by numerous grey quartz carbonate stringers. Carbonate is
	-	dolomite and ankerite. This may be accompanied by fuchsite. These
	ļ	veins cut randomly and minor offsets are noted. The smokey quartz
-		stringers have halos up to .5cm wide, <1% pyrite present (disseminated)
		Later quartz veins cut the core at 70-90° and may contain small
		amounts of ankerite.
		Note: fuchsite associates mainly with the more mafic rock.
		Contacts between individual flows are sharp e.g. 68.3 metres.
		Flows occasionaly appear to be porphyritic. Interflow mafic tuff is
		also present.
	ļ	Note: rock is made up of 60% tuff and 40% flow
		From 73.0 to 74.6 the core is relatively barren of smokey quartz veins.
		From 74.1 to 74.5 slightly more coarse grained tuff and contacts sharp.
		From 78.5 to 78.75 shear zone with rusty weathering generally the core
		is quite siliceous
		At 84.2 smokey quartz vein contains angular inclusions of the matrix.
		From 93.0 to 96.5 more mafic to ultramafic flow. This section is cut by
	<u> </u>	numerous quartz veins which brecciate the rock - up to
		4cm in width.
		From 96.5 to 96.9 large quartz vein which brecciates the flow into
		fragments up to 2cm in size.
		From 98.6 to 99.4, 100.6 to 100.8 much more fuchsite present up to 50%
		of the rock. Also disseminated pyrite up to 5-7%.
		96.5 shear zone with some rusting.
	1	

Hole	No. 1043-02-2
Sheet	No5

Footage			
From	To	DESCRIPTION	
103.05	104.12	CHERT	
		Black in colour and very hard. The section is cut by numerous white	
		quartz veinlets and quartz stringers up to .5cm in width.	
	1	The larger veinlets cut the core regularly at 30° to the core axis. Quartz stringers are crenulated and minor offsets occur.	
		Quartz stringers are crenulated and minor offsets occur.	
	 .	Pyrite present in localized bands from 5-10%. It occurs as	
		disseminated pyrite throughout.	
104.12	105.0	GRAPHITE	
*****		Very soft and black. Conductive massive sulphides mainly pyrite,	
		up to 30% also disseminated.	
		Quartz veinlets and stringers up to .5cm cut the core randomly.	
		One large quartz vein 5cm occurs at 104.4 metres. Some sulphides	
	-	run through fractures in the vein.	
105.0	108.8	ARGILLACEOUS SEDIMENT	
	100.0	THOUSE ENGLOSS SEPTIMENT	
		Graphite grades into argillaceous sediment. Light to dark grey	
		in colour and harder than the graphite. White quartz eyes up to 2mm	
		occur in localized bands! Some graphite occurs in fragments up to 2cm	
		in size and also in bands throughout the section.	
	<u> </u>	At 105.3 orientation of the bands is 30° to the core axis.	
		Disseminated and cubic pyrite occurs - 10%. Contacts are sharp. The	
		argillite becomes more felsic down hole.	
100.0	122.4	SERICITE CARBONATE ROCK	
108.8	122.4	SERICITE CARBUNATE RUCK	
		as per 63.35 to 103.05 smokey quartz veins are not as numerous as the	
		previous section and the rock is much more tuffaceous.	
		From 116.1 to 116.8 fracture (shear) zone	
122.4	129.0	ALTERED ULTRAMAFIC TUFF	
	 	Highly altered to talc causing the rock to be very soft. Dark	
	 -	green blebs of chlorite are abundant throughout the core up to	
		2mm in size. Numerous, random quartz veinlets occur with evidence of small scale folding. Some sericite in places. Most of the quartz is	
	 	smokey grey in veinlets up to 1cm to size. There is little to no	
	 -	Smortey grey in remitted up to rem to size. There is trutte to no	
_	•		

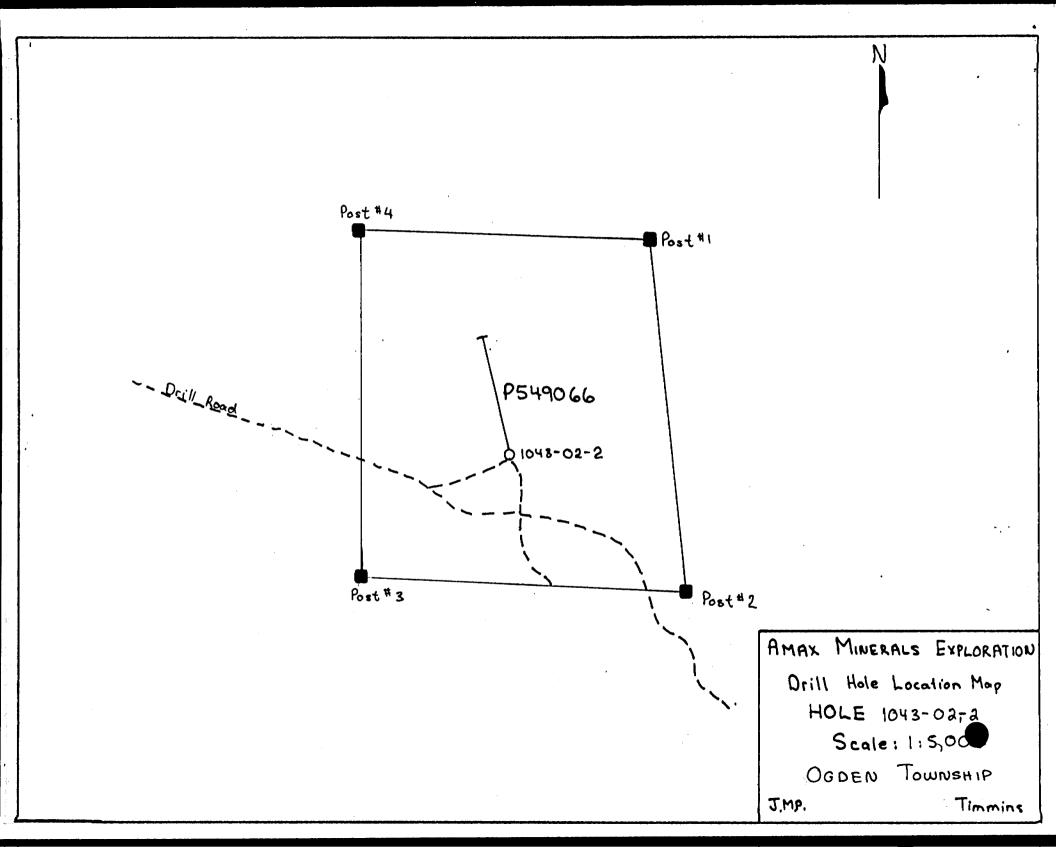
Hole No	1043-02-	2
Sheet No.		

Fo	otage		
From	То	DESCRIPTION	
		carbonate or sulphides. Preferred orientation of the grains is the	
		same as the core axis.	
		INTERBEDDED MAFIC FLOW AND TUFF	
_129_0	141_0	INTERBEDDED MAFIC FLOW AND TOFF	
		Contacts above and below are gradational and it is much harder	
		than the previous units. Some fragments are present up to 2cm in size.	
		The majority of quartz is smokey grey in veinlets up to lcm in size	
		which cut the core at various angles. This comprises about 30% of the	
		rock. Dolomite occurs in the veins.	
	·		
141.0	190.0	SERIES OF ULTRAMAFIC FLOWS	
	<u> </u>	Individual flows range from massive to spinifex texture. Quartz	
		veining is generally abundant throughout the section. 144.2 - 160.6 - intercalated massive and spinifex flow. Quartz carbonate	
	-	veinlets comprise about 20% of the rock. They cut the core at various	
		angles and brecciate the spinifex in fragments up to 2cm in size.	
		angles and brecerate the spinifies in tragments up to com in size.	
		146.8 - preferred orientation 35° to the core axis at 146.9 metres	
		the quartz veining is concentrated, comprising up to 60% of the rock.	
		156.0 - 156.4 - white quartz vein relatively bare of mineralization.	
		The quartz veins are crenulated and show evidence of small scale	
-		folding.	
		160.6 - 168.4 - Massive ultramafic flow	
	 	relatively barren of quartz veining	
		168.4 - 176.2 - flow top breccia with some sections of spinifex	
		texture. Angular fragments up to 3cm in size, and some white	
		quartz veining. at 170.0 metres - preferred orientation is 30° to the core axis.	
		176.2 - 190.0 metres spinifex flow	
	+	Quartz carbonate veins brecciate the spinifex in fragments up to	
		3cm. Also find occurrences of accumulative zones.	
		from 187.2 - 187.8 - quartz veining highly brecciates the rock	
		5% quartz	
190.0	194.40	SILICEOUS FLOW	
	1	About 8% quartz veining which occurs mainly from 191.8 to 192.7.	
		In this section the flow is highly brecciated by the quartz. Two quartz	

Hole No	1043-02-2
Sheet No	

Fo	otage	DESCRIPTION
From	To	DESCRIPTION
		The cocond
		veining episodes occurred with the first being smokey grey. The second
	1	is white quartz which brecciates the previous veining. At 193.5 - preferred orientation is 35° to the core axis. The
		At 193.5 - preferred orientation is 35° to the core axis. The
		lower contact is very sharp.
194.40	201.00	ALTERED MACIO THE
G4*40	201.00_	ALTERED MAFIC TUFF
		
		This section is highly altered to talc causing the rock to be
		very soft.
		Early smokey grey quartz veining was brecciated by subsequent white
		quartz. The smokey quartz is distributed randomly throughout the core
		whereas the quartz occurs at about 35° to the core axis. A light
		green mineral is also frequently found in the white quartz veining
	1	green mineral is also frequently found in the white quartz veining 198.0 - 198.2 - white quartz vein highly brecciates the rock.
		190.0 - 190.2 - Write quarte la unit 2 min size
		Some remnants of subhedral crystals up to 2 mm in size.
	201.00	END OF HOLE
	÷-	
		
		
		
	1	

Hole No. 10	43-02-2	2
Sheet No	8	*****************************



DIAMOND DRILL RECORD

Hole No. 1043-02-3

Hole No. 1043-02-3 Sheet 1 Property 1043-02, Ogden Township Ogden Location 375E 2100S Logged By S. Davies Core Location Timmins Office	Length Bearing Dip Objective	219 ₀ 0 metres 348 -50 Stratigraphic informa- tion	Commenced Completed Drilling Co. Core Size Casing Left/L	September 6, 1981 September 8, 1981 St. Lambert BQ Lost in Hole none	Dip: Collar Etch Test	-50° Depth 125.0m 201.0m	Rdg. True 59 ⁰ 50 ⁰ 56 ⁰ 47 ⁰	1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Location Sketch		-549063 :30,000
Remarks	•••••		•••••					Bosn	Rono	Scarc.	

Footage/ Metres		DESCRIPTION		
From	To	DESCRITTOR	_	
0	30.50	OVERBURDEN		
30.50	42.80	SILTSTONE/MUDSTONE		
42.80	53.50	WELL BEDDED SILICEOUS SEDIMENT (VOLCANOCLASTICS)		
53.5	92.15	INTERBEDDED INTERMEDIATE LAPILLI TUFF & VOLCANOCLASTIC:		
92.15	103.50	MAFIC TUFF		
103.50	115.10	UNDIFFERENTIATED SEDIMENTS (GREYWACKE)		
115.10	116.00	MAFIC FLOW		
116.00	131.90	UNDIFFERENTIATED SEDIMENTS		
131.90	166.30	INTERBEDDED GRAPHITE AND CHERT		
166.30	170.75	CALCARGILLITE		
170.75	219.00	CHLORITIC CARBONATE ROCK ALTERED TO TALC		
	219.00	END OF HOLE		
i e	I			



Hole No. 1043-0	2-3
Sheet No. 3	

From To							
		DESCRIPTION					
_0	30.5	OVERBURDEN					
30.5	42.8	SILTSTONE/MUDSTONE					
		Light to dark grey in colour and very fine grained. About 20%					
		carbonate throughout and in stringers, that are at 60° to the core axis. Angle of bedding: 50° to the core axis.					
		Angle of bedding: 50° to the core axis.					
		There is also some evidence of slumping in the beds.					
		39.2 to 39.5 cherty section					
·		At 42.0 metres angle of bedding is 50° to the core axis.					
42.8	53.5	WELL BEDDED SILICEOUS SEDIMENT (VOLCANOCLASTICS)					
		Core exhibits well defined banding with some argillite. Throughout					
		the core fragments (up to 3cm in size) are found following the bedding.					
		Some of the fragments are cherty. Approximately 10% carbonate in bands.					
		From 43.3 to 43.6 cherty layer. The pinkish colour could indicate					
***************************************		jasper.					
		From 44.8 to 45.8 as above					
		About 5% (or less) quartz stripgers cut the core at various angles					
•		at 48.2 angle of bedding is 40° to the core axis. at 50.1 angle of bedding is 40° to the core axis.					
, <u> </u>							
		From 50.1 to 50.5 core is highly fractured and very chloritic along					
		the fracture planes.					
		From 50.7 to 53.1 cherty section. Numerous quartz veins brecciate the					
		chert at random angles.					
		From 53.1 to 53.5 quartz vein					
		About 3% sulphides disseminated and associated with the veins.					
53.5	92.15	INTERBEDDED INTERMEDIATE LAPILLI TUFF & VOLCANOCLASTIC					
		Laminae are well defined and often crenulated. About 15-20%					
		carbonate in the laminae and in the fragments. The fragments range					
		in size from 1mm to 2cm and have a preferred orientation in the direction					
		of the laminae. The fragments are often stretched and the surrounding					
		sediments form a tear drop shape. They are also a variety of compositions					
		with the majority being calcite.					
		From 64.5 to 64.9 quartz vein with some pyrite present.					
		Minor quartz/carbonate veinlets and stringers intersect the core at					
		random angles.					
7	1	· · · · · · · · · · · · · · · · · · ·					

Footage		DESCRIPTION					
From	То						
		Angles of bedding to the core axis: at 66.2 metres is 50°.					
		" " " " at 70.0 metres is 40° .					
		" " " at 70.3 metres is 35°.					
	 	Evidence of slumping in the beds. About 2-5% sulphides (disseminat-					
	-	ed cubic) present between the laminae. Some sections contain no fragment					
		i.e. 88.4 to 89.5 whereas other sections contain fragments up to 2cm					
		in size. Downhole, the fragments become smaller and the tuff more					
		fine grained. The lower contact is sharp. The core is broken in					
		numerous spots along definite fracture planes where it is chloritic.					
		From 82.1 to 83.5 highly altered to talc.					
<u>9</u> 2.15	103.50	MAFIC TUFF					
	100.00						
		Light to dark grey in colour with little evidence of bedding. About					
		20% carbonate in the matrix and in quartz carbonate veinlets/stringers.					
		The veinlets are up to 1cm in width with crenulated borders and cut					
		the core at various angles. Subhedral to euhedral fragments are 1-2mm					
	 	in size. Minor amounts, <2% sulphides - disseminated pyrite.					
		111 312e. Millor amounts, 12% surprives - arssemmated pyrite.					
103.0	115.1	UNDIFFERENTIATED SEDIMENTS (POSSIBLY A GREYWACKE)					
•		Light grey, becoming more mafic downhole. Fine grained and					
		reasonably soft. About 15% carbonate.					
		Quartz/carbonate veinlets ≃5% cut at random angles. Evidence of					
		slumping.					
		At 104.8, bedding is 40° to the core axis.					
		At 104.6 quartz/carbonate vein ~3cm wide cuts the core at ~20°					
		Chloritic along fracture planes. Upper contact is gradational.					
		Many of the veinlets cut the core at 40° to the core axis.					
		Core is highly fractured from 108.0 to 109.6 metres.					
		From 109.5 to 110.7 the core is cut by numerous quartz/carbonate					
		veinlets at random angles. The veinlets are highly crenulated and					
		constitute about 60% of this section. There is about 5-10% sulphides					
		both cubic and disseminated pyrite.					
		Minor offsets are seen in the veinlets.					
115.1	116.0	MAFIC FLOW					
115.1	116.0						
115.1	116.0	MAFIC FLOW The upper and lower contacts are very sharp and the percentage of carbonates has decreased to about 2%. About 5% quartz veinlets that are					

Hole No. 1043-02-3	
Sheet No. 4	

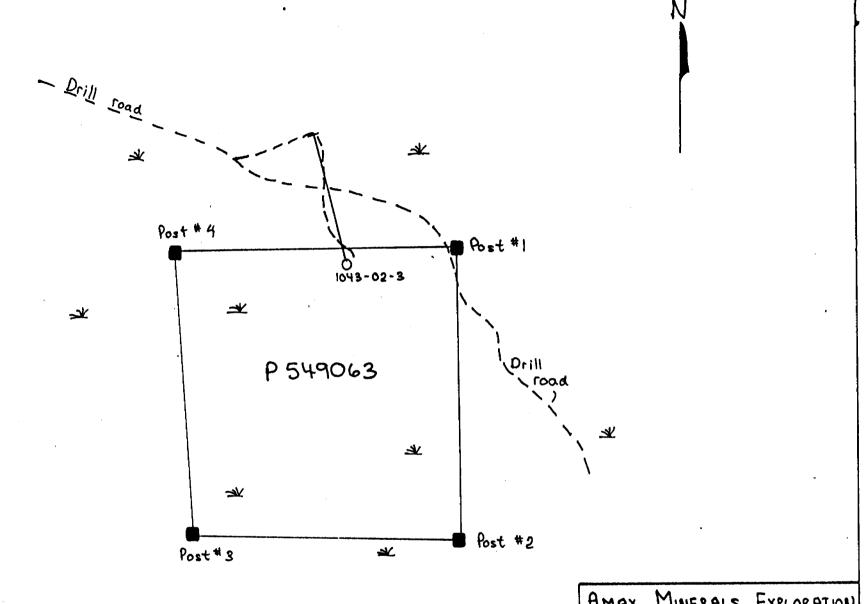
DIAMOND DRILL RECORD

Foo	tage	
From To		DESCRIPTION
		highly crenulated. The sulphide composition is about 2-3%, mainly
		cubic pyrite.
		At 115.3 metres angle of preferred orientation is 30° to the core axis.
		Ultra mafic bands occur at 60° to the core axis.
116.0	131.9	UNDIFFERENTITATED SEDIMENTS
	 	20 nov 102 E to 11E 1
		as per 103.5 to 115.1
131.9	166.3	INTERBEDDED GRAPHITE AND CHERT
	•	The graphite is black, very soft and highly conductive. It may
		also be slightly magnetic. There is a high degree of mineralization.
		with the sulphides constituting about 20% to 30%. It is found as
		disseminated, cubic and massive pyrite. A good example is found at
		135.6 where there is massive pyrite (80%) over 9cm.
		At 138.3 angle of bedding is 75° to the core axis.
		At the top of this section the chert is found in bands up to
		5cm in width. It is also found in stringer - like structures cutting
		the core at random angles.
		Downhole the chert becomes brecciated into fragments up to 3cm
		in size. These are angular fragments and diminish in frequency downhole.
		The fragments have been brecciated more than once and their preferred
		angle of orientation is 70° to the core axis (taken at 160.5 metres).
		The upper contact is sharp whereas the lower contact is gradational.
166.3	170.75	CALCARGILLITE
100.5	170.73	CALCARGILLITE
		Calcareous argillite with about 25% calcite. Dark green to black
		in colour with bands of argillite.
	 	At 168.0 metres angle of bedding is 60° to the core axis.
		At 170.0 metres angle of bedding is 50° to the core axis.
		Bedding is well defined. Minor amount of fragments up to
		.5cm in size. Relatively barren of quartz veinlets and mineralization.
		Lower contact is sharp.
170.75	219.0	CHLORITIC CARBONATE ROCK HIGHLY ALTERED TO TALC
		Dark green in colour and cut by numerous quartz carbonate veinlets
		at random angles. Numerous shear zones are highly altered to talc and
		chlorite.

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Fo	otage		
From	To	DESCRIPTION	
		Fracture planes are also altered. The quartz veins are both primary	
		smokey quartz and white secondary quartz. Cubic pyrite <2%.	
		170.75 - 171.25 brecciated zone - angular fragments up to 2cm in size.	
		Quartz/carbonate is found as infilling between the fragments as a	
		primary stage. It was further brecciated by both fuchsite and ankerite	
		and minor amounts of sulphides.	
		171.9 - 173.5 shear zone - highly altered to talc. Some areas contain	
		up to 3mm in size.	
		175.6 - 176.3 shear zone	
		The original rock was a mafic to ultra mafic flow/tuff. Many of	
		the quartz/carbonate veins contain fuchsite.	
		179.6 - 180.5 shear zone - as per 171.9 - 173.5.	
		181.0 - 183.0 shear zone - as per 171.9 - 173.5.	
		185.1 - 186.2 shear zone - fuchsite amounts to about 10%.	
		186.3 - 189.8 rubble zone - angular, brownish fragments up to 3cm in	
		size, brecciated by quartz/carbonate veins. Fuchsite	
		constitutes about 10% and carbonates about 25%. Very	
		minor amounts of sulphides.	
		189.8 - 190.2 highly silicified zone barren of quartz.	
		190.2 - 190.6 shear zone	
		191.8 - 193.3 shear zone contains some cubic pyrite.	
		At 194.7 quartz carbonate vein 3cm in width. Contains fuchsite	
		and is offset in two places	
		At 45 ⁰ to the core axis. Downhole the amount of quartz/carbonate/fuchsite veins increases to	
		Downto le the amount of quartz/carbonate/fuchsite veins increases to	
		about 30%. These veinlets are of random size and distribution. This increase occurs at about 195.0 metres. At 201.3 - 5cm quartz/carbonate/	
	+	fuchsite vein at 60° to core axis. Pyrite cubes are scattered throughou	
		the section i.e. at 211.5.	
	 	204.3 - 208.0 shear zone	
	+	From 213.0 - 216.0 metres the amount of quartz increases to about 60%	
	1	in veins that have been brecciated many times.	
		214.5 - 127.0 shear zone	
	219.0	END OF HOLE	
	+		

Hole No. 1043-02-3	
Sheet No6	



AMAX MINERALS EXPLORATION

Drill Hole Location Map

HOLE 1043-02-3

Scale: 1:5,00

OGDEN TOWNSHIP

J.MP. Timmins