Geologic and mineral logs of 18 holes of the Kamishak prospect in the Paint River drainage of southwest Alaska.

Received 22 September 1995

Total of 127 pages in report

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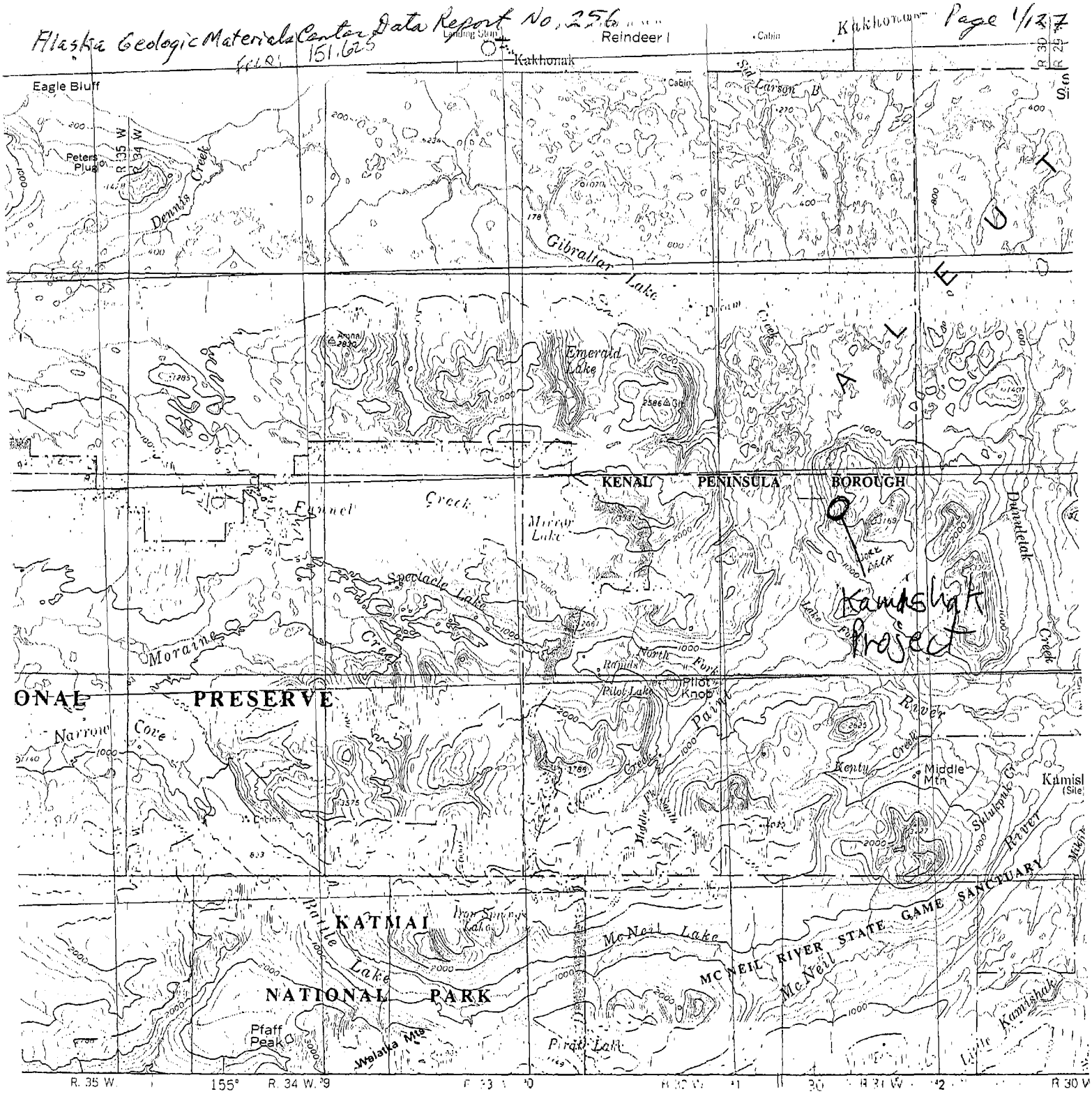
GMC 151.625



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Iliamna Quad

HOLDINGS WITHIN THE BOUNDARIES OF
RESERVATIONS SHOWN ON THIS MAP

SURVEY DATA, PRINTED IN RED, FURNISHED BY THE
SERVICE. HEAVY LINES INDICATE LIMITS OF
SHELF OFFICIAL PROTRACTION DIAGRAM ILIAMNA NO 5-1
THE PROTRACTIONS ON THIS MAP ARE NOT FOR FEDERAL
SUCH PURPOSES, REFER TO THE OCS OFFICIAL
VAILABLE FROM MINERALS MANAGEMENT SERVICE

Scale 1:250,000

5 0 5 10 15
5 0 5 10 15 20 25
5 0 5 10

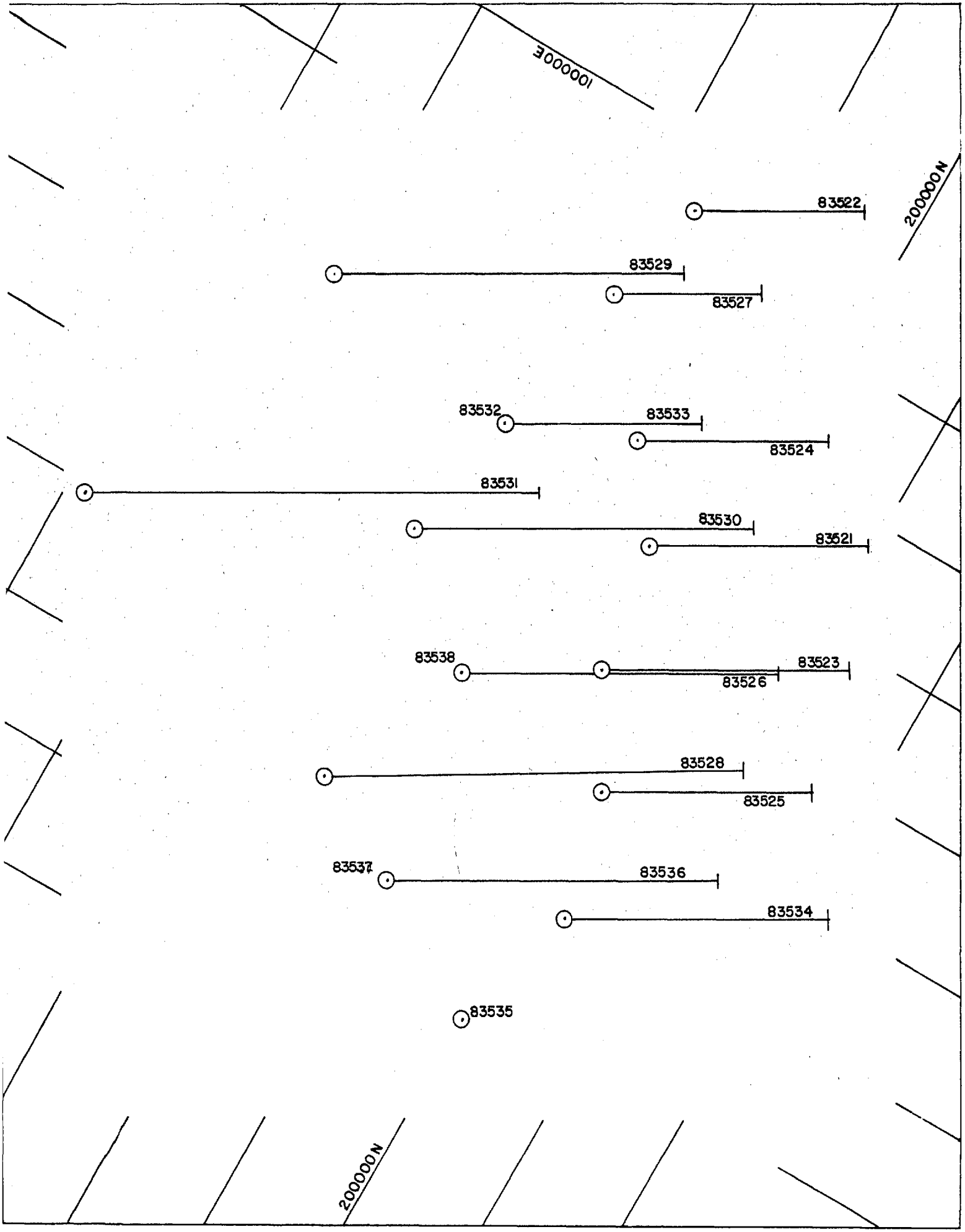
1" = 4 MILES

CONTOUR INTERVAL 200 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
BATHYMETRIC CONTOUR INTERVAL 10 METERS TO MAXIMUM DEPTH
SUPPLEMENTED BY 5 METER INTERVALS
DATUM IS MEAN LOWER LOW WATER
THE RELATIONSHIP BETWEEN THE TWO DATUMS IS VARIABLE
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
1985 MAGNETIC DECLINATION AT SOUTH EDGE OF SHEET VARIES FROM 21° TO 22°30' EAST

FOR SALE BY THE U.S. GEOLOGICAL SURVEY, FAIRBANKS, ALASKA 99701, DENVER, COLO.

Table 1. Drill hole summary.

Hole	North	East	Elev	Az	Inc	Depth
83521	200057	99692	1417	150	-45	248.1
83522	200162	99947	1492	150	-45	200.5
83523	200041	99585	1389	150	-45	290.0
83524	200108	99762	1438	150	-45	211.2
83525	199991	99499	1364	150	-45	237.2
83526	200139	99525	1360	150	-45	358.3
83527	200184	99855	1468	150	-45	170.4
83528	200197	99394	1324	149	-45	490.9
83529	200395	99753	1460	150	-45	400.1
83530	200232	99606	1401	150	-45	388.4
83531	200483	99495	1384	150	-43	500.0
83532	200209	99720	1432	360	-90	208.0
83533	200209	99720	1432	150	-60	308.0
83534	199965	99392	1315	150	-45	298.6
83535	199998	99279	1270	150	-44	34.0
83536	200109	99346	1298	150	-45	377.4
83537	200109	99346	1298	360	-90	278.0
83538	200140	99525	1361	360	-90	301.0


3000001
200000N
83522
83529
83527
83532
83533
83524
83531
83530
83521
83538
83523
83526
83528
83525
83537
83536
83534
83535
200000N

DDH	North	East	Elev	Az	Inc	TD	Size	Start	Finish
83521	200057.0	99691.7	1417.3	150	-45.0	248.1	BW44	8/11/90	8/15/90
83522	200162.4	99947.2	1492.1	150	-45.0	200.5	BW44	8/17/90	8/20/90
83523	200040.6	99584.8	1389.2	150	-45.0	290.0	BW44	8/20/90	8/23/90
83524	200108.4	99761.9	1437.5	150	-45.0	211.2	BW44	8/25/90	8/28/90
83525	199990.8	99498.8	1364.1	150	-45.0	237.2	BW44	8/28/90	8/30/90
83526	200139.0	99524.7	1359.6	150	-45.0	358.3	BW44	8/31/90	9/09/90
83527	200184.2	99855.3	1467.8	150	-45.0	170.4	BW44	6/09/91	6/13/91
83528	200196.5	99394.3	1324.1	149	-45.0	490.9	BDBGM	6/09/91	6/13/91
83529	200394.6	99752.8	1459.9	150	-45.0	400.1	BW44	6/15/91	6/29/91
83530	200232.4	99606.0	1400.5	150	-45.0	388.4	BDBGM	6/13/91	6/18/91
83531	200482.9	99495.1	1383.6	150	-42.5	500.0	BDBGM	6/21/91	6/27/91
83532	200209.0	99719.5	1431.8	360	-90.0	208.0	BDBGM	6/28/91	6/29/91
83533	200209.0	99719.5	1431.8	150	-60.0	308.0	BDBGM	6/29/91	7/01/91
83534	199964.9	99392.2	1315.2	150	-45.0	298.6	BW44	7/01/91	7/05/91
83535	199997.7	99278.9	1269.9	150	-43.5	34.0	BDBGM	7/02/91	7/03/91
83536	200109.0	99346.4	1298.4	150	-45.0	377.4	BDBGM	7/03/91	7/05/91
83537	200109.0	99346.4	1298.4	360	-90.0	278.0	BDBGM	7/05/91	7/06/91
83538	200140.2	99525.0	1361.2	360	-90.0	301.0	BW44	7/05/91	7/09/91

12 holes

3754.8 Feet

DIAMOND DRILL HOLE LOG

DRILLERS: K. GIBSON + D. [illegible]

Company: AMER. COPPER & NICKEL CO.

LEGEND			
	☐		☐
	☐		☐
	☐		☐
	☐		☐

SURVEY

Footage	Bearing	Inclination

Property: KAMISHAK
Hole No.: 83521
Location: ALASKA
Bearing at Collar: 150°
Inclination at Collar: -45°
Coord. - Collar N: 500059
E: 749689
CASING TO 32 FT.
Length: 248.1
Elev. - Collar: 1428 FT.
Core Size: BW44
Date started: 8/12/90 PM
SAMPLES: FX427571-582, FX428474-500, FX427548-550
Completed: 8/15/90 AM
Logged by: AS

LITHOLOGY, ALTERATION, MISC.

FT. 0

0 - 10.3: OVERBURDEN - MOSTLY QTZ. DIORITE

10.3 - 13: HBL-BT DIORITE [LT.-MED GREEN, W/ MED GRND. F'SPARS + MED-CRS GRND MAFICS: 65% F'SPARS, 25% MAFICS (HBL-BT W/ MINOR AUGITE), 5% QTZ, 3% GOLD MAG, 1% CALCITE + 1% DISSEM. CP.; MAFICS - MED TO STRONGLY CHLORITIZED]; INDUR.

13 - 20.9: DIORITE BX W/ V. CRS MAFICS, CP (2%, OCCS. V. CRS BLEBS W/ MATRIX); CARB/QTZ/FELDS MATRIX

20.9 - 29: HBL-BT DIORITE; INDUR TO BROKEN W/ V. CRS. MAFIC/QTZ-F'SPAR PATCHES (WK BX)

(1-2%, V. CRS BLEB IN MATRIX)

29 - 30.3: DIORITE BX W/ V. CRS MAFICS, CP(^) QTZ/F'SPAR IN MATRIX; PEBBLE SIZED CLASTS

30.3 - 52.8: HBL-BT DIORITE; INDUR TO BROKEN (W/ CRS MAFICS); MINOR BX

GRAPHIC LOG

MINERALIZATION

RECOVERY

Run	Run length	Core	%
4.5 / 4.9	4 / 0.5 / 0.4	0 / 0.5 / 0.8	0 / 100
7.8	2.9	0	0
9.0	1.2	1.0	83
11.3	2.3	3.5	100'
14.6	3.3	3.3	100
19.4	4.8	2.7	56
20.9	1.5	1.5	100
24	3.1	2.9	94
24.7	0.7	0.3	43
28.2	3.5	3.0	86
32.9	4.7	4.8	100'
37.5	4.6	3.8	83
41.7	4.2	4.2	100
45.6	3.9	3.0	77
49.1	3.5	4.1	100'

ANALYTICAL

FX Sample	Interval	Au (ppb)	Ag (ppm)	Cu (ppm)	Zn (ppm)	Fe (%)	BOX
	10.3						①
427571	15 (5)	1556	0.5	1062	76	2.84	13.5
427572	20 (5)	1098	1.2	2952	75	5.71	②
427573	25 (5)	1190	0.7	1842	68	7.89	22.9
427574	30 (5)	280	0.4	1250	70	7.7	③
427575	35 (5)	1280	0.5	1731	57	7.71	32.2
427576	40 (5)	108	0.2	1107	71	8.56	④ 41
427577	45 (5)	131	0.2	619	59	7.72	⑤
427578	50 (5)	290	0.4	631	67	8.26	50

GENERAL NOTES - OVER

Property [illegible]
Hole # 83521

LITHOLOGY, ALTERATION, MISC.

52.8–53.9: QTZ. DIORITE DIKE [80% F'SPARS, 10% MAFICS w/ MAG. – F'SPARS F-MED GRND, MAFIC MED-CRS GRND; 10% QTZ]

53.9–69.4: HBL BT. DIORITE; MOSTLY BROKEN (w/ V. CRS MAFICS) w/ MINOR FELSIC DIORITE & BX

69.4–84.4: MOD-HVY CHLORITIZED; WK DIORITE BX w/ COBBLE-SIZED DIORITE CLASTS & 0.5–2cm, MATRIX (w/ CARB-QTZ, HBL, V. CRS BT; OCCAS CP, MUSC) & RARE QTZ DIORITE CLASTS

84.4–86.6: QTZ DIORITE DIKE w/ OCCAS. SUB-END DIORITE ZENOS

86.6–118.5: MOD-HVY CHLORITIZED, MOD-STRNG DIORITE BX w/ 15-20% MATRIX (CARB/QTZ, HBL, CS, PT, OCCAS MUSC – 2.5% MED. CRS. CP; CP/PY) CLASTS UP TO 8cm; STRNGLY MAGNETIC

118.5–123.4: DIORITE w/ MINOR DIORITE BX (w/ CP)

FT.

50 – 120

GRAPHIC LOG

MINERALIZATION

53.9–69.4: RARE BX w/ OCCAS. CRS. CP (w/ MINOR PY) IN MATRIX

92: CP/PY = 60/40%; HBL CASTS ON CP

115.2: CP/PY = 70/30%

RECOVERY

Run	Run length	Core	%
51.2	2.1	1.9	90
55.1	3.9	4.4	100
58	2.9	1.7	59
62.3	4.3	2.7	63
67.1	4.8	5.2	100
72.1	5	5.3	100
77.3	5.2	5.4	100
82.4	5.1	5.3	100
86.7	4.3	4.4	100
91.7	5.0	5.0	100
99.2	7.5	7.4	99
104	4.8	4.7	98
111.1	7.1	7.0	99

ANALYTICAL

FX Sample	Interval	Au (ppb)	Ag (ppm)	Cu (ppm)	Zn (ppm)	Fe (%)
427579	(5) 55	64	0.1	541	68	7.72
427580	(5) 60	380	0.3	700	64	7.67
427581	(5) 65	660	0.4	1167	90	7.05
427582	(5) 70	670	0.4	880	69	7.83
428474	(5) 75	1110	0.8	1864	62	6.81
428475	(5) 80	960	0.4	1181	62	6.63
428476	(5) 85	650	0.8	1629	57	6.56
428477	(5) 90	720	0.5	1443	41	5.45
428478	(5) 95	1830	1.3	2991	68	7.85
428479	(5) 100	2050	1.4	2735	71	7.35
428480	(5) 105	950	1.0	2136	71	6.94
428481	(5) 110	780	1.3	3071	63	6.69
428482	(5) 115	2110	1.1	2105	64	6.49
428483	(5) 120	490	0.8	1766	81	7.67

BOX

⑥ – 59 – ⑦ – 69 – ⑧ – 77.8 – ⑨ – 86.7 – ⑩ – 95.? – ⑪ – 105 – ⑫ – 114 – ⑬

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Property ________

Hole # 83521

LITHOLOGY, ALTERATION, MISC.

123.8 – 134.2: MOD-HVY CHLORITED, MOD-STRNG DIORITE BX W/ 20% MATRX (W/ CARB/QTZ, HBL, CRS. BT, MINR MUSC & 3% MOD–V. CRS. CP BLEBS); CLASTS UP TO 6cm; STRNGLY MAGNETIC; ALSO MINR ASPY

134.2 – 140.7: INDUR TO PARTIALLY BROKEN, WKLY CLAYEY DIORITE W/ V. MINR DIORITE BX; MOD CHLORITC

140.7 – 144.5: INDUR, WK DIORITE BX (W/ OCCAS CP (CP/PY) W/ MINR, PARTIALLY BROKEN, WK–MOD CLAYEY DIORITE; MOD CHLORITC;

149.5 – 154: PARTIALLY BROKEN, MOD DIORITE BX (W/ V. CRS. BIOTITE; OCCAS V. CRS. CP BLEBS IN MATRX); MOD–STRNG CHLORTC; UP TO 4cm CLASTS;

154 – 169.8: PARTIALLY BROKEN, MOD–STRNG DIORITE BX (W/ ABUNDNT V. CRS. BT & 3% CP; CP/PY BLEBS OVERALL), MOD–HVY CHLORITE

169.8 – 173.8: BROKEN, SOFT-CLAYEY, MOD–HVY CHLORTC, MOD–STRNG DIORITE BX W/ 3% CP IN MATRX;

173.8 – 177.8: MOD–HVY SERITC ALT'D, STRNG DIORITE BX W/ 3% V. CRS CP BLEBS IN MATRX; STRNG CHLORTC

177.8 – 192.4: HVY SERITC ALT'D, STRNG DIORITE BX W/ 4% V. CRS (TO 3cm) CP & CP/PY BLEBS IN MATRX; CLAST TEXTURE FADING

FT.

120, 130, 140, 150, 160, 170, 180, 190

GRAPHIC LOG

MINERALIZATION

148.6: CP/PY = 60/40%

167.5: CP/PY = 70/30%

172.5 – 173.5: HVY CLAYEY – LIMONITE

183: CP/PY = 60/40% SLOW PIECE

189.5 – 195.9: 15-20% CP

RECOVERY

Run	Run length	Core	%
121.3	10.2	10.0	98
125.7	4.4	4.0	91
135.1	9.4	9.1	97
136.7	1.6	1.6	100
141.3	5.6	6.1	100'
150.6	8.2	8.5	100'
155.0	4.5	4.4	98
161.0	6	5.5	92
169.5	8.5	8.4	99
179.6	10.1	10.2	100'
189.7	10.1	10.0	99

ANALYTICAL

Ex Sample	Interval	Au	Ag	Cu	Zn	Fe
428484	(5) 125	840	1.1	2386	78	7.41
428485	(5) 130	1090	1.0	1609	83	7.5
428486	(6) 135	1040	0.6	1323	79	7.7
428487	(5) 140	560	0.8	1250	78	7.04
428488	(5) 145	450	0.4	869	79	7.83
428489	(5) 150	1000	1.5	2662	75	6.37
428490	(5) 155	1080	1.0	2430	86	5.58
428491	(5) 160	650	1.8	3814	.92	4.72
428492	(5) 165	1440	4.3	7782	124	5.81
428493	(5) 170	1020	3.7	6793	126	5.57
428494	(5) 175	640	2.2	6762	121	6.09
428495	(5) 180	330	2.3	14050	70	4.98
428496	(5) 185	1650	2.9	13300	102	6.39
428497	(5) 190	31	1.9	4869	139	5.11

BOX

(13), 123.9, (14), 133.7, (15), 142.3, (16), 151.5, (17), 161.3, (18), 17[illegible], (19), 17[illegible], (20), 18[illegible]

Property [illegible]
Hole # 83521

LITHOLOGY, ALTERATION, MISC. (FT. 190–248.1)

192.4–196: MOD SERICITE ALT'D^ (MOD-BLEACHED), WK-MOD SILICIFIED DIORITE BX w/ 3-4% CP; TEXTURE SOMEWHAT OBSCURE;

196–198.5 HVY CLAYEY-CHLORITIC DIORITE BX; TEXTURE OBLITERAT'D; 2% DISSEM, FINE CP; NEARING FOOTWALL; NON-MAG;

198.5–202.1: WK-MOD SERICITE, MOD-HVY CHLORITE, MOD TO WK DIORITE BX; 1% DISSEM, FINE CP;

202.1–208.7: INDUR TO WKLY CLAYEY, BROKEN DIORITE; 1% F-MED DISSEM CP; OCCAS. LIMONITE FRACS; 204–206: LIMONITE SHEARS *

208.7–211.2: F-MED GRND DIORITE; OCCAS 1-2mm QTZ VNS; INDUR-SILIC'D, NON MAG;

211.2–218.1: INDUR TO WKLY CLAYEY BROKEN DIORITE; 1% FINE DISSEM CP; 211.5-212.4: 0.5-1 cm LIMONITE/CLAYEY ZN. ASSOC w/ SHEARS; WKLY MAG; WKLY CHLORITIC

218.1–248.1: F-MED GRND, WKLY CHLORITIC DIORITE; RARE, FINE, DISSEM SULFIDES; MAG; OCCAS. 0.5-1mm, DRY QTZ STRINGERS AT INTERMED. ∠'s TO CORE.; MAG;

FT.: 190, 200, 210, 220, 230, 240, 248.1 ↑ FH

GRAPHIC LOG

MINERALIZATION

190: ZN, CP VN @ 40°

RECOVERY

Run	Run length	Core	%
198.5	8.8	8.7	99
207.8	9.3	10.1	100'
212.8	5	5.3	100'
217.3	4.7	5.6	100'
227.2	9.9	9.4	95
231.0	3.8	3.4	89
238	7	7.4	100'
248.1	10.1	10.4	100'

↑ FH

ANALYTICAL

FX Sample	Interval	Au	Ag	Cu	Zn	Fe
428498	(5) 195	1300	10.1	27104	96	6.18
428499	(5) 200	1170	8.7	13147	169	8.01
428500	(5) 205	62	6.3	9612	126	7.12
427548	(5) 210	31	0.3	2725	135	4.75
427549	(5) 215	9	0.1	42	90	3.68
427550	(5) 220	21	0.1	203	50	3.98

BOX

(21), 199.[illegible], (22), 209.[illegible], (23), 217.[illegible], (20), 227.[illegible], (25), (26), 24, (27), 24, ↑ FH

GMC Data Report No. 256

1. MOSTLY FINE-GRAINED DISSEM. CP IN HEADWALL DIORITE (MOD CHLORITIZED)
2. COARSER [illegible] (CP ± CP/PY) IN DIORITE EX MATRIX (W/ COARSE BT, HBL, MED GRND QTZ W/ MINOR CARBONATE)
3. DIORITE - MAGNETIC ; BRECCIA HIGHLY MAGNETIC (ZEROMAGNETITE) ; SERICITIC ALT'N ZN W/IN BRECCIA NON-MAG.
4. FOOTWALL DIORITE, DRY, ONLY VI WEAK CHLORITIC ; FOOTWALL CONTACT - SHEARED
5. EXPOSURE TRUNCATED BY N-S. FAULTS ?

60°AZ LOOKING FOTOS INDICATE SUB-VERT FAULTS IN MINERALIZED ZONE

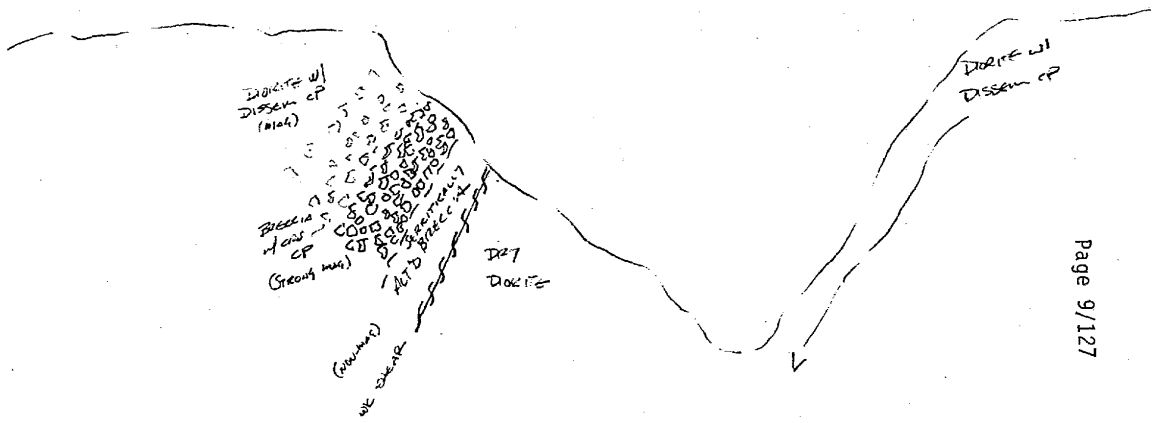
MINERALIZED EX ZONE @ 60°/70°SW

ALT'N MAG. OVERPRINT

MINERALIZATION/ALT'N FORCED INTO DIORITE FROM BRECCIA

WK UNALT'D & STRONG LOWER MINERALIZED BRECCIA ZONE

NW - SE SECTION



DIAMOND DRILL HOLE LOG

DRILLERS: R. GIBSON & B. TILLITSON

Company

Property	KAMISHAK	Hole No.	87522
Location	ALASKA	Bearing at Collar	150°
		Inclination at Collar	-45
Coord. - Collar N	500163	CASING TO 11FT	
E	749950	Length	200.5
Elev. - Collar	1482	Core Size	BW 44
Date started	8/17/90	SAMPLES: FX427551-570	
Completed	8/20/90	Logged by	AS

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	Run	Run length	Core	%	Sample	Interval	Au ppb	Ag ppm	Cu ppm	Zn ppm	Fe %	BOX
0–1.6: OVERBURDEN – DIORITE	0														
1.6–40.1: MED GRND, WEAK CHLORITIC, INDUR DIORITE, MAG; RARE, <<1% FINE, DISSEM CP; [illegible] JNTS; OCCAS. QTZ 0.5–2mm [illegible] AT LOW-MED, MED [illegible] MED-HI ∠'S TO CORE;				3.3	3.3	1.1	33								
	10			8.3	5	5.1	100'								①
				12.6	2.5	2.8	65								12.7
				14.7	2.1	3.1	100'								
	20			17.9	3.2	3.1	97								②
															21.3
				24	6.1	5.9	98								
				26.4	2.4	2.5	100'								③
	30			30.1	3.7	3.3	89								30.9
				37.5	7.4	7.5	100'								④
	40														39.8
40.1–40.6: MED CHLORITE, MOD DIORITE BX															
40.6–70.4: MED GRND, WEAK CHLORITIC, INDUR DIORITE, MAG; V. RARE <<1% FINE, DISSEM CP; 10: 70° JNTS; OCCAS. QTZ 1–2mm, QTZ VNS AT MED, LOW-HI ∠'S TO CORE;				45.6	8.1	7.7	95								⑤
	50		48.5: 2, THIN, LIMONITE [illegible] AT 30°	50.6	5.0	5.0	100'								49

Property KAWISNAK
Hole # 85-22

LITHOLOGY, ALTERATION, MISC.

70.4–87.6: CRS, MOD (MAG) CHLORTC DIORITE, INDUR; W/ OCCAS I.E. DIORITE BX (W/ NUT CHLORTC MAFICS, MAG, ? V. RARE FINE CP) 30–40° VNS

87.6–148.2: FINE-MED TO MED CRS, MOD (MAG) CHLORTC, INDUR DIORITE W/ OCCAS WK DIORITE BX (W/ NUT CHLORITE MAFICS, 2ND MAG; OCCAS CP CP); (~3mm) DRY QTZ VNS AT LOW-MED, MED TO MOD-HI ∠'S TO CORE – COMMON; 10, 50, 60° VNS

MINERALIZATION

56.5: 1mm LIMONTC FRAC AT 10°

62.8: 1mm NUT CHLORITIC QTZ VN AT 40° W/ RARE CP; ABUNDT MAG;

67.8: 3mm NUT LIMONTC FRAC; AT 40°

73.1: 3mm NUT LIMONTC FRAC AT 50°

89.2: WK LIMONTC / MOD CLAY FRAC AT 40°

93.9: 1cm NUT LIMONTC FRAC AT 40°

RECOVERY

Run	Run length	Core	%
59.3	8.7	8.3	95
66.6	7.3	7.2	99
73.3	6.7	5.6	84
81.4	8.1	7.8	96
89.3	7.9	8.0	100'
99.2	9.9	9.4	95
109.3	10.1	9.8	97
118.2	8.9	8.6	97

ANALYTICAL

Fx Sample	Interval	Au	Ag	Cu	Zn	Fe
	60					
427551	(5) 65	158	0.4	68	37	5.09
427552	(5) 70	52	0.2	150	37	5.71
427553	(5) 75	77	0.1	200	39	7.0
427554	[illegible]	87	0.3	300	37	4.64
427555	[illegible]	32	0.2	98	30	4.45
427556	[illegible]	31	0.3	126	.40	5.44
427557	[illegible]	26	0.2	93	42	4.88
427558	[illegible]	56	0.1	73	25	4.44
427559	(5) 105	18	0.4	73	38	4.85
427560	(5) 110	72	0.3	176	36	4.61
427561	(5) 115	31	0.3	175	36	5.35
[illegible]	(5) [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.57

BOX

Box	Depth
6	59.0
7	68.1
8	77.1
9	86.8
10	95.7
11	104.2
12	114.2

Property KAMISHAK
Hole # 83522

LITHOLOGY, ALTERATION, MISC.

148.2 - 200.5: FINE-MED GRND. WEAK CHLORITIC, MAG, INDUR DIORITE; NO SULFIDES; 20, 30, 40 & 50° JNTS; OCCAS. 1-4mm, DRY, QTZ VNS AT LOW-MED, MED & MED-HIGH ∠'S TO CORE

MINERALIZATION

124.1 - 2mm HNT LIMONITE FRAC AT 30°

146 & 148: MOD DIORITE BX (W/ HNT CHLORITE MAFICS, & QS CP SLCES)

FT. / GRAPHIC LOG

120, 130, 140, 150, 160, 170, 180, 190

RECOVERY

Run	Run length	Core	%
123.5	5.3	5.5	100'
125.8	2.3	2.2	96
134.7	8.9	8.4	94
145	10.3	10.2	99
150.5	5.5	5.4	98
		7.9	
156.2	5.7	5.9	100'
166	9.8	9.7	99
172.2	6.2	5.7	92
179.0	6.8	6.8	100'
186.2	6.2	6.2	100'

ANALYTICAL

FX Sample	Interval	Au	Ag	Cu	Zn	Fe
427563	(5) 125	37	0.1	157	36	6.01
427564	(5) 130	20	0.1	124	37	5.52
427565	(5) 135	13	0.1	86	35	4.97
427566	(5) 140	17	0.1	64	35	4.62
427567	(5) 145	15	0.1	140	41	5.62
427568	(5) 150	24	0.1	85	32	4.15
427569	(5) 155	9	0.3	41	39	5.24
427570	(5) 160	45	0.1	110	45	5.5

BOX

Box	Depth
13	123.x
14	133
15	142.x
16	152.4
17	161.3
18	171.2
19	180.x
20	189.x

Property KAMISHAK
Hole # BZ-22

LITHOLOGY, ALTERATION, MISC.	FT. 190	GRAPHIC LOG	MINERALIZATION	RECOVERY				ANALYTICAL							BO
				Run	Run length	Core	%	Sample	Interval	Au	Ag	Cu	Zn	Fe	
				194.1	8.9	8.7	98								
	200.3			200.6	6.4	6	94								
	↑ FH			↑ FH											↑ FH

DIAMOND DRILL HOLE LOG

DRILLER: K. GIBSON (GAI)

Company AMER. COPPER & NICKEL CO.

LEGEND

SURVEY

Footage	Bearing	Inclination

Property KAMISHAK — Hole No. 83523
Location ALASKA — Bearing at Collar 150°
Inclination at Collar -45
Coord. - Collar N 500037 — CASING TO 14 FT.
E 749587 — Length 290
Elev. - Collar 1402 FT — Core Size BQ44
Date started 8/20/90 — SAMPLES: FR427583-635
Completed 8/22/90 — Logged by AS.

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au ppb	Ag ppm	Cu ppm	Zn ppm	Fe %	BO
0-4.5: OVERBURDEN - DIORITE	0														
4.5-6.3: BROKEN, MOD-CHLORITIC DIORITE															
6.3-9.6: PARTIALLY BROKEN, MOD CHLORITIC DIORITE TO BROKEN, MOST NON-CHLORITIC (W/ CAS, REMNT QTZ VNS W/ SULFIDES, MOLYBDENITE - SEEN?); MAG.				5.6	5.6	1.9	34		5						(1)
9.6-41.2: INTOX, MOD CHLORITIC DIORITE W/ OCCAS FRAGMENTAL DIORITE BX (W/ CAS QTZ; W/; W/O CP BLEBS); MAG	10		MOD CHLORITIC - CLEANED	10.4	4.8	3.8	79		(5)						
			13.7-13.4: DIORITE BX W/ CAS QTZ & 0.5% CP BLEBS	13.0	2.6	3.9	67	427583	10	910	2.1	3786	75	6.13	12.1
			15.1-15.6: STRNG DIORITE BX W/ 1-2% CP						(5)						
			15.9: BX W/ CAS QTZ, CP, MALACHITE					427584	15	360	0.6	4592	66	5.38	
			17.9: BROKEN BX W/ CAS QTZ; ; MAL.	17.8	4.8	4.9	98		(5)						(2)
			21.4-22.4: MOD STRNG DIORITE BX W/ OCCAS MOD TO CAS CP BLEBS					427585	20	550	1.2	3670	72	5.01	21.
				22.6	4.8	4.8	100		(5)						
				27.3	4.7	4.8	98	427586	25	710	1.4	2418	98	7.25	(3)
									(5)						
	30		31.1: STRNG DIORITE BX W/ 1cm QTZ BLEBS					427587	30	140	0.3	645	75	6.06	29
37.7-43.6: PARTIALLY BROWN TO BROWN DIORITE W/ MINOR BX; WEAK TO MOD. CHLORITIC; MAG				32.4	5.1	5.1	100		(5)						
				36.2	2.0	3.6	96	427588	35	740	1.1	222.1	109	6.62	(3)
	40			40.2	4	3.7	93		(5)						34
								427589	40	370	1.0	2315	107	6.28	
				44.1	3.9	4.0	100		(5)						
								427590	45	341	0.1	4564	84	5.83	(3)
				47.8	3.7	3.2	87		(5)						48
	50							427591	50	48	0.2	574	85	6.56	

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Zn	Fe	BO
	50			57.8	5	5.5	100'		(S)						
			56.2: OXIDIZED CP IN BIOTITE BX					427592	65	112	0.1	505	26	6.03	⑥
				57.8	5	5.3	100'		(S)						57.8
	60							427593	60	490	0.5	1068	58	7.63	—
63.6-66.2: BROKEN (CLAYEY/LIMONITE) TO PARTIALLY BROKEN DIORITE; V. MINOR BX; MAG.				62.2	4.4	4.4	100'								
				63.9	1.7	1.8			(S)						⑦
66.2-75.3: PARTIALLY BROKEN TO BROKEN (BIOTITE) DIORITE W MINR, MOD TO HVY CHLORITE BX W/ CRS CP; MAG			64.4: OXIDIZED CP IN BIOTITIC BX					427594	65	620	0.6	1285	105	7.26	65.8
				66.2	4.3	4.8	94		(S)						
	70		69.8: OXIDIZED CP IN BIOTITIC BX					427595	70	120	0.2	564	52	5.82	⑧
			72.5: 1cm CP BLEB IN QTZ-OSE/ CHLORITIZED MAFIC (HBL) BX MATRIX;	71.6	3.4	2.5	74								
75.3-95.9: MOD-STRNG DIORITE BX (W/ OCCAS CRS CP); DIORITE (W/ 1% DISSEM CP) W/ 20% 0.3-0.8 FT, BROKEN MOD-STRNG CHLORITE/ BIOTITE/CLAY/QTZ VNS W/ OCCAS OXIDIZED SULFIDES; OCCAS 2-6 mm, DIFF QTZ VNS & INTERMIX C'S TO CORE; MAG;			73.3: 3cm OXIDIZED CP BLEB IN BIOTITE/CHLORITE/QTZ BX MATRIX. 75.6: OXIDIZED CP IN BIOTITIC BX 76.1-76.6: 0.5cm CP BLEBS IN STRNG CHLORITE BX;	76.1	4.5	4.8	100'	427596	75	260	0.5	1327	55	6.61	76.1
									(S)						
	80		77.1: OXIDIZED CP IN HVY CHLORITIC BX	80.5	4.4	4.6	100'	427597	80	760	0.9	2271	121	7.52	⑨
			81.2: OXIDIZED CP IN HVY CLAYEY/ CHLORITE BX						(S)						
			83.4: OXIDIZED CP IN MOD CLAYEY/CHLORITIC BX;	86.6	5.1	5.4	100'	427598	85	710	0.6	1521	119	7.08	84.3
									(S)						⑩
	90		90.4: CRS CP BLEBS IN STRNG CHLORITE BX	90.6	5.2	4.6	88	427599	90	910	0.7	1853	118	7.18	—
95.9-101.4: DIORITE TO WK DIORITE BX									(S)						93
			95.4: 2-3cm PART. OXIDIZED CP BLEBS IN 0.1 FT BROKEN DIORITE ZN W/ CRS EUHED. QTZ VN REMNT	95.8	5.0	4.3	86	427600	95	350	0.8	2023	110	6.85	⑪
									(S)						
	100		97.8: 2cm CP BLEBS IN STRNG CHLORITE BX W/ QTZ.					427601	100	760	0.5	1757	102	6.44	—
			101.1: 0.5 cm CP BLEBS IN MOD-STRNG CHLOR BX												107
			103.2: 0.75 cm RING (⊥ TO CORE) OF CP BLEBS IN MOD BX.						(S)						
104-112.4 HVY INCLAYEY/MOD LIMONITIC DIORITE BX W OCCAS BROKEN HVY BX)			104.5-107: V. HVY LIMONITE/CLAYEY	105	9.2	8.8	97	427602	105	1760	1.3	4967	111	6.72	
									(S)						⑫
	110			111	5	5.4	90	427603	110	1360	1.2	3514	111	7.86	—
112.4-118.6: PARTIALLY BROKEN TO INTACT, MOD LIMONITE, MOD DIORITE BX			114.5: OXIDIZED CP IN HVY LIMONITIC BX			2.2			(S)						115.
			115.4: 1cm CP BLEBS IN BX					427604	115	550	0.7	1441	112	6.96	
118.6-120.4: MOD CHLORITE, INTACT, WK DIORITE BX W/ OCCAS 0.25-0.5 cm CP BLEBS W/ CRS HAL/QTZ			115.7: 4 cm SHED BLEB IN BX W/ 80% PY (CP BRANCHAM) & 20% UNREPLACED CP						(S)						
			117.5: 2cm PY BLEB (CP PSEUDOMORPH) IN BX.	118.6	7.6	7.6	100								
	120							427605	120	1880	7.0	3942	84	6.63	

H.W. REPLACING MAFIC IN BX AROUND QTZ.

Property KAH-SHAK
Hole # 83523

LITHOLOGY, ALTERATION, MISC. (FT. 120–190)

MOD CHLORTC

130.4 – 139.6: BROKEN; WK-MOD DIORITE BX w/ CRS. BT & OCCAS. 0.25 CP BLEBS IN MATRX, MAG

139.6 – 161.5: INDUR TO PARTIALLY BROKEN (w/ BCLAS .2-.3FT (CLAYEY / BT ZNS) MOD CHLORTC, MOD DIORITE BX w/ COMMON CRS. CP BLEBS ASSOC w/ QTZ/CRS BT IN MATRX

161.5 – 161.9: HVY CLAYEY / MOD LIMONTC BX; SOME OXIDZD CP

161.9 – 171.8: INDUR, MOD CHLORTC, MOD BX w/ CRS – V. CRS SULFD BLEBS ASSOC w/ V. CRS MAFICS COMMON IN MATRX

171.8 – 172.2: HVY CLAYEY / LIMONTC BX

172.2 – 186: INDUR, MOD CHLORTC, MOD BX w/ COMMON V. CRS SULFD BLEBS ASSOC w/ V. CRS. MAFICS (BT) / QTZ IN MATRX; MINR. FINE-MOD DISSEM CP IN DIORITE CLASTS; MAG;

186 – 217.7 INDUR, MOD-HVY CHLORTC; MOD CLAYEY; MOD-STRNG BX w/ COMMON V. CRS SULFD BLEBS IN MATRX; MAG (UCM)

GRAPHIC LOG

MINERALIZATION

150.5: 2cm CP BLEB IN BX w/ V. CRS QTZ/BT;

159: OXIZD CP w/ V. CRS BT IN MATRX

166.8: 1cm SULFD BLEBS (60% CP; 40% PY (CP REPLCD PSEUDOMORPHS))

167.8: 1x4cm PATCH OF MOD GRND CP INTERSTIT. TO QTZ IN MATRX

175: 1x2 cm, CP/PY BLEB IN MATRX

179.5: 1.5cm CP/PY BLEBS w/ CRS BT IN MATRX

182.7: 2cm CP/PY BLEBS w/ V. CRS. VUGGY QTZ & V. CRS BT IN MATRX

189.5 / 189.9: 0.5–1.5cm CP BLEBS IN MATRX

RECOVERY

Run	Run length	Core	%
128.6	10	10.3	100'
131.1	2.5	1.9	76
139.0	7.9	7.4	94
147.4	8.4	8.2	98
156.5	9.1	9.1	100
165.	8.5	8.9	100'
172.4	7.4	7.7	100'
182.5	10.1	10.2	99
		5.5	

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Zn	Fe	BO
427606	(5) 125	270	0.2	715	84	5.97	(13) 123.1
427607	(5) 130	260	0.1	457	82	6.46	(14)
427608	(5) 135	560	0.4	1451	98	6.9	132.
427609	(5) 140	240	0.1	518	103	6.66	(15) 141.
427610	(5) 145	240	0.2	1130	105	6.81	(16)
427611	(5) 150	57	0.2	685	78	6.37	150
427612	(5) 155	38	0.1	681	86	6.49	(17)
427613	(5) 160	76	0.6	1454	101	7.06	16[illegible]
427614	(5) 165	61	0.8	2595	111	6.73	(18)
427615	(5) 170	102	1.0	2550	146	6.47	16[illegible]
427616	(5) 175	270	2.3	3128	137	7.09	(19)
427617	(5) 180	380	1.6	2822	145	6.83	17[illegible]
427618	(5) 185	300	2.3	4231	173	6.69	(20)
427619	(5) 190	1990	3.7	7849	181	7.83	18[illegible]

Property KAMISHAK

Hole # 83523

LITHOLOGY, ALTERATION, MISC.

217.7 – 228.6: STONG CHLORITE/SERICITE, STONG BX W/ V. CRS. SULFD BLEBS (CP/PY) COMMON (3-4% OVERALL) IN MATRIX; 215.6–218.1 HVY CLAYEY TEXTURE OBLITERATED;

228.6 – 233.2: BADLY BROKEN, DIORITE BX; MOD CLAYEY, WK–MOD LIMONITE;

233.2 – 245.0: INDUR, MOD CHLORITE/CLAYEY; MOD TO WK DIORITE BX; CRS. SULFD (CP/PY) BLEBS COMMON

245 – 260.7: WK–MOD CHLORITE, WK DIORITE BX; SULFDS SPARSE; OCCAS. QTZ. DIORITE CLASTS

FT.

190, 200, 210, 220, 230, 240, 250, 252.8, 260

GRAPHIC LOG

MINERALIZATION

190.8 – 191.6: HVY LIMONITE, OXIDZD SULFDS (PY)

195.4: HVY LIMONITE, OXIDZD SULFDS

196: 1cm & 1x3cm CP (W/ MINR PY) BLEBS IN MATRX

207.6 – 208.9: HVY LIMONITE, OXIDZD SULFDS

218.5: 0.5 cm PY(CP) BLEBS IN MATRX

237.6 – 238.2: 3x4 cm HVY LIMONITE, OXIDZD SULFDE PATCHES

242.6 – 244.7: MOD LIMONITE, BX MATRX (OXIDZD SULFDS)

RECOVERY

Run	Run length	Core	%
192.7	10.2	10.2	
194.0	1.3	1.3	
203.9	9.9	9.9	
213.6	9.7	10.1	
217	3.4	3.4	
226.7	9.7	10.1	
232	5.3	4.8	
241.6	9.6	10	
252.8	10.2	11.3	

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Zn	Fe
427620	(5) 195	240	7.2	9276	151	7.15
427621	(5) 200	1360	6.0	11,021	176	7.4
427622	(5) 205	490	2.8	6425	152	6.86
427623	(5) 210	320	4.6	10,684	127	7.8
427624	(5) 215	720	4.4	14262	106	7.38
427625	(5) 220	900	13.3	25,851	148	8.74
427626	(5) 225	1080	8.2	24,919	148	9.3
427627	(5) 230	930	9.8	15,865	100	6.46
427628	(5) 235	1780	4.7	19,708	61	5.13
427629	(5) 240	640	7.4	4041	157	7.29
427630	(5) 245	19	1.1	851	170	6.37
427631	(5) 250	112	0.4	518	126	5.01
427632	(5) 255	23	0.2	344	151	4.68
427633	(5) 260	15	0.1	118	97	3.99

BO

(21) 197.[illegible]

(22) 206.[illegible]

(23) 215.[illegible]

(24) 225

(2[illegible])

23[illegible]

(2[illegible])

24[illegible]

(2[illegible])

25[illegible]

(2[illegible])

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY				ANALYTICAL							BO
				Run	Run length	Core	%	Sample	Interval	Au	Ag	Cu	Zn	Fe	
260.7 — 290 : DIORITE (+/- MEDIUM GRAINED MAFICS, U/V BASE, UN MINERALIZED BX, OCCAS 1-5mm DRY QTZ VNS AT VARIOUS ANGLES TO CORE), 10, 20, 30 : 80° VNTS ; MAG ; (SOMEWHAT COARSER THAN DIORITE ASSOC W/ BX (+/- HW))	260			267.8	10	10	100								261
								427634	265	48	0.2	458	53	4.78	
	270			270.6	7.7	8.5	100	427635	270	52	0.1	486	52	5.04	271
	280			280.5	10	8.9	89								281
	290			290	9.5	9.9	100								290
	FH			FH											FH

DIAMOND DRILL HOLE LOG

DRILLER: R. GIBSON (SAI)

Company AMER. COPPER & NICKEL CO.

Property KAMMISHAK	Hole No. 83-24
Location CANYON CLAIMS ALASKA	Bearing at Collar 150°
	Inclination at Collar -45°
Coord. - Collar N 500109	CASING TO 10 FT.
E 749762	Length 211.2
Elev. - Collar	Core Size BW44
Date started 8/25/80	SAMPLES: FX 427636-672
Completed 8/28/80	Logged by ANDY SNYDER

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au ppb	Ag ppm	Cu ppm	Zn ppm	Fe %	BC
0-5 = OVERBURDEN - DIORITE; DIORITE BX	0														
				3.4	3.4	6.8	74								
5-67.2 INDUR TO PARTIALLY BROKEN, MOD CHLORITIC, MOD DIORITE BX w/ FAIRLY COMMON CAS. CP BLEBS IN MATRX (1-2% OVERALL) w/ CAS BT/QTZ				5.4	2	1.2	[illegible]		5						
									(5)						0
	10			9.5	4.1	3.9	92	427636	10						
				12.2	2.7	2.7	100		(5)						11.
								427637	15						
				16.4	4.2	4.4	100		(5)						2
	20							427638	20						20
				21.5	5.1	5.1	100		(5)						
								427639	25						
				26.7	5.2	3.6	71		(5)						2
	30							427640	30						
				33	6.3	6.9	100		(5)						31.
								427641	35						6
									(5)						
	40							427642	40						4
			42: 0.5cm CP BLEBS IN MATRX w/ CHLORITE, CAS WAFERS (BT);	43	10	10.1	100		(5)						
								427643	45						
				46.2	3.2	3.0	94								6
									(5)						
	50							427644	50						5

Property Kamisilik
Hole # 83524

LITHOLOGY, ALTERATION, MISC.

61.2 – 74.2: BADLY BROKEN DIORITE W/ 5-10% CRS BT IN DECOMPSD FRACS; NO SULFDS;

74.2 – 77.1: WK CHLORTC, INDUR. DIORITE; MAG;

77.1 – 77.9: BADLY BROKEN DIORITE; RARE OXIDZD SULFD 1cm PATCHES; CRS BT. COMMON;

77.9 – 81.5: WK-MOD CHLORTC / WK. DIORITE BX INDUR.; SULFDS SPARSE.

81.5 – 82.8: PARTIALLY BROKEN, MOD LIMONITE / CLAYEY DIORITE FX;

81.5 – 100.8: INDUR TO PARTIALLY BROKEN, SMALLER SCALE (< 1cm CLASTS), MOD CHLORTC MOD DIORITE BX W/ V. CRS PY BLEBS IN MATRIX COMMON (2-3% OVERALL) (±CP); OCCAS. MOD-HVY LIMONITE / CLAYEY 0.1-3 FT SEGMENTS AT 85.5, 89.5, 93.2, 96.8, 98.8;

100.8 – 103.5: INDUR, MOD CHLORTC DIORITE; V. SPARSE SULFDS;

103.5 – 133.9: INDUR, MOD CHLORTC, SMALLER SCALE (< 1cm CLASTS) MOD DIORITE BX W/ MOD TO COARSE CP/PY BLEBS IN MATRIX COMMON (1-2% OVERALL)

FT.

50, 60, 70, 80, 90, 100, 110

GRAPHIC LOG

MINERALIZATION

RECOVERY

Run	Run length	Core	%
53.2	7.0	7.3	100'
56.6	3.4	2.9	85
58.2	1.1	1.8	100'
66.7	8.5	5.7	67
72	5.3	2.1	40
76.7	4.7	5.0	100
81.8	5.1	5.4	100'
86.8	5.0	4.9	98
92	5.2	5.1	98
		.8	
97.1	5.1	5	98
102.1	5.0	5.4	100'
112.1	10	10.2	100'
115.5	3.4	3.4	100

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Zn	Pb
427645	(5) 55					
427646	(5) 60					
427647	(5) 65					
427648	(5) 70					
427649	(5) 75					
427650	(5) 80					
427651	(5) 85					
427652	(5) 90					
427653	(5) 95					
427654	(5) 100					
427655	(5) 105					
427656	(5) 110					
427657	(5) 115					
427658	(5) 120					

BO

Property KAMISHAK
Hole # 83-24

GMC Data Report No. 256

LITHOLOGY, ALTERATION, MISC.

(FT. 120–190)

133.9–141.3: MOD CHLORTC, INDUR, WK DIORITE BX W/ SPARSE SULFIDES;

141.3–146.7: INDUR, STRONG; CHLORTC/SERICTC, STRNG LARGE SCALE (3cm+ CLASTS) BX W/ 2-4cm CP BLEBS (5-7% OVERALL) COMMON; MINR OXIDZD SULFDS.,

146.7–153.3: INDUR, MOD-STRNG, CHLORTC; WKLY SERICTC, MOD STRNG DIORITE BX W/ CRS. CP BLEBS COMMON (2-3% OVERALL)

153.3–161.4: INDUR, MOD-CHLORTC, WK DIORITE BX W/ OCCAS. CP BLEBS (1% OVERALL) IN MATRX

161.4–179.4: INDUR, WK:MOD CHLORTC, V. WK DIORITE BX W/ RARE MED-CRS. CP BLEBS (<<1%) IN MATRX

179.4–211.2: INDUR, V. WKLY CHLORTC DIORITE (FINE-MED TO MED-CRS GRND MAFICS W/ DEPTH) W/ RARE CP DISSEMNATNS; OCCAS. 2-4 DM QTZ VNS AT LOW & INTERMEDIATE ∠'S TO CORE & RARE V. WK DIORITE BX; 20, 30, 40, 50 & 60° JNTS (LOW DENSITY)

GRAPHIC LOG

MINERALIZATION

177: WK LIMONITE FRAC

RECOVERY / ANALYTICAL

Run	Run length	Core	%	Sample	Interval	Au	Ag	Cu	Zn	Fe	BOX
											12
											121.
125.7	10.2	10	98	427659	(5) 125						
				427660	(5) 130						13
											131.
135.9	10.2	10.1	99	427661	(5) 135						
				427662	(5) 140						14
											141.
146.0	10.1	10.5	100+	427663	(5) 145						15
				427664	(5) 150						
											15.
156.3	10.3	9.7	94	427665	(5) 155						16
160.5	4.2	4.4	100+	427666	(5) 160						16.
165.7	5.2	4.0	77	427667	(5) 165						17
170.4	4.7	5.1	100+	427668	(5) 170						17.
174.6	4.2	3.2	76	427669	(5) 175						18
				427670	(5) 180						17.
184.1	9.5	10.4	100+	427671	(5) 185						19
				427672	(5) 190						18.

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Property KAMISKOTIA
Hole # 83524

LITHOLOGY, ALTERATION, MISC.	FT. 190	GRAPHIC LOG	MINERALIZATION	RECOVERY				ANALYTICAL							BO
				Run	Run length	Core	%	Sample	Interval	Au	Ag	Cu	Zn	Fe	
				194.4	10.3	10.1	98								(22)
	200														198.
				202.1	7.7	10.9	97								(21)
	210														202
	211.2 ↑ Ft			211.2 ↑ Ft	9.1	5.4									211.2 ↑ Ft

DIAMOND DRILL HOLE LOG

DRILLER: R. GIBSON (SAI)

Company: AMER. COPPER & NICKEL CO.

Property: RAINBOW HAWK — Hole No. 83525
Location: CANYON CLAIMS, ALASKA — Bearing at Collar: 150°
Inclination at Collar: -45°
Coord. - Collar N: 499995 — CASING TO 10FT
E: 749496 — Length: 237.2
Elev. - Collar: 1368 — Core Size: BW44
Date started: 8/29/90 — FX427673 - FX427717
Completed: 8/30/90 — Logged by: ANDY SNYDER

LEGEND

	☐		☐
	☐		☐
	☐		☐
	☐		☐

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL FX Sample	Interval	ppb Au	ppm Ag	ppm Cu	ppm Zn	% Fe	BC
0-8.6: OB- FINE GRND DIORITE w/ 2% (DISSEM/ VNG.) PY; MOD-CRS. DIORITE	0														
				5.5	5.5	1.4	25								
8.6-11.2: INDUR, WK-MOD CHLORTC, WK DIORITE BX W/ RARE CRS PY BLEBS IN STRONG CHLORTC MATRX;															①
	10								10						
11.2-22.4: BROKEN TO PARTIALLY BROKEN, MOD CHLORTC, MOD-STRNG DIORITE BX; OCCAS WKLY MALACHTC			13.2-17.5: RMNT V CRS, MOD-HVY CLAYEY QTZ VNG.	11.2	5.7	3.2	56								
				13.1	1.9	2.1	100'		(5)						
				15.2	2.1	2.6	100'	427673	15						14.
									(5)						②
	20							427674	20						
MOD CHLORTC, PARTIALLY BROKEN 22.4-23.5: WK-MOD LIMONTC/DIORITE BX			RMNT 20.8 1"-2" LIMONTC, MALACHTC V; 25. QTZ VNS	21	5.8	4.9	84								
23.5-34.5: HVY TO V. HVY LIMONTC/CLAYEY DIORITE BX									(5)						
								427675	25						24
			25.8-26: V. HVY LIMONITE w/ CRS. PY XLS; CRUMBLY;	26	5	4.6	92								
									(5)						
	30							427676	30						③
				31	5	4.9	98								
34.5-41.6: PARTIALLY BROKEN, MOD LIMONTC/ CHLORTC MOD-STRONG DIORITE BX, 2% OXIDZD SULFIDES IN HVY CHLORTC MATRX; 4% OXIDZD WAG HOTTING;									(5)						
								427677	35						34
				36	5	4.8	96								
									(5)						④
	40							427678	40						
41.6-43.8: PARTIALLY BROKEN TO INDUR, MOD CHLORTC, WKLY LIMONTC, MOD-STRNG DIORITE BX W/ 2% PY IN HVY CHLORTC MATRX;			42.4-43.8: 5 HVY LIMONTC FRACS AT 50°, 70%						(5)						42
				45	9	9	100	427679	45						
43.8-59.6: INDUR, MOD CHLORTC DIORITE, MAG; V. SPARSE DISSEM. SULFDS; OCCAS. HVY LIMONTC FRACS (5) AT 40-50°;									(5)						⑤
	50							428680	50						
															52

Property KAMUKTAK
Hole # 83525

LITHOLOGY, ALTERATION, MISC. (FT. 50–120)

- 59.6–64: INDUR; WK.-MOD CHLORITC; WK.-MOD DIORITE BX; V. CRS QTZOSE MATRX (COMMON); SULFDS SPARSE).
- 64–65.1: BROKEN, MOD CHLORTC, WK.-MOD LIMONTC STRONG DIORITE BX
- 65.1–72.4: INDUR. AWK.-MOD CHLORTC, WK. DIORITE BX; V. SPARSE SULFIDES.
- 72.4–78: INDUR, AWK.-MOD CHLORTC, STRONG DIORITE BX SPARSE DISSEM. SULFDS IN MATRX; OCCAS. V. CRS .2-.3FT QTZ VN BANDS;
- 78–81.5: INDUR, CRS. DIORITE; MAG.;
- 81.5–88.7: INDUR TO PARTIALLY BROKEN, MOD-STRONG DIORITE BX; OCCAS. .1-.2FT V. CRS QTZ VNG BANDS
- 88.7–88.9: V. CRS. QTZ VNG AT 50° BELOW; ⊥ TO 40° ABOVE INTERCEPTS
- 88.9–89.6: CRS GR? DIORITE DIKE, V. WK MAG.
- 89.6–97.6: INDUR, MED-CRS GRND DIORITE; RARE, .1FT V. CRS. VN. BANDS;
- 97.6–98.4: V. CRS. QTZ VNG (BROKEN) W/ 20% PY/CP AT 50°;
- 98.4–99.8: CRS. QTZ DIORITE DIKE, MOD MAG;
- 99.8–104.3: INDUR, MOD CHLORTC, WK-MOD DIORITE BX W/ MINR V. CRS. QTZ VNG;
- 104.3–106: PARTIALLY BROKEN, MOD-HVY LIMONTC, MOD DIORITE BX
- 106–115: INDUR, WK.-MOD CHLORTC, WK-MOD DIORITE BX W/ SPARSE CRS CP; OCCAS 0.1-0.3FT DRY V. CRS. QTZ VNG.
- 115–127.6: PARTIALLY BROKEN TRENDING TO INDUR, MOD LIMONTC, WK-MOD DIORITE BX W/ OCCAS. FRESH TO OXIDIZED CRS. CP BLEBS; V. CRS, DRY QTZ/CARBONATE VNG.

MINERALIZATION

- 60.8: 2×3cm PY BLEB (POSSIBLE HBL/BT. PSEUDOMORF) IN F-MED GRND QTZOSE MATRX;
- 64.3–64.3: 30% CRS. PY IN CRS QTZOSE MATRX
- 72.5: 3×4cm PY/CP BLEBS W/ V CRS QTZ CARBONATE IN MATRX
- 74: 1.5-3cm, CP/PY BLEBS W/ CRS QTZ IN MATRX
- 77.9: 1cm CP/PY BLEB W/ V. CRS. QTZ IN MATRX
- 82.4: 0.5-1cm, SHORT CP STRINGERS AT INTERMED CORE CS W/ CRS. QTZ (50°)
- 99.7: 2cm V. CRS, QTZ/CARBONATE, CHLORITE (MAFIC PSEUDOMORFS) AT 40°
- 102.3: 2×3cm PY BLEBS W 0.3FT V. CRS. QTZ/CARBONATE VN.
- 105.3–105.6: HVY LIMONTC/MOD CLAYEY W/ 2×3cm CP BLEBS

RECOVERY / ANALYTICAL

Run	Run length	Core	%	FX Sample	Interval	Au	Ag	Cu	Zn	Fe	BO
50.2	5.2	4.8									
					(5)						
55.1	4.9	4.6	94	427681	55						
					(5)						
				427682	60						
					(5)						
64.9	9.8	10.2	100'	427683	65						
					(5)						
				427684	70						
					(5)						
75	10.1	9.5	94	427685	75						
					(5)						
79.9	4.9	4.6	94	427686	80						
					(5)						
				427687	85						
					(5)						
90	10.1	9.8	97	427688	90						
92.8	2.8	2.5	89								
					(5)						
				427689	95						
					(5)						
				427690	100						
102.9	10.1	10.2	101'		(5)						
				427691	105						
					(5)						
				427692	110						
113	10.1	10.0	99		(5)						
				427693	115						
					(5)						
119	6	5.6	93	427694	120						

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Zn	Fe	BOX
	120								(S)						
								427695	125						(13)
129.6–134.1: INDUR, WK CHLORTC, DIORITE w/ OCCAS WK DIORITE BX; V.L SPARSE SULFDS)									(S)						
				129.1	10.1	10.4	100	427696	130						129.1
	130		130.1: 1MM LIMONITE FRAC AT 50°												
									(S)						
134.1–168.6: INDUR, WK-MOD CHLORTC, WK-MOD LIMONTC, MOD-STRNG DIORITE (BX); V. COM. QTZ/CARBONATE, CHLORTC MAFICS (HBL/PX) WK/MATRIX COMMON – SULFDS OXIDIZED								427697	135						(14)
			139.4: 1cm OXIDIZED SULFD BLEBS w/ V.COM QTZ/CARBONATE						(S)						
	140			139.2	10.1	10.2	101	427698	140						138.1
			148.3, 145.2, 159.4: REMNANT 1MM LIMONITE FRACS												
									(S)						
								427699	145						(15)
				147.5	8.3	8.6	101		(S)						148
	150							427700	150						
									(S)						
156.6–166.4: BROKEN, SHEARED MOD-STRNG CHLORTC, MOD DIORITE BX								427701	155						(16)
				157.6	10.1	100	99		(S)						157
	160							427702	160						
									(S)						
								427703	165						(17)
166.4–178.1: PARTIALLY BROKEN TO INDUR, MOD CHLORTC, WK DIORITE BX; RARE EUHED; 172.75–174.1: 2–3 ET QTZ DIORITE DIKE AT 60°–300°; MAG;				166.6	9.0	99	101								161
								427704	170						(18)
	170		173.1: 0.5cm CP BLEB w/ CBS, CHLORITED MAFICS;						(S)						
				174.5	7.9	6.0	100	427705	175						174
			178.4: 1x3cm, PARTIALLY OXIDIZED PY/CP w/ CBS QTZ VNG												
178.1–192: INDUR, MOD CHLORTC, WK-MOD DIORITE BX w/ OCCAS CBS SULFDS IN MATRIX; MAG;									(S)						
	180							427706	180						(19)
									(S)						
			185.9: 0.25–0.5cm EUHED CP BLEBS IN MATRIX w/ CBS QTZ/ CHLORITED MAFICS	184.6	10.1	9.3	92	427707	185						186
			187.5: 1cm CP BLEBS w/ INC CHLORTC BX IN MATRIX						(S)						
	190							427708	190						

Property Kamishak
Hole # 83525

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Zn	Fe	BO
192 - 220.9: INDUC, MOD-HVY CHLORTC, MED-STAIN DIORITE BX W/ OCCAS' CRS SULFDS IN VEIN/CHLORTZD MAFIC (BT) MATRIX MAG; 193-195.1: 0.3FT OF DIORITE DIKE AT 55-60°; TRENDS TO SPARSE SULFDS;	190		192.8 & 193: 1-2cm, PARTIALLY OXIDZD CP BLEBS IN MATRX W/ HVY CHLORTZD MAFICS. 194.3: 0.5cm CP BLEBS IN MATRX W/ MOD CHLORTZD, MED GRND MAFICS	194.3	9.7	9.2	95	427709	(5) 195						196
	200							427710	(5) 200						
			203: 1x2cm, CP BLEB W MATRX W/ CRS CHLORTZD BT & QTZ	203.2	8.9	9.8	100	427711	(5) 205						204
	210							427712	(5) 210						
				213.2	10	10	100	427713	(5) 215						21
	220							427714	(5) 220						
220.9 - 233.2: INDUC TO PARTIALLY SHEARED; WK CHLORTC, WK DIORITE BX; SPARSE SULFDS.			222.9 - 223.4: 10% PARTIALLY OXIDZD PY IN STRONG DIORITE BX MATRX	223.4	10.2	10.1	99	427715	(5) 225						22
			224.1 & 224.4: V. CRS. PY BLEBS IN WK BX MATRIX W/ MED. QTZ/CHLORTZD BT												
			224.8: 0.5cm. OXIDZD SULFD BLEBS W/ MED GRND QTZ/CHLORTZ BT.	228.1	4.9	4.5	96	427716	(5) 230						24
	230														
233.2 - 237.2: INDUC, V. WEAK CHLORTC; MED-CRS (MAFICS) DIORITE;								427717	(5) 235						2
	237.2 ↑ FH			237.2 ↑ FH	9.2	9.1	99								237 ↑ F

DIAMOND DRILL HOLE LOG

Company: AMERICAN COPPER & NICKEL CO.

CEMENTED 24-54 FT

DRILLER: R. GIBSON (SAE)

Property: KAHILTSHAK	Hole No.: 83526
Location: CANYON CLAIMS, ALASKA	Bearing at Collar: 150°
	Inclination at Collar: -45°
Coord. - Collar N: 500160	CASING TO: 16'
E: 749631	Length: 358.3 FT
Elev. - Collar: 1401	Core Size: BW 44
Date started: 8/31/90	SAMPLES: FX 427718-790
Completed: 9/9/90	Logged by: ANDY SNYDER

BW SHOE & 5' CASING LEFT IN HOLE

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

0-10.7: OVERBURDEN - DIORITE & GTZ DIORITE

10.7-23: PARTIALLY BROKEN, DIORITE,

23-24: BADLY BROKEN DIORITE;

24-31.3: PARTIALLY BROKEN, DIORITE;
29.3-29.5: CRUMBLY, CLAYEY & WITH LIMONITE;

31.3-32.2: BROKEN (CRUMBLY, WK. - MOD LIMONITE CLAYEY/DIORITE);

32.2-33.8: PARTIALLY BROKEN DIORITE

33.8-35: BROKEN TO CRUMBLY, MOD-HVY LIMONITE/CLAYEY DIORITE;

35-49: BROKEN TO PARTIALLY BROKEN DIORITE

49-63.3: PARTIALLY BROKEN TO INDURATED, WELL FORM (FRAC. FILLED) DIORITE; WK TO MOD CHLORITE; SPOTTY (1-2%) PY BLEBS;

MINERALIZATION

44.1-44.9: 6, 1mm PY STRINGERS AT 40-60°

RECOVERY / ANALYTICAL

Run	Run length	Core	%	Sample	Interval	Au ppb	Ag ppm	Cu ppm	Zn ppm	Fe %
4	4	0.5	13							
7.4	3.4	1.2	35							
10.5	3.1	1.3	42							
14.1	3.6	3.7	100							
16.4	2.3	2.5	100							
19.1	2.7	2.7	100							
21	1.9	1.7	89							
24	3	2.6	87							
29	5	5.0	100							
31.9	2.9	2.6	90							
34.8	2.9	1.8	62							
38.9	4.1	3.7	90							
41.6	2.7	2.6	96							
44	2.4	1.9	79		44					
47	3	1.6	53							
49.9	2.9	2.5	86	427718	49	200				

Property KAMISHAK
Hole # 83526

73.2 79.8

LITHOLOGY, ALTERATION, MISC.

63.3 – 73.2: INDUR, MOD PORPH (CRS FSPAR PHENOS) DIORITE; WK-MOD CHLORTC; MAG; RARE MED-CRS. PY BLEBS (<1%)

73.2 - 74.1: MOD ARGILLIC DIORITE W/ UPPER 90° & LOWER SERICITE 30° CONTACT; 1-2CM PY BLEBS (2% OVERALL) AT UPPER CONTACT

74.1 - 75.8: INDUR, DIORITE, WK CHLORTC;

75.8 - 76.7: MOD STRNG CLAYEY/CHLORTC DIORITE (W/ DOR PORPH) BX W/ 3% 1-3CM PY BLEBS W/ MINR V. CRS. QTZ/CARB MOD CHLORTC

76.7 - 79.3: PARTIALLY BROKEN, DIORITE TO WK DIORITE BX W/ BROKEN, 0.2 FT. V. CRS. QTZ/CARBONATE VN (W/ MINR SERICITE/CHLORITE) AT 40° AT 76.9 & 77.9

" V. SPARSE FINE SULFOS

79.3 - 88.1: MOD CLAYEY, HVY CHLORTC DIORITE PORPH BX W/ V. CRS. QTZ/CARBONATE VNG TO HVY CHLORTC, STRNG DIORITE BX W/ 20% SUB-EUHED PY IN 0.5 - 3CM BLEBS

88.1 - 81.5: INDUR, WK-MOD CHLORTC WK-MOD DIORITE BX W/ RARE CRS. SUB-EUHED PY BLEBS IN HVY CHLORTC MATRIX;

81.5 - 87.9: STRNG DIORITE BX (35% CHLORS, QTZ/CARB MATRIX) W/ 10% 3CM+ PY BLEBS

87.9 - 85.8: MOD CHLORTC, MOD DIORITE BX W/ OCCAS. V. CRS PY BLEBS

85.8 - 88.7: MOD CHLORTC, MOD-STRNG DIORITE BX, WKLY SERICITE W/ V. SPARSE SULFOS & HEMATIZED MAG;

88.7 - 94.8: MOD CHLORTC DIORITE W/ OCCAS. V. CRS. QTZOSE BX SEGMENTS, SPARSE SULFDS; MAG

94.8 - 96.8: BROKEN, MOD-STRNG CHLORTC/CLAYEY, STRNG DIORITE BX; V. SPARSE SULFOS

96.8 - 99.5: INDUR, FINE-MED STRNG DIORITE, MOD CHLORTC

99.5 - 100.8: MOD-HVY CHLORTC/ARGILLIC, STRNG DIORITE BX SPARSE SULFDS

100.8 - 103.8: BROKEN, HVY CHLORTC, MOD-HVY CLAYEY, WK DIORITE BX; 101.3 - 101.7: ABUNDNT (30%) 1CM+ PY/CP BLEBS; FADES TO GREY CLAYEY; INDUR

103.8 - 111.1: WK-MOD CHLORTC DIORITE W/ OCCAS (5% TOTAL) QTZOSE BX

111.1 - 115.6: INDUR, MOD CHLORTC, MOD DIORITE BX W/ 4% PY W/ MINR CP IN 2CM+ QTZOSE CLOTS AT 118.8, 113.7 & 114.9

115.6 - 118.4: INDUR, WK-MOD CHLORTC, WK-DIORITE BX

118.4 - 119.2: SULFD RADIATION W/ QTZ FROM CTR WANING TO EDGE (V) W/ 30% SULFIDES (70% CP, 30% PY) IN MOD CHLORTC DIORITE

119.2 - 122.8: INDUR, WK-MOD CHLORTC, WK DIORITE QTZOSE BX W/ OCCAS. V. CRS. CP BLEBS IN ...

FT.

50, 60, 70, 80, 90, 100, 110, 120

GRAPHIC LOG

MINERALIZATION

52.5 - 1CM, PY BLEBS ASSOC W/ HVY CHLORTC MAFIC & CRS QTZ VNG (POODY)

56.7 - 57.8: BROKEN, MOD LIMONTC, WK SERICTC V. CRS. QTZ W/ MINR OXIDIZED V. CRS. PY BLEBS

62.9 - 63.1: REMNANT, MOD CLAYEY STRNG 15% PY BLEBS ASSOC W/ STRNG CLAYEY/CHLORTC ZN.

65.8: 0.5CM PY VN AT 60° W/ CROSS SHEAR

69.3 & 72.2: WK-MOD LIMONTC FRACS AT 40 & 30°

75.5: QTZOSE, MOD LIMONTC, WK SERICITE FRAC AT 70°

94.3 - 0.2 FT., V. CRS QTZ + CARB VN AT 50° W/ 2 1CM CUBIC CP BLEBS;

119.4: 1CM CP BLEB IN V. CRS QTZ/CARB MATRIX

120.4 - 120.5: 3x5CM PY (60%)/CP 40% BLEBS IN QTZOSE MATRIX IN ...

RECOVERY

Run	Run length	Core	%
54.8	4.9	4.5	92
59.9	4.1	4.8	100'
		3.0	
65	5.1	4.9	96
70.1	5.1	5.1	100'
77.5	7.4	7.1	96
87.4	9.9	9.5	96
97.3	9.9	10.3	100'
101.4	4.1	4.3	100'
108.4	7.0	10.1	3'' 100'

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Zn	Fe
427719	52.5	41				
427720	56.7	78				
427721	58.3	610				
427722	63.3	1190				
427723	68.3	250				
427724	73.2	41				
427725	75.8	2040				
427726	76.7	110				
427727	79.3	14				
427728	82.9	35				
427729	85.8	430				
427730	88.7	37				
427731	94.8	64				
427732	99.5	350				
427733	103.8	210				
427734	108.8	61				
427735	111.1	54				
427736	115.6	530				
427737	118.4	150				
427738	119.2	630		65150		

BO

53.? (6) 63 (7) 73. (8) 82. (9) 9? (1? 1? (1? 11? (1?

Property KAMISHAK
Hole # 83526

LITHOLOGY, ALTERATION, MISC.

122.8 – 123.8: BROKEN, HVY CLAYEY / CHLORITC DIOR W/ ABUNDANT V. CRS QTZ / CARBONATE; WKLY LIMONITIC.

123.8 – 138.4: INDUR, MOD CHLORITC, WK DIORITE BX (10% MATRX) TRENDING TO MOD DIORITE BX W/ 15-20% V. CRS QTZ/CARB MATRX; OCCAS (<1%) CRS. CP/PY CLOTS; MINR CLAYEY FRACS AT 40°

PARTIALLY BROKEN (MOD ARGILL?)

138.4 – 158.3: MOD-HVY CHLORITC, MOD SERICTC, MOD DIORITE BX W/ 30% V. CRS QTZ/CARB/CHLORT MATRX; OCCAS. CRS TO 2cm CP/PY-SULFDS CLOTS AT (2% OVERALL) 143.7, 146.8, 150.2, 150.7, 157.3, BUT MOST QTZ MATRX SPARSE IN SULFDS.

158.3 – 168.1: INDUR, WK-MOD CHLORITC, WKLY CLAYEY, WK-MOD DIORITE BX W/ CHLORITE-RICH/QTZ-CARB POOR MATRX (15%) W/ 2% V. CRS CP/PY (50/50) BLEBS 1.5cm + CLOTS AT 159.4, 162.4.

168.1 – 174.4: MOD-HVY CHLORITC, WK-MOD SERICTC STRNG DIORITE BX W/ CHLORT-RICH/QTZ-CARB-POOR MATRX (30%) W/ 5% V. CRS PY/CP (50/50) SUB-EUHED CLOTS IN MATRX

174.4 – 185.4: PARTIALLY BROKEN TO BROKEN, MOD-HVY CHLORITC/SERICTC, WK DIORITE BX W/ 1% FINE TO CRS SULFDS (CP) IN SCATTERED [illegible] IN MATRX

185.4 – 192.1: PARTIALLY BROKEN, MOD CHLORTC/CLAYEY, MOD-STRNG DIORITE BX W/ 2% PY/CP (50/50) IN V. CRS BLEBS IN CHLORT-RICH MATRX; SOME HEMATIZED MAG; MAG; POSS TETRAHED

FT. 120 – 190

GRAPHIC LOG

MINERALIZATION

RECOVERY

Run	Run length	Core	%
120.4	12.0	9	75
130.0	9.6	9.6 / .4	100
140	10	10.4	100+
148.5	8.5	8.6	100+
158.5	10	9.8	98
168.5	10	10.3	100+
176.2	7.7	7.3	95
182.8	6	4.9	78
186.6	6.6	3.0	45

ANALYTICAL

Sample	Interval	Au	Ag	Cu	Zn	Fe
427739	123.8	550				
427740	128.4	25				
427741	133.4	9940				
427742	138.4	33				
427743	143.4	32				
427744	148.4	100				
427745	153.4	21				
427746	158.3	300				
427747	163.3	350				
427748	168.1	310				
427749	174.4	760				
427750	179.4	76				
427751	185.4	39				

BO
(13) (14) (15) (16) (17)

Property KAMISHAK
Hole # 83526

LITHOLOGY, ALTERATION, MISC.

FT. 190 – 260

192.1 - 194.7: INDUR, MOD CHLORTC DIORITE

194.7 - 199.5: PART. BROKEN - INDUR, MOD. CHLORIC / SERICTC, MOD-STRONG DIORITE BX w/ 2% CP/PY (70/30) IN V. CRS. BLEBS IN CHLORIC SPOTS.)

199.5 - 210.6: BROKEN TO PART. BROKEN, MOD CHLORTC / MOD-HVY CLAYEY (SERITC), MOD DIORITE BX w/ SPARSE SULFDS

210.6 - 216.6: INDUR, MOD CHLORTC, WK-MOD CLAYEY (SERICTC), WK DIORITE BX, w/ V. SPARSE TO NILL SULFS.

216.6 - 223.6B: PARTIALLY BROKEN, MOD-HVY CHLORTC/CLAYEY, MOD DIORITE BX w/ V. SPARSE SULFDS; 219.5 - 222.2: MOD CHLORITE FRACS AT 30 : 20°;

223.6 - 259.3: INDUR, MOD CHLORTC, WK-MOD DIORITE BX (MATRIX MAFICS (BT) INTACT) w/ OCCASN < 1% CRS CP BLEBS

259.3 - 263.5: INDUR, WK-MOD CHLORTC, DIORITE w/ V. WK BX w/ 1% CP IN V. CRS. BLEBS (ie 261.7 : 263.)

GRAPHIC LOG

MINERALIZATION

RECOVERY

Run	Run length	Core	%
196	9.4	9.4	100
200.4	5.4	5.3	98
208.7	8.3	8.1	97
211.4	2.7	2.3	85
219.8	8.4	8.3	99
		5.8	
229.9	10.1	10.2	100
[illegible]	10.1	9.6	96
249.6	9.6	9.5	99
259.3	9.7	9.3	96

ANALYTICAL

Sample	Interval	Au ppb	Ag	Cu	Zn	Fe
~~427752~~	~~190.4~~	640				
427753	192.1	57				
427754	194.7	40				
427755	199.5	850				
427756	204.5	99				
427757	210.6	23				
427758	216.6	24				
427759	220.1	14				
427760	223.6	5				
427761	228.6	15				
427762	233.6	89				
427763	238.6	48				
427764	243.6	13				
427765	248.6	41				
427766	253.6	20				
427767	259.3	150				

BO

(20) 197

(21) 206

(22) 215

(23) 225

(24) 235

(2

24

(2

25

(2

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Ag	Cu	Zn	Fe	BO
263.5–271.8: PARTIALLY BROKEN TO BROKEN MOD-HVY CHLORITE / CLAYEY MOD DIORITE BX W/ OCCAS (1%) V. COS. CP BLEBS W/ MATRIX	260							427768	263.5	66					27
271.8–277.4: INDUR, MOD CHLORITE, WEAK CLAYEY, WK-MOD DIORITE BX W/ 2% SATIN V. CBS. CP/PY BLEBS.	270			271.8	8.8	9.2	100	427769	268.5	560					28
277.4–285.8: PARTIALLY BROKEN TO BROKEN, MOD CHLORITE, MOD-HVY CLAYEY, MOD-STRNG DIORITE BX W/ 3% CP/PY (70/30) IN FRACT BLEBS	280			277.4	9.3	9.4	100	427770	271.3	69					273
								427771	277.4	50					29
285.8–290.9: BROKEN, CRUMBLY, HVY CHLORITE, V. HVY CLAYEY DIORITE BX (SERICITE ALTN) W/ 5% SULFDS IN V. COS. CP/PY BLEBS & FINE DISSEMINTNS, TEXTURE SHOT (PHYLLIC)								427772	282.6	99					282
290.9–298.5: HVY CHLORITE/SERICITE, WK-MOD DIORITE BX (SMALLER SEGS < 10% MATRIX) W/ 4% CP/PY (60/20) IN V. COS BLEBS ASSOC W/ QTZ/CARB & MICR DISSEMINTS (PHYLLIC)	290			287.1	10	10.5	100	427773	285.8	280					30
				290.3	7.9	6.5	86	427774	290.9	670					291
								427775	295.9	2800					31
298.5–299.2: CRUMBLY V. HVY FINE CLASTS W/ 5% FINE SULFD DISSEMINTS	300			299.2	8.9	8.3	93	427776	299.2	770					300
299.2–305.0: HVY CHLORITE/SERICITE MOD DIORITE BX W/ 3% CP IN COS BLEBS & V. MICR DISSEMINTS															
306–310: PARTIALLY BROKEN TO CRUMBLY, MOD-HVY CHLORITE/SERICITE, MOD DIORITE BX W/ 2-3% CP IN COS. CLASTS				301.6	8.4	7.6	90	427777	306	1560					32
310–312.1: INDUR, WK-MOD CHLORITE/SERICITE WK DIORITE BX	310							427778	310	1010					311
312.1–320.8: PARTIALLY BROKEN TO BROKEN, WK-MOD CHLORITE/CLAYEY (SERICITE), WK DIORITE BX W/ SAMSE SULFDS								427779	312.1	17					
320.8–324.8: PART. BROKEN, HVY CHLORITE, MOD-HVY CLAYEY (SERICITE), MOD DIORITE BX				314.0	6.6	6.7	100	427780	316.1	61					33
324.8–327.6: INDUR, MOD CHLORITE/CLAYEY (SERICITE), WK DIORITE BX	320							427781	320.8	66					321
				327.6	6.0	6.2	100	427782	324.8	14					
327.6–328.6: INDUR, MOD CHLORITE/CLAYEY DIORITE BXPH (PHYLLIC CLAST)								427783	328.6	8					4
	330														

Property KAMUNAK
Hole # 83526

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
	330		
338.8 – 352.5: WEAK TO PARTIALLY BROKEN, WK-MOD CHLORITE/SERICITE, WK-MOD DIORITE, DK V.FINE CPY CP BLEBS	340		
	350		
352.5 – 358.3: INDUC, WK CHLORITIC DIORITE	358.3 ↑ FH		

RECOVERY: Run	Run length	Core	%
331.6	9.0	9.3	100'
339.9	8.2	8.1	99
349.7	9.8	10.3	100'
358.3	8.6	9.1	100'
↑ FH			

ANALYTICAL: Sample	Interval	Au	Ag	Cu	Zn	Fe	BC
							331.
427784	333.6	13					
							(33)
427785	338.8	20					
							341
427786	343.8	21					
							(38)
427787	348.8	99					
							34[illegible]
427788	352.5	65					
							(37)
427789	356.5	76					
427790	358.3	220					35[illegible]
							↑ FH

DIAMOND DRILL HOLE LOG

Company AMERICAN COPPER & NICKEL CO.

Property KAMISHAK	Hole No. B3527
Location ALASKA	Bearing at Collar 150°
	Inclination at Collar -45
Coord. - Collar N 520192	41 FT casing
E 749844	Length 170.4 FT
Elev. - Collar 1469.2	Core Size BW44
Date started 6-9-91	
Completed 6-13-91	Logged by P.T.

LEGEND: FAULT ✓; QUARTZ; SULFIDE ✓; IRON OXIDE ✓

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au ppb	Cu ppm	BC
Overburden to 10.1 FT.				0.9	0.9	0.6						
Casing to 41 FT.												
	10	FRACTURES / TEXTURE/grain size		9.9	9.0	1.6	18	NS				1
				10.1				NS	10.1			
10.1-18.9 zone Very dk grey fine-med gr. mafic igneous rock - biotite + greyish plagioclase + chlorite pyroxene ± hornblende ± minor quartz. Gabbro - chlorite + biotite is secondary, minor amounts of magnetite, mostly along fcts. tr CO3		Fine Gr.	tr. py w/qtz, tr. vfg cpy - locally in clots to 9.0 mm	12.7	2.8	2.5	89	532001	12.7	740	1733	
				13.4	0.7	0.6	86	532002	13.4	260	1272	
										1080	1719	15.1
				17.8	4.4	4.3	98	532003	17.8			
18.9-19.0 coarser grained, larger bio. 18.9-19.5', sheared	20	MED	20.0-23.8 - tr-1% py minor CuOx	19.0	1.2	1.3	+100	532004	19.0	750	1426	
				20.2	1.2	1.4	+100	532005	20.2	160	965	
20.2-24.9 - dk. green gabbro - tr-1% oxidized pyrite, FeOx on fcts, med grained, rusty color			23.8-24.9 tr-1% py ± cpy, minor CuOx blebs, mod-strong FeOx stain	23.8	3.6	3.1	86	532006	23.8	3390	3934	2
								532007	24.9	9170	1069	24.
24.9-26.8 90° sharp CNT Fine grained gabbro - plag + py/x + bio + chl, dk green color, not much cut/de		abrupt FINE		26.0	2.2	2.2	100	532008	26.8	740	392	
		MED	26.8-31.0 tr-1% py ± dism tr cpy									3
26.8-31.0 med gr - coarse gr. gabbro, 1-2 cm clots of bio + plag, weak "breccia", faint outline of angular clasts, bld + bio + plag matrix. tr CO3	30	COARSE MED.	cpy as interstitial blebs to 2.0 mm	31.0	5.0	4.9	98	532009	31.0	130	1191	
				32.4	1.4	1.5	+100	532010	32.4	130	195	32.
31.0-31.8 Med gr gabbro, mor FeOx		FINE	tr py ± cpy, clots of py on fcts at 32.9	34.9	2.5	2.5	100	532011	34.9	510	240	
31.8-32.4 - bio + chl shear zone - FeOH												
32.4-35.2 Med gr. gabbro, weak FeOx stn		coarse	34.7 tr CuOx									4
35.2 - dk green gabbro, decreasing xtal size, xtal size decreases w/depth to 35.2'			35.2-39.3 : tr dism py ± cpy	39.7	4.8	4.5	94	532012	39.7	400	459	
39.3 minor FeOx stain sharp 70° basal contact,	40	FINE	39.7-41.1 - tr dism cpy + py	41.8	2.1	2.1	100	532013	41.0	1060	569	41.
39.3 Gabbro, med coarse gr, more chloritic than above, distinct clots of bio + chl + plag at 41.1, 41.9, 42.5, 43.2 xtal size fairly constant except for fine gr zone 41.0-43.0 - med. magnetite, minor CO3		coarse MED FINE MED	41.1-41.9 - 1a - 5.0 cm clots of py, intergrowths of coarse bbld + plag.					532014	42.3	4070	162	
Basal contact is gradational into bxx zone.				43.0	1.2	1.2	100					
48.0								532015	46.0	1290	59	5
48.0 Breccia zone - v ppx contact, indistinct, gradational, angular clasts of grey green plag + pyx? gabbro, md gr, bxx clasts up to 5 x 5 cm, mostly 1-3 cm x 1-3 cm, matrix is bbld + bio + plag + sulfide, plag xtals in matrix to 5.0 cm bio to 1 cm, bbld to 0.5-0.75 cm, to 1% dism sulfide in matrix, local clots of gab. to 1.0 cm.		MED	41.9-48.0 - tr fine gr py tr v fine gr cpy	48.1	5.1	5.1	100	532016	48.1	360	110	
	50	BXX	48.0-50.5 tr-1% dism py + cpy in bxx matrix					532017	50.5	760	80	50.
				53.1	5.0	4.5	90	532018	53.1	490	415	6
				54.1	1.0	1.0	100					

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Cu
50.5 Brecciated gabbro, mod FeOx stn.			tr. py.								
52.0 Fault - FeOx stn, tr py			52.3 - 55.2 - tr dism cpy + py.	53.1	5.0	4.5	90	532018	53.1	490	415
52.2 Med grained gabbro, no bxxn, grades slowly into breccia from				54.1	1.0	1.0	100				
55.4 55.1 - 55.4 Ft			55.4 - 63.8 - tr dism py in matrix					532019	55.4	78	125
Brecciated Gabbro - angular clasts of med gr. gabbro - clasts crudely oriented parallel to each other; matrix of hbld, bio, plag; Chloritic, occasional clots of magnetite, sporadic clots of py to 0.5 cm	60							532020	59.9	25	122
63.8			63.8 - 67.0 tr dism cpy, tr dism py, strong FeOx stn - 62.9-64.1	63.8	8.7	10.2	+100	532021	63.8	110	343
Fault zone - numerous closely spaced fcts.											
64.3 Strong FeOx stain, lots of biotite, mm mag. Med gr. gabbro, coarse pods of lg. plag + hbld xtals at 68.3 + 68.6, Chl. alln. throughout			67.3 - large 5.0 x 3.0 cm clot of py, tr cpy					532022	67.0	74	109
68.8			68.0 - 0.5 mm interstitial cpy blebs - 70.0 - Cu Ox, 0.6%					532023	68.3	530	370
Breccia - sharp 60° CNT, dk green clasts of gabbro, hbld. matrix, chloritic, tr. dism cpy, minor 1-2 cm plag clasts. 30° diffuse basal CNT	70		70A - cpy blebs in coarse plag + hbld matrix					532024	71.4	32	325
71.4 Coarse grained gabbro, tr dism py + cpy, green plag + pyx + hbld + bio, xtal size decreases w/depth. Qtz flooded zone in HW of FLT 75.9-77.3, weak potassic alt'n, mod. FeOx stn, 2% magnetite,			75.9 - 77.2 2-3% cpy, dism tr-1% py	74.1	10.2	10.2	99			450	2226
77.3 dism cpy + py, no mzln in footwall.			77.2 - 78.1 2-3% py, tr cpy	77.2	5.1	5.1	100	532025	75.9		
Grey med. gr. gabbro, no chloritic, magnetite on fcts			no mzln					532026	77.2	3130	8309
82.3	80							532027	79.0	4170	6893
Dk. grey anorthositic gabbro, no chloritic alt'n, large (6-8mm) partially resorbed phenos of plag., 30% mafics, 60% plag, occasional zones w/30-40% coarse plag xtals.			82.3 - 91.2 blebs of cpy tr-1% cpy + py in 1.0 - 3.0 mm veinlets	82.3	5.1	5.1	100	532028	82.3	120	818
				86.9	4.6	5.2	+100	532029	86.9	63	408
92.0	90		91.0 - 1-2 mm cpy veinlet.	92.2	5.3	5.3	100	532030	92.2	57	731
Dk grey anorth/gabbro plag + mafics (clinopyx (pyx) + hbld) minor occasional cpy + py on fcts											
xtal size varies but mineralogy remains pretty much the same. 30% mafics, 60% plag, 5% chlorite, 2-3% magnetite + magnetite content varies quite a bit.			small traces of dism pyrite throughout	96.8	4.6	4.6	98	532031	92.2	25	141
103.4 - Xenoliths of ufg magnetic mafic rock	100										
			tr. dism cpy	105.4	8.6	8.6	100				
Fine gr. weakly chloritic anorthositic gabbro	110		110.4 - 2.0 cm. magnetite + pyrite clot					NS	109.8		
			111.2 - qtz vein, 5.0 mm, tr dism cpy in vein magnetite in vein also					532032	110.8	750	269
								532033	111.7	29	207
			116.8 - 1.0 - 2.0 mm py veinlet	115.5	10.1	10.1	100				
										69	262
120.0	120							532034	113.5		

LITHOLOGY, ALTERATION, MISC.

Anorthositic gabbro - continued, 50% plag. 50% mafics PYX + chl + magnetite.

123.4 Fairly sharp contact - coarse grained gabbro rapidly grading to fine gr. gabbro 60° CNT

130.0 Coarse grained Anorthositic leucogabbro more plagioclase (+60%) less mafics.

:0 Xtal size changes from coarse (5-7 mm) to med (3-5 mm) to fine (< 3 mm) dk grey plagioclase feldspars are the dominant cumulate phase (60% +) w/ hbld, lesser mafics (cpx?), some chlorite, and local magnetite. cpy and py veinlets on fcts.

occasional very coarse grained pods of plag + hbld + pyx.

161.0 med-coarse anorthosite/anorthositic gabbro lighter than abv, more plag. 70% + 2 pyroxenes? coarse mottled texture

170.4 EOH

GRAPHIC LOG (grain size)

FT.	Grain size
	MED
	COARSE
	FINE
	COARSE
	FINE
130	COARSE
	FINE
	MED
	COARSE
	COARSE
140	MED
	COARSE
	FINE
150	COARSE
	MED
	COARSE
160	Med
170	

MINERALIZATION

123.8 - 1-2 mm py veinlets tr dism cpy.

126.7 - 1.0-2.0 mm cpy veinlets
128.0 - cpy veinlets as abv. mostly single veinlets on fcts, some py.

133.4 1.0-3.0 mm py clots and veinlets.

137.3 2.0 mm cpy veinlet
137.9 1.0-2.0 cpy veinlets.

154.5 3.0-4.0 mm blebs of cpy + thin cpy veinlets at 20° to core axis

tr. dism py. throughout.

RECOVERY

Run	Run length	Core	%
125.7	10.2	10.2	100
132.8	7.1	7.1	100
142.5	9.7	9.7	100
144.5	2.0	1.9	95
150.2	5.7	5.7	100
160.7	10.5	10.2	100

ANALYTICAL

Sample	Interval	Au	Cu
NS	122.3		
523035	124.3	210	764
NS	127.7		
523036	130.7	29	255
NS	136.0		
523037	138.0	110	452
NS	142.5		
523038	144.5	35	393
NS	153.5		
523039	155.0	350	1169
NS	163.5		
523040	165.0	35	83

DIAMOND DRILL HOLE LOG

Company: AMERICAN COPPER & NICKEL

Property	KAMISHAK	Hole No.	83528
Location	ALASKA	Bearing at Collar	149°
		Inclination at Collar	-45
Coord. - Collar N	500203		
E	749394	Length	490.9
Elev. - Collar	1325.2 FT	Core Size	BDBGM (NX EQ
Date started	6/9/91		
Completed	6/12/91	Logged by	FGK + DFA

LEGEND

Sulfides (vein)	▨	Brecciation	▨
Qtz Veins	☐	Shearing	▨
Fractures	▨	FeOx	▨
Faults	▨	Dissem Sulfides	▨

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au ppb	Cu ppm
					12.5	4.8					
	10										
				12.5							
15.0'											
LT. GRAY FN-MED. GR. QUARTZ DIORITE: ~15-20% FN. QTZ, ~25% GREEN/BROWN MAFICS ALT. TO CHLOR + BIO, ≤5% PRIM BIO, ~5% FN EUH. MAG, ~50% PLAG. ALTERED MAFIC MINERAL HAS BLOCKY APPEARANCE, - PYROX?			<1/2% V. FN. DISS. CPY & PY (10:1)		5.5	4.4					
				18.0							
	20		20.0', ~1-2 mm MAG, minor PY on 60° CNT								
				21.8	3.8	3.8		NS	21.8		
				24.0	2.2	2.25				20	100
IRREGULARLY SHAPED ROUNDED XENOLITHS DARK GRAY/GREEN, FINE GR. DIORITE ARE COMMON. XENOLITHS RANGE FROM <1"-4" IN SIZE & CONSTITUTE <5% TOTAL VOLUME. DIORITE CONTAINS LITTLE QTZ & PLAG IS GENERALLY DARKER				26.0	2.0	2.0		531801	26.0		
	30				9.7						
33.7': 1mm QTZ @45°											
				35.7							
LOCAL (<1") ZONES OF ARG & CHLOR ALT. ASSOC. W/ SOME FCTS											
40.0	40										
			41.6, ~1mm. DISCONTINUOUS CPY ON 20° FCT		10.0						
QUARTZ CONTENT DECREASING VERY GRADUALLY TO <5% NO DISTINCT CONTACT				45.7				NS	45.7		
										15	95
	50							531802	50.7		

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY				ANALYTICAL						
				Run	Run length	Core	%	Sample	Interval	Au	Cu			
LIGHT GRAY/WHITE FINE-MED. GRAINED HBL(?) DIORITE	60				10.0'	10.0	100							
				55.7										
					10.0'	10.0	100							
				65.7				NS	65.7					
	70									7	79			
					10.0'	10.0	100	531803	70.7					
				75.7										
	80				10.4	10.1	100							
				85.8				NS	85.8					
	90		88.6: ¼" Mac Plag, Qatz @ 50°							4	43			
					10.1	10.1	100	531804	90.8					
				95.9										
	100				10.1	10.1	100							
				106.1				NS	106.1					
	110									8	78			
					10.1	10.1	100	531805	117.1					
			114.7: ½" Plag Qtz, + Py @ 60°	116.2										
	120													

LITHOLOGY, ALTERATION, MISC.

120 - 190 Lt. gRy fine - med grained diorite/Qtz diorite. Qtz varies 5-20% with 20-25% mafic commonly altered to chl + bio 50% plag, 3-5% dissem. Fe_2O_3 (euhedral magnetite) and <1/2% py+cpy. Some minor xenoliths of f.g. dio.

Slightly higher levels of magnetite along some fractures

MINERALIZATION

120-190 <1/2% f.g cpy + py (5:1) dissem throughout. also 3-5% eu. magnetite

124.4 Felsic dike 1.5" wide w magnetite + py (6:1) along margins (1/4" wide)

163.8 + 164.7 1/8" wide QVs w minor arg alt, some ser. + increased magnetite.

171.9-172.8 - Slightly alt med. gry zone w 10-12% magnetite, and 5-10% py + cpy (3:1)

RECOVERY

Run	Run length	Core	%
126.0	9.8	9.8	100
136.1	10.1	10.1	100
146.3	10.2	10.2	100
156.5	10.2	10.2	100
166.3	9.8	9.8	100
176.2	9.9	9.9	100
186.4	10.2	10.2	100
	10.3		

ANALYTICAL

Sample	Interval	Au	Cu
NS	126.0		
		39	124
531806	131.0		
NS	146.3		
		66	250
531807	151.3		
NS	161.9		
		78	114
531808	166.9		
		15	24
531809	171.9		
531810	172.9	1020	1447
		6	115
531811	177.9		

FT.: 130, 140, 150, 160, 170, 180, 190

LITHOLOGY, ALTERATION, MISC.

190 - 235.5 - Dominantly F-m grained med gry diorite/Qtz diorite similar to previous Rx, but with many more xenoliths of dk gry f.g. mafic Rx. Some of these xenoliths are large and occupy several feet of core. Footages containing mafic Rx are: 193.6-195.1, 200.2 - 202.4, + 203.1 - 209.2. The diorite seems to have partly assimilated some of this mafic Rx and is darker in color below 193

203.1 SHP 40° CNT.

GABBRO

235.5 - 260.0 Major alteration zone: Rx appears to retain the dio/qtz dio texture (w̄ xenoliths), but it is intensely altered to SER, chl, + clay (Kaol-alun?). It also contains sec qtz + calc, some as large euhedral xls

FT.

200, 210, 220, 230, 240, 250, 260

GRAPHIC LOG

MINERALIZATION

[illegible] ≤ 0.5% cpy ≥ py [illegible] dissem. [illegible] conc, but rare; 2-5% [illegible] as octahedral magnetite
cpy : py ~ 5:1

226.8 irregular cpy vnlt 0.0-0.1" wide

228.6 1/8" wide Qtz-feld vein @ 20°

233.6 1/8" wide QV; minor FeOx; some slk-sides

239-242 [illegible] zone; abundant ser:chl; [illegible] brkn core.

249.5-251.5 intensely [illegible] zone w̄ abundant ser:chl, qtz + calc; very bkn core

RECOVERY

Run	Run length	Core	%
	10.3	10.3	100
196.7			
	10.1	10.1	100
206.8			
	10.2	10.2	100
217.0			
	6.1	6.1	100
223.1			
	10.2	10.2	100
233.3			
	10.2	10.2	100
243.5			
	10.0	10.0	100
253.5			
	9.7	9.7	100

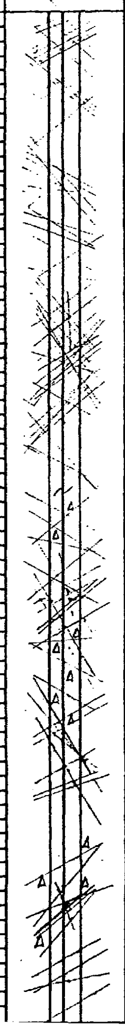
ANALYTICAL

Sample	Interval	Au	Cu
NS	196.7		
	(5.0)	34	91
531842	201.7		
NS	222.0		
531967	226.0		
	(4.0)	40	1966
531813	230.0		
531968	233.0		
531969	235.5		
	(3.5)	390	16
531814	239.0		
	(3.0)	2	3
531815	242.0		
	(4.0)	7	23
531816	246.0		
	(3.5)	1	9
531817	249.5		
	(2.0)	1	7
531818	251.5		
	(3.5)	2	1
531819	255.0		
	(5.0)	5	4
531820	260.0		

GMC Data Report No. 256

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION
260 - 269.2 - Major alteration zone, similar to above w abundant qtz veining and minor calcite in the lower 4 ft of the zone		260 - 269.2 ser-chl-arg zn w < 0.5% cpy/py (5:1) also some c.g. Qtz + calc
269.2 - 289.3 Generally dk gry-blk f.g. mafic Rx (~70%) which is bxd + has been infilled w a coarse grained dk gry-blk hbl-rich Rx containing 60% hbl; 30% plag ~ 0.5% c.g. cpy; 5-10% qtz; mafic partly alt → chl contacts are sharp but irregular boundaries	270	269.2 - 299.2 ~ 0.5% c.g. cpy - spotty occur along bx zones.
	280	
		288.1 0.1" QV @ 40°
289.3 - 299.2 Med gry - buff partly argillized zone of fine-med grained diorite sec Qtz introduced as veins + open space fill, mafics alt → chl. Some dk gry f.g. frags present possibly some movement or faulting.	290	292 - 293.5 V. Brkn + argz core
299.2 - 330.0 Lt-med gry, fine-med grained diorite/Qtz diorite bx; 20-40% mafics partly alt → chl; 40-60% plag; partly alt → ser + clay; 20-35% Qtz, primarily as veins + fx fill; 3-7% magnetite; 1-2% calc, mostly assoc w Qtz fill, + < 0.5% cpy + py ~5:1	300	299.2 - 330 < 0.5% cpy + py (5:1) f.g. dissem. Locally more abundant along some vns.
		307.4 - 308.9 Abundant Qtz + calcite veining v. brkn core
	310	
	320	
	330	

GRAPHIC LOG



RECOVERY

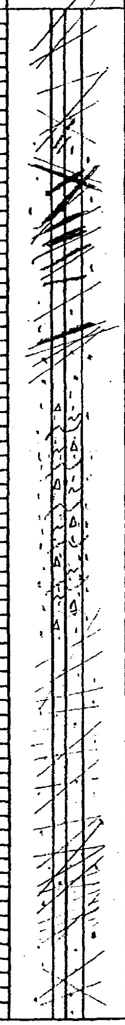
Run	Run length	Core	%
263.2	9.7	9.7	100
273.3	10.1	10.1	100
283.5	10.2	10.2	100
292.9	9.4	9.4	100
301.2	8.3	8.3	100
307.4	6.2	6.2	100
317.6	10.2	10.2	100
327.5	9.9	9.9	100

ANALYTICAL

Sample	Interval	Au	Cu			
531821	(5.0) 265.0	2	4			
531822	(4.2) 269.2	1	8			
531823	(5.0) 274.2	14	165			
NS	289.3					
531824	(4.9) 294.2	2	3			
531825	(5.0) 299.2	1	7			
531826	(4.8) 304.0	7	8			
531827	(5.0) 309.0	13	21			
531828	(5.0) 314.0	4	16			
531829	(5.0) 319.0	4	24			
531830	(5.0) 324.0	5	12			
531831	(5.0) 329.0	4	20			

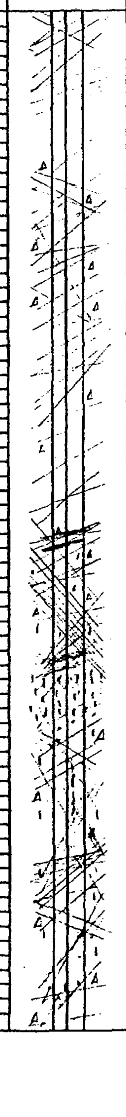
LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION
330.0 - 357.0 Lt - med gry, fine - med grained dio / Qtz diorite bx similar to previous dio bx, becoming more pyritic in the lower 15'.		330-357 Abundant QVs w increasing py (1-5%) 338-357 locally py x/s 0.5-1.0 cm
	340	338-357 1-5% c.g. py generally assoc w QVs
	350	
357.0-373.0 Intensely argillized white - lt grn bx zone w/ sub rnd clasts 0.1-1.0 cm in a clay rich matrix, abundant ser chl w 1-2% euhedral py xls. V brkn core w low recovery 357.8 - 366.7, also 1-2% magnetite.	360	357-373 white - lt grn intensely argillized shear zone w numerous sub-rnd bx clasts, ser-chl-clay alt w 1-2% euhedral py xls 1-3 mm in size, 1-2% magnt
	370	
373.0 - 382.8 Lt gry-grn intensely argillized zone, abundant ser-chl + clay. Minor [illegible] vng. Rx appears to be f.g. [illegible] 1-2% py, 1-2% magt. Small area of c.g. / Qtz dio @ 379.7, but does not [illegible] core.		373-400 - mod argillized zone, locally intense, little to no bxn, abundant ser-chl + clay; 1-2% dissem py, 1-2% magnt.
	380	
382.8 - 394.8 Grade to med gry - dk grn fine grained gabbroic Rx, less alt, but w some ser-chl + clay. Texture is similar to above zone, but w much less [illegible]; v. brkn + somewhat more argil'z core 390.5 - 394.8		
395.2 - 397.3 Intensely argillized zone white - lt grn; v. brkn core	390	
397.3 - 400 - mod argillized zone similar to 382.5 - 394.8, w slightly coarser grained Rx; possibly more felsic than the above gabbro.	400	

GRAPHIC LOG



RECOVERY			
Run	Run length	Core	%
337.8	10.3	10.3	100
347.9	10.1	10.1	100
357.8	9.9	9.9	100
364.2	6.4	4.2	66
366.7	2.5	2.1	84
372.4	5.7	5.7	100
377.3	4.9	4.9	100
386.1	8.8	8.8	100
395.2	9.1	9.1	100
397.3	2.1	1.6	76

ANALYTICAL			
Sample	Interval	Au	Cu
531832	(5.0) 334.0	6	19
531833	(5.0) 339.0	7	8
531834	(5.0) 344.0	2	20
531835	(5.0) 349.0	42	192
531836	(4.0) 353.0	3	25
531837	(4.8) 357.8	5	21
531838	(6.4) 364.2	8	223
531839	(2.5) 366.7	4	308
531840	(5.0) 371.7	19	288
531841	(5.0) 376.7	5	124
531842	(5.0) 381.7	2	50
531843	(5.0) 386.7	1	80
531844	(4.5) 391.2	3	2
531845	(4.0) 395.2	2	1
531846	(2.1) 397.3	1	4
	(3.7)	2	1

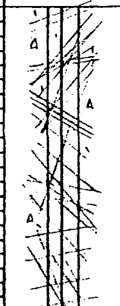
LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
400-405 - mod argilz zone similar to above zone. f-m grained intmed. Rx w minor c.g. Qtz dio frags. Abundant ser chl + clay 1-2% py + 1-2% magnt.			400-405 : 1-2% py dissem in f-m grained dio? no visible cpy. 1-2% magnt.
405-422.5 - Grades to a dio/Qtz dio intrus bx w f-m grained dk gry gabbroic Rx as clast in a med grained /felsic Rx. 20-30% mafic partly alt → chl 40-60% plag, partly alt to ser + clay; 10-15% Qtz mostly as vns + frac fill. 3-5% magnt mostly as vnlts, and clots. <0.5% py + cpy.	410		405-422.5 - Mod argilz zone w increasing qtz vns @ depth. <0.5% py + cpy 3-5% magnt.
	420		
422.5-424.6 - med-dk gry f-m grained qtz dio dike - slightly coarser grained [illegible] margins, sharp contacts. 424.6 - 432.1 - lt-med gry f-m grained dio/qtz dio bx, slightly less bxd than above zone. lt gry-white felsic zone 426.3-427.7			422.5-446.0 Generally low in sulfides <0.5% py + cpy; 3-5% magnt. Minor QVs
	430		
432.1-435.1 - med-dk gry qtz dio dike similar to 422.5-424.6. minor sulfides			436.0-436.2 - FeOx zone; blchd w Qtz + clay 436.9 Irregular c.g. py vnlt w py xls 0.1-0.6cm
435.1-446.0 lt gry-green partly argilz zone w minor bxn. Abundant ser-chl + clay some minor Qtz vns, but Rx is generally low in Qtz (dio?).	440		
446.0-448.7 med-dk gry f-med grained dio. 35-40% mafics slightly alt → chl; 40-50% plag slightly alt → ser ; 10-20% Qtz mostly as vns & fx-fill. ~2% dissem cpy 2-3% magnt			446.0-448.7 dio w ~2% dissem cp; Qtz mostly as vnlts + frac-fill; slight alt → chl + ser.
448.7-454.4 - mod argilz zone similar to 435.1-446.0, but w more qtz-flooding minor bxn	450		
454.4-470.0 Med gry Qtz dio bx. f.g border zone 454.4-458, grading to very c.g. Qtz dio. 460-470. 30-40% mafic (l. hbl needles) partly alt → chl; 40-50% plag; 20-25% Qtz both as prim. + sec vnlts + fx fill. 3-7% magnt, some lg xls assoc. w QVs; ~0.5% cpy. as mod. grains thrucut.	460		
	470		

RECOVERY

Run	Run length	Core	%
407.5	10.2	10.2	100
417.3	9.8	9.8	100
427.2	9.9	9.9	100
437.7	10.5	10.5	100
448.0	10.3	10.3	100
454.4	6.4	6.4	100
464.6	10.2	10.2	100
	10.2		

ANALYTICAL

Sample	Interval	Au	Cu
	401.0		
531847	(4.0)	1	3
531848	405.0		
	(5.0)	3	1
531849	410.0		
	(5.0)	2	5
531850	415.0		
	(5.0)	1	1
531851	420.0		
	(2.5)	2	1
531852	422.5		
	(2.1)	1	16
531853	424.6		
	(3.4)	1	1
531854	428.0		
	(4.1)	1	4
531855	432.1		
	(3.0)	4	31
531856	435.1		
	(5.9)	10	1056
531857	441.0		
	(5.0)	8	646
531858	446.0		
	(2.7)	59	4715
531859	448.7		
	(5.2)	6	53
531860	453.9		
	(5.1)	18	297
531861	459.0		
	(6.0)	120	479
531862	465.0		
	(5.0)	660	657
531863	470.0		

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au	Cu
470.0 - 490.9 - Generally med-dk gry f.g mafic Rx 30-40% mafics only slightly alt -> chl 30-40% plag, 20-25% Qtz mostly as vnlts + fx-fill; ≤0.5% py + cpy; 1-2% magnt.			270 - 290.9 Occas cpy (≤0.5%) v. slight alt (mafics -> chl) abundant QVs + fx-fill.		10.2	10.2	100		(5.0)	23	176
				474.8				531864	475.0		
2 - lt gry m.g. dio zones @ 478.7-480.9, and 488.8-490.9. These zones contain ~20% mafics slightly alt -> chl; 50-60% plag; 20-25% Qtz and tr sulfide									(5.0)	14	55
	480				10.1	10.1	100	531865	480.0		
									(5.0)	40	131
				484.9				531866	485.0		
					5.6	5.6	100		(5.9)	71	152
	490			490.5							
		Foot of Hole 490.9		490.9				531867	490.9		

DIAMOND DRILL HOLE LOG

Company [illegible]

LEGEND

Sulfide Veins	▨	Fault or Shear	▨
Dissem. Sulfides	⁘	FeOx	▨
Qtz Veins	☐	Fractures	▨
	☐	Brecciation	▨

SURVEY

Footage	Bearing	Inclination

Property	Kamishak	Hole No.	83529
Location	Alaska	Bearing at Collar	150°
		Inclination at Collar	-45
Coord. - Collar N	200394.6		
E	99752.8	Length	400.1
Elev. - Collar	1459.9	Core Size	BW44
Date started	9-15-91		
Completed		Logged by	DFA

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
0.0 Overburden								
	10							
	20							
	30		33.9					
				3.5	3.5	100		
35.9 - 50.0 Lt - med gry, m.g. diorite. 60-65% plag 15-25% mafics (partly alt -> chl) ~10% Qtz 1-2% dissem py + cpy 3:1 ~1% magnt		35.9 - 50.0 - Minor py + cpy both dissem + along Fx (.1 - 2%) 3:1	37.4					
	40			5.2	5.2	100	NS	39.9
			42.6					(4.3)
		44.5 - 46.0 FeOx zone					532041	44.2
							532042	45.9
				10.3	10.3	100		
	50							

GRAPHIC LOG

BC

1

17

2

23

3

29

4

37

4

LITHOLOGY, ALTERATION, MISC.

50.0 - 91.7 Generally lt-med gry, m.g. diorite, similar to above, ~60% plag, 20-25% mafic, partially alt -> chl, ~10% Qtz, 1-2% dissem py + cpy ~2:1, +1% magnt. occas clasts of f.g. mafic rx ... Grades to a f.g. gabbro @ 91-92'

91.7 - 100.0 Generally dk gry, f-m.g. gabbro (at least more mafic than dio)
~50% plag
~40% mafics ... alt -> chl
~10% Qtz as vns + fr fill.
1-2% magnt.
<0.5% sulfides

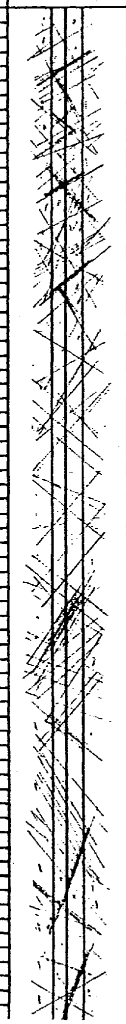
100.0 - 110.0 med-dk gry, m.g. dio. w occas f.g. mafic clasts. Diorite contains
50-60% plag
25-35% mafics wkly alt -> chl.
5% Qtz
1-2% magnt.
<0.5% sulfides

110.0 - 120.0 Grades to lt gry, m.g. dio. 60-65% plag
10-20% mafics mostly alt -> chl
10% Qtz
1-2% magnt.
1-2% dissem sulfides
Rx appears slightly blchd + wkly seritz.

FT.

60, 70, 80, 90, 100, 110, 120

GRAPHIC LOG



MINERALIZATION

50.0 - 91.7 0.5 - 1.0% dissem py + cpy ~2:1, w occas py vnlts. Slightly higher py 56-71 together w FeOx along fx.

76.9 1/4" QV, @ 30° w minor sulfides + argil alt 76.9 - 77.0.

91.7 - 110.0 <0.5% sulfides

92.6 - 92.9 FeOx zone @ 35°

110.0 - 120.0 1-2% dissem py + cpy (2:1) w some py vnlts.

RECOVERY

Run	Run length	Core	%
	10.3	10.3	100
52.9			
	8.3	8.2	100
61.2			
	6.7	6.7	100
67.9			
	3.3	3.3	100
71.2			
	7.8	7.8	100
79.0			
	9.0	9.0	100
88.0			
	10.3	10.3	100
98.3			
	5.5	5.5	100
103.8			
	10.0	10.0	100
113.8			
	4.7	4.7	100
118.5			

ANALYTICAL

Sample	Interval
NS	56.2
532043	61.2
532044	66.2
532045	71.2
NS	110.0
532046	115.0
532047	120.0

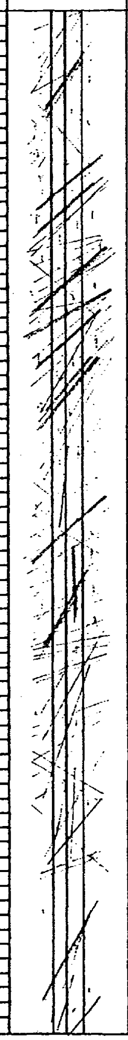
LITHOLOGY, ALTERATION, MISC.

120.0 - 164.5 Lt gRy, m.g. [illegible] oltd w/ minor argillic + [illegible]
50-60% plag
30-40% mafics partly alt → chl
~[illegible] Qtz mostly as vnlts + fx fill
2-3% py + cpy (2:1) dissem + vnlts
1-2% magnt

164.5 - 190.0 Dominantly med-dk gRy, f.g. gabbRo 40-50% plag; 40-45% mafics, slightly alt → chl; 10-15% Qtz as vnlts + fx fill. Some minor m.g. sections of gabbRo @: 166-175 + 181.5-182.6

FT. / GRAPHIC LOG

130, 140, 150, 160, 170, 180, 190



MINERALIZATION

120.0 - 164.5 2-3% dissem py + cpy (2:1) w/ some py vnlts + fx fill. Minor oxidz of py along some fx.

164.5 - 190.0 <0.5% dissem sulfides; 2-5% magnt; Numerous Qtz vnlts, but Little to No mineralization or Alteration

184.8 - 185.3 Small FeOx zn w/ some QVs, magnt + minor sulfides.

RECOVERY

Run	Run length	Core	%
[illegible]	2.5	2.5	100
125.7	4.7	4.7	100
127.9	2.2	2.2	100
133.7	5.8	5.8	100
142.8	9.1	9.1	100
152.3	9.5	9.5	100
158.0	5.7	5.7	100
160.1	2.1	2.0	95
164.0	3.9	3.9	100
164.7	0.7	0.7	100
174.8	10.1	10.1	100
183.8	9.0	9.0	100
	8.7	8.7	100

ANALYTICAL

Sample	Interval					
532048	125.0					
532049	130.0					
532050	135.0					
532051	140.0					
532052	145.0					
532053	150.0					
532054	155.0					
532055	160.0					
532056	164.5					
NS	183.4					
532057	186.8					

DH 83529

LITHOLOGY, ALTERATION, MISC.

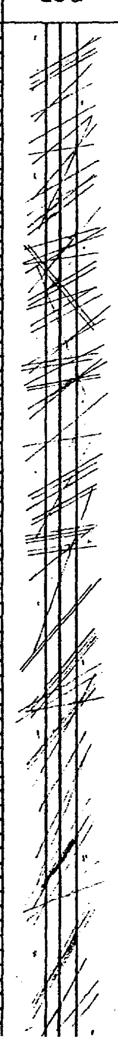
190.0 – 260 Generally dk gry, fine-medium grained gabbro
45-50% plag
40-50% mafics wkly alt → chl
3-5% mgnt as vnlts + dissem
≤0.5% cpy + tr py
The gabbro is cut by numerous qtz-rich felsic vnlts (qtz dikite). These vnlts are 0.1-1.5 cm wide + x-cut core @ 30-60°. They may contain 0.5-2.0% cpy but the vnlts comprise < 5% of core.
One bigger qtz dio dike x-cuts core 192.2-193.1. Very little mineralization in the dike. Overall, the gabbro shows little to no alt or mineralization.

248.0 Small argillic zone @ 30°

FT.

200, 210, 220, 230, 240, 250, 260

GRAPHIC LOG



MINERALIZATION

190.0 – 260.0 Minor sulfide assoc w/ felsic units + finely dissem cpy + tr py generally 0.5% or less combined

RECOVERY

Run	Run length	Core	%
192.5	8.7	8.7	100
	7.9	7.9	100
200.4			
	10.0	10.0	100
210.4			
	10.2	10.2	100
220.6			
	10.3	10.3	100
230.9			
	4.4	4.4	100
235.3			
	2.2	2.2	100
237.5			
	6.9	6.9	100
244.4			
	10.1	10.1	100
254.5			
	10.2	10.2	100

ANALYTICAL

Sample	Interval
NS	200.4
	(5.0)
532058	205.4
NS	223.0
	(5.0)
532057	228.0
NS	254.0
	(5.0)
532060	259.0

LITHOLOGY, ALTERATION, MISC.

260.0 - 319.4 DK Gry fine - medium grained gabbro
- 40 - 50 % Plag
- 40 - 50 % mafics partly alt → chl
- [illegible] magnt
- <0.5% dissem sulfides

[illegible] qtz-[illegible] vnlts x-cut core @ [illegible] [illegible]

271 - 271.4 Small Argilz zone mostly clay [illegible] FeOx

273.9 - 276.0 Slightly coarser grained zone w 5-10% more plag than most of the gabbro, and moderate chl alt.

287.3 - 287.8 Med - [illegible] c.g. hbl diorite [illegible] 50% plag 30-35% [illegible]; [illegible] qtz [illegible] magnt, [illegible] cpy + py 2:1

29[illegible] - [illegible] c.g. hbl dio similar to above.

298.3 - 298.9 [illegible] hbl dio.

300.1 - 300.6 c.g. hbl dio.

309.9 - 312.5 [illegible] hbl diorite, but w [illegible] cpy + py 2:1

312.[illegible] - [illegible] mostly c.g. hbl dio similar to above.

319.4 - 330.1 Lt - med gry, m.g. diorite; 60-65% plag
- 15 - 20% mafics (partly alt → chl)
- 5 - 7% qtz mostly as vnlts + fr fill
- 2 - 3% magnt.
- 1 - 2% sulfides py + cpy 3:1

324.9 - 328.2 Partly resorbed f.-m. g. gabbro. Some py/cpy vnlts (2:1)

FT.

270, 280, 290, 300, 310, 320, 330

GRAPHIC LOG

MINERALIZATION

260.0 - 277.7 <0.5% dissem py + cpy 1:2
2-3% magnt

277.7 - 283.8 1-2% py + cpy 5:1, both as vnlts + dissem. Vnlts are 20-60° + <0.1cm wide.
5-7% magnt in this zone

283.8 - 319.4 Overall <1% sulfides cpy + py ~2:1, except where noted. c.g. hbl dio is generally ~2% sulfides, [illegible] comprises ~15% of core. 3-5% magnt over[illegible]

309.9 - 312.8 hbl dio w 3-5% cpy + py 2:1 both dissem + vnlts.

319.4 - 330.0 1-2% py + cpy (3:1) both as vnlts + dissem.
Slightly enriched 1.5 feet either side of dio/gabbro contact.

RECOVERY

Run	Run length	Core	%
264.7	10.2	10.2	100
271.4	6.7	6.7	100
280.3	8.9	8.9	100
290.1	9.8	9.8	100
293.9	3.8	3.8	100
304.1	10.2	10.2	100
314.4	10.3	10.3	100
324.5	10.1	10.1	100
	5.6	5.6	100

ANALYTICAL

Sample	Interval
NS	277.5
	(3.5)
532061	281.0
	(3.5)
532062	284.5
NS	290.9
532063	292.1
NS	298.3
	([illegible])
532064	300.6
NS	309.8
	(3.0)
532065	312.8
	(2.4)
532066	315.2
	(2.7)
532067	317.9
	(3.0)
532068	320.9
	(4.0)
532069	324.9
	(3.3)
532070	328.2

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LITHOLOGY, ALTERATION, MISC.

330.0 - 369.7 Dominantly med. gRY m.g. diorite 55-60% plag; 20-25% mafics (wkly alt → chl); 3-5% qtz mostly as vnlts + fx fill; 1-3% magnt; 0.5-1.0% py + cpy 3:1 both dissem + vnlts. slightly porphyritic plag

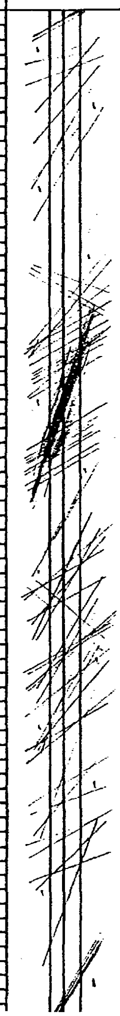
369.7 - 384.5 med gRY f.g. gabbRO? (possibly f.g. dio phase) gradational contacts; 50-60% plag, 20-30% mafics partly alt → chl, 3-5% qtz mostly as vnlts, 2-3% magnt. <1% sulfides py + cpy (2:1)

384.5 - 390.4 med gRY m.g. diorite similar to above, but more equigranular little to no mineralization or altn

390.4 - 392.8 Lt gRY mostly aphanitic ?dio? dike w 10-20% phenos of K-spar?; 5% "clots" of chl in a f.g. gRY groundmass, somewhat gradational contacts, but similar dike @ 384.2-384.6 shows contacts @ 60°, minor QVs + py.
392.8 - 400.1 med gRY, m.g. dio similar to above equigranular type.

FT.: 340, 350, 360, 370, 380, 390, 400

GRAPHIC LOG



MINERALIZATION

330.0 - 369.7 0.5 - 1.0% py + cpy (~3:1) both dissem + vnlts.

330.3 - calcite, qtz, epidote veinlet ~ 1.0" wide.

338.7 - 339.2 Lt gRY - buff aplitic stringers 0.2-1.0" wide.

357.0 - 358.0 small shear zone @ 20° minor etching; some chl + arg alt., m fek FeOx - <1% py + cpy (2:1)

369.9 1/4" wide Qtz - zeolite filled fx (1:1) @ 25°; tR. sulfides.

369.7 - 400.1 <0.5% py + cpy (2:1)

RECOVERY

Run	Run length	Core	%
330.1	10.2	10.2	100
340.3	10.3	10.3	100
350.6	10.1	10.1	100
360.7	10.2	10.2	100
370.9	10.1	10.1	100
381.0	10.1	10.1	100
391.1	9.0	9.0	100
400.1			

ANALYTICAL

Sample	Interval
NS	338.0
532071	341.3
NS	356.3
532072	359.7
NS	390.4
532073	392.9

DIAMOND DRILL HOLE LOG

Company: AMERICAN COPPER & NICKEL

Property: KAMISHAK	Hole No.: 83530
Location: ALASKA	Bearing at Collar: 150°
	Inclination at Collar: -45
Coord. - Collar N: 500234	
E: 749600	Length:
Elev. - Collar: 1403.0	Core Size: BDBGM
Date started: 6/13/91	
Completed:	Logged by: FGK, PT, DFA

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	PPB Au	PPM Cu
					17.2	23					
	10										
			NOTE: PROBABLE ERROR IN BLOCKS @ 17.2, 18.4 & 19.3: SHOULD BE 16.5, 17.6, & 19.6.								
16.5'											
WHITE/LT. GRAY MED. GR. HBL? DIORITE, ~25-30% CHLOR. ALTERED HBL? & BIO, ~5% FN. MAG, ~5-10% INTERST. QTZ, ~60% WHITE PLAG.			TR. V. FN. DISS. CPY, PY. (10:1). SPARSE CLOTS (≤1/2") OF CHLOR, MAG, PY. PY ALSO ASSOC W/ CHLORITE SELVAGES & FR QTZ VLTS. TS ≤ 1/2% PY OXIDIZES RED/BROWN	17.2							
				18.4	1.2	1.2					
	20			19.3	0.9	2.0					
CHLORITE ± PY/CPY SELVAGES ON SOME FCTS. CLAY ALTERATION CONFINED TO WITHIN 2" OF MINOR SHEARS.								NS	22.5		
					8.2	7.9					
24.0-25.5: FINER GRAINED			27.2: PY ON CHLOR SEL. @ 40°	27.5				531868	27.5		
29.1': STRONG CLAY ALT ASSOC W/ 40° SHR.			28.5: 1/2" MAG, QTZ, TR. PY @ 70°								
	30			30.5	3.0	3.0					
			35.5: DISCONT. PY, MAG, CHLOR UP TO 1/4" @ 40°		8.6	8.6		NS	35.0		
								531869	36.0		
				39.1							
	40										
					10.2	10.2		NS	44.3		
@47.0: IRR. 1 1/2" x 1" QTZ.											
CHLOR. SELVAGE (1/2") ON 55° FCT											
				49.3				531870	49.3		
	50										

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LITHOLOGY, ALTERATION, MISC.

DIORITE, AS @ 16.5-50.0

54.5 — SHP. 50° CNT

DARK GRAY, GEN FN. GR HBL?, GABBRO; ~60-70% DARK PLAG, ~20% BLACK HBL; → CHLOR, ~10% FN. BIOTITE, 5-10% DISS FN. MAG. LAYERED APPEARANCE @ 40° DUE TO 1-10MM. SEGREGATIONS OF WHITE PLAG, ± QTZ, ± BIO ± HBL
@ 62.0', 2" STRONG CLAY ALT/GOUGE 55°
62.0-65.5: LT. BRN. FN. BIO/SERI ON FCTS.
@ 63.7: STRONG RED FEOX ON 30° FCT.
66.7: 2" FEOX STN GOUGE ± PY. @ 50°-60°

68.4 — INDISTINCT CNT, ~50°
CONTACT ZONE; IRREGULAR SEGREGATIONS OF WHITE PLAG ± QTZ ± CHLORITE ALT. MAFICS.
70.6 — GRAD. CNT

GRAY → LT. GREY, MED GR. PORPHYRITIC GABBRO, ~15% WK-MOD. ARGILLIC ALT WHITE PLAG PHENOS (5-10mm) IN MED GR. DARKER PLAG, CHLOR-ALT. HBL MATRIX ~5% FN DISS. MAG. INTERST. LT. PINK CLAY ALT.
77.0 COMMON, CNT @ 65°?

DARK GRAY, GEN V. FN. GR. GABBRO SIMILAR TO 54.5-68.4', MOD-STRONG CHLOR ALT. OF MAFICS
ARG. ALT. CONFINED ADJACENT TO FCTS. LOCALLY GRADES TO FN GR. LESS CHLOR. ALT. GABBRO
BROWNISH MICAS ON FCTS, ESP. ASSOC. W/ SHEARS.
84.4-86.3: PINK INTERST. ARG. ALT.
@ 86.3-89.8: RX STRONGLY FLT/SHEARED W/ INCREASED ARGILLIC ALT.
LOCAL ZONES (<1") OF COARSER, MORE CHLOR. ALT. RX AFTER 91.0'
@ 92.0-96.2: STRONG CHLOR. ALT OF MAFICS, WK-MOD ARG. ALT. OF PLAG. W/ IRR. ZONES OF CS (<2mm) MAG. SULFIDES, ± BIOTITE, PROB. ASSOC W/ magmatic BX @ 99.8

99.8 — MOD. FEOX, CLAY @ CNT SHP. 35° SHR. CNT

DARK GREEN/GRAY MAGMATIC BRECCIA. GENERALLY FINE GRAINED, W/ OCC. MED GR., GABBRO CLASTS IN COARSE BIO, MAG, CHLORITE, PLAG ± SULFIDE MATRIX.

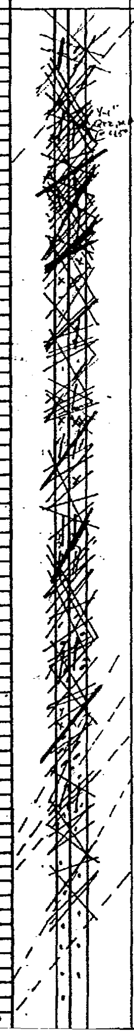
CLASTS ARE GENERALLY ANGULAR & OFTEN EXHIBIT A PREFERENTIAL ORIENTATION OF 30°-50°. CLAST/MATRIX CONTACTS MAY BE SHARP OR INDISTINCT & GRADATIONAL.

GABBRO CLASTS ACCOUNT FOR ~30-40% OF RX. & GENERALLY EXHIBIT LESS CHLOR. ALT THAN MATRIX.

FT.

60 — 70 — 80 — 90 — 100 — 110 — 120

GRAPHIC LOG



MINERALIZATION

52.1-54.5: INCREASED PY/FEOX ON FCTS APPROACHING CNT @ 54.5 <1/2% T.S.

55.4-68.4: TR. V. FN. DISS. CPY, PY (10:1) Rarely PY ASSOC. W/ FN. FELSIC SEGREGATIONS

68.4-70.6: SM IRR BLEBS (<2mm) CPY ± PY (3:1) ASSOC. W/ CHLOR. ALT. MAFICS ~1/2% T.S.

70.6-77.0: GEN ~1/2% CPY ± PY (3:1) AS FN DISS & SM. IRR. CLOTS. LOCAL (<1') INCREASES TO ~1% T.S. PY ± CPY FEOX ON SOME FCTS @ 73.0', 2 mm PY, FEOX ON 45° FLT.

77.0-80.4: 1-2% CPY ± PY (2:1) AS IRR. INTERST. CLOTS, ~2-5mm AND AS FN. DISS. MOD-STRONG FEOX ASSOC. W/ SHR.

80.4-85.3: VAR. TR-1/2% FN DISS CPY, PY (5:1)

85.3-86.3: IRR. CS CLOTS CPY ± PY (1:1) W/ SPOTTY INTERST. MALACHITE STN ~2% T.S.

86.3-92.0: VAR TR-1/2% DISS CPY, PY (10:1) & RARE SM CPY BLEBS

92.0-96.2: 5-7% CPY ± PY (1:1) AS CS. (UP TO 10mm) INTERST. BLEBS & FN DISS.

96.2-99.8: TR. FN DISS CPY ± PY.

99.8-105.9: CS. CPY ± PY (1:2) CLOTS IN BX MATRIX TR. CPY ± PY DISS IN CLASTS. ~5%? T.S.

105.9-108.8: RARE CS CLOTS CPY ± PY IN BX MATRIX, TR. FN DISS. CPY ± PY IN CLASTS 1/2-1% T.S.

108.8-117.7: CS. CLOTS CPY ± PY IN BX MATRIX TR. FN DISS. IN CLASTS ~2-3%? T.S.
SULFIDE ESTIMATES DIFFICULT DUE TO CLOTTY NATURE.

RECOVERY

Run	Run length	Core	%
	8.5	8.5	
57.8			
	5.7	5.7	
63.5			
65.4	1.9	1.9	
70.8	5.4	5.4	
75.3	4.3	4.3	
80.2	4.9	4.9	
83.0	2.8	2.8	
87.2	4.2	4.2	
88.4	1.2	1.1	
98.4	10.0	10.0	
108.3	9.9	9.9	
118.4	10.1	10.1	

ANALYTICAL

Sample	Interval						
531871	52.1						
872	54.5						
873	58.0						
874	62.0						
531875	66.4						
876	68.4						
877	70.6						
878	73.9	1300					
879	77.0						
531880	80.4						
881	85.3						
882	86.3						
883	89.8						
884	92.0						
531885	96.2						
886	99.8						
887	103.0	2210					
888	105.9	2580					
889	108.7	2520					
531890	113.2	1040					
891	117.7						

Additional Notes on reverse side:

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LITHOLOGY, ALTERATION, MISC.

Continued from Page 2:
Breccia zone: clasts of fine-med gr. gabbro 1-2 cm thick, angular, 35°-50° ∡ to core axis, coarse xtalline matrix [illegible] + bio, interstitial plag + sulfide. Weak to moderately magnetic. + chl

125-127 - larger bxx. clasts, up to 25 cm clasts of coarse gr. gabbro.

Note: basal contact of bxx zone is very gradational and indistinct, the coarse clots (matrix) of bio + chl + sulf persist to 180+ feet but obvious bxxn only goes to about 135 feet.
140.0 - Brecciation less distinct but coarse clots/matrix material continues.

140.2 - small shear filled w/qtz

140.2 - 143.5 - coarse grained gabbro, weakly brecciated. v.c. clots of bio + chl in matrix. tr-1% sulf in matrix material

147.6 - coarse xtalline calcite on fxt.

149.9 - qtz [illegible] - 2.2 cm wide

150.0 - Finer grained gabbro, less obvious bxxn, cold clots of py + cpy w/ coarse bio + chl. clots at 40° ∡ to C.A.

161.1 - Noticeable increase in chlorite. Coarse grained gabbro, large 2 cm [illegible] clots, continued coarse xtalline clots of bio + sulf but less abundant [illegible] above.

165.2 - Less chlorite, more large 1-3.0 cm clots of biot plag + sulf. Some quartz.

167.0-169.0 - strongly magnetic gabbro med gr., chloritic

171.3 - fine gr. gabbro less chl. occasional clots of cpy.

173.5 - 2.0 cm shear w/qtz, FeOx, dism py.

181.0 - yellow [illegible] 40° ∡ to C.A. bio + chl + cpy + py, similar to 135.3 ft.

182.9 - fine gr. porphyry, plag. phenos, dike?, dk. grey matrix, tr dism py.

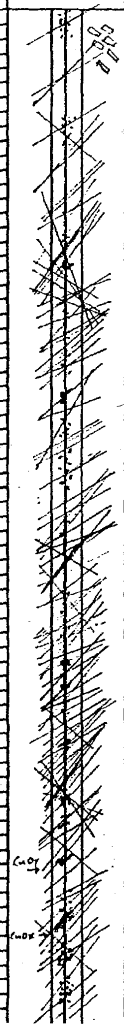
183.6 - med-fine gr. gabbro,

190.0 - continued fine gr. gabbro [illegible] chl.

FT.

130, 140, 150, 160, 170, 180, 190

GRAPHIC LOG



MINERALIZATION

120.0 - 121.8 tr-1% py + cpy in clots within bxx matrix cpy:py = 2:1

120.3 - 5.0 cm thick altd. gabbro w/ 2% cpy + py. plag → clay mafics → chlorite

128.5 - interstitial blebs of cpy up to 5.0 mm long in coarse biotite + chlorite bxx matrix

130.0 - fine dism cpy in gabbro clast in bxx. <1% sulf

134.7 - v. coarse bio + sulf in bxx matrix
135.3 - 2.0 cm wide coarse biotite matrix w/ 1.0 cm interstitial blebs of cpy + py. photo

140.2 - 143.5 - tr - 1% py + cpy in matrix only

147.3 - 1.0 cm py - interstitial clots in matrix material, minor cpy.

149.0 - 0.5 cm clots of py w/ minor cpy, coarse biotite.

150.0 - 154.0 - irregular dist. clots of cpy + py up to 1.0 cm
154.0 - 1.0 cm clots of cpy. in coarse bio, matrix material

158.4 - 1.5 cm mag. vein at 40° to core axis
161.4 - 2.0 cm [illegible] + cpy veinlet at 40° ∡ to CA.

165.4 - v. coarse clots of cpy, ~1.5 cm, in vc bio + plag
166.5 - 8-9 mm clots of cpy + minor dism. cpy.

169.0 - Sharp 60° [illegible] - chl. [illegible]

171.1 - 1.0 cm euhedral pyrite cube w/ blebs of cpy adjacent, clots of bio + cpy.
174.7 - coarse [illegible] of bio + chl + cpy + py - 3.0 cm x 0.75 cm.

179.0 - massive cpy clot 2x2 cm, 40° ∡ to CA, 1% CuOx in cpy
180.4 - 1.5 x 2.0 mm py + cpy clot, large bio xtals
183.0 - CuOx + cpy 1.0 cm thick [illegible]
184.0 - 1.8 x 1.1 cm euhedral py cube, 1.5 x 1.5 cm void around xtal.
184.6 - 185.6 - 1-3% cpy in clots and irregular masses, tr - 1% py.

RECOVERY

Run	Run length	Core	%
128.6	10.2	10.2	100
138.8	10.2	10.2	100
149.1	10.3	10.3	100
159.2	10.1	10.1	100
169.2	10.0	10.0	100
179.4	10.2	10.2	100
189.5	10.1	10.1	100

ANALYTICAL

Sample	Interval
531892	121.3
893	124.1
894	126.8
531895	128.6
896	131.0
897	134.0
898	136.0
899	139.2
531900	143.8
901	147.4
902	151.0
903	155.7
904	159.4
531905	161.1
906	165.2
907	169.0
908	173.4
909	178.1
531910	179.4
911	181.3
912	182.6
913	184.1
531914	189.0

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION	RECOVERY: Run	Run length	Core	%	ANALYTICAL: Sample	Interval
190.0 - 197.4 Generally dk gry f.g. gabbro, occas. coarser zones w assoc cpy in med-cr grained clots. 1-2% cpy/py, 2-3% magnt. mafics partly alt → chl; minor ser.		190 - 197.4 1-2% med-coarse grained cpy/py (2:1) 2-3% magnt.						(4.0)
							531915	193.0
				10.1	10.1	100		(4.4)
							531916	197.4
197.4 - 204.1 Generally med-dk. gry. f-med grained gabbro; some bxn + Qtz fill. Increased magnt, esp 200.3-201.2 (5-10% magnt) w greater amount of Qtz in the same zone. F.g. gabbro clast 201.1-202.0. Increased py + cpy (2:1) 202.5 - 203.6 (5-7% combined)	200	197.4 - 202.6 1-2% cpy/py (~1:1) occurr as clots. 2-3% magnt, exp 200.3-201.2 (5-10%) magnt.	199.6					(5.1)
		202.6 - 203.8 5-7% cpy/py (~1:2); coarser grained					531917	202.5
							531918	204.2
204.1 - 206.5 dk gry f.g. gabbro porphyry w 10-15% plag phenos 0.1-0.4 cm. depleted in sulfides < 0.5% w 0.5-1.0% magnt.		204.1 - 206.5 < 0.5% sulfides		9.3	9.3	100		(2.3)
							531919	206.5
206.5 - 250.5 dk gry-grn, f-m grained moderately altered gabbro. mafic mostly alt → chl, plag partly alt → ser + clay. clots of sulfides assoc w coarse grained bio, hbl + plag. 40-50% mafics (partly alt → chl) 50-40% plag (partly alt → ser + clay) 5-10% Qtz (mostly as veins + fx-fill) 3-5% magnt 2-3% cpy + py ~ 1:1 (grading ~2:1 @ depth) Some bxn + qtz filling	210	206.5 - 250.5 med-coarse grained clots of cpy + py assoc w c.g. bio + hbl. Generally 2-3% combined ~1:1 grading ~2:1 @ depth.	208.9					(2.7)
							531920	209.2
								(4.8)
				10.1	10.1	100	531921	214.0
								(5.0)
	220		219.0				531922	219.0
								(4.8)
		224 - 225 : FeOx zone most along fx					531923	223.8
				10.2	10.2	100	531924	225.4
								(5.0)
	230	229 - FeOx zone along fxs	229.2				531925	230.4
231.8 - 232.1 f.g. gabbro fairly unaltered, sharp contacts @ 70° + 50°. Only minor sulfides.		233.4 FeOx zone along fxs 235.4 - fine sulfides assoc w cpy < 1% 235.5 - 237.5 FeOx zone bxn core						(5.0)
237.5 ½" Qtz-feld vn @ 30°		238.4 - 238.8 FeOx zone along fxs		10.1	10.1	100	531926	235.4
237.5 - 246.2 - somewhat lighter + slightly more argilz gabbro than above.	240		239.3					(3.6)
							531927	239.0
								(5.0)
							531928	244.0
246.0 ½" Qtz-feld vn @ 30°				10.1	10.1	100		(3.5)
							531929	247.5
	250		249.4					(3.0)
250.5 - 255.5 - Generally f.g. mafic rx w minor dio.; fairly bkn core; abundant FeOx; some vuggy zones; < 1% sulfides, 3-5% magnt.		250.5 - 255.5 Lower sulfide content (< 1%) abundant FeOx					531930	250.5
				8.3	8.3	100		(5.0)
255.5 - 260.0 dk gry-grn dio, similar to above; mod argilz, mafic mostly alt → chl.		255.5 - 260.0 2-3% cpy/py 5:1					531931	255.5
			257.7					
	260						531932	260.0

LITHOLOGY, ALTERATION, MISC.

260.0 - [illegible] DK GRY : GRN m.g. dio. similar to above [illegible].

264.4 - 296.3 - Grades to a dk gry-grn f.g. gabbro; somewhat bxd w med-coarse grained dio fill. Diorite fill shows c.g. biotite, slightly alt → chl, and some ser.; locally weakly argillized w mod qtz fill. Generally ≈ equal mafics + plag (40-50%) and 10-15% qtz, mostly as fx fill + flooding. 1-3% cpy, minor py, 3-5% magnt. Generally more sulfide assoc w infill dio + contacts than w gabbro. Some white zeolite along fxs 290-296.

289.9 - white zeolite alng fxs

290.2 - 290.4 Zone of brkn core + white zeolite.

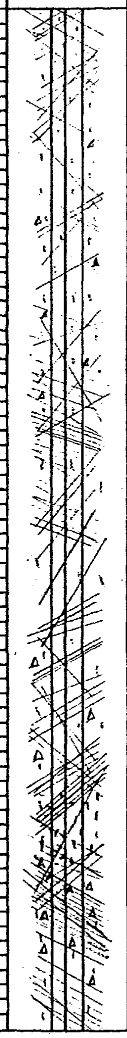
294.6 + 294.9 white zeolite alng fxs
295.7 - 296.0 " " " "

296.3 - 330.6 Dominantly med gry-grn m.g. diorite bx w sevel f.g. dk-gry gabbro clasts up to 2 ft long. Most intense bx zones are: 305-312; 318-326. F.G. gabbro clasts: 300.6-301.4; 312.1-314.4. Bx zones are partly argillized; mafic are partly alt → chl, + some ser. Some Qtz flooding + vng 315-320 w increased cpy + py (3-4%) in this zone. Overall, 1-2% cpy + py (5:1); 2-5% magnt.

FT.

270, 280, 290, 300, 310, 320, 330

GRAPHIC LOG



MINERALIZATION

260.0-264.4 2-3% cpy, minor py (≈5:1)

264.4-296.3 Generally 1-3% cpy; minor py ≈5:1. 3-5% magnt. Sulfides decreasing somewhat @ depth. Generally increased sulfides w med-coarse grained dio.

315.0-319.5 Dio bx w Qtz flooding + bx-fill; 3-4% cpy + py (5:1) 2-5% magnt

319.5-325.0 mod. argillic alt < 1% cpy + py; (8:1) w abundant magnt. (7-10%)

RECOVERY

Run	Run length	Core	%
264.6	6.9	6.9	100
274.2	9.6	9.6	100
284.0	9.8	9.8	100
293.9	9.9	9.9	100
304.0	10.1	10.1	100
314.1	10.1	10.1	100
324.2	10.1	10.1	100
	10.1	10.1	100

ANALYTICAL

Sample	Interval
	(4.4)
531933	264.4
	(3.9)
531934	268.3
	(4.7)
531935	273.0
	(5.0)
531936	278.0
	(5.0)
531937	283.0
	(5.0)
531938	288.0
	(4.0)
531939	292.0
	(4.1)
531940	296.1
	(4.5)
531941	300.6
	(4.0)
531942	304.6
	(4.5)
531943	309.1
	(3.0)
531944	312.1
	(2.3)
531945	314.4
	(3.1)
531946	317.5
	(2.0)
531947	319.5
	(2.5)
531948	322.0
	(4.0)
531949	326.0
	(4.6)

83530

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
330.6 - 343.1 med - dk gry f.g. porphyry w 30-35% plag phenos. (0.1-1.0cm) + 5-10% mafics (0.1-0.5cm) in a f.g. dk gry matrix. Mafics partly alt. → chl ; V. minor sulfides <0.5%	340		330.6 - 343.1 <0.5% py [illegible]
343.1 - 348.0 - med gry, m.g. [illegible] bx; 50-60% plag, 20-30% mafics (partly alt to chl), 5-15% Qtz mostly as vn + fx fill. Minor argilizn + sr. 0.5-1.0% cpy + py [illegible] 1-3% magnt			343.1 - 348.0 - 0.5-1.0% cpy + py [illegible]; 1-3% magnt some Qtz vng + flooding, minor [illegible]
348.0 - 356.6 Dominantly dk gry f.g. gabbro some fxs w QVs ([illegible]-349.2) and minor bxn + Qtz fill 350.7-351.[illegible] <0.5% sulfides thruout [illegible] in gabbro. [illegible] 354.1-354.8.	350		348.0 - 356.6 <0.5% sulfides minor QVs + bx fill.
356.6 - 369.1 Dominantly med gry - grn m.g. [illegible] bx [illegible] sCR + argilz 40-50% plag partly alt → scR. 30-40% mafics partly alt → chL [illegible] Qtz [illegible] vn + fx fill 1-2% magnt <0.5% cpy + py	360		356.6 - 388.4 <0.5% sulfides some QVs + [illegible] alt; 1-3% magnt
369.1 - 388.4 DK gry f.g. gabbro similar to [illegible] w little to no alt. some QVs + minor Qtz vnlts, but <0.5% sulfides [illegible] magnt.	370		
	380	388.4	
	390	Foot of Hole	
	400		

RECOVERY Run	Run length	Core	%
334.3	10.1	10.1	100
342.3	8.0	8.0	100
351.9	9.6	9.6	100
358.0	6.1	6.1	100
368.3	10.3	10.3	100
378.5	10.2	10.2	100
388.4	9.9	9.8	

ANALYTICAL Sample	Interval
531950	330.6
	(5.0)
531951	335.6
	(5.0)
531952	340.6
	(2.5)
531953	343.1
	(5.0)
531954	348.1
	(3.5)
531955	351.6
	(5.0)
531956	356.6
	(3.2)
531957	359.8
	(4.5)
531958	364.3
	(4.8)
531959	369.1
	(4.9)
531960	374.0

DIAMOND DRILL HOLE LOG

Company: ACNC

Property: Kamishak	Hole No.: 83531
Location: Alaska	Bearing at Collar: 150°
	Inclination at Collar: -45
Coord. - Collar N: 200482.0	
E: 99491.3	Length: 500.0
Elev. - Collar: 1383.4	Core Size: BDBGm
Date started: 6-21-91	
Completed: 6-27-91	Logged by: DFA + FGK

LEGEND

Sulfide Veins	☒	Fault or Shear	☒
Dissem. Sulfide	⁙	Brecciation	△
FeOx	☒	Fractures	☒
Qtz Veins	☐		☐

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

15.0 - 50.0 Lt gry, m.g. diorite;
60-65% plag
10-20% mafics partly alt → chl
<5% Qtz
1-2% magnt
0.5-2% cpy + py (?:1)

Brkn Core 25.2 - 26.4

FT.

10, 20, 30, 40, 50

GRAPHIC LOG

MINERALIZATION

15.0 - 50.0 0.5 - 2% cpy + py (?:1) (generally ≤1%), 1-2% magnt. Some minor QVs.

25.2 - 27.0 FeOx - magnt rich zn; 10-15% magnt somewhat banded, 0.2-1.0cm thick @30°

RECOVERY

Run	Run length	Core	%
	8.4	1.9	
8.4			
	5.8	5.4	
14.2			
15.0	0.8	0.8	100
	4.6	4.6	100
19.6			
22.1	2.5	2.5	100
24.1	2.0	2.0	100
26.6	2.5	2.5	100
29.1	2.5	2.5	100
	9.2	9.2	100
38.3			
	3.2	3.2	100
41.5			
	8.9	8.9	100
50.4			

ANALYTICAL

Sample	Interval
NS	25.1
	(1.9)
531961	27.0
	(5.0)
531962	32.0
531963	33.4

BO

1
15.5
2
24.1
3
33
4
43.
5

DH 83531

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY: Run	Run length	Core	%	ANALYTICAL: Sample	Interval
50-120 Lt. gray, m.g. diorite 40-65% plag 10-20% mafics partly alt → chl 5-10% Qtz 1-2% cpy + py 3:1 (dissem + vnlts) 1-2% magnt			50.0-120.0 1-2% cpy + py (~3:1), both as vnlts + finely dissem.	50.4 52.1	1.7	1.7	100	NS	52.0
			Smpls represent the more fxd + mineralized zns of core.		4.5	4.5	100		(4.6)
Brkn core 52.0-56.6				56.6				531964	56.6
	60				9.4	9.4	100		
				66.0					
	70				9.8	9.8	100		
				75.8					
	80				10.2	10.2	100		
								NS	85.7
			FeOx zn on numerous fxs 86-90.	86.0					(4.6)
	90				8.2	8.2	100	531965	90.3
				94.2					
	100				9.2	9.2	100		
				103.4					
	110				10.3	10.3	100		
			thin steeply dipping cpy + py vnlts 114-116.9	113.7				NS	114.0
									(2.9)
								531966	116.9
					7.7	7.7	100		
	120								

LITHOLOGY, ALTERATION, MISC.

WHITE - LT. GRAY, FN-MED. GR. DIORITE, w/ ~ 75% WHITE PLAG., & 15-20% HBL > CHLORITE, 5-10% FN. DISS. MAGNETITE, < 5% QTZ., SOME 2ND? BIOTITE. V. COMPETENT ROCK, CLAY ALT. GENERALLY RESTRICTED TO FCT. SURFACES.
IRR. INTERSTITIAL CLOTS OF DRK GREEN. CHLORITE ALTERED, MAGNETITE RICH MATERIAL ARE COMMON. OCCASIONAL LARGER (1/2-2") MASSES OF CHLOR. ALT., MAG. RICH MATERIAL. @ 120.9-121.0, INCREASED CLAY ALT. ASSOC. w/ SHR.
ROCK GRADES TO LOCAL ZONES OF FINER GRAINED, DARKER PHASES.

143.9-146.9: INCREASING IRREGULAR, ANGULAR MASSIVE CHLOR/MAG. RICH ROCK, BECOMING MORE CLAST-LIKE IN APPEARANCE.
144.5-145.1: CORE CLAY ALT. & BROKEN @ 0-10° DUE TO 45° SHR @ 144.5

148.9 ——— GRAD. CNT.

LT. GREY & GREEN, VARIABLY GRAINED, CHLORITE ALTERED DIORITE BRECCIA w/ LOCAL ZONES OF K-SPAR FLOODING/ ALTERATION. THIS BRECCIA IS DISTINCTLY LIGHTER COLORED THAN THAT ENCOUNTERED IN 83530 & 83527, AND CONSISTS OF ~~ANG~~ ~~TO~~ SUBANGULAR, PARTIALLY REABSORBED, 1/4-2" THICK CHLOR. ALT., MAG. & SULFIDE RICH CLASTS IN A LIGHT GRAY/WHITE MEDIUM GRAINED DIORITIC MATRIX. Some minor 2nd Qtz ~

184.8 ——— IRR. CNT, ~60°

187.0 ——— GRAD. CNT

Lower dio bx contact 191.0 (gradational)

FT.: 130, 140, 150, 160, 170, 180, 190

MINERALIZATION

FINELY DISS. CPY (< 1/2%) & PY (TR). PY. GENERALLY ASSOC. w/ CHLOR. ALT., MAG. RICH. VLTS @ 20-45°.
DISS. SULFIDES INCREASE TO ~ 1/2% IN FINER, DARKER PHASES.

149.4: QTZ. 1/2" FECY, TR. PY @ 15°

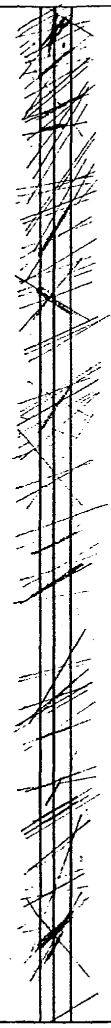
RECOVERY

Run	Run length	Core	%
131.7			
	8.0	8.0	
139.7			
	8.4	8.4	
148.1			
	10.2	10.2	
158.3			
	10.1	10.1	
168.4			
	10.2	10.2	
178.6			
	10i		
188.1			

ANALYTICAL

Sample	Interval
N.S.	138.9
531970	143.9
531971	148.5
531972	149.9
531973	153.0
531974	157.0
531975	160.1
531976	165.0
531977	170.0
531978	173.5
531979	176.7
531980	181.4
531981	184.8
531982	187.2

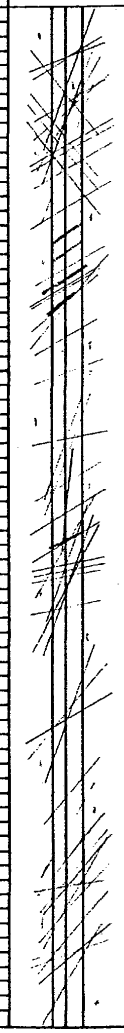
DH 83531

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
191.0 – 260.0 Generally Lt gry, m.g. diorite 60-65% plag 10-20% mafics partly alt > chl. 5-10% qtz mostly as vns + fr-fill 1-3% magnt. (along frs w chl + dissem. 0.5-2% py + cpy (along frs + dissem) 2:1 slightly blchd zn in dio 191.0-194.5 3-5% py + cpy both dissem + along frs in this zone.	200		190.0-191.0 Cio bx. 191.0-194.5 Somewhat higher sulfides (3-5%) along lower breccia contact. 194.5-260.0, 0.5-2.0% py + cpy (2:1) along vnlts + finely dissem. Py is more common in vnlts.
	210		
	220		
	230		
	240		
251.0 - 254.5 minor blchd zn w some py + cpy vnlts	250		251.0 - 254.5 Small alt zn w 1-3% cpy + py (2:1) and 3-5% magnt.
	260		

Run	Run length	Core	%
	10.2	10.2	100
197.4			
200.5	3.1	3.1	100
	10.2	10.2	100
210.7			
	10.2	10.2	100
220.9			
	10.1	10.1	100
231.0			
	10.2	10.2	100
241.2			
	10.3	10.3	100
251.5			
	10.1	10.1	100

Sample	Interval
531983	191.0
	(3.5)
531984	194.5
	(5.0)
531985	199.5
NS	225.0
	(5.0)
531986	230.0
NS	251.0
	(3.5)
531987	254.5

DH 83531

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
260.0 - 330.0 Generally lt gray, m.g. dio. little to no altn or mnlzn; 60-65% plag; 10-20% mafics partly alt → chl; ~5% qtz mostly as thin steeply dipping vnlts. + fx fill; 0.5-1.0% py + cpy ~ 1:1, both dissem + thin vnlts; 1-3% f.g. dissem magnt. Decos ehsts as f.g. "gabbro-ish"			260.0 - 330.0 generally 0.5-1.0% py + cpy ~1:1 both vnlts + dissem.	261.6					
					10.3	10.3	100		
	270			271.9					
			276 - 280.7 minor py + cpy (2:1) vnlts 40°-60° comprising 2-3% of core w/ 3-5% magnt.		9.5	9.5	100	NS	275.9
									(5.0)
	280			281.4				531988	280.9
					10.4	10.4	100		
	290			291.8					
					6.0	6.0	100		
				297.8					
	300				10.0	10.0	100		
				307.8					
	310							NS	310.0
					10.2	10.2	100		(5.0)
								531989	315.0
				318.0					
	320				10.3	10.3	100		
				328.3					
	330								

6/5

DH 83-5[illegible]

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
330.0 - 400.0 Lt gRy, m.g., diorite. Little to no alt or mineralization; 20-25% plag; 10-20% mafics, partly alt -> chl; 5-10% qtz both in fx and as veinlets + fx fill. [illegible] py + cpy ~1:2 [illegible] dissem. [illegible] chl + dissem. Occas. clasts of darker mafic FY [illegible]	340		330.0 - 400.0 0.5% finely dissem. py + cpy ~1:1
	350		346.0 - 347.5 small fault, brkn core; argillic zn @ 347 [illegible]
	360		
	370		
	380		
	390		
392.0 - 397.2 Some fy w chl + magnt fill + coating @ 10°-20°. Some QVs w minor py + cpy <1%	400		

Run (to)	Run length	Core	%
338.5	10.2	10.2	100
348.7	10.2	10.2	100
358.9	10.2	10.2	100
369.1	10.2	10.2	100
379.3	10.2	10.2	100
389.4	10.1	10.1	100
391.5	2.1	2.1	100
	10.4	10.4	100

Sample	Interval
NS	345.0
	(5.0)
531990	350.0
NS	370.0
	(5.0)
531991	375.0
NS	392.2
	(5.0)
531992	397.2

GMC Data Report No. 256

LITHOLOGY, ALTERATION, MISC.

400.0 - 425.1 Generally lt gry, m.g. diorite
60-65% plag
10-20% mafics partly alt → chl
5-10% qtz mostly as vns [illegible]
1-3% magnt.
~0.5% dissem py + cpy 1:2
Some [illegible] fg gabbro

425.1 - 470.0 : Grades to dk gry, fine-medium grained gabbro
[illegible]% plag
[illegible]% mafics wkly alt → chl
[illegible]% magnt [illegible] dissem + in vnlts & chl
[illegible]% qtz mostly as vnlts + fx fill
[illegible]% sulfides py + cpy 1:1

FT.

400 – 410 – 420 – 430 – 440 – 450 – 460 – 470

GRAPHIC LOG

MINERALIZATION

400.0 - 425.1 ~0.5% dissem py + cpy 1:2

420 - 430 Increased qtz vns + py cont'd fxs.
1-2% sulfides mostly py.
3-5% magnt.

425.1 - 470.0 ~0.5% dissem py + cpy 1:1

RECOVERY

Run	Run length	Core	%
401.9	10.4	10.4	100
	10.2	10.2	100
412.1			
	9.9	9.9	100
422.0			
	10.3	10.3	100
432.3			
	10.2	10.2	100
442.5			
	10.3	10.3	100
452.8			
	10.2	10.2	100
463.0			
	10.2	10.2	100

ANALYTICAL

Sample	Interval
NS	420.1
	(5.0)
531993	425.1
	(5.0)
531994	430.1
NS	463.5
	(5.0)
531995	468.5

DDH 93-521

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY				ANALYTICAL		
				Run	Run length	Core	%	Sample	Interval	
470.0 - 500.0 DK. grey, fine-medium grained aphyric 40-50% plag 40-50 mafics wkly alt'd chl 3-5% qtz mostly as veins + fx fill 3-5% magn <0.5% sulfides	480		470-500 generally <0.5% sulfides ~1% py + cpy	473.2	10.2	10.2	100			
					10.3	10.3	100	N5	481.0	
				483.5					(5.0)	
486.0-488.0 Small shear, abundant chl +chl ± some calcite veining + minor malachite staining. 5-7% magnt ± calcite veins; ~1% py + cpy	490		486-488 Some malachite stain + FeOx + abundant clay + chl.		10.2	10.2	100	531996 531997	486.0 (2.0) 488.0	
									(5.0)	
				493.7				531998	493.0	
	500	Footage Drilled 500.0			6.3	6.3	100			
				500.0						

DIAMOND DRILL HOLE LOG

Company: ACNC

Property: Kamishak	Hole No.: 83532
Location: Alaska	Bearing at Collar:
	Inclination at Collar: -90
Coord. - Collar N:	
E:	Length: 208.0
Elev. - Collar:	Core Size: BDBGM
Date started: 6-28-91	
Completed:	Logged by: DFA

LEGEND

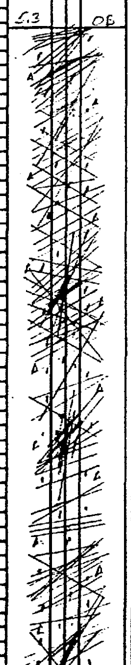
Sulfide Veins	☐/	Fault or Shear	☐/
Dissem. Sulfide	☐ :	Brecciation	☐ Δ
FeOx	☐/	Fractures	☐/
Qtz Veins	☐		☐

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION	Run	Run length	Core	%	Sample	Interval	BO
5.3 - 50.0 med - dk gry, fine - medium grained gabbro which is heavily brecciated. Clasts are angular - subangular, up to several inches in diameter, and contained in a coarse grained mafic matrix. The matrix is rich in biotite (40-45%), some hbl (5-10%), plag 40-45%, 3-5% magt and 2-3% sulfides. cpy + py ~ 3:1	5.3 OB	5.3-50.0 Generally 2-3% cpy + py ~ 3:1, assoc w/ c.g. bio bx-fill		8.0	4.7	58	NS	5.3	1
			8.0						
	10						531999	10.0	
									11.9
				7.8	7.8	100			
							532000	15.0	
			15.8						2
	20						532101	20.0	
21.5 - 25.0 brkn core, some c.g. bio in larger than avg spaces between clasts.				10.3	10.2	99			21.7
							532102	25.0	
			26.1						3
							532103	29.0	
	30			7.2	7.0	97			31.3
32.7 - 36.1 v. brkn core v. c.g. bio, some FeOx possible some minor shearing.							532104	32.7	
			33.3						
				5.0	5.0	100	532105	36.4	4
38.2 - ½ qtz vn @~30° (irregular)			38.0						
	40								40.5
							532106	41.0	
				10.0	10.0	100	532107	45.0	5
		48.5-49.4 FeOx	48.0				532108	48.5	
	50						532109	50.4	50.0

GRAPHIC LOG



LITHOLOGY, ALTERATION, MISC.

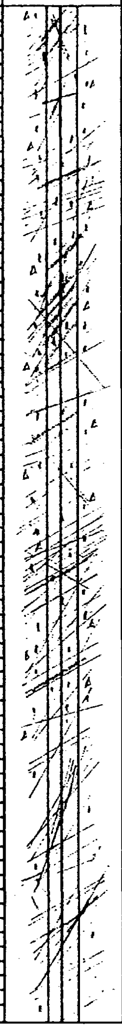
50.0 - 100.4, Dominantly med. dk gry f.-m.g. gabbro bx w/ med gry f.g. mafic bx fill. This bx fill contains 40-45% mafics (c.g. hbl, bio); 40-45% plag; 5-7% qtz, mostly as vnlts; 1-2% calcite as vnlts. 2-3% magnt. and 2-3% cpy + py ~2:1. Sulfides are [illegible] f.g. all. Mafics partly alt → chl.

100.4 - 120.0 DK gry f.-m.g. gabbro some qtz veining, but no bxn.
40-45% plag
40-45% mafics - wkly alt → chl
3-5% qtz mostly as vns + fx fill
<1% sulfides cpy + py 2:1
2-3% magnt.

FT.

60, 70, 80, 90, 100, 110, 120

GRAPHIC LOG



MINERALIZATION

50.0 - 100.4 2-3% cpy + py (2:1) both dissem. + vnlts assoc. w/ qtz + calc. (some minor apatite) 2-3% magnt. Sulfides are general. fairly c.g.

67.0 - 69.0 - Possibly some MoS_2 assoc. w/ qtz + py vns. cpy:py is ~1:2 in this zn

75.5 - 77.5 Mostly [illegible] gabbro w/ little bxn + <1% cpy:py 2:1

89.8 - 92.1 Mostly f.g. gabbro w/ some vnltg. but little bxn + ~1% cpy:py (1:2)

100.4 - 120.0 <1% cpy + py 2:1, some QVs 2-3% magnt.

RECOVERY

Run	Run length	Core	%
58.0	10.0	10.0	100
68.0	10.0	10.0	100
78.0	10.0	10.0	100
87.8	9.8	9.8	100
97.3	9.5	9.5	100
107.5	10.2	10.2	100
113.5	6.0	6.0	100
117.7	4.2	4.2	100

ANALYTICAL

Sample	Interval						
532109	50.4						
532110	53.8						
532111	57.0						
532112	59.4						
532113	63.7						
532114	67.0						
532115	71.0						
532116	75.5						
532117	77.5						
532118	81.7						
532119	84.0						
532120	89.0						
532121	92.1						
532122	95.4						
532123	100.4						
532124	105.4						

LITHOLOGY, ALTERATION, MISC.

120.0 - 190.0 DK GRY, fine - medium grained gabbro. Some qtz veining, but no bxn
40-45 % plag
40-45 % mafics partly alt -> chl
5-7.5 % qtz mostly as veins + fx fill
2-3 % magnt
<1% sulfides cpy + py 2:1
Gabbro show little alt. or mineralization

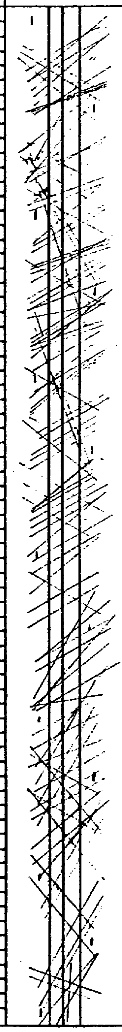
143 - 144 Small zone of lt gry c.g. dio nearly parallel to core axis 50-60% plag, 10% mafics, 10-15% qtz, 5% magnt, ~1% cpy/py

147.5 - 148.5 c.g. dio veins similar to above.

FT.

130, 140, 150, 160, 170, 180, 190

GRAPHIC LOG



MINERALIZATION

120 - 190.0 <1% cpy+py 2:1; both dissem & along fx & Vs.

143 - 148 ~1% cpy + py 2:1 assoc w c.g. dio.

RECOVERY

Run	Run length	Core	%
127.8	10.1	10.1	100
137.8	10.0	10.0	100
147.8	10.0	10.0	100
157.8	10.0	10.0	100
167.8	10.0	10.0	100
177.8	10.0	10.0	100
187.8	10.0	10.0	100

ANALYTICAL

Sample	Interval					
NS	125.5					
532125	130.5					
532126	136.0					
532127	141.8					
532128	145.0					
532129	149.0					
NS	175.6					
532130	180.6					

DH83532

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY				ANALYTICAL		
				Run	Run length	Core	%	Sample	Interval	
190.0 - 208.0 DK Grey fine - medium grained gabbro; 40-45% plag; 40-45% mafics wkly alt → chl; 2-3% Qtz mostly as veins + fx-fill; 2-3% magnt; <1% cpy + py (2:1) Rx is generally unalt + unmineralized	200	Foot of Hole 208.0	190 - 208 <1% cpy + py 2:1	10.2	10.2	100				
				10.0	10.0	100				
	210							NS	208.0	

DIAMOND DRILL HOLE LOG

Company ACNC

LEGEND

SURVEY

Footage	Bearing	Inclination

Property Kamishak
Location Alaska
Coord. - Collar N 200209.0
E 99719.5
Elev. - Collar 1431.8
Date started 6/29/91
Completed 7/01/91

Hole No. 83533
Bearing at Collar 150°
Inclination at Collar -60
Length 308.0
Core Size BDBGM
Casing to
Logged by PT

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	BC
Overburden										
5.0 BRECCIA grey-green gabbro bxx, coarse matrix of amph+plag+sulf+qtz, dirty brown core, some chl in matrix also. Note: 5.0-14.0 core is very broken & somewhat jumbled, unable to fully reconstruct	10		FeOx on fcts, tr-1% cpy+py in matrix, blebs & clots. mnr CaOx @ 9.5'					NS	5.0	1
14.9 - DK grey fine gr gabbro, sharp lower CNT, gradational upper CNT				14.0	19.0	8.0	57	FX532131	14.0	14.7
16.3 Breccia - typical rel. clasts of fine-med gabbro. Matrix is coarse gr. amphibole+plag+cpy+sulfide bxx clasts crudely oriented 40-50 Deg. to CA.	20		Tr-1% cpy+py in blebs & interstitial clots 16.3 - 46.2					FX532132	16.3	
				18.0	4.0	4.0	100	FX532133	21.0	2
			25.0 - euhedral calcite rhombs to 2.0mm in vug.					FX532134	25.0	23.6
				28.0	10.0	10.0	100	FX532135	29.9	3
31.3 - coarse biotite on fcts	30		30.0 - 1-2cm clots of cpy+py							
34.0 - minor shear			FeOx on fcts 31.0-31.4					FX532136	33.0	33.3
36.4 - vug filling along fct w/euhedral amphibole+calcite								FX532137	37.4	
	40			39.0	10.0	10.0	100			4
								FX532138	42.0	42.1
46.2 - Fine gr gabbro, sharp 40 Deg CNT								FX532139	46.2	
47.0 - Breccia - gabbro bxx as previously sulfide content increases from above			No sulf in fine gabbro					FX532140	47.0	
	50			48.0	10.0	10.0	100			5
			Tr-2% Py+cpy 47.0-48.0					FX532141	52.0	

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
Breccia - continued coarser grained clasts, less distinct matrix	50		cont'd tr-1% sulf in matrix - cpy ± py.					FY532141	52.0
			minor qtz stringers at 59.1					FY532142	56.5
	60			58.0	10.0	10.1	+100		
								FY532143	61.0
61.0 Fine gr gabbro, gradational upper CNT			61-63 - no mtln in gabbro					FY532144	63.0
63.0 sharp 40° contact, Breccia weak chloritic altn, clasts are coarse, mod gr gabbro, coarse gr matrix - amph + chl + plag ± sulf.			63-73 tr-1% cpy ± py in blebs in matrix						
	70			68.0	10.0	9.9	99	FY532145	68.0
lost core 71.4 - 71.6									
73.0 Coarse gr. gabbro - grey green color weak chl. altn.			73.0 - 75.0 little or no sulfide					FY532146	73.0
								FY532147	75.0
75.0 Breccia - coarse - mod gr angular - rectangular gabbro clasts, mod. chloritic matrix w/ amph + chl ± bio & plag ± sulf. some qtz in vugs			75.0 - 91.6 tr-1% cpy ± py in matrix material	78.0	10.0	9.8	98		
	80							FY532148	80.0
								FY532149	85.0
				88.0	10.0	10.1	+100		
	90							FY532150	91.6
91.6 shear zone - FeOx stn, numerous fcts, broken core, lots of biotite			92.0 - Tr CuOx					FY532151	93.5
93.5 Breccia			93.5 - 101.5 tr-1% py ± cpy						
				98.0	10.0	9.9	99	FY532152	98.0
	100							FY532153	102.8
101.5 - 102.2 : med gr. gabbro									
102.2 Breccia			104.0 - py blebs to 2.5 cm in matrix, Tr CuOx						
106.0 - Fine gr. gabbro									
109.0 Breccia				108.0	10.0	10.0	100	FY532154	108.0
	110		tr dism py					FY532155	110.0
lots of fcts 109.9 - 110.4, lots of biotite									
113.3 Fine gr. gabbro								FY532156	115.0
116.6 med gr. gabbro									
118.0 Breccia				118.0	10.0	10.0	100		
	120		tr dism py.					FY532157	120.0

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
Breccia - faint breccia clasts, varies from true breccia to a broken coarse grained gabbro	120		tr py + cpy in blebs, not much sulfide						
124.1 - 124.9 - Fine gr. grey gabbro								FK532158	124.9
124.9 Breccia - continued gabbro bxx as above, coarse matrix of amphibole + bio + plag + sulfide				128.0	10.0	10.0	100	FK532159	128.0
weak potassic alteration	130		tr cpy in matrix						
								FK532160	133.0
136.2 - 136.8 - Broken + sheared, lots of chlorite				138.0	10.0	10.0	100	FK532161	138.0
138.0 Breccia - clasts more distinct continued potassic altn (weak)	140		tr cpy + py in matrix						
142.4 Med gr. dk grey gabbro sharp contacts 40 DEG			1.0 cm blebs of cpy on contact @ 142.4 ft.					FK532162	142.4
144.5 Breccia - rectangular gabbro clasts at approx 40 Deg. to core axis, alteration becoming stronger, feldspars → clay								FK532163	144.5
				148.0	10.0	10.0	100	FK532164	148.0
FeOx stn stops abruptly at 151.6 ft.	150		150 - 151: FeOx stn on fcts					FK532165	152.0
152.5 - 152.8 Fine gr gabbro dike?, chill margins, sharp 90 Deg. contact									
152.8 Continued clay altered breccia sericite + chlorite + minor biotite in matrix, alteration increases down hole, clasts becoming altered at 158.0 ft.			152.8 - tr dism py and py + cpy in matrix	158.0	10.0	10.0	100	FK532166	157.0
	160		Strong FeOx assoc w/fct @ 163 ft.					FK532167	162.6
Clay alteration abruptly stops at FeOx stained fcts @ 169.6 ft.								FK532168	165.5
			168.6 - qtz filling vugs + fcts, 169.5-170 strong FeOx stn around fcts.	168.0	10.0	10.0	100	FK532169	168.9
169.6 Breccia and gabbro, gradational contact, not much alteration, lg. clast in bxx ??, fine gr. gabbro @ 175-176.2	170								
			174.0 - Strong FeOx stn on fcts					FK532170	175.8
176.5 Breccia - strong clay alteration				178.0	10.0	10.0	100	FK532171	179.3
			tr py dism, 176.5 - 179.3						
179.3 Shear zone - strongly sheared serpentinized gabbro, lots of slicks	180			182.7	5.7	5.3		FK532172	182.8
182.8 Gabbro, altd bxx to 183.5 then grading to med gr, dk grey green gabbro Gabbro not altered									
Gabbro grades back to bxx, 188.9 - 189.1								FK532173	187.1
189.1 Altered breccia	190								

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
Altered Breccia – strong clay altn to 190.6, rapid change to unaltd gabbro.	190		no mtln in gabbro
190.6 – Fine gr. Gabbro, upper cnt grad → Bxx.			tr% py in altd bxx
192.4 Breccia, weak altn, mostly chl, another f.g. gabbro @ 195.3–195.7			
195.7 Breccia – clay + potassic altd, altn increases to 197 ft then stays the same, bio → kfsp + clay, chl, sulfides increase noticeably at 200 ft.	200		200.0 – 205.0 1-3% cpy ±py in bxx matrix
Mins = sericite + chlorite + bio + kfsp + plag + sulfide			
205.2 – Very strong FeOx stn on fcts to 206.2 ft.			205.0 – 214.0 tr–1% cpy + py in coarse gr. matrix of bxx.
208.0 – strong FeOx along fct.			
208.5 – bxx clasts less distinct but matrix texture + alteration persists	210		
214.0 – cpy alteration decreasing, sulfide increasing. still lots of chlorite.			214.0–219.5 1-2% cpy ±py in matrix + vugs
219.5 Gabbro – med to fine gr, chlorite + bio + plag + cpx + hbld, occasional qtz on fcts, biotite on fcts. Dk grey green.	220		occasional trace of very fine dism py and cpy
225.0 – layering in gabbro at 60° to to core axis			
230.0 – 250.0 – fine–v. fine grained	230		
Continued fine to medium grained gabbro, dk grey green, local tr dism sulf., cpx + plag + mnr chl + bio	240		
	250		251.4 – 1.0 mm py veinlet
	260		qtz vein – 0.5cm – 259.5 ft.

RECOVERY			
Run	Run length	Core	%
192.9	10.2	10.2	100
198.0	5.1	5.1	100
208.0	10.0	10.0	100
218.0	10.0	10.0	100
228.0	10.0	10.0	100
238.0	10.0	10.0	100
248.0	10.0	10.0	100
258.0	10.0	10.0	100

ANALYTICAL			
Sample	Interval	Au	Cu
FX532174	190.6		
FX532175	192.4		
FX532176	195.7		
FX532177	200.0		
FX532178	205.0		
FX532179	208.6		
FX532180	211.0		
FX532181	214.0		
FX532182	218.0		
FX532183	219.5		
FX532184	224.2		
NS	242.8		
FX532185	248.0		

Note: There is no box 27 for this hole.

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LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
FINE GRAINED GABBRO - as above, dk grey, plag + cpx + hbld + chl + bio.	260		occasional trace of v. fine gr. dism py and/or cpy.					NS	262.7
				268.0	10.0	10.0	100	FRS32186	268.0
278.0 - 2.0 mm qtz on fcts and xcutting fcts.	270			278.0	10.0	10.0	100		
	280							NS	283.0
285.5 - drusy qtz on fct.				288.0				FRS32187	288.0
	290								
				298.0					
	300								
302.1 - Xenoliths of coarse gr. med grey-green gabbro. Grain size increase to med-coarse grained gabbro 302.1 → 308.								NS	303.0
308.0 TD				308.0				FRS32188	308.0

DIAMOND DRILL HOLE LOG

Company ACNC

Property Kamishak	Hole No. 83534
Location Alaska	Bearing at Collar
	Inclination at Collar
Coord. - Collar N	
E	Length
Elev. - Collar	Core Size BWHQ
Date started 7-1-91	
Completed	Logged by DFA

LEGEND
- Sulfide Veins
- Disseminated Sulfides
- FeOx
- Qtz Veins
- Fault or Shear
- Brecciation
- Fractures

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	BC
0.0-4.9 Soil Cover : overburden										
4.9-28.9 DK gry, fine-medium grained gabbro. 40-55% plag 40-45% mafics, partly alt'd to chl 3-5% qtz, mostly as vnlts + fracture fill 2-3% D magnt 0.5% disem cpy+py 2:1	10 20	4.9	4.9-50.0 Generally <0.5% disem cpy+py 2:1 ; 1-3% magnt + minor FeOx	9.5	9.5	5.5	58			1 11. 2 20.
				17.4	7.9	7.9	100			
				27.6	10.2	10.2	100	NS	26.5	3 29.
28.9-36.8 Dominantly Lt gry, med-coarse grained dio/gtz diorite / contacts somewhat gradational. 60-65% plag 10-20% mafics, partly alt'd to chl 5-10% qtz, both primary + vnlts 1-2% magnt, <0.5 cpy+py 2:1	30				8.9	8.9	100	532074	31.5	
				36.0				532075	35.0	4
36.8- DK gry, fine-medium grained gabbro	40				8.8	8.8	100	532076	40.0	39. 5
	50			44.8						48

DH 83-34

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
50.0 - 123.0 Dominantly dk gry, fine-medium grained gabbro 45-50% plag 35-40% mafics wkly alt → chl 3-5% qtz as vnlts ± fx ± ill 2-3% magnt. ~0.5% cpy + py 2:1	60		50.0 - 120.0 GENERALLY < 1.0% sulfides cpy : py 2:1 dissem. throughout. Numerous FeOx vnlts but they appear to be related to oxidation of Fe-Mg minerals.	54.9	10.1	10.1	100	NS	51.9
Some lt gry c.g. qtz diorite strings intersect core @ 52.3; 52.8; 53.1; 53.9 + 54.3. This qtz dio carries 0.5 - 1.0% c.g. cpy.								532077	54.9
				63.2	8.3	8.3	100		
	70			73.4	10.2	10.2	100		
	80		81.5 - 83.3 Minor shearing fracturing + wk arg alt.	83.7	9.9	9.9	100		
								NS	86.5
	90			93.5	10.2	10.2	100	532078	91.5
93.7 : lt gry aplitic dike ~ 1.0cm wide @ 40°				99.5	6.0	5.8	96		
	100			109.6	10.1	9.8	97		
	110		110 - 111 Minor shear	114.4	4.8	4.8	100		
	120				6.9	6.8	98		

LITHOLOGY, ALTERATION, MISC.

123.0 GRAD.CNT
GRAY MED-CS. GR. GABBRO
~60% WHITE/GRAY PLAG
~30% BLACK HBL(AUG?) w/
WK. ALT/CHLOR ALT
~5% MAG ± PY. ± CPY
~5% QTZ AS FCT. FILL. & VLTS
& LOCAL 1-7" ZONES OF MAG RICH
FN. GRAINED GABBRO COMMON

135.6 IRR. SHP.CNT., ~65°
DRK. GREY V. FN. GRAINED GABBRO
2ND BIO. ON SOME FCTS. WK. CHLOR.
ALT. CONFINED TO HEALED FCTS.
BXW/QTZ MAT. @135.6-136.0

140.4 IRR.CNT
GABBRO, V. SIMILIAR TO 123.0-135.6 BUT FN-CS. GRAINED
w/ ABUND. RED/ORANGE EARTHY
CLAYLIKE FeOx FILLING SOME
FCTS.

CORE BECOMING LIGHTER GRAY
IN COLOR AS PLAG ↑ TO ~70-80%
MAFICS DECREASING TO ~20%

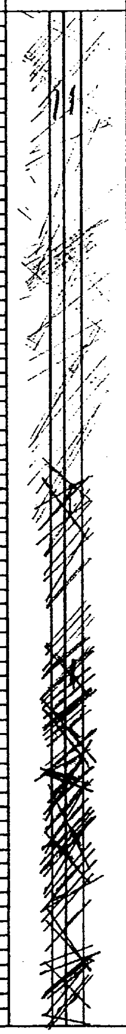
156.5 GRAD. CNT.
GRAY, VARIABLE FN-CS. GR.
GABBRO W. ABUND. (~10%)
SUBANGULAR XENOLITHS OF GENL
V. FN. GR. GABBRO. - BRECCIATED
APPEARANCE IN LOCAL ZONES
XENOLITHS GENERALLY <2"
! PLAG (~60-70%) IS PREDOMINANTLY
WHITE, w/ MINOR ARG. ALT.
HBL IS GEN. WKLY CHLOR ALT,
SOME BIOTITE NOTED. THIS
RX. IS NOT THE TYPICAL
HOST BRECCIA.
EARTHY ORANGE/RED CLAY
COMMON ON FCTS, UP TO 1/4" THICK.

173.6-174.6: INCREASED ARG ALT

FT.

130, 140, 150, 160, 170, 180, 190

GRAPHIC LOG



MINERALIZATION

123.0-135.6: ~ 1/2% PY, CPY (2:1) ASSOC. w/ MAG ? ASSOC. w/ QTZ VLTS & FCT. LOCAL INCREASES (126.0-128.0) UP TO 2% SUL. ASSOC w/ 10-30° QTZ. VLTS.

135.6-140.4: TR. FN. PY, CPY.

140.4-156.5 ~ 1/2% PY & CPY (2:1) AS FN. DISS & ASSOC. w/ QTZ. VLTS.

156.5-190.0: Gen TR-1/2% PY, CPY (2:1) AS FN. DISS. & ALONG XENOLITH MARGINS LOCAL INCREASES TO 1%

RECOVERY / ANALYTICAL

Run	Run length	Core	%	Sample	Interval
121.3	6.9	6.8	98		
	10.1	10.1	100	NS	126.0
				532079	128.0
131.4					
				NS	135.6
	10.1	10.1	100		
				532080	140.4
141.5					
	10.2	10.2	100		
151.7					
	10.1	10.1	100		
161.8				NS	161.8
	10.1	10.1	100	532081	166.8
171.9					
	10.2	10.2	100		
182.1					
	5.4	5.4	100		
187.5				NS	187.5

83534

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
GRAY VAR. FN-CS. GRAINED GABBRO, AS @ 156.5-190.0. W/ ABUND. FN. GR ZENOLITHS			190.0 - 206.4: TR - 1/2% PY, CPY (1:1) AS FN DISS AND @ 330C. W/ FN. GR. ZENOLITHS,		10.2	10.2	100	532082	192.5
	200			197.7					
					10.2	10.2	100		
206.4 GRAD. CNT				207.9					
LT. GREY, MED-CS. GR BIOTITE HBL. DIORITE. HBL IS GEN. CHLOR. ALTERED. PLAG IS WHITE (GRAY). ~60% PLAG, ~25% DIOTITE, ~10% HBL, <5% MAG.	210		206.4 - 232.2 < 1/2% FN. DISS. PY, CPY (1:2)						
					10.2	10.2	100	NS	213.1
				218.1				532083	218.1
BECOMING FN-MED. GR	220								
					10.2	10.2	100		
				228.3					
232.2 IRR CNT. ~60°?	230							NS	232.2
LEN. DARK GRAY, VARIABLY GRAINED MAGMATIC BRECCIA. SUBANGULAR SUB ROUNDED U.FINE GRAINED GABBROIC CLASTS IN MED-U.CS. GRAINED GABBROIC / DIORITIC MATRIX. U.CS. MAL XTLS (1/4-1/2") COMMON IN MATRIX. CONTACTS BETWEEN CLASTS & MATRIX ARE VARIABLY SHARP → GRADATIONAL			232.2 - 259.8: < 1/2% PY & CPY @ 330C W/ MAL XTLS & DISS IN CLASTS		10.2	10.2	100		
PERVASIVE WK-MOD CHLORITE ALT. OF CLASTS. U. MINOR CLAY ALT.				238.1				532084	237.2
					9.3	9.3	100		
	240			247.8					
								NS	250.3
	250				10.2	10.2	100		
255.3 IRR CNT. & MR?								532085	255.3
CONTACT ZONE: INCREASED CHLOR ALT. W/ SILICA & CLAY ON FCTS				257.9					
259.8 GRAD. CNT.	260							532086	259.8

83534

GMC Data Report No. 256

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
LT. GRAY; MED-CG; SR BIO. HBL DIORITE. ~20% BIO → CHLOR, ~20% HBL → CHLOR, ~60% LT. GRAY PLAGE, ~5% QTZ MINOR CLAY ALT. ASSOC W/ SOME FCTS	270		~1/2% CPY & PY (~1:1) AS FN. DISS @ 263.5-264.5; DISS IRR PY, UP TO 1/2" @ NIL-200	268.2	10.3	10.3	100	532087	264.8
	280			278.3	10.1	10.1	100		
				288.4	10.1	10.1	100		
	290				10.2	10.2	100	NS	293.6
298.6	298.6 TD			298.6				532088	298.6

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DIAMOND DRILL HOLE LOG

Company AMERICAN COPPER & NICKEL

Property KAMISHAK Hole No. 83535

Location ____ Bearing at Collar 150

____ Inclination at Collar -45°

Coord. - Collar N ____

E ____ Length 34.0'

Elev. - Collar ____ Core Size BDRGM

Date started ____

Completed ____ Logged by FGK

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	BC
					11.3	2.6				
8.7' CORE RECOVERY @ 8.7'										
DARK GRAY, GEN. FN. G.R. GABBRO., EQ. GRN ~50% GRAY PLAG, ~30% FN HBL, ~15% FN. MAG, U. WK CHLOR ALT. NIL CLAY ALT.	10		8.7-21.6' TR. FN. DISS. PY, CPY	11.3				NO SAMPLES		
					6.7	6.7	100			
INCREASING CHLORALT & GRAIN SIZE TOWARDS 21.6				18.0						17.5
	20				3.4	3.2				
21.6 DEC. CNT				21.4						
WHITE & SPOTTED DEK GREEN MED. G.D., G.R. DIORITE ~40-70% WHITE PLAG → CLAY ~30% CHLOR. ALT HBL ~5% BIO. TR. QTZ			21.6-34.0: 1½% PY, CPY & FN DISS. & ON FCTS	23.7	8.3	7.3	106			
REMOLITHS UP TO 2" OF FINER MED-STRONG CHLOR. ALT. MATERIAL COMMON.	30				10.3	10.3	100			27.5
34.0	34.0			34.0						34.0

DIAMOND DRILL HOLE LOG

Company AMERICAN COPPER & NICKEL

Property KAMISNAIK — Hole No. 83536
Location — Bearing at Collar 150
Inclination at Collar -45°
Coord. - Collar N — Length
E — Core Size BBGM
Elev. - Collar — Logged by FGK
Date started
Completed

LEGEND

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	BC
					10.1	1.2				
10.1	10			10.1						1
WHITE & SPOTTED DARK GREEN DIORITE: ~10% WHITE PLAG, ~20% HBL-SCHLOR, ~5%-10% DISS. MAG, ~5% QTZ. GENERALLY FN-MED GR. MOD-STRONGLY CLAY ALT NEAR 10.1 W/ CLAY ALT DECREASING, CONFINED TO FCTD ZONE TO 13.0. RARE FINEGRAINED CHLOR ALT. ZEOLITE. SERICITE ON SOME FCTS.			FR. FN DISS PY, CPY W/ RARE PY FILLING CR FCTS.	13.0	2.9	2.9	100			
					9.8	9.8	100		20.0	18
	20			22.8						2
			24.8: ¼" PY, FCOX @ 60°		5.2	5.2	100	532089	25.0	27
			29.0: ½" QTZ @ 35°	38.0						
32.0-33.5: WK-MOD CLAY ALT OF PLAG.	30				10.0	10.0	100			3
				38.0						37
	40				10.0	10.0	100			4
48.5-49.5: WK-MOD CLAY ALT OF PLAG				48.0				NS	47.3	47
	50							532090	52.3	

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LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
DIORITE, AS @ 10.1 - 50.0			52.7-53.0: QTZ, SERICITE, ± PY ± CPY @ 65° W/ ASSOC MALACHITE STAINING						52.3
CLAY ALT OF PLAG CONFINED TO FRACS/SHRS ± ADJACENT TO QTZ VLTS					10.0	10.0	100	532091	53.0
RARE ZENOLITHS OF DARK FINE GR. CHLOR ALT MATERIAL.	60		TR FN DISS PY ± CPY	58.0					
					10.0	10.0	100		
	70	SERICITE FOL		68.0				NS	70.0
					10.0	10.0	100	532092	75.0
76.0-77.0: MOD-STRONG CLAY ALT OF PLAG ASSOC W/ 1/4", 10° QTZ VLT.				78.0					
AFTER 76.0' INTK-MOD CLAY ALT. OF PLAG.	80				10.0				
				88.0					
	90		92.6-93.6: U. STRONG ORANGE FeOx, SERICITE @ 65° ASSOC W/ RED BROWN FeOx VLT @ 20°		10.0			NS	92.6
								532093	93.6
				98.0				532094	98.0
	100		98.6: VFT 1" CS MAG @ 40°					532095	99.0
			101.5": 1/2-3/4" QTZ, PY, + CPY, MALACHITE @ 30°					532096	101.0
					9.5			532097	103.0
103.0-105.7: MOD-STRONG CLAY ALT OF PLAG - DUE TO QTZ ± MALACHITE.			103.0-105.7: QTZ VLT @ 0-5°, ~ 1/4" MALA @ 65°	107.5				532098	105.7
	110								
@ ~ 113.0: ANHYDRITE? ON 30° FRT.					10.3				
				117.8					
	120							NS	120.0

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LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
DIORITE, AS @ 10.1-120.0. ANHYDITE? FILLING FN MANY FCTS, ESP. @ 65°-80°.			EXCEPT AS NOTED TR PY FN DISS CPY!		10.2	10.2	100	532099	125.0
	130			128.0					
					10.0	10.0	100		
138.0-148.7: SHARP INCREASE IN CHLORITE ALTERED FINER GRAINED GABBROIC ZENOLITHS			133.5-137.8: STRONG SER ALT + PY + MGT + RED OXIDE @ 50°-80°	138.0				NS	137.0
	140							532100	138.0
					10.0	10.0	100		
148.7 SHR, 35°CNT. LT. GRAY, FINE GRAINED ANORTHOSITE - ~10-15% U FN; GR, MAFICS, PREDOM. MAG & HBL ~ 85-90% FN GR, GRAY & BROWN PLAG HBL WKLY ALT TO CHLOR. THIN SEIVLETS OF SILICA IN MOST FCTS,				148.0				NS.	148.7
	150							532201	153.7
					10.0	10.0	100		
	160			158.0					
					10.0	10.0	100		
				168.0					
173.9 GRAD/IRRGNT, ~40° TRANSITION ZONE - GNEISSIC TEXTURE DUE TO SEGREGATION OF LIGHT & DARK MINERALS, GENERALLY @ 35° ALTERNATING ZONES OF WHITE PLAG-QTZ AND GABBROIC ANORTHOSITIC			173.9-181.7: SPOTTY ZONES INCREASED PY, CPY ALONG MARGINS OF PLAG RICH ZONES W/ ANORTH. ZONES		10.0	10.0	100	NS.	173.9
	170		177.3-177.7: CLOTTY PY, CPY W/ ABUND. BORN & SERP MALACH. STN. ICS. MAG @ 35°-60°	178.0				532202	177.0
								203	178.0
	180							204	181.7
181.7 REL. CNT. ~30° QTZ/SERI. ALTERED BRECCIA. SERICITE ALT. CLASTS IN SILICA RICH MATRIX			181.7-186.9: RARE U, CS, CLOTS CPY & PY IN SILICA MATRIX, ESP @ 185.8-186.9		10.0	10.0	100		
186.9 SHR, 35°CNT DARK GREEN FN. GR, CHLOR ALT. BIO, HBL GABBRO BECOMING MED-CS GRAINED BY 189.0.			186.9-190.0: TR. PY, CPY	188.0				205	185.8
	190							532206	186.9
190.0 INDISTINCT									

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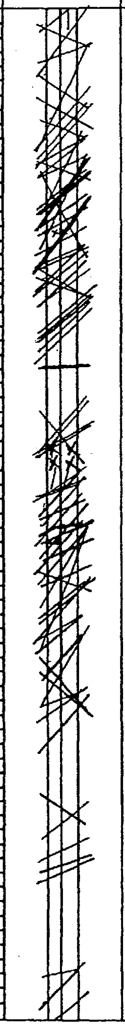
LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
DARK GREEN, FN-MED. GR. CHLOR. ALT 192.4 GABBRO BX. LIGHTER CLASTS IN DARK MATRIX IRR. CNT.			190.0 – 192.4 : TR. Py, CPy						
GRAY GREEN, MED-CS. GR. CHLOR. ALT. GABBRO, BRECCIATED IN PART. LOCAL ZONES W/ WK. CLAY ALT. CS. BLACK TGS GIVING PORPHYRITIC APPEARANCE, SOME LOCAL ZONES OF FN. GR. GABBRO. LOCAL ZONES OF WHITE REDDISH CLAY ALT.			192.4 – 203.9 : TR. Py, CPy TR. MAL. STN A330C W/ INCREASED CLAY ALT		10.0	10.0	100		
198.0	200			198.0				NS	198.9
203.9 IRR. CNT									
GABBRO, SIMILAR TO 192.4-203.9 BUT W/ INCREASED CHLOR, CLAY, BRECCIATION, ABUNDANT RESORBED CLASTS & SEGREGATIONS OF WHITE PLAG. – PROBABLE MAGMATIC BRECCIA			203.9 – 214.6 TR – ½% Py, CPy A3 IRR. BLEBS IN MATRIX		10.0	10.0	100	532207	203.9
208.0	210			208.0				NS	209.6
LOCAL ZONES OF SILICA FLOODING MATRIX TOWARDS 214.6					7.6	7.6	100		
214.6 SHR. CNT @ 65°				215.6				532208	214.6
GABBRO, W/ WK BRECCIATION A3 @ 192.4 – 203.9 POR. TEXT. COMMON.			214.6 – 227.0 TR. Py & CPy						
220					9.7	9.7	100		
BECOMING FINER GRAINED TOWARDS 227.0				225.3					
227.0 SHR. 10-15° CNT					2.7	2.7	100	NS	227.0
WHITE W/ LT. GREEN TINGE, PERVASIVELY, INTENSELY QTZ – SERI CLAY ALT. ROCK, GEN. FINE GRAINED, HI, ABUNDANT, DISCONTINUOUS, VUGGY QTZ/CAL. VLTS (UP TO 1") IRREGULARLY X-CUTTING CORE, NOT A BRECCIA.			227.0 – 234.5 : C.S. Clots CPy ; Py. Gen CONFINED TO QTZ/CAL. VLTS. TS ~ 1% PINK/BROWN, FINELY GRAN MIN. W/ SAME HABIT AS MALACHITE NOTED.	228.0				532209	231.0
234.5 CS. EDH. QTZ IN VUGS. IRR. CNT @ 50° – ORIGINALLY GABBRO, A3 @ 214.6 – 227.0	230				10.0	10.0	100	210	234.5
236.7 BUT SAME ALT, GRAD. CNT.			234.5 – 236.7, MIN. A3 @ 227.0 – 234.5 TS ~ ½ – 2%					211	236.7
PERVASIVELY, INTENSELY ALTERED ROCK SIMILAR TO 227.0 – 234.5 BUT ALTERATION IS MORE ORTHOCLASE & NOT QUITE AS INTENSE. PX IS ORIG A. GABBRO.			236.7 – 245.5 – A3 @ 227.0 – 234.5 BUT A330 W/ CS. MAL, 1035 PINK, BROWN MIN, TS ~ ½ – 2%	238.0					
245.5 GRAD CNT	240							212	241.1
GEN. DARK GRAY, FN. GR. BRECCIATED GABBRO. BRECCIA TEXTURE DEFINED BY IRR: DISC. QTZ/CALCITE VLTS, STRONG SERI. ALT. ADJACENT TO QTZ/CALCITE VLTS, CHLOR ALT. ALSO INCREASES NEAR VLTS.			245.5 : TR. FN. DISS Py, CPy. Rare CS / Py & CPy A330C W/ QTZ/Cal. FLOODING TS ≤ ½%		10.0	10.0	100	213	245.5
248.0	250			248.0					
CHLOR. ALT OF GABBRO CLASTS INCREASING, CLASTS BECOMING LT GRAY/GREEN			255.5 : ¾" QTZ-CPy @ 20° 255.8-256.1 : VUGGY DRUSY QTZ,					532214	250.5
					10.0	10.0	100	215	255.8
				258.0				216	256.1
	260							532217	260.0

LITHOLOGY, ALTERATION, MISC.	FT.	MINERALIZATION
LT. GRAY GREEN, GEN. FN. GR. WK-MOD. CHLOR. ALT. BRECCIATED GABBRO. BRECCIA TEXTURE DEFINED BY IRR. QTZ/CAL. VLTS, UP TO 1" ; GRAD. CNTS. TO ZONES OF MED-CS. GR. CHLOR/CLAY ALT. MATRIX MOD-STRONG SERR/CLAY ADJACENT TO QTZ/CAL. VLTS.		264.1-264.5, 265.9-266.3, "STOPGY" DRUSY QTZ w/ CS. CRYST. PY, CPY, EUH QTZ. GEN. TRACE FN DISS PY, CPY IN CLASTS. RARE CS. PY, CPY, MAL ASSOC w/ QTZ/CAL VLTS
EOH. QTZ/CALCITE IN VUGS.	270	
275.2-275.5: STRONG CHLOR/CLAY ALT		
	280	281.5-282.0': CS. MAL. ASSOC w/ QTZ VN
		<1/2% T.S.
290.0-293.0: STRONG CHLOR/CLAY	290	
PERVASIVE MOD-STRONG SERR/CLAY @ 293.5-298.5 298.5-300.8 - UNALT. FN. GR. GABBRO CLAST.		
	300	
	310	
FEW CLEAN FCTS - MOD-STRONG PERVASIVE SERR. ALT		
	320	
	330	

GRAPHIC LOG



RECOVERY				ANALYTICAL	
Run	Run length	Core	%	Sample	Interval
	10.0	10.0		532218	264.0
				219	266.3
268.0					
				220	270.0
	7.2	7.2			
275.2				221	275.0
				222	280.0
	10.3	10.3			
285.5				532223	285.0
	7.4	7.4		224	290.0
292.9					
	10.2	10.2			
303.1					
	4.9	4.9			
308.0					
				NS	310.0
	10.0	10.0		532225	315.0
318.0					
	10.0	10.0			
328.0					

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LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
BRECCIATED GABBRO, AS @ 190-260			TR. FN DISS. Py ± CPY IN LESS ALT. GABBRO CLASTS U. RARE Py ± CPy MM ± ASSOC. W/ VUGGY QTZ/CALCITE	3350	7.0	7.0	100	NS,	335.0
	340				10.1	10.1	100	532226	340.0
SERR. ALT DECREASING TOWARDS 361.0, CHLOR. ALT MODERATE TO STRONG OF MAFICS, DECREASING SiO2, CaCO3 FLOODING				345.1					
LESS Bx TOWARDS 361.0.	350				10.2	10.2	100		
361.0 UZWOE CNT @ 50°				355.3					
DARK GRAY GREEN, GEN. MED. GRAINED GABBRO. LOCALLY FINE GRAINED. MOD.-STRONG CHLORITE ALTERATION OF MAFICS, LOCAL SEGREGATION OF PLAG ± QTZ, ± CT. MAC			TR. DISS. Py ± CPy		10.3	10.3	100		
	360			365.6					
				367.2	1.6	1.6	100		
WK. POR. TEXT DUE TO CHLOR. ALT, CS. GR. HBL, BIOTITE COMMON	370				10.2	10.2	100	NS,	372.4
372.4	377.4			377.4				532227	377.4

DIAMOND DRILL HOLE LOG

Company ACNC

LEGEND

SURVEY

Footage	Bearing	Inclination

Property KAMISHAK — Hole No. 83537
Location — Bearing at Collar 360
Inclination at Collar -90
Coord. - Collar N 200109.0
E 99346.4 — Length 288.0
Elev. - Collar 1298.4 — Core Size BDBGM
Date started 7/05/91
Completed 7/06/91 — Logged by PT

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LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	BC
Overburden										1
9.3										
DIORITE - white w/green spots, plagioclase + chlorite + hbld + magnetite + quartz - Medium-grain size, mafics altered to chlorite, magnetite 1-2%.	10		Traces of fine grained disem. py							19.
14.0 - 6x8 cm xenolith of porphyry				18.0	18.0	8.7				
19.2 - qtz veins to 0.75 cm	20									2
Plag phenos altered to clay				27.0	9.0	8.8				29.
	30		29.0 - Py on fits							
34.5 - really broken up.								NS	31.9	
34.0 - qtz flooding + qtz veins to 0.5 cm, diorite is moderately clay altered.				37.1	10.1	10.0		FS53189	37.1	38
40.2 - rock becomes darker C.I. ~50 and less altered.	40			40.2	2.9	2.4				4
				48.0	7.8	7.9				49.
46.0 - 47.5 - xenoliths of coarse gr. gabbro - 2 x 4 cm	50									5

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LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
DIORITE - continued - plag phenos, less altd than abv 51.5 - calcite on fcts 53.2 - 54.8 - clayey gouge in two zones 58.9 - 1.0 cm brxd qtz vein, 40 Deg to core axis 59.5 - 1.0 cm qtz - CO_3 vein, 20 Deg to core axis 74.5 - xenoliths of mafic rx. 75.0 - plag phenos → clay 76.0 - clayey gouge - small fault 82.3 - cubic colorless xtals or fcts. anhydrite? Continued Diorite / alt Diorite Plagioclase 30% Quartz 30% Biotite → 25% Chlorite Magnetite 2-3% ± Epidote tr Medium to fine grained locally porphyritic - plag phenos 104.6 + 110.2 - xenoliths of coarse grained gabbro	50 60 70 80 90 100 110 120		51.5 - thin (1.0mm) py veinlets, 40° to core. 82.3 1-2 mm py veinlet 87.9 - 1-2mm py veinlet 91.4 - 0.5 x 3.0 cm blob of pyrite 93.7 - CuOx on fct surface	56.7 63.2 68.0 78.0 88.0 98.0 108.0 118.0	8.7 6.5 4.8 10.0 10.0 10.0 10.0 10.0	8.7 6.4 4.8 10.0 10.0 10.0 10.0 10.0	100 99 100 100 100 100 100 100	NS FK532190 NS FK532191 NS FK532192	56.7 60.0 83.0 88.0 108.0 113.0

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
MED GRAINED DIORITE (continued)	120								
			126.4 - CuOx + FeOx assoc. w/ 60° Fct.					NS	125.6
Strong FeOx stain and CuOx dism outward from Fcts @ 127.3				128.0	10.0	10.0	100	FX532193	128.0
128.0 - 129.0 - finer grained phase of diorite grading to med gr. by 130.0 ft.	130		126.9-127.6 - CuOx + strong FeOx assoc w/ 40° Fcts.						
			137.8 - 1.0 mm Py veinlet 30° to CA xis	138.0	10.0	10.0	100		
	140		142.0 - 1 mm Py veinlet						
			145.2 - fg dism Py + Py along Fcts.					NS	145.3
				148.0	10.0	10.0	100		
	150							FX532194	150.0
153.5 - mafic xenolith 3cm x 2.5cm									
155.0 - mafic xenolith - 1.5 x 2.0 cm			157.7 - 2 mm Py veinlet 40° to core						
157.6 - large, 1.0 x 0.5 cm, zoned plag. phenos.				158.0	10.0	10.0	100		
158.9 - 160.2 - 3-4 mm qtz vein parallel to core axis.	160								
161.0 - mafic xenolith 161.8 - 1.0 mm magnetite veinlets plag → clay next to fct.									
				168.0	10.0	10.0	100	NS	169.0
abrupt change to more porphyritic phase of diorite, darker grey color, 1.0 cm qtz vein 30° to core axis. Grades back into diorite, med. grained.	170								
								FX532195	174.0
175.5 - minor fault, clayey gouge				178.0	10.0	10.0	100		
	180		181.1 - qtz vein, 0.75-1.0 cm, along shear, 60° to core axis						
185.8 - round mafic xenolith, 2.5 cm - 3.0 cm diameter.									
187.7 - chlorite + magnetite veinlets				188.0	10.0				
	190								

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LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
DIORITE - light grey, med grained; plag + qtz + chl + bio + mag. occasional hbld. Not altered except for chlorite replacing biotite.	190		occasional vfg diss py throughout						
				198.0	10.0	10.0	100	NS	198.0
	200							FX532196	203.0
206.2 - mafic xenolith 2x4 cm.				208.0	10.0	10.0	100		
	210								
215.4 - mafic xenolith 3x5cm									
215-218 - coarser grained phase				218.0	10.0	10.0	100		
220.0 - mafic xenolith 5x7 cm coarse gabbro	220							NS	223.0
				228.0	10.0	10.0	100	FX532197	228.0
	230								
236.0 - mafic xenolith 2x3 cm									
236.5 minor shear				238.0	10.0	10.0	100		
237.4-238.5 - coarser grained phase	240								
239.5-240.5 - chlorite vein ≈ parallel to core axis				248.0	10.0	10.0	100		
	250							NS	253.0
				258.0	10.0			FX532198	258.0
	260		1mm py veinlet 259.5						

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LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY				ANALYTICAL						
				Run	Run length	Core	%	Sample	Interval	Au	Cu			
DIORITE	260							NS	261.9					
								FES32199	269.0					
269.0 - mafic xenolith 1x2 cm				268.0	10.0	10.0	100							
	270													
272.0 - mafic xenolith 3x7 cm														
276.5 - strong FeCx stn on shear								NS	275.0					
278.0 - END OF HOLE				278.0	10.0	10.0	100	FES32200	278.0					
	280													

DIAMOND DRILL HOLE LOG

Company ACNC

Property Kamishak	Hole No. B3538
Location Alaska, Iliamna 1:250000	Bearing at Collar 360
	Inclination at Collar -90
Coord. - Collar N 200140.2	
E 99525.0	Length 301.0
Elev. - Collar 1361.2	Core Size BW44
Date started 7/5/91	
Completed 7/9/91	Logged by PT

LEGEND
- sulfide ☒
- FeOx ☒
- Quartz ☐
- fault/shear ☒

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	BC
0.0 OVERBURDEN	0									1
6.4 DIORITE - med grey - med-coarse grained, Plag + chl + qtz + bld. 10.0 - 10.9 - jumbled core	10		9.0 - strong FeOx stn and +/- py on 75° fct.	9.6	9.6	3.2	33			
				11.9	2.3	2.4	+100	NS	11.9	14.(
12.9 Med Gr. GABBRO, broken + fractured. 14.3 DIORITE - med - coarse grained			14.4-14.6 - quartz clot							2
15.3-15.6 - malic (gabbroic?) xenolith			16.3 - py clots along 25° fct	17.2	5.3	5.2	99	FS532820	17.2	
Diorite is med - coarse grained, med to light grey/white color, not altered much.	20									23.(
Plag + chlorite + biotite + quartz + magnetite				23.0	5.8	5.8	100			3
29.8 - 2.0 mm qtz - carb vein w/ 2 cm eltn. halo										
28.2 - malic xenolith 2x5 cm										
30.9 - round malic xenolith, 5cm dia.	30									33.
			37.5 - strong FeOx stn.	33.2	10.2	10.1	99			4
				38.9	5.7	5.7	100			41.
43.0 - FeOx + qtz on fcts	40							NS	44.0	
45.0 - malic xenolith, 2.5 x 3 cm										5
				49.0	10.1	10.1	100	FS532229	49.0	51.0
	50									

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LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
DIORITE - light grey med grained unaltered except for chlorite replacing biolite	50								
				58.2	9.2	9.2	100		
61.6 - gouge... minor shear	60								
			64.0 Tr CuOx + FeOx on fct.						
69.2 mafic xenolith 2x3cm				68.1	9.9	9.8	99	NS	68.1
	70							FrS32230	75.0
				78.3	10.2	10.7	105		
			79.0 2-3 mm veinlet w/mag, py, cpy @ 20° to core						
83.0-86.0 - coarser grained phase of diorite much darker + more mafic.	80								
				88.6	10.3	10.2	99		
	90								
				98.9	10.3	10.3	100		
	100							NS	101.0
104.6-104.9 - weak alteration clay + chlorite									
104-106 - darker phase of diorite									
106.6 - 0.8 ft sheared + clay gouge zone - Fault			106.3 - tr py along fcts + shears.	106.6	7.7	7.7	100	FrS32231	106.6
107.1 - mafic xenolith, 2 cm x 2 cm.	110								
			111.0 10-12 mm vein @ 25° to core, qtz + py + FeOx						
117.3 - mafic xenolith, 3x5 cm				116.9	10.3	10.3	100		
	120								

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LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
DIORITE - med grained light grey as abv.	120								
127.5 - clay gouge, minor shear				127.1	10.2	10.2	100	NS	132.0
128.2 - altered mafic xenolith, rounded, 3 cm dia.	130		132.6 - Strong 80 mm FeOx on fct.						
133.0 - 136.5, darker colored coarser grained phase of diorite.			135.0 3 mm qtz. vein @ 30° to core surrounded by 1 cm wide chloritic selvage	137.3	10.2	10.1	99	FX532232	136.5
142.4 - mafic xenolith, 1.5x2 cm	140								
				147.5	10.2	10.2	100		
153.6 - 153.9 - mafic xenolith	150								
				157.7	10.2	10.2	100	NS	157.7
161.5 - mafic (gabbroic) xenolith 2x2.5 cm	160							FX532233	163.0
				167.9	10.2	10.2	100		
173.4 - 175.1 - broken core	170			175.1	7.2	6.2	86		
177.6 - Mafic xenolith, 3x7 cm, FeOx stained w/ tr py.	180		177.6 - tr py in mafic xenolith						
				185.0	9.9				
	190								

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LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY				ANALYTICAL		B
				Run	Run length	Core	%	Sample	Interval	
DIORITE - lt. grey-white, med grained plag + bio + chl + qtz + mag + minr. sericite	190			194.2			100	NS	194.9	2
197.5 - clay alt'n along fct bleeding 3-5 cm into host.	200							FYS32234	200.0	2
196.9 - 198.8 - darker, coarser grained phase of intrusive				204.4	10.2	10.2	100			
209.1 - 210.9 - finer grained phase of diorite w/plag phenos.										2
211.4 - 212.6 - quartz clot w/tr py along margins,	210		212.4 - 212.6 - white quartz	214.6	10.2	10.2	100			
	220		217.0 1.0 mm py veinlet @ 30° to core							2
			218.4 - 1.0 mm py ± cpy veinlet @ 10° to core							
				224.7	10.1	10.1	100	NS	223.4	
								FYS32235	228.0	2
	230		230.8 - 2-3 mm qtz veinlets @ 50° to core							
			235.3 - 10 mm quartz vein on 60° fct, drusy qtz euhedra in centre	235.0	10.3	10.2	99			2
	240									
247.1 - 247.6 - mafic xenolith				245.1	10.1	10.1	100			
	250									2
				255.2	10.1	6.1	100	NS	255.2	
	260									2

83538

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval
DIORITE - med grained as abv.	260							FS532236	261.5
263.4 - mafic xenolith, 2 x 3 cm				265.4	10.2	10.2	100		
	270		270.7 - 2-3mm qtz veinlets and drusy qtz on 60° shear	275.7	10.2	10.2	100		
	280		283.4 - fr py on 70° fct.					NS	279.6
289.6 - mafic xenolith 3x5cm				285.7	10.0	10.0	100	FS532237	285.0
	290			293.8	8.1			NS	298.3
301.0 END OF HOLE	300			301.0	7.2			FS532239	301.0

DH83521 KAMISHAK PRELIM. LOG 8/15/90 AB

BOX	INTERVAL	DESCRIPTION
1	0 - 13.5	BROKEN V. WK. PYRIF DIORITE
2	13.5 - 22.9	BROKEN WKLY PYRIF DIORITE
3	22.9 - 32.2	BROKEN DIORITE TO WK-MOD PYRIF DIORITE
4	32.2 - 41	BROKEN DIORITE/DIKE (V. WK. SULFDS)
5	41 - 50.1	
6	50.1 - 59.	
7	59 - 69	BROKEN DIORITE/DIKE (V. WK. SULFDS)
8	69 - 77.8	MOD ALT'D/PYRIF BX (± BROWN, EUHED COARSE QTZ VNS)
9	77.8 - 86.7	MOD ALT'D/PYRIF BX to MONZO DIKE
10	86.7 - 95.7	MOD ALT'D/PYRIF BX
11	95.7 - 105	MOD ALT'D/PYRIF BX
12	105 - 114.1	MOD ALT'D/PYRIF BX
13	114.1 - 123.9	WKLY ALT'D, WK-MOD PYRIF BX DIORITE
14	123.9 - 133.7	WKLY - MOD ALT'D, MOD PYRIF BX
15	133.7 - 142.3	WKLY - MOD ALT'D, W. PYRIF DIORITE
16	142.3 - 151.5	WKLY - MOD ALT'D, W. PYRIF DIORITE
17	151.5 - 161.3	MOD ALT'D PYRIF BX (± BROKEN)
18	161.3 - 170.5	MOD ALT'D PYRIF BX (± BROWN) NON-MAG.
19	170.5 - 179.8	MOD/H TO MOD ALT'D PYRIF BX (± BROWN)
20	179.8 - 189.9	MOD ALT'D PYRIF BX
21	189.5 - 199.5	PYRIF BX TO V. ALT'D, CLAKY BX
22	199.5 - 209.2	ALT'D BX TO BROK, ALT/LIM FRACS
23	209.2 - 217.3	BROKEN, ALT'N/± LIMONITIC FRACS
24	217.3 - 227.2	INDUR DIORITE
25	227.2 - 236.9	INDUR. DIORITE (RARE ALT'N)
26	236.9 - 245.8	INDUR DIORITE

{ PX-BT DIORITE:
< 1% CP
< 1 CARBONATE
3% MAGNETITE (VERY MINOR ✓)
MOD-STRG CHLORITE → 25% MAFICS (PX - BT) (AVG-HGR ✓)
5% QTZ
65% F'SPARS

MED-CRS (GRNP) MAFICS
(MOD-HVY CHLORITE)
MED GRND F'SPARS

{ QTZ-ECLOGITE DIORITE: DIKE
5-10% CRS MAFICS
10+ QTZ

ALT'N ZONE: WEATHERING
BRECCIA W/ 2ND MAG.

ALL MINERALIZATION ASSOC W/ V. COARSE BIOTITE ∴ WEATHERS → CHLORITE/C

PRIMARY SULFIDES IN DIORITE ✓
SECONDARY IN BRECCIA ✓

32' CASING

DH83522

PRELIM. LOG 8/18/98 AS

BOX	INTERVAL	DESCRIPTION
1	0-12.7	F.MED DIORITE, MAG, SPARSE SULFIDES
2	12.7-21.3	" " " " "
3	21.3-30.9	" " " " "
4	30.9-39.8	" " " " "
5	39.8-49.0	" " " " "
6	49-59	" " " " "
7	59-68.1	
8	68.1-77.1	
9	77.1-86.8	
10	86.8-95.7	
11	95.7-104.2	
12	104.2-114.2	
13	114.2-123.5	
14	123.5-133	
15	133-142.7	
16	142.7-152.4	
17	152.4-161.3	
18	161.3-171.2	
	↓	
	200.5	

TAKEN THIS ZONE TO BOTTOM TO INVALIDATE MAG. MODEL FROM BX-ALT'N ZONE

F.MED GRND DIORITE, MAG, SPARSE SULFIDES, FINE QTZ VNS INTERMEDIATE <

RARE, FINE QTZ VNS

RARE FINE LIMONITIC FRAC

Some old same old

DH83523

Box	Interval	Description
1	0 - 12.1	BROKEN DIORITE I CHLORITE/MALACHITE
2	12.1 - 21.1	" " I QTZ VN ; QTZ CP BLEBS
3	21.1 - 28.7	" " " " Same BX
4	28.7 - 39.1	" " " " Same BX
5	39.1 - 48.8	BROKEN DIORITE ; I NO CP
6	48.8 - 57.8	BROKEN DIORITE ; I BX NO CP
7	57.8 - 65.8	" "
8	65.8 - 75.6	" "
9	75.6 - 84.3	BROKEN DIORITE W/ SERPTE BX W/ CP
10	84.3 - 93	" " " " (W/ CP &) Some clay
11	93 - 102.3	" " " " " "
12	102.3 - 113.7	PARTIALLY BROKEN DIORITE W/ CLAY/CHLORITE ZONES
13	113.7 - 123.1	MOD BX I CLAYEY W/ QTZ. CP.
14	123.1 - 132.7	MOD BX W/ SPOTTY CP
~~15~~ 15	BOX #3 SAMPLE	
16	132.7 - 141.4	WK-MOD BX W/ SPOTTY CP
17	141.4 - 150.3	MOD BX W/ SPOTTY CP
18	150.3 - 160.0	MOD BX W/ QTZ VNS W/ V. QTZ. CP
19	160.0 - 169.4	MOD BX W/ WK CP
20	169.4 - 178.5	WK-MOD BX W/ WK CP
21	178.5 - 187.9	WK BX W/ MOD CP
22	187.9 - 197.3	STRNG BX W/ STRONG SERICITIC ALTN & ABUNDT CP
23	197.7 - 206.5	STRNG BX W/ " " " " "
24	206.5 - 215.8	BX W/ CP TO STRNG BX W/ SERICITIC ALTN " "
25	215.8 - 225.2	STRNG BX W/ STRONG SERICITIC ALTN & ABUNDT CP.
26	225.2 - 234.2	" " " " " " " ; MVY CHLORITE ZONES → MOD ALT'D
26	234.2 - 243.1	MOD ALT'D TO WK ALT'D DIORITE BX
27	243.1 - 253.9	DRY DIORITE
28	253.9 - 261.7	" "
29	261.7 - 271.5	" "
30	281.9 - 281.7	" "

PRELIM. LOG DH83524 CASING: 10 FT

BOX	INTERVAL	DESCRIPTION
1	0 - 11.8	BROKEN DIORITE, WK BX, NO CP
2	11.8 - 20.8	BXD DIORITE (W MOD CP)
3	20.8 - 31.2	
4	31.2 - 41.0	BX GD DIORITE (MOD CP)
5	41.0 - 50.6	BX w/ MOD CP BLEBS
6	50.6 - 59.2	BX + CP BLEBS
7	59.2 - 74.2	BRD BROKEN DIORITE, + MOD BX; LITTLE CP
8	74.2 - 83.1	DIORITE TO WK BX / LIMONITE ZNS
9	83.1 - 93	MOD-STRG BX w/ SULFIDES TO ± DIORITE
10	93 - 102.1	MOD-STRG BX w/ SULFIDES
11	102.1 - 111	DIORITE TO WK-MOD BX
12	111 - 121.6	MOD BX w/ ABNDNT MED-CRS SULFIDS
13	121.6 - 131.1	MOD BX w/ MED-CRS CP BLEBS
14	131.1 - 141.1	" " MOD " " "
15	141.0 - 150.6	HM BX w/ ABNDANT SULFIDES
16	150.6 - 160.5	WK-MOD BX w/ SOME SULFIDES + LIMONITE FRACS/ZNS
17	160.5 - 170.2	MOD BX w/ SULFIDE BLEBS (PY/MARCASITE)
18	170.2 - 179.5	MOD BX TO LIMONITE/BROKEN (SHORT) TO DRY DIORITE
19	179.5 - 189.2	
20	189.2 - 198.9	DRY DIORITE w/ OCCAS. DRY BFZ UNG
21	198.9 - 208.9	DRY DIORITE
22	208.9 - 211.2	DRY DIORITE

BOA	INTERVAL	DESCRIPTION	83525
1	0–14.4	OB, DIORITE, MALACHITE BROKEN, CLAYEY DIORITE BX	
2	14.4–24.4	MAL BX TO LIMONITE/CLAYEY	
3	24.4–34.5	V. HUY LIMONITE / CLAYEY	
4	34.5–42.9	WK-MOD BX W/ OCCAS. CP ± LIMONITE	
5	42.9–52.8	CRBA MAFIC DIORITE/DIOR W/ COARSE SULFDS. VNS	
6	52.8–62.1	DIOR W/ QTZ VNG W/ V. CRS PY	
7	62.1–72	DIOR BX W/ HI GRADE/QTZ/QPC VNG	
8	72–81	" " " "	
9	81–91	QTZ DIOR/DIORITE W/ HI GRADE QTZ VNG	
10	91–100.6	" " " "	
11	100.6–109.8	BX W/ MOD 6' OF HI GRADE VNG.	
12	109.8–119.5	HI GRADE SOME BRCA SOME BX	
13	119.5–129.1	± LIMONITE BX W/ V. CRS QTZ.	
14	129.1–138.8	" " "	
15	138.8–148.0	BX W/ ± LIMONITE V. CRS. QTZ	
16	148–157.8	± LIMONITE BX W/ SOME CRS QTZ	
17	157.8–167	" " "	
18	167–176.4	MINR BX W/ QTZ. DIORITE DIKES	
19	176.4–186.2	DIORITE, MINR BX W/ QTZ DIORITE DIKES (LIMO BX W/ CP FLECKS	
20	186.2–196.1	" " " " (V. CRS. CP IN OCCAS BX,	
21	196.1–204.4	" " " " (± " " ")	
22	204.4–214	DIORITE W/ UN MIN BX	
23	214–223.6	DIORITE W/ " " " (LMD HUY OXIDED SULFDS)	
24	223.6–233	BX W/ ±SULFDS TO DIORITE W/ QTZ VNS	
25	232.0–237.2	CRS DIORITE ~~&~~ DRY	

V. CRS QTZ = DEAD? NOT ALWAYS

DH83526

Box	Interval	Description
1	0 – 15.8	PART. BROKEN DIORITE
2	15.8 – 24.4	" " "
3	24.4 – 34.6	" " "
4	34.6 – 43.8	" " " (TOWARD END ± CLAYEY)
5	43.8 – 53.3	" " "
6	53.3 – 63.0	INDUR. DIORITE w/ MINR. LIMONITE QTZ. STR. VNS
7	63.0 – 72.5	DRK INDUR. DIORITE
8	72.5 – 82.3	INTO BX w/ V. QTZ PY/QTZ.
9	82.3 – 92.0	± BX w/ SPOTTY V. QTZ. PY
10	92 – 101.0	BX w/ OCCAS SULFDS
11	101.0 – 110.8	SULFIDRICH BX INTO DIORITE
12	110.8 – 120.4	INTO BX w/ VV. QTZ. PY MATRIX
13	120.4 – 130.4	DIORITE w/ QTZ VNG + SULFD
14	130.4 – 140	" " " "
15	140 – 145.4	" " " "
16	145.4 – 159.1	" " " "
17	159.1 – 168.5	BX ± DIORITE w/ SULFIDS
18	168.5 – 178.2	" " "
19	178.2 – 187.8	BROKEN BX w/ SULFD
20	187.8 – 197.2	BX w/ SULFD
21	197.2 – 206.3	BROKEN, CLAYEY BX/DIORITE w/ SULFD
22	206.3 – 215.7	CLAYEY BX INTO DRK WK DIORITE/BX
23	215.7 – 225.6	± CLAYEY BROKEN BX
24	225.6 – 235.2	DIORITE
25	235.2 – 244.7	DIORITE / WK BX
26	244.7 – 254.2	" " " w/ SULFDS
27	254.2 – 263.9	INDUR, BX W SULFDS
28	263.9 – 273	INDUR - CLAYEY BX W/ SERICITE
29	273 – 282.6	" " " "
30	282.6 – 291.8	BX
31	291.8 – 301.2	
32	301.2 – 311.6	
33	311.6 – 321.6	PROP/SERICITE w/ SULFIDES CLAYEY ALTD

PRELIM LOG
DH 83526 CON'T

Box	INTERVAL	DESCRIPTION
~~33~~		
34	321.6 – 331.4	SERICITE BX INTO PORPH
35	331.4 – 341.1	± CLAMED PHENOS PORPH w/ BX AT END
36	341.1 – 350.5	ALTD TO DRY DIORITE
37	350.5 - 358.3	DRY DIORITE

DRILL HOLE DATA

PROJECT KAMISHAK STATE ALASKA COUNTY KENAI PENNINSULA BOROUGH

INCO HOLE NUMBERS (FIELD NUMBER)

	83527	83528	83529	83530	83531	83532
USGS QUAD	ILIAMNA A-4	→	→	→	→	→
SEC,T,R	3, 11S, 31W	→	→	→	→	→
COORDINATES	500192 N 749844E	500203N 749394E	500725 N 749750 E	500234 N 749600 E		
COLLAR ELEV	1469.2 FT	1325.2 FT	1432.6 FT	1403.0 FT		
CLAIM #	5150	5150				
START/FIN DATES	6.9.91/6.13.91	6.9.91/6.12.91	6.15.91/	6.13.91/		
BEARING/DIP	150°/-45°	149°/-45°	150°/-45°	150°/-45°		
HOLE SURVEY DATA						
TD	170.4	490.9 FT.				
DEPTH OF CASING	41 FT.	20 FT.	41 FT.	20 FT		
DEPTH OF OVERBURDEN	10.1 FT	15.0 FT	35.9 FT	16.5 FT.		
TYPE DRILLING	BW44 CORE	BDBGM CORE	BW44 CORE	BDBGM CORE		
CONTRACTOR	SALISBURY ASSOC. INC.	→	→	→	→	→
TYPE OF PROBING	—	—	—	—	—	—
GEOLOGIST	F. KRUGER D. ALBERS P. THURSTON	→	→	→	→	→
FX NUMBERS START FINISH	523001 532040	531801 531867	531868			
REMARKS	Magmatic Breccia Zone 48.0-77.3	no breccia zone	Magmatic Breccia Zone 99.8'—			

BOREHOLE LOG

DRILL HOLE	: 83521	DATE PRINTED	:17/ 9/1991
PROJECT	: KAMISHAK		
PROPERTY NAME	: CANYON CLAIMS		
MINE	:		
COUNTRY	: USA	NORTHING	: 200057.00N
PROV/STATE	: ALASKA	EASTING	: 99691.70E
TWP/COUNTY	:	ELEVATION	: 1417.30
NTS/SECT. T. R.	: 03, 11S;31W	HOLE LENGTH	: 248.10
UTM COORDINATES	:		
QUADRANGLE	: ILIAMNA A-4&5, B4&5		
CLAIM #	: 5150		
ANOMALY #	:		
LOGGED BY	: A.SNYDER, Relogged by PT 6/91	LEVEL	: SURFACE
DRILLED BY	: SALISBURY & ASSOC.-R. GIBSON	INCLINATION	: -45
DRILL TYPE	: SUPER HYDRA-WINKIE	BASELINE AZIMUTH	: 0
CORE SIZE	: BW44	BOREHOLE BEARING	: 150
HOLE SIZE	:	HEADING	:
		SECTION	:
STARTED	: 8/12/90	ASSAYED FOR	: GOLD & ICP30
COMPLETED	: 8/15/90	ATTITUDE TEST METHOD	: NONE
		GRID NAME	:

COMMENTS: **********
CASING TO 32FT
LEFT IN HOLE :NONE
****

DEVIATION RECORDS

FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP
.00	150.00	-45.00	248.10	150.00	-45.00			

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
.00	10.30	OVERBURDEN					
		Overburden	.00	10.30	NS	-	-
10.30	69.40	GABBRO					
		Fine to medium grained gabbro - locally bxxd @ 29-31 ft.,tr-1% dism py+cpy, very broken w/FeOx on fcts @ 66-69 ft., minor py on fcts.	10.30	15.00	FX427571	1550	1062
			15.00	20.00	FX427572	1090	2952
			20.00	25.00	FX427573	1190	1842
			25.00	30.00	FX427574	280	1280
			30.00	35.00	FX427575	1280	1731
			35.00	40.00	FX427576	108	1107

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
			40.00	45.00	FX427577	131	619
			45.00	50.00	FX427578	230	631
			50.00	55.00	FX427579	64	541
			55.00	60.00	FX427580	380	700
			60.00	65.00	FX427581	660	1167
			65.00	69.40	FX427582	670	880
69.40	134.00	BRECCIA					
		Brecciated gabbro - rectangular clasts of fine-med grained gabbro, v.coarse matrix of amphibole + biotite + plag + sulfide, tr-1% py+cpy in matrix only.	69.40	70.00	FX427582	670	880
			70.00	75.00	FX428474	1110	1864
			75.00	80.00	FX428475	960	1181
			80.00	85.00	FX428476	650	1629
			85.00	90.00	FX428477	720	1443
			90.00	95.00	FX428478	1830	2991
			95.00	100.00	FX428479	2050	2735
			100.00	105.00	FX428480	950	2136
			105.00	110.00	FX428481	780	3071
			110.00	115.00	FX428482	2110	2106
			115.00	120.00	FX428483	490	1766
			120.00	125.00	FX428484	840	2386
			125.00	130.00	FX428485	1090	1609
			130.00	134.00	FX428486	1040	1323
134.00	171.50	GABBRO					
		Weakly brecciated gabbro - fine to med grained gabbro, weak brecciation indicated by clots of v. coarse amphibole + plag + biotite + chlorite (matrix material), tr-1% py+cpy assoc w/matrix, Brecciation is gradational becoming more intense w/depth.	134.00	135.00	FX428486	1040	1323
			135.00	140.00	FX428487	560	1250
			140.00	145.00	FX428488	450	864
			145.00	150.00	FX428489	1000	2662
			150.00	155.00	FX428490	1080	2430
			155.00	160.00	FX428491	650	3814
			160.00	165.00	FX428492	1440	7782
			165.00	170.00	FX428493	1020	6793
			170.00	171.50	FX428494	640	6762
171.50	172.00	FAULT					
		Clayey gouge zone.	171.50	172.00	FX428494	640	6762
172.00	190.00	BRECCIA					
		Strongly altered breccia - sericite + clay alteration, rectangular clast and matrix texture preserved, 1-3% cpy+py, local 2-5% bornite (?) @ 182 and 186 ft.	172.00	175.00	FX428494	640	6762
			175.00	180.00	FX428495	330	14050
			180.00	185.00	FX428496	7650	13300
			185.00	190.00	FX428497	31	4869
190.00	204.00	BRECCIA					
		Transitional zone - altered breccia grading into fine gr chloritized gabbro(?), sulfide content	190.00	195.00	FX428498	1300	27104
			195.00	200.00	FX428499	1170	1349
			200.00	202.10	FX428500	62	9612

FROM FT	TO FT		DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
			Decreases from 2-3% to 0-tr @ 203 ft., local breccia zones.	202.10	204.00	FX428500	62	9612
204.00	208.00	GABBRO						
			Chloritized and FeOx stained gabbro, cpy+py on fcts.	204.00	205.00	FX428500	62	9612
				205.00	208.00	FX427548	31	2725
208.00	218.00	GABBRO						
			Fine grained gabbro - intermittent chloritic alteration, tr py+cpy.	208.00	210.00	FX427548	31	2725
				210.00	215.00	FX427549	9	42
				215.00	218.00	FX427550	21	203
218.00	248.10	GABBRO						
			Unaltered medium to coarse grained gabbro.	218.00	220.00	FX427550	21	203
				220.00	248.10	NS	-	-

BOREHOLE LOG

BOREHOLE : 83522 DATE PRINTED :17/ 9/1991
PROJECT : KAMISHAK
PROPERTY NAME : CANYON CLAIMS
MINE :

COUNTRY : USA
PROV/STATE : ALASKA
TWP/COUNTY :
NTS/SECT. T. R. : 03, 11S;31W
UTM COORDINATES :
QUADRANGLE : ILIAMNA A-4&5, B4&5
CLAIM # : 5150
ANOMALY # :

NORTHING : 200162.40N
EASTING : 99947.20E
ELEVATION : 1492.10
HOLE LENGTH : 200.50

LOGGED BY : ANDY SNYDER, Relogged by PT 6/
DRILLED BY : SALISBURY & ASSCOC.-R. GIBSON
DRILL TYPE : SUPER HYDRA-WINKIE
CORE SIZE : BW44
HOLE SIZE :

LEVEL : SURFACE
INCLINATION : -45
BASELINE AZIMUTH : 0
BOREHOLE BEARING : 150
HEADING :
SECTION :

STARTED : 8/21/90
COMPLETED : 8/23/90

ASSAYED FOR : GOLD & ICP30
ATTITUDE TEST METHOD: NONE
GRID NAME :

COMMENTS: **********
CASING TO 11FT
LEFT IN HOLE :NONE
****

DEVIATION RECORDS

FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP
.00	150.00	-45.00	200.50	150.00	-45.00			

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
.00	1.60	OVERBURDEN					
			.00	1.60	NS	-	-
1.60	3.30	PORPHYRY Diorite porphyry.					
			1.60	3.30	NS	-	-
3.30	12.50	GABBRO Coarse grained porphyritic gabbro, plag phenos.					
			3.30	12.50	NS	-	-
12.50	200.50	GABBRO					

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
		Layered gabbro - alternating coarse to fine grained units 1-5m thick, no alteration.	12.50	60.00	NS	-	-
			60.00	65.00	FX427551	158	68
			65.00	70.00	FX427552	51	150
			70.00	75.00	FX427553	77	200
			75.00	80.00	FX427554	82	300
			80.00	85.00	FX427555	32	98
			85.00	90.00	FX427556	31	126
			90.00	95.00	FX427557	26	93
			95.00	100.00	FX427558	36	73
			100.00	105.00	FX427559	18	78
			105.00	110.00	FX427560	22	126
			110.00	115.00	FX427561	31	175
			115.00	120.00	FX427562	23	131
			120.00	125.00	FX427563	32	152
			125.00	130.00	FX427564	20	124
			130.00	135.00	FX427565	13	86
			135.00	140.00	FX427566	17	64
			140.00	145.00	FX427567	15	140
			145.00	150.00	FX427568	24	85
			150.00	155.00	FX427569	9	41
			155.00	160.00	FX427570	45	110
			160.00	200.50	NS	-	-

BOREHOLE LOG

BOREHOLE : 83523 DATE PRINTED :17/ 9/1991
PROJECT : KAMISHAK
PROPERTY NAME : CANYON CLAIMS
MINE :

COUNTRY : USA
PROV/STATE : ALASKA
TWP/COUNTY :
NTS/SECT. T. R. : 03, 11S;31W
UTM COORDINATES :
QUADRANGLE : ILIAMNA A-4&5, B4&5
CLAIM # : 5150
ANOMALY # :

NORTHING : 200040.60N
EASTING : 99584.80E
ELEVATION : 1389.20
HOLE LENGTH : 290.00

LOGGED BY : ANDY SNYDER, Relogged by PT 6/
DRILLED BY : SALISBURY & ASSCOC.-R. GIBSON
DRILL TYPE : SUPER HYDRA-WINKIE
CORE SIZE : BW44
HOLE SIZE :

LEVEL : SURFACE
INCLINATION : -45
BASELINE AZIMUTH : 0
BOREHOLE BEARING : 150
HEADING :
SECTION :

STARTED : 8/21/90
COMPLETED : 8/23/90

ASSAYED FOR : GOLD & ICP30
ATTITUDE TEST METHOD: NONE
GRID NAME :

COMMENTS: **
CASING TO 14FT
LEFT IN HOLE :NONE
****

DEVIATION RECORDS

FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP
.00	150.00	-45.00	290.00	150.00	-45.00			

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
.00	4.50	OVERBURDEN					
			.00	4.50	NS	-	-
4.50	9.40	GABBRO					
		Fine grained gabbro(?) - strongly oxidized w/qtz veins to 3.0cm, minor CuOx.	4.50	5.00	NS	-	-
			5.00	9.40	427583	910	3286
9.40	47.80	GABBRO					
		Fine to medium grained gabbro - locally broken, weak chloritic altn,	9.40	10.00	427583	910	3286
			10.00	15.00	427584	360	1592

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
		unevenly distributed py+cpy w/qtz, on fcts, and as small blebs.	15.00	20.00	427585	550	3690
			20.00	25.00	427586	710	2418
			25.00	30.00	427587	144	905
			30.00	35.00	427588	240	2221
			35.00	40.00	427589	320	2315
			40.00	45.00	427590	34	484
			45.00	47.80	427591	48	524
47.80	62.00	GABBRO					
		Altered gabbro - chloritic altn and weak potassic altn, tr-1% cpy in clots, minor FeOx on fcts.	47.80	50.00	427591	48	524
			50.00	55.00	427592	112	505
			55.00	60.00	427593	490	1098
			60.00	62.00	427594	620	1285
62.00	76.50	GABBRO					
		Fine grained gabbro, weak chloritic altn, occasional clots of bio+amphibole +cpy+CuOx.	62.00	65.00	427594	620	1285
			65.00	70.00	427595	123	569
			70.00	75.00	427596	260	1321
			75.00	76.50	427597	740	2221
76.50	95.80	GABBRO					
		Fine grained gabbro, moderate chlorite altn, tr-1% dism and clotty cpy+py , local clay altn.	76.50	80.00	427597	740	2221
			80.00	85.00	427598	210	1521
			85.00	90.00	427599	410	1853
			90.00	95.00	427600	350	2023
			95.00	95.80	427601	290	1757
95.80	105.00	GABBRO					
		Dark green fine grained chloritic gabbro, tr-1% cpy, minor CuOx, less altered than previous interval.	95.80	100.00	427601	290	1757
			100.00	105.00	427602	1760	4967
105.00	111.00	FAULT					
		Sheared and broken gouge zone.	105.00	110.00	427603	1360	2514
			110.00	111.00	427604	550	2491
111.00	119.00	BRECCIA					
		Breccia zone, potassic and chloritic alteration, clots of cpy+py to 3 cm, light green to tan color, minor quartz veins and vug fillings.	111.00	115.00	427604	550	2491
			115.00	119.00	427605	1980	3492
119.00	124.00	GABBRO					
		Fine grained gabbro, tr py+cpy, very little alteration.	119.00	120.00	427605	1980	3492
			120.00	124.00	427606	220	715
124.00	166.00	GABBRO					

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
		Altered gabbro, chloritic, weak	124.00	125.00	427606	220	715
		brecciation, coarse pods of	125.00	130.00	427607	260	487
		plag+amphibole+biotite +sulfide,	130.00	135.00	427608	560	1459
		breccia matrix?, gradational zone with	135.00	140.00	427609	240	518
		large breccia clasts?, tr-1% py+cpy @	140.00	145.00	427610	240	1130
		152-166 feet.	145.00	150.00	427611	57	685
			150.00	155.00	427612	38	681
			155.00	160.00	427613	70	1434
			160.00	165.00	427614	61	2395
			165.00	166.00	427615	102	2550
166.00	188.00	BRECCIA					
		Brecciated gabbro, more broken than	166.00	170.00	427615	102	2550
		above, FeOx stain on fcts, vugs w/CuOx,	170.00	175.00	427616	270	3728
		cpy, quartz, weak breccia texture,	175.00	180.00	427617	380	2822
		tr-2% cpy+py throughout, chloritic	180.00	185.00	427618	300	4231
		alteration.	185.00	188.00	427619	1990	7847
188.00	198.00	BRECCIA					
		Altered breccia, strong potassic and	188.00	190.00	427619	1990	7847
		sericitic alteration, 1-2% sulfide,	190.00	195.00	427620	740	9276
		dism cpy+py and coarse cpy as matrix	195.00	198.00	427621	1360	11021
		fillings, strong FeOx on fcts.					
78.00	229.00	BRECCIA					
		Sericite altered breccia, 1-2% sulfide	198.00	200.00	427621	1360	11021
		in matrix, cpy+py, primary textures	200.00	205.00	427622	490	6425
		obscured by alteration, coarse	205.00	210.00	427623	320	10684
		amphibole+plag+chl+cpy+py in matrix,	210.00	215.00	427624	720	14067
		biotite altered to kspar breccia clasts	215.00	220.00	427625	900	25827
		appear to be med-coarse grained gabbro,	220.00	225.00	427626	1080	24919
		clasts are subangular and appear to be	225.00	229.00	427627	930	15863
		partially milled and mechanically					
		ground.					
229.00	234.00	FAULT					
		Crushed, broken, and clayey rock.	229.00	230.00	427627	930	15863
			230.00	234.00	427628	1780	10708
234.00	247.00	BRECCIA					
		Potassic and sericite/chlorite altered	234.00	235.00	427628	1780	10708
		breccia, tr to 0% sulfide, brecciation	235.00	240.00	427629	640	4041
		decreases down hole.	240.00	245.00	427630	19	871
			245.00	247.00	427631	112	518
247.00	261.00	GABBRO					
		Dark grey fine grained gabbro, tr dism	247.00	250.00	427631	112	518

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
		sulfide, mostly pyrite, no alteration.	250.00	255.00	427632	23	344
			255.00	260.00	427633	15	118
			260.00	261.00	427634	48	458
261.00	270.00	GABBRO					
		Medium to coarse grained gabbro, tr dism py.	261.00	265.00	427634	48	458
			265.00	270.00	427635	52	486
270.00	290.00	DIORITE					
		Medium to coarse grained diorite, tr dism py, no alteration.	270.00	290.00	NS	-	-

BOREHOLE LOG

BOREHOLE : 83524 DATE PRINTED :17/ 9/1991
PROJECT : KAMISHAK
PROPERTY NAME : CANYON CLAIMS
MINE :

COUNTRY : USA
PROV/STATE : ALASKA
TWP/COUNTY :
NTS/SECT. T. R. : 03, 11S;31W
UTM COORDINATES :
QUADRANGLE : ILIAMNA A-4&5, B4&5
CLAIM # : 5150
ANOMALY # :

NORTHING : 200108.40N
EASTING : 99761.90E
ELEVATION : 1437.50
HOLE LENGTH : 211.20

LOGGED BY : ANDY SNYDER, Relogged by PT 6/
DRILLED BY : SALISBURY & ASSCOC.-R. GIBSON
DRILL TYPE : SUPER HYDRA-WINKIE
CORE SIZE : BW44
HOLE SIZE :

LEVEL : SURFACE
INCLINATION : -45
BASELINE AZIMUTH : 0
BOREHOLE BEARING : 150
HEADING :
SECTION :

STARTED : 8/25/90
COMPLETED : 8/28/90

ASSAYED FOR : GOLD & ICP30
ATTITUDE TEST METHOD: NONE
GRID NAME :

COMMENTS: **
CASING TO 10FT
LEFT IN HOLE :NONE
****

DEVIATION RECORDS

FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP
.00	150.00	-45.00	211.20	150.00	-45.00			

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
.00	5.00	OVERBURDEN					
			.00	5.00	NS	-	-
5.00	59.20	BRECCIA					
		Gabbro breccia zone, rectangular clasts of med grained gabbro, coarse grained matrix of biotite+amphibole+plag+sulfide, cpy+py occurs as blebs in matrix, minor CuOx staining.	5.00	10.00	FX427636	33	639
			10.00	15.00	FX427637	560	1420
			15.00	20.00	FX427638	890	1684
			20.00	25.00	FX427639	1190	1845
			25.00	30.00	FX427640	370	1172
			30.00	35.00	FX427641	150	1032
			35.00	40.00	FX427642	500	1435

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
			40.00	45.00	FX427643	1010	1733
			45.00	50.00	FX427644	370	946
			50.00	55.00	FX427645	330	739
			55.00	59.20	FX427646	360	661
59.20	74.20	BRECCIA					
		Broken and sheared gabbro and breccia, tr py+cpy on fcts.	59.20	60.00	FX427646	360	661
			60.00	65.00	FX427647	350	414
			65.00	70.00	FX427648	77	263
			70.00	74.20	FX427649	740	881
74.20	78.00	ANORTHOSITIC GABBRO					
		Fine grained dark grey anorthositic gabbro.	74.20	75.00	FX427649	740	881
			75.00	78.00	FX427650	580	640
78.00	82.50	BRECCIA					
		Gabbroic breccia zone, rusty, tr py on fcts.	78.00	80.00	FX427650	580	640
			80.00	82.50	FX427651	2140	2508
82.50	100.80	BRECCIA					
		Altered breccia, sericite+chlorite, 1-3% cpy+py in clots and dism, breccia clasts not very distinct.	82.50	85.00	FX427651	2140	2508
			85.00	90.00	FX427652	4570	1119
			90.00	95.00	FX427653	1810	175
			95.00	100.00	FX427654	2670	708
			100.00	100.80	FX427655	1680	1202
100.80	103.50	GABBRO					
		Dark grey-green fine grained gabbro, tr dism cpy+py.	100.80	103.50	FX427655	1680	1202
103.50	125.70	GABBRO					
		Coarse to med grained chlorite/sericite altered gabbro, faint brecciation, gradational w/bxxn increasing down hole, 1-3% dism cpy+py, 1-2% sulfide on fcts.	103.50	105.00	FX427655	1680	1202
			105.00	110.00	FX427656	2080	4965
			110.00	115.00	FX427657	3740	6340
			115.00	120.00	FX427658	2330	7702
			120.00	125.00	FX427659	1500	6153
			125.00	125.70	FX427660	130	2602
125.70	135.50	BRECCIA					
		Angular clasts of gabbro, coarse grained matrix of amphibole+chlorite, sericite alteration.	125.70	130.00	FX427660	130	2602
			130.00	135.00	FX427661	190	5221
			135.00	135.50	FX427662	74	2948
135.50	151.00	BRECCIA					
		Altered breccia, strongly sericitic, light grey/white color, 1-5% cpy+py, bornite?, lots of chlorite and potassic alteration, some white clay.	135.50	140.00	FX427662	74	2948
			140.00	145.00	FX427663	220	35225
			145.00	150.00	FX427664	52	6061
			150.00	151.00	FX427665	63	2284

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
151.00	153.00	BRECCIA					
		Rusty breccia, much less alteration than above.	151.00	153.00	FX427665	63	2284
153.00	161.00	GABBRO					
		Medium grained gabbro.	153.00	155.00	FX427665	63	2284
			155.00	160.00	FX427666	42	1115
			160.00	161.00	FX427667	53	1117
161.00	173.00	GABBRO					
		Gabbro/breccia, transitional zone, not much alteration of mineralization.	161.00	165.00	FX427667	53	1117
			165.00	170.00	FX427668	470	2624
			170.00	173.00	FX427669	550	945
173.00	209.00	GABBRO					
		Dark grey-green medium grained gabbro.	173.00	175.00	FX427669	550	945
			175.00	180.00	FX427670	440	779
			180.00	185.00	FX427671	75	303
			185.00	190.00	FX427672	98	282
			190.00	209.00	NS	-	-
209.00	211.20	DIORITE					
		Medium to coarse grained diorite, no alteration or mineralization.	209.00	211.20	NS	-	-

BOREHOLE LOG

BOREHOLE : 83525 DATE PRINTED :17/ 9/1991
PROJECT : KAMISHAK
PROPERTY NAME : CANYON CLAIMS
MINE :

COUNTRY : USA
PROV/STATE : ALASKA
TWP/COUNTY :
NTS/SECT. T. R. : 03, 11S;31W
UTM COORDINATES :
QUADRANGLE : ILIAMNA A-4&5, B4&5
CLAIM # : 5150
ANOMALY # :

NORTHING : 199990.80N
EASTING : 99498.80E
ELEVATION : 1364.10
HOLE LENGTH : 237.20

LOGGED BY : ANDY SNYDER, Relogged by FT 6/
DRILLED BY : SALISBURY & ASSCOC.-R. GIBSON
DRILL TYPE : SUPER HYDRA-WINKIE
CORE SIZE : BW44
HOLE SIZE :

LEVEL : SURFACE
INCLINATION : -45
BASELINE AZIMUTH : 0
BOREHOLE BEARING : 150
HEADING :
SECTION :

STARTED : 8/29/90
COMPLETED : 8/30/90

ASSAYED FOR : Au & ICP30
ATTITUDE TEST METHOD: NONE
GRID NAME :

COMMENTS: ##########
CASING TO 11FT
LEFT IN HOLE :NONE
##########

DEVIATION RECORDS

FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP
.00	150.00	-45.00	237.20	150.00	-45.00			

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
.00	8.60	OVERBURDEN					
			.00	8.60	NS	-	-
8.60	25.00	BRECCIA					
			8.60	10.00	NS	-	-
			10.00	15.00	FX427673	45	1688
			15.00	20.00	FX427674	18	1958
			20.00	25.00	FX427675	69	3205
25.00	36.00	GOSSAN					
			25.00	30.00	FX427676	20600	3576

FROM FT	TO FT	DESCRIPTION
36.00	43.80	BRECCIA
43.80	47.00	GABBRO
47.00	53.00	PORPHYRY
53.00	54.90	DIORITE
54.90	57.40	PORPHYRY
57.40	59.60	DIORITE
59.60	78.00	BRECCIA
78.00	81.50	GABBRO
81.50	89.60	GABBRO
89.60	97.60	GABBRO
97.60	126.00	GABBRO

FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
30.00	35.00	FX427677	4680	784
35.00	36.00	FX427678	240	1548
36.00	40.00	FX427678	240	1548
40.00	43.80	FX427679	22	583
43.80	45.00	FX427679	22	583
45.00	47.00	FX427680	130	99
47.00	50.00	FX427680	130	99
50.00	53.00	FX427681	21	58
53.00	54.90	FX427681	21	58
54.90	55.00	FX427681	21	58
55.00	57.40	FX427682	31	284
57.40	59.60	FX427682	31	284
59.60	60.00	FX427682	31	284
60.00	65.00	FX427683	44	404
65.00	70.00	FX427684	270	645
70.00	75.00	FX427685	980	4178
75.00	78.00	FX427686	32	714
78.00	80.00	FX427686	32	714
80.00	81.50	FX427687	440	1342
81.50	85.00	FX427687	440	1342
85.00	89.60	FX427688	19	725
89.60	90.00	FX427688	19	725
90.00	95.00	FX427689	12	1501
95.00	97.60	FX427690	1530	3297
97.60	100.00	FX427690	1530	3297

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
			100.00	105.00	FX427691	41	602
			105.00	110.00	FX427692	50	5804
			110.00	115.00	FX427693	27	1043
			115.00	120.00	FX427694	68	1110
			120.00	125.00	FX427695	47	1815
			125.00	126.00	FX427696	65	1092
126.00	150.00	BRECCIA					
			126.00	130.00	FX427696	65	1092
			130.00	135.00	FX427697	44	932
			135.00	140.00	FX427698	31	692
			140.00	145.00	FX427699	49	627
			145.00	150.00	FX427700	56	539
150.00	166.00	GABBRO					
			150.00	155.00	FX427701	26	368
			155.00	160.00	FX427702	30	540
			160.00	165.00	FX427703	32	1170
			165.00	166.00	FX427704	80	812
166.00	176.40	FAULT					
			166.00	170.00	FX427704	80	812
			170.00	175.00	FX427705	110	834
			175.00	176.40	FX427706	33	897
176.40	233.20	BRECCIA					
			176.40	180.00	FX427706	33	897
			180.00	185.00	FX427707	32	820
			185.00	190.00	FX427708	74	2396
			190.00	195.00	FX427709	41	2018
			195.00	200.00	FX427710	91	1009
			200.00	205.00	FX427711	65	432
			205.00	210.00	FX427712	39	295
			210.00	215.00	FX427713	38	307
			215.00	220.00	FX427714	36	236
			220.00	225.00	FX427715	120	256
			225.00	230.00	FX427716	120	795
			230.00	233.20	FX427717	210	917
233.20	237.20	DIORITE					
			233.20	235.00	FX427717	210	917
			235.00	237.20	NS	-	-

BOREHOLE LOG

BOREHOLE : 83526
PROJECT : KAMISHAK
PROPERTY NAME : CANYON CLAIMS
MINE :

DATE PRINTED :17/ 9/1991

COUNTRY : USA
PROV/STATE : ALASKA
TWP/COUNTY :
NTS/SECT. T. R. : 03, 11S;31W
UTM COORDINATES :
QUADRANGLE : ILIAMNA A-4&5, B4&5
CLAIM # : 5150
ANOMALY # :

NORTHING : 200139.00N
EASTING : 99524.70E
ELEVATION : 1359.60
HOLE LENGTH : 358.30

LOGGED BY : ANDY SNYDER, Relogged by PT 6/
DRILLED BY : SALISBURY & ASSCOC.-R. GIBSON
DRILL TYPE : SUPER HYDRA-WINKIE
CORE SIZE : BW44
HOLE SIZE :

LEVEL : SURFACE
INCLINATION : -45
BASELINE AZIMUTH : 0
BOREHOLE BEARING : 150
HEADING :
SECTION :

STARTED : 8/31/90
COMPLETED : 9/8/90

ASSAYED FOR : GOLD & ICP30
ATTITUDE TEST METHOD: NONE
GRID NAME :

COMMENTS: **********
CEMENTED TO 54 FT
LEFT IN HOLE :5 FT CASING & SHOE AT 16FT
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DEVIATION RECORDS

FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP
.00	150.00	-45.00	358.30	150.00	-45.00			

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
.00	10.70	OVERBURDEN					
			.00	10.70	NS	-	-
10.70	14.00	DIORITE					
			10.70	14.00	NS	-	-
14.00	19.10	GABBRO					
			14.00	19.10	NS	-	-
19.10	44.00	GABBRO					
			19.10	44.00	NS	-	-

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
44.00	47.00	GABBRO					
			44.00	47.00	FX427718	200	358
47.00	50.00	GABBRO					
			47.00	49.00	FX427718	200	358
			49.00	50.00	FX427719	41	66
50.00	53.00	PORPHYRY					
			50.00	52.50	FX427719	41	66
			52.50	53.00	FX427720	78	307
53.00	59.70	DIORITE					
			53.00	56.70	FX427720	78	307
			56.70	58.30	FX427721	610	194
			58.30	59.70	FX427722	1190	474
59.70	73.20	PORPHYRY					
			59.70	63.30	FX427722	1190	474
			63.30	68.30	FX427723	250	623
			68.30	73.20	FX427724	81	303
73.20	75.80	GABBRO					
			73.20	75.80	FX427725	2040	60
75.80	88.10	GABBRO					
			75.80	76.70	FX427726	110	17
			76.70	79.30	FX427727	14	178
			79.30	82.90	FX427728	35	61
			82.90	85.80	FX427729	430	684
			85.80	88.10	FX427730	33	616
88.10	97.30	BRECCIA					
			88.10	88.70	FX427730	33	616
			88.70	94.80	FX427731	64	1176
			94.80	97.30	FX427732	350	2249
97.30	99.30	GABBRO					
			97.30	99.30	FX427732	350	2249
99.30	103.80	BRECCIA					
			99.30	99.50	FX427732	350	2249
			99.50	103.80	FX427733	210	17145
103.80	111.10	GABBRO					
			103.80	108.80	FX427734	61	1033
			108.80	111.10	FX427735	54	440

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
111.10	153.40	GABBRO					
			111.10	115.60	FX427736	530	5129
			115.60	118.40	FX427737	150	923
			118.40	119.20	FX427738	630	65150
			119.20	123.80	FX427739	550	3047
			123.80	128.40	FX427740	25	237
			128.40	133.40	FX427741	9940	3710
			133.40	138.40	FX427742	33	369
			138.40	143.40	FX427743	32	287
			143.40	148.40	FX427744	100	1818
			148.40	153.40	FX427745	21	1693
153.40	179.00	BRECCIA					
			153.40	158.30	FX427746	300	2063
			158.30	163.30	FX427747	350	4092
			163.30	168.10	FX427748	310	3889
			168.10	174.40	FX427749	760	12363
			174.40	179.00	FX427750	76	2510
179.00	185.00	FAULT					
			179.00	179.40	FX427750	76	2510
			179.40	185.00	FX427751	39	2549
185.00	192.10	BRECCIA					
			185.00	185.40	FX427751	39	2549
			185.40	190.40	FX427752	640	9503
			190.40	192.10	FX427753	57	3464
192.10	194.70	GABBRO					
			192.10	194.70	FX427754	40	724
194.70	200.00	BRECCIA					
			194.70	199.50	FX427755	850	5195
			199.50	200.00	FX427756	99	3051
200.00	210.60	GABBRO					
			200.00	204.50	FX427756	99	3051
			204.50	210.60	FX427757	23	248
210.60	223.60	BRECCIA					
			210.60	216.60	FX427758	24	32
			216.60	220.10	FX427759	14	30
			220.10	223.60	FX427760	5	8
223.60	230.00	BRECCIA					
			223.60	228.60	FX427761	15	30

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
			228.60	230.00	FX427762	89	480
230.00	258.00	BRECCIA					
			230.00	233.60	FX427762	89	480
			233.60	238.60	FX427763	48	203
			238.60	243.60	FX427764	13	47
			243.60	248.60	FX427765	41	755
			248.60	253.60	FX427766	20	589
			253.60	258.00	FX427767	150	1288
258.00	263.50	GABBRO					
			258.00	259.30	FX427767	150	1288
			259.30	263.50	FX427768	66	2484
263.50	287.00	GABBRO					
			263.50	268.50	FX427769	560	6294
			268.50	271.30	FX427770	69	3995
			271.30	277.40	FX427771	50	5481
			277.40	282.60	FX427772	99	4212
			282.60	285.80	FX427773	280	7638
			285.80	287.00	FX427774	670	18657
287.00	290.00	FAULT					
			287.00	290.00	FX427774	670	18657
290.00	301.20	GABBRO					
			290.00	290.90	FX427774	670	18657
			290.90	295.90	FX427775	2800	18905
			295.90	299.20	FX427776	770	5742
			299.20	301.20	FX427777	1560	9869
301.20	328.60	GABBRO					
			301.20	306.00	FX427777	1560	9869
			306.00	310.00	FX427778	1010	2845
			310.00	312.10	FX427779	17	204
			312.10	316.10	FX427780	61	548
			316.10	320.80	FX427781	66	449
			320.80	324.80	FX427782	14	692
			324.80	328.60	FX427783	8	205
328.60	336.90	PORPHYRY					
			328.60	333.60	FX427784	13	125
			333.60	336.90	FX427785	20	218
336.90	340.00	GABBRO					
			336.90	338.80	FX427785	20	218
			338.80	340.00	FX427786	21	371

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
340.00	343.00	GABBRO					
			340.00	343.00	FX427786	21	371
343.00	358.30	GABBRO					
			343.00	343.80	FX427786	21	371
			343.80	348.80	FX427787	99	574
			348.80	352.50	FX427788	65	486
			352.50	356.50	FX427789	76	488
			356.50	358.30	FX427790	220	554

BOREHOLE LOG

BOREHOLE	: 93527	DATE PRINTED	:17/ 9/1991
PROJECT	: 02-348		
PROPERTY NAME	: KAMISHAK		
MINE	:		
COUNTRY	: USA	NORTHING	: 200184.20N
PROV/STATE	: ALASKA	EASTING	: 99855.30E
TWP/COUNTY	:	ELEVATION	: 1467.80
NTS/SECT. T. R.	: 3,11S,31W	HOLE LENGTH	: 170.40
UTM COORDINATES	:		
QUADRANGLE	: Iliamna A-4		
CLAIM #	: 5150		
ANOMALY #	:		
LOGGED BY	: PT	LEVEL	:
DRILLED BY	: Salisbury Associates Inc.	INCLINATION	: -45
DRILL TYPE	: WINKIE	BASELINE AZIMUTH	: 090
CORE SIZE	: BW44	BOREHOLE BEARING	: 150
HOLE SIZE	:	HEADING	:
		SECTION	:
STARTED	: 6/9/91	ASSAYED FOR	: Au, Cu
COMPLETED	: 6/13/91	ATTITUDE TEST METHOD:	
		GRID NAME	:

COMMENTS: **********
Casing to 41 Ft.
LEFT IN HOLE :
****

DEVIATION RECORDS

FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP	FOOTAGE	AZIMUTH	DIP
.00	150.00	-45.00	170.40	150.00	-45.00			

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
.00	10.10	OVERBURDEN					
		Overburden	.00	10.10	NS	-	-
10.10	20.20	GABBRO					
		Gabbro - dark grey green fine to med grained, plag 50%, mafics (hbl+pyx) 40%, biotite + chlorite 7%, minor magnetite. Trace pyrite w/quartz, trace vfg cpy and spotty clots (to 4.0mm) of coarse cpy + biotite. Coarse grained with larger biotite xtals 18.9-19.5	10.10	12.70	FX532001	760	1733
			12.70	13.40	FX532002	260	1272
			13.40	17.80	FX532003	1080	1719
			17.80	19.00	FX532004	750	1426
			19.00	20.20	FX532005	160	965

FROM FT	TO FT		DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
			ft., minor CuOx 20.0-23.8 ft.					
20.20	24.90	GABBRO	Gabbro - dk green, med grained, grey plag+pyx+hbld+bio, tr-1% py+cpy blebs, minor CuOx, FeOx on fcts, sharp 90 deg basal contact.	20.20 23.80	23.80 24.90	FX532006 FX532007	3370 9170	3934 1069
24.90	26.80	GABBRO	Gabbro - dk green, fine grained, no sulfide.	24.90	26.80	FX532008	740	392
26.80	31.00	GABBRO	Gabbro - med grained, coarser w/depth, 1.0-2.0 cm clots of bio +plag w/interstitial blebs of py+cpy to 3.0mm, weak magmatic brecciation, angular clasts of gabbro with a matrix of very coarse hbld+bio+plag+sulfide.	26.80	31.00	FX532009	130	1191
31.00	31.80	GABBRO	Gabbro - med grained, dk green, minor FeOx.	31.00	31.80	FX532010	130	195
31.80	32.40	FAULT	Fault - bio+chl in shear zone.	31.80	32.40	FX532010	130	195
32.40	39.30	GABBRO	Gabbro - med grained, dk green,grading to fine grained, FeOx stain on fcts, tr CuOx @ 36.7 ft, tr dism py+cpy throughout.	32.40 34.90	34.90 39.30	FX532011 FX532012	510 400	240 459
39.30	48.10	GABBRO	Gabbro - med to coarse grained dk green, chloritic, mod. magnetic, distinct clots of v.coarse bio+hbld+plag, interstitial sulfide blebs and intergroths of cpy and py (1.0-5.0 cm) within clots of hbld+bio+plag. Traces of fine grained dism py+cpy throughout. Basal contact is gradational into breccia zone.	39.30 39.70 41.00 42.30 46.00	39.70 41.00 42.30 46.00 48.10	FX532012 FX532013 FX532014 FX532015 FX532016	400 1060 4070 1290 360	459 569 162 59 110
48.10	52.20	BRECCIA	Magmatic Breccia Zone - angular clasts of grey green med and fine gr. gabbro,	48.10 50.50	50.50 52.20	FX532017 FX532018	760 490	80 415

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
		crudely rectangular, oriented at 40 deg to core axis, clasts up to 5.0x5.0 cm in but mostly 3-5cm x 1-3cm, matrix is v.coarse bio+hbld+plag xtals to 1.0cm w/sulfide (py+cpy) blebs and interstitial growths up to 2.0cm, tr to 1% dism py+cpy throughout. Basal contact is minor fault.					
52.20	55.40	GABBRO					
		Gabbro - med grained dk grey green, no brecciation, basal contact gradational into another breccia zone, tr dism py+cpy.	52.20 53.10	53.10 55.40	FX532018 FX532019	490 78	415 125
55.40	63.80	BRECCIA					
		Brecciated Gabbro - similar to breccia zone above, angular clasts @ 40 deg to core axis, matrix of coarse grained hbld+bio+plag, chloritic, mnr clots of magnetite, clots of py to 0.5cm, tr dism py and cpy in matrix.	55.40 59.90	59.90 63.80	FX532020 FX532021	25 110	122 343
63.80	64.30	FAULT					
		Fault - numerous closely spaced shears and fcts, lots of bio, mnr magnetite.	63.80	64.30	FX532022	74	109
64.30	68.80	GABBRO					
		Gabbro - med grained, dk green, coarse gr pods of plag+hbld, chloritic, 5.0x3.0 cm clot of py, tr cpy.	64.30 67.00 68.30	67.00 68.30 68.80	FX532022 FX532023 FX532024	74 530 32	109 370 325
68.80	71.40	BRECCIA					
		Breccia - sharp 60 deg upper contact, dk green gabbro clasts @ 40-50 deg to core axis, hbld+bio+chl matrix, minor 1-2cm plag clots, 30 deg gradational basal contact, tr dism cpy, cpy blebs in matrix, 0.5% CuOx @ 70.0 ft., tr-1% dism py. Similar to breccia zones above.	68.80	71.40	FX532024	32	325
71.40	77.20	GABBRO					
		Gabbro - coarse grained becoming finer w/depth, plag+pyx+hbld+bio, minor fault w/qtz flooding in HW @ 75.9 -77.3 ft, mod FeOx stn, 2% magnetite, tr dism	71.40 75.90	75.90 77.20	FX532025 FX532026	450 3130	2226 8309

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
		py+cpy in HW, 2-3% dism cpy @ 75.9-77.2, tr-1% dism py.					
77.20	82.30	GABBRO					
		Gabbro - grey med gr gabbro/anorthositic gabbro, 2-3% py @ 77.2-78.1, magnetite on fcts, weak chlorite.	77.20	79.00	FX532027	4170	6893
			79.00	82.30	FX532028	120	818
82.30	92.00	ANORTHOSITIC GABBRO					
		Anorthositic Gabbro - dk grey, med grained, finer w/depth, 60% dk grey plag, 35% pyx+hbld, local zones w/30-40% v. coarse plag, tr py+cpy, 1.0-3.0mm veinlets of cpy+py, 1-2mm cpy veinlet @ 91.0 ft.	82.30	86.90	FX532029	63	408
			86.90	92.00	FX532030	57	731
92.00	123.40	ANORTHOSITIC GABBRO					
		Anorthositic Gabbro - dark grey fine to med grained plag (60%+) cpx +mnr hbld, mnr chlorite, 2% magnetite, occasional xenoliths of fine grained gabbro, occasional dism py, 2.0 cm mag+py clot @ 110.4 ft, 2mm py veinlet @ 116.8 ft.	92.00	92.20	FX532030	57	731
			92.20	97.20	FX532031	25	141
			97.20	109.80	NS	-	-
			109.80	110.80	FX532032	150	269
			110.80	112.70	FX532033	29	207
			112.70	117.50	FX532034	69	262
			117.50	122.30	NS	-	-
			122.30	123.40	FX532035	210	764
123.40	130.00	GABBRO					
		Gabbro - coarse grained, rapidly grading to fine grained, sharp 60 deg upper contact, 1-2mm py veinlets @ 123.8, 1-2mm cpy veinlets @ 126.7, cpy on fcts @ 128.0.	123.40	124.30	FX532035	210	764
			124.30	127.70	NS	-	-
			127.70	130.00	FX532036	29	255
130.00	161.00	ANORTHOSITIC GABBRO					
		Gabbro - coarse grained leucogabbro (anorthositic gabbro), 65%+ grey plag is dominant cumulate phase, mafics = cpx+ mnr hbld, mnr chlorite, local magnetite, alternating coarse to fine grained layering, 1-3mm py blebs @ 133.4, 2mm cpy veinlet @137.3, 1-2mm cpy veinlet @ 137.9, 3-4mm cpy blebs and veinlets @ 154.5.	130.00	130.70	FX532036	29	255
			130.70	136.00	NS	-	-
			136.00	138.00	FX532037	110	452
			138.00	142.50	NS	-	-
			142.50	144.50	FX532038	35	393
			144.50	153.50	NS	-	-
			153.50	155.00	FX532039	350	1169
			155.00	161.00	NS	-	-
161.00	170.40	ANORTHOSITIC GABBRO					
		Anorthositic Gabbro - Anorthosite -	161.00	163.50	NS	35	83

FROM FT	TO FT	DESCRIPTION	FROM FT	TO FT	SAMPLE #	Au PPB	Cu PPM
		med to coarse grained, 70%+ plag, 2 pyroxenes(?), mottled texture, tr diem py.	163.50	165.00	FX532040	35	83
			165.00	170.40	NS	-	-