

0221

INTERNATIONAL GEOSYSTEMS CORPORATION

R.G.C. Exploration Pty Ltd  
DUNDAS

PAGE: 1 DATE: 22 JUL 91

SURFACE DIAMOND DRILLHOLE : MZ004

PROJECT IDEN : DUNDAS  
COLLAR NORTHING: 67047.00  
DRILLED BY :D.D.T

START DATE : 3 APR 90  
COLLAR EASTING : 72605.00  
TOTAL LENGTH : 258.00

COMPLETION DATE : 24 APR 90  
COLLAR ELEVATION: 350.00  
CORE/HOLE SIZE : HQNQ

LOGGED BY:DAVID JOHN CROSSING  
GRID AZIMUTH : 0.00

SURVEY FLAG	SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING	ELEVATION
000	0.00		278.00	-51.30	67047.00	72605.00	350.00
001	31.00		278.00	-51.30			
002	61.00		278.00	-52.50			
003	91.00		277.50	-51.30			
004	121.00		278.00	-49.70			
005	151.00		280.50	-49.00			
006	181.00		283.00	-48.60			
007	211.00		283.00	-46.30			
008	241.00		286.00	-45.60			
009	258.00		287.50	-45.30			

	Interval From (m) To (m)	Rec. (m)	RQD (m)	Description	Formation
	0.00	4.00		PRECOLLAR.	
	4.00	6.50	2.5	CRYSTAL LAPILLI TUFF: medium orange, moderately weathered, massive, coarse bedded, firm, highly broken, coarse sand, small pebble.	
R	4.00	6.50		DOMINANTLY FELDSPATHIC PYROCLASTS, WEATHERED TO CLAY, WITH	
R	4.00	6.50		SUBORDINATE QUARTZ.	
	6.50	40.40	27.6	SILTSTONE: pale grey, moderately weathered, indistinctly bedded, jointed, firm, exceptionally broken, bedding: 80 degree angle to c.a., join: 45 degree angle to c.a., conformable base, 0.1% fe-oxides joint linings.	
R	6.50	40.40		CORE VERY BROKEN DUE TO ABUNDANT JOINTING.	
R	6.50	11.50		SILTSTONE AND CLAY, EXTREMELY BROKEN.	
R	37.70	40.00		SILTSTONE AND CLAY BANDS, COMPLETELY BROKEN.	
F/	40.40	53.00	12.6	SHEARED SILTSTONE: orange brown, moderately weathered, vuggy, sheared, firm, highly broken, fault: 40 degree angle to c.a., 3 % fe-oxides in vughs.	
			12.6	40.40- 42.70: 100% SHEARED SILTSTONE: orange brown, moderately weathered, vuggy, sheared, firm, highly broken, fault: 40 degree angle to c.a., 3 % quartz in vughs, 5% chlorite gough, 3 % fe-oxides in vughs.	
R	40.40	53.00		A ZONE OF MODERATE TO STRONGLY SHEARED SILTSTONE. THE SILTSTONE	

151228

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DUNDAS  
SURFACE DIAMOND DRILLHOLE : MZ004 (CONTINUED)

	Interval		Rec.	RQD	Description	Formation
	From (m)	To (m)	(m)	(m)		
R	40.40	53.00			WAS BLACK AND CARBONACEOUS BEFORE WEATHERING, BUT IS NOW MOSTLY BLEACHED LIGHT GREY. WEATHERING PROCEEDS OUTWARD FROM SHEAR SURFACES AND JOINTS. PROBABLY GRAPHITIC AND PYRITIC BEFORE WEATHERING.	
R	40.40	53.00			ATTITUDE OF SHEAR FOLIATION VARIES FROM 10 TO 50 DEGREES TO C.A. BUT IS GENERALLY AROUND 40 - 50 DEGREES.	
R	40.40	53.00				
R	40.40	53.00				
R	40.40	53.01				
R	40.40	53.01				
	53.00	55.30	2.3		SILTSTONE: pale grey, moderately weathered, indistinctly bedded, sheared, jointed, firm, highly broken, bedding: 25 degree angle to c.a., 1% fe-oxides in fractures.	
R	53.00	55.30			PROBABLY CARBONACEOUS/ GRAPHITIC BEFORE WEATHERING.	
F/	55.30	57.00	1.6		SILTSTONE: gray brown, moderately weathered, vuggy, sheared, firm, highly broken, fault: 50 degree angle to c.a., 30% chlorite replacive, 3 % fe-oxides in vughs.	
R	55.30	57.00			MODERATE TO STRONGLY SHEARED SILTSTONE. PROBABLY GRAPHITIC BEFORE WEATHERING.	
R	55.30	57.00				
SH/	57.00	61.50	1.1		SHEARED SILTSTONE: black, moderately weathered, firm, exceptionally broken, shear: 40 degree angle to c.a., diffuse base, 30% chlorite replacive, 1% fe-oxides disseminations - veins.	
R	57.00	61.50			PROBABLY GRAPHITIC BEFORE WEATHERING.	
SH/	61.50	67.00	3.8		SHEARED SILTSTONE: black, highly graphitic, unweathered, firm, highly broken, shear: 50 degree angle to c.a., diffuse base, 3 % pyrite disseminations - veins.	
R	61.50	67.00			VERY GRAPHITIC, EXPECT HIGH CONDUCTIVITY.	
	67.00	85.00	17.8		CALCAREOUS SILTSTONE: very dark gray, slightly graphitic, massive, indistinctly bedded, hard, highly broken, bedding: 50 degree angle to c.a., vein: 40 degree angle to c.a., gradational base, 3 % carbonate veins of, 1% pyrite disseminations > veins, trace sphalerite disseminations of.	
R	67.00	85.00			PYRITE IS MOSTLY SYNGENETIC (DISSEMINATED AND ALONG BEDDING PLANES). LOCALLY NON - CALCAREOUS. LOCALLY FAINTLY LAMINATED.	
R	67.00	85.00			THE CONGLOMERATE CONSISTS OF LIGHT GREY INTRACLASTS OF VERY CALCAREOUS SILTSTONE IN A DARK GREY SILTSTONE MATRIX.	
R	73.70	74.80			73.70- 74.80: 30% CALCAREOUS IRREGULARLY INTERBEDDED CONGLOMERATE: mauve gray, medium bedded, 3 % pyrite disseminations of.	
R	73.70	74.80				
	85.00	94.00	9.0		CALCAREOUS SILTSTONE: very dark gray, medium bedded, finely bedded, hard, moderately broken, bedding: 50 degree angle to	

IGC GEOLOG

PAGE: 3 DATE: 22 JUL 91

R.G.C. Exploration Pty Ltd  
DUNDAS  
SURFACE DIAMOND DRILLHOLE : MZ004 (CONTINUED)

	Interval		Rec.	RQD	Description	Formation
	From (m)	To (m)	(m)	(m)		
					c.a., diffuse base, 0.1% carbonate veins of, 1% pyrite disseminations > veins.	
R	85.00	94.00			THE LIGHT-GRAY INTERBEDS FIZZ STRONGLY IN DILUTE ACID (HCL) AND CONTAIN SIGNIFICANT PYRITE TOWARD BASE.	
R	85.00	94.00			85.00- 94.00: 20% CALCAREOUS INTER BEDDED SILTSTONE: light gray, finely bedded, 3 % pyrite disseminations of.	
					92.20- 93.20: 100% SHEARED SILTSTONE: slightly graphitic, strongly folded, sheared, shear: 40 degree angle to c.a., 5% quartz veins of, 10% carbonate veins of, 1% pyrite disseminations < veins, 1% pyrrhotite.	
SH/	94.00	104.00	10.0		SHEARED CALCAREOUS SILTSTONE: very dark gray, moderately graphitic, sheared, boudinaged, hard, moderately broken, shear: 45 degree angle to c.a., diffuse base, 3 % carbonate veins of, 3 % pyrite disseminations = veins, 1% pyrrhotite.	
R	94.00	104.00			VARIABLY SHEARED, AT 30 - 70 DEG TO C.A., ALSO TIGHTLY FOLDED (DISCORDANT) AND LOCALLY BOUDINAGED/BRECCIATED WHERE DEFORMATION IS MOST INTENSE.	
R	94.00	104.00			98.00- 98.90: 100% SILTSTONE: finely bedded, microfaults, bedding: 30 degree angle to c.a.,	
	104.00	114.00	10.0		CALCAREOUS SILTSTONE: dark gray, finely bedded, medium bedded, microfaults, hard, moderately broken, bedding: 45 degree angle to c.a., diffuse base, 0.3% pyrite disseminations of.	
R	104.00	114.00			LOCALLY DISRUPTED AND FOLDED BY (MICRO) FAULTS.	
					104.00- 114.00: 30% CALCAREOUS FINELY INTERBEDDED SILTSTONE: light gray, finely bedded, well bedded, 3 % pyrite disseminations of.	
SH/	114.00	126.30	12.3		SHEARED CALCAREOUS SILTSTONE: dark gray, slightly graphitic, remnant bedding, sheared, hard, moderately broken, shear: 40 degree angle to c.a., 3 % carbonate veins of, 3 % pyrite disseminations = veins.	
R	114.00	126.30			VARIABLY SHEARED LOCALLY BRECCIATED. DISTURBED REMNANT BEDDING OCCASIONALLY VISIBLE.	
R	114.00	126.30			123.00- 123.20: 100% FAULT: slightly graphitic, soft, highly broken, fault: 40 degree angle to c.a., 30% carbonate infilling shear/fault.	
SH/	126.30	129.00	2.7		SHEARED ALTERED SILTSTONE: medium gray, moderately silicified, moderately bleached, textures obliterated by alteration, hard, moderately broken, diffuse base, 30% quartz pervasive, 5% pyrite veins of, 5% quartz veins of, 10% pyrrhotite.	
R	126.30	129.00			? SHEAR SURFACES VARY 20 - 50 DEG TO C.A.	

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 DUNDAS  
 SURFACE DIAMOND DRILLHOLE : MZ004 (CONTINUED)

	Interval		Rec.	RQD	Description	Formation
	From (m)	To (m)	(m)	(m)		
			2.7		126.40- 127.00: 100% SHEARED ALTERED SILTSTONE: medium gray, moderately silicified, moderately bleached, textures obliterated by alteration, hard, moderately broken, vein: 70 degree angle to c.a., diffuse base, 20% quartz veins of, 20% pyrite veins of, 30% quartz pervasive, 20% pyrrhotite.	
	129.00	142.00	13.0		SILTSTONE: dark gray, massive, indistinctly bedded, lightly folded, microfaults, hard, highly broken, banding: 45 degree angle to c.a., diffuse base, 0.3% carbonate veins of, 3 % pyrite disseminations > veins, 0.3% pyrrhotite.	
R	129.00	142.00			SLIGHTLY CALCAREOUS LOCALLY SHEARED WITH (SYNGENETIC ?)	
R	129.00	142.00			DISSEMINATED EUBEDRAL PYRITE. B.C.A.'S VARY 25 - 50 DEGREES TO THE C.A.	
R	129.00	142.00			PYRRHOTITE VEINING OCCURS NEAR BASE, ASSOCIATED WITH PATCHY SILICIFICATION.	
R	129.00	142.00			129.00- 142.00: 5% FINELY INTERBEDDED AGGLOMERATE, PYROCLASTIC: light gray, finely bedded, grit, 50% coarse, poorly sorted, angular, moderate sphericity.	
					129.40- 131.30: 100% SILTSTONE: vuggy, sheared, brecciated, hard, highly broken, 60% quartz massive/ semi - massive, 20% pyrite stockwork, 3 % chalcopyrite veins of.	
R	137.00	137.50			WEAKLY SHEARED AT 45 DEG TO C.A.	
F/	142.00	150.20	8.2		FAULT: highly silicified, pyrrhotitic, massive, sheared, textures obliterated by alteration, extremely hard, moderately broken, shear: 50 degree angle to c.a., diffuse base, 60% quartz pervasive, 3 % chalcopyrite stockwork, 0.3% cassiterite ?, 10% pyrrhotite.	
R	142.00	150.20			STRONGLY SILICIFIED PYRRHOTITIC FAULT ZONE WITH WELL DEVELOPED TECTONIC FABRIC AT 15 - 60 DEGREES TO THE C.A. (MOSTLY 45 - 55 DEGREES).	
R	142.00	150.20			SHEARING CONTINUED , IN PART AFTER SILICIFICATION RESULTING IN BRECCIATION OF MUCH OF THE SILICA. SHEAR FABRIC IS DEFINED BY ANASTOMOSING LAMINAE OF DARK, FINE MATERIAL.	
R	142.00	150.20			PYRRHOTITE - CHALCOPYRITE OCCURS AS A STOCKWORK OF TENSIONAL VEINLETS PREFERENTIALLY DEVELOPED IN THE SILICA, AND ASSOCIATED WITH QUARTZ AND CARBONATE IN LARGER CROSS - CUTTING VEINS. THIS SULPHIDE MINERALIZATION LOCALLY CONSTITUTES UP TO 40% OF THE ROCK, AND SEEMS TO POST -DATE SILICIFICATION.	
R	142.00	150.20			THIS CARBONATE -SPHALERITE-GALENA VEIN CROSS-CUTS AND THEREFORE POST-DATES THE PYRRHOTITE-CHALCOPYRITE MINERALIZATION.	
R	142.00	150.20			148.80- 149.00: 100% VEIN: vein: 40 degree angle to c.a., 50% carbonate veins of, 10% galena veins of, 10% pyrrhotite 10% sphalerite veins of.	
R	148.80	149.00				
R	148.80	149.00				

151231

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SURFACE DIAMOND DRILLHOLE : MZ004 (CONTINUED)

	Interval		Rec.	RQD	Description	Formation
	From (m)	To (m)	(m)	(%)		
	150.20	172.70	22.5		CRYSTAL LAPILLI TUFF, medium dark grey, massive, coarse bedded, hard, moderately broken, grit, intermediately sorted, angular, moderate sphericity, 3 % quartz veins of, 0.1% chlorite veins of, 0.1% pyrrhotite.	
R	150.20	172.70			A QUARTZ-FELSPAR CRYSTAL TUFF WITH OCCASIONAL SUB-ANGULAR LITHIC FRAGMENTS.	
R	150.20	172.70			169.30- 169.50: 100% VEIN: vein: 45 degree angle to c.a., 80% quartz veins of, 3 % clay veins of, 3 % chlorite veins of, 5% pyrrhotite.	
	172.70	182.10	9.4		SILTSTONE: medium gray, slightly silicified, indistinctly bedded, microfaults, cleaved, hard, moderately broken, bedding: 30 degree angle to c.a., cleavage: 55 degree angle to c.a., 1% pyrite disseminations of, 5% pyrrhotite.	
R	172.70	182.10			SILTSTONE IS FAINTLY, LAMINATE WITH DEFINED BY 10-20% VERY FINE DISSEMINATED PYRRHOTITE (WITHIN LAMINAE). A STRONG FABRIC IS DEVELOPED AT 50 - 70 DEG TO C.A. (TYPICALLY 30 DEGREES TO BEDDING) , AND REGULAR SPACED MICROFAULTS WITH SIMILAR ORIENTATION OCCUR EVERY 30-50 MM. BEDDING VARIES 20 - 50 DEGREES TO C.A.	
R	172.70	182.10				
R	172.70	182.10				
R	172.70	182.10				
R	172.70	182.10				
R	172.70	182.10				
			9.4		181.30- 182.09: 100% ALTERED INCREASING DOWNHOLE SILTSTONE: medium gray, highly silicified, slightly pyrrhotitic, indistinctly bedded, microfaults, cleaved, hard, moderately broken, bedding: 30 degree angle to c.a., cleavage: 55 degree angle to c.a., 50% quartz pervasive, 0.3% carbonate veins of, 1% siderite veins of, 0.3% pyrite disseminations of, 0.3% chalcopryrite disseminations of, 5% pyrrhotite.	
	182.10	183.70	1.6		MASSIVE SULPHIDES: gray brown, arsenopyritic, pyrrhotitic, hard, moderately broken, fault: 40 degree angle to c.a., 3 % carbonate massive/ semi - massive, 5% siderite massive/ semi - massive, 5% chalcopryrite massive/ semi - massive, 30% pyrrhotite massive/ semi - massive, 50% arsenopyrite massive/ semi - massive.	
R	182.10	183.70			FRAZERS LODGE; SIMILAR MINERALOGY (ARSENOPYRITE/PYRITE - PYRRHOTITE CHALCOPRYRITE). CONTACTS ARE ROUGHLY PARALLEL TO TECTONIC FABRIC IN HANGINGWALL/FOOTWALL ROCKS.	
R	182.10	183.70				
R	182.10	183.70				
	183.70	185.00	0.8		ALTERED SILTSTONE: medium light grey, moderately silicified, remnant bedding, indistinctly bedded, hard, exceptionally broken, shear: 55 degree angle to c.a., diffuse base, 10% quartz pervasive, 3 % pyrite veins of.	
R	183.70	185.00			SHEARED NEAR BASE.	

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PAGE: 6 DATE: 22 JUL 91

R.G.C. Exploration Pty Ltd  
 DUNDAS  
 SURFACE DIAMOND DRILLHOLE : MZ004 (CONTINUED)

	Interval		Rec.	RQD	Description	Formation
	From (m)	To (m)	(m)	(m)		
EOT	185.00	258.00			SILTSTONE: dark gray, indistinctly bedded, microfaults, hard, moderately broken, bedding: 60 degree angle to c.a., 0.1% pyrite disseminations of, 1% pyrrhotite.	
R	185.00	258.00			LOCALLY FAINTLY LAMINATED/BANDED. FINE GRAINED PYRRHOTITE OCCURS DISSEMINATED ALONG LAMINAE AND SELECTIVELY DISSEMINATED WITHIN BANDS OF FINE SANDSTONE. SOMEWHAT HORNFELSED.	
R	185.00	258.00			B.C.A'S SHALLOW DOWNWARD; AT 210M = 45 DEG. & 225M = 30 DEG.	
R	185.00	258.00			185.00- 258.00: 100% TUFFACEOUS INTER BEDDED SANDSTONE: gray brown, finely bedded, 10% pyrrhotite.	