

PROPERTY

CASTLE MINERALS INC.  
WREN CLAIMS

## DIAMOND DRILL RECORD

HOLE NO 89-1

PAGE 1 OF 2

820460

TOTAL DRILLING = 230m

092J/6

LATITUDE	DIPS - collar	-70°	AZIMUTH	228°	STARTED
DEPARTURE	-	°	CORE SIZE	AO	COMPLETED
ELEVATION	-	°	CONTRACTOR		LENGTH
SHEET NO.	-	°	CLAIM	N.E. corner of WREN CLAIM	32.6 (107 feet)
TARGET	Anomalous AU in soil samples				LOGGED BY
					Ralph Gonzalez
					DATE

SECTION (ft)		ROCK DESCRIPTION	MINERALIZATION SUMMARY	ASSAYS					
FROM	TO			SAMPLE NUMBER	INTERVAL	WIDTH	AU (oz/t)		
0	20	Casing no core		801	20-30				
20	27	Light greyish-green, medium-grained andesite. Core highly broken with few fragments larger than 1cm. Some sections contain euhedral plagioclase 15% of total ground mass with crystals approximately 1mm long, -2% pyrite mostly along fracture (joints?) surfaces	-2% pyrite along joint surfaces	802	30-40				
		Minor -0.5% magnetite at 27'	-0.5% diss magnetite at 27'. Minor diss	803	40-50				
		21'-27' 1 foot of core recovered	FeOx (siderite?)	804	50-57				
		27'-30' 1.5 feet of core recovered	throughout	805	72-77				
		Fault at 19.5-20'		806	77-87				
		30'-32' 1 foot of core recovered		807	87-92				
		32'-37' 0.5 feet of core recovered							
		37'-47' 0.1 feet of core recovered							
		47'-49' 1 foot of core recovered							
		49'-52' 2.5 feet of core recovered							
		52'-72' 0 feet of core recovered							
		72'-75' 2 feet of core recovered							
		75'-77' 0.6 feet of core recovered							
		77'-80' 2.3 feet of core recovered							
		80'-82' 1.2 feet of core recovered							
		82'-92' 1.5 feet of core recovered							
		92'-97' 0 feet of core recovered							
		97'-107' 0 feet of core recovered							



## GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: CUTTING AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: MAY 29 1989

DATE REPORT MAILED: *June 1/89*SIGNED BY: *C. Long* . . . . . D. TOYE, C. LEONG, J. WANG: CERTIFIED B.C. ASSAYERS

CASTLE MINERAL INC.

File # 89-1242

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	PPB
89-1 70'	9	771	22	170	1.3	50	34	592	8.05	2	5	ND	1	56	1	3	2	30	.29	.085	3	20	1.18	7	.01	12	1.91	.05	.16	488	102
89-1 90'	11	625	13	194	.2	53	27	614	6.48	6	5	ND	1	36	1	4	2	24	.22	.075	2	14	1.01	15	.01	2	1.66	.04	.15	722	140

Diamond Drill Record

LOCATION :				HOLE NO. 2-2	Page 1 of 3
AZIMUTH: 260°	DIPS - collar -60°	CONTRACTOR:		PROPERTY:	
ELEVATION:	- m °	LOGGED BY: Ralph Gonzalez		CLAIM NO.	
LENGTH: 197 feet 60.1 m	- m °	DATE:		SECTION NO.	
CORE SIZE: AQ	- m °			STARTED:	
PURPOSE: High Au geochemical response in rock and soil				COMPLETED:	

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from (ft)	to (ft)		from (ft)	to (ft)		Thickness mm	Angle to core	minerals in decreasing abundance
0	3	Casing - no core						
3	27	Light greyish-green andesite: porphyritic texture with plag. crystals upto 0-5cm in length. Weak to moderately magnetic. Locally pink quartz? amygdules upto 2mm	3	18	Fractured @ 50° t.c.a. with epidote alteration and discontinuous quartz veins perpendicular to fracture. Alteration zone range to 1.5cm. Fracture density 20-25/m from 7.5ft to 18ft intense epidote alteration. 20% of core in 1cm veins and -0.5mm veinlets. Approx. 1% pyrite with an increase to 2-3% in more altered sections	1-3mm	50°	Quartz veinlets with pyrite parallel to veinlet and extending into wall rock ±0.5cm Pyrite crystals anhedral to subhedral and 1-2mm across
						6cm		@ 14' Quartz vein - no sulphides!
						14cm		@ 14' FeOx altered core
			18	27	Same as above except reduced -5% epidote alteration	1-3mm		Quartz, plag, epidote veins with -1% pyrite. Only trace amounts of pyrite in the andesite
			26	26.5	10cm FeOx and muscovite altered core			
27	31.5	Light greyish-green, massive, silicified andesite				0.5	50°	75% pyrite as euhedral to subhedral disseminate crystals and as anhedral grains adjacent to quartz veinlets

Diamond Drill Record

HOLE NO. 89-2

Page 2 of 3

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from (ft)	to (ft)		from (ft)	to (ft)		Thickness mm	Angle to core	minerals in decreasing abundance
			27	31.5	The lower contact is fractured and altered to quartz, plag. micas and uralitized hornblende FeOx increases toward to lower contact and pyrite decreases over the last foot			
31.5		Lower contact 30° t.c.a. fractured			Traces -0.5% chalcopryrite with FeOx along the rim. Crystals are usually euhedral			
31.5	141	Coarse grained greyish pink monzonite. Hornblende (mafics) are altered to chlorite			All of the core shows moderate-to weak propylitic alteration with local phyllic alteration			
		41.5-43.5 Andisite with 5-8% pyrite similar to above						
		Monzonite fractured 30° t.c.a. averaging 5-7/m Most of the core is weak to very weakly magnetic	57	57	4cm of quartz vein contact 85° t.c.a. Mafics altered to chlorite and a yellowish epidote (?)			
			84	89	Colour change increase in pink (FeOx increase) and intense alteration of the mafics to micas (sericite)			Sulphides weathered to FeOx
			98	98	4cm quartz vein 40° t.c.a.			
			109	109	3cm quartz vein			
			106	106	2cm quartz vein 90° t.c.a.			
			111	112	Sericite alteration			
			120		3cm quartz vein			
			137		3cm quartz vein pyrite			
			127	128	Bleached core with slight increase			

Diamond Drill Record

HOLE NO. 89-2

Page 3 of 3

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from (ft)	to (ft)		from (ft)	to (ft)		Thickness mm	Angle to core	minerals in decreasing abundance
141	197	Coarse grained monzonite grey to pink in colour, non-magnetic to very weakly magnetic. The grey coloured sections reflect and increase in sericite alteration. Generally, however, the core is weakly propylifically altered with mafics + epidote. The sericite development may in part be due to quartz veins 141-145 Sericite altered monzonite with 1ft quartz vein @ 143-144  157-172 FeOx abundant and fractures @ 20/m with fractures @ 75° t.c.a.	135	137	Bleached core with muscovite  Chalcopyrite 0.5% with FeOx rims FeOx rims increase in the more altered sections. 141-148, 157-172, 176-180			
			143	144	28cm quartz vein 85° t.c.a.			
			172	172	Poor core recovery (50%) between 162-172 feet 3cm quartz part of			

## GEOCHEMICAL ANALYSIS CERTIFICATE

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 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: Core AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUN 29 1989

DATE REPORT MAILED: July 3/89

SIGNED BY: *C. Long*... D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

CASTLE MINERALS LTD.

File # 89-1855

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
89-2 3-12	1	101	16	137	.1	7	11	1055	3.60	2	5	ND	1	52	1	2	3	92	.65	.062	3	10	1.07	254	.17	11	2.02	.05	.64	1	18
89-2 12-20	3	87	17	169	.1	6	13	1156	2.96	4	5	ND	1	41	1	2	2	49	.49	.058	4	20	1.06	68	.07	13	1.67	.02	.12	1	5
89-2 20-27	3	41	11	140	.1	8	13	1182	2.71	2	5	ND	1	49	1	2	2	48	.61	.063	4	9	.93	74	.06	5	1.62	.02	.13	1	5
89-2 27-31.5	1	72	16	149	.1	8	14	1583	4.67	2	5	ND	1	11	1	2	2	58	.49	.052	5	12	1.38	35	.01	3	2.26	.01	.13	1	2
89-2 31.5-42	4	64	12	101	.2	6	9	853	2.53	2	5	ND	1	21	1	2	3	31	.20	.028	5	8	.76	91	.02	7	1.40	.02	.12	1	3
89-2 42-52	1	74	10	80	.1	5	6	728	2.32	2	5	ND	1	31	1	2	2	30	.55	.041	7	20	.58	132	.03	12	1.18	.02	.13	1	6
89-2 52-62	2	35	11	40	.1	5	3	451	.90	6	5	ND	1	29	1	2	2	5	.45	.027	7	5	.18	116	.01	4	.58	.02	.13	3	4
89-2 62-72	2	37	10	40	.2	4	3	389	.88	5	5	ND	1	33	1	2	2	6	.53	.036	6	6	.21	137	.01	4	.62	.02	.11	3	12
89-2 72-82	2	42	6	36	.2	4	3	349	.81	2	5	ND	1	35	1	2	2	4	.72	.034	6	5	.13	203	.01	3	.49	.02	.12	1	8
89-2 82-92	2	41	11	40	.1	4	3	380	.91	7	5	ND	2	27	1	2	2	5	.44	.035	8	18	.15	119	.01	6	.55	.02	.12	3	139
89-2 92-102	3	37	11	41	.4	5	3	417	.99	5	5	ND	2	29	1	3	2	4	.40	.032	9	5	.13	168	.01	9	.54	.02	.12	3	10
89-2 102-112	3	62	10	36	.3	6	3	394	.91	5	5	ND	2	36	1	2	2	4	.40	.032	7	7	.14	178	.01	9	.57	.02	.14	3	16
89-2 112-122	6	30	7	42	.3	6	3	528	.97	3	5	ND	2	19	1	2	2	3	.36	.036	9	7	.11	98	.01	10	.49	.02	.14	3	4
89-2 122-132	1	73	8	30	.1	3	2	491	.83	2	5	ND	1	55	1	3	2	3	1.31	.034	7	22	.10	104	.01	7	.44	.02	.14	1	13
89-2 132-142	2	77	7	40	.3	4	3	444	.80	3	5	ND	2	42	1	2	2	3	.90	.045	7	5	.15	87	.01	7	.51	.02	.12	1	5
STD C/AU-R	18	60	43	132	6.9	71	31	1015	4.09	41	22	7	37	50	19	15	21	60	.49	.093	39	55	.84	183	.07	38	1.96	.06	.13	12	490

## GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO<sub>3</sub>-H<sub>2</sub>O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: Core AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 4 1989

DATE REPORT MAILED: July 7/89

SIGNED BY: *C. Long* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

CASTLE MINERAL INC

File # 89-1899

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
89-2 142-152	4	36	7	35	.1	6	2	348	.66	2	8	ND	1	26	1	3	4	3	.26	.033	6	7	.11	84	.01	4	.44	.02	.12	3	6
89-2 152-162	3	26	11	38	.1	4	3	421	.80	4	7	ND	2	28	1	2	2	5	.22	.031	7	22	.12	106	.01	5	.64	.02	.14	4	2
89-2 162-172	5	49	12	46	.3	6	3	528	.98	28	5	ND	3	20	1	3	2	5	.51	.033	10	6	.09	112	.01	12	.57	.02	.14	3	5
89-2 172-182	4	31	13	48	.2	7	2	406	.84	7	5	ND	1	33	1	3	2	5	.42	.036	8	8	.15	102	.01	5	.67	.03	.16	1	2
89-2 182-187	2	23	10	40	.1	6	3	359	.70	2	5	ND	1	42	1	2	3	4	.80	.035	8	6	.15	90	.01	5	.57	.03	.13	1	2
89-3 10-16	1	42	12	70	.1	6	8	710	2.27	2	5	ND	1	52	1	2	4	42	1.07	.053	7	28	.70	92	.06	8	1.33	.05	.19	1	2
89-3 16-27	1	86	16	105	.2	5	8	1117	2.67	2	5	ND	1	51	1	2	3	64	.62	.053	6	9	.90	288	.17	11	1.98	.09	.91	1	1
89-3 27-33	2	60	22	99	.1	7	8	945	2.11	2	5	ND	1	34	1	2	2	38	.65	.054	6	11	.81	105	.09	2	1.57	.05	.35	1	7
89-3 33-43	1	47	24	150	.1	8	10	1257	2.75	2	5	ND	1	33	1	2	2	47	.73	.058	6	11	1.19	92	.09	4	1.87	.04	.32	1	3
89-3 43-53	1	56	12	77	.4	5	9	864	2.71	2	7	ND	2	89	1	2	2	70	1.00	.061	6	22	.90	366	.16	8	1.99	.11	.59	1	2
89-3 53-63	2	53	20	108	.2	6	10	833	2.56	2	5	ND	1	55	1	2	3	62	.82	.070	5	11	.99	211	.14	5	1.74	.07	.41	1	3
89-3 63-73	2	47	72	133	.1	5	6	638	1.97	2	5	ND	1	38	1	2	2	29	.61	.043	6	7	.54	198	.08	2	1.02	.04	.27	1	9
89-3 73-83	2	12	8	45	.1	3	3	463	.91	2	5	ND	2	36	1	2	2	6	.36	.032	7	6	.23	80	.01	9	.78	.03	.13	2	2
89-3 83-93	2	13	5	39	.1	4	3	456	.85	3	5	ND	2	34	1	2	2	5	.59	.032	8	6	.19	82	.01	12	.73	.03	.14	1	1
89-3 93-103	2	17	8	33	.2	3	3	292	.69	2	5	ND	2	50	1	2	2	4	.31	.035	5	5	.14	156	.02	14	.61	.04	.15	3	2
89-3 103-113	3	22	7	41	.1	5	3	400	.82	2	5	ND	1	44	1	2	2	4	.39	.031	5	6	.17	140	.02	2	.63	.04	.15	1	3
89-3 113-123	3	47	7	42	.1	5	2	453	.93	2	5	ND	1	32	1	2	3	4	.45	.035	8	10	.16	147	.01	10	.64	.04	.15	2	46
89-3 123-133	4	74	6	38	.1	5	2	554	.94	3	5	ND	1	37	1	2	2	4	.80	.036	9	6	.13	98	.01	20	.53	.03	.15	1	41
89-3 133-143	1	68	6	34	.1	2	3	354	.73	4	5	ND	1	47	1	2	2	4	.92	.039	8	4	.15	222	.01	2	.52	.02	.11	1	10
89-3 143-153	2	66	6	33	.1	5	3	317	.74	2	5	ND	1	55	1	2	2	4	.92	.036	8	7	.14	253	.01	7	.57	.03	.13	1	2
89-3 153-160	1	81	6	40	.4	3	3	359	.75	2	5	ND	3	41	1	2	2	4	.53	.041	7	5	.17	82	.01	11	.60	.03	.13	1	7
STD C/AU-R	18	59	44	132	7.2	69	31	1020	4.04	42	19	7	37	50	18	15	24	60	.47	.091	39	55	.82	182	.07	35	1.93	.06	.14	11	520



## GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: P1 CORE P2 SLUDGE AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 18 1989 DATE REPORT MAILED: *July 25/89* SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

CASTLE MINERALS INC. File # 89-2237 Page 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
89-2 192	13	13	12	5	.3	28	1	108	1.19	21	5	ND	1	1	1	4	2	1	.01	.004	2	33	.01	13	.01	2	.02	.01	.03	9	11
89-4 14-24	2	36	14	104	.1	5	8	859	7.13	11	5	ND	3	20	1	2	2	28	.34	.150	6	3	.74	27	.03	3	3.22	.02	.16	1	185
89-4 24-34	1	60	18	141	.2	9	13	1135	6.85	9	5	ND	2	18	1	4	2	52	.26	.083	4	6	1.41	33	.03	5	3.87	.01	.10	1	600
89-4 34-44	1	63	37	211	.1	10	16	2226	6.84	8	5	ND	2	32	1	4	2	100	.46	.116	3	8	2.08	27	.07	4	4.82	.05	.08	1	6
89-4 44-54	1	102	34	213	.3	10	23	2290	7.08	12	5	ND	1	15	2	6	2	86	.33	.088	2	7	2.21	29	.08	2	4.62	.02	.09	1	18
89-4 54-64	1	56	41	171	.1	9	17	2044	5.34	11	5	ND	1	16	1	2	2	65	.37	.093	3	5	1.94	42	.09	2	3.74	.03	.14	1	4
89-4 64-74	1	86	14	123	.1	7	14	1544	5.22	3	5	ND	2	17	1	4	2	43	.90	.070	4	4	1.53	40	.05	2	3.24	.02	.16	1	1
89-4 74-84	1	50	11	117	.3	9	14	1427	4.66	15	5	ND	2	10	1	5	2	36	.33	.078	3	4	1.61	34	.06	2	3.03	.02	.15	1	3
89-4 84-94	1	113	11	144	.3	8	16	1690	5.28	8	5	ND	1	15	1	2	2	48	1.33	.076	3	4	1.59	37	.06	2	3.35	.02	.17	1	3
89-4 94-104	1	70	11	137	.1	7	16	1646	5.51	8	5	ND	1	11	1	2	2	41	1.33	.072	2	3	1.39	30	.06	2	3.07	.02	.14	1	2
89-4 104-114	1	49	8	142	.2	7	21	1406	5.26	4	5	ND	1	9	1	2	2	32	.57	.078	2	3	1.47	32	.05	2	2.95	.01	.17	1	4
89-4 114-124	1	28	10	125	.2	6	12	1084	3.02	5	5	ND	1	37	1	4	2	30	1.26	.074	2	2	1.75	30	.09	2	2.31	.03	.10	1	2
89-4 124-134	1	24	6	111	.1	4	12	1070	3.08	2	5	ND	1	37	1	2	2	29	1.72	.073	2	2	1.67	44	.10	2	2.25	.03	.12	2	1
89-4 134-144	1	23	6	119	.1	5	11	1113	2.92	6	5	ND	1	35	1	2	2	25	1.22	.073	2	2	1.56	57	.07	2	2.07	.02	.11	1	3
STD C/AU-R	18	58	38	132	6.8	69	31	1024	3.95	42	20	7	36	48	19	14	22	61	.47	.097	38	53	.93	172	.07	35	1.98	.06	.13	11	490



Diamond Drill Record

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from (ft)	to (ft)		from (ft)	to (ft)		Thickness mm	Angle to core	minerals in decreasing abundance
43		Light grey, f/g massive andesite slightly metamorphosed with plagioclase and sulphides parallel to schistosity  51-60 Lithic tuff with no visible sulphides  68-70 Light green tuff with local clots and stringers of chlorite Some of the more greenish material is very talc like to the touch 70-75 core lost			Pyrite occurs as stringers and and clusters parallel to the schistosity 30-40° to core Pyrite locally may be as high as 5% but usually averages about 1-2%  Disseminated and clusters of pyrite parallel to schistosity			Discontinuous quartz and quartz carbonate veinlets 1-3mm across the schistosity 70 ° to core 5 veinlets/meter

## GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: Core AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 18 1989

DATE REPORT MAILED: July 21/89

SIGNED BY: *C. Long* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

CASTLE MINERALS INC.

File # 89-2235

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
89-5 5-15	1	113	20	62	.5	7	13	929	5.01	10	5	ND	1	15	1	2	2	25	.14	.090	2	3	2.13	44	.10	2	2.19	.03	.10	1	3
89-5 15-25	1	134	38	61	1.7	16	16	1049	4.40	7	5	ND	1	14	1	2	2	40	.18	.075	2	42	2.64	34	.12	2	2.56	.03	.07	1	5
89-5 25-35	1	127	15	80	.3	41	30	1150	4.92	4	5	ND	1	41	1	2	2	117	.90	.088	3	202	4.59	4	.20	2	4.41	.01	.01	1	1
89-5 35-45	1	115	32	60	.8	37	24	650	4.54	8	5	ND	1	34	1	2	2	85	.50	.090	2	147	3.23	19	.10	3	3.00	.01	.06	1	4
89-5 45-55	3	69	20	10	2.4	11	17	57	4.22	17	5	ND	1	16	1	3	2	9	.15	.077	2	8	.15	29	.01	2	.78	.04	.13	1	10
89-5 55-65	1	155	573	306	1.3	41	25	2115	5.35	3	5	ND	1	9	2	2	2	109	.32	.098	2	181	4.76	10	.05	2	4.64	.01	.04	1	1
89-5 65-75	2	201	25	258	.8	9	15	648	4.71	16	5	ND	1	12	1	2	2	29	.15	.088	4	6	1.96	24	.01	3	2.47	.03	.12	1	37
STD C/AU-R	19	62	40	133	7.4	73	31	1038	4.11	42	21	8	39	52	20	16	23	64	.45	.090	42	55	.93	181	.08	38	2.05	.06	.14	13	530

Diamond Drill Record

HOLE NO. 89-3	Page 1 of 2
PROPERTY:	
CLAIM NO.	
SECTION NO.	
STARTED:	
COMPLETED:	

LOCATION:			
AZIMUTH: 255°	DIPS - collar -60 °	CONTRACTOR:	
ELEVATION:	- m °	LOGGED BY: Ralph Gonzalez	
LENGTH: 201 feet 61.3m - m °		DATE: June 30, 1989	
CORE SIZE: AQ - m °			

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from (ft)	to (ft)		from (ft)	to (ft)		Thickness mm	Angle to core	minerals in decreasing abundance
0	10	Casing, no core recovered						
10	31	Mixture of light green, fine grained andesite; greyish, porphyritic andesite; and pink to brownish, coarse grained monzonite			-0.1 pyrite and local pyrrhotite, odd grain of chalcopyrite. Most of the andesitic is weakly to moderately magnetic-monzonite is non-magnetic			
		11ft and again at 12ft 5-6cm core of monzonite						
		14.5-16ft Monzonite						
		16-26 Shear zone 10% core						
		26-27 Porphyry andesite						
		27-30 Shear zone with 30% recovery						
31	72	Grey, moderately grained (lapilli?) tuff. with inclusion upto 4mm across			Sulphides are 1% pyrrhotite after pyrite and very minor chalcopyrite, pyrrhotite form casts and along veinlets where they are highly altered to FeOx			30° and 0° wispy veinlets and fracture filling veinlets @30° t.c.a., epidote and quartz are the principal material with minor pyrrhotite
		The bottom 1ft is more silicified and contains 5-10% muscovite. At the contact with the underlying unit is 7cm quartz vein			Some fragments(?) upto 3cm are incorporated in the tuff and are altered entirely to epidote			
72	201	Coarse grained, pink to grey monzonite fractures @ 70° with density of 20/m			Mafics are altered to chlorite and epidote			Traces -0.1% of chalcopyrite
					Pervasive micas are common in the grey sections			

Diamond Drill Record

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from	to		from	to		Thickness mm	Angle to core	minerals in decreasing abundance
			116	116	3cm quartz vein-increased mica for 4cm on either side of quartz vein			
			127	127	7cm quartz vein-contact 90°t.c.a.			
			128	135	Sericite alteration. The core is grey in color and FeOx alteration. Commonly extends 2-3cm on either side of fractures Fractures average 10/m 45-60°t.c.a. 0.1% chalcopyrite with 0.5% chalcopyrite in FeOx zones			
			142	152	Sericite alteration-the core is grey in color with 8 fractures per metre. Fractures 40°t.c.a. several of which have 1-2mm thick epidote veinlets along the face			

## GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO<sub>3</sub>-H<sub>2</sub>O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: Core AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 4 1989

DATE REPORT MAILED: July 7/89

SIGNED BY: *C. Long* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

CASTLE MINERAL INC File # 89-1899

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
89-2 142-152	4	36	7	35	.1	6	2	348	.66	2	8	ND	1	26	1	3	4	3	.26	.033	6	7	.11	84	.01	4	.44	.02	.12	3	6
89-2 152-162	3	26	11	38	.1	4	3	421	.80	4	7	ND	2	28	1	2	2	5	.22	.031	7	22	.12	106	.01	5	.64	.02	.14	4	2
89-2 162-172	5	49	12	46	.3	6	3	528	.98	28	5	ND	3	20	1	3	2	5	.51	.033	10	6	.09	112	.01	12	.57	.02	.14	3	5
89-2 172-182	4	31	13	48	.2	7	2	406	.84	7	5	ND	1	33	1	3	2	5	.42	.036	8	8	.15	102	.01	5	.67	.03	.16	1	2
89-2 182-187	2	23	10	40	.1	6	3	359	.70	2	5	ND	1	42	1	2	3	4	.80	.035	8	6	.15	90	.01	5	.57	.03	.13	1	2
89-3 10-16	1	42	12	70	.1	6	8	710	2.27	2	5	ND	1	52	1	2	4	42	1.07	.053	7	28	.70	92	.06	8	1.33	.05	.19	1	2
89-3 16-27	1	86	16	105	.2	5	8	1117	2.67	2	5	ND	1	51	1	2	3	64	.62	.053	6	9	.90	288	.17	11	1.98	.09	.91	1	1
89-3 27-33	2	60	22	99	.1	7	8	945	2.11	2	5	ND	1	34	1	2	2	38	.65	.054	6	11	.81	105	.09	2	1.57	.05	.35	1	7
89-3 33-43	1	47	24	150	.1	8	10	1257	2.75	2	5	ND	1	33	1	2	2	47	.73	.058	6	11	1.19	92	.09	4	1.87	.04	.32	1	3
89-3 43-53	1	56	12	77	.4	5	9	864	2.71	2	7	ND	2	89	1	2	2	70	1.00	.061	6	22	.90	366	.16	8	1.99	.11	.59	1	2
89-3 53-63	2	53	20	108	.2	6	10	833	2.56	2	5	ND	1	55	1	2	3	62	.82	.070	5	11	.99	211	.14	5	1.74	.07	.41	1	3
89-3 63-73	2	47	72	133	.1	5	6	638	1.97	2	5	ND	1	38	1	2	2	29	.61	.043	6	7	.54	198	.08	2	1.02	.04	.27	1	9
89-3 73-83	2	12	8	45	.1	3	3	463	.91	2	5	ND	2	36	1	2	2	6	.36	.032	7	6	.23	80	.01	9	.78	.03	.13	2	2
89-3 83-93	2	13	5	39	.1	4	3	456	.85	3	5	ND	2	34	1	2	2	5	.59	.032	8	6	.19	82	.01	12	.73	.03	.14	1	1
89-3 93-103	2	17	8	33	.2	3	3	292	.69	2	5	ND	2	50	1	2	2	4	.31	.035	5	5	.14	156	.02	14	.61	.04	.15	3	2
89-3 103-113	3	22	7	41	.1	5	3	400	.82	2	5	ND	1	44	1	2	2	4	.39	.031	5	6	.17	140	.02	2	.63	.04	.15	1	3
89-3 113-123	3	47	7	42	.1	5	2	453	.93	2	5	ND	1	32	1	2	3	4	.45	.035	8	10	.16	147	.01	10	.64	.04	.15	2	46
89-3 123-133	4	74	6	38	.1	5	2	554	.94	3	5	ND	1	37	1	2	2	4	.80	.036	9	6	.13	98	.01	20	.53	.03	.15	1	41
89-3 133-143	1	68	6	34	.1	2	3	354	.73	4	5	ND	1	47	1	2	2	4	.92	.039	8	4	.15	222	.01	2	.52	.02	.11	1	10
89-3 143-153	2	66	6	33	.1	5	3	317	.74	2	5	ND	1	55	1	2	2	4	.92	.036	8	7	.14	253	.01	7	.57	.03	.13	1	2
89-3 153-160	1	81	6	40	.4	3	3	359	.75	2	5	ND	3	41	1	2	2	4	.53	.041	7	5	.17	82	.01	11	.60	.03	.13	1	7
STD C/AU-R	18	59	44	132	7.2	69	31	1020	4.04	42	19	7	37	50	18	15	24	60	.47	.091	39	55	.82	182	.07	35	1.93	.06	.14	11	520





Diamond Drill Record

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from	to		from	to		Thickness mm	Angle to core	minerals in decreasing abundance
92	142	Light greenish-grey andesite with -2% plagioclase crystals upto 4mm long. Core is massive with fractures at 35° to core and 9/metre  None of the core was magnetic	115	117	Vuggy core with MnOx filling the cavities			
EOH			121	142		1-2	0,10	Stringers of quartz, carbonate and upto 30% epidote
			137	142	The only sulohides seen: 1-3% pyrite euhedral crystals 1-2mm across. The most abundant amount is at the top 137' decreasing downward			

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
DDH#4 15-20 A	3	94	13	135	.1	9	13	813	6.99	20	5	ND	4	34	1	2	2	24	.37	.114	10	4	.60	84	.03	2	2.94	.01	.13	5	11
DDH#4 20-25 A	3	96	11	94	.1	8	9	668	7.26	16	5	ND	4	27	1	2	2	21	.35	.136	10	5	.51	62	.02	2	2.98	.02	.15	7	8
DDH#4 15-20 B	2	89	12	144	.1	9	14	836	7.49	16	5	ND	4	37	2	2	2	24	.42	.117	10	5	.61	97	.03	2	3.19	.02	.13	2	6
DDH#4 20-25 B	4	105	12	99	.1	10	9	690	7.05	11	5	ND	4	33	1	2	2	22	.36	.132	10	6	.47	84	.02	2	2.94	.02	.22	11	3

PROPERTY

CASTLE MINERALS INC.  
WREN CLAIMS

## DIAMOND DRILL RECORD

HOLE NO 89-1 PAGE 1 OF 2

LATITUDE	DIPS - collar	-70°	AZIMUTH	228°	STARTED
DEPARTURE	-	°	CORE SIZE	AQ	COMPLETED
ELEVATION	-	°	CONTRACTOR		LENGTH
SHEET NO.	-	°	CLAIM	N.E. corner of WREN CLAIM	32.6 (107 feet)
TARGET	Anomalous AU in soil samples				LOGGED BY
					Ralph Gonzalez
					DATE

SECTION (ft)		ROCK DESCRIPTION	MINERALIZATION SUMMARY	ASSAYS			
FROM	TO			SAMPLE NUMBER	INTERVAL	WIDTH	AU (oz/t)
0	20	Casing no core					
				801	20-30		
20	27	Light greyish-green, medium-grained andesite. Core highly broken with few fragments larger than 1cm. Some sections contain euhedral plagioclase 15% of total ground mass with crystals approximately 1mm long, -2% pyrite mostly along fracture (joints?) surfaces	-2% pyrite along joint surfaces	802	30-40		
		Minor -0.5% magnetite at 27'	-0.5% diss magnetite at 27'. Minor diss	803	40-50		
		21'-27' 1 foot of core recovered	FeOx (siderite?)	804	50-57		
		27'-30' 1.5 feet of core recovered	throughout	805	72-77		
		Fault at 19.5-20'		806	77-87		
		30'-32' 1 foot of core recovered		807	87-92		
		32'-37' 0.5 feet of core recovered					
		37'-47' 0.1 feet of core recovered					
		47'-49' 1 foot of core recovered					
		49'-52' 2.5 feet of core recovered					
		52'-72' 0 feet of core recovered					
		72'-75' 2 feet of core recovered					
		75'-77' 0.6 feet of core recovered					
		77'-80' 2.3 feet of core recovered					
		80'-82' 1.2 feet of core recovered					
		82'-92' 1.5 feet of core recovered					
		92'-97' 0 feet of core recovered					
		97'-107' 0 feet of core recovered					

## Diamond Drill Record

HOLE NO. 89-1

Page 2 of 2

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from m/ft	to m/ft		from m/ft	to m/ft		Thickness mm	Angle to core	minerals in decreasing abundance
27	30	Fault zone-abundant clay gouge. Light grey 50% clay	27	30	3-5% discontinuous veinlets of pyrite.Veinlets -0.5mm wide			
30	79	Light greyish-green lithic andesite tuff with rounded fragments upto 4mm long	30	79	Intensely altered to a mixture of light grey mica(?) (probably a mylonite) with minor calcite along fractures			-1% diss. euhedral pyrite
		37-47 Fault zone with no core recovered						
		47-49 Core ground to pea sized fragments	72	75	Core fractured at 75°t.c.a. and 25°t.c.a..Also most intense zone of mylonization			5% diss. pyrite
		52-72 Fault zone with no core recovered						
79	83	Massive light greenish-grey andesite						1-2% pyrite crystals +20% euhedral plagioclase crystals upto 1mm long. No apparent sulphides
83	92	81-83 Highly broken core Core recovery is -15% fragments are plate like 1-4mm thick with fractures possibly at 45°t.c.a. fragments seldom with surface area +1cm. Medium grained,greenish lithic andesitic tuff. fragments average 3-4mm in diametre and are usually rounded although some appear strained and angular						

Diamond Drill Record

LOCATION:				HOLE NO. 89-2	Page 1 of 3
AZIMUTH: 260°	DIPS - collar	-60°	CONTRACTOR:		PROPERTY:
ELEVATION:	-	m	LOGGED BY: Ralph Gonzalez		CLAIM NO.
LENGTH: 197 feet	-	m	DATE:		SECTION NO.
CORE SIZE: AQ	-	m			STARTED:
PURPOSE: High Au geochemical respose in rock and soil					COMPLETED:

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from (ft)	to (ft)		from (ft)	to (ft)		Thickness mm	Angle to core	minerals in decreasing abundance
0	3	Casing - no core						
3	27	Light greyish-green andesite: porphyritic texture with plag. crystals upto 0-5cm in length. Weak to moderately magnetic. Locally pink quartz? amygdules upto 2mm	3	18	Fractured @ 50° t.c.a. with epidote alteration and discontinuous quartz veins perpendicular to fracture. Alteration zone range to 1.5cm. Fracture density 20-25/m from 7.5ft to 18ft intense epidote alteration. 20% of core in 1cm veins and -0.5mm veinlets. Approx. 1% pyrite with an increase to 2-3% in more altered sections	1-3mm	50°	Quartz veinlets with pyrite parallel to veinlet and extending into wall rock ±0.5cm Pyrite crystals anhedral to subhedral and 1-2mm across @ 14' Quartz vein - no sulphides! @ 14' FeOx altered core
			18	27	Same as above except reduced -5% epidote alteration	1-3mm		Quartz, plag, epidote veins with -1% pyrite. Only trace amounts of pyrite in the andesite
			26	26.5	10cm FeOx and muscovite altered core			
27	31.5	Light greyish-green, massive, silicified andesite				0.5	50°	75% pyrite as euhedral to subhedral disseminate crystals and as anhedral grains adjacent to quartz veinlets

Diamond Drill Record

Section		ROCK DESCRIPTION	Interval		ALTERATION MINERALIZATION etc.	VEINLETS		
from (ft)	to (ft)		from (ft)	to (ft)		Thickness mm	Angle to core	minerals in decreasing abundance
			27	31.5	The lower contact is fractured and altered to quartz, plag. micas and uralitized hornblende FeOx increases toward to lower contact and pyrite decreases over the last foot			
31.5		Lower contact 30° t.c.a. fractured			Traces -0.5% chalcopyrite with FeOx along the rim. Crystals are usually euhedral			
31.5	141	Coarse grained greyish pink monzonite. Hornblende (mafics) are altered to chlorite			All of the core shows moderate to weak propylitic alteration with local phyllic alteration			
		41.5-43.5 Andisite with 5-8% pyrite similar to above						
		Monzonite fractured 30° t.c.a. averaging 5-7/m Most of the core is weak to very weakly magnetic	57	57	4cm of quartz vein contact 85° t.c.a. Mafics altered to chlorite and a yellowish epidote (?)			
			84	89	Colour change increase in pink (FeOx increase) and intense alteration of the mafics to micas (sericite)			Sulphides weathered to FeOx
			98	98	4cm quartz vein 40° t.c.a.			
			109	109	3cm quartz vein			
			106	106	2cm quartz vein 90° t.c.a.			
			111	112	Sericite alteration			
			120		3cm quartz vein			
			137		3cm quartz vein pyrite			
			127	128	Bleached core with slight increase			

Diamond Drill Record

HOLE NO. 89-2

Page 3 of 3

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from (ft)	to (ft)		from (ft)	to (ft)		Thickness mm	Angle to core	minerals in decreasing abundance
141	197	Coarse grained monzonite grey to pink in colour, non-magnetic to very weakly magnetic. The grey coloured sections reflect and increase in sericite alteration. Generally, however, the core is weakly propylifically altered with mafics + epidote. The sericite development may in part be due to quartz veins 141-145 Sericite altered monzonite with 1ft quartz vein @ 143-144  157-172 FeOx abundant and fractures @ 20/m with fractures @ 75° t.c.a.	135	137	Bleached core with muscovite  Chalcopyrite 0.5% with FeOx rims FeOx rims increase in the more altered sections. 141-148, 157-172, 176-180			
			143	144	28cm quartz vein 85° t.c.a.			
			172	172	Poor core recovery (50%) between 162-172 feet 3cm quartz part of			

Diamond Drill Record

LOCATION:				HOLE NO. 89-3	Page 1 of 2
AZIMUTH: 255°	DIPS - collar	-60 °	CONTRACTOR:	PROPERTY:	
ELEVATION:	-	m °	LOGGED BY: Ralph Gonzalez	CLAIM NO.	
LENGTH: 201 feet	-	m °	DATE: June 30, 1989	SECTION NO.	
CORE SIZE: AQ	-	m °		STARTED:	
PURPOSE:				COMPLETED:	

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from (ft)	to (ft)		from (ft)	to (ft)		Thickness mm	Angle to core	minerals in decreasing abundance
0	10	Casing, no core recovered						
10	31	Mixture of light green, fine grained andesite; greyish, porphyritic andesite; and pink to brownish, coarse grained monzonite			-0.1 pyrite and local pyrrhotite, odd grain of chalcopyrite. Most of the andesitic is weakly to moderately magnetic-monzonite is non-magnetic			
		11ft and again at 12ft 5-6cm core of monzonite						
		14.5-16ft Monzonite						
		16-26 Shear zone 10% core						
		26-27 Porphyry andesite						
		27-30 Shear zone with 30% recovery						
31	72	Grey, moderately grained (lapilli?) tuff. with inclusion upto 4mm across			Sulphides are 1% pyrrhotite after pyrite and very minor chalcopyrite, pyrrhotite form casts and along veinlets where they are highly altered to FeOx			30° and 0° wispy veinlets and fracture filling veinlets @30° t.c.a., epidote and quartz are the principal material with minor pyrrhotite
		The bottom 1ft is more silicified and contains 5-10% muscovite. At the contact with the underlying unit is 7cm quartz vein			Some fragments(?) upto 3cm are incorporated in the tuff and are altered entirely to epidote			
72	201	Coarse grained, pink to grey monzonite fractures @ 70° with density of 20/m			Mafics are altered to chlorite and epidote			Traces -0.1% of chalcopyrite
					Pervasive micas are common in the grey sections			



Diamond Drill Record

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from	to		from	to		Thickness mm	Angle to core	minerals in decreasing abundance
			116	116	3cm quartz vein-increased mica for 4cm on either side of quartz vein			
			127	127	7cm quartz vein-contact 90°t.c.a.			
			128	135	Sericite alteration. The core is grey in color and FeOx alteration. Commonly extends 2-3cm on either side of fractures Fractures average 10/m 45-60°t.c.a. 0.1% chalcopyrite with 0.5% chalcopyrite in FeOx zones			
			142	152	Sericite alteration-the core is grey in color with 8 fractures per metre. Fractures 40°t.c.a. several of which have 1-2mm thick epidote veinlets along the face			



## Diamond Drill Record

HOLE NO. 89-4

Page 2 of 2

Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from	to		from	to		Thickness mm	Angle to core	minerals in decreasing abundance
92	142	Light greenish-grey andesite with -2% plagioclase crystals upto 4mm long. Core is massive with fractures at 35° to core and 9/metre	115	117	Vuggy core with MnOx filling the cavities			
EOH		None of the core was magnetic	121	142		1-2	0,10	Stringers of quartz, carbonate and upto 30' epidote
			137	142	The only sulohides seen: 1-3% pyrite euhedral crystals 1-2mm across. The most abundant amount is at the top 137' decreasing downward			



Diamond Drill Record

Section		ROCK DESCRIPTION	Interval		ALTERATION. MINERALIZATION .etc.	VEINLETS		
from (ft)	to (ft)		from (ft)	to (ft)		Thickness mm	Angle to core	minerals in decreasing abundance
43		Light grey, f/g massive andesite slightly metamorphosed with plagioclase and sulphides parallel to schistosity  51-60 Lithic tuff with no visible sulphides  68-70 Light green tuff with local clots and stringers of chlorite Some of the more greenish material is very talc like to the touch  70-75 core lost			Pyrite occurs as stringers and and clusters parallel to the schistosity 30-40° to core  Pyrite locally may be as high as 5% but usually averages about 1-2%    Disseminated and clusters of pyrite parallel to schistosity			Discontinuous quartz and quartz carbonate veinlets 1-3mm across the schistosity 70 ° to core  5 veinlets/meter