

2E05NE0051 18 ST. LAURENT

# DIAMOND DRILLING

TOWNSHIP: ST. LAURENT

**REPORT NO:** 

18

WORK PERFORMED FOR: TOTAL ENERGOLD CORPORATION

**RECORDED HOLDER:** SAME AS ABOVE [X]

: OTHER []

CLAIM NO.	HOLE NO.	FOOTAGE	DATE	NOTE
1136542/1136545	242-01	231.01 M	FEB/91	(1)
1136557/1136560	<sup>.</sup> 242–02	367.63 M	FEB/91	(1)
$\gamma_{\rm eff} = 1000$ s $\gamma_{\rm eff}$	242-03	• 199.95 M	FEB/91	(1)
1167733/1167734	242-04	242.62 M	FEB/91	(1)
1136550	242-05	41.21 M	FEB/91	(1)
1136550/1136551	242-05A	401.18 M	FEB/91	• (1)
1136555	242-06	256.36 M	FEB/91	(1)
1136548	242-07	143.90 M	FEB/91	(1)
2 1		1883, 86 M.	· .	•

(1) #W9180.00238, FILED SEPT/91

NOTES:

## ST. LAURENT PROPERTY

DIAMOND DRILLING REPORT

FEBRUARY 1991

Joe MacPherson Timmins Office

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April 15, 1991



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#### **SUMMARY**

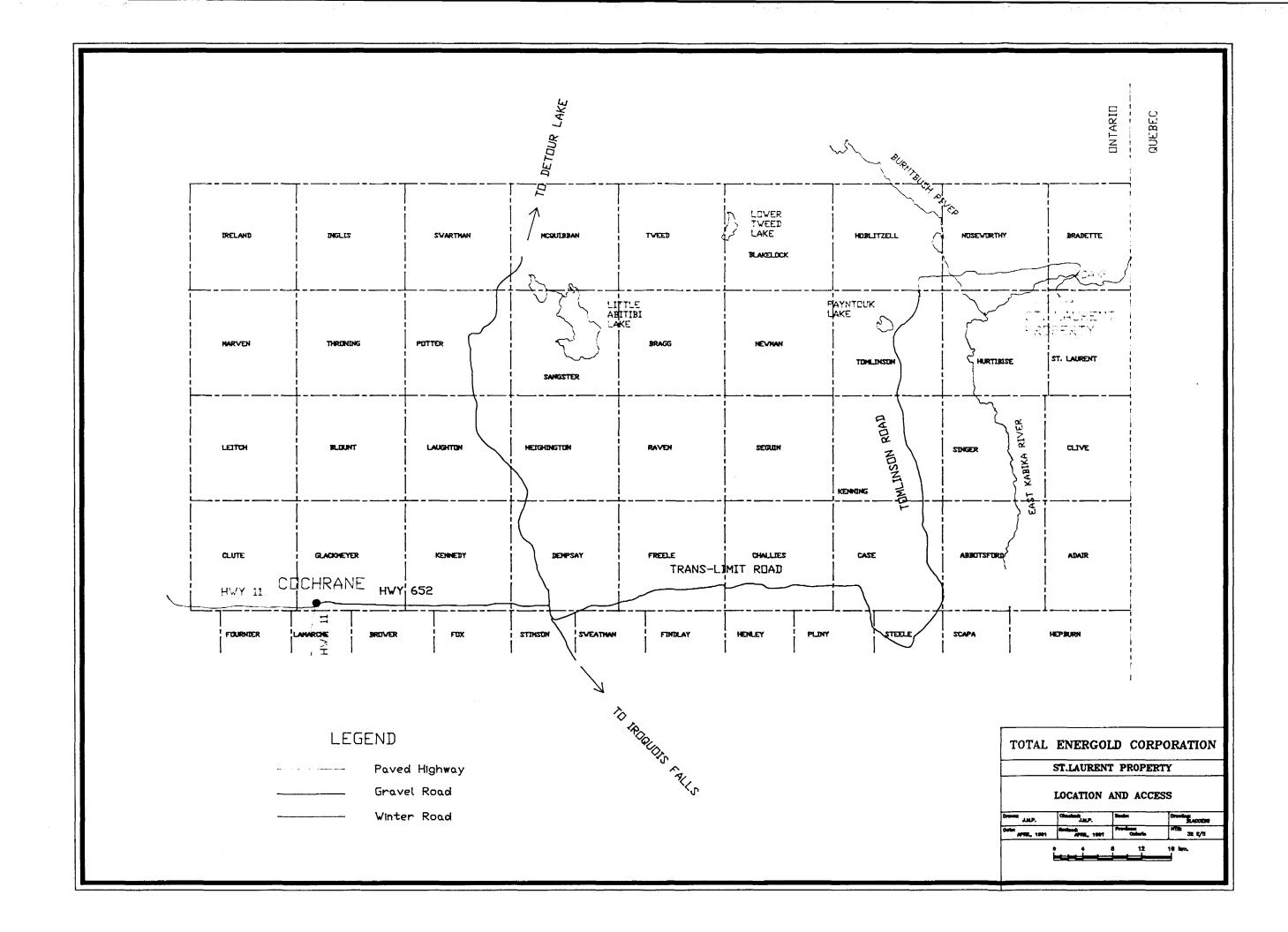
A diamond drilling program consisting of 1883 metres in 8 holes was completed on TOTAL Energold's property in St. Laurent and Hurtubise townships during the period February 12-26, 1991. The company holds a group of 89 contiguous claims in the abovementioned townships, centred approximately 120 kilometres northeast of Cochrane, Ontario.

The drill program targeted on several Induced Polarization anomalies located during a survey carried out in the fall of 1990. These IP anomalies were interpreted to be graphitic shear zones similar to that hosting Inco's Golden Pond deposit to the northeast.

The stratigraphy consists of a band of iron tholeiitic basalts striking ENE through the center of the property. To the south, a thick sequence of clastic and chemical metasediments were encountered, while to the north, a similar sequence was located, flanked to the north by a thin unit of felsic volcanics and, further north, intermediate to mafic volcanics. All rock units were moderately to intensely altered and deformed.

The results of the drill program confirmed the presence of a strong, wide alteration/deformation zone conformable with stratigraphy, having a strike length of at least 3 kilometres and widths approaching 1 kilometre. Gold values, however, were very low and no economic values were intersected.

It is recommended that no further work take place at this time. Filing of all assessment work will retain the claims in good standing for a period of two years.



The St. Laurent Property consists of 89 contiguous claims located along the northern borders of St. Laurent and Hurtubise townships, in the District of Cochrane, Ontario. The property is centred 120 kilometres northeast of Cochrane, in NTS sheet 32E/5.

Access to the property is via a series of logging roads from Cochrane, where the Detour Lake Mine road leads north to the intersection with the Trans-Limit Road, which heads due east to the Quebec border. The Tomlinson Road leads north from kilometre 89 on the Trans-Limit Road. At the end of this road, a distance of some 45 kilometres, a network of winter roads extends east for a distance of 32 kilometres to the north part of the property on the Burntbush River.

#### **REGIONAL GEOLOGY**

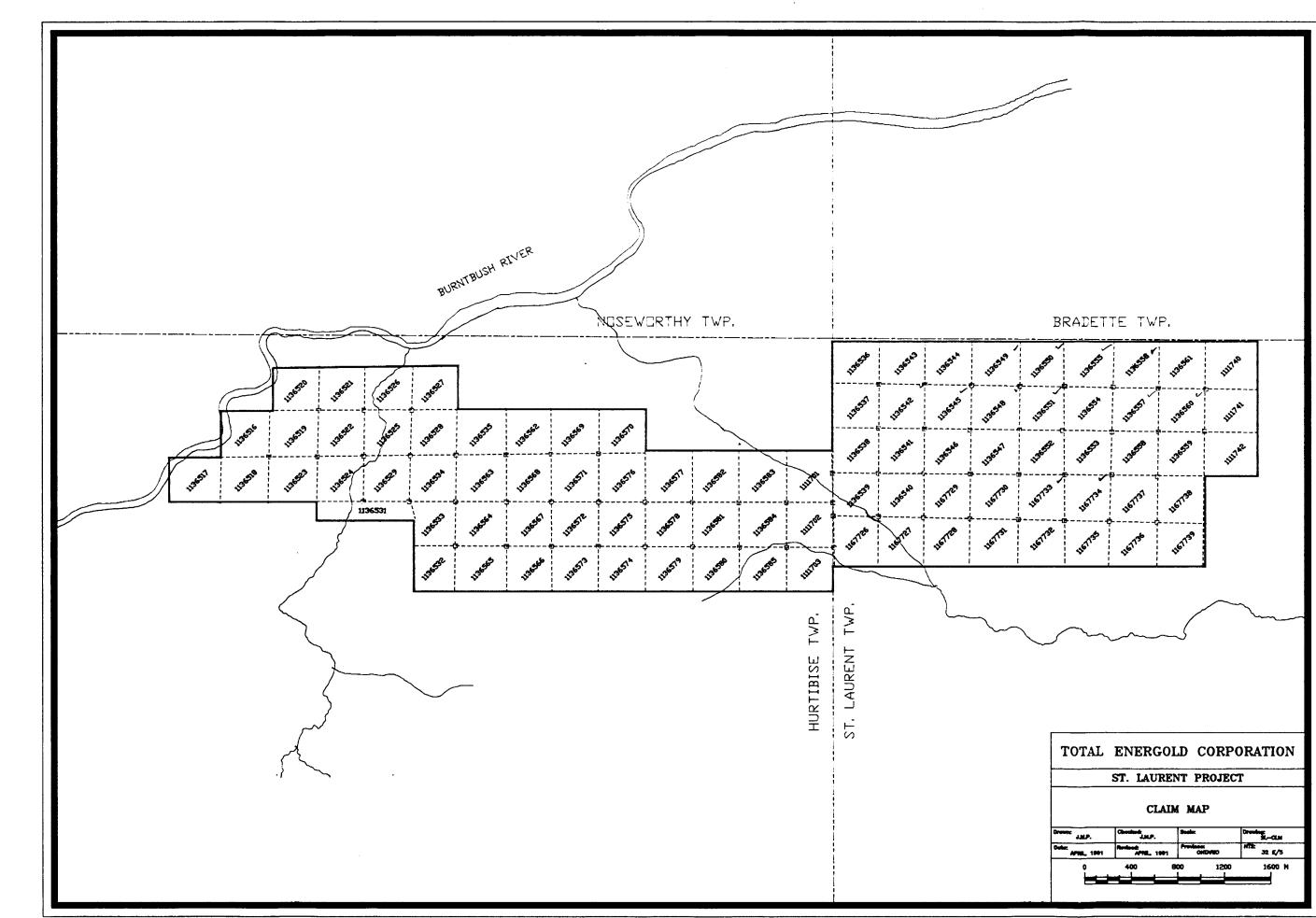
The property is located near the northwest margin of the Abitibi Greenstone Belt, in the Casa Berardi area. The regional geology is comprised of three units, bounded by granitic rocks to the north and south. The lower unit consists of mafic and ultramafic flows and comagmatic intrusives. The middle unit is a complex assemblage of felsic to mafic volcanics, clastic and chemical metasediments, and is the primary host to gold and base metal mineralization in the area. The third and youngest unit is comprised predominantly of clastic sediments. All three units have undergone greenschist to lower amphibolite grade metamorphism.

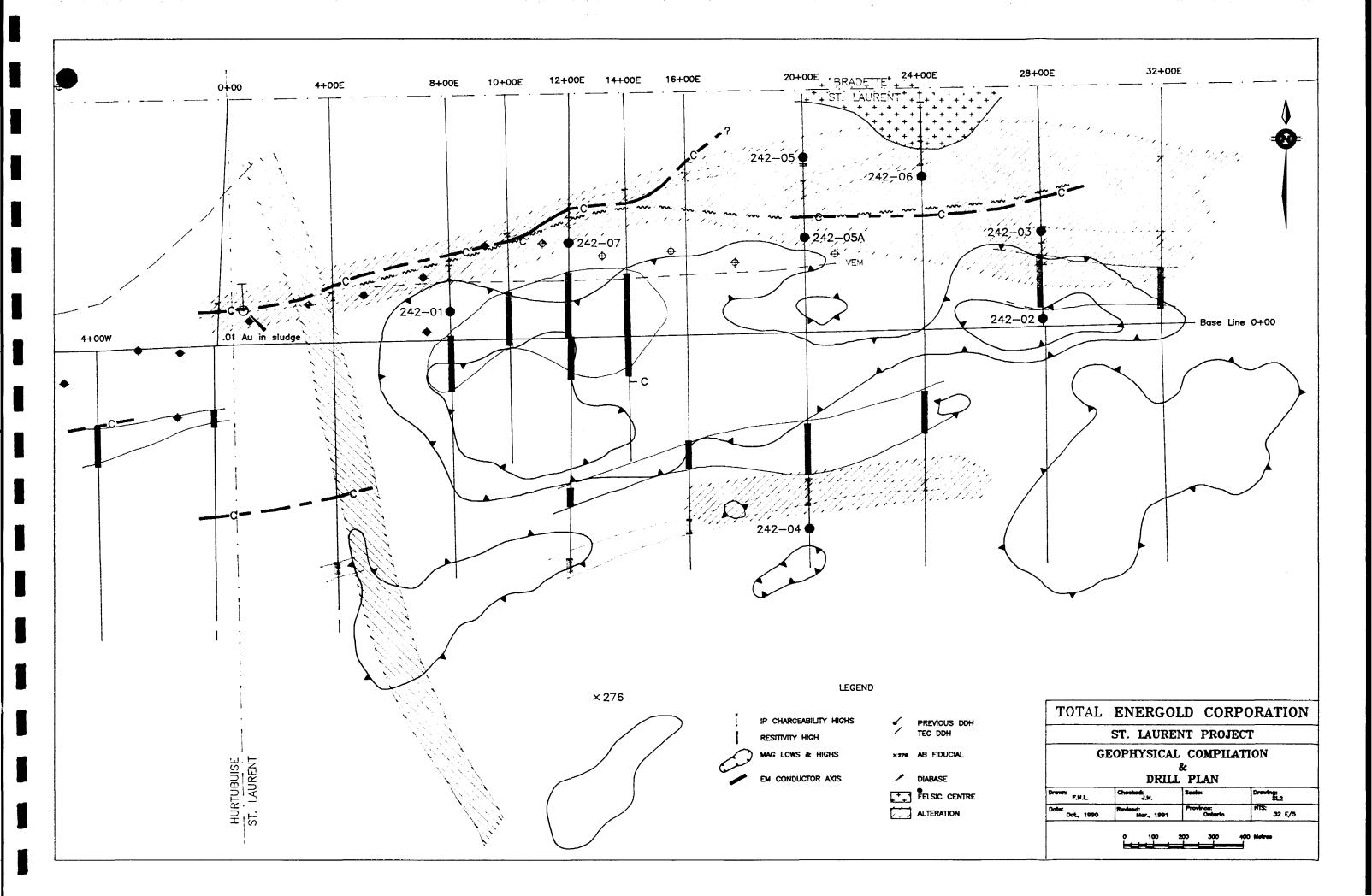
#### PROPERTY GEOLOGY

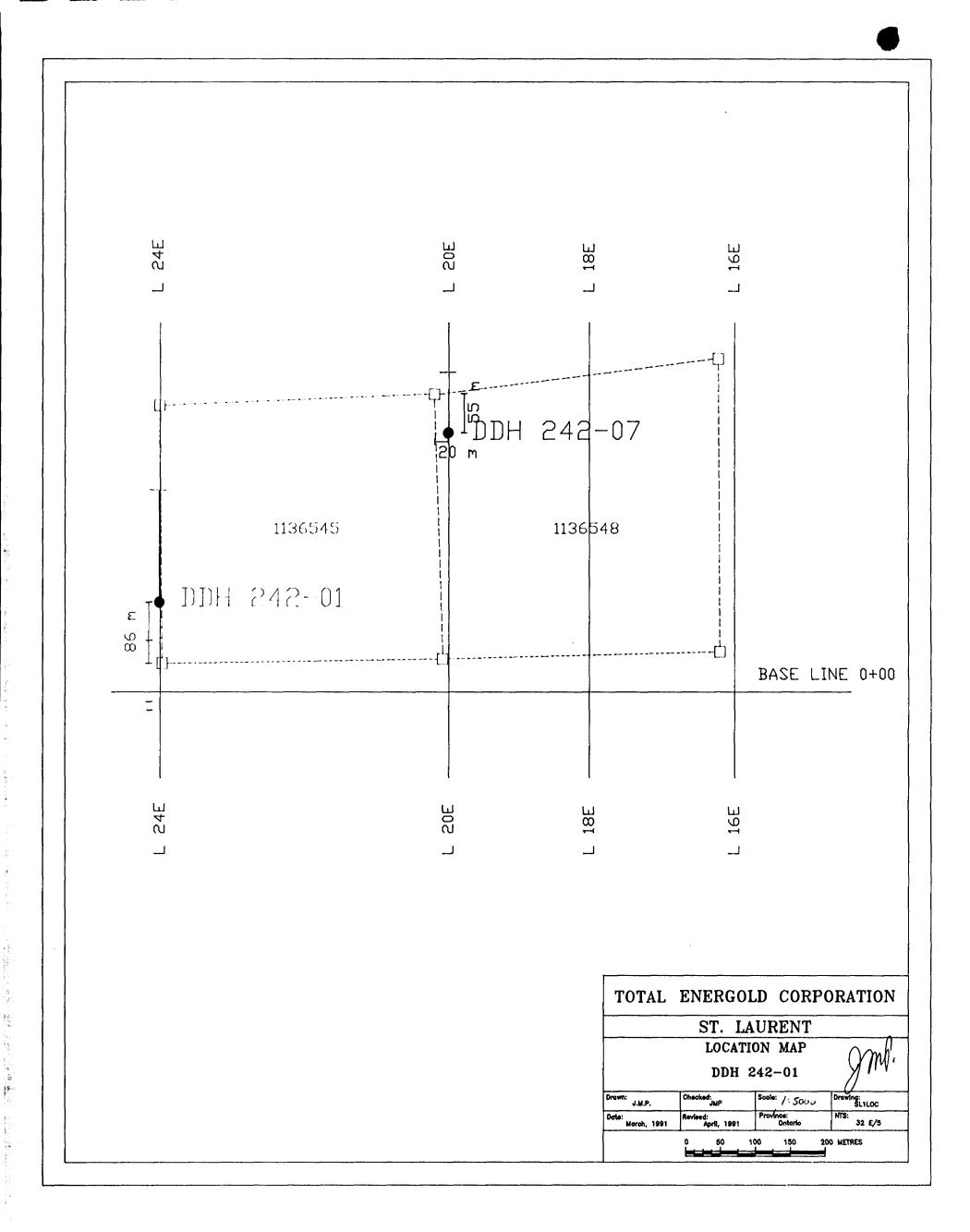
The St. Laurent Property is located in the middle regional unit, and hosts a homoclinal sequence of clastic and chemical sediments, minor mafic volcanics, and felsic volcanics, associated epiclastic rocks and related synvolcanic intrusives. All units dip steeply to the south, and have been regionally metamorphosed to greenschist facies. The sequence has been variably altered and deformed by a strong, wide deformation zone trending subparallel to stratigraphy. This deformation zone has a strike length of tens of kilometres and was encountered on previous drilling on **TOTAL's** Collet property 20 kilometres to the east in Quebec.

#### **RESULTS OF THE DRILL PROGRAM**

There are numerous IP chargeability and resistivity features present on the property. Those targeted for diamond drilling were interpreted to represent either graphitic shear zones similar to the Casa Berardi Fault with the potential to host lode gold deposits or silicified zones (resistivity highs) hosting disseminated gold-bearing sulfides.







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All drill holes intersected strong alteration and deformation. Felsic volcanics were strongly altered to sericite and exhibited signs of intense ductile shearing. The chemical sediments (chert, jasper iron formation) were highly brecciated and fractured, and commonly exhibited remobilization of primary sulfides into fractures.

The amount of quartz veining was usually less than 1%, occurring as narrow irregular stringers and, less commonly, discrete veins approaching 1 metre in width. Sulfide content of the veins was very low.

Gold values were low in all rock types. The highest values of the program (70-82 ppb Au) were encountered in a brecciated chert unit with 5% fracture-controlled sulfides in DDH 242-04. The graphitic shears and the quartz veins they host rarely exceeded gold contents of 10 ppb.

#### CONCLUSIONS AND RECOMMENDATIONS

The February drill program on the St. Laurent property delineated a strong, wide regional deformation zone conformable with stratigraphy. Gold values within the deformation zone were uniformly low.

It is recommended that no further work be done on the property at this time.

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#### **CERTIFICATION**

I, Joseph A. MacPherson, of Newmarket, Ontario hereby certify that:

- 1) I am a graduate from Laurentian University, Sudbury, Ontario obtained in May 1980, with an Honours B.Sc. in Geology.
- 2) I have been practising my profession in Canada since 1980.
- 4) I have no direct interest in the properties, leases or securities of TOTAL Energoid Corporation.
- 5) I have based conclusions and recommendations contained in this report on knowledge obtained from geophysics and diamond drilling conducted on the property between November 1990 and March 1991.

Dated this 15<sup>th</sup> day of April, 1991 Timmins, Ontario

Soseph A. MacPherson

#### DIAMOND DRILL RECORD

Co-ords:		100N	Section	<b>n:</b> 1	.800E	HOLE N	0: 242-01	
Bearing:		360°	Core S	Size: 1	3Q	Property	r: St. Laurent	
		4 5 0	0.110		-			
Dip:		-47°	Grid S	bystem:	2	Location	: St. Laurent	Twp.
Elevation	1:			al~		Claim: 1	136542, 113	6545
Length:		231.01m	g.A.M.	Jun			arted: Feb. 13 mpleted: Feb.	•
Measure	ment:	metres	0.11.				-	
Commen	ts:		0			Logged	By: Joe MacP	herson
Depth 18.29 60.98	Azimut	h Dip -47° -40°	Depth 121.95 182.93	Azimut	h Dip -38° -35°	<b>Depth</b> 232.01	Azimuth	Dip -35°
			LOG	SUMM	ARY			
FROM	ТО	LITHOLOGY						
0.00	17.07	CASING						
17.07	32.60	RHYOLITE TO	) DACITE FI	LOWS				
32.60	47.30	ASSEMBLAGE		•		UFF AND A	GGLOMERAT	ſE,
		SERICITIZED,						
47.30	79.50	COARSE FELS						
79.50	92.84	INTERBEDDE		UFF, CR	ISIAL IU	JFF AND T	AIN DACITIC	10
92.84	97.20	FELSIC TUFF		ILLACEC	DUS MATI	xix		
97.20	103.60	FELSIC APHA					UFFS	
103.60	151.69	MASSIVE OU					0110	
151.69	154.34	SERICITIC FE			_			
154.34	158.70	SILICEOUS IN			NTS			
158.70	163.14	RHYOLITE FL	WO					
<b>163.14</b>	166.65	GRAPHITIC S	HEAR ZONI	E				
166.65	171.80	MASSIVE RH	YOLITE FLO	W WITI	H GRAPH	TIC FRACT	URES	
171.80	175.57	GRAPHITIC S			BRECCIAT	ed rhyoli	TE	
175.57	182.55	SILICIFIED TE						
182.55	189.87	MIXED ASSEN TUFF	MBLAGE OF	PYRITI	C ARGILL	ITE AND FI	ELSIC TUFF 1	'O LAPILLI
189.87	221.29	VARIABLY AL	TERED FEL	SIC VOI	CANIC FI	<b>LOWS AND</b>	FINE TUFFS	
221.29	232.01 232.01	MASSIVE RHY END OF HOLI		)WS				

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	i		HOLE NO: 242-01 Page No: 2 of 15					
FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)	
0.00	17.07	OVERBURDEN		<u>ana (, , , , , , , , , , , , , , , , , , ,</u>				
17.07	32.60	<ul> <li>RHYOLITE TO DACITE FLOWS</li> <li>Sequence of massive to strongly foliated felsic flows, varying in composition from rhyolite to dacite. Dacite flows are fine to medium grained, and consist of approximately equal amounts of feldspar and quartz, often exhibiting an ophitic growth, imparting a lathe-like appearance to the flow. The rhyolite is massive aphanitic and hard. Both rock types are variably altered and sericitic. The rhyolites are more highly altered, lime green and exhibit numerous slip planes at 60° to the C.A. The dacite flows, although altered, are not as obviously sericitic as the rhyolites. No sulfide mineralization noted.</li> <li>19.45 to 20.12 10 cm rusty shear at 19.55 meters, and a 20 cm rusty quartz ankerite vein centered at 19.90 meters. Trace pyrite in rusty quartz vein. Rusty shear is broken and very</li> </ul>	20601 20602	19.45 31.30	20.12 32.60		00	
		fissile. 31.30 to 32.60 section contains 2 quartz ankerite chlorite veins, 5-10cm wide, trace pyrite, hosted by a well foliated and sericitic rhyolite.						
32.60	47.30	ASSEMBLAGE OF FELSIC TUFF, LAPILLI TUFF AND AGGLOMERATE, SERICITIZED, LOCALLY SILICIFIED Complex section of thinly bedded tuffs, highly altered and sheared. General gradation down the hole to coarser fragmentals. Clast types are: massive aphanitic rhyolite (40%), quartz eye rhyolite (40%), argillite (15%), and less than 5% pyrite and/or pyrite/graphitic argillite. Largest lapilli noted was 6 cm in dimension. Both clasts and host rock of the tuffs are highly altered, and the host is also locally silicified. 5% chloritic stringers at random angles to the C.A. Strong foliation and local shearing at 55° to the C.A. Contacts are generally gradational between tuff units, although the finer units are well sorted. All clasts are angular. No crystal tuff noted. Note: samples taken on the basis of geological contacts and/or changes in intensity of	20603 20604 20605 20606 20607 20608 20609 20610 20611 20612 20613	82.60 33.50 34.90 35.52 36.50 37.18 38.60 40.00 41.75 43.25 44.90	33.50 34.90 35.52 36.50 37.18 38.60 40.00 41.75 43.25 44.90 47.30	$1.40 \\ 0.62 \\ 0.98 \\ 0.68 \\ 1.42 \\ 1.40 \\ 1.75 \\ 1.50 \\ 1.65$	0 0 7 0 0 0 0 10 0 0	

alteration.

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FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		32.60 to 33.50 25% irregular quartz ankerite veining, intense sericitic slips at 55° to the C.A. Narrow 1 cm quartz veinlet at 10° to the C.A.					
		33.50 to 34.90 5% quartz ankerite veining, local 10-20 cm of intense sericite alteration.					
		34.90 to 35.52 Light grey, possibly interflow sediments. Trace pyrite.					
		35.52 to 36.50 Brecciated, fractured (chloritic), 15% quartz ankerite veining, local narrow intense sericitic shears (5 cm wide).					
		36.50 to 37.18 Silica-flooded and strongly sericitic - original texture obliterated. Grey to lime green, trace pyrite.					
		37.18 to 38.60 20 cm quartz ankerite vein at start of this predominantly tuffaceous section. Moderately to strongly sericitic, forming strong schistosity at 50 degrees to the CA.					
		38.60 to 40.00 Predominantly tuff, with a few lapilli size fragments. Notable for a few 1 cm rounded fragments of pyritic argillite. Continued strong to intense alteration.					
		40.00 to 41.75 Tuff, sericitic, locally silicified, tr pyrite, occasional argillaceous slip, tr pyrite.					
		41.75 to 43.25 Tuff, coarsening towards the end of the section to lapilli tuff. Fragments up to 3 cm in largest dimension. Larger fragments more sericitic than the matrix.					
		43.25 to 44.90 25 cm graphitic shear at top of section. Below this the tuff/lapilli tuff is intensely sheared and altered to sericite and quartz. 1-2% cubic pyrite.					
		44.90 to 47.30 80% core recovery. Broken and quartz veined lapilli tuff. 5% white quartz veins at a variety of angles to the CA. 1% pyrite an average. 1cm massive pyrite at 47.30 meters.					
47.30	79.50	COARSE FELSIC FRAGMENTALS: LAPILLI TUFF TO AGGLOMERATE Poorly sorted felsic fragmental with clasts					

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FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		ranging in size from a few millimeters to in greater than 10 cm. All fragments are felsic and vary in composition from massive aphanitic to quartz eye to feldspar phyric (dacite). Matrix is distinctive black, fine grained, argillaceous, and possibly locally graphitic. Matrix unaltered, some felsic fragments are weakly sericitized. Overall, unit is poorly sorted, and all fragments are angular, with the exception of the small ones, which are subrounded to rounded. Nil pyrite. Upper contact with altered lapilli tuff is very sharp - possibly a shear contact between blocks in a wide shear zone?? Below 58.2 meters, the matrix gradually becomes lighter in colour and more siliceous. Composition of the clasts is the same, and the					
<b>70 70</b>	00.04	rock is essentially unaltered. A weak local calcite crackle fracture is present.					
79.50	92.84	INTERBEDDED FELSIC TUFF, CRYSTAL TUFF AND THIN DACITIC TO RHYOLITIC FLOWS Medium grey, siliceous, hard. Beds vary from a few cm to 30 cm thick and often exhibit sharp contacts at 65 degrees to the CA. Occasional weak sericitic wisps. Tuffaceous beds are clast- supported - mainly felsic quartz eye rhyolite to aphanitic rhyolite. Occasional lapilli size clast may be present. Crystal tuffs are usually quartz eye bearing, with occasional minor feldspar. Dacite flows are fine grained to locally medium grained and feldspar phenocryst-rich. The fine grained tuffs may contain up to 0.5% cubic pyrite. Rare white quartz vein.					
		Below 81 meters, the unit is almost entirely composed of lapilli tuff, with individual lapilli up to 6 cm in size. Fragment types vary from aphanitic rhyolite to quartz eye rhyolite to dacite. Sericite continues to be present only as thin irregular wisps. Occasional very small (mm size) fuchsitic fragment present. Tr cubic pyrite throughout.					
92.84	97.20	FELSIC TUFF WITH ARGILLACEOUS MATRIX Black, well foliated to locally sheared at 60 degrees to the CA. Fragments range from 1-2	20614	96.10	96.6	0 0.50	0

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FROM	ТО	DESCRIPTION	SAMPLE #	FROM	TO	LENGTH	Au (ppb)
		mm to 1 cm and rarely larger. They consist of individual quartz and feldspar grains, and larger (up to 1 cm) felsic rock fragments (aphanitic to quartz eye rhyolite) and rare lapilli size fragments of varying composition. Locally sheared and quartz veined, no pyrite noted.					
		96.10 to 96.60 Shear zone with a 15 cm white quartz vein, no pyrite, chloritic fractures. No alteration.					
		After 96.60 the rock becomes more foliated is cut by narrow shears, very chloritic, and usually occupied by white quartz veins intruding parallel to foliation.					
97.20	103.60	FELSIC APHANITIC RHYOLITE AND FINE- GRAINED TUFFS Fine-grained rhyolite and minor tuff, moderately to locally strongly altered and sheared over 5-15 cm. Grades from the overlying black argillite-matrix tuff to a light grey-green colour. Numerous distinct sericite stringers oriented at 70 degrees to the CA. Lower contact sharp and marked by 2 cm fault gouge and 1 15 cm white quartz vein.	20615 20616 20617 20618 20619	97.20 98.50 99.37 100.85 102.41	98.50 99.37 100.85 102.41 103.60	1.56	7 10 0 0 10
		Shear zones noted at: 92.44 (20 cm)- argillaceous; 99.25 (10 cm)-sericitic, unconsolidated gouge; 102.65 (1 cm)-sericitic; 103.50 (2 cm)-sericitic, unconsolidated gouge					
		97.20-98.50 Locally sheared, 5% white quartz veining, 1-2% disseminated pyrite at 97.40 meters, in argillaceous shear.					
		98.50-99.37 As above, shear is sericitic. 2% white quartz veining. Weakly pyritic at 98.90 meters.					
		99.37-100.85 Sericitic flows, 1% grey crackle fracture, tr pyrite, 1% white quartz veining.					
		100.85-102.41 As above.					
		102.41-103.60 As above, 15 cm white quartz vein at lower contact.					

<u>total</u>	<u>, ENERGO</u>	LD CORPO	RATION
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**HOLE NO: 242-01** Page No: 6 of 15 FROM то DESCRIPTION SAMPLE # FROM то LENGTH Au (ppb) 103.60 151.69 MASSIVE QUARTZ EYE RHYOLITE Massive, light greenish-grey, moderately to locally very hard. Distinctive feature is 5% rounded grey translucent quartz eyes and occasional fuchsitic fragment (highly altered mafic rock fragment or ash?). Also, 3% masses of yellow sericite/ankerite, which may be the alteration product of a third type of fragment. 1% random grey quartz-filled crackle fractures, tr pyrite. Locally broken and ground, but otherwise quite competent. Grading into short sections (maximum 20 cm) of feldspar phyric flow at: 116.05m, 121.30m, 122.25m, 122.85m 133.80 3 cm white quartz vein associated with 2 cm of unconsolidated fault gouge. Below 140.00 meters, the core takes on a weak foliation oriented at 65-70 degrees to the CA. Also, there are 2-3% grey quartz-filled random fractures below this point as well. 140.00-143.00 1 meter of ground core. 144.15-151.69 Increasing sericite content and degree of foliation. 154.34 SERICITIC FELSIC TUFFS 151.69 20620 151.69 153.30 1.61 7 Strongly foliated at 55 degrees to the CA. 20621 153.30 154.34 1.04 0 Foliation formed by parallel alignment of sericite wisps and masses. Local fault gouge, as at 151.75 meters. Minor quartz veining associated with these faults. Tr pyrite. 151.69-153.30 Sericitic, 10% grey quartz carbonate veinlets and masses parallel to foliation. Tr pyrite. 153.30-154.34 As above. 40 cm of strong faulting with gouge and 20% white quartz veining centered at 154.15 meters. Tr pyrite. 158.70 SILICEOUS INTERFLOW SEDIMENTS 54.34Moderately silicified, dark grey to black, not sericitic, moderately foliated at 60 degrees to the CA. 15 cm of unconsolidated fault gouge at

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FROM	ТО	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
		155.50 meters. 5 cm crack-seal grey quartz vein at 155.15 meters. Tr pyrite in sericitic fractures in vein.					
		154.34-155.80 Weakly sericitic, faulted, 2% grey crack-seal quartz veining at 155.15 meters. Tr pyrite.					
158.70	163.14	<b>RHYOLITE FLOW</b> Strongly deformed and brecciated, very weakly sericitic. Crackle fracture common, weak foliation developed at 55 degrees to the CA.					
163.14	166.65	<b>GRAPHITIC SHEAR ZONE</b> Very fissile, rock highly deformed, local 100% graphite, minor pyrite and quartz veining. Intense shearing at 65 degrees to the CA.	20622	163.14	163.70	0.56	0
1		163.70 to 165.00 <b>100% graphitic fault gouge.</b> Totally unconsolidated.					
		163.14-163.70 60% graphite, 5% late quartz veining, 1% pyrite.					
166.65	171.80	MASSIVE RHYOLITE FLOW WITH GRAPHITIC FRACTURES Massive dark grey rhyolite is cut by 15-25% random fractures, filled with graphite-chlorite. Minor 1 cm fault gouge. Local sericitic patches contain black quartz ankerite stringers with 1- 4% very finely disseminated <b>arsenopyrite</b> . The arsenopyrite-bearing sections occur from 166.65-167.6, from 168.50-169.00, and at 170.45, 171.20. The sulphide is very subtle and difficult to observe under 20X lens. Distinguishing characteristic for arsenopyrite- bearing rock is slight increase in pervasive sericite, imparting a light green tinge to the otherwise grey rock.	20623 20624 20625 20626 20627 20628 20629 20630 20631	166.65 167.60 168.50 169.00 169.50 170.00 170.50 171.00 171.55	167.60 168.50 169.00 170.00 170.50 171.00 171.55 171.80	0.90 0.50 0.50 0.50 0.50 0.50 0.55	17 0 0 0 0 0 0 0
		166.65 to 167.60 Numerous sightings of fine arsenopyrite in narrow irregular black quartz ankerite veinlets. Light green tinge to section on average. Tr pyrite.					
		167.60 to 168.50 Crackle-fractured siliceous rhyolite. 25% irregular fractures filled with graphite and chlorite. Tr pyrite.					

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FROM	ТО	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		168.50 to 169.00 Arsenopyrite-bearing section, as per 166.65-167.60.			,		
		169.00 to 169.50 Crackle fractured siliceous rhyolite. 10% graphite-chlorite fractures. Tr pyrite.					
		169.50 to 170.00 As above. 10% graphite- chlorite fractures.					
		170.00 to 170.50 As above. 15% fractures. Slight greenish tinge to rock locally, but no arsenopyrite noted. Tr pyrite.					
		170.50 to 171.00 As above. 20% fractures.					
		171.00 to 171.55 As above. Lower contact sheared, chloritic and graphitic. 1 sight asenopyrite noted.					
		171.55 to 171.80 Mixed graphitic shear and siliceous fractured rhyolite.					
171.80	175.57	<b>GRAPHITIC SHEAR ZONE AND</b> <b>BRECCIATED RHYOLITE</b> Local intense graphitic shears cutting brecciated and locally sericitic rhyolite. Section is broken and crushed - core recovery 60%. Local minor pyrite, arsenopyrite and chalcopyrite, always in black quartz ankerite veinlets or masses. The graphite-chlorite fracture fillings are mostly absent in this section, compared with the previous section.	20632 20633 20634	171.80 173.00 174.00	173.00 174.00 175.57	1.00	0 0 0
		171.80 to 173.00 Numerous strong graphitic shears, core broken, recovery 60%.					
		173.00 to 174.00 Broken core, mainly brecciated rhyolite.					
		174.00 to 175.57 60% recovery, local bits of sericitic rhyolite with tr arsenopyrite.					
175.57	182.55	SILICIFIED TECTONIC BRECCIA Felsic volcanic fragments, angular and widely varying in size, hosted by a black aphanitic matrix composed of graphite and chloritic argillite (??), strongly silicified, locally pyritic. Two kinds of pyrite are present. The first is	20635 20636 20637 20638 20639 20640	175.57 176.95 177.50 178.00 178.50 179.00	175.95 177.50 178.00 178.50 179.00 179.50	0 0.55 0 0.50 0 0.50 0 0.50	0 10 7 17 0 14

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FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		fine-grained and has a dull lustre. It occurs as masses within the argillaceous matrix of the	20641 20642	179.50 180.00	180.50	0.50 0.50	10 14
		breccia. The second type of pyrite has a	20643	180.50			0
		brighter lustre and is coarser-grained, occurring	20644	181.00			14
		as cubes and local masses with white to light grey quartz carbonate veinlets and in narrow fractures crosscutting both matrix and breccia fragments.	20645 20646	181.50 182.00			10 17
		175.57 to 176.95 Black, fine-grained, foliated at 60 degrees to the CA. 5% felsic rock fragments up to 1 cm dimension. Tr pyrite only. Brecciation and accompanying silicification starts at 176.95 meters and increase in intensity down the hole. Percentage of quartz veining also increase down the hole. Higher pyrite contents appear to be associated with increase intensity of silicification.					
		176.95 to 177.50 Heterolithic breccia, although all fragments are felsic. Tr pyrite in silicified sections, which are short (10 cm) but increase in intensity and frequency towards the lower contact.					
		177.50 to 178.00 Moderate pervasive silicification. Some felsic fragments sericitic. 2% pyrite, mainly as masses within the black matrix of the breccia. 1% white irregular quartz veining.					
		178.00 to 178.50 As above. 2% pyrite in matrix.					
		178.50 to 179.00 3-5% pyrite, all in fractures or in narrow quartz ankerite veins within the black siliceous matrix of the breccia. Few breccia fragments in this section.					
		179.00 to 179.50 Strongly silicified. 3% pyrite, as masses and a minor amount in fractures with quartz.					
		179.50 to 180.00 1% pyrite, 10% white irregular quartz veining, no pyrite in veins.					
		180.00 to 180.50 5% fine pyritic masses in black siliceous matrix. A further 2-3% bright pyrite in 10% narrow CA-parallel quartz ankerite stringers.					

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F	ROM	ТО	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
			180.50 to 181.00 Low-angle quartz-pyrite stringers, 10% pyrite.				<u> </u>	<u> </u>
			181.00 to 181.50 As above. quartz stringers crenulated at 60 degrees to CA (same as general foliation).					
			181.50 to 182.00 20% CA-parallel quartz veining, 25% massive and bright pyrite.					
			182.00 to 182.55 20% sedimentary (dull lustre) pyrite. 10% bright pyrite in quartz veins.					
			Below 182.55 meters, the intensity of silicification decreases, as does the intensity of brecciation. The core takes on a more sedimentary appearance, as evidenced by the appearance of highly contorted fine grained bands of pyrite.					
	32.55	189.87	<ul> <li>MIXED ASSEMBLAGE OF PYRITIC ARGILLITE AND FELSIC TUFF TO LAPILLI TUFF</li> <li>Complex assemblage of sediments and felsic tuffs, Generally, the tuffaceous rocks are moderately sericitic, while the sediments appear unaltered, with the exception of local minor silicification and quartz veining. The argillaceous units are usually cut by several graphitic shears. The result is broken and crushed rock and poor core recoveries in these sections.</li> <li>182.55 to 185.00 Generally argillite, cut by several graphitic shears, at 184.28, 184.58 and 185.55 meters. 3% pyrite on average.</li> <li>182.55 to 183.00 25% grey quartz ankerite veining at 20 degrees to the CA, containing 10% pyrite along the vein margins. A further 5% pyrite in narrow irregular fractures.</li> </ul>	20647 20648 20649 20650 20651 20652 20653 20654 20655 20656 20657 20658 20659 20660	182.55 183.00 183.50 184.00 184.50 185.00 185.50 186.00 186.50 187.00 187.50 188.00 188.50 189.00	183.00 183.50 184.00 185.00 185.50 186.00 186.50 187.00 187.50 188.00 188.00 188.50 189.00	0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50	14 10 14 17 14 17 10 14 10 14 7 0 14 14
			Moderately silicified. 183.00 to 183.50 Breccia. Large fragments, tr pyrite.					
			183.50 to 184.00 Graphitic shear at 183.40. 5%					

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HOLE NO: 242-01 Page No: 11 of 15

FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		pyrite in black silicified matrix of breccia.	•••••••••••••••••••••				
		184.00 to 184.50 2 cm sericitic shear at 184.05. 15 cm grey quartz ankerite vein with 3% pyrite as masses from 184.5-184.65 m. Overall, moderately silicified.					
		184.50 to 185.00 Sericitic and brecciated towards the lower contact. 1% pyrite.					
		185.00 to 185.50 30 cm of weakly sericitic and crackle fractured massive felsic volcanic. Tr pyrite. Fractures filled with grey quartz.					
		185.50 to 186.00 2 cm graphitic/sericitic fault gouge at 185.97 meters. Becoming moderately sericitic towards end of section. 1% pyrite, 3% dark grey quartz ankerite stringers.					
		186.00 to 186.50 Moderately sericitic, patchy silicification, tr pyrite. 2% black quartz ankerite stringers.					
		186.50 to 187.00 Last 20 cm is black fractured quartz vein with tr pyrite in fractures.					
		187.00 to 187.50 Dark grey to black quartz vein. Last 20 cm faulted and broken core. Poor recovery (80%). 1% pyrite.					
		187.50 to 188.00 Faulted upper contact, continuing weakly silicified, sericitic. 2% masses of pyrite.					
		188.00 to 188.50 Grey with light green tinge. 3% black irregular quartz crackle fracture. 2% pyrite.					
		188.50 to 189.00 As above.					
		189.00 to 189.87 Broken core. Black, weakly silicified, occasional sericitic wisp. 1 cm unconsolidated graphitic fault gouge at lower contact.					
189.87	221.29	VARIABLY ALTERED FELSIC VOLCANIC FLOWS AND FINE TUFFS Sharp upper contact with argillaceous/graphitic shear zone at 189.87 meters. Section is a	20661 20662 20663 20664 20665	192.85 195.20 199.00 203.33 215.25	196.0 200.0 207.7	5 0.85 0 1.00 7 4.44	0 0 14 10 10

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HOLE NO: 242-01 Page No: 12 of 15

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	TO	LENGTH	Au (ppb)
		mixture of light greenish grey to black. The latter is due to intense fracturing and subsequent fracture filling by black quartz ankerite veinlets. Tr overall, locally 2-3% in areas of more intense fracturing. 1% white quartz veining in sericitic sections only.	20666	216.27	217.55	1.28	0
		192.85 to 193.85 Mixed sericitic and black fractured zone. 15 cm quartz sericite vein in sericitic volcanics, tr pyrite in black fractured volcanics.					
		195.20 to 196.05 Strongly fractured and brecciated felsic volcanic. Minor sericitic sections. 1% white quartz veining. 0.5% disseminated pyrite.					
		199.00 to 200.00 Fine grained, massive, black and silicified. 1-2% disseminated pyrite. May be originally a fine grained felsic tuff.					
		203.33 to 203.77 <b>10 cm sericitic and pyritic</b> fault. 5% pyrite, 10% quartz in fault zone. Remainder of section is massive siliceous rhyolite.					
		Below 203.77 meters, the core continues to consist of alternating black fractured section and moderately foliated sericitic sections. Pyrite content and amount of quartz veining is low.					
		215.25 to 217.55 Sericitic Shear Zone. Massive sericitic sections cut by 25% black quartz ankerite veinlets parallel to foliation (at 55 degrees to CA). Veins contain 1% fine disseminated pyrite.					
		215.25 to 216.27 Sericitic, light green to greenish grey, 10% black quartz ankerite veins, tr pyrite. 216.27 to 217.55 As above, 0.5-1% pyrite.					
221.29	232.01	<b>MASSIVE RHYOLITE FLOWS</b> Not altered, medium grey, very siliceous, minor fracturing, no pyrite. Aphanitic to locally quartz eye bearing.					
2:	32.01	END OF HOLE					

HOLE NO: 242-01 Page No: 13 of 15

SAMPLE #	FROM	OT	LENGTH	Cu (ppm)	Zn (ppm)	Ag (ppm)
20601	19.45	20.12	0.67	9	62	
20602	31.30	32.60	1.30	9	85	
20603	32.60	33.50	0.90	30	56	
20604	33.50	34.90	1.40	49	74	
20605	34.90	35.52	0.62	19	70	
20606	35.52	36.50	0.98	28	68	
20607	36.50	37.18	0.68	25	85	
20608	37.18	38.60	1.42	31	80	
20609	38.60	40.00	1.40	27	79	
20610	40.00	41.75	1.75	39	90	
20611	41.75	43.25	1.50	28	79	
20612	43.25	44.90	1.65	29	81	
20613	44.90	47.30	2.40	27	63	
20614	96.10	96.60	0.50	25	46	
20615	97.20	98.50	1.30	60	58	
20616	98.50	99.37	0.87	31	62	
20617	99.37	100.85	1.48	26	59	
20618	100.85	102.41	1.56	39	68	
20619	102.41	103.60	1.19	23	67	
20620	151.69	153.30	1.61	30	66	
20621	153.30	154.34	1.04	19	57	
20622	163.14	163.70	0.56	61	92	
20623	166.65	167.60	0.95	9	45	
20624	167.60	168.50	0.90	6	26	
20625	168.50	169.00	0.50	5	19	
20626	169.00	169.50	0.50	8	33	

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#### HOLE NO: 242-01 Page No: 14 of 15

SAMPLE #	FBOM	то	LENGTH	Cu (ppm)	Zn (ppm)	Ag (ppm)
20627	169.50	170.00	0.50	7	80	
20628	170.00	170.50	0.50	8	27	
20629	170.50	171.00	0.50	11	25	
20630	171.00	171.55	0.55	5	25	
20631	171.55	171.80	0.25	8	27	
20632	171.80	173.00	1.20	9	40	
20633	173.00	174.00	1.00	6	35	
20634	174.00	175.57	1.57	71	84	
20635	175.57	176.95	1.38	62	67	
20636	176.95	177.50	0.55	29	81	
20637	177.50	178.00	0.50	144	111	
20638	178.00	178.50	0.50	74	187	
20639	178.50	179.00	0.50	185	125	
20640	179.00	179.50	0.50	164	26	
20641	179.50	180.00	0.50	75	25	
20642	180.00	180.50	0.50	101	27	
20643	180.50	181.00	0.50	126	22	
20644	181.00	181.50	0.50	170	58	
20645	181.50	182.00	0.50	185	52	
20646	182.00	182.55	0.55	271	219	
20647	182.55	183.00	0.45	295	31	
20648	183.00	183.50	0.50	58	58	
20649	183.50	184.00	0.50	126	54	
20650	184.00	184.50	0.50	152	63	
20651	184.50	185.00	0.50	204	41	
20652	185.00	185.50	0.50	10	67	

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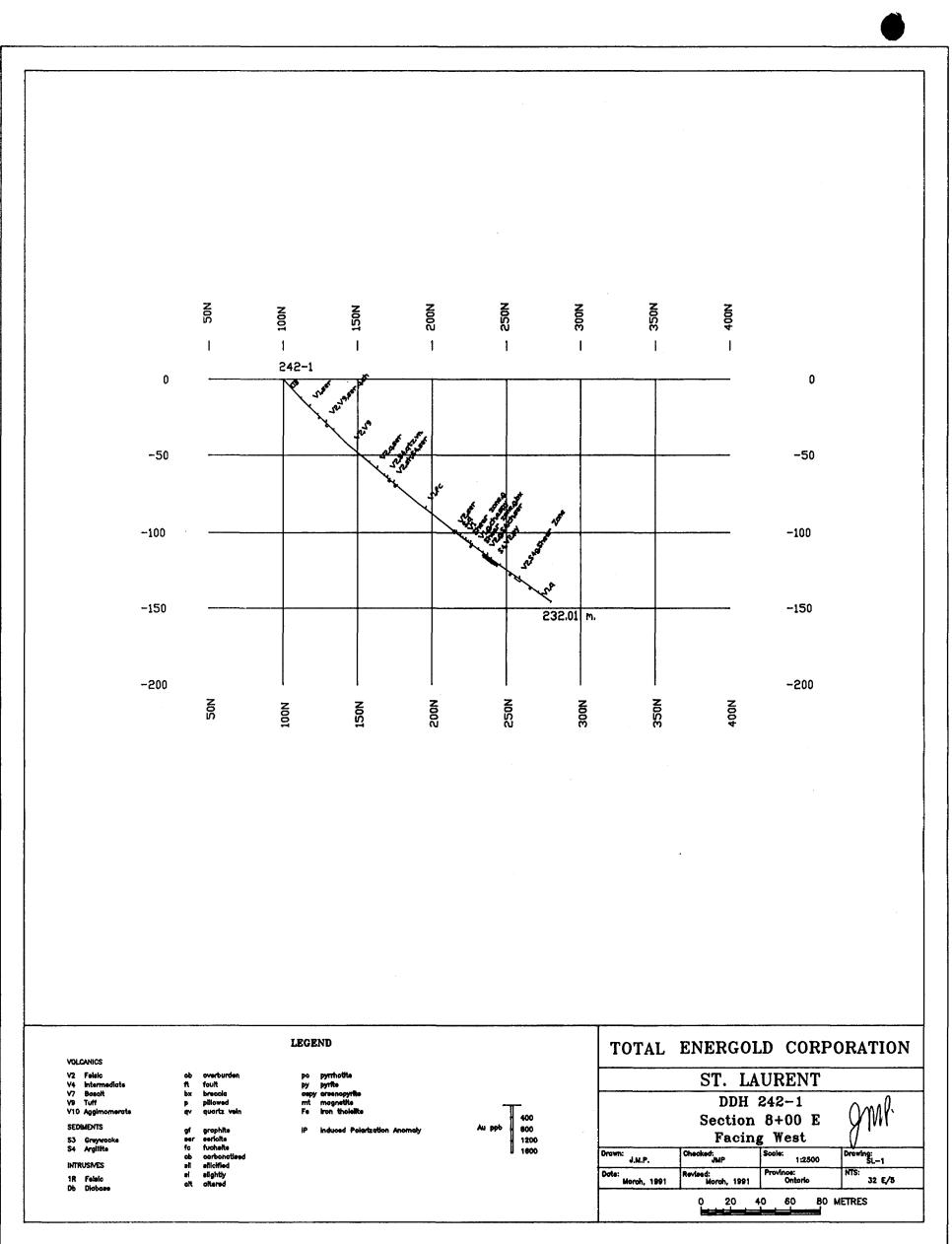
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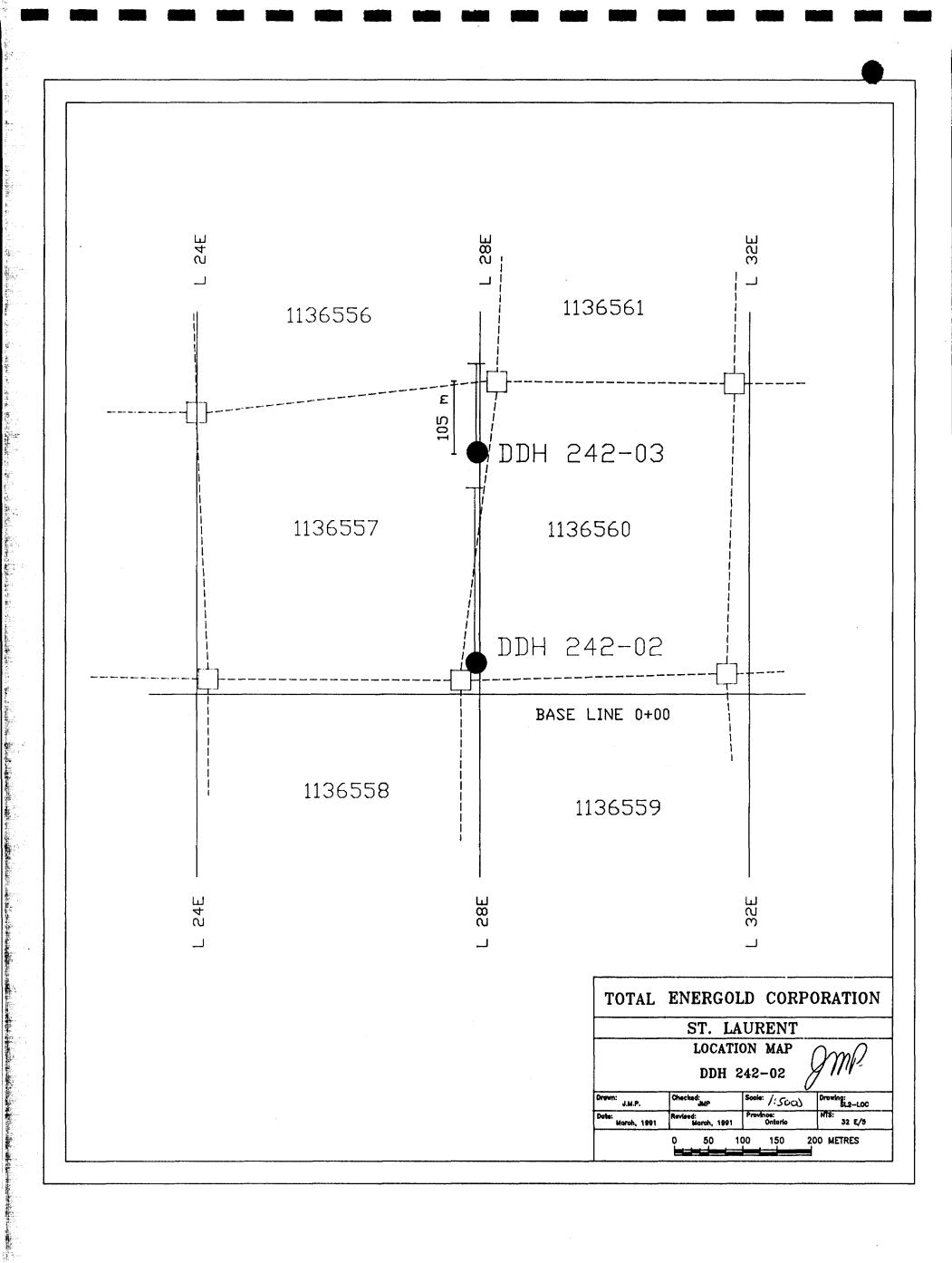
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HOLE NO: 242-01 Page No: 15 of 15

SAMPLE #	FBOM	OT	LENGTH	Cu (ppm)	Zn (ppm)	Åg (ppm)
20653	185.50	186.00	0.50	11	43	
20654	186.00	186.50	0.50	14	64	
20655	186.50	187.00	0.50	18	18	
20656	187.00	187.50	0.50	14	21	
20657	187.50	188.00	0.50	18	28	
20658	188.00	188.50	0.50	59	25	
20659	188.50	189.00	0.50	471	87	
20660	189.00	189.87	0.87	124	16	
20661	192.85	193.85	1.00	168	88	
20662	195.20	196.05	0.85	181	88	
20663	199.00	200.00	1.00	244	80	
20664	203.33	207.77	4.44	46	27	
20665	215.25	216.27	1.02	18	17	
20666	216.27	217.55	1.28	12	19	
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#### DIAMOND DRILL RECORD

			TOTAL	ENEI	RGOLI	5 C C	O R P O	RATIO	N	
					OND DRI				_	
	Co-ords:		25N	Se	ction:	L28	800E	HOLE N	0: 242-02	•
	Bearing:		360°	Со	re Size:	BQ		Property	: St. Laurent	
	Dip:		-45°	Gr	id Systen	1:		Location	1	
	-									
	Elevation:							Claim: 1	136557, 113	6560
	Length:		367.63m	Λ	9. <i>11k</i>	P,			nted: Feb. 16 mpleted: Feb.	
	Measurem	ent:	metres	J.	7./ <i>lk</i> /	m		Dale Co.	mpieted: rev.	21, 1991
	Comments	5:						Logged 1	<b>By:</b> Joe MacP	herson
	Depth 15.24	Azimut	-46°	<b>Depth</b> 239.6		uth	<b>Dip</b> -35°	Depth	Azimuth	Dip
	91.46 163.42		-45° -38°	365.8	5		-22°			
		. <u>.</u>			·					
				]	LOG SUN	<u>IMAR</u>	Y	·		
							,			
	FROM	TO	LITHOLOGY							
	0.00	10.37	OVERBURDE	N						
		150.17	MASSIVE MA							
	150.17	176.85	INTERBEDDE FORMATION	D ARGII	LLITE, IN	TERM	IEDIATE	TUFF AN	D JASPER IR	ON
and a factor	176.85	190.95	CHERT-JASPI	ER IRON	FORMA	TION	WITH G	RAPHITIC	INTERBEDS	
	190.95	197.05	INTERBEDDE FORMATION	D GREY						
	197.05	227.00	CLASTIC MET		ENTS.	(EDU		OARSE CI	REYWACKE	
		230.09	MODERATEL							
		236.50	MIXED SEQU							S
		244.14	INTERBEDDE							~
		246.69	FRACTURED							
	246.69	277.17	CLASTIC MET				_			
		286.69	SHEARED GR	APHITIC	C AND SI	ERICI	ΓIC ARG	ILLITE		
		293.84	FINE GRAINE							
		324.93	FELSIC TUFF							
	324.93	340.56	INTERBEDDE					NE GRAIN	ED ARGILLIT	E
	340.56	367.63	FINE GRAINE		TIC MET	ASED	IMENT			
		367.63	END OF HOL	E						
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HOLE NO: 242-02 Page No: 2 of 13

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
0.00	10.37	OVERBURDEN Clay, sand, gravel, boulders near bedrock.			4		
0.00	10.37		20252 20253 20254 20255 20256 20257 20258 20259	18.10 20.10 58.54 59.45 70.63 81.08 140.55 146.35	18.45 20.25 59.45 60.60 72.10 81.66 141.40 147.00	0.15 0.91 1.15 1.47 0.58 0.85	NS NS NS NS NS O
		medium green, calcitic iron tholeiitic basalt. 70.75 5 cm band of jasper-magnetite iron formation. Moderately magnetic, banded at 45°					

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HOLE NO: 242-02 Page No: 3 of 13

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
<u>, , , , , , , , , , , , , , , , , , , </u>		70.63 to 72.10 3% quartz veining, minor magnetite in veins, trace pyrite. Minor pyrite in jasper IF at 70.75 meters.					
		81.08 to 81.66 20 cm quartz vein with 25% disseminated magnetite, 1% pyrite.					
		89.80 20 cm of weak shearing at 60 <sup>0</sup> to the C.A.					
		Further down the section, notably past 110 meters, the rock becomes lighter green with a greyish tinge, and is slightly harder, reflecting a gradation towards more intermediate composition.					
		132.69 to 147.00 Zone of weak shearing and white quartz veining. Weak sericite development. Trace pyrite. Weak foliation at $65^{\circ}$ to the C.A.					
		140.55 to 141.40 15% white quartz veining in weak shear, chloritic wallrock, trace pyrite.					
		146.35 to 147.00 25 cm quartz vein with chloritic inclusions and wallrock. Trace pyrite in vein.					
150.17	176.85	INTERBEDDED ARGILLITE, INTERMEDIATE TUFF, AND JASPER IRON FORMATION Complex section of interbedded fine-grained, foliated and weakly sericitic argillite, fine grained to medium grained greywacke, and very hard jasper iron formation. For the most part, the rocks are unaltered and undeformed. Exceptions to this are the occasional thin argillaceous bed, which may exhibit strong foliation and weak sericite development. Locally the jasper iron formation may be brecciated and fractured, and cut by late quartz veins. Overall, sulphide mineralization is trace, with local sections of jasper partially replaced by up	20260 20261 20262 20263 20264	150.17 156.28 165.05 170.75 171.55	151.78 157.07 166.17 171.58 172.50	7 0.79 7 1.12 5 0.80	0 7 0 0 0
		to 2% cubic pyrite. 150.17 to 151.75 Weakly sericitic argillite interbedded with fractured and quartz veined grey-green chert. 5% white quartz veining in cherty beds. 30% white irregular quartz veining with sericitic inclusions in the last 50 cm. Trace		۲ ۲ ۲			

HOLE NO: 242-04 Page No: 4 of 13

				Page No: 4 of 18							
FROM	то	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)				
		pyrite.				<u></u> vv.,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
		150.17 to 151.75 Interbedded quartz veined grey-green chert and sericitic argillite. Trace pyrite.									
		151.75 to 156.28 Predominantly interbedded argillite and fine grained greywacke. Bedding contacts indistinct, but a weak foliation is oriented at $55^{\circ}$ to the C.A.									
		156.28 to 157.07 Brecciated and quartz veined jasper iron formation. 15% white irregular quartz veins, at various angles to the C.A.									
		156.28 to 157.07 Brecciated jasper IF. Trace pyrite. 15% quartz veinlets.									
		157.07 to 162.50 Intermediate tuff. 10% mafic rock fragments, massive, unaltered.									
		162.50 to 163.87 Thinly bedded grey-green chert. Top 20 cm quartz veined and brecciated.									
		163.87 to 165.05 Fine grained intermediate tuff, 10% mafic rock fragments, minor black quartz veinlets.									
		165.05 to 167.38 Interbedded jasper iron formation, grey-green chert. Locally brecciated and quartz veined - these sections may contain up to 2% pyrite. Jasper beds vary in width from a few mm to 10 cm and are oriented at $70^{\circ}$ to the C.A. Local slumping to $30^{\circ}$ to the C.A. 1% disseminated cubic pyrite in jasper beds.									
		165.05 to 166.17 Brecciated and quartz veined grey-green chert and minor JIF. 2% pyrite in fractures and as cubes within white quartz veins.									
		167.38 to 170.75 Greywacke. Fine grained, 10% rock fragments (chloritic), trace pyrite. Very minor quartz chlorite veining.									
		170.75 to 172.50 Interbedded grey-green chert and JIF. Weakly brecciated and quartz veined.									

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HOLE NO: 242-04 Page No: 5 of 13

FROM .	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		172.50 to 176.85 Minor crystal tuff, fine grained argillite, and greywacke. Not altered or quartz veined.					
176.85	190.95	quartz veined.	20265 20266 20267 20268 20269 20270 20271 20272 20273 20274 20275 20276 20277 20278	176.85 177.30 178.00 179.00 179.50 180.00 180.50 181.22 182.00 183.00 183.50 183.00 183.50	178.00 178.50 179.00 179.50 180.00 180.50 181.22 182.00 182.50 183.00 183.50 184.00	0.70 0.50 0.50 0.50 0.50 0.50 0.72 0.78 0.50 0.50 0.50 0.50	0 0 0 14 0 0 0 0 0 0 0 0 0 0
		179.50 to 180.00 40% argillite (weakly siliceous), 40% grey-green chert, 20% jasper. 5% C.Aparallel quartz veining with 2-5% pyrite in veins.					
		180.00 to 180.50 60% grey-green chert, 40% argillite, no jasper. Trace pyrite.		ः <u>।</u> ्रह्			

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HOLE NO: 242-02 Page No: 6 of 13

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		180.50 to 181.22 70% jasper, very minor fracturing and quartz veining.					
		181.22 to 184.50 Very little jasper in section. Composed predominantly of interbedded grey- green chert and graphite, locally strongly fractured and brecciated with 10% narrow (<1 cm) quartz veinlets.					
		181.22 to 182.00 5% fracturing, weak brecciation, trace pyrite.					
		182.00 to 182.50 25% fracturing, 10% quartz veining, 1-2% cubic pyrite. 5% graphitic interbeds, locally slumped subparallel to C.A. and remobilized.					
		182.50 to 183.00 Strongly fractured (50%) and brecciated, 20% quartz veining, traces of jasper (fragments, remobilized beds), trace pyrite.					
		183.00 to 183.50 As above, 30% quartz veining, 2% pyrite, usually at graphitic bed margins.					
		183.50-184.00 20% graphitic beds, sharp contacts at $55^{\circ}$ to C.A.					
		184.00 to 184.50 As above.					
		184.50 to 190.95 Jasper beds reappear. Section less brecciated and fractured. Local slumping of chert, at 186 and 187.50 meters. Foliation weak at $60^{\circ}$ to the C.A. 5% graphitic beds.					
190.95	197.05	INTERBEDDED GREYWACKE, GREY- GREEN CHERT AND JASPER IRON FORMATION Similar to section from 150.17 to 176.85 meters. Iron formation contains minor graphitic interbeds.	20279 20280 20281	192.13 195.19 196.20		0.68	0 0 0
		190.95 to 192.13 Massive fine grained greywacke. 2% mafic rock fragments.					
		192.13 to 193.56 40% jasper, 55% grey-green chert, 5% graphitic argillite, well bedded at 65 <sup>0</sup>					

chert, 5% graphitic argillite, well bedded at 65° to the C.A. Minor pyrite in fractures.

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HOLE NO: 242-02 Page No: 7 of 18

FROM	то	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
		192.13 to 193.56 Minor fractures, trace pyrite, local weak brecciation. 2 cm of semi-massive pyrite at end of section, at contact with underlying greywacke.					<u></u>
		193.56 to 195.19 Greywacke, medium grained, massive.					
		195.19 to 195.87 Chert-jasper unit. 3 cm massive pyrite at top of section. Well bedded at 65° to the C.A. Minor fracturing, no brecciation.					
		195.19 to 195.87 Trace pyrite, except for the first 3 cm of massive pyrite.					
		195.87 to 197.05 Lower contact of chemical sediments section. Sharp contact with underlying clastic metasediments. 50% jasper/grey-green chert, 50% fine grained greywacke.					
		196.20 to 197.05 Jasper-chert, 5 cm at top of section contains 20% banded pyrite.					
197.05	227.00	CLASTIC METASEDIMENTS: MEDIUM TO COARSE GREYWACKE Thick sequence of fine to medium grained greywacke. Thickly bedded; individual beds well sorted. Clast types are: mafic rock fragments- 10%, grey quartz-5%, feldspar-10%, white quartz-10%, jasper- < 1%. Not altered, very minor quartz veining.					
		Below 221 meters, the core takes on a weak foliation, oriented to $65^{\circ}$ to the C.A. The sedimentary unit also becomes coarser grained down the hole, with some clast sizes approaching 0.4 cm.					
227.00	230.09	<b>MODERATELY SHEARED AND SERICITIC</b> <b>GREYWACKE</b> Increasing intensity of alteration and shearing down the hole. Numerous sericitic slips oriented at $65^{\circ}$ to the C.A. Colour is banded lime green and light grey, the latter representing weakly silicified layers. Original clasts still visible throughout, indicating relatively low intensity of shearing and alteration.		• • • • • • • • • • • • • • • • • • •			

	•				LE NO: e No: 8	242-04 of 18	
FROM	ТО	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
230.09	236.50	MIXED SEQUENCE OF CHEMICAL AND	20282	230.09	230.89	0.80	0
		CLASTIC METASEDIMENTS	20283	230.89	231.75	0.86	0
		Interbedded chemical metasediments - chert,	20284	234.60	234.98		0
		weak jasper iron formation, and fine grained	20285	234.98	236.50	1.52	0
		clastic metasediments - greywacke. The					
		chemical metasediments are siliceous, fractured					
		and locally brecciated. Fractures are filled with					
		white and grey quartz, locally pyrite-bearing.					
		The clastic metasediments are weakly foliated at $70^{\circ}$ to the C.A. and may be weakly sericitic.					
		at 70 to the C.A. and may be weakly sericitic.					
		230.09 to 231.75 Mixed sequence of brecciated					
		chert and jasper iron formation. Jasper					
		brecciated. 102% disseminated and cubic pyrite.					
		230.09 to 230.89 Brecciated grey chert. 25%					
		grey fractures. 1-2% cubic pyrite.					
		230.89 to 231.75 Minor jasper iron formation.					
		5% grey quartz veinlets parallel to C.A. with					
		trace pyrite.					
		231.75 to 234.60 Weakly sericitic and foliated					
		(at 70 <sup>°</sup> to the C.A.) greywacke. Narrow sericitic					
		slips.					
		234.60 to 236.50 Weakly sericitic and foliated					
		chert and fine grained clastic metasediments.					
		onore and mic Braned change moving mount					
		234.60 to 234.98 Jasper IF, 2-3% disseminated					
		pyrite, 5% fracture-filling quartz stringers.					
		Bedding well preserved at $85^{\circ}$ to the C.A.	•				
		224 00 to 226 50 Safe fine mained immune					
		234.98 to 236.50 Soft, fine grained impure quartz clast-bearing clastic metasediment. A					
		few strong sericitic slips at $85^{\circ}$ to the C.A.					
		Colour is grey with a slight greenish tint.					
236.50	244.14	INTERBEDDED ARGILLITE AND FINE					
		CLASTIC METASEDIMENTS					
		Moderately to strongly sericitized and deformed					
		fine grained sedimentary sequence. Strongly					
		foliated at 80 <sup>0</sup> to the C.A. Trace pyrite. 2% foliation-parallel white quartz veining.					
		tonation-paranet white quartz venning.					
244.14	246.69	FRACTURED AND BRECCIATED CHERT	20287	245.10	245.50	0.40	0
		Locally well bedded grey-green chert,	20288	245.50			Õ
		brecciated and quartz veined. 2% disseminated	20289	246.00			0
		cubic pyrite in brecciated chert and grey					
		silicified zones. 5% white quartz veins with					

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#### HOLE NO: 242-02 Page No: 9 of 13

FROM	TO	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		ankeritic margins, generally subparallel to the C.A. 15% grey quartz stockworks.					
		244.14 to 245.10 Moderate to strong brecciation, 5% white quartz veining, 10% grey quartz stockworks, 2 % disseminated pyrite.					
		245.10 to 245.50 As above, 50% grey quartz stockworks, 10% white quartz veining.					
		245.50 to 246.00 As above.					
		246.00 to 246.69 Less brecciation and quartz veining, $1\%$ pyrite, bedding at $80^{\circ}$ to the C.A.					
246.69	277.17	<b>CLASTIC METASEDIMENTS</b> Medium grey, light greenish tinge. 20% felsic rock fragments, 2-3% blue quartz eyes set in a fine-grained quartzo-feldspathic and weakly sericitic matrix Bedding contacts obscure. Weakly foliated at $80^{\circ}$ to the C.A. Local weak sericitization accompanying grey quartz ankerite veins, up to 5 cm wide, scattered irregularly throughout the section.	20290 20291 20292	261.10 262.10 263.31	263.67	1.57	0 0 0
		261.10 to 266.50 Increased intensity of sericite alteration and deformation. Local strong 1 cm sericitic shears. 10% dark grey quartz ankerite veining over 1 meter intervals. Trace pyrite. From 261.10-262.10 meters a brown massive mineral occurs in bands oriented at 80° to the C.A. Secondary growths of actinolite/tremolite occur within these bands (ankerite-sericite?).		ž			
		261.10 to 262.10 Trace pyrite. Brown banding hosting 10% tremolite/actinolite.					
		262.10 to 264.38 Moderate to strongly altered fine-grained sediments hosting 15% dark grey quartz ankerite veining.		.*			
		262.10 to 263.67 25% dark grey quartz ankerite veining in a quartz sericite schist. Strong schistosity at 80° to the C.A. Trace-1% cubic pyrite locally.					
		263.31 to 264.38 Intense sericite alteration hosting 5% white quartz veining and 15% grey brecciated pervasive silicified sections. Trace pyrite.		• ; 4• :			

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HOLE NO: 242-02 Page No: 10 of 18

FROM	TO	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
		264.38 to 266.50 Intense sericitic shear zone. 25 cm of sericitic fault gouge centered at 264.80 meters.					
		Below 266.50 meters, the rock remains a fine grained clastic metasediment, pervasively sericitic (moderate intensity). Colour varies from light greenish grey to lime green in the thinly bedded sections. Foliation parallel to bedding at $70^{\circ}$ to the C.A. Occasional 1 cm dark grey quartz ankerite veinlet parallel to foliation.					
277.17	286.69	SHEARED GRAPHITIC AND SERICITIC ARGILLITE Sericitic to graphitic shear zone. Host may have been originally a graphitic argillite - now difficult to tell if graphite is hydrothermal in origin. Very fissile, fault gouge over 1-3 cm. 5% grey quartz ankerite veining, 3-5% pyrite, as narrow foliation parallel bands and in irregular fractures.	20293 20294 20295	283.54	280.25 284.50 285.50	0.96	0 0 0
		277.70 to 277.80 Sericitic shear zone. 25 cm of strong sericitic fault gouge, trace pyrite, 5% grey quartz ankerite veining.					
ş		279.10 to 280.25 Weakly graphitic shear. 25% grey-white quartz ankerite veining, 20% grey quartz veining, deformed subparallel to the C.A. 5% pyrite in latter. A few strongly sericitic slips.					
		283.54 to 286.69 Main graphite-sericite shear zone. Consists of alternating black (graphitic) greenish (sericitic) and grey to grey-black (quartz veins, pervasive silicification). 5% very fine pyrite in quartz sericite masses oriented parallel to foliation (5% of section). Grey-white quartz veining is irregular and barren of pyrite. Black graphitic sections vary from 1 cm to 10 cm wide and host 102% disseminated pyrite. Overall, the section contains 2-3% pyrite.	<b>"</b>				
		283.54 to 284.50 As above, 10% grey quartz veining. Locally 2 cm of graphitic fault gouge.					
		284.50 to 285.50 As above, 5% quartz-sericite-					

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HOLE NO: 242-02 Page No: 11 of 18

FROM	то	DESCRIPTION	SAMPLE #	FROM	TO	LENGTH	Au (ppb)
		286.69 to 288.34 Quartz sericite schist. Very well banded at $75^{\circ}$ to the C.A. Trace pyrite.					
		286.69 to 288.34 As above.					
		285.50 to 286.69 As above.					
286.69	293.84	FINE-GRAINED CLASTIC METASEDIMENTS Weakly sericitic, moderately foliated at 75 <sup>°</sup> degrees to the C.A.	20296 20297 20298	286.69 285.50 292.84	288.34 286.69 293.84	1.65 1.19 1.00	0 7 0
		292.84 to 293.84 Weak graphitic shear zone. Minor quartz veining, local narrow sericitic slips.					
293.84	324.93	FELSIC TUFF OR QUARTZ FELDSPATHIC METASEDIMENT A matrix of fine-grained sericite and quartz supports 25% clasts consisting of 75% quartz- feldspar aggregates (felsic volcanic?) and 25% blue quartz. All clasts are strined and elongated parallel to foliation, which is moderate at 80° to the C.A. Trace pyrite, minor dark grey quartz ankerite veining, barren of pyrite.					
824.93	340.56	<b>INTERBEDDED CHERT, GRAPHITE AND</b> <b>FINE-GRAINED ARGILLITE</b> Upper contact gradational over 50 cm, strongly sheared and sericitic. Lower contact also gradational and strongly sericitic over 1.5 meters. Unit consists of interbedded fine- grained argillite (grey to black, weakly silicified), chert (dark grey, locally slumped, minor brecciation) and graphite (1-3 cm beds and thin seams parallel to bedding within larger chert units). Core angles of bedding are $80^{\circ}$ . Unit is hard and shows little sign of alteration, except at the contacts, where the wallrock is strongly sericitic and sheared. 1% late white quartz veining parallel to bedding. Little deformation and crackle fracturing. Pyrite occurs as masses within graphitic beds and as cubes disseminated throughout the chert units. Total pyrite content is < 1%. Locally it may be remobilized along narrow irregular fractures with graphite or argillite within the cherty units.	20299 20300 20301 20302	326.20 329.05 335.69 336.50	326.95 330.25 336.50 337.40	1.20	0 0 7

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HOLE NO: 242-02 Page No: 12 of 18

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		324.93 to 326.20 Interbedded very sericitic and cherty beds. Chert becoming dominant down the hole. 2 cm fault gouge at 325 m, 1 cm fault gouge at 325.20 meters. 1% pyrite.					
		326.20 to 326.95 5% white quartz veining, 2% pyrite in discontinuous lenses wedging out parallel to the foliation and bedding.					
		326.20 to 326.95 As above.					
		A few specks of chalcopyrite occur near intersections of graphitic fractures within the dark grey cherty units.					
		329.05 to 330.25 As above, chalcopyrite in grey chert cut by 10% irregular graphitic fractures, strongly crenulated subparallel to the C.A.					
		335.69 to 337.40 Slight increase in pyrite mineralization and fracturing. 5% white quartz veining. 1-2% pyrite in fractures and in thin beds within the cherty units.					
		335.69 to 336.50 Slumping of chert/graphite beds, 5% white quartz veining at 25° to the C.A. 1% pyrite with graphite in narrow seams parallel to foliation.					
		336.50 to 337.40 25% white quartz veining, no pyrite. Also, a 20 cm mass of quartz and ankerite, grey colour, trace disseminated pyrite.					
		337.40 to 340.56 Transition between chert- graphite and underlying fine-grained clastic metasediment. Moderately to locally strongly sericitic over 2-3 cm. 1% pyrite in 1-2 cm bands of quartz-sericite.					
840.56	367.63	FINE-GRAINED CLASTIC METASEDIMENT Thickly bedded, grey with a light green tinge, well sorted. Clasts are mainly subrounded to rounded feldspar and minor translucent quartz. Matrix is fine-grained, quartzo- feldspathic, with a strong sericitic component. Minor cherty interbeds with 1% pyrite. Weakly foliated at 75-80° to the C.A.	20303	864.20	365.1	3 0.93	0
		360 to 361.53 Weak shearing minor fault gouge over 102 cm, minor quartz veining, no					

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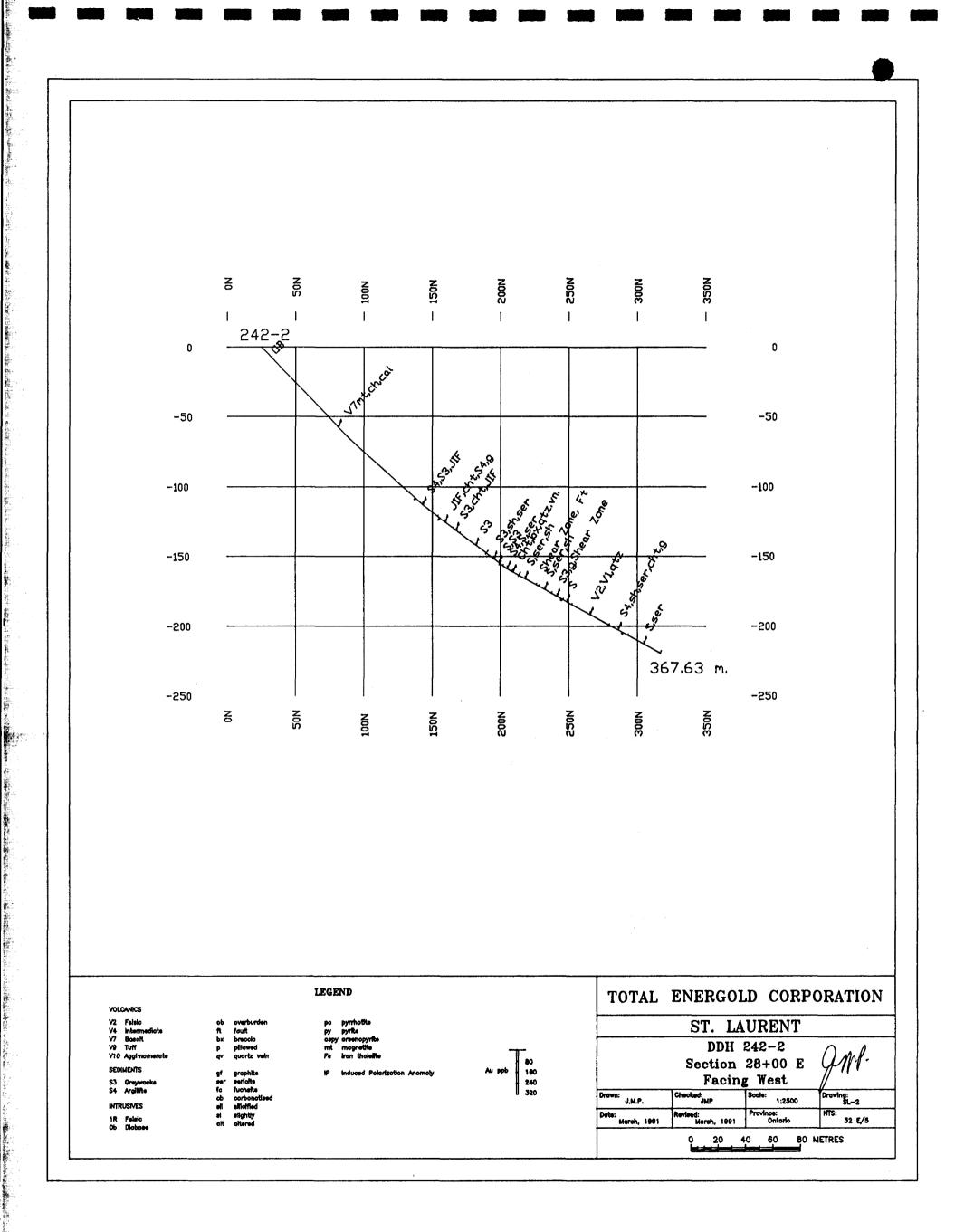
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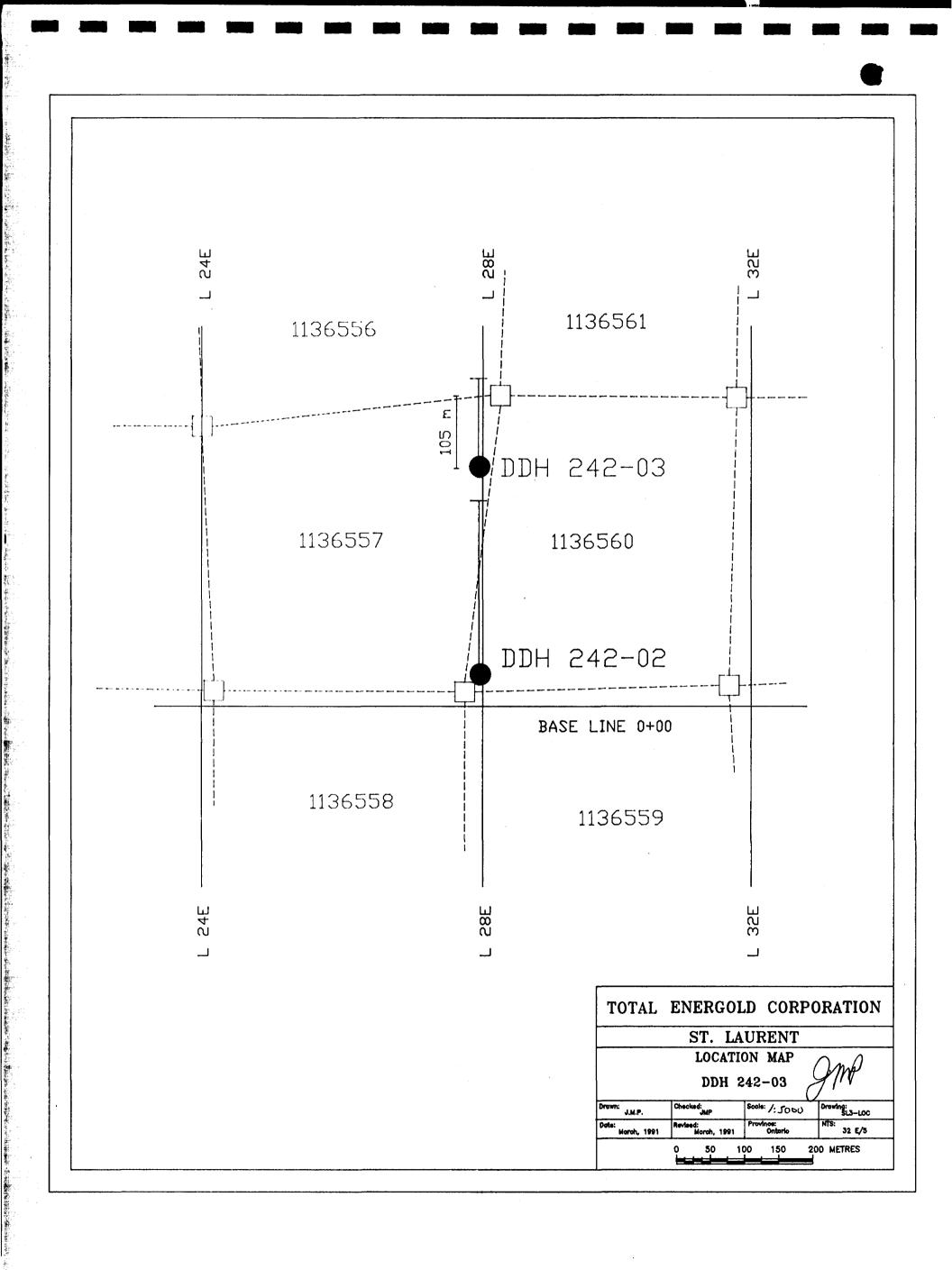
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HOLE NO: 242-02 Page No: 13 of 13

юM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		pyrite. From 360-361.5 the unit is coarser- grained, with clasts up to 5 mm of similar composition to the previous description.					
		364.20 to 365.13 Minor cherty interbeds with 2-3% pyrite over 10 cm within chert. Finer grained beds very sericitic.					
		364.20 to 365.13 As above.					
		365.13 to 367.00 Interbedded chert and sericitic mudstone. Foliation parallel to bedding at 70-80 <sup>0</sup> to the C.A.					
		367.00 to 367.63 Thinly bedded chert, mudstone and fine grained arenite. Not altered.					
367	7.63	END OF HOLE					





## DIAMOND DRILL RECORD

Co-ords:		325N	Section:	L2800E	HOLE N	0: 242-03	
Bearing:		360°	Core Size:	BQ	Property	r: St. Laurent	
Dip:		-45°	Grid Systen		Location	: St. Laurent	Twp.
Elevation	1:		J.A.Mul	In	Claim: 1	136557, 113	6560
Length:		19 <b>9</b> .9 <b>9</b> m	A.A.	~		arted: Feb. 22	
Measure	ment:	metres	Y1		Dale Co	mpleted: Feb.	. 24, 199
Commen	its:		¥		Logged	<b>By:</b> Joe MacP	herson
Depth 18.29 76.22	Azimu	th Dip -45° -43°	<b>Depth Azim</b> 121.95 187.80	uth Dip -38° -28°	Depth	Azimuth	Dip
			LOG SUN	<u>IMARY</u>			
FROM	то	LITHOLOGY					
0.00	17.07	OVERBURDE	:N				
17.07	57.60		S, MINOR FLOW				
57.60	117.65		TE VOLCANIC FL				
117.65	196.90		RICITIC FELSIC V				
196.90	199.95		NTERMEDIATE T	UFF, ASH TU	FF		
	199.95	END OF HOI	LE.				4
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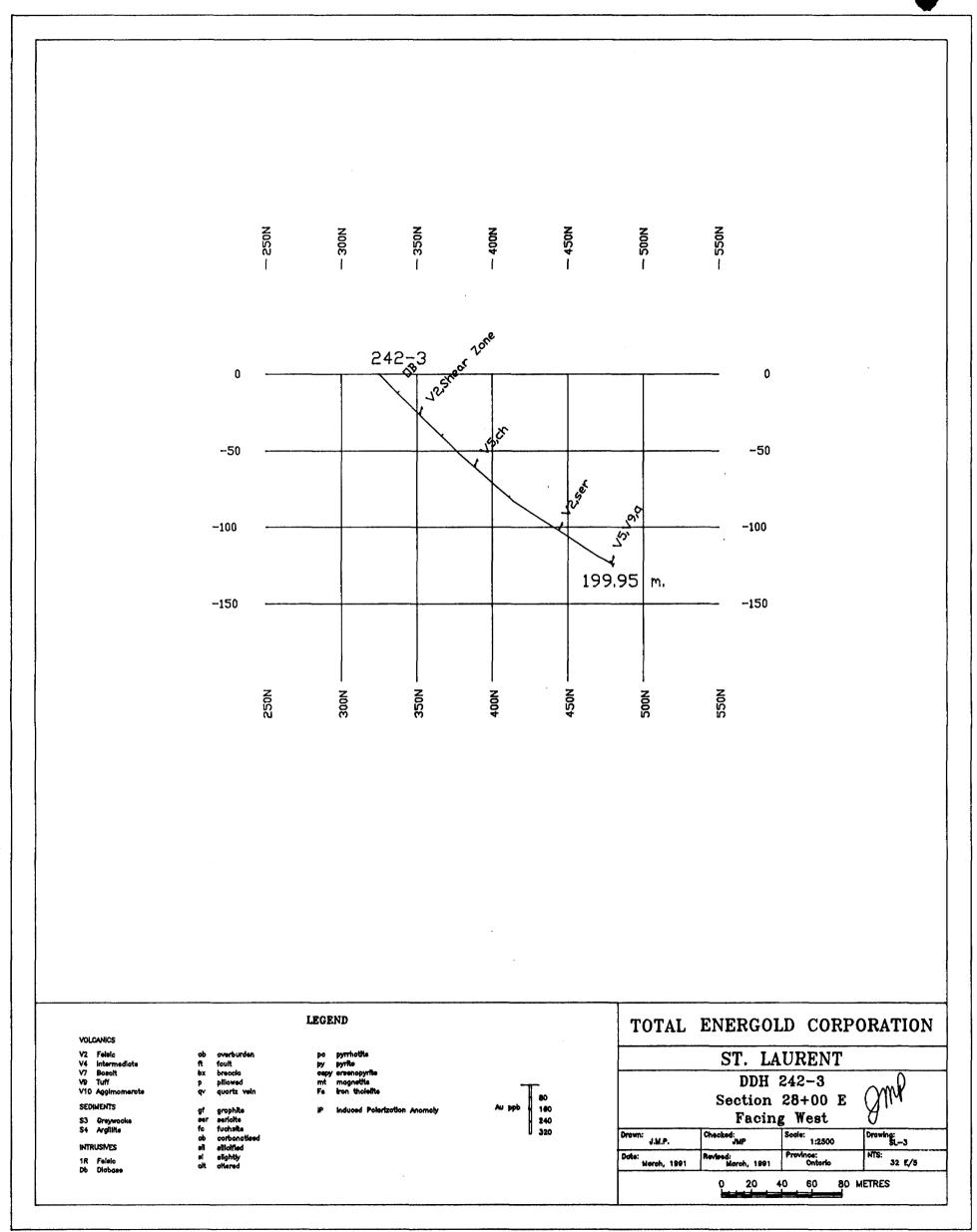
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HOLE NO: 242-03 Page No: 2 of 8

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
0.00	17.07	OVERBURDEN Sand, clay, gravel, boulders near bedrock.					
17.07	57.60	FELSIC TUFFS, MINOR FLOWS Fine-grained, well banded/foliated at $55^{\circ}$ to the C.A. Sheared and weakly sericitic to 28.42 meters. Locally broken, faulted, with minor white quartz veining accompanying the faulting. Faults with minor gouge at: 23.00, 24.75, 28.35, 31.90, 45.30, 50.30, meters. Faults less than 15 cm wide.	20721 20722 20723	26.90 44.12 45.00	28.42 45.20 46.20	1.08	0 0 0
· · · · · · · · · · · · · · · · · · ·		26.90 to 28.42 Strongly sheared and sericitic zone, minor graphitic slips in grey quartz from 26.90-27.25 meters.					
		44.12 to 45.20 Quartz-graphite Fault Zone and Veining. 30% white quartz veining intruding along numerous graphitic slips. Tr pyrite, local weak silicification.					
		44.12 to 45.00 20% white quartz veining. Numerous graphitic slips along vein contacts and within veins.					
		45.00 to 46.20 As above, 40% white quartz veining, minor silicification.					
		Unit is weakly sericitic from $38.53-50.60$ meters. Local strong foliation at $55-60^{\circ}$ to the C.A. Below 50.60 meters, a few sericitic slips are present. Core remains weakly silicified to 53.75 meters. Banding/foliation becomes fainter towards the lower contact.					
57.60	117.65	INTERMEDIATE VOLCANIC FLOWS Massive, medium grey, hard. Sausseritized feldspars set in a fine-grained matrix of quartz, feldspar and minor sericite. Individual flows up to 3 meters thick.					
l •		91.00 30 cm quartz vein, broken, no pyrite.					
		87.17 to 88.00 Weak shearing at 60 <sup>°</sup> to the C.A. Minor sericite.					
		Below 84.00 meters, feldspar porphyritic flows are present interbedded with the massive flows. Matrix of the flows becomes slightly more mafic (fine-grained chlorite) and darker					

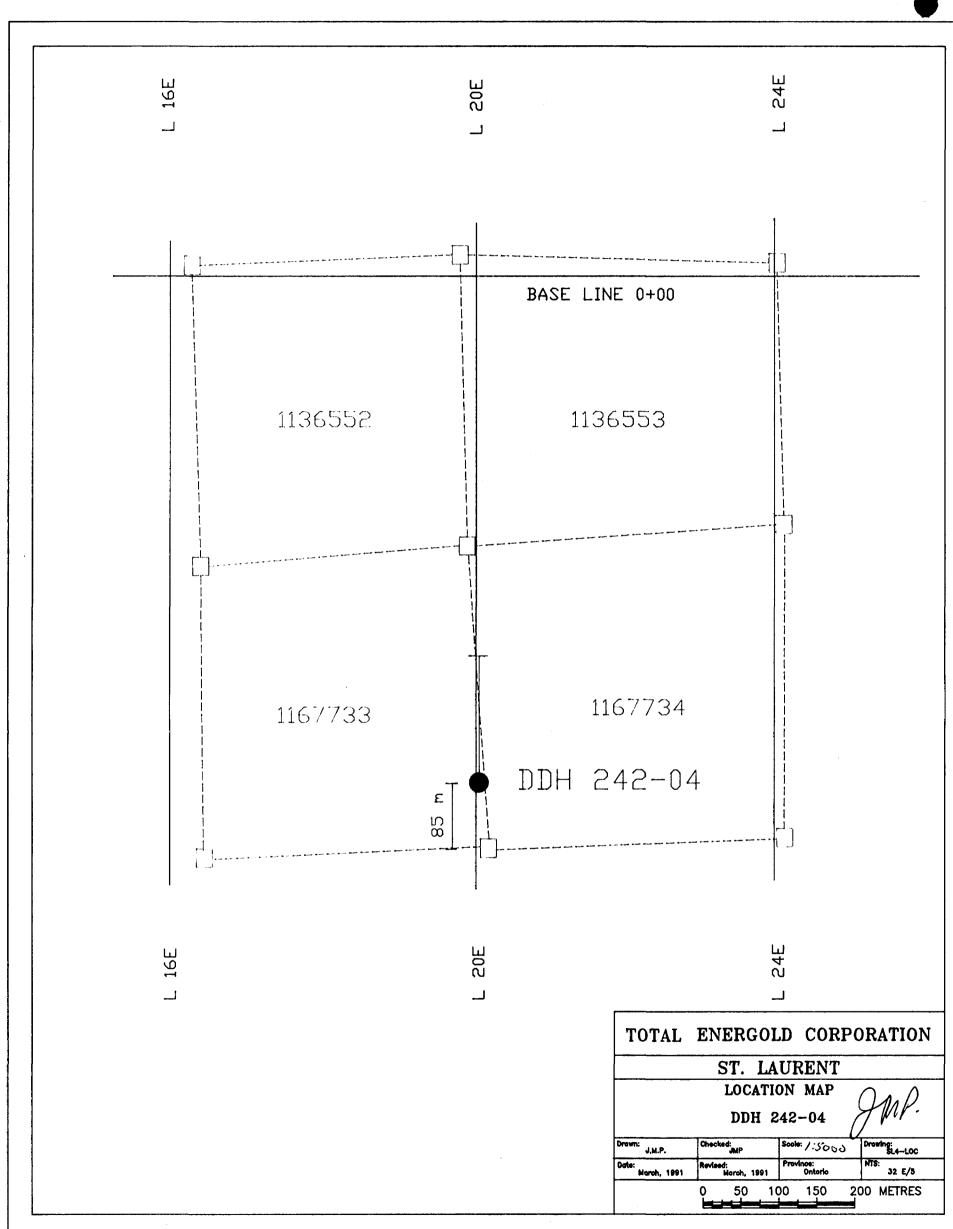
HOLE NO: 242-03 Page No: 3 of 3

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb
		grey from 99.00-102.50 meters. Gradational below this point to more felsic matrix. Occasional 1 cm pyrite cube.					
		Lower contact is sheared and gradational with felsic volcanics. Strongly foliated at 70 <sup>°</sup> over 2 meters, minor graphitic slips, trace pyrite.					,
117.65	196.90	MASSIVE SERICITIC FELSIC VOLCANIC FLOWS					
		Quartz eye rhyolite, massive, strongly sericitic locally, hard, light greenish green to lime green. 5% grey quartz phenocrysts, 1-2% late white quartz veinlets at 55-70° to the C.A.					
		142.80 to 143.10 Weak jasper interflow siliceous sediments, banded at 80° to the C.A.					
		151.00 to 153.00 Strongly silicified and sericitic, crackle fractured, translucent green, hard, trace pyrite.					
		165.00 to 166.40 Siliceous interflow, white, tr py, massive, weak sericitization.					
		180.20 to 182.66 Siliceous interflow, as above.					
		After 187.40 meters, the strong sericite alteration fades out, and the rock is a medium grey colour, massive, siliceous, with tr py. 10% interflow tuff.					
196.90	199.95	SILICEOUS INTERMEDIATE TUFF, ASH TUFF Thinly bedded ash tuff to quartz crystal tuff,		·			
		set in a fine grained weakly chloritic matrix. Trace pyrite. $< 5\%$ quartz phenos in crystal tuff. Bedding at $70^{\circ}$ to the C.A.					
1	99.95	END OF HOLE					



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## DIAMOND DRILL RECORD

Co-ords:		675S	Section:	L2000E	HOLE NO: 242-04
Bearing:		360°	Core Size:	BQ	Property: St. Laurent
Dip:		-45°	Grid Syster	m:	tocation: St. Laurent Twp.
Elevation	1:			Marlan	Claim: 1167733, 1167734
Length:		242.62m	n.A	Marlin	Date Started: Feb. 13, 1991 Date Completed: Feb. 23, 1991
Measure	ment:	metres	X		Date Completed. reb. 23, 1991
Commen	ts:		v		Logged By: Joe MacPherson
s					
Depth	Azimu	th Dip	Depth Azir	nuth Dip	Depth Azimuth Dip
64.93		-45°	121.95	-44 <sup>0</sup>	
182.92		-41°			
I					
			LOG SU	MMARY	
FROM	ТО	LITHOLOGY			
0.00	64.89	OVERBURDE	N		
64.89	99.47		ASEDIMENTS		
99.47	105.46	BRECCIATED	, FRACTURED, O	QUARTZ VEIN	ED CHERT AND ARGILLITE
105.46	154.82		D CLASTIC MET		-
154.82	168.00		-	<b>/EINED CHER</b>	T, MINOR CHERT-GRAPHITE
168.00	184.82		ASEDIMENTS		
184.82 201.67	201.67		IETASEDIMENTS	S: CHERT, AR	GILLITE
		GREYWACKE			
218.52	225.50 233.48	GREYWACKE	ETASEDIMENTS	S: CHERT, AR	GILLIE
225.50 233.48	233.40 242.62		TE TO MAFIC M	IETAVOL CAN	ICS
WUU.TU	242.62	END OF HOL			
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HOLE NO: 242-04 Page No: 2 of 10 FROM TO DESCRIPTION SAMPLE # FROM TO LENGTH Au (ppb) 0.00 64.89 OVERBURDEN 64.89 99.47 CLASTIC METASEDIMENTS Fine grained to locally medium grained, well foliated at 45 to 50° to the C.A. Highly weathered to 69.60 meters. Medium greenish grey. 10% feldspathic clasts, ranging in size from 2 mm to 5 mm, well rounded, in a matrix of fine-grained quartzo-feldspathic material and chlorite. After 80 meters, the rock becomes weakly sericitic, corresponding with an increase in foliation intensity. Trace pyrite, < 1% pinkish grey quartz stringers (< 1cm wide) oriented parallel to foliation. 76.60 10cm shear zone, sericitic, fault gouge. Unconsolidated fault gouge also at 94.65-94.70, 98.15-98.25 meters. After these faults, the foliation is intense at  $45^{\circ}$  to the C.A. After 98.35 meters, intensity of sericite alteration increases. Numerous sericitic slips and sericitic seams along bedding contacts. Sericitic shear zone from 99.10-99.47 meters. Very fissile, strongly sheared at 35° to the C.A. Fault gouge. 99.47 105.46 BRECCIATED, FRACTURED, QUARTZ 20667 99.47 100.34 0.87 14 VEINED CHERT AND ARGILLITE 20668 100.34 101.63 1.29 0 Interbedded chert and argillite, moderately to 101.63 102.31 20669 0.68 24 locally strongly brecciated and fractured, and 20670 102.31 103.05 0.74 0 cut by white and grey quartz veins. Degree of 103.80 20671 103.05 0.75 21 deformation locally intense enough to obliterate 20672 103.80 105.03 1.23 0 original bedding, but where visible, bedding is 20673 105.03 105.46 0.43 0 oriented at 50-60° to the C.A. The less deformed rock consists of alternating dark grey, light greenish grey chert and medium to dark greyish green fine grained argillite. Section hosts about 5% white quartz veining with sericitic and chloritic fractures and margins. Grey quartz veinlets occupy an irregular crackle fracture which is locally intense over 5-30 cm.

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HOLE NO: 242-04 Page No: 3 of 10

FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		Pyrite occurs as isolated cubes (rare), as fine disseminations in brecciated sections (1%), and as masses and irregular bands within all rock types. Pyritic banding parallel to bedding is most common.					
		99.47 to 100.34 Brecciated, quartz veined chert. 40% thin grey irregular quartz stringers, 5% white quartz veining, trace pyrite.					
		100.34 to 101.63 10% grey quartz stringers, 10% white quartz veining. Pyrite occurs as grey cloudy masses along low-angle grey quartz vein margins, and as well formed cubes within the less deformed parts of the chert, and semi- massive along very thin seams within the argillite.					
		101.63-102.31 Mainly brecciated and quartz veined chert. 10% white quartz veining. 1% pyrite in narrow seams parallel to bedding.					
		102.81 to 103.05 Predominantly well bedded chert, 5% grey quartz-filled crackle fracture, trace pyrite.					
		103.05 to 103.80 Strongly brecciated and fractured. 1% pyrite.					
		103.80 to 105.03 20% lost core. 10 cm strong fault zone with unconsolidated fault gouge. Hangingwall of fault is very sericitic and contains 2-3% disseminated pyrite and in masses with grey quartz and sericite.					
		105.03 to 105.46 Quartz veined and moderately brecciated lower contact to the chert/argillite section. 3-5% pyrite as convoluted masses within the argillaceous beds.					
105.46	154.82	FINE-GRAINED CLASTIC METASEDIMENTS As per earlier description: intensity of pervasive sericite alteration decreasing away from the contact with the brecciated chert/argillite unit. Numerous sericitic slips oriented at $55^{\circ}$ to the C.A. Below 144.00 meters, the intensity of the sericite alteration increases again, as the sedimentary unit	20674 20675 20676 20677 20678 20679 20680 20681 20682	115.92 118.42 128.57 129.56 130.25 131.00 132.35 133.00 138.25	119.27 129.56 130.25 181.00 132.35	0.85       0.99       0.69       0.75       1.35       0.65       0.68	0 0 17 0 0 0 10 0 0 0

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HOLE NO: 242-04 Page No: 4 of 10

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
		becomes more fine-grained. Appearance of cloudy, small irregular masses of grey quartz, sericite and pyrite (<1% of rock) after 115.92 meters.	20683 20684 20685 20686	140.00 141.20 142.06 147.90	142.06 143.00	0.86 0.94	0 0 0 0
		115.92 to 117.10 Moderately sericitic, well foliated at $55^{\circ}$ to the C.A. <1% grey quartz-sericite-fine pyrite masses and discontinuous seams.					
		118.42 to 119.27 1% dark grey quartz stringers with 50% pyrite. Stringers are very thin ( $<2$ mm), irregular, and make up $<1\%$ of section.					
		128.57 to 133.60 Increase in overall pyrite content to 1-2%. Pyrite occurs in thin irregular dark grey quartz stringers and masses randomly located throughout the section. Moderate sericite alteration, strong foliation at $55^{\circ}$ to the C.A. Host appears to be a thinly bedded clastic metasediment.					
		128.57 to 129.56 Brecciated and bleached wallrock to a 15 cm low-angle quartz vein, at 128.90 meters. 5% pyrite as masses and fracture fillings, in breccia and vein.					
		129.56 to 130.25 Wisps and streaks of dark grey quartz-pyrite, 1% total pyrite.					
		130.25 to 131.00 As above, a 5 cm section of quartz-pyrite at 120.00 meters.					
		131.00 to 132.35 Becoming more sericitic: trace pyrite and quartz veining.					
		132.35 to 133.00 5% dark grey quartz-pyrite veining and masses up to 7 cm wide. 50% pyrite in these section. 3% pyrite overall.					
		133.00 to 133.68 2% dark grey quart-pyrite irregular wisps and fracture fillings.					
		Below 135 meters, the rock is a mixture of medium grained to fine grained variably sericitic metasediments. Fine grained beds are more sericitic. Occasional grey quartz-pyrite vein parallel to foliation, at $60^{\circ}$ to the C.A. The core is also notable for the presence of 1-2% rounded black clasts - could be rhyolite					

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HOLE NO: 242-04 Page No: 5 of 10

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	TO	LENGTH	Au (ppb)
		or siliceous argillite.			<u></u>		
		138.25 to 139.23 1% dark grey quartz-pyrite banding and irregular masses.					
		140.00 to 141.20 2-3% dark grey quartz pyrite masses hosting 50% pyrite.					
		141.20 to 142.06 Strong shearing at 35 <sup>0</sup> to the C.A., 50 cm medium grey quartz ankerite vein, broken, with numerous sericitic slips.					
		142.06 to 143.00 1-2% dark grey quartz-pyrite bands and irregular masses. These have individual extents of no more than 2-3 cm.					
		147.90 to 148.20 1% dark grey quartz banding parallel to foliation. Host is a fine to medium grained arenite.					
154.82	168.00	BRECCIATED AND QUARTZ VEINED CHERT, MINOR CHERT-GRAPHITE Strongly deformed and brecciated chert unit with minor graphitic beds. 40% white quartz veining in section from 154.82 to 160.33 meters. These veins consist of 75% quartz, 20% yellow ankerite, and 5% sericitic slips and cherty inclusions. More or less barren of pyrite, except in the cherty inclusions, where 1-2% cubic pyrite may be present. The veining is present as an irregular stockworks cutting the core at various angles. This vein set appears to be late, and crosscuts an earlier set which is grey, very narrow (< <1 cm), and also cuts the core at various angles.	20687 20688 20699 20691 20692 20693 20694 20695 20696	154.82 156.00 157.00 159.00 162.45 163.50 164.50 165.50 166.50	157.00 158.00 159.00 160.33 163.50 164.50 165.50 166.50	1.00 1.00 1.33 1.05 1.00 1.00 1.00	0 0 0 0 0 10 0 0 0
		160.33 to 162.45 60% medium brown mineral, very soft, hosting chlorite porphyroblasts. The chlorite has a well formed crystal habit and also occurs as radiating aggregates. Very minor quartz veining in this section.					
		154.82 to 156.00 40% white quartz-ankerite veining, minor brecciation. 5% early dark grey quartz veining. Trace pyrite.					

156.00 to 157.00 75% white quartz ankerite veining, trace pyrite.

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HOLE NO: 242-04 Page No: 6 of 10

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
		157.00 to 158.00 50% white quartz ankerite veining, 1% cubic pyrite in cherty inclusions.					
÷.		158.00 to 159.00 30% white quartz ankerite veining, silicified chert wallrock with 1% cubic pyrite.					
		159.00 to 160.33 75% white quartz ankerite veining, more ankerite in veins here (20%), trace pyrite in chert wallrock.					
		162.45 to 168.00 Chert, varying in colour from white to grey to greenish grey. Well bedded, average bedding thickness 1-2 cm, at an average of $60^{\circ}$ to the C.A. Degrees of quartz veining and fracturing very low (<5% total). 1- 2% pyrite in irregular fractures, seams parallel to bedding, and as isolated cubes.					
		162.45 to 163.50 Slumped chert. 2% pyrite along bedding contacts. Less than 5% fracturing.					
		163.50 to 164.50 As above.					
		164.50 to 165.50 As above. Pyrite remobilized along narrow graphitic (?) fractures. 1% white quartz veining.					
		165.50 to 166.50 As above. Trace chalcopyrite, minor jasper beds.					
		166.50 to 168.00 As above. Trace chalcopyrite, 1-2% remobilized fracture-controlled pyrite.					
168.00	184.82	<b>CLASTIC METASEDIMENTS</b> Weakly sericitic, becoming less so down the hole. Fine to medium grained. Clasts are predominantly quartzo-feldspathic, set in a fine grained quartz-feldspathic-sericite matrix. Foliation moderate at 60° to the C.A., decreasing in intensity down the hole. Trace pyrite. Last 20 cm weakly sericitic.					
184.82	200.67	CHEMICAL METASEDIMENTS: CHERT, ARGILLITE Thinly bedded chert, minor jasper, and siliceous argillite. Average bed thickness is 1 cm, average orientation to C.A. is 60 <sup>0</sup> , and consists of alternating bands of white, light to dark	20697 20698 20699 20700 20701	184.82 186.00 187.00 188.00 189.00	188.00 189.00	1.00         1.00         1.00         1.00	0 0 0 0

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HOLE NO: 242-04 Page No: 7 of 10

то	DESCRIPTION	SAMPLE #	FROM	TO	LENGTH	Au (ppb)	
	grey, black, and greenish grey. All beds	20702				0	
						0	
						0	
						0	
						0	
						0	
						0	
						0 31	
						0	
	beds. Occasional speck of chalcopyrite.					0	
	184.89 to 186.00 Wall hadded somi-massive	20712	200.00	201.07	1.07	0	
	•						
	with white quartz.						
	196.00 to 197.00 Group groop about primarily						
	weak crackle fracture, trace pyrite.						
	187.00 to 188.00 Strong brecciation and						
	brecciated chert sections. Minor brecciated						
	jasper.						
	188.00 to 189.00 Moderate brecciation, 5% white quartz veining, trace pyrite.						
	189.00 to 190.00 As above, 40% white quartz veining, trace-1% disseminated pyrite in chert.						
	190.00 to 191.00 Strongly brecciated chert and slumped very soft sediment.						
	Latter is yellow-brown, with secondary growths						
	recrystallized and altered.						
	191.00 to 192.00 Weakly brecciated chert.						
	slumped to 20° to the C.A.						
	192.00 to 193.00 As above.						
	193.00 to 194.00 Well bedded chert. 1% pyrite						
	along bedding contacts.						
	194.00 to 195.00 Fine-grained greywacke, 10%						
	brecciated chert.						
	<b>TO</b>	<ul> <li>grey, black, and greenish grey. All beds moderately to locally strongly brecciated and crackle fractured. Sequence hosts 5% white irregular quartz veins and up to 20% dark grey irregular thin grey quartz crackle fractures, oriented at various angles to the C.A., but often subparallel. Pyrite content is highly variable from trace to semi-massive over 1.2 cm, usually associated with the argillaceous beds. Occasional speck of chalcopyrite.</li> <li>184.82 to 186.00 Well bedded, semi-massive pyrite over 1-2 cm, at 185.40 meters, associated with white quartz.</li> <li>186.00 to 187.00 Grey-green chert primarily, weak crackle fracture, trace pyrite.</li> <li>187.00 to 188.00 Strong brecciation and crackle fracture, 1% disseminated pyrite in brecciated chert sections. Minor brecciated jasper.</li> <li>189.00 to 189.00 Moderate brecciation, 5% white quartz veining, trace pyrite.</li> <li>190.00 to 191.00 Strongly brecciated chert and slumped very soft sediment.</li> <li>Latter is yellow-brown, with secondary growths of chlorite as radiating aggregates. May have been a chloritic bed, now completely recrystallized and altered.</li> <li>191.00 to 192.00 Weakly brecciated chert, strong bedding at 70° to the C.A., locally slumped to 20° to the C.A.</li> <li>192.00 to 194.00 Well bedded chert, 1% pyrite along bedding contacts.</li> </ul>	grey, black, and greenish grey. All beds       20702         moderately to locally strongly brecciated and       20703         crackle fractured. Sequence hosts 5% white       20704         irregular quartz veins and up to 20% dark grey       20705         irregular quartz veins and up to 20% dark grey       20706         oriented at various angles to the C.A., but       20707         often subparallel. Pyrite content is highly       20708         variable from trace to semi-massive over 1-2       20709         cm, usually associated with the argillaceous       20710         beds. Occasional speek of chalcopyrite.       20711         184.82 to 186.00 Well bedded, semi-massive       20712         184.82 to 186.00 Strong brecciation and       crackle fracture, trace pyrite.         187.00 to 188.00 Strong brecciation and       crackle fracture, 1% disseminated pyrite in brecciated chert sections. Minor brecciated jasper.         188.00 to 189.00 Moderate brecciation, 5%       white quartz veining, trace pyrite.         189.00 to 191.00 Strongly brecciated chert and slumped very soft sediment.       190.00 to 192.00 Weakly brecciated chert, and slumped very soft sediment.         191.00 to 192.00 Weakly brecciated chert, strong bedding at 70° to the C.A.       192.00 to 193.00 As above.         192.00 to 193.00 As above.       193.00 to 194.00 Well bedded chert, 1% pyrite along bedding contacts.	grey, black, and greenish grey. All beds       20702       190.00         moderately to locally strongly brecciated and       20703       191.00         crackle fractured. Sequence hosts 5% white       20704       192.00         irregular quartz veins and up to 20% dark grey       20705       193.00         irregular thin grey quartz crackle fractures,       20706       194.00         oriented at various angles to the C.A., but       20707       195.00         oriented at various angles to the C.A., but       20708       196.00         variable from trace to semi-massive over 1-2       20709       197.00         cm, usually associated with the argillaceous       20711       198.00         beds. Occasional speck of chalcopyrite.       20711       198.00         20712       200.00       184.82 to 186.00 Well bedded, semi-massive       20711       198.00         grey, black, and green chert primarily,       weak crackle fracture, trace pyrite.       20712       200.00         184.82 to 188.00 Strong brecciation and       crackle fracture, 1% disseminated pyrite in brecciated chert sections. Minor brecciated jasper.       188.00 to 189.00 Moderate brecciation, 5%       white quartz         188.00 to 189.00 Moderate brecciated chert.       190.00 to 191.00 Strongly brecciated chert and slumped very soft sediment.       190.00 to 192.00 Weakly brecciated chert, strong bedd	grey, black, and greenish grey. All beds       20702       190.00       191.00         moderately to locally strongly breeciated and       20703       191.00       192.00         irregular fungrey quartz veins and up to 20% dark grey       20705       183.00       198.00         ortexkle fractured. Sequence hosts 5% white       20707       189.00       196.00         ortened at various angles to the C.A., but       20707       185.00       196.00         often subparallel. Pyrite content is highly       20708       196.00       197.00         variable from trace to semi-massive over 1-2       20709       197.00       198.00       199.00         beds. Occasional speck of chalcopyrite.       20711       198.00       199.00       201.67         184.82 to 186.00 Well bedded, semi-massive pyrite over 1-2 cm, at 185.40 meters, associated with white quartz.       200.00       201.87         186.00 to 187.00 Grey-green chert primarily, weak crackle fracture, trace pyrite.       187.00 to 189.00 Moderate breeciation and crackle fracture, 1% disseminated pyrite in breeciated chert sections. Minor breeciated jasper.       188.00 to 189.00 Moderate breeciated chert and slumped very soft sediment.         190.00 to 191.00 Strongly breeciated chert and slumped very soft sediment.       191.00 to 192.00 Weakly breeciated chert, strong bedding at 70° to the C.A.         192.00 to 193.00 As above.       192.00 to 193.00 As above.	grey, black, and greenish grey. All beds       20702       190.00       191.00       1.00         moderately to locally strongly breccisted and       20704       192.00       1.00         irregular quartz veins and up to 20% dark grey       20705       193.00       194.00       1.00         oriented at various angles to the C.A., but       20707       195.00       196.00       180.00       100         oriented at various angles to the C.A., but       20707       195.00       196.00       1.00         oriented at various angles to the C.A., but       20707       195.00       196.00       1.00         oriented at various angles to the C.A., but       20707       195.00       196.00       1.00         oriented at various angles to the C.A., but       20707       196.00       196.00       1.00         oriented at various angles to the C.A., but       20707       196.00       196.00       1.00         oriented at various angles to the C.A.       20710       198.00       1.00       1.00         oriented at various associated with the argillaceous       20711       199.00       1.00         oriented at variation greyergene chert primarily, weak crackle fracture, frace prime, trace prime, trace sections. Minor brecciated jasper.       186.00 to 189.00       Moderate brecciation, 5%	

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HOLE NO: 242-04 Page No: 8 of 10

FROM	TO	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		195.00 to 196.00 Moderately to strongly brecciated and crackle-fractured chert. 15% dark grey foliation-parallel quartz veinlets.		<u></u>			
		196.00 to 197.00 Strongly brecciated chert, dark grey, 2% pyrite in brecciated chert fragments.					
		197.00 to 198.00 As above, degree of brecciation slightly less.					
		198.00 to 199.00 As above. Trace chalcopyrite.					
		199.00 to 200.00 Moderate brecciation. Bedding at 55 <sup>0</sup> to the C.A. 1% disseminated pyrite. Trace chalcopyrite.					
		200.00 to 201.67 Well bedded chert, trace pyrite, 1-2% white quartz veining, minor grey quartz-filled crackle fracture.					
201.67	218.52	<b>GREYWACKE</b> Fine to medium grained, well bedded at 65° to the C.A., greenish grey. Clast types are: 10% mafic rock fragments, 5% sausseritized feldspars, set in a fine grained matrix of quartz, feldspar, chlorite and sericite. Matrix quite strongly altered.					
218.52	225.50	ARGILLITE Similar to previous section of chemical	20713 20714 20715	218.52 219.00 219.70	219.00 219.70 220.40	0.70	0 34 45
-		metasediments, except for the notable increase in pyrite content. Pyrite occurs as masses, fine disseminations and fracture-fillings within the strongly brecciated chert <u>and</u> later quartz veining.	20716 20717 20718	.* 221.10 222.00	222.0( 222.5(		82 72
		Pyritic section runs from 218.52-223.00. Average pyrite content for this section is 5%.					
		218.52 to 219.00 3-5% pyrite as fracture fillings and masses within increasingly brecciated chert.					
		219.00 to 219.70 3% pyrite, mainly as bands parallel to bedding. Moderately brecciated. 5% white quartz veining.					
			* LOST CORE				

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HOLE NO: 242-04 Page No: 9 of 10

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		219.70 to 220.40 Badly broken section, poor core recovery (60%). Sections of semi-massive pyrite over 5 cm, cut by white quartz veinlets and hosted by a grey siliceous gangue. Trace chalcopyrite as well.					
		220.40 to 221.10 Section of LOST CORE. 0% recovery.					
		221.10 to 222.00 Moderate to strong brecciation and grey quartz veining, 1-2% disseminated and fracture-controlled pyrite.					
		222.00 to 222.50 As above, 3% fracture- controlled pyrite.					
		222.50 to 223.30 Less brecciated, well bedded at $60^{\circ}$ to the C.A. Semi-massive pyrite associated with dark grey chert. 15% jasper.					
}		223.30 to 224.33 Well bedded, minor brecciation, 2-3% chloritic fractures, trace pyrite.					
h . * - * ; }		224.33 to 225.50 Grey-green chert, slumped subparallel to the C.A. 1% white quartz veining subparallel to the C.A.	20719	000 00	000.40		•
225.50	233.48	<b>GREYWACKE</b> Moderately altered and strongly sheared at 55 <sup>0</sup> to the C.A.	20720	228.30 231.47			0
 		228.20 to 229.40 Moderately brecciated grey chert, 1% pyrite, minor chlorite fractures, 1% white quartz veining.		·			
		228.20 to 229.40 As above.					
		229.40 to 231.47 Well foliated clastic metasediment, fine-grained, foliation strong at $65^{\circ}$ to the C.A. Local minor 1-3 cm faults.					
		231.47 to 233.05 Weakly brecciated and chloritic chert. Trace pyrite.					
		231.47 to 233.05 As above.					
		233.05 to 233.48 Lost core.					

HOLE NO: 242-04 Page No: 10 of 10

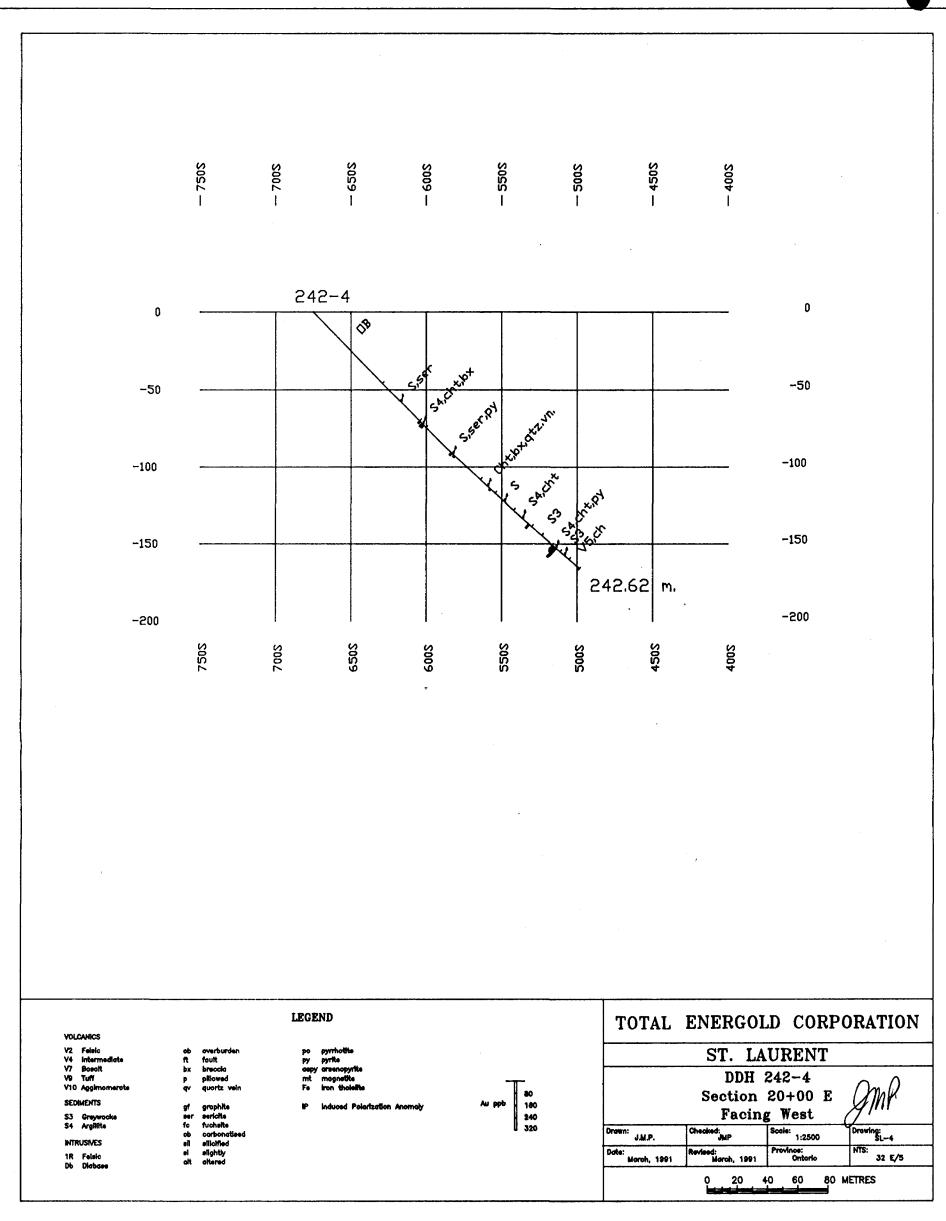
FROM	то	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
233.48	242.62	<b>INTERMEDIATE TO MAFIC</b> <b>METAVOLCANICS</b> Massive, fine grained, dark greenish grey. 10 to locally 30% very fine chlorite crystal development in a n otherwise fine-grained grey- green chloritic matrix. Minor chert interflow. 1% quartz fracture fillings.					

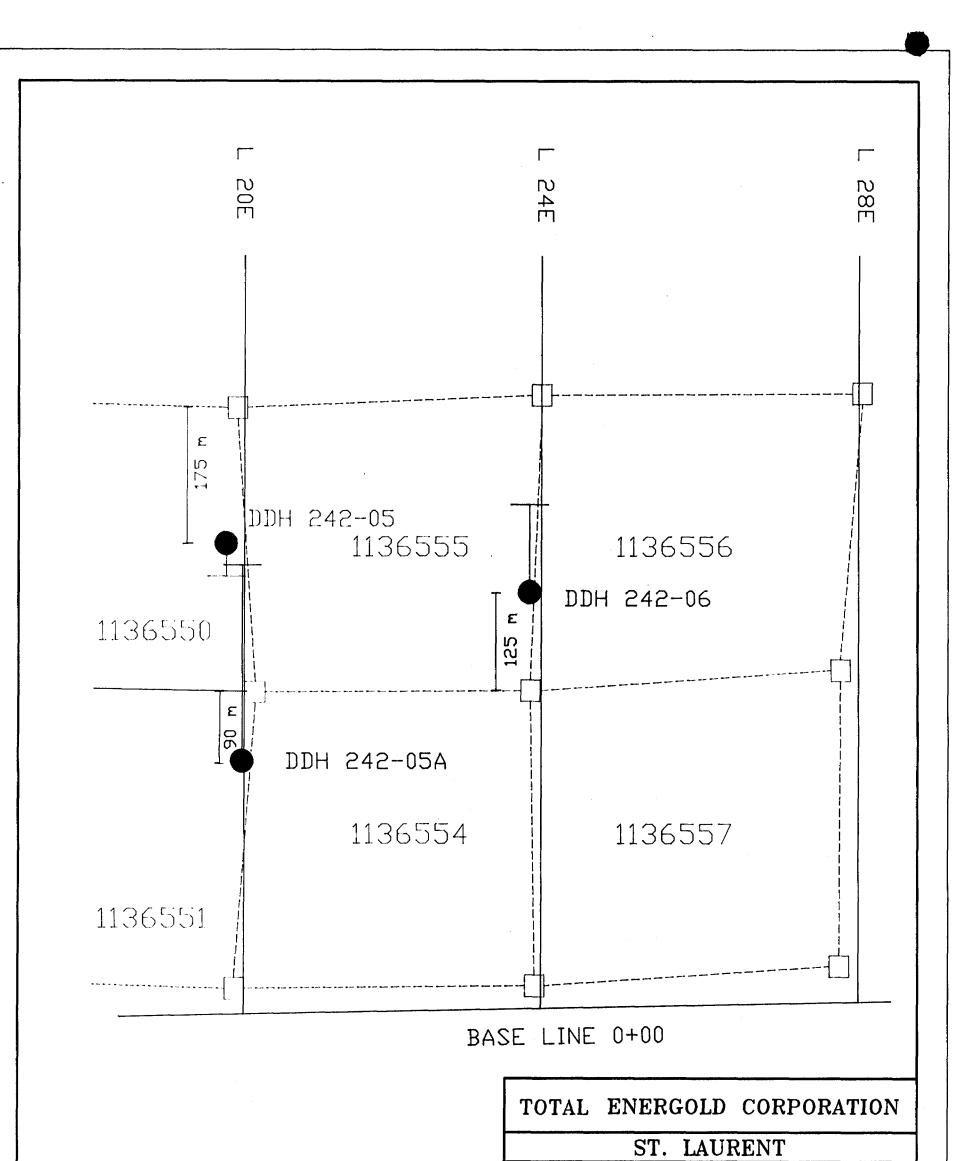
242.62 END OF HOLE

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LOCATION MAP DDH 242-05 Drown: J.M.P. Drawing: SL5LOC Scale: /:8000 Checked: JMP NTS: 32 E/5 Date: March, 1991 Revised: March, 1991 Province: Ontorio 50 100 150 0 200 METRES 

## DIAMOND DRILL RECORD

Co-ords:		600N		Section:	L20	00E	HOLE N	0: 242-05	
Bearing:		180°		Core Size:	BQ		Property	: St. Laurent	
Dip:		-45°		Grid Syster			Location	: St. Laurent	Twp.
Elevation:				0	n fif	$\sim$	Claim: 1	136550	,
Length:		41.21m		QA?				rted: Feb. 12	
Measurem	ent:	metres		YI			Date Co	mpleted: Feb.	13, 1991
Comments	•			V			Logged	By: Joe MacP	herson
Depth	Azimu	th Dip	De	pth Azir	nuth	Dip	Depth	Azimuth	Dip
······			<u></u>						
				<u>LOG SUI</u>	<u>MMAR</u>	<u>Y</u>			
FROM	ТО	LITHOLO	GY						
0.00 28.05	28.05 41.45 41.45	OVERBUI SERICITE END OF 1	E SCHIST,	QUARTZ S	SERICI	fe schi	ST		
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				· · · · · · · · · · · · · · · · · · ·					

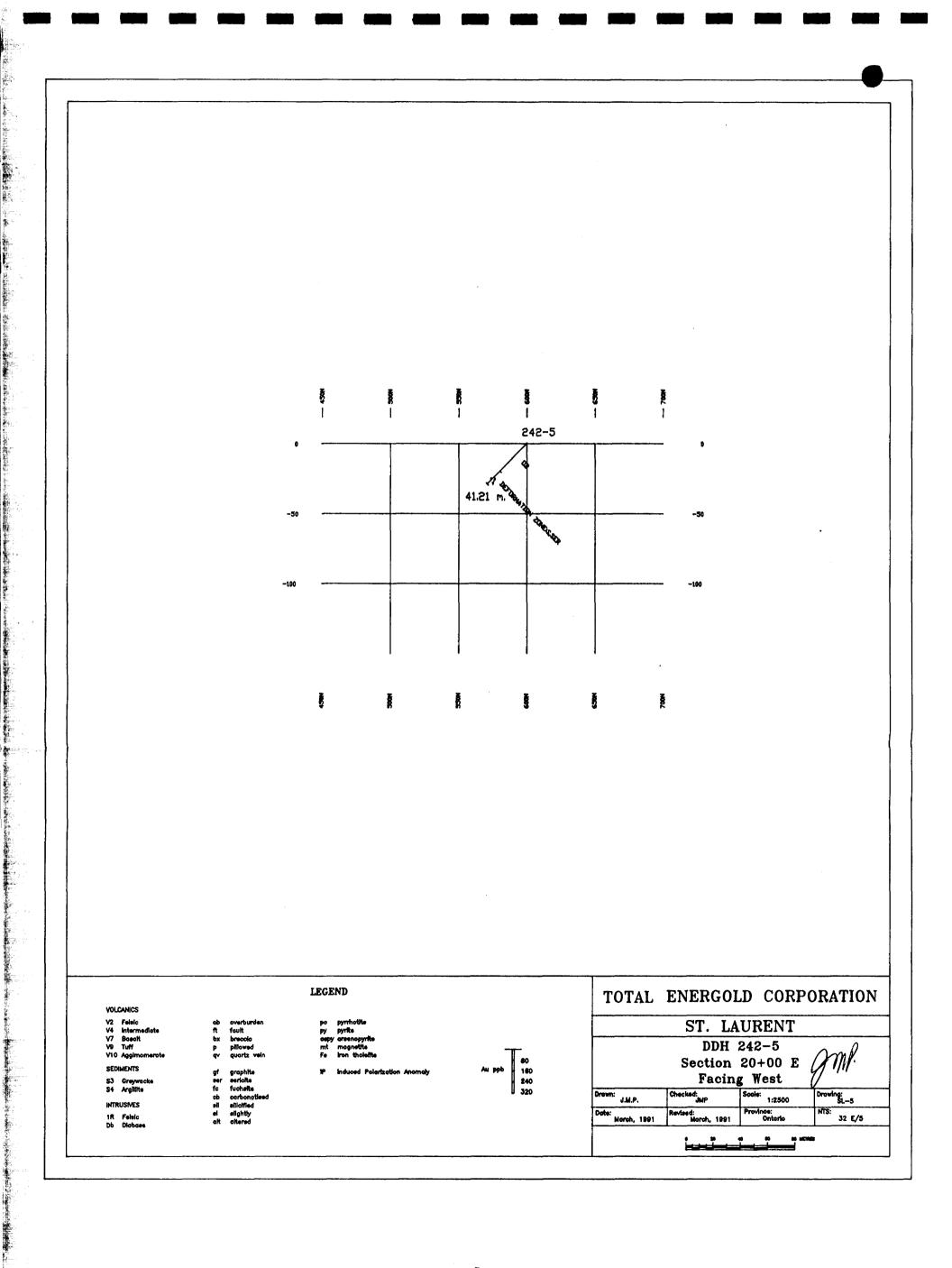
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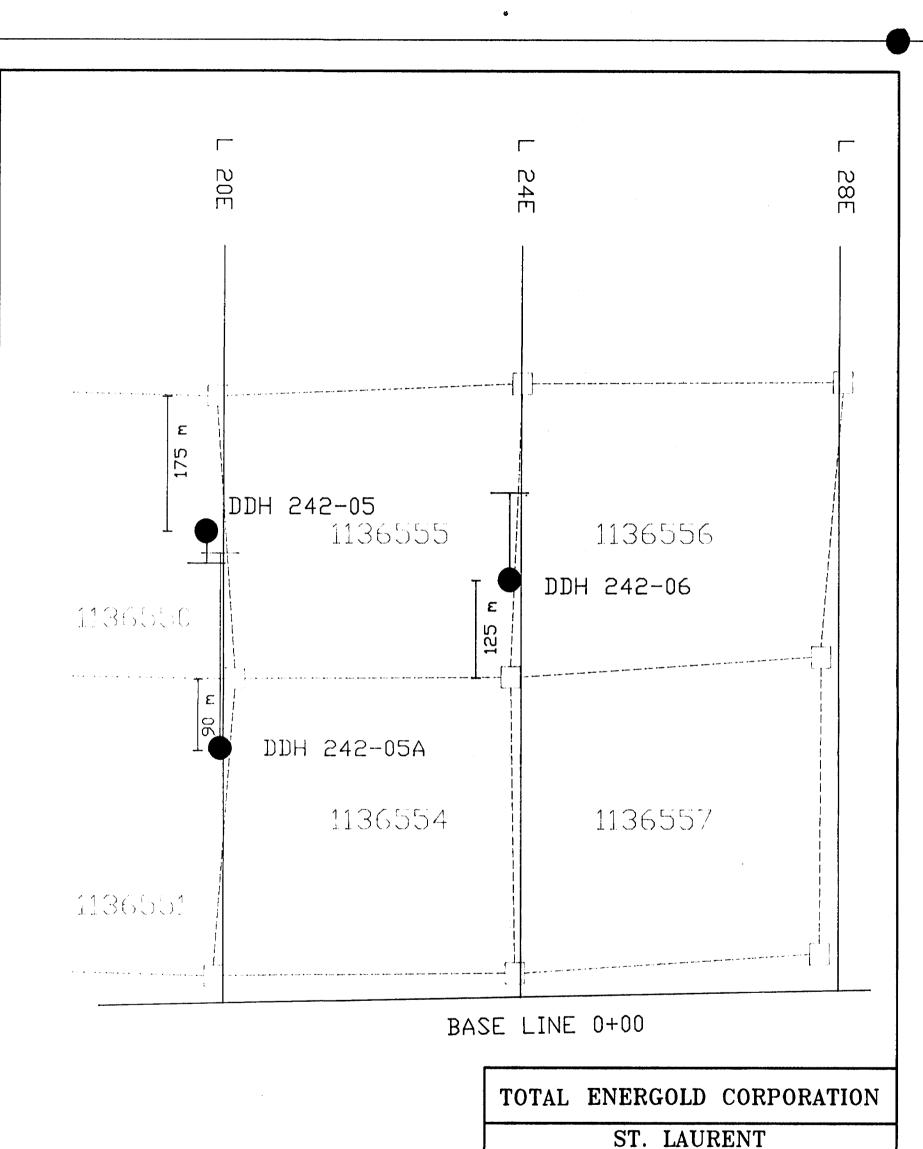
HOLE NO: 242-05 Page No: 2 of 3

FROM	то	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
0.00	28.05	OVERBURDEN Humus, clay, sand, boulders on bedrock.					
28.05	41.45	· · ·	20078 20079 20080 20081 20082 20083 20084 20085	28.95 30.16 31.67 32.88 34.57 35.48 36.40 38.41	30.16 81.67 92.88 34.57 35.48 36.40 38.41 41.45	1.51 1.21 1.69 0.91 0.92 2.01	0 0 0 10 0 7
		The fine grained sericitic sections are cut by/interbedded with a fine grained to medium grained quartz rich unit, which may be a quartzite or a quartz porphyritic intrusive. Contacts with the thinly bedded units are generally sharp and may be marked by an irregular quartz vein. These quartz rich sections also contain sericite which form a strong regular foliation at 20 to $30^{\circ}$ to the C.A. This foliation is only apparent with the hand lens a cursory examination gives the impression that this unit is uniformly massive and undeformed.					
		Sample intervals are based on changes in rock type or alteration - ie, from fine grained highly sericitic metasediments to the quartz rich unit.					
		28.95 to 30.16 Sericitic metasediments. Fine grained, schistose at 25 <sup>0</sup> to the C.A. Broken, blocky. 10 cm of broken quartz veining at lower contact.					
		30.16 to 31.67 Fine grained siliceous metasediment or quartz porphyry intrusive Strong foliation represented by parallel alignment of sericite in groundmass. Medium grey, sharp upper and lower contacts					

grey, sharp upper and lower contacts.

			HO Pag			
FROM TO	) DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb
	31.67 to 32.88 Fine grained metasediments, sericitic, deformed. 1% irregular dark grey to black quartz ankerite veinlets with trace pyrite.					
	32.88 to 34.57 Massive, less broken, 30% irregular quartz grains/phenos in a fine grained sericitic matrix, forming a foliation at 30° to the C.A.					
	34.57 to 35.48 Fine-grained metasediments, trace pyrite in sericite/silica bands.					
	35.48 to 36.40 Light greenish grey, schistose quartz rich section. 1% irregular dark grey to black quartz ankerite stringers.					
	36.40 to 38.41 20% lost core. More fissile than previous sections. Thinly bedded metasediments. Broken core. Trace pyrite in isolated siliceous pods less than 1 cm in long axis dimension, parallel to schistosity.					
	38.41 to 41.45 60% lost core. Becoming very fissile, broken down the hole. Interlayering of sericitic and siliceous bands becoming dominant, and bands are wider (2-3 cm locally). Schistosity strong at $25^{\circ}$ to the C.A. Occasional siliceous pod with fine grain pyrite.					
41.45	END OF HOLE Hole abandoned due to poor core recovery, low core angles and blocky ground. Hole redrilled to north on 2000E at 325N.					
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LOCATION MAP DDH 242-05A JMP.							
Drown: J.M.P. Checked: JMP Scale: /:5,000 Drawing: SL5ALOC							
Date: March, 1991	Revised: Morch, 1991	Province: Ontario	NTS: 32 E/5				

## DIAMOND DRILL RECORD

								•		
	-		<u>TOTAL</u>	ENERC	GOLD	<u>C O</u>	<u>R P O</u>	RATIO	N	•
				DIAMON	ND DRIL	L RE	<u>CORD</u>			
	Co-ords:		325N	Section	on:	L20(	DOE	HOLE N	0: 242-05A	
	Bearing:		360°	Core	Size:	BQ		Property	: St. Laurent	
	Dip:		-51°	Grid	System:			Location	:	
	Elevation:					,		Claim: 1	136550, 113	6551
	Length:		401.18m	$\cap$	J.M.A	'f~	$\sim$	Date Sta	rted: Feb. 13	, <b>199</b> 1
	Measurem	ent:	metres	<i>y.</i> ,	1. ///			Date Con	mpleted: Feb	. 16, 1991
	Comments	-		V				Lorged I	<b>3y:</b> Joe MacP	herson
	Continent							Dogged	<b>y</b> . boe maer	iici som
	Depth	Azimut	· •	Depth	Azimu	th	Dip	Depth	Azimuth	Dip
	24.39 85.37		-48° -41°	146.34 207.31			-38º -36º	270.12 329.27		-36° -32°
								382.92		-29.5°
	<u>e (11 - 11 - 11 - 11 - 11 - 11 - 11 - 11</u>			10	g sumn	ARY	7			
					<u>d Domi</u>	<u>11 H L I</u>	<u>L</u>			
	FROM	ТО	LITHOLOGY							
States and	0.00	24.39	OVERBURDEN	I						
	24.39	33.04	INTERBEDDEI	O CHERT,	SILICEC	US I	METAS	EDIMENTS		
ast.	33.04	41.65	SIDERITE-ANK							
	41.65	44.55	SHEAR ZONE:	MIXED A	ASSEMB	LAG	e of si	DERITE IR	ON FORMAT	rion and
			ARGILLITE							
	44.55	46.06	ARGILLITE							
	46.06	50.00	SILICIFIED, SE							
	50.00	51.11	QUARTZO-FEI							
	51.11	58.80	CHEMICAL MI		IENTS:	VAR	IABLY	ALTERED I	NTERBEDDE	ED CHERT
100	58.80	77.25	AND MUDSTC FELSIC META			,				
	77.25	83.27	FELSIC TUFF,			)				
	83.27	85.93				ו זידי				
	03.4/	02.23	INTERBEDDEI METASEDIME		ULI DI A	LIU	гг, 1N I		NGILLACEO	02
	85.93	89.00	FINE GRAINE		ONE					
	89.00	91.35	QUARTZ SERI							
	91.35	92.34	QUARTZ CRYS							
	92.34	100.98	MODERATELY	DEFORM	IED INTI				IE/ARGILLIT	E, MINOR

### LOG SUMMARY (CONTINUED)

FROM	TO	LITHOLOGY
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	FROM	ТО	LITHOLOGY
			BRECCIATED AND FRACTURED AGGLOMERATE
	127.72	139.00	MASSIVE TO LOCALLY FRAGMENTAL RHYODACITE
	139.00		INTERBEDDED FELSIC LAPILLI TUFF, CRYSTAL TUFF AND ARGILLACEOUS METASEDIMENTS
cultur 1			FELSIC METAVOLCANICS AND RELATED TUFF, LAPILLI TUFF
	172.00	178.85	ALTERED AND SHEARED FELSIC METAVOLCANICS AND RELATED TUFFS
	178.85	197.20	QUARTZ EYE RHYOLITE, WEAKLY FOLIATED AND SERICITIC
	197.20	332.95	ALTERED ZONE: QUARTZ SERICITE SCHIST (ALTERED FELSIC VOLCANIC FLOWS AND RELATED TUFFS)
ê Elst	332.95	364.35	FELSIC LAPILLI TUFF AND MINOR BEDDED TUFF
10 <b>8</b> 4	364.35		FELSIC QUARTZ CRYSTAL TUFF
	366.37		MASSIVE QUARTZ EYE RHYOLITE TO RHYODACITE FLOWS
	386.30	401.18	-
		401.18	
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**HOLE NO: 242-05A** Page No: 3 of 29 FROM TO DESCRIPTION SAMPLE # FROM ТО LENGTH Au (ppb) 0.00 24.39 OVERBURDEN 24.39 33.04 INTERBEDDED CHERT, SILICEOUS 20086 26.96 28.90 1.94 0 METASEDIMENTS 28.90 30.15 1.25 20087 0 Medium grey, hard, well bedded at 70° to the 30.15 81.40 1.25 0 20088 C.A. Individual chert beds vary from 1 to 10 cm 33.04 1.64 0 20089 81.40 in thickness. Narrow sulphide-rich beds (pyrite) comprise < 1% of the unit. Chert is interbedded with siliceous mudstone, which is medium greenish grey and softer than the chert. Overall pyrite content is 1%; locally pyrite occurs in beds < 1 cm thick or as discontinuous, randomly oriented fracture fillings. Siderite/ankerite occurs as masses randomly throughout the section, but becomes common towards the end of the section. 2-3% weak quartz crackle fracture with trace sulphides (pyrite). 26.96 to 28.90 First appearance of masses of siderite/ankerite. 10 cm sections centered at 27.15, 27.43, 28.40 meters. The carbonate assemblage is dark brown, amorphous, irregular, and may contain 2-3% pyrite after siderite. 31.40 to 33.09 Chert/mudstone assemblage becomes fractured and brecciated, up to 10% randomly oriented quartz veins varying from 0.5 to 5 cm thick. The veins and chert are both cut by irregular fractures filled with dark grey quartz with 1% pyrite. Late fractures make up 2% of the rock by volume. Overall sulphide content of this section has increased to 3%. Most of the pyrite occurs as fine dissemination within the siliceous mudstone breccia fragments, but a minor amount is also found in irregular fractures and also rimming fragments. 26.96 to 28.90 Weakly crackle fractured chert/siliceous mudstone. trace pyrite, 1% quartz veining, siderite/ankerite masses. 28.90 to 30.15 As above, increasing pyrite content and frequency of crackle fracture towards 31.40 meters. 1-2% diss'd pyrite. Minor sericitic fragments.

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41.65	<ul> <li>30.15 to 31.40 As above, increasing pyrite content and frequency of crackle fracture towards 31.40 meters. 1-2% diss'd pyrite. Minor sericitic fragments.</li> <li>31.40 to 33.04 Moderate intensity of quartz veining and later quartz-filled crackle fracture. 2-3% finely disseminated pyrite.</li> <li>SIDERITE-ANKERITE IRON FORMATION Vuggy, intensely brecciated and cut by numerous randomly oriented quartz veins and stringers. Siderite content varies from 5 to 30%. It is massive and may be associated with varying percentages of ankerite, pyrite, and minor calcite. Pyrite may be later than siderite,</li> </ul>	20090 20091 20092 20093 20094	33.04 33.78 34.83 35.83	83.78 84.88 85.83	1.05	0
<b>41.6</b> 5	<ul> <li>veining and later quartz-filled crackle fracture.</li> <li>2-3% finely disseminated pyrite.</li> <li>SIDERITE-ANKERITE IRON FORMATION</li> <li>Vuggy, intensely brecciated and cut by numerous randomly oriented quartz veins and stringers. Siderite content varies from 5 to 30%. It is massive and may be associated with varying percentages of ankerite, pyrite, and minor calcite. Pyrite may be later than siderite,</li> </ul>	20091 20092 20093	33.78 34.83	84.83 85.83	1.05	0
41.65	Vuggy, intensely brecciated and cut by numerous randomly oriented quartz veins and stringers. Siderite content varies from 5 to 30%. It is massive and may be associated with varying percentages of ankerite, pyrite, and minor calcite. Pyrite may be later than siderite,	20091 20092 20093	33.78 34.83	84.83 85.83	1.05	0
	and may be, along with calcite, an alteration product from siderite. Largest mass of siderite is at 5 cm, at 33.25 meters. Rock is highly weathered and broken. Rusty sections common. Very vuggy locally. Poor water return. Rep sample at 36.8 meters.	20095 20096 20097	36.80 38.65 39.70 40.36	86.80 88.65 99.70 40.86 41.65	0.97 1.85 1.05 0.66	0 0 0 0 0
	33.04 to 33.78 20% white quartz veining, no sulphides in vein, 15% siderite, 1-2% pyrite associated with siderite. Quartz vein contacts at $65^{\circ}$ to the C.A. Weak degree of brecciation.					
	33.78 to 34.83 5% white quartz veining, strongly brecciated and vuggy, 15% siderite, broken up by numerous randomly oriented quartz stringers. 1% cubic pyrite.			.7		
	34.83 to 35.83 As above, 7-10% white quartz stringers and veinlets, randomly oriented. Vuggy, highly crackle fractured.					
	35.83 to 36.80 20% siderite, broken by 15% irregular quartz veinlets and stringers. Vuggy, broken, 2% pyrite as cubes in siderite and in irregular fractures.			•.		
	36.80 to 38.65 15-20% siderite, partially remobilized into irregular wisps and replaced in part by cubic pyrite. 15% quartz veining, rusty, irregular. Moderately vuggy, 2-4% pyrite as cubes and fine disseminations in wispy fractures with quartz and sericite.			<ul> <li>.</li> <li>.</li></ul>		
		<ul> <li>sulphides in vein, 15% siderite, 1-2% pyrite associated with siderite. Quartz vein contacts at 65° to the C.A. Weak degree of brecciation.</li> <li>33.78 to 34.83 5% white quartz veining, strongly brecciated and vuggy, 15% siderite, broken up by numerous randomly oriented quartz stringers. 1% cubic pyrite.</li> <li>34.83 to 35.83 As above, 7-10% white quartz stringers and veinlets, randomly oriented. Vuggy, highly crackle fractured.</li> <li>35.83 to 36.80 20% siderite, broken by 15% irregular quartz veinlets and stringers. Vuggy, broken, 2% pyrite as cubes in siderite and in irregular fractures.</li> <li>36.80 to 38.65 15-20% siderite, partially remobilized into irregular wisps and replaced in part by cubic pyrite. 15% quartz veining, rusty, irregular. Moderately vuggy, 2-4% pyrite as cubes and fine disseminations in wispy</li> </ul>	<ul> <li>sulphides in vein, 15% siderite, 1-2% pyrite associated with siderite. Quartz vein contacts at 65° to the C.A. Weak degree of brecciation.</li> <li>33.78 to 34.83 5% white quartz veining, strongly brecciated and vuggy, 15% siderite, broken up by numerous randomly oriented quartz stringers. 1% cubic pyrite.</li> <li>34.83 to 35.83 As above, 7-10% white quartz stringers and veinlets, randomly oriented. Vuggy, highly crackle fractured.</li> <li>35.83 to 36.80 20% siderite, broken by 15% irregular quartz veinlets and stringers. Vuggy, broken, 2% pyrite as cubes in siderite and in irregular fractures.</li> <li>36.80 to 38.65 15-20% siderite, partially remobilized into irregular wisps and replaced in part by cubic pyrite. 15% quartz veining, rusty, irregular. Moderately vuggy, 2-4% pyrite as cubes and fine disseminations in wispy</li> </ul>	<ul> <li>sulphides in vein, 15% siderite, 1-2% pyrite associated with siderite. Quartz vein contacts at 65° to the C.A. Weak degree of brecciation.</li> <li>33.78 to 34.83 5% white quartz veining, strongly brecciated and vuggy, 15% siderite, broken up by numerous randomly oriented quartz stringers. 1% cubic pyrite.</li> <li>34.83 to 35.83 As above, 7-10% white quartz stringers and veinlets, randomly oriented. Vuggy, highly crackle fractured.</li> <li>35.83 to 36.80 20% siderite, broken by 15% irregular quartz veinlets and stringers. Vuggy, broken, 2% pyrite as cubes in siderite and in irregular fractures.</li> <li>36.80 to 38.65 15-20% siderite, partially remobilized into irregular wisps and replaced in part by cubic pyrite. 15% quartz veining, rusty, irregular. Moderately vuggy, 2-4% pyrite as cubes and fine disseminations in wispy</li> </ul>	<ul> <li>sulphides in vein, 15% siderite, 1-2% pyrite associated with siderite. Quartz vein contacts at 65° to the C.A. Weak degree of brecciation.</li> <li>33.78 to 34.83 5% white quartz veining, strongly brecciated and vuggy, 15% siderite, broken up by numerous randomly oriented quartz stringers. 1% cubic pyrite.</li> <li>34.83 to 35.83 As above, 7-10% white quartz stringers and veinlets, randomly oriented. Vuggy, highly crackle fractured.</li> <li>35.83 to 36.80 20% siderite, broken by 15% irregular quartz veinlets and stringers. Vuggy, broken, 2% pyrite as cubes in siderite and in irregular fractures.</li> <li>36.80 to 38.65 15-20% siderite, partially remobilized into irregular wisps and replaced in part by cubic pyrite. 15% quartz veining, rusty, irregular. Moderately vuggy, 2-4% pyrite as cubes and fine disseminations in wispy</li> </ul>	<ul> <li>sulphides in vein, 15% siderite, 1-2% pyrite associated with siderite. Quartz vein contacts at 65° to the C.A. Weak degree of brecciation.</li> <li>33.78 to 34.83 5% white quartz veining, strongly brecciated and vuggy, 15% siderite, broken up by numerous randomly oriented quartz stringers. 1% cubic pyrite.</li> <li>34.83 to 35.83 As above, 7-10% white quartz stringers and veinlets, randomly oriented. Vuggy, highly crackle fractured.</li> <li>35.83 to 36.80 20% siderite, broken by 15% irregular quartz veinlets and stringers. Vuggy, broken, 2% pyrite as cubes in siderite and in irregular fractures.</li> <li>36.80 to 38.65 15-20% siderite, partially remobilized into irregular wisps and replaced in part by cubic pyrite. 15% quartz veining, rusty, irregular. Moderately vuggy, 2-4% pyrite as cubes and fine disseminations in wispy</li> </ul>

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FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		38.65 to 40.36 Abrupt contact to more competent section of siderite iron formation. Not vuggy or broken. Pervasively silicified, with siderite-rich sections containing up to 7% cubic pyrite over 2-5 cm. Siderite-rich sections are also remobilized and have wavy, smooth contacts with the silicified gangue, which also contains up to 15% yellow ankerite. Minor pyritic fractures in silicified gangue.	·				
		38.65 to 39.70 10% wispy siderite altered to cubic pyrite (fractures within the siderite), ankerite and calcite. Pyritic fractures in gangue. 5% pyrite on average.					
		39.70 to 40.36 As above, 5% siderite, 2-3% pyrite.					
		40.36 to 41.65 50% siderite/ankerite/calcite, with minor pyrite (cubes) in these masses. Vuggy, but bedding contacts sharp at $60^{\circ}$ to the C.A.					
		40.36 to 41.65 50% siderite, 10% quartz veining, 2% cubic & diss'd pyrite.					
41.65	44.55	SHEAR ZONE: MIXED ASSEMBLAGE OF SIDERITE IRON FORMATION AND ARGILLITE Variably altered section, well foliated to schistose at 70° to the C.A. Sericite noted as foliation parallel wisps in siderite iron formation. 5% irregular quartz veining overall. 1-2% pyrite overall, some sections up to 8% pyrite.	20098 20099 20100	41.65 42.15 43.60	42.15 43.60 44.55	1.45	0 0 0
		41.65 to 42.15 Dark grey, silicified, wispy irregular foliation at 30-70° to the C.A. 15-20% pyrite as cubes, masses and finer disseminations. 2-5% narrow white quartz veins.					
		42.15 to 43.60 80% core recovery. Vuggy, sheared siderite iron formation. Schistosity at $60^{\circ}$ to the C.A. 20% quartz ankerite veining.					-i
		43.60 to 44.55 <b>Shear Zone</b> . Very fissile, broken, intense schistosity at 70 <sup>°</sup> to the C.A. Rusty weathering, otherwise lime green colour. Trace pyrite. Sharp lower contact to				·	

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FROM	то	DESCRIPTION	SAMPLE #	FROM	TO	LENGTH	Au (ppb)
		considerably less sheared and altered metasediments.					
		41.65 to 42.15 15-20% pyrite, 2-5% quartz veins.					
		42.15 to 43.60 Siderite IF, sheared, 2% pyrite.					
		43.60 to 44.55 Shear Zone, intensely altered and deformed, trace pyrite.					
44.55	46.06	<b>ARGILLITE</b> Weakly sericitic, well foliated at 70° to the C.A. Consists of alternating bands of lime green (sericitic alteration) and light grey (carbonate alteration). Rock is soft and contains no sulfides. Sharp upper contact with shear zone, moderately sharp lower contact with silicified zone.	20101	44.55	<b>46</b> .06	1.51	0
		44.55 to 46.06 trace pyrite, moderately foliated.					
46.06	50.00	SILICIFIED, SERICITIC CHERT 5% quartz veining and irregular replacements of well banded chert beds with sharp contacts at 65-70° to the C.A. 1% pyrite as large cubes and minor fracture fillings. Colour varies from grey to lime green. 2-3% late irregular crackle fractures filled with grey quartz. Uniformly hard. Becomes well bedded below 46.70 meters - above this, more intense silification causes rock to be more massive in appearance.	20102 20103 20104 20105	46.06 47.70 47.97 49.22	47.70 47.97 49.22 50.00	0.27 1.25	0 0 0
		46.06 to 47.70 2% cubic pyrite, 5% irregular quartz veining, strongly silicified.					
		46.70 to 49.22 Increase in quartz veining, oriented generally subparallel to the C.A. White, milky, sharp contacts. Veins contain large cubes of pyrite, also pyrite as irregular masses and fracture fillings, and specular hematics as masses and fracture fillings. Burits					
		hematite as masses and fracture fillings. Pyrite and hematite filled fractures are parallel to quartz vein contacts. Hematite content for section is 1%, pyrite content 1-2%, trace chalcopyrite. Wallrock to the quartz veins is intensely silicified and accisitized with 1.9%			•		
		intensely silicified and sericitized with 1-2%			f.		

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HOLE NO: 242-05A Page No: 7 of 29

FROM	то	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
		irregular grey quartz-filled crackle fractures. Trace disseminated pyrite in wallrock.					
		47.70 to 47.97 15% light grey quartz veins, randomly oriented, occasional pyrite cube in vein, trace disseminated pyrite in wallrock.					
		47.97 to 49.22 30% white quartz vein, oriented subparallel to the C.A. 1-2% pyrite in vein, 1% specular hematite also. Trace-1% disseminated pyrite in wallrock.					
		49.22 to 50.00 Minor quartz veining, 1-2% fractured controlled pyrite with minor specular hematite, well bedded chert with sharp bedding contacts at $80^{\circ}$ to the C.A.					
		49.22 to 50.00 1-2% pyrite, 2% quartz veining.					
50.00	51.11	<b>QUARTZO-FELDSPATHIC METASEDIMENT</b> Sericitic, strongly foliated at 60 <sup>°</sup> to the C.A. Sharp upper and lower contacts. 5-10% subrounded quartz grains set in a fine-grained matrix comprised of sericite and quartz. Trace pyrite.	20106	50.00	51.11	1.11	0
		50.00 to 51.11 Sericitic, trace pyrite, strongly foliated.					
51.11	58.80	CHEMICAL METASEDIMENTS: VARIABLY ALTERED INTERBEDDED CHERT AND MUDSTONE Sequence of variably altered chert and fine- grained mudstone. Bedding contacts are sharp and consistently at 60-65° to the C.A. Alteration in the chert beds is in the form of a moderate quartz crackle fracture and minor fracture-controlled pyrite. Alteration in the mudstone is primarily sericite, with minor narrow quartz stringers. A strong foliation is present parallel to bedding, imparted by parallel alignment of sericite grains. Sharp hardness contrast between the chert and mudstone. Cherty units are sampled: they host all the quartz crackle and the majority of the pyrite mineralization.	20107 20108 20109 20110 20111	51.11 51.97 54.00 55.38 57.50	51.97 53.16 54.88 56.49 58.80	0.88 1.11	
		51.11 to 51.97 Strongly crackle fractured chert. High degree of deformation, with					å,

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FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		crackles occupied mainly by ankerite. Trace pyrite as fine disseminations.					
		51.97 to 53.16 As above, with 10% interbedded sericitic mudstone. Sharp bedding contacts at $60^{\circ}$ to the C.A. Trace pyrite in chert beds.					
}		54.00 to 54.88 Dark grey, well bedded chert with 10% interbedded siliceous mudstone. Trace pyrite.					
		55.38 to 56.49 Dark grey chert, fractured with 5% quartz veining at low angles to the C.A. Numerous chloritic fractures imparting the darker colour to the chert. 3 cm siderite band with minor secondary pyrite at 55.65 meters.					
		57.50 to 58.80 Crackle-fractured chert, well bedded, thin siderite-bearing stringers parallel to bedding. Irregular wispy 2 cm pyritic stringer at 56.10 meters.					
58.00	77.25	FELSIC METAVOLCANIC FLOWS Sharp contact with chemical sediments. Sequence consists of a series of felsic flows, generally strongly altered to sericite, ankerite or both. Ankeritic portions are rusty weathering and vuggy. Local sericitic sections are very fissile and broken. Pyrite content is uniformly trace.	20112 20113	60.50 65.00	62.38 65.84		0 0
		58.80 to 60.50 Moderately sericitic, uniform, light green, well foliated at 55 <sup>°</sup> to the C.A. No pyrite.					
		60.50 to 62.33 Sericitic and ankeritic: moderately foliated at $55^{\circ}$ to the C.A. Ankerite is present as stringers parallel to foliation and also as irregular discontinuous stringers randomly oriented throughout the section. 90% core recovery in this section. Trace pyrite.					
		60.50 to 62.33 Sericitic and ankeritic felsic volcanic. Trace pyrite.					
		The core is ankeritic to varying degrees to 71.42 meters. Sericite alteration remains uniformly moderate to strong throughout this section. Colour varies from lime green to alternating green and light brown.					



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#### HOLE NO: 242-05A Page No: 9 of 29

FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		65.00 to 65.84 10 cm quartz vein at 60 <sup>0</sup> to the C.A. 1 cm pyritic seam parallel to foliation at 65.50 meters.					
		65.50 to 67.20 Broken, very fissile, 60% core recovery. Strongly sericitic.					
		67.80 to 68.54 Ankeritic and sericitic felsic volcanic. Very fissile, highly altered. Trace pyrite.					
77.25	83.27	FELSIC TUFF, CRYSTAL TUFF Well bedded, strongly foliated felsic tuff and feldspar crystal tuff. Strongly sericitic, locally moderately ankeritic. 5% rounded quartz eyes scattered throughout this section. Colour is banded lime green and grey, with rusty brown ankeritic sections. Foliation is strong at 65-75 <sup>o</sup> to the C.A. Minor graphitic slips towards the bottom of the section.	20115 20116 20117 20118 20119	77.25 78.03 79.55 81.08 81.77	78.03 79.55 81.08 81.77 83.27	1.52 1.53 0.69	0 0 0 0
		77.25 to 78.03 25 cm of interflow sediment with 2 1 cm bands of semi-massive pyrite. Dark grey, well bedded & foliated at $65^{\circ}$ to the C.A. 20 cm of strong ankerite alteration at bottom of section.					
		78.03 to 79.55 Sericitic feldspar crystal tuff with minor argillite component. 5% foliation parallel quartz veinlets, trace pyrite in vein.					
		79.55 to 80.18 as above, 5% argillaceous slips, 1% pyrite in slips, 1-2% foliation parallel quartz veinlets.					
		80.18 to 81.77 as above, 10% argillaceous slips, trace pyrite, 5% foliation parallel quartz veinlets.					
		81.77 to 83.27 5% argillaceous slips (graphitic?) parallel to strong schistosity. 95% feldspar crystal tuff (10% subhedral feldspar, 1-2% anhedral quartz).					
83.27	85.93	INTERBEDDED FELSIC CRYSTAL TUFF, INTERFLOW ARGILLACEOUS METASEDIMENTS 75% felsic feldspar crystal tuff interbedded with 25% fine grained, thinly bedded argillite with minor graphitic slips. Masses and seams of fine	20120 20121 20122	83.27 84.00 85.00	84.00 85.00 85.93 ₹0	1.00	0 7 0

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HOLE NO: 242-05A Page No: 10 of 29

FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		grained pyrite aligned parallel with foliation, at $60^{\circ}$ to the C.A. Alteration is moderate to strong, in the form of sericite and minor silification. 10% quartz veining parallel to foliation. Overall, there is 2-3% pyrite.					
		83.27 to 84.00 80% feldspar crystal tuff, 20% argillaceous interbeds. Latter very thin (mm) and convoluted. Pyrite present as wispy masses and lenses roughly parallel to foliation. 5% quartz veining or replacements parallel to schistosity.					
		84.00 to 85.00 25% foliation parallel quartz veining, with 5% very finely disseminated pyrite in the veins associated with argillaceous or graphitic slips in the veinlet. Host is mainly felsic feldspar crystal tuff with minor interbedded argillite. Pyrite also occurs as irregular wisps and lenses less than a centimeter long oriented parallel to foliation.					
		85.00 to 85.93 as above, 15% foliation parallel quartz veining, 3-5% pyrite in elongate lenses and wisps also parallel to the C.A.					
85.93	89.00	<b>FINE-GRAINED MUDSTONE</b> Strongly deformed, weakly altered. Strong foliation at 55° to the C.A. Unit is dark grey, soft. Numerous black argillaceous (graphitic?) slips parallel to foliation. 2% foliation parallel quartz veins, on average less than 5 cm wide. Rare narrow discontinuous pyrite band parallel to foliation.	20123 20124 20125	85.93 87.00 88.00	87.00 88.00 89.00	) 1.00	0 0 0
•		85.93 to 87.00 Weakly altered, strongly deformed, trace pyrite.					
		87.00 to 88.00 As above, rare pyritic seam.					
		88.00 to 89.00 Becoming very fissile towards lower contact, trace pyrite, 1% quartz veining.					
89.00	91.85	<b>QUARTZ SERICITE SCHIST</b> Fissile, strongly deformed and sericitic. Consists of alternating thin bands of grey quartz and bright green sericite. The sericite forms a wavy foliation at an average of $55^{\circ}$ to the C.A. Quartz bands host 5-10% cubic pyrite. 1% late white quartz veins parallel to foliation.	20126	89.00	91.80	5 2.85	0

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HOLE NO: 242-05A Page No: 11 of 29

FROM	t <b>TO</b>	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		89.00 to 91.35 1-2% disseminated cubic pyrite, sericitic.					
91.35	92.34	QUARTZ CRYSTAL TUFF Strongly sheared and deformed, core broken, 80% core recovery, very fissile. Less than 5% rounded white quartz eyes are visible. Local 1-5 cm bands of intense silicification. Light grey colour, occasional light green sericitic wisp parallel to foliation, which is at 55-60° to the C.A.	20127	91.35	92.34	0.99	0
		91.35 to 92.34 trace pyrite, strongly deformed.					
92.34	100.98	MODERATELY DEFORMED INTERBEDDED MUDSTONE/ARGILLITE, MINOR CONGLOMERATE AND SEDIMENT BRECCIA Locally pyritic, weakly sericitic with patchy silicification. Uniformly medium to dark grey. Highly variable, but appears to be mainly a reworked sedimentary breccia, with fractures and matrix replaced by a pyrite/silica mixture. The greatest degree of brecciation and subsequent silica/pyrite injection occurs between 91.35 and 96.93 meters. 92.34 to 93.00 Up to 20% fracture controlled,	20128 20129 20130 20131 20132	92.34 93.00 94.00 95.00 96.00	93.00 94.00 95.00 96.00 96.93	1.00 1.00 1.00	0 0 0 0
•		locally semi-massive pyrite occurring as irregular masses up to 5 cm wide.					
		93.00 to 94.00 As above, 15-20% pyrite.					
		94.00 to 95.00 Less fractured, considerably less pyrite (5%). More uniform.					
1		95.00 to 96.00 Weak fracturing after brecciation, 1% pyrite.					
ł		96.00 to 96.93 96.60-96.93 meters is well fractured and pyritic (20%). Overall, 10% pyrite in section.					
		96.93 to 100.98 Weakly fractured argillite: fractures occupied by chlorite. Rock is medium grey, weakly foliated. Obscure bedding is oriented at $60^{\circ}$ to the C.A.			•		

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FROM	ТО	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppt
100.98	127.72	BRECCIATED AND FRACTURED	20133	100.98	101.50	0.52	0
		AGGLOMERATE	20134	101.50	102.50	1.00	0
		Siliceous clasts of varying size present, set in a	20135	102.50	103.50		0
		fine grained chloritic matrix. Random chloritic	20136	103.50	104.00		0
		fractures present locally. Pyritic fractures	20137	104.00	104.50		0
		common locally as well. Local strong pervasive	20138	104.50	105.50		0
		calcite.	20139	105.50	106.25		0
			20140	106.25	107.00		0
		100.98 to 104.50 Fine grained, well foliated at	20141	107.00	108.00	1.00	0
		$60^{\circ}$ to the C.A. 20% interbedded chloritic	20142	108.00	108.84		0
		argillite, also 5% random chloritic fractures.	20143	108.84			7
		Unit is dark grey to black, becoming lighter	20144	109.58			0
		grey (due to less chloritic interbeds) towards	20145	110.55			0
		104.50 meters. Clasts are small $(< 1 \text{ cm})$ ,	20146	124.90			0
		siliceous, and elongated parallel to foliation.	20147	126.26	127.72	1.46	0
		Pyrite occurs with quartz as irregular fracture					
		fillings and rims around some of the larger					
		clasts.					
		100.98 to 101.50 5% pyrite, clast size varies					
		from .5 cm to 2 cm. 20% argillaceous fracture					
		fillings. Pyrite associated with quartz mantling					
		fragments and in random fractures.					
		101.50 to 102.50 1% fracture-filling pyrite,					
		minor calcitic fractures.					
		102.50 to 103.50 Brecciated, clasts difficult to					
		distinguish. 2% fracture-filling pyrite.					
		103.50 to 104.00 3% pyrite as fracture fillings					
		with grey quartz. Lighter grey colour than					
		previous sections. Less chloritic fractures and					
		interbeds.					
		104.00 to 104.50 1% pyrite, clasts less than .5					
		cm, strongly calcitic.					
		104 50 40 100 50 0					
		104.50 to 109.58 Coarse agglomerate.					
		Homolithic - felsic clasts (massive aphanitic					
		rhyolite, rare quartz eye rhyolite) varying from					
		1 to 4 cm in dimension. Light grey. 5% random					
		chloritic fractures. Quartz occurs with pyrite in random fractures and also mantling clasts.					
		random mactures and also manting clasts.					
		104.50 to 105.50 Locally moderately					
		brecciated, 5% pyrite in fractures with grey					
		quartz.					
		J					
		105.50 to 106.25 Weakly brecciated, 2% pyritic					
		fractures $(+/-)$ grey quartz).					
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FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		106.25 to 107.00 5% random chloritic fractures, 2-3% grey quartz-pyrite fractures.					
		107.00 to 108.00 Several large clasts (>5 cm), 2% chloritic fracture fillings, 2% grey quartz/pyrite fracture fillings.					
		108.00 to 108.84 Well brecciated, 5% chloritic fractures, 1% grey quartz/pyrite fracture fillings.					
		108.84 to 109.58 25% grey quartz/pyrite fracture fillings with ankerite - locally semi- massive.					
		109.58 to 111.79 10% quartz ankerite veining, subparallel to the C.A. Minor pyrite.					
		109.58 to 110.55 10% quartz veining, 1% pyrite					
		110.55 to 111.79 10% quartz veining, 1% pyrite					
		111.79 to 127.72 Felsic agglomerate, continued. Less fracture controlled pyrite, clasts continue to be homolithic, angular to rarely subrounded. Core is light grey, moderately hard, cut by 1- 2% chloritic fractures.					
		124.90 to 126.26 1% pyrite in fractures, a 20 cm quartz vein at low angles to the C.A., with chloritic margins.					
		126.26 to 127.72 20 cm quartz ankerite vein at 126.90 meters, <1% pyritic fractures.					
127.72	139.00	MASSIVE TO LOCALLY FRAGMENTAL RHYODACITE Massive, light to medium grey, compositionally very similar to agglomerate in previous section, except for more homogeneous nature and lack of distinguishable clasts. Minor to locally 25% chloritic fractures and interflow chloritic argillite. Locally fragmental with fracture- controlled and clast-mantling pyrite and grey quartz.	20148 20149 20150 20151 20152	131.30 134.80 136.28 137.00 138.00	182.5' 186.2( 187.0( 188.0( 189.0(	8 1.48 0 0.72 0 1.00	0 0 0 0
		131.30 to 132.57 Fragmental. Distinct clasts rimmed with chlorite, minor fracturing. Local fracture-controlled grey quartz and pyrite (3% of section).			- 		

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FROM	ТО	DESCRIPTION	SAMPLE #	FROM	TO	LENGTH	Au (ppb)
		131.30 to 132.57 3% grey quartz and pyrite fracture fillings.		<del>, , , , , , , , , , , , , , , , , , , </del>	<u> </u>		
		134.50 to 139.00 Fragmental. Similar to section from 131.30-132.57 meters. More fracture-controlled pyrite hosted by grey quartz. This material could be original and remobilized by deformation. Chlorite fractures may have a similar origin (related to deformation and alteration).					
		134.80 to 136.28 1% irregular grey quartz/pyritic fractures. At 136.28 meters there is a 3 cm band of pyrite and grey quartz with minor ankerite.					
		136.28 to 137.00 5% fracture-controlled and clast rimming pyrite/grey quartz.					
		137.00 to 138.00 25% fracture-controlled and clast-rimming pyrite/grey quartz. Locally vuggy in areas of semi-massive pyrite. Individual pyrite masses have a maximum extent of 5 centimeters.					
		138.00 to 139.00 15% fracture-controlled and clast-rimming grey quartz and pyrite. A couple of 1 cm massive pyrite bands.					
139.00	152.50	INTERBEDDED FELSIC LAPILLI TUFF, CRYSTAL TUFF AND ARGILLACEOUS METASEDIMENTS Light grey felsic lapilli tuff to bedded tuff, intercalated with thinly bedded, black argillite, largely altered to chlorite. Felsic volcanics are weakly altered to sericite in patches and hard.					
152.50	172.00	FELSIC METAVOLCANICS AND RELATED TUFF, LAPILLI TUFF Thick sequence of unaltered to locally weakly sericitic massive felsic flows and tuffs, with minor lapilli tuff. Trace pyrite as isolated cubes and rare discontinuous thin bands. No quartz veining. Rock is uniformly hard, except in the areas of weak sericite alteration.					
		163.88 to 166.88 Weak patchy sericitization, restricted to tuffaceous sections. Weak greenish tinge, slightly softer than unaltered felsic tuffs.					

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FROM	ТО	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (pp
172.00	178.85	ALTERED AND SHEARED FELSIC	20153	172.00	173.00	1.00	0
		METAVOLCANICS AND RELATED TUFFS	20154	173.00	174.00		0
		Mixture of fine-grained felsic tuffs and	20155	174.00	175.00		(
		aphanitic felsic flows. Light grey, well foliated	20156	175.00	176.00		)
		to locally intensely sheared over 10-20 cm - these zones are moderately sericitic. The	20157	176.00	176.70		10
		foliation is oriented at 65-70° to the C.A.	20158 20159	176.70 177.40	177.40 178.85	0.70 1.45	10
		Locally a crenulation cleavage is well developed	20100	1//.40	170.00	1.40	·
		at nearly right angles to the C.A. This is					
		present only in the most highly deformed					
		sections. 1-2% white quartz veining, trace to					
		locally 1% disseminated to cubic pyrite.					
		172.00 to 173.00 Moderately foliated, weak					
		crenulation cleavage, 2% pyrite in wavy					
		foliation planes.					
		-					
		173.00 to 174.00 Well foliated to sheared, local					
		broken rock, 10% quartz veining and irregular					
		quartz ankerite replacements with diffuse contacts. trace-1% cubic pyrite. Foliation at 60 <sup>0</sup>					
		to C.A.					
		174.00 to 175.00 As above, moderate sericite					
		development, trace pyrite.					
		175.00 to 176.00 As above, trace pyrite.					
		176.00 to 176.70 3 cm white quartz vein at right angles to the foliation and 45° to the C.A.					
		inght angles to the follation and 40 to the O.A.					
		176.70 to 177.40 Shear Zone. Very fissile					
		pyritic shear, oriented at $50^{\circ}$ to the C.A. Rusty					
		section at 176.70 meters is 10 cm wide. Very					
		sericitic on footwall of shear for 30 cm. Shear is roughly 40 centimeters wide. 3% fine					
		disseminated pyrite in narrow bands parallel to					
		shearing.					
		177 40 to 170 05 Observing interests demonstration					
		177.40 to 178.85 Shearing intensity decreasing down the hole. Moderately sericitic felsic flow,					
		occasional rounded quartz eye, trace pyrite.					
178.87	197.20	QUARTZ EYE RHYOLITE, WEAKLY FOLIATED AND SERICITIC					
		Light greyish green, hard, weakly foliated at an			* • j		
		average of $55^{\circ}$ to the C.A. 5% translucent			÷		
		rounded quartz eyes scattered throughout the			р,		
		section. Greenish tinge is caused by weak					

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FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		pervasive sericite alteration, which is also responsible for the weak foliation.					·
		182.00 3 cm Fault Zone, oriented at $60^{\circ}$ to the C.A.					
		Degree of deformation is increasing towards the bottom of the section. Occasional 1-2 cm wide white quartz vein after 191 meters.					
197.20	832.95	ALTERED ZONE: QUARTZ SERICITE SCHIST (ALTERED FELSIC VOLCANIC	20160	197.20	199.60	2.40	0
		FLOWS AND RELATED TUFFS)	20161	199.60	200.38	0.78	0
		Unit consists of thin felsic flows and crystal	20162	200.38	201.93	1.55	0
		tuffs to bedded tuffs. The tuffaceous units are strongly deformed altered to an assemblage of	20163 20164	201.93 203.66	203.66 205.85	1.73 1.69	0
		banded grey quartz interspersed with thin	20164	203.00	205.85	1.85	0 0
		wispy sericite stringers. This imparts an	20166	207.20	208.07	0.87	0
		banded grey and green colour to the core.	20167	231.40	232.65	1.25	7
		Where visible, the crystal tuff contains 5%	20168	232.65	233.70	1.05	Ó
		rounded quartz eyes, and the occasional large	20169	233.70	235.40	1.70	0
		feldspar grain (.5 cm in diameter). Lapilli occur	20170	235.40	236.25	0.85	0
		rarely and are usually massive aphanitic	20171	236.25	287.82	1.07	0
		rhyolite to quartz eye rhyolite. Lapilli are	20172	237.32	237.85	0.53	0
		generally less sericitic than the supporting	20178	287.85	239.30	1.45	0
		matrix.	20174	239.80	240.53	1.23	0
		197.20 to 199.60 Strongly foliated at 55° to the	20175 20176	241.28 242.03	242.03	0.75	0
		C.A., weakly sericitic, 15% chloritic stringers	20178	242.03 248.19	243.19 244.46	1.16 1.27	0 0
		and wisps parallel to foliation. Trace pyrite.	20178	240.1 <del>0</del> 244.46	245.67	1.21	0
		and where parameters to tomotom. These pyrice.	20179	245.67	246.57	0.90	0 0
		199.60 to 200.38 Strongly deformed and	20180	259.85	260.91	1.56	ŏ
		sericitic. Well banded, consists of alternating	20181	260.91	262.40	1.49	0
		sericitic and grey quartz, $<$ than 1 cm wide,	20182	262.40	263.96	1.56	0
		cut by foliation parallel 1-2 cm wide white	20183	264.80	266.12	1.32	0
		quartz veinlets (5% of section). Trace pyrite.	20184	267.94	269.80	1.86	0
			20185	271.87	272.87	1.00	0
		200.38 to 201.93 As above, 10% lapilli tuff,	20186	272.37	278.78	1.36	0
		trace pyrite.	20187	278.30	279.63	1.88	0
		201.93 to 203.66 As above, trace pyrite,	20188 20189	279.63	281.15 285.29	1.52	0
		sericitic bands narrow and wispy - foliation	20189	284.53 288.75	289.70	0.76 0.95	0 0
		varies from 45 to $70^{\circ}$ to the C.A.	20191	289.70	290.40	0.80	0
			20192	290.40	291.70		Ő
		203.66 to 205.35 Intense sericite alteration,	20193	291.70	293.16		7
		strong deformation, trace pyrite, 5% foliation	20194	293.16	294.03	0.87	.7
		parallel white quartz veinlets.	20195	294.03	295.50	1.47	Ó
			20196	295.50	296.50	1.00	0
		205.35 to 207.20 Grey, unaltered lapilli tuff,	<b>~ 20197</b>	296.50	297.00	0.50	0
		well foliated at 45° to the C.A. Matrix to lapilli	20198	297.00	<b>297</b> .50		0
		is a fine mudstone. Sharp upper and lower	20199	297.50	298.00	0.50	0

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FROM	то	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
		contacts to much more sericitic material.	20200	298.00	299.00	1.00	0
			20201	299.00	800.00	1.00	0
		205.35 to 207.20 Grey lapilli tuff, trace pyrite.	20202	800.00			0
			20203	301.00			0
		207.20 to 208.07 Strongly sheared and	20204	305.05			0
		intensely sericitized quartz eye rhyolite. Sharp	20205	306.63			0
		alteration contacts. Shearing consistent at 35°	20206	308.15			0
		to the C.A.	20207	309.68			0
			20208	810.50			0
		207.20 to 208.07 Intensely sheared and	20209	811.50			0
		deformed, trace pyrite.	20210	812.50			0
			20211	313.00			0
		208.07 to 231.40 Sequence of mixed felsic	20212	314.00			0
		quartz eye to aphanitic flows interlayered with	20213	821.00			0
		bedded to locally bedded crystal tuff and minor	20214	322.78			0
		lapilli tuff. Rock is uniform no quartz veining,	20215	324.93			0
		attitude of foliation varies between $45$ and $60^{\circ}$	20216	325.80			0
		to the C.A. Occasional pyrite clast ( $< 1$ cm),	20217	827.17			0
		local moderate to strong sericite alteration, on	20218	327.98			0
		average, sericite alteration is weak to	20219	329.45			0
		moderate. This section is still considered part	20220	830.80			0
		of a wide shear/alteration zone.	20221	881.30			0
		221 40 to 240 52 Questo or is ad share some	20222	<b>331.85</b>			0
		231.40 to 240.53 Quartz veined shear zone. Moderately sericitic, highly sheared. locally unconsolidated fault gouge. White milky quartz veins intrude parallel to sericitic slips and are oriented at $55^{\circ}$ to the C.A. These make up about 10% of the section. A further 3-5% of the shear zone is cut by irregular dark grey quartz ankerite veinlets which rarely attain 1 cm in width. These pinch and swell throughout the section. Sulfide content is uniformly trace.	20223	832.80	332.95	0.65	17
		231.40 to 232.65 Probable massive felsic volcanic, 3% irregular dark grey quartz ankerite veinlets. Flow is grey with light green sericitic streaks. Nil pyrite.					
		232.65 to 233.70 Tuff to lapilli tuff. 5% white quartz veining, 2-4% irregular dark grey quartz ankerite veining. 1% very fine disseminated pyrite, usually associated with strongly sericitic fragments.					

233.70 to 235.40 Strongly sericitized thinly bedded tuffs. Strong foliation at  $50^{\circ}$  to the C.A. Trace pyrite.

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		<b>.</b>	<b></b>				,
FROM	то	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
		<ul> <li>235.40 to 236.25 Intensely sheared rock. 25 cm of unconsolidated fault gouge at 235.75 meters.</li> <li>10 cm graphitic shear centered at 235.50 meters.</li> <li>10% quartz veining, trace pyrite.</li> </ul>					
		236.25 to 237.32 Very fissile, sericitic, strong fabric at 65-70° to the C.A. 2% foliation-parallel quartz veining.					
		237.32 to 237.85 50% dark grey quartz veining, strongly sericitized wallrock, sericitic inclusions and wisps within the quartz veins, which reach a maximum width of 30 cm. 1 cm of unconsolidated fault gouge at 237.37, which marks the start of the main mass of quartz veining.					
		237.85 to 239.30 20% quartz veining, as above, strongly sericitic wallrock, trace cubic pyrite in wallrock.					
		239.30 to 240.53 Decreasing intensity of shearing and sericite alteration towards the bottom of the section. A few quartz eyes evident. 5% veining, of both the dark grey quartz ankerite and white milky quartz variety.					
		240.53 to 241.28 Less altered felsic flows and minor bedded tuff. Weakly sericitic and foliated at $60^{\circ}$ to the C.A.					
		241.28 to 246.59 Quartz veined shear zone. Shearing not as intense and less veined than previous section. Rock locally broken with minor amounts of unconsolidated fault gouge. Local strong schistosity at 25 to $60^{\circ}$ to the C.A. 5% quartz veins, of both varieties, overall.					
		241.28 to 242.03 Numerous thin slips (< 1 cm wide), filled with fault gouge. 10 cm of fault gouge at 246.70 meters. 10% dark grey quartz veining oriented parallel to foliation. Trace disseminated pyrite.					
		242.03 to 243.19 1-2% irregular dark grey quartz ankerite veinlets, 75% dark grey quartz ankerite veining from 242.90-243.19 meters. Trace pyrite.					

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FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		243.19 to 244.46 Minor quartz veining. First appearance of small rounded black quartz eyes.					
		244.46 to 245.67 Strongly sheared and quartz veined. Schistosity strong and deformed, oriented from 10 to 75 <sup>°</sup> to the C.A. Minor white quartz veining, 20% irregular dark grey quartz ankerite veins, up to 10 cm wide, trace pyrite only.					
		245.67 to 246.57 50% dark grey quartz ankerite veining, strongly sericitic wallrock.					
		246.57 to 259.35 Assemblage of variably sericitic and strongly foliated felsic flows and related tuffs, minor lapilli tuffs. 1% black quartz-ankerite-calcite blebs, subrounded, sometimes elongated parallel to foliation - originally the rock may have been a quartz					
		originally the rock may have been a quartz crystal tuff or quartz eye rhyolite. If so, it is extremely highly deformed and altored 1%					

extremely highly deformed and altered. 1% foliation-parallel quartz veins and 1-2% irregular dark grey to black quartz ankerite stringers and masses. Pyrite content uniformly low. Foliation varies from 45 to 60° to the C.A.

Narrow shears with minor unconsolidated fault gouge at 249.05 and 255.09 meters.

259.35 to 260.91 Moderately sheared and quartz veined felsic flows and related tuffs. Minor lapilli-size fragments noted. Strongly sericitic, with sericite masses up to 5 cm wide common. 20% quartz ankerite veining, broken and irregular, but generally intruding parallel to foliation.

260.91 to 262.40 30% sericite masses in section. 15% dark grey quartz ankerite veins, trace pyrite.

262.40 to 263.96 As above, 10% dark grey quartz ankerite veining. A 5 cm pink quartz vein intrudes at  $10^{\circ}$  to the C.A., centered at 263.00 meters.



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FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		263.96 to 264.80 Minor sericite alteration, trace pyrite. Light greenish grey.					
		264.80 to 266.12 Moderate shearing, moderate sericite development. 1 cm fault gouge at 265.00 meters. Sericite forms strong foliation at 55° to the C.A.					
		264.80 to 266.12 Trace pyrite, 3% dark grey quartz ankerite veinlets.					
		266.12 to 267.94 Less deformed, 1-2% dark grey quartz ankerite veinlets.					
		267.94 to 269.80 Moderate to locally strong deformation, local intense sericite development in areas of strong deformation, over 25 cm.					
		267.94 to 269.80 Sericitic, trace pyrite, 5% dark grey quartz ankerite veinlets, developed parallel to and crosscutting foliation planes.					
		269.80 to 271.37 Medium green, less deformed, trace pyrite, 1-2% dark grey quartz ankerite veinlets.					
		271.37 to 273.73 Moderately sheared and highly altered and quartz veined felsic volcanics. 15% dark grey quartz ankerite veinlets, 1% white quartz veinlets.					
		271.87 to 272.37 Moderate to strong sericite development, 5% quartz ankerite veinlets, trace pyrite.					
		272.37 to 273.73 15% dark grey quartz ankerite veinlets, sericite forming string foliation at an average of 60° to the C.A.					
		273.73 to 278.30 Massive to weakly foliated, moderately to strongly sericitic quartz eye rhyolites and minor quartz eye crystal tuff.					
		278.80 to 281.15 Zone of shearing and quartz veining. Moderate to strong intensity. Local intense development of sericite, forming a strong foliation at $55^{\circ}$ to the C.A.					

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FROM	то	DESCRIPTION	SAMPLE #	FROM	TO	LENGTH	Au (ppb)
		278.30 to 279.63 Strongly sericitic and sheared from 279.00-279.20 meters. 5% medium grey quartz ankerite veinlets, trace pyrite.					
		279.63 to 281.15 Less sheared, continuing strong sericite development. Trace pyrite.					
		281.15 to 284.53 Moderate sericite development, weak foliation at 55 <sup>0</sup> to the C.A., light greenish grey.					
		284.53 to 285.29 Moderate shearing, accompanied by 25 cm of white quartz ankerite veining with numerous chloritic slips.					
		284.53 to 285.29 30% quartz ankerite veining, trace pyrite, chloritic slips.					
		285.29 to 288.75 Uniformly light greenish grey, 1% irregular quartz ankerite veinlets, trace pyrite, massive to weakly foliated.					
		288.75 to 332.95 Complex zone of shearing, local silicification, quartz veining, and secondary pyrite development. Several strong shears noted throughout the section, marked by intense sericite development or unconsolidated fault gouge over a few cm.					
		Silicification occurs over 10-100 cm intervals and is pervasive and often accompanied by a moderate to intense crackle fracture filled with grey quartz. Pyrite content is usually low in these sections.					
		Veining occurs as both the dark grey quartz ankerite and white quartz variety. The dark quartz ankerite variety occurs as irregular veinlets and masses, locally oriented parallel to the foliation, or as cross-cutting later stringers. The white veins occur parallel to schistosity and often exhibit sericitic margins and inclusions.					
		Pyrite occurs with grey quartz and sericite in narrow bands less than 1 cm wide or as discontinuous lenses less than 1 cm in long dimension (oriented parallel to foliation).					

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FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		288.75 to 289.70 Local strong sericite development, 20 cm of silicification with minor grey quartz crackle fracture.					
		289.70 to 290.40 Moderate silicification, grey quartz crackle fracture, trace pyrite.					
		290.40 to 291.70 As above.					
		291.70 to 293.16 1 cm fault gouge at 291.7, 292.3 meters. 2-5 cm white quartz veins with chloritic fractures associated with gouge sections.					
		293.16 to 302.30 Pyritic section. Locally up to 5% pyrite associated with grey quartz sericite lenses, masses and bands oriented parallel to foliation.					
		293.16 to 294.03 5-7% pyrite, in quartz sericite bands parallel to foliation.					
		294.03 to 295.50 $1\%$ pyrite, in isolated quartz sericite lenses, weakly foliated at $55^{\circ}$ to the C.A.					
		295.50 to 296.50 1-2% pyrite as very fine disseminations in quartz sericite bands and lenses.					
		296.50 to 297.00 As above, 1% pyrite in darker quartz sericite bands, well foliated at $50^{\circ}$ to the C.A.					
		297.00 to 297.50 Quartz chlorite vein, 5 cm wide, at low angles to the C.A. Sharp contacts with sericitic wallrock. Numerous chloritic fractures within vein.					
		297.50 to 298.00 Low angle quartz chlorite vein, continued. Also a 5 cm white quartz veinlet and white quartz mass, at 297.8 meters.					
		298.00 to 299.00 Minor indistinct quartz- sericite-pyrite masses and discontinuous lenses.					
		299.00 to 300.00 As above, more continuous parallel to foliation.					

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FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		300.00 to 301.00 0.5% pyrite associated with quartz sericite masses and foliation parallel discontinuous lenses. Intense sericite centered at 300.50 meters, associated with shear.					
		301.00 to 302.30 Trace pyrite, strong foliation at 55 <sup>°</sup> to the C.A., 1% white quartz veins parallel to foliation.					
		302.30 to 305.05 Less deformed, no pyrite, 1% quartz ankerite veinlets.					
		$305.05$ to $309.68$ Strongly to locally intensely deformed and sericitic. Trace to 1% very fine disseminated pyrite throughout section. Foliation is strong and consistent at $55^{\circ}$ to the C.A.					
		305.05 to 306.63 Moderately sericitic trace disseminated pyrite.					
		306.63 to 308.15 As above, 10% grey to white foliation parallel quartz veining, 20 cm of fault gouge at 307.50 meters. Trace pyrite.					
		308.15 to 309.68 As above, moderate sericite.					
		309.68 to 315.00 Quartz sericite schist. Well banded unit consisting of alternating quartz and sericite layers with 1% very finely disseminated pyrite throughout section. Local minor fault gouge and an average of 5% late white quartz veins.					
		309.68 to 310.50 Indistinct banding at top of section becoming more distinct towards lower contact. 1% very fine disseminated pyrite.					
		310.50 to 311.50 Well banded quartz sericite schist. 0.5% very fine disseminated pyrite, occasional cube also present. 2% white quartz veining, as narrow (1-4 cm) foliation parallel veins.					
		311.50 to 312.50 As above, darker grey-green sections contain most of the fine disseminated pyrite.		, z			
		312.50 to 313.00 Quartz sericite schist, becoming more sericitic towards the lower					

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HOLE NO: 242-05A Page No: 24 of 29

FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		contact. 5% late foliation parallel white quartz veining. Trace pyrite overall.					
		313.00 to 314.00 Strongly foliated to locally sheared over a few centimeters. Intensely sericitized. 2 cm of unconsolidated fault gouge at 313.90 meters. 10% foliation parallel white quartz ankerite veins.					
		314.00 to 315.00 25% quartz ankerite veining, mainly grey to white. Trace pyrite, very sericitic. 20 cm quartz vein at lower contact, with 1 cm of unconsolidated fault gouge at upper contact.					
		315.00 to 321.00 Moderately sericitic, massive to weakly foliated felsic flows and minor fine grained bedded tuffs. 1% dark grey quartz ankerite veining, trace pyrite.					
		321.00 to 321.88 Zone of strong silicification and quartz veining. 2 cm fault gouge at 321.03 m marks the start of very sericitic and deformed wallrock to the zone of veining/silicification. The silicified sections are 10-25 cm wide, medium to dark grey, very hard and silica crackle fractured. Veining is white and appears late, crosscutting the silicified zones. Trace pyrite.				·	
		321.00 to 321.88 Trace pyrite, silicified, 2% white quartz veins.					
		321.88 to 324.93 Massive to weakly foliated at $55^{\circ}$ to the C.A., moderately sericitic felsic flows and related tuffs.					
		322.78 to 323.35 Contains a 10 cm grey quartz vein with sericitic wallrock. Minor fault gouge at upper contact of vein.					
		324.93 to 327.17 50% grey quartz ankerite veining with numerous sericitic slips and wallrock. Trace pyrite, sharp contacts to unit with overlying and underlying sericitic units.					
		324.93 to 325.80 50% quartz veining, trace pyrite.					

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HOLE NO: 242-05A Page No: 25 of 29

FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		325.80 to 327.17 30% dark grey quartz ankerite veining, 1% pyrite in narrow dark grey green discontinuous bands parallel to foliation.			<u>, , , , , , , , , , , , , , , , , , , </u>		
		327.17 to 331.30 Moderately sericitic felsic volcanic flows and related bedded tuffs. Local pyritic lenses and discontinuous bands. Pyrite hosted by a grey quartz sericite gangue.					
		327.17 to 327.98 Moderately sericitic - wisps form a strong foliation at 55 <sup>0</sup> to the C.A. 20% grey quartz ankerite stringers parallel to foliation.					
		327.98 to 329.45 Strongly sericitic - more pervasive than previous section. Minor quartz veining only.					
		329.45 to 330.30 Becoming strongly sericitic towards the lower contact. 1% pyrite as discontinuous bands with grey quartz and fine-grained sericite.					
		330.30 to 331.30 Lithological contact at 330.30 meters. Rock is finely bedded felsic tuff - bedding is at $70^{\circ}$ to the C.A. Grains vary in size from 1-5 mm and are composed of quartz and feldspar. Finer grained material between these beds is sericitic - may be originally mudstone or very fine ash tuff.					
		331.30 to 332.95 Intensely silicified zone. Upper contact is sharp at $70^{\circ}$ to the C.A. and is marked by 1 cm of unconsolidated fault gouge. Two sections of silicification are present: from 331.30-331.85 meters and from 332.30-332.95 meters. The rock between these two units is strongly deformed and sericitic and is marked by a 1 cm fault at the upper and lower contact (ie, at 331.85 and 332.30 meters). Silicified sections do not contain any sulfides.					
		331.30 to 331.85 Strongly silicified; sharp upper and lower contacts, no pyrite.					
		331.85 to 332.30 Strongly sericitic and foliated at $60^{\circ}$ to the C.A. Nil pyrite.					
		332.30 to 332.95 Strongly silicified as per					

332.30 to 332.95 Strongly silicified as per 331.30-331.85 meters.

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HOLE NO: 242-05A Page No: 26 of 29

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
332.95	364.35	FELSIC LAPILLI TUFF AND MINOR	20224	338.55	839.50	0.95	0
		BEDDED TUFF	20225	839.50	340.50	1.00	0
		A sericitic fine grained matrix supports this	20226	340.50	841.50	1.00	0
		heterolithic lapilli tuff. Fragment size varies	20227	841.50	842.50	1.00	0
		from a few mm to 2-3 cm in the short	20228	842.50	843.50	1.00	0
		dimension (right angles to CA). Fragments are	20229	843.50	844.50	1.00	0
		an approximately equal mixture of aphanitic to	20230	344.50	845.50	1.00	0
		quartz eye rhyolite and fine-grained dacite. The	20231	345.50	846.50	1.00	0
		matrix was probably originally an ash or	20232	346.50	347.50	1.00	0
		mudstone. Narrow (1-5 cm) finer grained tuff	20233	347.50	348.50	1.00	0
		units are interspersed within the lapilli tuff. A	20234	348.50	849.50	1.00	0
		moderate foliation is produced by parallel	20235	349.50	350.50	1.00	10
		alignment of sericitic wisps and stringers and is	20236	350.50	851.50	1.00	10
		oriented at an average of 70° to the C.A. Unit	20237	351.50	852.50	1.00	0
		becomes pyritic below 338.55 meters. Pyrite	20238	352.50	853.50	1.00	0
		occurs as wisps and masses with grey quartz	20239	353.50	354.50	1.00	0
		and sericite. These are usually oriented parallel	20240	354.50	355.50	1.00	14
		to foliation. A minor amount of pyrite is also	20241	355.50	356.50	1.00	14
		found in irregular dark grey quartz ankerite	20242	356.50	357.50	1.00	0
		stringers. The pyritic masses are small - less	20243	357.50			0
		than 1 cm in long dimension - the occasional	20244	358.50	859.50		0
		mass may be 1-3 cm wide, interspersed with	20245	359.50			0
		grey quartz and sericite.	20246	360.50			0
			20247	361.50			10
		338.55 to 339.50 1% very fine disseminated	20248	362.50			0
		pyrite, rare quartz-sericite-pyrite mass or bleb, moderately sericitic in bands; these are oriented at $50^{\circ}$ to the C.A.	20249	363.85	364.35	0.50	0
		339.50 to 340.50 2% pyrite in masses up to 3					
		cm wide; moderately sericitic.					
		340.50 to 341.50 Moderately sericitic, foliated at 55° to the C.A., trace disseminated pyrite.					
		341.50 to 342.5 Moderately to strongly sericitic, thin sericite-quartz-pyrite seams, $< 5$ mm wide, 5% white quartz veinlets, 1-2					
		cm wide, parallel to foliation. 5 cm of fault gouge at 341.70 meters, sericitic margins to the fault zone.					
		342.50 to 343.50 3% quartz-sericite-pyrite					
		seams, stringers parallel to the C.A., minor					
		irregular stringers at various angles to the C.A.					
		The individual seams/stringers contain 30-50%					
		very fine disseminated pyrite.					

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HOLE NO: 242-05A Page No: 27 of 29

FROM	то	DESCRIPTION	SAMPLE #	FROM	TO	LENGTH	Au (ppb)
		343.50 to 344.50 1% grey quartz sericite pyrite bands and seams, up to 0.5 cm wide. 50% pyrite in bands. Oriented parallel to foliation, at $70^{\circ}$ to the C.A.					
		344.50 to 345.50 1% quartz sericite pyrite seams and lenses, oriented parallel to foliation. Moderately sericitic groundmass to lapilli tuff.					
		345.50 to 346.50 0.5% quartz sericite pyrite lenses and discontinuous seams. slightly more sericitic than previous sections. 3% white narrow quartz ankerite veinlets parallel to foliation.					
		346.50 to 347.50 1% quartz sericite pyrite seams. Grey section, more siliceous, 20% light grey quartz ankerite veining.					
		347.50 to 348.50 More sericitic, quartz sericite pyrite seams becoming narrow and irregular.					
		348.50 to 349.50 0.5 thin irregular quartz sericite pyrite seams, moderate foliation oriented at $65^{\circ}$ to the C.A.					
		349.50 to 350.50 0.5% quartz-sericite-pyrite bands (Q-S-P) and discontinuous lenses.					
		350.50 to 351.50 1-2% Q-S-P bands, masses and lenses oriented parallel to CA. Pyrite content is uniform at 50-60%, very finely disseminated.					
		351.50 to 352.50 1-2% Q-S-P bands and masses containing 50% pyrite.					
		352.50 to 353.50 2% Q-S-P bands and masses with 50% very fine disseminated pyrite. These masses appear to intrude and brecciated the lapilli tuff matrix and fragments.					
		353.50 to 354.50 First 20 cm has 10% Q-S-P bands and discontinuous lenses, remainder of section is uniformly sericitic - light grey green trace pyrite, foliation at $50^{0}$ to the C.A.					
		355.50 to 363.85 Increase in quartz-sericite- pyrite bands to an average of 10% of the rock. Pyrite content of these masses remains at 40-					

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#### HOLE NO: 242-05A Page No: 28 of 29

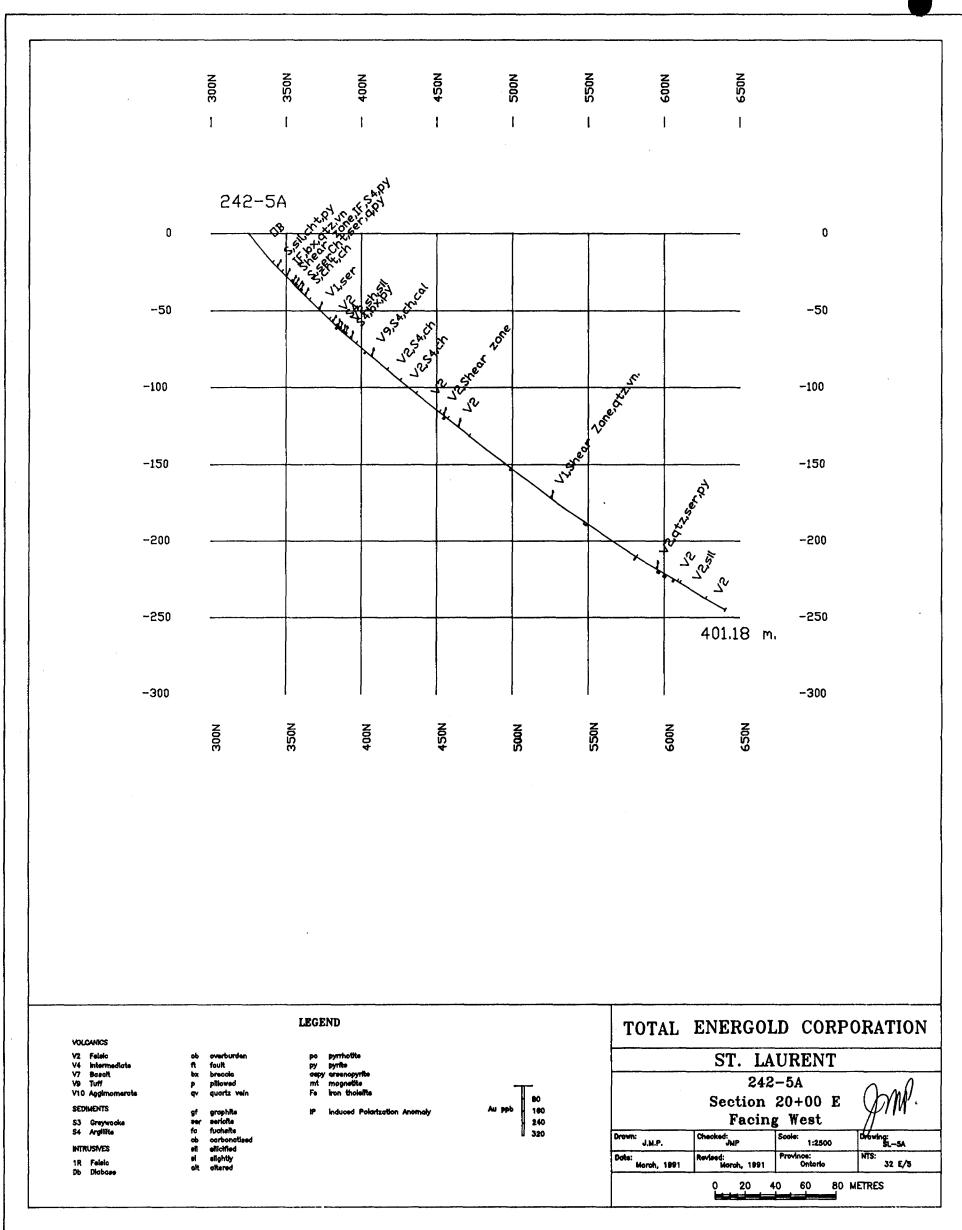
FROM	ТО	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		60%. Some sections are 40 cm wide, with 80% Q-S-P masses. Pyrite is very fine grained and gives the core a grey dusty appearance.					
		355.50-356.50 5% Q-S-P bands, masses and discontinuous lenses oriented parallel to sericitic wisps forming a strong foliation at 60 <sup>0</sup> to the C.A.					
		356.50 to 357.50 3% Q-S-P seams and discontinuous masses. Moderately sericitic, foliation at $55^{\circ}$ to the C.A.					
		357.50 to 358.50 20% Q-S-P bands, masses and discontinuous seams containing 50% pyrite. Maximum width is 20 cm - grey dusty appearance. 5% light grey quartz ankerite veinlets parallel to foliation.					
		358.50 to 359.50 20% Q-S-P bands, discontinuous, also 2-3% disseminated pyrite external to bands in quartz sericite schist.					
		359.50 to 360.50 3-5% Q-S-P bands, lenses. Strong foliation formed by parallel alignment of sericite wisps at $45^{\circ}$ to the C.A.					
		360.50 to 361.50 Last 50 cm of sample contains 40% Q-S-P bands, masses and discontinuous lenses oriented parallel to foliation, at 50° to the C.A. Moderately sericitic. Q-S-P masses dusty grey in appearance.					
		361.50 to 362.50 40% Q-S-P bands and masses.					
		362.50 to 363.85 5-7% Q-S-P masses and bands. Last 30 cm strongly sericitic and sheared at 65° to the C.A.					
		363.85 to 364.35 Sharp change to weakly sericitic, well foliated tuff. Medium grey, 2% white quartz veinlets. Trace pyrite.					
		363.85 to 364.35 Trace pyrite, 2% Quartz veinlets.		·			
364.35	366.37	FELSIC QUARTZ CRYSTAL TUFF Massive to weakly locally foliated, very weakly sericitic. Grey, siliceous. Sharp upper contact at 364.35 meters. Trace pyrite.	20250	365.70	<b>366</b> .3'	7 0.67	0



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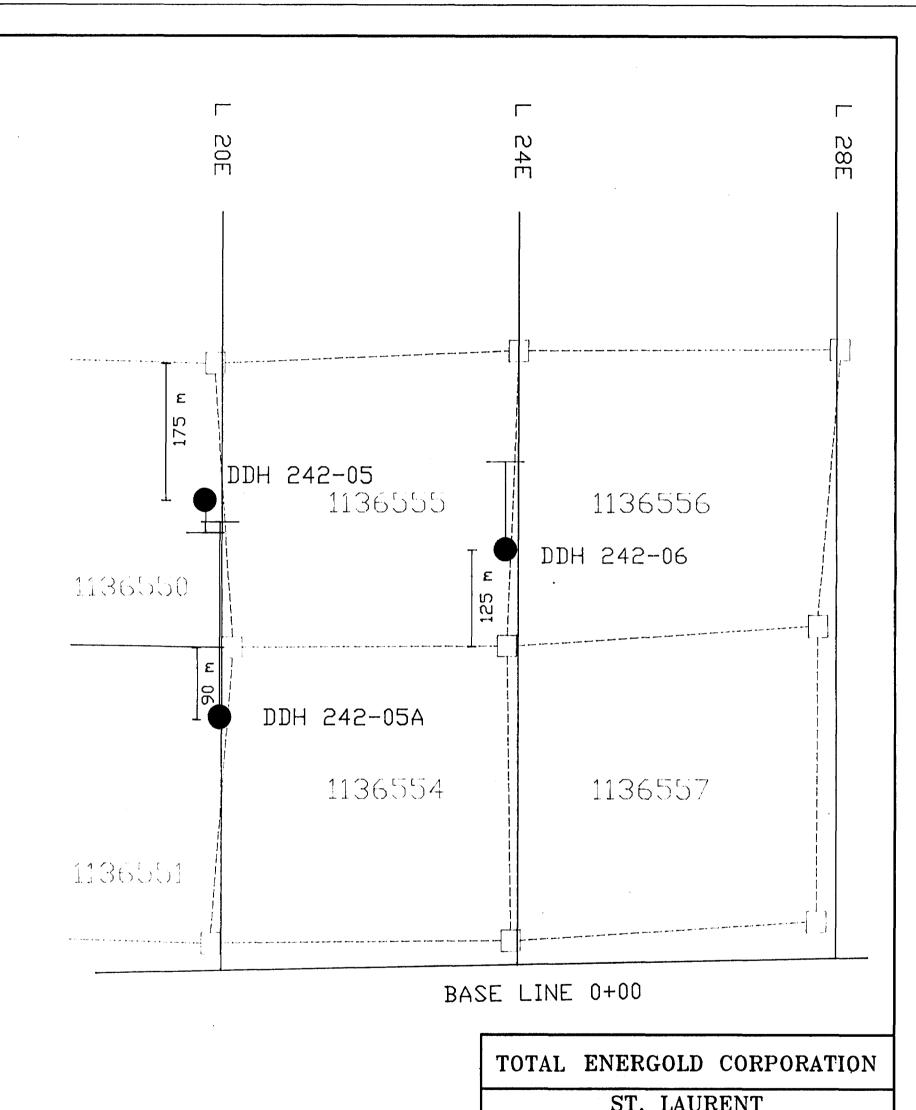
				HOLE NO: 242-05A Page No: 29 of 29						
FROM	то	DESCRIPTION	SAMPLE #	FROM	TO	LENGTH	Au (ppb			
		365.70 to 366.87 10% quartz veining, minor sericitic wallrock. Marking lower contact of crystal tuff with massive rhyolite.								
66.37	886.30	MASSIVE QUARTZ EYE RHYOLITE TO RHYODACITE FLOWS Massive, grey siliceous flows, 1-5% 1-2 mm grey quartz eyes, occasional rare feldspar crystal in this uniform section. Occasional cube of pyrite. Not altered.	20251	377. <del>9</del> 0	879.20	1.30	0			
		377.90 to 379.20 5% white quartz veining with weakly sericitic wallrock and inclusions. <1% minor quartz-sericite-pyrite masses and lenses.								
86.80	401.18	<b>DACITE</b> Massive, light greyish green. Consists of 20% quartz and 10% feldspar grains set in a fine grained to aphanitic matrix of quartz, feldspar and minor sericite. Hard, nil pyrite, no fracturing. Minor calcite veining. Becoming coarser grained down the hole.								
4	01.18	END OF HOLE								



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Drown:	Checked:	Scale:	Drawing:
J.M.P.	JMP	1:5000	SL6LOC
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March, 1991	March, 1991	Ontorio	32 E/5
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# DIAMOND DRILL RECORD

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Co-ords:		525N	Section:	L24	100E	HOLE N	0: 242-06	
Bearing:		360°	Core Siz	ze: BQ		Property	: St. Laurent	
Dip:		-45°	Grid Sy	stem:	· ~	Location	: St. Laurent	Twp.
Elevation	1:			mf		Claim: 1	136555	
Length:		256.36	A	Mal			rted: Feb. 23	•
Measurer	ment:	metres	(),''			Date Co	mpleted: Feb.	. 25, 1991
Commen	ts:		Ø			Logged	<b>By:</b> Joe MacP	herson
l Denth		th Di-	Death		Dia	Death	A mine ceth	Dia
Depth 30.49	Azimu	th Dip -42°	Depth A 182.93	zimuth	Dip -31°	Depth	Azimuth	Dip
121.95		-42 -34°	254.88		-31 -28º			
			LOG	SUMMAR	Y			
FROM	ТО	LITHOLOGY						
0.00	29.87	OVERBURDE	N					
29.87	74.98		ANIC FLOWS	: MASSI	ve aph	ANITIC RH	YOLITE	
74.98	78.30		ERFLOW SILI					
78.30	89.77		WEAKLY FOI				MINOR TUF	FS
89.77	98.66		DEFORMED A		CITIZED	FELSIC TU	JFFS: SHEAR	ZONE
98.66	102.71	-	ARTZ EYE RH					
102.71	110.88		DEFORMED A	ND SERIO	CITIC FI	ELSIC TUFF	'S	
	133.77	-					۰. T	
	144.75		E: MODERAT					
144.75 169.50	169.50 256.36		CANIC FLOWS				ATIOLIE	
109.30	256.36	END OF HOI			TALC LT			
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 HOLE NO: 242-06 Page No: 2 of 5

FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
0.00	29.87	OVERBURDEN Sand, clay, gravel, boulders on bedrock.					
29.87	74.98	<b>FELSIC VOLCANIC FLOWS: MASSIVE</b> <b>APHANITIC RHYOLITE</b> Dark grey, hard, massive and aphanitic, to locally weakly foliated at 50 to 60° to the C.A. Rare weakly sericitic slip. Strong chlorite-filled fracture set, at 60 to 70° to the C.A., opposite to the foliation, at a low angle to the C.A. This translates to a fairly flat fracture set in the rock. Weak set of calcitic fractures at random angles to the C.A. 50.65 to 51.00 Broken rock and minor fault					
		gouge. 71.30 to 74.98 Felsic lapilli tuff. Homolithic. Angular fragments up to 5 cm size set in a chloritic matrix.					
74.98	78.30	<b>PYRITIC INTERFLOW SILICEOUS</b> <b>METASEDIMENT</b> A black, siliceous, weakly bedded sediment hosts up to 60 cm of semi-massive pyrite. Bedding is at $60^{\circ}$ to the C.A. Pyrite occurs massive within bands up to 1 cm wide, and also occurs semi-massive within a black siliceous gangue. Weakly chloritic, 1 % late white quartz veining.	20724 20725 20726	74.98 75.82 76.80	75.82 76.80 78.30	0.98	0 0 0
		74.98 to 75.82 75% pyrite in siliceous gangue. 75.82 to 76.80 Fine-bedded tuff to lapilli tuff. Minor sulphides in matrix of lapilli tuff.					
		76.80 to 78.30 30% pyrite as masses and hosted by black siliceous gangue.					
78.30	89.77	MASSIVE TO WEAKLY FOLIATED RHYOLITE FLOWS, MINOR TUFFS Grey to grey green, weakly pervasively sericitic. Below 87 meters, sericite becomes more prominent in thin slips at 55° to the C.A. 5% black irregular fractures throughout section. Minor pyrite in black siliceous gangue, similar to massive pyrite above.					

**HOLE NO: 242-06** Page No: 3 of 5

FROM	TO	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
89.77	98.66	STRONGLY DEFORMED AND SERICITIZED FELSIC TUFFS: SHEAR ZONE Strongly foliated at 65° to the C.A., locally foliation is deformed to 30° to the C.A. Numerous thin sericitic and chloritic wisps. Minor pyrite locally hosted by a black quartz gangue.	20727	90.60	91.75	1.15	0
		90.60 to 91.75 Strong sericite schist hosting 5% black quartz-pyrite lenses and irregular wisps.					
		After 91.75 meters, the core is very sericitic and takes on a waxy green colour, with 3% irregular black quartz ankerite stringers hosting trace pyrite.					
		96.80 to 97.40 5% pyrite in light grey quartz masses.					
98.66	102.71	MASSIVE QUARTZ EYE RHYOLITE Medium grey, massive. 75% tightly packed quartz crystal in a fine-grained to aphanitic. Occasional chloritic fracture.					
102.71	110.88	STRONGLY DEFORMED AND SERICITIC FELSIC TUFFS As above, locally intense sericite development reflecting strong shearing over 1-5 cm. Core angles vary from $35$ to $60^{\circ}$ to the C.A. The shearing in this hole is different from that intersected in previous holes - the degree of deformation in the from of slumping of foliation bands to subparallel to the C.A.					
110.88	133.77	QUARTZ EYE RHYOLITE 25% grey quartz eyes set in a fine grained to aphanitic siliceous matrix. Weak foliation at 45° to the C.A. developing towards the lower contact.					
133.77	144.75	SHEAR ZONE: MODERATE QUARTZ SERICITE SCHIST Moderate development of sericite along foliation planes oriented at 55 to 60° to the C.A. Upper and lower contacts marked by quartz veining and fault gouge. Host rock may still be the massive quartz eye rhyolite - a few					

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HOLE NO: 242-06 Page No: 4 of 5

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	ТО	LENGTH	Au (ppb)
	<u></u>	quartz eyes are visible. Outside of the schistose sections, the core is massive, grey and hard.					
		133.77 to 134.55 Upper contact of shear zone. 40 cm of broken white quartz with numerous chloritic inclusions and slips parallel to vein contacts.					
		144.25 to 144.75 As above, at lower contact of shear zone. 1-2% pyrite along chloritic slips.					
144.75	169.50	FELSIC VOLCANIC FLOWS: RHYOLITE, QUARTZ EYE RHYOLITE Massive, aphanitic rhyolite flows, locally quartz eye bearing, silicified. Very hard, light to medium grey. 1% irregular fracturing, trace disseminated pyrite.					
		153.60 to 154.64 Strong shear zone. 60 cm of recemented fault gouge consisting of sericite, quartz fragments and minor chlorite and clay. Trace pyrite, minor white quartz veining.					
		153.60-154.64 As above.					
		The felsic flows below the fault zone continue to be massive, with trace pyrite, light to medium grey.					
		161.17 to 162.33 Intense silica flooding over 20 cm, minor less intense flooding elsewhere in section. Trace pyrite and chalcopyrite in zones of silica flooding.					
:		161.17 to 162.33 As above.					
169.50	256.36	FLOWS. Similar to section above, except for the gradual increase in sulphide content to an average of 1%. The sulphides, predominantly pyrite with minor chalcopyrite, are associated with mafic mineral aggregates, mainly chlorite, scattered randomly throughout the core. The rock has a light green tinge due to pervasive but weak					
		sericite alteration. The rock is massive, very siliceous (and hard), light grey with a distinctive light green tinge and a botchy appearance due to these matic					

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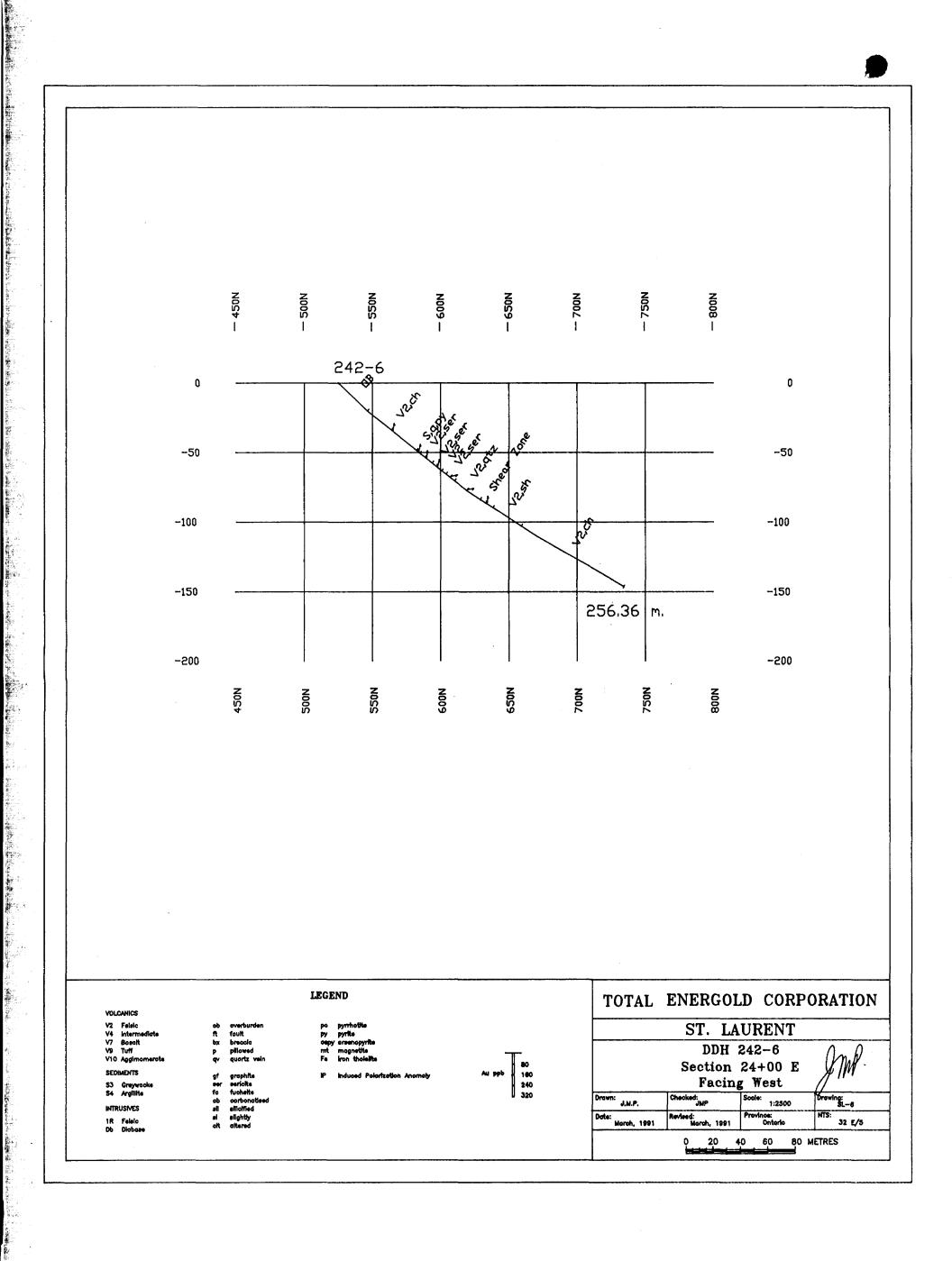
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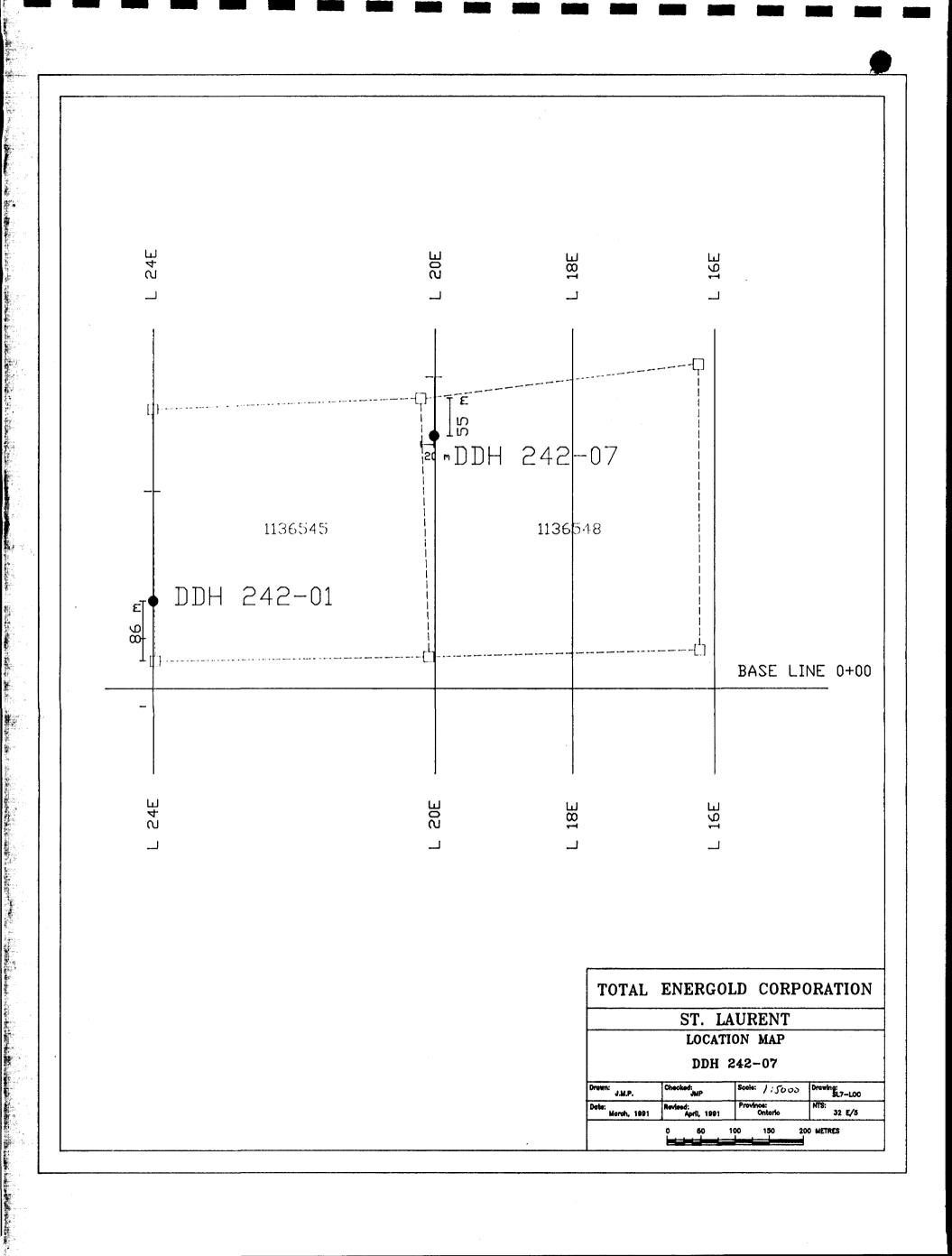
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HOLE NO: 242-06 Page No: 5 of 5

FROM	и то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
		mineral aggregates. The rock hosts 1% black irregular fractures, which in turn host some pyrite.					
		169.50 to 171.00 1% disseminated pyrite, trace chalcopyrite.					
,		171.00 to 172.52 As above.					
		172.52 to 174.02 As above.	· 2				
		174.50 to 175.57 As above.					
	256.36	END OF HOLE					





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### **DIAMOND DRILL RECORD**

Co-ords:		325N	Section:	L1200E	HOLE N	0: 242-07		
Bearing:		360°	Core Size:	BQ	Property	: St. Laurent		
Dip:		-45°	Grid Systen	a: /	Location	Location: St. Laurent Twp.		
Elevation:			P	J~	Claim: 1	136548		
Length:		143.90	J.A. Mall		Date Started: Feb. 23, 1991 Date Completed: Feb. 25, 199			
Measurement:		metres						
Commen	its:		0		Logged 1	By: Joe MacP	herson	
		<u>.</u>						
			LOG SUN	<u>MARY</u>				
FROM	ТО	LITHOLOGY						
0.00	20.43	OVERBURDEN						
20.43	24.20	FELSIC LAPILL						
24.20	68.30		E LAPILLI TUFF	, CRYSTAL T	UFF			
68.30	81.08		ED GRAPHITIC					
81.08	143.90	-	E-GRAINED, AL			TO MAFIC		
		METAVOLCAN						
	143.90	END OF HOLE						

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HOLE NO: 242-07 Page No: 2 of 4

FROM	ТО	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
0.00	20.43	OVERBURDEN Clay, sand, gravel, boulders near bedrock.					
20.43	24.20	FELSIC LAPILLI TUFF Light grey, clast supported, well sorted, with 2 cm subrounded felsic clasts dominating this rock. Clast compositions are massive aphanitic to feldspar phyric, with minor quartz eye rhyolite and sulphide clasts. Matrix is dark grey to black, soft, and unaltered.	20728	23.17	24.20	1.03	0
	68.30	<ul> <li>INTERMEDIATE LAPILLI TUFF, CRYSTAL TUFF</li> <li>Weakly to moderately sericitic, clasts are mainly intermediate to felsic volcanic, moderately soft. Upper contact broken and quartz veined from 23.17 to 24.20 meters. Minor interbedded quartz crystal tuff. Clast size varies from a few mm to &gt; 5 cm, and are generally subrounded. A few sulphide clasts present, notably at 37.00 meters. Pyrite occurs in narrow sections with dusty grey quartz in wispy stringers parallel to foliation formed by sericite, at 55° to the C.A.</li> <li>23.17 to 24.20 Broken and quartz veined contact between felsic and intermediate crystal tuff. thinly bedded, strongly foliated at 55° to the C.A.</li> <li>29.00 to 29.80 Mainly quartz crystal tuff, thinly bedded, strongly foliated at 55° to the C.A., 3-5% pyrite as clasts and in wispy dusty grey quartz stringers.</li> <li>36.83 to 37.56 Large sulphide clast at 37.00 meters, partially altered to limonite.</li> <li>Below 38 meters, the matrix to the tuff is locally argillaceous. 5% felsic clasts, 1% sulphide clasts. Unit grades downhole from interbedded lapilli and bedded tuff to predominantly thinly bedded, finer grained tuff with up to 15% coarse (&gt;2 cm) felsic to intermediate clasts. Weak pervasive sericite to 44.50 meters, patchy sericite sections below this point. Unit becomes strongly foliated at 55° to the C.A. after 66 meters.</li> </ul>	20729	29.00	29.80 37.56		0

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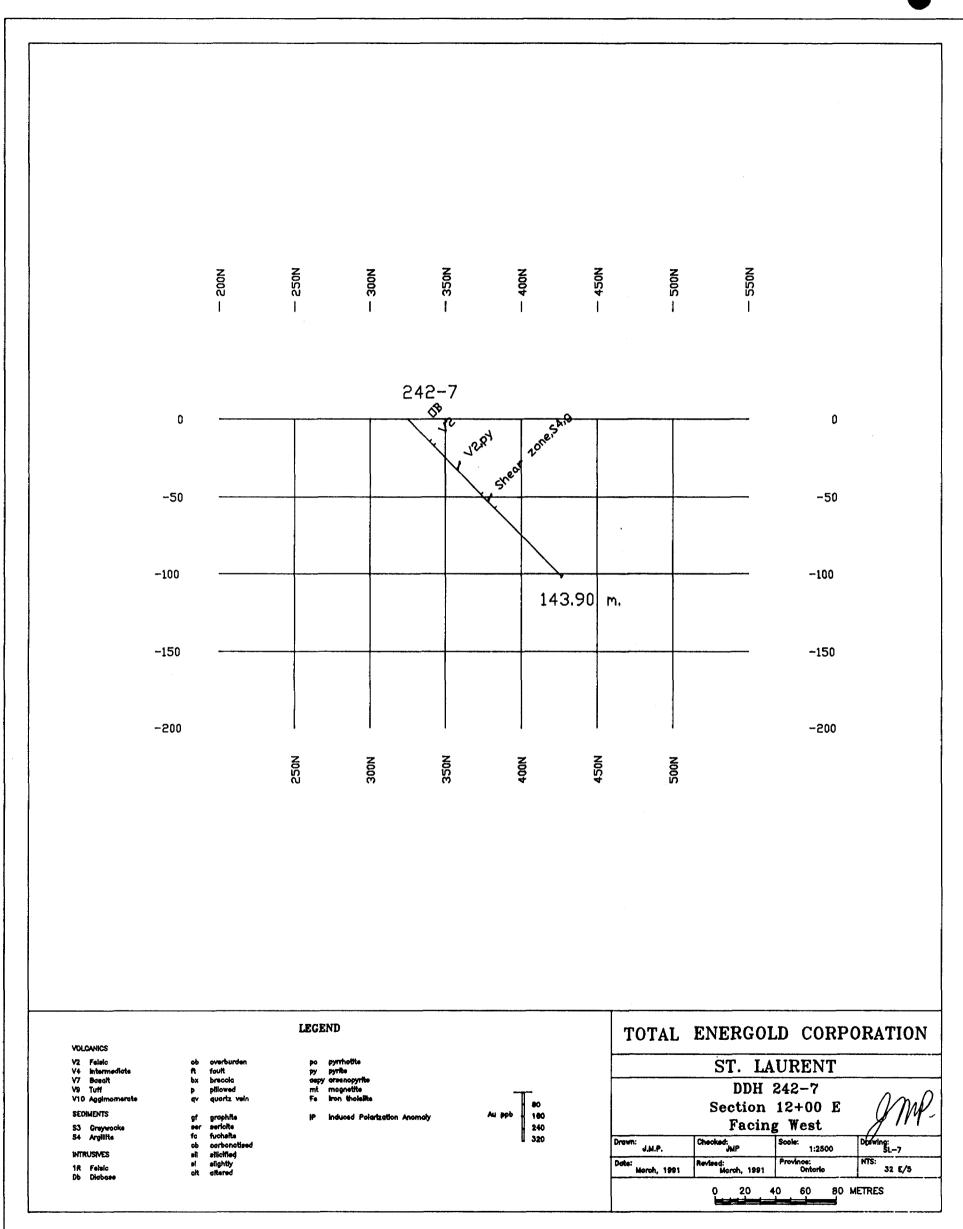
HOLE NO: 242-07 Page No: 3 of 4

FROM	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
68.30	81.08	<b>ZONE</b> Sharp upper contact with 50 cm of graphitic fault gouge. Host rock to the shear zone is a finely bedded tuff or argillite. Foliation is strong and locally deformed, from an average of $55^{\circ}$ to the C.A. to less than $10^{\circ}$ to the C.A. Minor sericite present throughout as irregular wisps and masses, becoming more prominent near vein margins. White quartz veins make up 60% of the rock by volume. Contacts are irregular and broken. Graphitic slips and sulphide-rich wallrock inclusions common. The	20731 20732 20733 20734 20735 20736 20737 20738 20739 20740 20741	68.30 68.90 69.50 71.06 72.30 78.35 74.98 76.60 78.03 79.40 80.37	68.90 69.50 71.06 72.30 73.35 74.98 76.60 78.03 79.40 80.37 81.08	0.60 1.56 1.24 1.05 1.63 1.62 1.43 1.37 0.97	0 0 0 0 0 0 0 0 0 0 0 0
×		latter are hematitic locally. 68.30 to 68.90 Graphitic fault gouge, unconsolidated.					
		68.30 to 68.90 As above. 68.90 to 76.60 15% white quartz veining with graphitic slips and graphite-pyrite wallrock inclusions. Foliation strong and slumped locally parallel to the C.A. 1% pyrite overall.					
		68.90 to 69.50 20% white quartz veining, as several 5-8 cm veinlets at 80 <sup>0</sup> to the C.A. Trace pyrite. Minor fault gouge associated with vein.					
		69.50 to 71.06 5% white quartz veining, strongly deformed foliation.					
		71.06 to 72.30 1% white quartz veining, trace pyrite.					
		72.30 to 73.35 20% white quartz veining, intruding subparallel to C.A. Numerous pyrite- graphite seams within veins and along vein margins. 2-3% pyrite overall.					
		73.35 to 74.98 Strong foliation at 65 <sup>°</sup> to the C.A. 10% white quartz veining. 3% sulphide, locally semi-massive over 1-2 cm.					
		74.98 to 76.60 15% white irregular quartz veining, largest vein 10 cm, at 80° to C.A. Trace pyrite in weakly sericitic wallrock.					
- 		76.60 to 80.37 Main vein zone. 80% white					

HOLE NO: 242-07 Page No: 4 of 4

FRC	M	то	DESCRIPTION	SAMPLE #	FROM	то	LENGTH	Au (ppb)
			quartz veining with numerous irregular graphite and graphite-pyrite wisps and inclusions. Local semi-massive pyrite masses within veins are partially hematitic.					
			76.60 to 78.03 70% white quartz veining. Pyrite wallrock and inclusions. 2% pyrite overall.					
			78.03 to 79.40 100% white quartz veining, with 10% pyrite-graphite masses and wisps.					
			79.40 to 80.37 90% white quartz veining with strong graphitic slips at 35° to the C.A. Strongly pyritic wallrock to lower contact.					
			80.37 to 81.08 20% low-angle quartz veining, with pyritic wallrock margins.					
			80.37 to 81.08 As above.					
81.0	8 1	43.90	MASSIVE, FINE-GRAINED, ALTERED INTERMEDIATE TO MAFIC METAVOLCANIC FLOWS Medium grey with a light green tinge, moderately soft, patchy sericite, 5% dark grey irregular crackle fracture, locally broken and quartz veined (5%). Trace disseminated cubic pyrite. 5-10 cm sections of flow-top breccia, variably sericitized and hosted by a black siliceous gangue.	<b>20742</b> /	82.08	83.43	1.35	0
			82.08 to 83.43 15% white quartz veining. Section contains a 5 cm pyritic flow top in a black quartz gangue.					
	148	8.90	END OF HOLE					
			• • •					

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#### Page 1 of 2

## Geochemical Analysis Certificate

1W-2478-RG1

Company:	TOTAL ENERGOLD CORP.
Project: Attn:	242
Attn:	JOE MACPHERSON

Date: MAR-14-91 Copy I. P.O.BOX 1720,SOUTH PORCUPINE,ONT.PON1H0 2. FAX TO 235-2257

We hereby certify the following Geochemical Analysis of 51 ROCK samples submitted MAR-11-91 by JOE MACPHERSON.

Sample	Au		
Number	ppb	ppm	1
20235	10		
20236	10		
20237	Nil		
20238	Nil		
20239	Nil		
20240	14		
20241	14/17		
20259	Nil		
20260	Ni l		
20261	7		· · · · · · · · · · · · · · · · · · ·
20262	Nil		
20263	Ni l		
20264	Nil		
20265	Ni l		
20266	Nil		
20267	Ni l		
20268	Ni l		
20269	14/14		
20270	Nil		
20271	Nil		
20272	Nil		
20273	Nil		
20274	Nil		
20275	Ni l		
20276	Ni1/Ni1		
20277	Nil		
20278	Nil		
20279	Ni l		
20280	Nil		
20281	Nil		

Certified by Dana Sandres

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Page 1 of 4

## Geochemical Analysis Certificate

1W-2344-RG1

Company: Project: Attn:

TOTAL ENERGOLD ST. LAURENT J. MACPHERSON Date: FEB-21-91 Copy 1. P.O.BOX 1720,SOUTH PORCUPINE,ONT 2. FAX TO 235-2257

We hereby certify the following Geochemical Analysis of 116 CORE samples submitted FEB-18-91 by J. MACPHERSON.

Samp 1 e	Au	Cu	Zn	
Number	ppb	ppm	ppm	
20078	Nil			
20079	Ni l			
20080	Ni 1			
20081	Nil			· · · · ·
20082	Nil			
20083	10			
20084	Nil			
20085	7/14			
20086	Ni l			
20087	Ni l			
20088	Nil			
20089	Ni l			
20090	Nil			
20091	Ni l			
20092	Nil			
20093	Nil			
20094	Ni 1			
20095	Ni l			
20096	Ni 1			
20097	Ni l			·
20098	Ni l /Ni l			
20099	Ni 1			
20100	Ni l			
20101	Ni 1			
20102	Nil			
20103	Nil			· · · · · · · · · · · · · · · · · · ·
<b>20104</b>	Ni 1			
20105	Ni 1			
20106	Nil			
20107	Ni l			

Certified by Sona Landna

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Page 3 of 4

# Geochemical Analysis Certificate

1W-2344-RG1

Company: Project: Attn:

TOTAL ENERGOLD ST. LAURENT J. MACPHERSON Date: FEB-21-91 Copy 1. P.O.BOX 1720,SOUTH PORCUPINE,ONT 2. FAX TO 235-2257

We hereby certify the following Geochemical Analysis of 116 CORE samples submitted FEB-18-91 by J. MACPHERSON.

Sample	Au	Cu	Zn	
Number	ppb	ppm	ppm	
<b>2</b> 0139	Ni l			
20140 20141	Ni l			
20141	Ni l			
20142	Ni l			
20143	7/7			
20144	Nil			
<b>2</b> 0145	Ni l			
20146	Ni l			
20147	Ni l			
20148	Nil			
20149	Nil			
20150	Nil			
20151	Ni l			
20152	Ni 1			
20153	Ni l			
20154	Nil			
20155	Ni I			
<b>2</b> 0156	Ni l			
20157	10			
20158	10/14			
20159	Ni l			
20160	Ni l			
20161	Ni l			
<b>20162</b>	Ni l			
20163	Ni l			
20164	Nil			
20165	Nil			
20166	Nil			
<b>20167</b>	7/10			
_ 20168	Ni l			

Certified by Dana Sarana

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Page 4 of 4

# Geochemical Analysis Certificate

1W-2344-RG1

Company: Project: Attn: TOTAL ENERGOLD ST. LAURENT J. MACPHERSON Date: FEB-21-91 Copy 1. P.O.BOX 1720, SOUTH PORCUPINE, ONT 2. FAX TO 235-2257

We hereby certify the following Geochemical Analysis of 116 CORE samples submitted FEB-18-91 by J. MACPHERSON.

Sample	Au	Cu	Zn	
Number	ppb	ppm	ppm	
20169	Nil			
20170	Ni l			
20171	Ni l			
20172	Ni l			
20173	Ni l		•	
20174	Nil			
20175 not rec'd				
20176	Ni l			
20177	Nil			
20178	Nil			
20179	Ni l			
20180	Ni l			
20181	Ni l			
20182	Ni l			
20601	Nil	9	62	
20602	Ni l	9	85	
20603	Ni l	30	56	
20604	Ni 1	49	74	
20605	7/10	19	70	
20606	Nil	26	68	
20607	Ni l	25	85	
20608	Ni 1	31	80	
20609	Ni l	27	79	
20610	Ni l	39	90	
20611	10/10	28	79	
20612	Nil	29	81	
20613	Ni l	27	63	

certified by Sonna Landman

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#### Page 1 of 3

## Geochemical Analysis Certificate

1W-2451-RG1

Company: Project:	TOTAL ENERGOLD CORP.	
roject:	242	
ttn:	JOE MACPHERSON	

Date: MAR-08-91

Copy 1. P.O.BOX 1720,SOUTH PORCUPINE,ONT PON1H0

We hereby certify the following Geochemical Analysis of 62 ROCK samples ubmitted MAR-06-91 by JOE MACPHERSON.

Sample	Au	As	
Number	ppb	ppm	
20183	Ni l		
20184	Ni l		,
20185	Ni 1 /Ni 1		
20186	Nil		
2010/	Ni l		
20188	Ni l		
20189	Ni l		
20190	Ni l		
20191	Ni 1		
20192	Ni l		
_20193	. 7		
20194	7		
20195	Ni l		
20196	Nil		
20197	Ni l		
20198	Nil		
20199	Nil		
20200	Ni I /Ni I		
20201	Ni 1		
20202	Nil		
20203	Ni l		
20204	Ni l		
20205	Ni l		
20206	Ni 1		
20207	Nil		·
20208	Ni l		
20209	Ni l		
20210	Ni l		
20211	Ni 1 /Ni 1		
_20212	Ni l		

Certified by Donna Hardner

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Company:

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#### Page 2 of 3

### Geochemical Analysis Certificate

1W-2451-RG1

Company:	TOTAL ENERGOLD CORP.

Date: MAR-08-91

242 Project: **JOE MACPHERSON** Attn:

Copy 1. P.O.BOX 1720, SOUTH PORCUPINE, ONT PONIHO

We hereby certify the following Geochemical Analysis of 62 ROCK samples submitted MAR-06-91 by JOE MACPHERSON.

Sample	Au	As	
Number	ppb	ppm	
20213	Ni 1		
20214	Ni l		
20215	Nil		
20216	Ni l		
20217	Nil		
20218	Ni 1		
20219	Ni l		
20220	Ni I		
20221	Nil		
20222	Nil		
20223	17/7		
20224	Ni l		
20225	Ni I		
20226	Ni 1		
20227	Nil		•••••••••••••••••
20228	Ni 1		
20229	Nil		
20230	Nil		
20231	Ni l		
20232	Nil		
20233	Ni l		
20234	Ni l		
20242	Nil		
20243	Ni l		
20244	Ni l		
20245	Ni l		
20246	Nil		
20247	10/21		
20248	Ni l		
20249	Nil		

Certified by Don a Sardina

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Page 3 of 3

## Geochemical Analysis Certificate

1W-2451-RG1

	Company:	TOTAL ENERGOLD CORP.
ſ	Project:	242
	Attn:	JOE MACPHERSON

Date: MAR-08-91 Copy 1. P.O.BOX 1720.SOUTH PORCUPINE.ONT PONIHO

We hereby certify the following Geochemical Analysis of 62 ROCK samples submitted MAR-06-91 by JOE MACPHERSON.

Sample Number	Au ppb	As ppm	
20250 20251	Ni l Ni l		

certified by <u>Lonna Daránen</u>

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Attn:

# Swastika Laboratories

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# Geochemical Analysis Certificate

#### 1W-2430-RG1

Company:	TOTAL ENERGOLD CORP.
Project:	1411

242

Date: MAR-01-91 Copy 1. P.O. BOX 1720 S. PORCUPINE ONT.

We hereby certify the following Geochemical Analysis of 7 CORE samples submitted FEB-27-91 by.

Sample Number	Au ppb	As ppm	·
20721	Nil		
20722	Nil		
20723	Ni l		
20724	Nil		
20725	Ni l		
20726	Ni l		
20727	Ni l		
	••••		

anthar Certified by

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#### Page 1 of 2

# Geochemical Analysis Certificate

1W-2406-RG1

Company:	TOTAL ENERGOLI
Project:	242
Attn:	MR. J.MACPHERSON

TAL ENERGOLD

Date: MAR-13-91 Copy 1. 68 BRUCE AVE., SOUTH PORCUPINE, ONT 2. FAX TO 235-2257

We hereby certify the following Geochemical Analysis of 53 CORE samples submitted FEB-22-91 by J. MACPHERSON.

Sample	Au	As	Cu	Zn	
Number	ppb	ppm	ppm	ppm	
20614	Ni1/7		25	46	
20615	7		60	58	
20616	10		31	62	
20617	Ni l		26	59	
20618	Ni l		39	68	
20619	10		23	67	
<b>20620</b>	7		30	66	
20621	Ni 1		19	57	
20622	Ni 1		61	92	
20623	17	40	9	45	
20624	Ni l	22	6	26	
20625	Ni 1	19	5	19	
20626	Ni 1	4	8	33	
20627	Ni 1	2	7	30	
20628	Nil	2	8	27	
20629	Ni 1 /Ni 1	2	11	25	
20630	Ni l	14	5	25	
20631	Ni 1	9	8	27	
20632	Ni l	23	9	40	
20633	Nil	23	6	35	
20634	Nil	36	71	34	
20635	Ni 1	20	62	67	
20636	10	19	29	31	
20637	7	35	144	111	
20638	17	20	74	137	
20639	Ni l	29	135	125	
<b>20640</b>	14/10	40	164	26	
20641	10	9	75	25	
20642	14	20	101	27	
20643	Ni 1	17	126	22	

Kardner Certified by Dana

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Assaying - Consulting - Representation

## Geochemical Analysis Certificate

#### 1W-2430-RG1

Company:	TOTAL ENERGOLD CORP.
Project:	
Attn:	

Date: MAR-13-91 Copy 1. P.O. BOX 1720 S. PORCUPINE ONT.

We hereby certify the following Geochemical Analysis of 7 CORE samples submitted FEB-27-91 by .

Sample Number	Au ppb	As ppm
20721	Nil	10
20722 20723	Ni l Ni l	19 11
20724	Ni 1	60
20725 20726	Ni 1 Ni 1	12 26
20727	Nil	13

Certified by Dona

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#### Page 1 of 3

## Geochemical Analysis Certificate

1W-2479-RG1

Company:	TOTAL ENERGOLD CORP.	Date: MAR-14-91
Project:	242	Copy 1. P.O.BOX 1720, SOUTH PORCUPINE, ONT. PON1H0
Attn:	JOE MACPHERSON	2. FAX TO 235-2257

We hereby certify the following Geochemical Analysis of 67 ROCK samples submitted MAR-11-91 by JOE MACPHERSON.

Sample	Au	As	
Number	ppb	ppm	
20667	14		
<b>20668</b>	Nil		
20669	24		
20670	Nil		
20671	21/14		
20672	Nil		
20674	Ni l		
20675	Nil		
20676	17		
20677	Ni l		
_20678	Ni l		
20679	10/7		
20680	Nil		
20681	Nil		
20682	Nil		
20683	Ni l		
20684	Ni l		
20685	Nil		
20686	Ni I		
20687	Ni l /Ni l		
20688	Nil		
20689	Ni l		
20690	Ni 1		
20691	Ni l		
20692	Nil		
20693	10/17		
20694	Ni 1		
20695	Nil		
20696	Nil		
20697	Ni l		
	**********************		

Certified by Donna Standner

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#### Page 2 of 3

# Geochemical Analysis Certificate

1W-2479-RG1

Company:	TOTAL ENERGOLD CORP.	Date: MAR-14-91
Company: Project: Attn:	242 JOE MACPHERSON	Copy 1. P.O.BOX 1720,SOUTH PORCUPINE,ONT.PON1H0 2. FAX TO 235-2257
BBS F 1		

We hereby certify the following Geochemical Analysis of 67 ROCK samples submitted MAR-11-91 by JOE MACPHERSON.

Samp le	Au	As	
Number	ppb	ppm	
20698	Nil		
_20699	Nil		
20700	Nil		
<b>—</b> 20701	Nil		
20702	Nil		
20703	Nil		
20704	Nil		
20705	Nil		
20706	Nil		
20707	Ni1/Ni1		
20708	Nil		
20709	Nil		
20710	31		
20711	Nil		
20712	Ni l		
20713	Nil		
20714	34		
20715	45/51		
20716	not rec'd		
20717	82/89		
20718	72		
20719	Nil		
20720	Nil		
20728	Nil		
20729	Nil		
20730	Nil		
20731	Nil		
20732	Nil		
20733	Nil		
20734	Nil		

Certified by Donna Saydner

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242

Company: Project:

Attn:

# Swastika Laboratories

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Page 3 of 3

## Geochemical Analysis Certificate

1W-2479-RG1

# Company: TOTAL ENERGOLD CORP.

JOE MACPHERSON

Date: MAR-14-91 Copy 1. P.O.BOX 1720,SOUTH PORCUPINE,ONT.PON1H0 2. FAX TO 235-2257

We hereby certify the following Geochemical Analysis of 67 ROCK samples submitted MAR-11-91 by JOE MACPHERSON.

Sample Number	Au ppb	As ppm		_
20735 20736 20737 20738 20739	Ni 1 Ni 1 Ni 1 Ni 1 Ni 1 Ni 1			-
20740 20741 20742	Ni 1 /Ni 1 Ni 1 Ni 1			

Certified by Linna Handher

P.O. Box 10, Swastika, Ontario P0K 1T0 Telephone (705) 642-3244, FAX (705) 642-3300

#### ST. LAURENT PROJECT SUMMARY

The St. Laurent Project consists of 83 unpatented claims located within the Larder Lake Mining Division, in the Township of St. Laurent, approximately 110 kilometers east-northeast of Cochrane, Ontario.

Access to the property is via a network of all-weather logging roads from Cochrane or Iroquois Falls, connecting with a 30 kilometer winter road leading to the property.

The property is located near the northwest margin of the Abitibi Greenstone Belt, in the Casa Berardi area. The general geology of the area is comprised of three units, bounded by granitic rocks to the north and south. The lower unit consists of mafic to ultramafic flows and comagmatic intrusives. The middle unit is a complex assemblage of felsic to mafic volcanics, clastic and chemical sediments, and is the primary host to gold and base metal mineralization in the region. The third and youngest unit is comprised predominantly of clastic sediments. All three units have undergone greenschist to lower amphibolite grade metamorphism. The St. Laurent property is located in the middle unit, and hosts an assemblage of clastic and chemical metasediments, minor mafic volcanics, and felsic volcanics and associated epiclastic rocks and related synvolcanic intrusives.

The target commodity is lode-gold type or sulphide-hosted gold deposits related to regional graphitic shears, similar to the setting at the Golden Pond discovery, 24 kilometers to the northeast.

The recommended work project consists of linecutting and ground geophysics (IP, HEM), to locate the graphitic shears, followed by diamond drilling. The linecutting and geophysical portion of the program was completed in the fall of 1990. The diamond drill program was completed in February of 1991. A total of 1883 meters in 7 holes were drilled during the period February 12-27, 1991.

#### DETOUR LAKE PROJECT SUMMARY

The Detour Lake Project is located 25 kilometers southeast of the Detour Lake Mine in the Atkinson Lake Area of northeastern Ontario. The property consists of 187 unpatented contiguous mining claims situated in the Porcupine Mining Division.

Access to the property is via the Detour Lake Mine road from Cochrane, Ontario, and a 25 kilometer winter road from the minesite to the camp, situated on Atkinson Creek, 1 kilometer north of Atkinson Lake.

The Detour Lake property lies near the northwest edge of the Abitibi Greenstone Belt. Regional geology is interpreted mainly from airborne geophysics and property geology from geophysics and previous drilling. A large belt of felsic volcanic rocks lie immediately north of the property. To the south, a large band of mafic volcanic flows, tuffs and related sediments, and ultramafic flows or sills are present. Locally magnetic, conductive cherty sulfide iron formation occurs within the volcanic stratigraphy. Two folding directions are recognized: early east-west isoclinal and broad north trending flexures which affect the easterly set. Metamorphic grade varies from greenschist to upper amphibolite facies.

The prominent geological features on the property are two chert sulfide iron formations. The northern iron formation lies along a contact between an ultramafic unit to the south and mafic epiclastic sediments to the north. The southern iron formation seems to be associated with a felsic-derived sedimentary sequence within the mafic volcanic pile.

The target commodity is gold, primarily associated with sulfide lenses within the cherty iron formations. Weak gold values in the 100-300 ppb Au range had been returned from intersections in similar rock types in previous drilling.

The recommended work program consists of initial line-cutting followed by ground geophysics (magnetics, IP, HEM), over selected parts of the property. Follow-up diamond drilling on the best geophysical/geological targets would comprise the second phase of the exploration program.

The first phase of the exploration program (linecutting, geophysics) was completed in the fall of 1990, with the exception of 6 kilometers of IP carried out in January of 1991. The drilling program, consisting of 875 meters in four holes, was completed between January 10, 1991, and February 5, 1991.

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INVOICE

NO.:

DATE:

PAGE:

24337

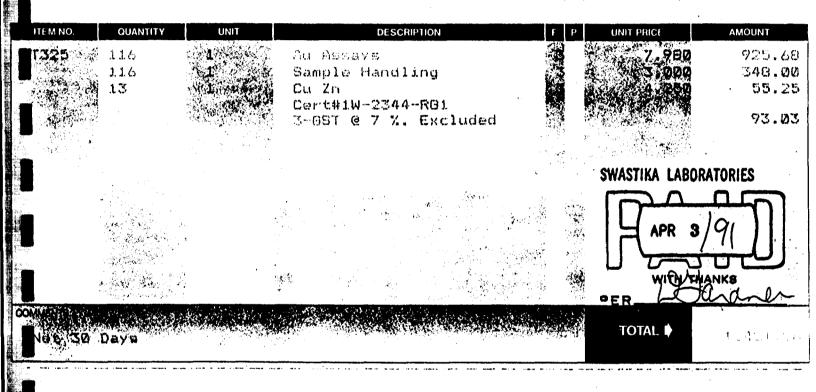
02-21-91

1 of 1

OST Registration Number: R 100294743 SOLD TO:

> Total Energold 68 Spruce Ave South Porcupine, Ontario PONIHØ

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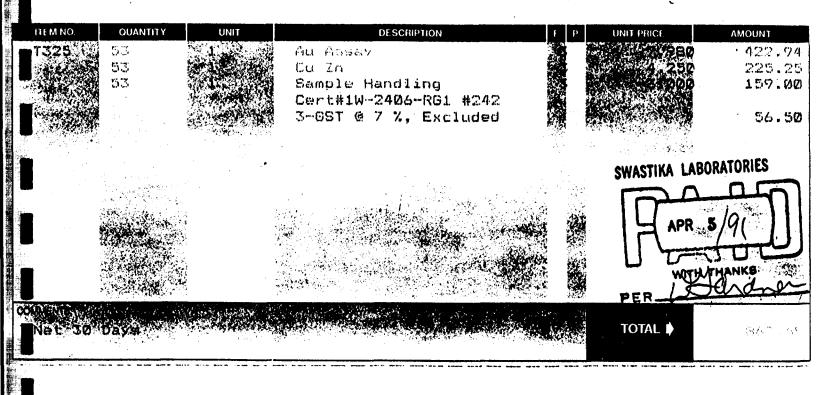
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NO: 24410 DATE: 02-28-91 PAGE: 1 of 1

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> Total Energold 68 Spruce Ave South Porcupine, Ontario FONIHØ

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DATE:

PAGE:

NO: 24416

03-01-91

1 of 1

GST Registration Number: R 100294743 SOLD TO:

> Total Energold 68 Spruce Ave South Porcupine, Ontario PONIHØ

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SHIP TO:

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ITEM NO.	QUANTITY	UNIT	DESCRIPTION	F P	UNIT PRICE	AMOUNT
<b>B</b> (325)	7	1 1	Au Assays	5	7. 980	55.86
	7		Sample Handling Cert#1W-2430-R01			21.00
			3-65T @ 7 %, Excluded			5.38
					SWASTIKA LABORA	ATORIES
						<u>a</u>
		- - - -			APR 5	la
					WOTHLITH	NKS
		and the second second second			PER_6170	name
Net 30					TOTAL 🛊	12 A

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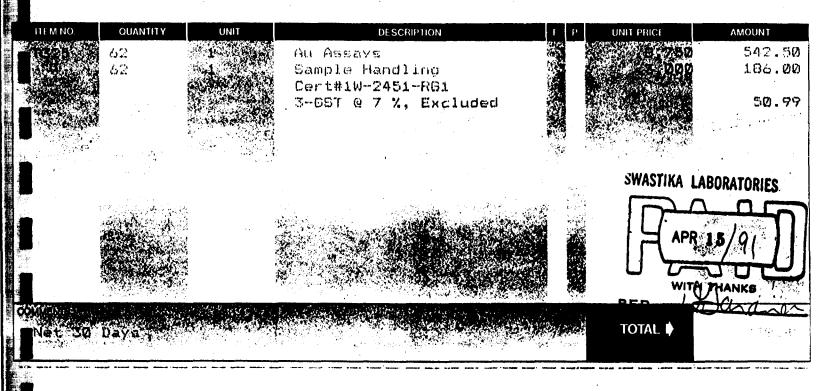
NO: 24468 DATE: Ø3-Ø8-71 PAGE: 1 of 1

OST Registration Number: R 100294743 SOLD TO:

> Total Energold 68 Spruce Ave South Forcupine, Ontario FONIHØ

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# GST Registration Number: R 100294743

Total Energold 68 Spruce Ave South Porcupine, Ontario FONIHØ

### INVOICE

NO.:	24513
DATE:	03-14-91
PAGE:	1 of 1

SHIP TO:

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ETEM NO.	QUANTITY	UNIT	DESCRIPTION	F P	UNIT PRICE	AMOUNT
T	51 51		Au Aesavs Sample Handling		7.960	404.98 153,00
	67		Cert#1W-2478-R61 Au Assays		÷7,980	534.66
	67	<b>X1</b>	Sample Handling Cert#1W-2479-RG1		3.000	201.00
			3-GST @ 7 %, Excluded			90.69
				×2	swastika la	BORATORIES
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Swastika Laboratories B.D. Box 10 Astika. Ontario P0K 1T0

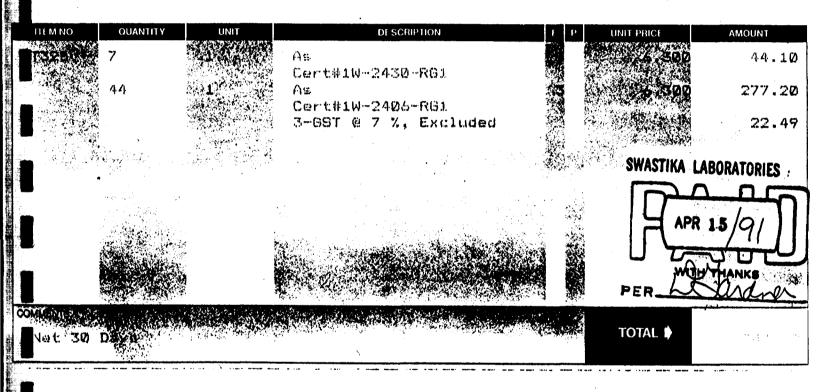
68 Spruce Äve

PONIHO

South Porcupine, Ontario

### INVOICE

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Total Energold			



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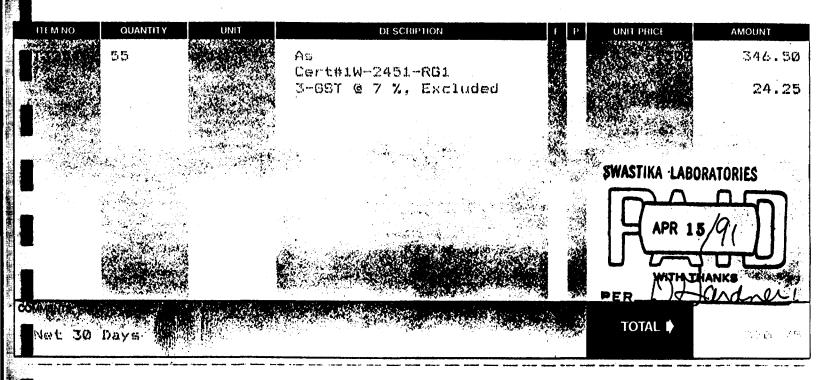
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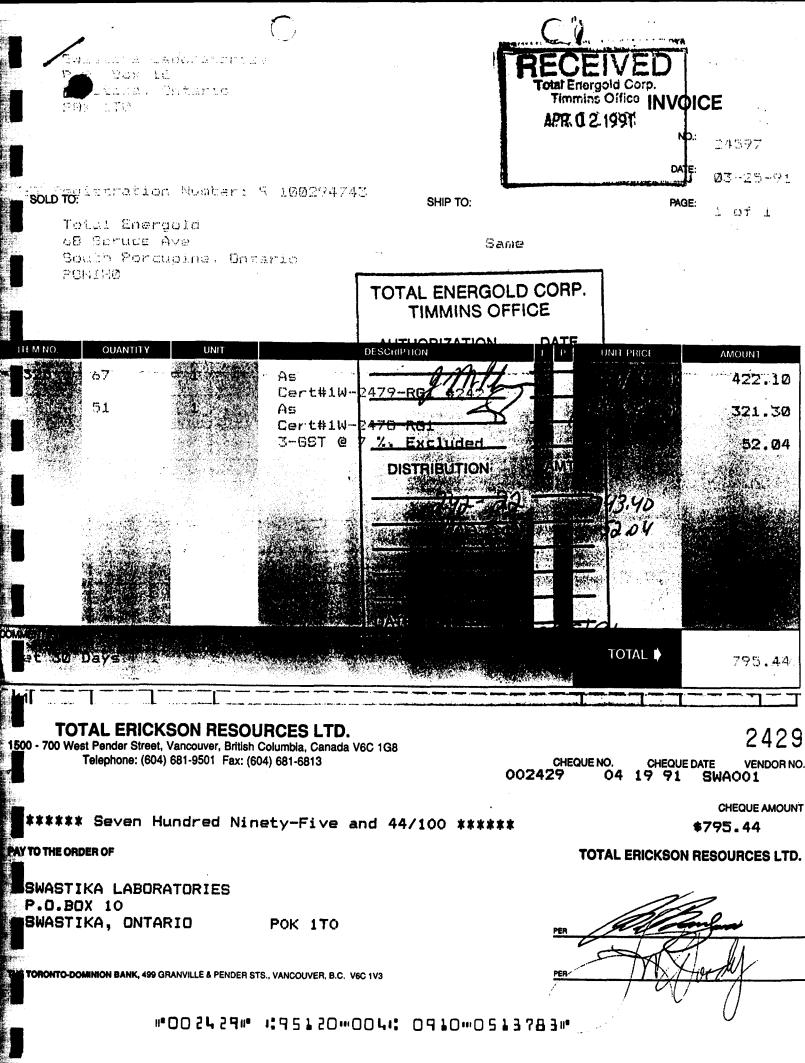
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Suite 1500 -					V6C 1	.G8	Te	604-48	1-9501
Summary of Distributi Mining Division	on of Credits	1	k Performan Iining Claim	Work		Mining Claim	Work	M	ning Claim
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St. Laurent, Total Assessment Credits	Claimed	{	Jee ut						······
6141 Type of Work Performed									
(Check one only)			······						
Shaft Sinking Drifting o	or other							$\left\{ \right\}$	
Mechanical equipment			······································		-				
Power Stripping other t (maximum credit allowed per claim)	han Manual ad - 100 days								
Diamond or other Core	drilling								
Core Specimens							]		
Dates when work was perform: Feb 12/91		eb 26/9	91	Total No. of D 6179.0	•	1	. of Days Claimed	Total No. o Future Dat	of Days to be te
All the work was perfor	med on Mining	Claim(s):			Mining Claim		Mining Cialm	No. of Days	Mining Claim
Indicate no. of days per * (See note No. 1 on re	rformed on eac	ch claim.	1136542		113654 Mining Claim		9 1136549 Mining Citaim	169,90	1136550 Mining Ciaim
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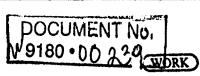
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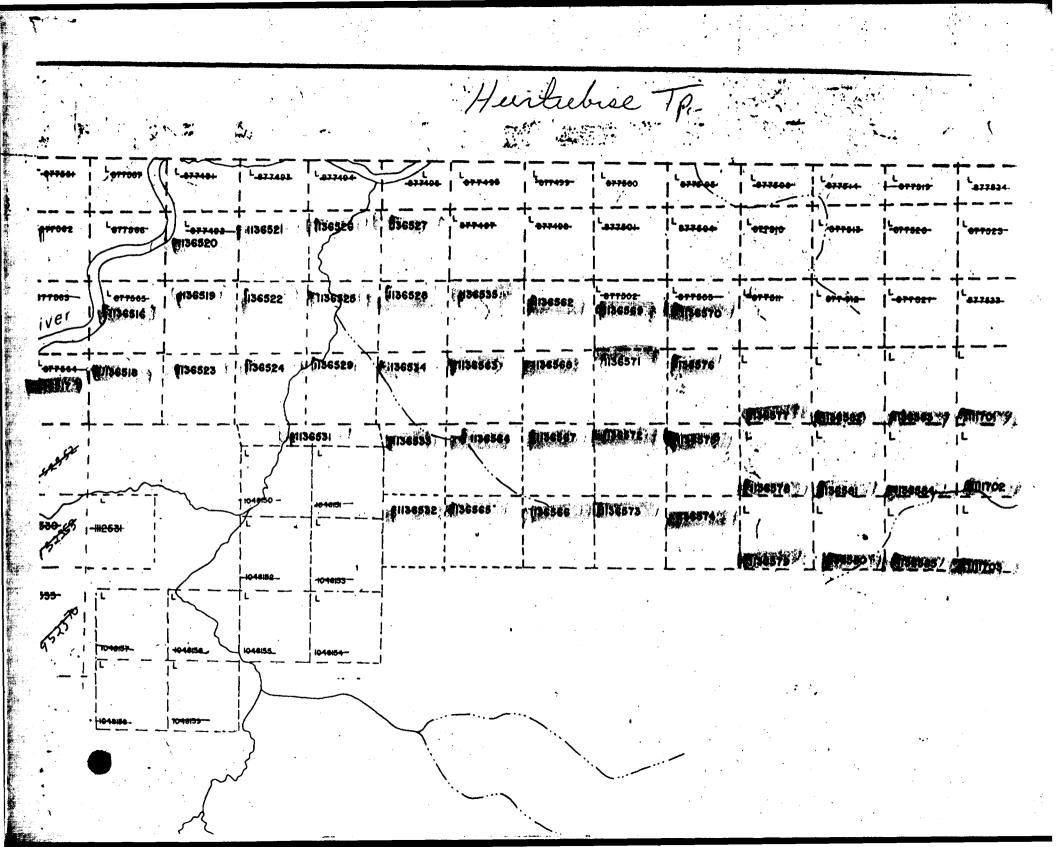
Instructions - Please type or print. - Refer to Subsection 77(19), the Mining Act for assessment work requirements and maximum credits allowed under this Subsection. - Technical Reports, maps and proof of expenditures in duplicate about the submitted to Mining Lands Section. Mineral Development

apessmen

Mining Act	Report of Wo (Expenditures,	rk Subsection 77(19))		should b			of of expenditures is Section, Mineral	
Type of Work Performed			Mining Division	T	Township or	Area		
Diamond Drilling Recorded Holder	g		PORCUPINE		ST. LAI	JRENT Prospector's	Licence No.	
TOTAL Energold	Corporation					T-47 Telephone N		
Suite 1500 - '700 Work Performed By	OW Pender St.	Vancouver, B.C	. V6C 1G8			• • •	81-9501	
	Corporation							
TOTAL Energold Name and Address of Author (of Joe MacPherson	f Submission)	,				From:	Work was Perform	
	n Mining Official	Mining Claim No. of Da	ys Mining Claim	No. of Days Mi		12 No. of Daval	91 26 Mining Claim	No. of Days
All the work was performed ou Indicate no. of days performed "See Note No. 1 on reverse s	side	1136542 37.6	1136548	37.6	1136549	37.6	1136550	37.6
Mining Claim No. of Days Mini 1136551 37.6 1			ys Mining Claim	No. of Days Mit	ning Claim		Mining Claim	No. of Days
Mining Claim No. of Days Mini			ys Mining Claim	No. of Days Mi			116//34   Mining Claim	No. of Days
Instructions Total days credits may be		Calculation of Expenditure Total Expenditures	Days Credits	<u></u>	Total bays Credits	Total Num by this Re	ber of Mining Clair port of Work	ms Covered
holder's choice. Enter numb claim in the expenditure (below).		\$ 5,647,82	÷ [		376.5		89	
Mining Claims (List in nun		If space is insufficient		les with rec				
Mining Claim Prefix Number	Expend. Mi Days Cr. Prefix	ning Claim Expe Number Days		ng Claim Number	Expend. Days Cr.		ning Claim Number	Expend. Days Cr.
See attached list								
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Total Number of Days Performed	<u> </u>	Total Number of Days Claim	<u> </u>	19.	otal Number o	Dave to be	Claimed at a Futu	I Date
376.5	-	- 356				20		
Certification of Beneficial I I hereby certify that, at the time		No. 2 on reverse side	-		Reco		or Agent (Signat	ure)
of work were recorded in the curr by the current recorded holder.	ent recorded holder's nan	ne or held under a beneficial i	nterest X		X			
Certification Verifying Rep		lodge of the form	in the Door to and		rate t- '		week as a ba	
I hereby certify that I have a per during and/or after its completion Name and Address of Person Co	n and the annexed repor	neage of the facts set forth 1 is true.	in the Report of Wo	AR annexed he	reto, naving p	enormed the	WORK OF WITNESSEC	J 58M9
Joseph A. MacPh	herson, TOTAI	Energold Corp				x 1720,		
South Porcupine PON 1HO	e, Ontario	Telephone No. 705-235-22	Date			Certified By	(Signature)	n
				ived Stamp	R	ECEIVE	D	
For Office Use Only					LA	RDER LA	AKE	į
Total Days Cr. Recorded	Mining	Recorder offor	-01				991	
356 Date Approved a	is Recorded Provinc	ial Manager, Mining Lands	- ye			., <b>~</b> ∎	• • •	
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· · ·			WORK DAYS
CLAIM NO.	WORK DAYS CREDITED	CLAIM NO.	CREDITED
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L1111702	69	L1136557	69
L1111703	69	L1136558	69
L1111740	69	L1136559	69
L1111741	69	L1136560	69
L1111742	69	L1136561	69
L1136516	69	L1136562	69
L1136517	69	L1136563	69
L1136518	69	L1136564	69
L1136519	69	L1136565	69
L1136520	69	L1136566	69
L1136521	69	L1136567	69
L1136522	69	L1136568	69
L1136523	69	L1136569	69
L1136524	69	L1136570	69
L1136525	69	L1136571	69
L1136526	69	L1136572	69
L1136527	69	L1136573	69
L1136528	69	L1136574	69
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L1136531	69	L1136576	69
L1136532	69	L1136577	69
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L1136536	69	L1136581	69
L1136537	69	L1136582	69
L1136538	69	L1136583	69
L1136539	69	L1136584	69
L1136540_	69	L1136585	69
L1136541	69	L1167726	69
L1136542	69	L1167727	69
L1136543	69	L1167728	69
L1136544	69	L1167729	69
L1136545	69	L1167730	69
L1136546	69	L1167731	69
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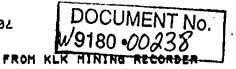
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