

VOLUME 2

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APPENDIX III

GRAB SAMPLE LOCATIONS, DESCRIPTIONS AND ASSAYS

MINNESOTA GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,503 PART 2 OF 4

APPENDIX 3
GREAT WESTERN STAR PROJECT
GRAB SAMPLES

SAMPLE NUMBER:	GRID COORDINATE:	GRID	TYPE	SAMPLE DESCRIPTION	ASSAYS			
					Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
4806	0+45E	4+50N	TOUGHNUT: GRAB	RUSTY & VUGGY MASSIVE QUARTZ, MILKY WHITE TO GRAY; PALE GREY POROUS; PYRITE CUBES UP TO 1mm.	280	58	1969	321
4807	0+45E	4+50N	TOUGHNUT: GRAB	V. RUSTY TO DK. GRAY, MASSIVE TO LAMINATED, CARB. ALT'D VOLCANIC; WEATHERED YELLOW-ORANGE TO BROWN, 3% Py CUBES (<4mm).	1110	99999	160	105
4808	0+50E	2+75S	TOUGHNUT: GRAB	CUMBERLAND SHAFT WASTE DUMP; Qtz VEIN WITH TETRAHEDRITE, MALACHITE, ILMENITE; IN AUGITE PORPHYRY VOLCANIC.	980	1777	524	1284
4809	2+00E	1+50N	TOUGHNUT: GRAB	HIGHLY SERICITIC F. GRAINED VOLC. OR INTRUSIVE, LOCALLY V. RUSTY & SHEARED; GN, PY, CPY?, +/-SPH DISS & IN VEINLETS.	126	1075	6578	8653
4810	0+95E	2+46S	TOUGHNUT: GRAB	V. RUSTY SERICITIC QFP OR F. GR. VOLC.; TUFF WITH QTZ VEINLETS; GN, SPH, PY.	18	198	35	83
4811	0+75E	0+88S	TOUGHNUT: GRAB	DUMP: QTZ VEIN WITH CPY, PY MAL, GN, SPH; IN CARB ALT'D VOLC.	1090	2328	16425	22944
4812	0+70E	1+20N	TOUGHNUT: GRAB	PIT#15: CARB-SER ALT'D VOLC; 1-2% PY.	230	232	186	353
4813	0+25W	2+75N	TOUGHNUT: GRAB	ST#14: DK. BRICK RED (LIM/HEM ALT'D), F.GR. VOLC., CARB-SER ALT'; TR CPY PY.	50	188	159	288
4814	0+65E	4+15N	TOUGHNUT: GRAB	PIT; ST#11: BULL WT. QTZ, FOL. & RUSTY FRACT., TR PY, GN, MAL, Mn STAINS.	48	6925	119	911
4815	1+00E	4+70N	TOUGHNUT: GRAB	DUMP(PIT): SILICIFIED VOLC?, HIGHLY FeCARB-SER ALT'D; Mn STAINS, PY MAL.	29	453	13	91
4816	0+00	1+25S	TOUGHNUT: GRAB	1.5 m: GREEN SERICITIC, CARB ALT'D VOLC. CALCITE BLEBS.	4	117	12	135
4817	0+00	1+00S	TOUGHNUT: GRAB	PIT: BROWN, FeCARB-SER ALT'D F.GR VOLC, TR PY.	5	38	26	510
4818	0+00	1+00S	TOUGHNUT: GRAB	PIT: QTZ VEIN WITH CARBONATE, V. DK. BROWN-RED WEATHERING, Mn STAINING, GN,	67	21	2510	14641
4819	1+00E	2+15N	TOUGHNUT: GRAB	CARB-SER-FeCARB ALT'D VOLC SCHIST	31	13	55	338

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SAMPLE NUMBER:	GRID COORDINATE:	GRID	TYPE	SAMPLE DESCRIPTION	ASSAYS			
					Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
:	:	:	:	:	:	:	:	:
:	:	:	:	:;<1% PY,GN,SPH.	:	:	:	:
4820	1+10E	4+60N	TOUGHNUT: GRAB	:FeCARB-SER ALT'D VOLC, CALCITE BLEBS	40	155	25	168
4821	2+00E	4+62N	TOUGHNUT: GRAB	:V SCHISTOSE, SER-CARB ALT'D VOLC. :BLOOD RED COLOUR.	107	174	13	111
4822	2+45E	4+82N	TOUGHNUT: GRAB	:ST#20: V. SCHISTOSE, MED GREY-GREEN :VOLC., MOD. CARB-SER ALT'D; TR PY :SLIGHTLY MAGNETIC.	39	206	23	67
4823	1+90E	3+15N	TOUGHNUT: GRAB	:DK. GREY HIGHLY CARB ALT'D VOLC. :, HORNFELS?; 2-3% PY, TR CPY, :VERY MAGNETIC.	8	17	23	307
4824	1+90E	3+15N	TOUGHNUT: GRAB	:ST.#22: SAME AS 4823, SHEARED?.	3	6	7	176
4825	3+95E	3+35N	TOUGHNUT: GRAB	:ST.#23: F. GR. VOLC, MINOR CARB, :V. SERICITIC; 4% PY.	5	261	20	128
4826	3+50E	5+00N	TOUGHNUT: GRAB	:M. GREY, SER ALT'D VOLC SCHIST, QTZ :VEINS; TR PY, NON-MAGNETIC.	12	107	8	84
4827	3+50E	4+50N	TOUGHNUT: GRAB	:FeCARB-SER ALT'D VOLC SCHIST, TR PY :VERY MAGNETIC.	12	166	5	68
4828	3+50E	5+55N	TOUGHNUT: GRAB	:PIT#16: SER-CARB ALT'D FSP PORPH; :2% PY, MOD MAGNETIC.	11	57	7	76
4829	3+00E	5+00N	TOUGHNUT: GRAB	:V WEATHERED, SER-CARB-FSP ALT'D VOLC :BLOOD RED COLOUR, HIGHLY MAGNETIC.	4	15	13	124
4830	3+00E	4+15N	TOUGHNUT: GRAB	:V. WEATHERED, STR. CARB-SER ALT'D VOLC: :SLIGHTLY MAGNETIC.	14	368	18	72
4831	0+05E	2+65N	TOUGHNUT: GRAB	:FeCARB-CHL ALT'D FSP PORPHYRY :RUSTY WEATHERING, MOD. MAGNETIC.	19	655	12	106
4832	0+01W	2+95N	TOUGHNUT: GRAB	:BRICK-RED, CHL-SER FSP PORPH., QTZ :EYES, TR PY, MOD MAGNETISM.	5	24	49	138
4833	0+02W	3+28N	TOUGHNUT: GRAB	:RUSTY-BROWN WEATHERED, V.F.GR. VOLC. :TUFF, MOD MAGNETIC.	24	246	10	94

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					Au :	Cu :	Pb :	Zn :
:	:	:	:	:	(ppb):	(ppm):	(ppm):	(ppm):
4834	0+10E	4+50N	TOUGHNUT	GRAB :OLD TRENCH: EXTREMELY RUSTY VOLC :, DISS PY.	96	79	14	146
4835	0+15E	5+10N	TOUGHNUT	GRAB :RUSTY WEATHERED, SCHISTOSE, CALCITE :VEINLET, SLT. MAGNETIC, CHLORTIC, :SERICITIC, QTZ EYES.	19	149	10	117
4836	0+25E	5+25N	TOUGHNUT	GRAB :VERY SCHISTOSE, V RUSTY WEATHERED :VOLC; QTZ EYES +/- VEINS.	58	212	6	138
5001	1+00E	4+60N	TOUGHNUT	GRAB :SMALL PIT: Fe CARB-SERICITE ALTERATION: :BRECCIATED VOLCANIC.	90	71	76	26
5002	3+90E	5+00N	TOUGHNUT	GRAB :Fe CARB. ALT'D SHEARED VOLCANICS :SERICTIC-PYRITIC (<1%).	8	166	18	149
5003	3+50E	5+10N	TOUGHNUT	GRAB :CHORITIZED, HIGHLY SCHISTOSE VOLCANICS: :MINOR SERICITE, TRACE PYRITE.	29	154	85	72
5004	2+10E	4+75N	TOUGHNUT	GRAB :HIGHLY SCHISTOSE, Fe CARB-SERICITE :ALT'D VOL. TRACE DISS. PYRITE.	240	169	33	76
5005	2+00E	4+75N	TOUGHNUT	GRAB :EXTR. FRIABLE, Fe CARB-RICH (35%) :SERICTE SCHIST, <1% PYRITE.	66	1108	150	148
5006	1+75E	4+75N	TOUGHNUT	GRAB :SERICTIC-Fe CARBONATE ALT'D :SCHIST; 3% DISS. PYRITE.	5580	280	6	51
5007	1+50E	4+75N	TOUGHNUT	GRAB :Fe CARB-SER-Qtz-Py SCHIST. Qtz AS :LENSES IN SCHIST.	70	811	54	97
5008	0+00E	5+00N	TOUGHNUT	GRAB :Fe CARB-SER+/-Qtz SCHIST WITH UP TO 3% :DISS. PYRITE.	126	142	48	172
5009	1+00E	4+95N	TOUGHNUT	GRAB :HIGHLY SERICITIC, SLIGHTLY MORE :CARB ALT'D SCHIST WITH 2% PYRITE.	27	254	21	87
5010	0+05E	1+55N	TOUGHNUT	GRAB :PIT #8. HIGHLY ALT'D & BLEACHED :SER-Qtz-Fe CARB SCHIST WITH 3% Py.	149	247	1208	2573
5011	0+05E	1+45N	TOUGHNUT	GRAB :PIT #8. ABNDT Py (20%) IN Fe-CARB :SCHIST; GN.	340	142	15525	3396
5012	0+05E	1+45N	TOUGHNUT	GRAB :PIT #9 EXTR. LIMON-SER FOLIATED	860	380	2005	798

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SAMPLE NUMBER:	GRID COORDINATE:	GRID	TYPE	SAMPLE DESCRIPTION	ASSAYS			
					Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
				VOLCANIC WITH TRACE Py (12%).				
5013	5+75E	0+05N	TOUGHNUT: GRAB	Zn TRENCH, HIGHLY FOLIATED SER. SCHIST: %5 DISS. SULF. (2% SPH & GAL, 3% Py) ALONG FOLIATIONS.	68	291	70	30178
5014	1+98W	1+37N	TOUGHNUT: GRAB	CHLORITIZED AUGITE PORPHYRY FLOW, TRACE DISS. Py.	31	242	10	108
5015	3+20W	0+04S	TOUGHNUT: GRAB	Fe CARB-SER ALT'D QFP; TRACE Py	94	40	21	33
5016	3+80W	1+25S	TOUGHNUT: GRAB	SER-BIO(?) ALT'D VOLCANICS WITH UP TO 4% DISS. PYRITE.	390	86	217	774
5017	3+80W	1+25S	TOUGHNUT: GRAB	SAME AS 5016	560	66	1485	2613
5018	3+80W	1+25S	TOUGHNUT: GRAB	SILICEOUS, SERICITIC TUFF (?) WITH CONTORTED "LAMINAE" OF SPH AND PY (COLLIFORM TEXTURE) 2.5% SPH, 2% PY.	61	39	427	12528
5019	3+80W	1+25S	TOUGHNUT: GRAB	SAME AS 5018	280	17	8247	38797
5020	3+80W	1+25S	TOUGHNUT: GRAB	SAME AS 5018	127	23	415	2903
5400	0+45E	4+50N	TOUGHNUT: GRAB	PIT #6: FINELY LAMINATED, F. GR. VOLC(?) WITH STRATIFORM DISS Py (2-3%):	91	348	29	52
5401	0+33W	1+55N	TOUGHNUT: GRAB	MASSIVE WHITE Qtz VEIN, RUSTY FRACT. SURFACE; RARE PY, SER. ALONG FRACT.	6	6	8	108
5402	0+33W	1+55N	TOUGHNUT: GRAB	GREEN-GREY SERICITIZED VOLC. 3% CaCO3 ALONG FRACTURES; 3-5% DISS PY.	350	177	97	1644
5437	5+37W	0+45S	TOUGHNUT: GRAB	DUMP: Fe CARB ALT'D C. GRAINED QFP; 10% DISS. PY, TR. DISS. CPY, 2% GN, <1% SPH.	32800	212	11459	46475
5438	5+37W	0+45S	TOUGHNUT: GRAB	DUMP: BULL WHITE QTZ VEIN WITH 10-15% MASSIVE GN AS FRACTURE FILLINGS, <1% FRACTURE CONTROLLED PY.	2630	580	26917	32749
5439	5+50E	0+10N	TOUGHNUT: 60 cm	STRONGLY OXIDIZED & FOLIATED VOLC(?) PERVASIVE CARBONATIZATION; 1% DISS. PY.	11	205	18	3473

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					Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5440	5+50E	0+10N	TOUGHNUT:FLOAT	LT. GREEN-BEIGE, F. GRAINED, FOLIATED, SER-Fe CARB ALT'D VOLC.; 1% SPH, 3-5% DISS. EUHEDRAL PY, MINOR CAL SWEATS.	58	90	232	43375
5441	2+85W	B.L.	TOUGHNUT: 1 m	STRONGLY FOL./SHEARED CHLORITIC VOLC. ;1% PY, 5-7% CaCO3 SWEATS.	18	9	9	416
5442	2+85W	B.L.	TOUGHNUT: GRAB	NARROW CaCO3-FeCO3 VEIN CUTTING VOLC. :2-3% DISS. PY, TR. SPH.	81	18	14	231
5443	2+85W	B.L.	TOUGHNUT: 1 m	HIGHLY SHEARED VOLC. SERICITE(?), MINOR CALCITE, TR. DISS. PY.	109	18	13	219
5444	2+85W	B.L.	TOUGHNUT: 1 m	SAME AS 5443	64	18	14	191
5445	6+00W	1+68S	TOUGHNUT:FLOAT	FOLIATED ANDESITE, 3-5% PY, .	22	66	13	100
5446	6+55W	0+50S	TOUGHNUT: 1 m	TOUGHNUT ADIT: HYDROTHERMAL VEIN SYS.	29	242	29	1671
5447	6+55W	0+50S	TOUGHNUT: 1 m	TOUGHNUT ADIT: HYDROTHERMAL VEIN SYS.	18	361	8	962
5448	6+55W	0+50S	TOUGHNUT: 1 m	TOUGHNUT ADIT: HYDROTHERMAL VEIN SYS.	31	250	9	702
5449	6+55W	0+50S	TOUGHNUT: 1 m	TOUGHNUT ADIT: HYDROTHERMAL VEIN SYS.	35	114	11	286
5450	6+55W	0+50S	TOUGHNUT: 1 m	TOUGHNUT ADIT: HYDROTHERMAL VEIN SYS.	30	68	268	3179
5451	6+55W	0+50S	TOUGHNUT: 1 m	TOUGHNUT ADIT: HYDROTHERMAL VEIN SYS.	62	116	1003	14488
5452	6+55W	0+50S	TOUGHNUT: 1 m	TOUGHNUT ADIT: HYDROTHERMAL VEIN SYS.	168	108	663	9868
5453	6+55W	0+50S	TOUGHNUT: 1 m	TOUGHNUT ADIT: HYDROTHERMAL VEIN SYS.	155	516	386	11451
5454	6+55W	0+50S	TOUGHNUT: 1.3 m	TOUGHNUT ADIT: HYDROTHERMAL VEIN SYS.	58	111	805	3798
5455	6+55W	0+50S	TOUGHNUT: 1.1 m	MOUTH OF ADIT: QTZ VEIN STOCKWORK IN Fe CARB ALT'D VOLC.; 3-5% SPH, (1% GN, 1-2% PY, TR, CPY.	310	252	12467	16980
5456	6+55W	0+50S	TOUGHNUT: 0.8 m	MOUTH OF ADIT: SAME AS 5455 EXCEPT VOLC. SHOWS LT. YELLOW-CREAM COLOUR; DOLOMITIZATION.	200	142	3084	11252
5457	6+55W	0+50S	TOUGHNUT:PANEL	TOUGHNUT ADIT(NEAR MH 86-035): QTZ	460	2289	13417	31340

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SAMPLE NUMBER:	GRID COORDINATE:	GRID :	TYPE :	SAMPLE DESCRIPTION :	ASSAYS :			
					Au :	Cu :	Pb :	Zn :
					(ppb):	(ppm):	(ppm):	(ppm):
				(500 CM2) : VEIN STKWRK, STRONGLY ALT'D BRECCIA FRAGS; 3%SPH, (1% GN, TR. CPY, 3-4% PY.				
5458	6+55W	0+50S	TOUGHNUT	GRAB : TOUGHNUT ADIT(DUMP):SUGAR TEXTURE SILICEOUS MATERIAL; 10-20% PY, 1-2% SPH, TR. GN.	490	594	9350	38026
5459	6+55W	0+50S	TOUGHNUT	GRAB : TOUGHNUT ADIT(DUMP):QTZ VEIN MATERIAL; 5-7% SPH, 7-10% PY, 1-2% GN.	1470	2876	26252	59330
5460	6+05W	0+50S	TOUGHNUT	.15 CM: LT. GREY-GREEN VOLC. SURROUNDED BY HIGHLY ALTERED STKWRK, FeCO3 ALT'D, 5-10% PY, TR. CPY.	41	496	100	701
5461	6+47W	0+50S	TOUGHNUT	GRAB : QTZ VEIN MATERIAL, 10% MASSIVE GN, 3-7% MASSIVE PY.	8650	1016	23925	15136
5462	6+00W	7+25N	TOUGHNUT	GRAB : COMPLETELY SERICITIZED, STR. FOLIATED VOLC..	28	47	173	191
5463	6+10W	7+30N	TOUGHNUT	GRAB : SAME AS 5462	24	138	261	397
5464	6+10W	7+30N	TOUGHNUT	GRAB : SAME AS 5462	13	130	72	131
5465	1+00W	3+50W	TOUGHNUT	GRAB : DK. GREEN CARB ALT'D VOLC., (1% PY, 1-2% CALCITE.	9	357	528	346
5466	1+00W	4+75N	TOUGHNUT	GRAB : V. SCHISTOSE, SERICITIC VOLC.	4	22	21	56
5467	1+00W	5+07N	TOUGHNUT	GRAB : FOLIATED QFP, STRONG CaCO3 (+/-FeCO3) ALT'D; TR. DISS. PY.	33	10	18	61
5468	1+00W	5+60N	TOUGHNUT	GRAB : WELL-FOLIATED CARBONATIZED VOLC., 3% CaCO3, 10% FeCO3;(1% PY.	62	238	11	79
5469	1+05W	6+20N	TOUGHNUT	GRAB : WELL-FOLIATED CARBONATIZED VOLC., 5-10% CaCO3, 3-5% FeCO3; (2% PY.	32	29	29	95
5470	5+40W	0+45S	TOUGHNUT	GRAB : TOUGHNUT SHAFT: SAME AS 5437	6640	185	1935	12743
5471	MH-86-060		TOUGHNUT	GRAB : Fe-CARB ALT'D VOLC., 7-8% CaCO3, 5-10% FeCO3; 5-7% PY.	169	52	22	57

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SAMPLE NUMBER:	GRID COORDINATE:	GRID	TYPE	SAMPLE DESCRIPTION	ASSAYS			
					Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5472	MH-86-063		TOUGHNUT	3 m : STRONGLY FOLIATED, SER, WEAKLY CARB. VOLC; 5% PY, TR. CPY.	360	168	35	779
5473	MH-86-063		TOUGHNUT	GRAB : LT. GREEN/GREY QTZ-SERICITE SCHIST; 10% PY, 2-3% NARROW QTZ VEINLETS (2-3 mm).	600	28	12	28
4967	1+00E : 1+24N		TOUGHNUT	GRAB : TRENCH 1+00E: WEATHERED QTZ VEIN IN RUSTY RED MATRIX, DOLOMITE ALT'D.	146	90	72	812
4968	1+00E : 1+28N		TOUGHNUT	GRAB : TRENCH 1+00E: DOLOMITE, SERICITE, FSP?, QTZ-VEIN; TR GN,PY,CPY?.	73	37	2915	5966
4969	0+75E : 1+15S		TOUGHNUT	1 m : STRONGLY CARB. ALT'D QFP.	7	79	13	220
4970	0+75E : 1+15S		TOUGHNUT	1 m : SAME AS 4969	2	42	13	469
4971	0+75E : 1+15S		TOUGHNUT	1 m : SAME AS 4969	8	127	17	96
4972	0+75E : 1+15S		TOUGHNUT	GRAB : QTZ VEIN IN CARB ALT'D VOLC, 4% GN, 2% SPH, 1% PY, 1% CPY.	1210	636	7148	3640
4973	0+53N : 1+90N		TOUGHNUT	FLOAT: HIGHLY CARB. ALT'D QFP, CHLORITIZED, SERICITIZED; 3% PY, 1-2% CPY.	86	328	84	1210
4974	0+40W : 2+15N		TOUGHNUT	GRAB : KNOB TRENCH: FELSIC DYKE, MOD Mn STAIN: 2% PY BLEBS & VEINLETS.	740	378	17	78
4975	2+86E : 2+50S		TOUGHNUT	GRAB : HIGH GRADE: RED-BRN LAYERED (CONTORTED: CARB ALT'D VOLC.; 1% PY, 1-2% SPH, TR. GN.	131	27	745	1651
4976	2+86E : 2+50S		TOUGHNUT	GRAB : WHITE QTZ, LIMONITE-LINED VUGS.	5	11	172	281
4977	2+86E : 2+50S		TOUGHNUT	GRAB : HOST TO 4975 & 4976: SILICEOUS, GRANULAR HORNFELSED VOLC (?).	70	14	543	1116
4978	2+00E : 1+30S		TOUGHNUT	GRAB : DUMP: HIGHLY CARB ALT'D , SILICIFIED, BRECCIATED VOLC., 2-3% PY, TR SPH, GN.	360	196	413	889
4979	2+02E : 0+05S		TOUGHNUT	FLOAT : SULF-RICH, HORNFELSED OR CARBONATIZED VOLC.; 3-4% PY, 2-3% SPH, 1% GN.	76	359	16	20364

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SAMPLE NUMBER:	GRID COORDINATE:	GRID	TYPE	SAMPLE DESCRIPTION	ASSAYS			
					Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
4980	8+75E	B.L.	TOUGHNUT	GRAB :ST. #S43 SER ALT'D VOLC SCHIST WITH QTZ VEINLETS.	50	261	942	25271
3744	ALMA N	SHAFT	STAR	GRAB :RUBBLE;SHEARED VOLCANIC, QTZ AUGEN; , (10% Py.	55000	60	386	258
3745	ALMA N	SHAFT	STAR	GRAB :RUBBLE: Fe CARB ALT'D VOLC. MINOR :QTZ STKWRK; (1% SULFIDE.	280	135	38	95
3746	OLD	TRENCH?	STAR	GRAB :PSEUDO-DIORITE, Fe CARB; TR PY.	270	83	8	95
3747	OLD	TRENCH?	STAR	GRAB :PSEUDO-DIORITE, Fe CARB; TR PY,CPY,MAL	34	14011	5	108
3748	STAR	SHAFT	STAR	GRAB :HIGHLY SHEARED VOLCANICS, SERICITE , Fe CARB ALT'D; TR PY.	760	623	145	85
3749	STAR	SHAFT#2	STAR	GRAB :SHAFT DUMP: PSEUDO-DIORITE; TR PY, :ABND LIMONITE.	1670	948	941	283
3750	STAR	SHAFT#2	STAR	GRAB :SHAFT DUMP: SAME AS 3749.	1620	1451	630	124
3751	EUREKA	ADIT	STAR	FLOAT :HIGH GRADE FLOAT: CPY/MAL	9000	22631	13	33
3752	EUREKA	ADIT	STAR	FLOAT :HIGH GRADE FLOAT; MARBLIZED LST WITH :DISS CPY (1.5%), FRACT. CONTROLLED.	960	10949	221	44
3753	EUREKA	DUMP	STAR	FLOAT :DUMP: PSEUDO-DIORITE, UNALTERED, ABND :BIOTITE-QTZ?; (1% PY,CPY.	142	2719	9	270
3754	EUREKA		STAR	FLOAT :FOLIATED, FRESH PSEUDO-DIORITE, :ABND BIOTITE; 1% PY, TR CPY.	270	113	9	100
3755	GRANITE	POORMAN	STAR	GRAB :VEIN MATERIAL, SULFIDES (2%; PY,CPY.	13910	248	66	39
3756	GRANITE	POORMAN	STAR	GRAB :PSEUDO-DIORITE, ABND BIOTITE; TR PY.	2210	109	9	87
3757	ACRE	SHOWING	STAR	GRAB :TR CPY IN DIORITE.	740	5958	14	25
4981	EUREKA	TUNNEL	STAR	GRAB :DUMP: CHLORITIZED DIORITE,	340	3107	357	1292

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SAMPLE NUMBER:	GRID COORDINATE:	GRID :	TYPE :	SAMPLE DESCRIPTION :	ASSAYS :	Au :	Cu :	Pb :	Zn :
:	:	:	:	:	:	(ppb):	(ppm):	(ppm):	(ppm):
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:MALACHITE, AZURITE, CHYSOCOLLA; (3% PY:	:	:	:	:	:
:	:	:	:	: , TR. 1% CPY, HEMATITE.	:	:	:	:	:
4982	:EUREKA	:TUNNEL	:STAR	:GRAB :DUMP: SERICITIC, OXD, MED. GR. FELSIC	380	7496	6486	1777	:
:	:	:	:	:DYKE (?); STRONG MALACHITE, AZURITE	:	:	:	:	:
:	:	:	:	:STAIN.	:	:	:	:	:
4983	:EUREKA	:TUNNEL	:STAR	:GRAB :DUMP: MED. GR. BLEACHED,	4820	7836	19781	26191	:
:	:	:	:	:CHLORITIC INTRUSIVE, 5-30%	:	:	:	:	:
:	:	:	:	:PY, 1% SPH, 2% GN, 1% CPY, HEMATITE,	:	:	:	:	:
:	:	:	:	:MOLY, TALC ON SHEAR/FRACT. SURFACES.	:	:	:	:	:
4984	:EUREKA	:LOWER	:STAR	:GRAB :LOWER WRK: CHLORITIZED, CARBONATIZED,	5	105	68	165	:
:	:	:	:	:DIORITE; TR PY?.	:	:	:	:	:
4985	:EUREKA	:LOWER	:STAR	:GRAB :LOWER WRK:Fsp-QTZ-SER-CHL-EPIDOTE ALT'	60	517	73	125	:
:	:	:	:	:MED. GR. LEUCOCRATIC INTRUSIVE, ANK &	:	:	:	:	:
:	:	:	:	:TOURMALINE CLOTS.	:	:	:	:	:
4986	:EUREKA	:LOWER	:STAR	:GRAB :LOWER WRK:QTZ VEIN; MALACHITE/AZURITE	93	5823	3569	2640	:
:	:	:	:	:STAIN, HEM, MGT, 2-3% PY, 1% CPY.	:	:	:	:	:
4987	:EUREKA	:LOWER	:STAR	:GRAB :LOWER WRK: CHL-CARB ALT'D SHEARED	87	1482	92	275	:
:	:	:	:	:DIORITE, X CUT BY QTZ VEINLETS; 1-3% PY:	:	:	:	:	:
:	:	:	:	: , MALACHITE STAIN.	:	:	:	:	:
4988	:EUREKA	:LOWER	:STAR	:GRAB :LOWER WRK: MELANOCRATIC, PORPHYRITIC,	13	82	6	64	:
:	:	:	:	:HIGHLY CO2 ALT'D, LAMP. DYKE.	:	:	:	:	:
4989	:EUREKA	:LOWER	:STAR	:GRAB :LOWER WRK:MAFIC DIORITE, CHL, BIO, EPI:	40	379	6	116	:
:	:	:	:	:FSP, HRNBLD, Cu STAINS.	:	:	:	:	:
4990	:AML N	:SHAFT	:STAR	:GRAB :ALMA N DUMP: ALT'D/BLEACHED FELSIC	149	87	15	21	:
:	:	:	:	:INTRUSIVE; Mn STAINED, PY RICH QTZ	:	:	:	:	:
:	:	:	:	:VEIN, TOURMALINE.	:	:	:	:	:
4991	: 6+75W	: 10+80N:	:STAR	:GRAB :EUREKA UPPER WRK: SER-CHL ALT'D MONZ;	3220	1142	7	37	:
:	:	:	:	:MAL STAIN, TR PY, HEMATITE.	:	:	:	:	:
4992	: 3+25W	: 8+25N	:STAR	:GRAB :RUSTY (OXD), BLEACHED DIORITE.	3290	3425	7060	197	:
4993	: 1+23W	: 8+50N	:STAR	:GRAB :BLEACHED, RUSTY, LEUCOCRATIC INTR.	16	110	26	103	:
:	:	:	:	:(DIORITE), FSP-CHL-SER-BIO?-KSP?-MGNT	:	:	:	:	:
:	:	:	:	:: TR PY.	:	:	:	:	:

APPENDIX 3
GREAT WESTERN STAR PROJECT
GRAB SAMPLES

SAMPLE NUMBER:	GRID COORDINATE:	GRID :	TYPE :	SAMPLE DESCRIPTION	ASSAYS			
					Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
4994	L8W OLD: 4+75N	STAR	GRAB	RUSTY QTZ . (OLD TRENCHFILL).	4110	419	993	73
4995	0+30W : 9+00N	STAR	GRAB	CHYSOCOLLA-RICH QTZ VEIN, FLOAT ON ROAD, MALACHITE, TR PY.	570	9298	2	75
4996	1+90W : 6+77N	STAR	GRAB	BLEACHED, SILICIFIED, DIORITE.	27	115	14	111
4997	1+90W : 6+77N	STAR	GRAB	WHITE QTZ FLOAT.	45	47	16	24
4998	1+90W : 6+77N	STAR	GRAB	GREEN CHLORITIZED DIORITE / HORNFELSED: VOLC. (?); 1-2% HEMATITE, MOD. EPI.	45	47	16	24
4999	0+25E : 6+40N	STAR	GRAB	YELLOW, BLEACHED, DIORITE?, SERICITE ALT'D; "SINTERY" APPEARANCE.	520	345	61	8
5000	B.L. : 6+60N	STAR	GRAB	HLY WEATHERED TO ORANGE-BROWN, MED. GRAINED DIORITE? DYKE, QTZ-FSP-MUSC ALT'D; 1% HEM, TR. MN.	4	124	49	87
5105	0+74E : 4+05N	STAR	GRAB	CHL-SER-MUSC ALT'D F. GN. LEUCOCRATIC INTRUSIVE (BLEACHED YELLOW-ORANGE).	23	1873	3	38
5106	B.L. : 0+75N	STAR	GRAB	ALMA N SHAFT: WEATHERED, DK. BRN-GREY, CHL-SER ALT'D DIORITE; TR CPY, Mn STAIN.	1910	423	2	128
5116	0+10E : 5+40N	STAR	COMP. GRAB	SERICITE AND POTASSICALLY ALT'D F. GR. INTRUSIVE, YELLOW-ORANGE WEATHERING; 3% PY, TR CPY.	220	1754	8	17
5117	0+10E : 5+40N	STAR	COMP. GRAB	SERICITE AND POTASSICALLY ALT'D; F. GR. INTRUSIVE, YELLOW-ORANGE WEATHERING; 3% PY, TR CPY, MALACHITE.	97	1510	16	23
5490	1+80E : 0+70N	STAR	GRAB	2-3% DISS. SPH, 5% DISS. PY, TR GN.	76	44	3483	13940
5491	1+80E : 0+70N	STAR	90 cm	SAME AS 5491	22	56	2019	4579
5543	0+60W : 3+30S	STAR	10 cm	QTZ VEIN, RUSTY FRACT.; <1% CPY, CHL FRACTURE FILLINGS.	11	751	3	23
5544	2+00W : 5+35N	STAR	GRAB	ALT'D VOLC, ELONGATED CHERTY-LOOKING	36	425	4	67

APPENDIX 3
GREAT WESTERN STAR PROJECT
GRAB SAMPLES

SAMPLE NUMBER:	GRID COORDINATE:	GRID	TYPE	SAMPLE DESCRIPTION	ASSAYS			
					Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
				:K-ALT'D PATCHES; 5-6% PY.				
5545	3+00W : 6+85N	STAR	GRAB	:BLEACHED, CARBONATIZED VOLC, WITH :Fe-CARB STKWRK (10-15%); (1% PY, :3% CALCITE.	24	135	4	74
5546	2+95W : 3+15N	STAR	GRAB	:SUGAR TEXT.VOLC, 5-7% PY,LOCALLY VUGGY	220	549	7	33
5547	2+02W : 0+90N	STAR	GRAB	:EXTREMELY SHEARED VOLC(QFP?), MINOR :QTZ VEINLETS, 2-5% DISS. PY.	1300	119	66	28
5548	2+02W : 3+08N	STAR	GRAB	:STR. FOL. VOLC.; TR PY.	53	33	5	131
5549	1+70W : 0+05S	STAR	GRAB	:BLEACHED, SERICITIC, FOLIATED, VOLC :(1% APPLE-GREEN FUCHSITE BLEBS, (1% :CALCITE, (1% PY.	580	74	613	62
5550	1+75W : 0+15S	STAR	1 m	:STR FOL CARB-CHL ALT'D VOLC., TR MAL, :1-2% DISS. PY.	26	43	25	446
5551	1+75W : 0+14S	STAR	1 m	:SAME AS 5550	30	113	9	162
5552	1+75W : 0+13S	STAR	1 m	:SAME AS 5550	115	63	21	149
5553	1+85W : 1+28S	STAR	GRAB	:DUMP: :STR FOL Fe-CARB ALT'D VOLC, HOST FOR :QTZ VEIN STKWRK, 1-2% GN, TR. SPH, :TR CPY, TR TET.	290	360	10885	40353
5554	1+85W : 1+28S	STAR	GRAB	:DUMP: SIMILAR TO 5553 EXCEPT :5-7% GN, 1% PALE GREEN SPH, (1% PY. :TR CPY, TET?.	290	495	19563	76316
5555	1+40S : 2+28W	STAR	GRAB	:DUMP: :QTZ VEIN & BRECCIATED ORANGE-COLOURED :DOLO. MAT?, 2-3% GN, 1% SPH, (1% PY.	151	67	7017	25232
5556	1+40S : 2+28W	STAR	GRAB	:DUMP: FRACTURED DOLOMITIZED VOLC., :5% GN, 5% SPH, (1% PY.	660	66	10151	30522
5557	1+00W : 1+25S	STAR	GRAB	:DUMP: QTZ VEIN WITH DOLOMITE :ALT'D WALL ROCK; 2% GN, 1% SPH, TR PY.	47	43	2971	26855
5558	6+00S : 10+25E	STAR	1 m	:Fe-CARB ALT'D VOLC, 10% Fe-CARB STKWRK	113	113	33	194

APPENDIX 3
GREAT WESTERN STAR PROJECT
GRAB SAMPLES

SAMPLE NUMBER:	GRID COORDINATE:	GRID	TYPE	SAMPLE DESCRIPTION	ASSAYS			
					Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
:	:	:	:	:	:	:	:	:
:	:	:	:	:;5-7% DISS. PY.	:	:	:	:
5559	6+00S : 10+25E	STAR	1 m	HIGHLY WEATHERED ROCK; NO VIS. SULFIDE	80	134	1241	3341
5560	6+00S : 10+25E	STAR	1 m	HIGHLY WEATHERED ROCK; NO VIS. SULFIDE	91	117	1855	4139
5561	6+00S : 10+62E	STAR	0.5 m	GREY FN. GR. VOLC., 5-6% PERVASIVE CALCITE, 2% Fe-CARB STKWRK; 4-6% PY.	50	115	488	3457
5562	6+00S : 11+18E	STAR	.65 m	LT. BROWN, STR FOL Fe-CARB ALT'D SCHIST; 4% DISS. PY, 2-3% FeCARB.	88	140	24	2344
5563	6+00S : 11+35E	STAR	1 m	EXTREMELY FOLIATED, OXIDIZED VOLC.	41	140	16	84
5564	6+00S : 11+35E	STAR	0.5 m	EXTREMELY FOLIATED, LT BROWN VOLC. ; 1-2% PY, 5-7% CAL ALONG FOLIATIONS	16	32	18	63
5565	6+00S : 11+35E	STAR	1 m	SAME AS 5564	18	20	12	83
5566	6+00S : 11+35E	STAR	1 m	SAME AS 5564	21	159	20	102
5567	6+00S : 11+07E	STAR	FLOAT	V. FN. GR. LT. GREY SCHIST, TALC ALONG FOLIATION PLANES, 4-5% PY, 1-3% CAL.	100	56	511	1787
5568	6+40S : 11+00E	STAR	GRAB	STR BLEACHED, WELL-FOLIATED, PYRITIC VOLC, MINOR QTZ VEINING, 5-7% DISS. PY.	790	147	24	209
5569	6+40S : 11+00E	STAR	GRAB	SAME AS 5568 EXCEPT TR CPY	11440	1084	233	1881
5570	6+40S : 11+00E	STAR	GRAB	SAME AS 5569	142	23	61	446
5571	6+60S : 11+20E	STAR	GRAB	BLEACHED #5570; 2-3% Fe-CARB.	210	88	9	89
5572	6+60S : 11+20E	STAR	GRAB	DUMP: V. SILICIFIED VOLC; (15% PY 2% VUGS.	1590	30	16	24
5573	6+40S : 10+63E	STAR	GRAB	DK. GREEN CARB-CHL SCHIST; 5-7% PY 5% PERVASIVE CALCITE.	145	73	11	165
5574	EUREKA:UPPER	STAR	GRAB	UPPER WRK: QTZ-CARB MAT WITH SUGARY TEXTURE MARBLE/CALCITE; 2% AZURITE, 1% MAL, 1% CPY, 3% PY.	700	6737	983	867

APPENDIX 3
GREAT WESTERN STAR PROJECT
GRAB SAMPLES

SAMPLE NUMBER:	GRID COORDINATE:	GRID :	TYPE :	SAMPLE DESCRIPTION :	ASSAYS :			
					Au :	Cu :	Pb :	Zn :
:	:	:	:	:	(ppb):	(ppm):	(ppm):	(ppm):
5575	EUREKA:UPPER	STAR	GRAB	UPPER WRK: SIMILAR CARB MAT IN 5574; (1% PY, 1-2% CPY, +/- MAL,AZURITE	220	3411	76	225
5576	EUREKA:UPPER	STAR	GRAB	UPPER WRK: SAME AS 5574; 1% CPY, 3% PY:	950	5302	314	351
5577	EUREKA:UPPER	STAR	GRAB	UPPER WRK: SAME AS 5574.	530	4024	47	325
5578	EUREKA:UPPER	STAR	GRAB	UPPER WRK: MASSIVE PY(BANDED), +/-SPH,HEM.	1830	8150	10296	14001
5579	9+05N : 5+60W	STAR	GRAB	MONZONITE; 3-5% MAL STAINING, 2-3% MT, (1% CPY.	350	2137	19	63
5580	EUREKA :LOWER	STAR	GRAB	DUMP: RECRYSTALIZED WITH 1% PY, 2% MAL, 3% PY.	91	3036	26	53
5581	EUREKA :LOWER	STAR	GRAB	DUMP:QTZ-CARB ALT'D; (2% BORNITE ,(1% CPY, 1%PY.	320	36936	14233	3684
5582	EUREKA :LOWER	STAR	GRAB	DUMP: BLEACHED SERICITIZED DIORITE; , 2% CPY, 3-5% PY, 7-10% SPEC. HEM	3070	1953	104	58
5583	EUREKA :LOWER	STAR	GRAB	DUMP: QTZ-CARB-FeCARB ALT'D VOLC; 2-3% CPY.	560	13259	64	125
5584	ALMA N :SHAFT	STAR	GRAB	DUMP: V. BLEACHED, SUCROSIC, SILICEOUS, WITH TOURMALINE; TR. PY.	930	198	111	19
5585	ALMA N :SHAFT	STAR	GRAB	DUMP: SIMILAR TO 5584 BUT LESS TOURMALINE(1%); VUGGY PYRITE(2-3%)	1570	81	45	14
5586	ALMA N :SHAFT	STAR	GRAB	DUMP: V. SILICEOUS, LT. GREY RK; 2-3% PY, 3% MALACHITE STAINING.	660	944	206	353
5587	ALMA N :SHAFT	STAR	GRAB	DUMP:STRONGLY CARB ALT'D DIORITE; 2-3% CAL, (1%PY, (1%CPY.	114	176	28	89
5588	EUREKA :LOWER	STAR	GRAB	MOUTH OF PORTAL: ALT'D DIORITE, (1% PY: 1-2% MAL STAINING.	850	1120	8	47
5589	EUREKA :LOWER	STAR	GRAB	MOUTH OF PORTAL: SAME AS 5588	220	1167	9	55
5612	13+15N: 5+70W	STAR	GRAB	DUMP: V. SILICEOUS DIORITE; 7-10% MALACHITE, 2% CPY, (1% PY.	980	11678	26	41

APPENDIX 3
GREAT WESTERN STAR PROJECT
GRAB SAMPLES

SAMPLE NUMBER:	GRID COORDINATE:	GRID :	TYPE :	SAMPLE DESCRIPTION :	ASSAYS :			
					Au :	Cu :	Pb :	Zn :
:	:	:	:	:	(ppb):	(ppm):	(ppm):	(ppm):
5613	13+15N 5+70W	STAR	GRAB	DUMP: UNALTERED LEUCOCRATIC DYKE :, DIORITE?.	10	243	9	54
5614	0+10E 10+05N	STAR	GRAB	OLD PIT: LT GREY DIORITE, 5-7% QTZ :VEINLETS, Fe CARB VEINLETS; TR PY.	6	299	25	278
5615	11+00N 0+85W	STAR	GRAB	SHEARED DIORITE?; MALACHITE, TR CPY.	19	1275	8	72
5616	11+70N 8+40W	STAR	20 CM	SMALL SHEAR IN MONZONITIC INTRUSIVE, :QTZ VEINING; 1% MALACHITE, TR CPY.	500	2155	102	327
5617	3+20W 8+37N	STAR	GRAB	Fe-OXIDE RICH, VUGGY QTZ VEIN STRONGLY: :SILICIFIED.	2700	4317	1494	148
5618	8+37N 3+20W	STAR	GRAB	MOD. OXIDIZED QTZ VEIN; <.5% PY, 1-2% :MAL, 5-7% Fe-OXIDE.	390	1941	2277	44
8915	16+70N 25+06W	STAR	2.8 m	DK. MAFIC RICH MONZ. WITH 2-3% MT, :TR CPY, <1% MAL.	70	469	4	61
8916	16+70N 25+06W	STAR	GRAB	MT VEIN MAT + MONZ. HOST; 10% MT, :, <1% MT, 1% CPY, 2-3% MAL.	480	2077	8	58
8917	7+68N 16+50W	STAR	GRAB	MONZ. WITH 5-7% MT, 2% MAL STAINING, :TR CPY.	5680	1396	6	80
8918	8+00N 17+75W	STAR	GRAB	BLEACHED MONZ.; 2-3% CaCO3 + Fe-CARB :VEINLETS (2%), 3% MT, <1% CPY, PY.	133	254	3	68
10961	8+70N 3+08W	STAR	GRAB	PIT: STRONGLY OXD MED GR. INTRUS; :TR MAL, NO VIS. SULFIDES.	56	5284	44	695
10962	8+64N 3+00W	STAR	GRAB	PIT: STRONGLY ALT'D MED GR. INTRUS; :, <5% QTZ, SER, TR MT, HEM.	38	475	4	44
10963	9+28N 3+55W	STAR	GRAB	MED GR. INTRUS., SER-KSPAR ALT'D; :MAL STAIN, MINOR PY.	15	11312	2266	4510
10964	9+80N 0+60E	STAR	GRAB	ALTERED MONZ-DIORITE, SER-CaCO3 ALT'D; :TR CPY.	10	150	17	155
10965	9+90N 0+60E	STAR	GRAB	SERICITE SCHIST, NO VIS. SULFIDES.	3	37	85	205

APPENDIX 3
GREAT WESTERN STAR PROJECT
GRAB SAMPLES

SAMPLE NUMBER:	GRID COORDINATE:	GRID :	TYPE :	SAMPLE DESCRIPTION :	ASSAYS :			
					Au (ppb):	Cu (ppm):	Pb (ppm):	Zn (ppm):
10966	10+10N: 3+50W	STAR	GRAB	PIT: STRONGLY OXD MAFIC RICH MONZ-DIOR; MINOR MAL, CPY	18	2664	9	141
10967	8+95N: 5+60W	STAR	GRAB	TRENCH: OXIDIZED, SERICITIC MONZ.; TR SULFIDES.	210	587	53	202
10983	9+00N: 3+15W	STAR	GRAB	PIT: MONZ?, STRONG QTZ-SER-FECARB ALT ; , 10% FE OXIDE, NO VIS. SULFIDES.	490	1240	2443	208
10984	9+00N: 3+15W	STAR	GRAB	VEIN IN PIT: HIGHLY SILICIFIED INTRUS; TR CPY, 1% MAL/AZ.	270	1491	853	30
10985	9+00N: 3+15W	STAR	GRAB	PIT WALL: STRONG QTZ-SER ALT'D VEIN	530	408	551	69
10986	ALHAMBRA SHAFT	STAR	GRAB	MAFIC RICH MONZ.; TR CPY, TR MAL.	114	1473	11	144
10987	ALHAMBRA SHAFT	STAR	GRAB	MAFIC RICH MONZ.; TR CPY, TR MAL.	770	4776	14	19
10988	ALHAMBRA SHAFT	STAR	GRAB	MAFIC RICH MONZ.; TR CPY, TR MAL.	99	3311	1427	3076
10989	ALHAMBRA SHAFT	STAR	GRAB	MAFIC RICH MONZ.; TR CPY, TR MAL.	640	5441	52	300
10990	ALHAMBRA SHAFT	STAR	GRAB	MAFIC RICH MONZ.; TR CPY, TR MAL.	520	4823	901	122
10991	ALHAMBRA SHAFT	STAR	GRAB	STRONGLY SILICEOUS INTRUS. + QTZ VEIN, :2% CPY, %2 MAL, 1% HEM, STR. Fe OXD.	1440	15703	4840	1733
10992	ALHAMBRA SHAFT	STAR	GRAB	CaCO3 WITH QTZ EYES; 1% MAL, 3% CPY.	650	7168	154	161
10993	ALHAMBRA SHAFT	STAR	GRAB	VUGGY SUGARY QTZ.	34	584	46	36
10994	8+85N: 0+85W	STAR	GRAB	CHL ALT'D INTRUS., STRONG Fe OXD.	6	209	17	161
10995	9+05N: 0+30W	STAR		2.5 m: DACITE DYKE; TR MAL.	19	520	7	51
10996	9+05N: 0+3-W	STAR		1.5 m: CHLORITE SCHIST (VOLC.?).	17	518	6	77
10997	9+00N: 0+75W	STAR	GRAB	CHLORITE ALT'D INTRUS., STRONG Fe OXD	15	467	6	119
10998	9+00N: 0+55W	STAR		4 m: SER ALT'D INTRUS. CONTACT WITH VOLC.	4	119	56	87
10999	9+00N: 0+55W	STAR		2 m: CHLORITE SCHIST.	2	469	91	230
11000	10+35N: 1+30W	STAR	GRAB	DIORITE-MONZ., 1% CPY ON FeCARB, VNLTS:	52	1079	40	141

APPENDIX 3
 GREAT WESTERN STAR PROJECT
 GRAB SAMPLES

SAMPLE NUMBER:	GRID COORDINATE:	GRID :	TYPE :	SAMPLE DESCRIPTION	ASSAYS			
					Au	Cu	Pb	Zn
					(ppb)	(ppm)	(ppm)	(ppm)
11001	10+35N: 1+30W	STAR	GRAB	DIORITE-MONZ., 1% CPY ON FeCARB, VNLTS	6	93	10	69
11002	10+35N: 1+75W	STAR	GRAB	PIT: WHITE-QTZ VEIN	370	27	435	9
11003	10+35N: 1+75W	STAR	GRAB	PIT: ALT'D WALL RK., MONZ-DIORITE, FeCARB-KSPAR ALT'D.	22	162	52	156

APPENDIX IV
TRENCH SAMPLE LOCATIONS AND ASSAYS

APPENDIX 4
GREAT WESTERN STAR PROJECT
Trench Sample Geochemistry

TOUGHNUT GRID-KNOB TRENCH

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5052	1	3	2	730	315	15	67
5053	3	5	2	960	171	16	83
5054	5	7	2	350	126	7	64
5055	7	9	4	540	163	15	83
5056	9	11	4	39	274	11	85
5057	11	13	4	960	276	27	136
5058	13	15	4	1610	247	24	960
5059	15	17	4	260	26	32	146
5060	17	19	4	270	128	26	166
5061	19	21	4	25	105	10	112
5062	21	23	4	57	116	17	124
5063	23	25	4	28	37	10	102
5064	25	27	4	50	80	26	122
5065	27	29	4	154	79	31	214
5066	29	31	4	51	104	15	189
5067	31	33	4	69	46	20	193
5068	33	34	4	185	912	20	477
5069	34	35	4	109	212	19	433
5070	35	37	4	161	809	35	918
5071	37	39	4	83	381	21	393
5072	39	41	4	21	177	13	173
5073	41	43	4	15	331	16	265
5074	43	45	4	210	178	57	347
5075	45	47	4	270	81	19	111
5076	47	49	4	74	103	10	108
5077	49	51	4	35	237	10	164
5078	51	53	4	7	186	11	199
5079	53	55	4	10	208	13	229
5080	55	57	4	6	52	7	137
5081	57	59	4	9	128	11	173
5082	59	61	4	1	33	9	343
5083	61	63	4	29	295	17	303
5084	63	65	4	23	255	94	738
5085	65	67	4	17	215	132	1081
5086	67	69	4	37	260	577	3394
5087	69	71	4	4	188	35	483
5088	71	73	4	11	336	34	545
5089	73	75	4	820	203	207	704

APPENDIX 4
 GREAT WESTERN STAR PROJECT
 Trench Sample Geochemistry

TOUGHNUT GRID-KNOB TRENCH

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5090	75	77	4	92	170	17	239
5091	77	79	4	23	245	17	164
5092	79	81	4	1	260	17	234
5093	81	83	4	1	43	16	145
5094	83	85	4	4	412	11	124
5095	85	87	4	5	468	13	129
5096	87	89	4	8	330	10	123
5097	89	91	4	4	275	9	148
5098	91	93	4	9	173	129	251
5099	93	95	4	7	258	16	152
5100	95	97	4	5	254	4	170
5101	97	99	4	1	152	8	207
5102	99	101	3	1	135	5	190
5103	101	102	1	35	349	50	195
5104	0	1	1	3070	10	65	65

APPENDIX 4
 GREAT WESTERN STAR PROJECT
 Trench Sample Geochemistry

TOUGHNUT GRID-TRENCH 2+00E

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SAMPLE :FROM : TO : WIDTH : Au : Cu : Pb : Zn :
NUMBER : (m) : (m) : (m) : (ppb) : (ppm) : (ppm) : (ppm) :
=====
: : : : : : : : :
5474 : 1+85 : 1+80N : 5 : 5 : 439 : 44 : 187 :
5475 : 1+80 : 1+75N : 5 : 6 : 157 : 16 : 112 :
5476 : 1+75 : 1+70N : 5 : 7 : 124 : 6 : 112 :
5477 : 1+70 : 1+65N : 5 : 12 : 253 : 87 : 370 :
5478 : 1+65 : 1+60N : 5 : 124 : 391 : 258 : 900 :
: : : : : : : : :
5479 : 1+60 : 1+55N : 5 : 62 : 141 : 16 : 239 :
5480 : 1+55 : 1+50N : 5 : 20 : 121 : 61 : 645 :
5481 : 1+50 : 1+45N : 5 : 3 : 160 : 8 : 990 :
5482 : 1+45 : 1+40N : 5 : 7 : 81 : 9 : 1318 :
5483 : 1+40 : 1+35N : 5 : 7 : 159 : 20 : 1356 :
: : : : : : : : :
5484 : 1+35 : 1+30N : 5 : 21 : 69 : 37 : 781 :
5485 : 1+30 : 1+25N : 5 : 24 : 88 : 16 : 370 :
5486 : 1+25 : 1+20N : 5 : 36 : 184 : 176 : 630 :
5487 : 1+20 : 1+15N : 5 : 48 : 138 : 31 : 379 :
5488 : 1+15 : 1+10N : 5 : 59 : 112 : 21 : 590 :
: : : : : : : : :
5489 : 1+10 : 1+05N : 5 : 17 : 23 : 27 : 278 :
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APPENDIX 4
GREAT WESTERN STAR PROJECT
Trench Sample Geochemistry

TOUGHNUT GRID-TRENCH 0+74W

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5492	0+83	0+85N	2	10	15	32	92
5493	0+85	0+87N	2	11	7	16	45
5494	0+87	0+89N	2	97	38	12	57
5495	0+89	0+91N	2	1520	63	19	45
5496	0+91	0+93N	2	6290	26	15	69
5497	0+93	0+95N	2	1010	254	4	215
5498	0+95	0+97N	2	120	65	3	124
5499	0+97	0+99N	2	73	100	3	108
5500	0+99	1+01N	2	21	191	7	103
5501	1+01	1+03N	2	18	148	8	103
5502	1+03	1+05N	2	130	114	12	72
5503	1+05	1+07N	2	24	112	8	120
5504	1+07	1+09N	2	24	36	7	109
5505	1+09	1+11N	2	74	188	9	74
5506	1+11	1+13N	2	29	73	3	77
5507	1+13	1+15N	2	51	91	2	57
5508	1+15	1+17N	2	44	106	10	99
5509	1+17	1+19N	2	23	114	3	216
5510	1+19	1+21N	2	25	200	5	106
5511	1+21	1+23N	2	66	132	8	90
5512	1+23	1+25N	2	51	147	8	86
5513	1+25	1+27N	2	32	179	10	94
5514	1+27	1+29N	2	17	196	4	93
5515	1+29	1+31N	2	35	233	3	118
5516	1+31	1+33N	2	83	132	4	135
5517	1+33	1+35N	2	89	127	2	115
5518	1+35	1+37N	2	146	138	6	112
5519	1+37	1+39N	2	300	205	4	122
5520	1+39	1+41N	2	410	687	3	116
5521	1+41	1+43N	2	270	68	5	135
5522	1+43	1+45N	2	200	168	2	130
5523	1+45	1+47N	2	600	256	2	131
5524	1+47	1+49N	2	130	75	8	129
5525	1+49	1+51N	2	340	86	3	78
5526	1+51	1+53N	2	118	47	3	75
5527	1+53	1+55N	2	240	647	5	82
5528	1+55	1+57N	2	300	1316	5	81
5529	1+57	1+59N	2	41	165	5	73

APPENDIX 4
 GREAT WESTERN STAR PROJECT
 Trench Sample Geochemistry

TOUGHNUT GRID-TRENCH 0+74W

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5530	1+59	1+61N	2	88	485	9	102
5531	1+61	1+62N	1	42	252	7	280
	:	:	:	:	:	:	:
5532	1+62	1+64N	2	121	39	9	64
5533	1+64	1+66N	2	25	36	11	64
5534	1+66	1+68.2	2.2	41	297	217	1591
5535	1+68.2	1+70N	1.8	5	37	11	212
5536	1+70	1+72N	2	83	355	48	397
	:	:	:	:	:	:	:
5537	1+72	1+74N	2	127	74	30	228
5538	1+74	1+76N	2	30	32	4	147
5539	1+76	1+78N	2	176	47	18	133
5540	1+78	1+80N	2	99	100	21	318
5541	1+80	1+82N	2	170	459	30	381
	:	:	:	:	:	:	:
5542	1+82	1+83N	1	230	300	91	185

APPENDIX 4
GREAT WESTERN STAR PROJECT
Trench Sample Geochemistry

TOUGHNUT GRID-TRENCH 1+00E

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
4929	1+79	1+77N	2	23	117	9	587
4930	1+77	1+75N	2	19	39	6	404
4931	1+75	1+73N	2	12	84	13	401
4932	1+73	1+71N	2	23	259	4	411
4933	1+71	1+69N	2	95	117	15	380
4934	1+69	1+67N	2	110	241	16	444
4935	1+67	1+65N	2	89	127	12	320
4936	1+65	1+63N	2	51	318	6	292
4937	1+63	1+61N	2	65	150	28	209
4938	1+61	1+59N	2	21	73	16	421
4939	1+59	1+57N	2	19	191	9	498
4940	1+57	1+55N	2	22	100	12	434
4941	1+55	1+53N	2	9	119	2	337
4942	1+53	1+51N	2	58	89	38	409
4943	1+51	1+49N	2	49	113	5	250
4944	1+49	1+47N	2	60	93	4	364
4945	NO	SAMPLE					
4946	1+45	1+43N	2	66	93	987	1242
4947	1+43	1+41N	2	270	98	18	382
4948	1+41	1+39N	2	145	303	7	529
4949	1+39	1+37N	2	20	175	2	203
4950	1+37	1+35N	2	33	99	9	188
4951	1+35	1+33N	2	36	110	17	1805
4952	1+33	1+31N	2	36	215	62	992
4953	1+31	1+29N	2	28	298	83	1629
4954	1+29	1+27N	2	430	282	853	1612
4955	1+27	1+25N	2	106	512	231	1475
4956	1+25	1+23N	2	9	189	4	938
4957	1+23	1+21N	2	5	135	11	474
4958	1+21	1+19N	2	18	230	7	258
4959	1+19	1+17N	2	60	40	7	123
4960	1+17	1+15N	2	4	185	2	166
4961	1+15	1+13N	2	6	148	2	185
4962	1+13	1+11N	2	7	130	4	149
4963	1+11	1+09N	2	2	178	2	152
4964	1+09	1+07N	2	31	35	10	138
4965	1+07	1+05N	2	430	34	10	84
4966	1+05	1+03N	2	36	25	12	139

APPENDIX 4
GREAT WESTERN STAR PROJECT
Trench Sample Geochemistry

TOUGHNUT GRID-TRENCH 0+00

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppc)	Cu (ppm)	Pb (ppm)	Zn (ppm)
4837	2+22	2+20N	2	2	16	8	97
4838	2+20	2+18N	2	10	77	11	158
4839	2+18	2+16N	2	10	241	15	151
4840	2+16	2+14N	2	32	285	16	105
4841	2+14	2+12N	2	48	204	11	126
:	:	:	:	:	:	:	:
4842	2+12	2+10N	2	76	46	9	151
4843	2+10	2+08N	2	31	234	15	128
4844	2+08	2+06N	2	135	101	7	140
4845	2+06	2+04N	2	66	294	12	434
4846	2+04	2+02N	2	29	84	7	550
:	:	:	:	:	:	:	:
4847	2+02	2+00N	2	35	151	23	990
4848	2+00	1+98N	2	61	215	28	591
4849	1+98	1+96N	2	87	226	38	188
4850	1+96	1+94N	2	100	444	153	625
4851	1+94	1+92N	2	47	330	41	444
:	:	:	:	:	:	:	:
4852	1+92	1+91N	1	67	199	60	634
4853	1+91	1+90N	1	55	357	25	302
4854	1+90	1+89N	1	239	119	39	226
4855	1+89	1+87N	2	79	204	262	871
4856	1+87	1+85N	2	81	191	30	349
:	:	:	:	:	:	:	:
4857	1+85	1+83N	2	43	216	167	1177
4858	1+83	1+82N	1	25	103	46	337
4859	1+82	1+81N	1	300	273	672	1676
4860	1+81	1+80N	1	48	129	108	419
4861	1+80	1+79N	1	197	130	456	706
:	:	:	:	:	:	:	:
4862	1+79	1+77N	2	108	255	673	1148
4863	1+77	1+75N	2	75	155	305	838
4864	1+75	1+73N	2	290	229	551	2320
4865	1+73	1+71N	2	470	161	314	1615
4866	1+71	1+69N	2	540	194	825	1102
:	:	:	:	:	:	:	:
4867	1+69	1+68N	1	61	154	44	381
4868	1+68	1+66N	2	196	509	60	1067
4869	1+66	1+64N	2	117	271	20	2229
4870	1+64	1+62N	2	114	322	26	2470
4871	1+62	1+61N	1	80	243	28	1644
:	:	:	:	:	:	:	:
4872	1+61	1+60N	1	113	230	35	1295
4873	1+60	1+58N	2	600	162	26	2052
4874	1+58	1+57N	1	181	258	23	3855
4875	1+57	1+56N	1	29	114	10	2440

APPENDIX 4
 GREAT WESTERN STAR PROJECT
 Trench Sample Geochemistry

TOUGHNUT GRID-TRENCH 0+00

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
4876	1+56	1+55N	1	139	367	32	3660
4877	1+55	1+54N	1	280	398	18	4382
4878	1+54	1+53N	1	133	507	29	5029
4879	1+53	1+52N	1	179	215	45	2665
4880	1+52	1+51N	1	280	138	18	2872
4881	1+51	1+49N	1	240	154	15	2963
4882	1+49	1+47N	2	210	184	28	4110
4883	1+47	1+46N	1	400	139	29	1687
4884	1+46	1+45N	1	350	294	26	2180
4885	1+45	1+44N	1	3790	253	37	2169
4886	1+44	1+43N	1	1880	326	29	528
4887	1+43	1+42N	1	81	369	159	1511
4888	1+42	1+41N	1	920	230	36	2049
4889	1+41	1+43N	2	360	350	20	841
4890	1+41	1+39N	2	129	599	24	787
4891	1+39	1+37N	2	126	157	18	152
4892	1+37	1+35N	2	94	133	17	182
4893	1+35	1+33N	2	104	94	17	169
4894	1+33	1+31N	2	930	205	17	96
4895	1+31	1+29N	2	990	129	18	49
4896	1+29	1+27N	2	1310	90	22	65
4897	1+27	1+25N	2	260	124	21	139
4898	1+25	1+23N	2	116	121	22	182
4899	1+23	1+21N	2	26	82	18	115
4900	1+21	1+19N	2	15	96	20	114
4901	1+19	1+17N	2	56	81	15	127
4902	1+17	1+15N	2	31	148	14	145
4903	1+15	1+13N	2	40	212	16	83
4904	1+13	1+11N	2	45	69	16	68
4905	1+11	1+09N	2	39	176	9	638
4906	1+09	1+07N	2	49	117	14	561
4907	1+07	1+05N	2	48	89	9	88
4908	1+05	1+03N	2	51	177	9	140
4909	1+03	1+01N	2	49	147	10	74
4910	1+01	0+99N	2	44	171	13	128
4911	0+99	0+97N	2	75	133	12	112
4912	0+97	0+95N	2	45	63	11	233
4913	0+95	0+93N	2	81	622	17	310

APPENDIX 4
 GREAT WESTERN STAR PROJECT
 Trench Sample Geochemistry

TOUGHNUT GRID-TRENCH 0+00

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
4914	0+93	0+91N	2	122	128	149	405
4915	0+91	0+90N	1	48	42	20	164
4916	0+90	0+89N	1	410	90	40	147
4917	0+89	0+87N	2	72	63	24	179
4918	0+87	0+86N	1	66	52	46	403
4919	0+86	0+84N	2	111	131	15	605
4920	0+84	0+82.5N	1.5	300	123	16	736
4921	0+82.5	0+81N	1.5	63	24	21	81
4922	0+81	0+79N	2	37	23	17	116
4923	0+79	0+77N	2	91	11	14	67
4924	0+77	0+75N	2	6	8	13	50
4925	0+75	0+73N	2	10	22	10	45
4926	0+73	0+71N	2	4	35	9	38
4927	0+71	0+69N	2	5	25	2	26
4928	0+69	0+67N	2	55	32	9	27

APPENDIX 4
 GREAT WESTERN STAR PROJECT
 Trench Sample Geochemistry

STAR GRID-TRENCH 7+71N

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5590	4+44	4+47W	3	310	135	192	137
5591	4+47	4+50W	3	70	171	8	50
5592	4+50	4+53W	3	310	188	555	348
5593	4+53	4+56W	3	119	266	396	437
5594	4+56	4+59W	3	32	259	514	322
5595	4+59	4+62W	3	77	332	33	144
5596	4+62	4+65W	3	66	447	42	140
5597	4+65	4+68W	3	64	214	198	235
5598	4+68	4+71W	3	119	801	1617	641
5599	4+71	4+74W	3	52	261	180	346
5600	4+74	4+77W	3	39	287	516	580
5601	4+77	4+80W	3	NO	SAMPLE		
5602	4+80	4+83W	3	NO	SAMPLE		
5603	4+83	4+86W	3	NO	SAMPLE		
5604	4+86	4+89W	3	NO	SAMPLE		
5605	4+89	4+92W	3	NO	SAMPLE		
5606	4+92	4+95W	3	240	151	335	686
5607	4+95	4+98W	3	105	147	60	167
5608	4+98	5+01W	3	96	132	7	74
5609	5+01	5+04W	3	56	132	9	104
5610	5+04	5+07W	3	67	90	8	52
5611	4+42	4+44W	3	360	183	329	232

APPENDIX 4
GREAT WESTERN STAR PROJECT
Trench Sample Geochemistry

STAR GRID-TRENCH L 10+55N

SAMPLE NUMBER	: FROM (m)	: TO (m)	: WIDTH (m)	: Au (ppb)	: Cu (ppm)	: Pb (ppm)	: Zn (ppm)
5619	: 5+98W	: 6+00W	: 2	: 95	: 479	: 14	: 61
5620	: 6+00W	: 6+03W	: 3	: 86	: 401	: 15	: 67
5621	: 6+03W	: 6+06W	: 3	: 30	: 469	: 7	: 73
5622	: 6+06W	: 6+09W	: 3	: 21	: 528	: 7	: 73
5623	: 6+09W	: 6+12W	: 3	: 46	: 558	: 7	: 56
5624	: 6+12W	: 6+15W	: 3	: 39	: 502	: 8	: 62
5625	: 6+15W	: 6+18W	: 3	: 75	: 477	: 7	: 30
5626	: 6+18W	: 6+20W	: 2	: 880	: 1219	: 5	: 59
5627	: 6+20W	: 6+22W	: 2	: 1200	: 476	: 4	: 20
5628	: 6+22W	: 6+24W	: 2	: 960	: 1491	: 4	: 26
5629	: 6+24W	: 6+26W	: 2	: 260	: 1138	: 6	: 31
5630	: 6+26W	: 6+28W	: 2	: 700	: 903	: 3	: 22
5631	: 6+28W	: 6+30W	: 2	: 300	: 465	: 3	: 28
5632	: 6+30W	: 6+32W	: 2	: 290	: 498	: 4	: 32
5633	: 6+32W	: 6+34W	: 2	: 250	: 405	: 5	: 28
5634	: 6+34W	: 6+36W	: 2	: 360	: 699	: 5	: 28
5635	: 6+36W	: 6+38W	: 2	: 94	: 415	: 5	: 35
5636	: 6+38W	: 6+40W	: 2	: 1430	: 819	: 7	: 10
5637	: 6+40W	: 6+42W	: 2	: 810	: 1022	: 7	: 21
5638	: 6+42W	: 6+44W	: 2	: 43	: 324	: 6	: 26
5639	: 6+44W	: 6+46W	: 2	: 30	: 253	: 4	: 15
5640	: 6+46W	: 6+48W	: 2	: 250	: 284	: 4	: 30
5641	: 6+48W	: 6+50W	: 2	: 740	: 332	: 4	: 30
5642	: 6+50W	: 6+53W	: 3	: 720	: 447	: 4	: 9
5643	: 6+53W	: 6+56W	: 3	: 620	: 283	: 7	: 16
5644	: 6+56W	: 6+59W	: 3	: 90	: 245	: 5	: 38
5645	: 6+59W	: 6+61W	: 3	: 380	: 308	: 8	: 23
5646	: 6+70W	: 6+73W	: 3	: 52	: 299	: 8	: 51
5647	: 6+73W	: 6+76W	: 3	: 1	: 242	: 4	: 27
5648	: 6+76W	: 6+79W	: 3	: 220	: 538	: 8	: 42
5649	: 6+85W	: 6+88W	: 3	: 128	: 1344	: 2	: 34
5650	: 6+88W	: 6+91W	: 3	: 88	: 536	: 7	: 39
5651	: 6+91W	: 6+94W	: 3	: 92	: 582	: 10	: 40

APPENDIX 4
 GREAT WESTERN STAR PROJECT
 Trench Sample Geochemistry

STAR GRID-TRENCH 12+00N

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5107	7+02	7+05W	3	38	165	3	88
5108	7+05	7+08W	3	10	226	2	74
5109	7+08	7+11W	3	11	143	3	87
5110	7+11	7+14W	3	18	316	3	72
5111	7+14	7+17W	3	10	209	3	70
5112	7+20	7+23W	3	15	307	2	91
5113	7+23	7+26W	3	13	249	7	83
5114	7+26	7+29W	3	27	217	8	86
5115	7+29	7+31W	3	14	193	2	91

APPENDIX 4
 GREAT WESTERN STAR PROJECT
 Trench Sample Geochemistry

RON GRID-TRENCH 12+00N

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5118	:18+87	:18+90W	: 3	: 132	: 459	: 16	: 101
5119	:18+84	:18+87W	: 3	: 23	: 184	: 5	: 102
5120	:18+81	:18+84W	: 3	: 25	: 148	: 6	: 93
5121	: NO	:SAMPLE	:	:	:	:	:
5122	:18+78	:18+81W	: 3	: 33	: 214	: 6	: 97
5123	:18+75	:18+78W	: 3	: 15	: 151	: 4	: 94
5124	:18+73	:18+75W	: 2	: 16	: 159	: 6	: 92
5125	:18+69	:18+70W	: 1	: 101	: 214	: 7	: 101
5126	: NO	:SAMPLE	:	:	:	:	:
5127	: NO	:SAMPLE	:	:	:	:	:
5128	:18+60	:18+62W	: 2	: 24	: 231	: 6	: 91
5129	:18+57	:18+60W	: 3	: 45	: 235	: 6	: 92
5130	:18+54	:18+57W	: 3	: 12	: 190	: 6	: 95
5131	:18+53	:18+54W	: 1	: 18	: 231	: 4	: 78
5132	:18+42	:18+45W	: 3	: 14	: 248	: 8	: 89
5133	:18+39	:18+42W	: 3	: 36	: 615	: 9	: 88
5134	:18+36	:18+39W	: 3	: 18	: 372	: 9	: 95
5135	:18+33	:18+36W	: 3	: 21	: 219	: 13	: 93
5136	:18+30	:18+33W	: 3	: 15	: 201	: 8	: 99
5137	:18+27	:18+30W	: 3	: 16	: 370	: 16	: 108
5138	:18+24	:18+27W	: 3	: 42	: 312	: 24	: 89
5139	:18+18	:18+21W	: 3	: 73	: 623	: 7	: 101
5140	:18+15	:18+18W	: 3	: 14	: 247	: 9	: 105
5141	:18+12	:18+15W	: 3	: 19	: 288	: 8	: 93
5142	:18+09	:18+12W	: 3	: 15	: 163	: 7	: 89
5143	:18+06	:18+09W	: 3	: 8	: 165	: 8	: 86
5144	:18+03	:18+06W	: 3	: 17	: 270	: 5	: 96
5145	:18+00	:18+03W	: 3	: 11	: 280	: 9	: 106
5146	:17+97	:18+00W	: 3	: 23	: 314	: 11	: 97
5147	:17+94	:17+97W	: 3	: 32	: 353	: 9	: 101
5148	:17+91	:17+94W	: 3	: 35	: 219	: 14	: 130
5149	:17+88	:17+91W	: 3	: 45	: 470	: 28	: 142
5150	:17+85	:17+88W	: 3	: 350	: 736	: 265	: 352
5151	:17+82	:17+85W	: 3	: 410	: 1525	: 126	: 118
5152	:17+79	:17+82W	: 3	: 43	: 436	: 10	: 131
5153	:17+76	:17+79W	: 3	: 39	: 481	: 15	: 128
5154	:17+73	:17+76W	: 3	: 92	: 566	: 8	: 110
5155	:17+70	:17+73W	: 3	: 37	: 205	: 12	: 124

APPENDIX 4
 GREAT WESTERN STAR PROJECT
 Trench Sample Geochemistry

RON GRID-TRENCH 12+00N

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5156	:17+67	:17+70W	: 3	: 20	: 258	: 10	: 105
5157	:17+64	:17+67W	: 3	: 21	: 235	: 15	: 98
	:	:	:	:	:	:	:
5158	:17+61	:17+64W	: 3	: 54	: 283	: 8	: 86
5159	:17+58	:17+61W	: 3	: 59	: 499	: 4	: 82
5160	:17+55	:17+58W	: 3	: 8	: 162	: 9	: 88
5161	:17+52	:17+55W	: 3	: 41	: 229	: 10	: 96
5162	:17+49	:17+52W	: 3	: 20	: 154	: 6	: 85
	:	:	:	:	:	:	:
5163	:17+46	:17+49W	: 3	: 39	: 581	: 5	: 87

APPENDIX 4
GREAT WESTERN STAR PROJECT
Trench Sample Geochemistry

RON GRID-TRENCH L 18+00N

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5652	:25+93W	:25+90W	: 3	: 8	: 178	: 9	: 78
5653	:25+90W	:25+87W	: 3	: 12	: 122	: 9	: 84
5654	:25+87W	:25+84W	: 3	: 47	: 179	: 13	: 90
5655	:25+84W	:25+81W	: 3	: 14	: 545	: 6	: 87
5656	:25+81W	:25+78W	: 3	: 80	: 172	: 8	: 70
5657	:25+78W	:25+75W	: 3	: 7	: 77	: 5	: 68
5658	:25+75W	:25+72W	: 3	: 15	: 351	: 9	: 74
5659	:25+72W	:25+69W	: 3	: 6	: 118	: 5	: 78
5660	:25+69W	:25+66W	: 3	: 38	: 223	: 4	: 72
5661	:25+66W	:25+63W	: 3	: 16	: 213	: 4	: 74
5662	:25+63W	:25+60W	: 3	: 58	: 1616	: 2	: 100
5663	:25+60W	:25+57W	: 3	: 175	: 564	: 4	: 65
5664	:25+57W	:25+54W	: 3	: 176	: 702	: 11	: 43
5665	:25+54W	:25+51W	: 3	: 52	: 543	: 7	: 56
5666	:25+51W	:25+48W	: 3	: 5830	: 855	: 4	: 45
5667	:25+48W	:25+45W	: 3	: 250	: 388	: 3	: 40
5668	:25+45W	:25+42W	: 3	: 157	: 554	: 10	: 59
5669	:25+42W	:25+39W	: 3	: 132	: 581	: 15	: 51
5670	:25+39W	:25+36W	: 3	: 99	: 457	: 5	: 49
5671	:25+36W	:25+33W	: 3	: 70	: 539	: 4	: 58
5672	:25+33W	:25+30W	: 3	: 390	: 526	: 9	: 43
5673	:25+30W	:25+27W	: 3	: 56	: 369	: 12	: 50
5674	:25+27W	:25+24W	: 3	: 19	: 228	: 5	: 68
5675	:25+24W	:25+21W	: 3	: 13	: 188	: 8	: 62
5676	:25+21W	:25+18W	: 3	: 520	: 232	: 3	: 51
5677	:25+18W	:25+15W	: 3	: 4	: 189	: 8	: 47
5678	:25+15W	:25+12W	: 3	: 47	: 402	: 8	: 50
5679	:25+12W	:25+09W	: 3	: 116	: 430	: 5	: 44
5680	:25+09W	:25+06W	: 3	: 5	: 181	: 11	: 47
5681	:25+06W	:25+03W	: 3	: 10	: 238	: 7	: 52
5682	:25+03W	:25+00W	: 3	: 4	: 139	: 12	: 59
5683	:25+00W	:24+97W	: 3	: 8	: 112	: 9	: 51
5684	:24+97W	:24+94W	: 3	: 12	: 414	: 8	: 69
5685	:24+94W	:24+91W	: 3	: 3	: 70	: 12	: 92
5686	:24+91W	:24+88W	: 3	: 13	: 156	: 9	: 47
5687	:24+88W	:24+85W	: 3	: 860	: 25320	: 10	: 117
5688	:24+85W	:24+82W	: 3	: 540	: 14197	: 12	: 137
5689	:24+82W	:24+79W	: 3	: 54	: 639	: 12	: 80

APPENDIX 4
 GREAT WESTERN STAR PROJECT
 Trench Sample Geochemistry

RON GRID-TRENCH L 18+00N

SAMPLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Au (ppb)	Cu (ppm)	Pb (ppm)	Zn (ppm)
5690	:24+79W	:24+76W	: 3	: 55	: 2085	: 17	: 81
5691	:24+76W	:24+73W	: 3	: 115	: 924	: 3	: 64
:	:	:	:	:	:	:	:
5692	:24+73W	:24+70W	: 3	: 22	: 1336	: 8	: 115
5693	:24+70W	:24+68W	: 2	: 83	: 853	: 12	: 100
5694	:24+68W	:24+66W	: 2	: 39	: 589	: 9	: 82
5695	:24+66W	:24+64W	: 2	: 410	: 1390	: 52	: 192
5696	:24+64W	:24+62W	: 2	: 450	: 1624	: 9	: 78
:	:	:	:	:	:	:	:
5697	:24+62W	:24+60W	: 2	: 830	: 2436	: 8	: 79
5698	:24+60W	:24+58W	: 2	: 55	: 855	: 6	: 48
5699	:24+58W	:24+56W	: 2	: 49	: 3384	: 2	: 51
8901	:24+56W	:24+53W	: 3	: 490	: 5479	: 5	: 124
8902	:24+53W	:24+50W	: 3	: 84	: 1697	: 10	: 102
:	:	:	:	:	:	:	:
8903	:24+50W	:24+47W	: 3	: 13	: 515	: 10	: 61
8904	:24+47W	:24+44W	: 3	: 21	: 252	: 6	: 47
8905	:24+44W	:24+41W	: 3	: 23	: 576	: 8	: 54
8906	:24+41W	:24+38W	: 3	: 4	: 243	: 5	: 48
8907	:24+38W	:24+35W	: 3	: 8	: 348	: 8	: 62
:	:	:	:	:	:	:	:
8908	:24+35W	:24+32W	: 3	: 100	: 248	: 7	: 53
8909	:24+32W	:24+29W	: 3	: 960	: 1023	: 10	: 67
8910	:24+29W	:24+27W	: 2	: 7	: 327	: 8	: 56

APPENDIX V
PETROGRAPHIC DESCRIPTIONS



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Greg Dawson
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Vancouver, B.C. V6C 2V6
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June 27, 1989
Our file #8240

Dear Greg: Re: Samples 1 to 5 (5 Almas)

Petrographic analyses have been completed and a suite of photomicrographs taken of samples 1 to 5. The petrographic descriptions can be summarized as follows:

The samples form a suite or related(?) leucocratic, medium grained, felsic rocks of approximately monzonite to monzosyenite composition. They show varied intensity of alteration and multistage shearing and crushing.

The rocks are composed of irregular interlocking grains of K-feldspar and plagioclase which show varied relative abundance among samples. These composition differences may be largely a result of sampling (small area of thin sections) rather than real.

The rocks are fractured, crushed and sheared, also to varied degree, with fracture cavities filled/partially filled with clusters of biotite, quartz (introduced?) carbonate and minor sulphides. The feldspars have a fine dusting of alteration and contain sericitic patches. Sericite is, however, the most intense alteration (multistage?) forming a diffuse network of felted and foliated masses following fractures, shears. See photomicrographs.

There is composite quartz veining, (sample 1) and some quartz, minor carbonate and feldspar veining. (Sample 5 photomicrographs)

Yours truly,

K.E. Northcote Ph.D., P.Eng.

(604) 796-2068

Sample 1

Leucocratic evenite (?) multistage, brecciated, granulated, sheared, altered, composite veined, mineralized leucocratic evenite (?).

The original rock was leucocratic, K-feldspar-rich, containing lesser plagioclase and quartz deficient. Underwent multistage brecciation, crushing and shearing accompanied by siliceous and sericitic alteration and pyrite mineralization.

Resulted in a texturally and compositionally layered rock now largely composed of lithic fragments, lensoids and crushed zones of altered original rock; sericitic lensoids along shear surfaces and wispy networks around fragments; diffuse quartz impregnations and composite veins; with disseminations and clusters of pyrite grains following veins and shear foliation.

Thin section:

Rock forming minerals:

K-feldspar; 20%, anhedral, (to 0.6 mm), generally broken smaller, interlocking, dusting of alteration and weak sericite, quadrille structure and carlsbad twinning.

Plagioclase; 5%, subhedral, (to 0.2 mm), remnant polysynthetic twinning.

Veins and impregnations:

Quartz; 40%, anhedral, (<.01 to 1.0 mm), interlocking grains, most fractured, strained extinction, locally granulated. Several generations of quartz.

Sericite/pyrophyllite; 30%, (<.01 to 0.1 mm), fibrous, generally preferred orientation but locally felted. Pale green to colourless, iron-stained. Occurs in diffuse masses; discontinuous, wispy networks around lithic and quartz fragments. Possibly several generations with grain size reflecting intensity of deformation.

Carbonate; <1%, lensoids on slip surfaces.

Opaque:

Pyrite; 10%, euhedral/subhedral, (<0.2 to 0.3 mm) in quartz, diffuse composite veinlets, aggregates of grains.

Hematite; <1%, interstitial masses, associated with pyrite, bright red internal reflection, translucent.

SAMPLE 2. Monzonite: altered, copper mineralized, crushed, monochlorite.

Brachiated, crackled, streaked, weakly biotitic, feldspathic with plagioclase >K-feldspar. Sericitic alteration, as diffuse network in fractures, minor quartz impregnation. Vuggy. Malachite, hematite, and minor chalcopyrite mineralization.

Petrography:

Rock forming minerals.

Plagioclase: 35%, subhedral, (to 31.0 mm), weak sericitic alteration, polysynthetic twinning. Relief very low (-). Polysynthetic twinning indicates albite-oligoclase composition. Verification by optic sign was not achieved.

Note: plagioclase composition can be determined by microprobe, if required.

K-feldspar; 25%, anhedral, (to 31.0 mm), interlocking grains, weak sericitic alteration.

Quartz; <5%, anhedral, (to 0.3 mm), associated with copper mineralization and biotite in vugs.

Biotite; 10%, bladed, (<0.01 to 0.5 mm) clusters of grains, many deformed, some alteration to chlorite.

Tourmaline; 1%, prismatic subhedral, (<0.02 to .05 mm), pleochroic, greatest absorption perpendicular to polarizer.

Alteration.

Sericite; 20%, anhedral bladed/fibrous, (<0.01 to 0.1mm) forms a diffuse network following fracture and slip surfaces.

Chlorite; >1%, bladed, radiating, altered biotite. Iron-stained chlorite (?), mottled yellow/brownish yellow, aggregates of grains (x-nicols), low birefringence.

Mineralization

Minor chalcopyrite remnants with secondary malachite, hematite, jarosite(?).

sample 3 Shear related (biotite) Monoclinite

Coarse grained with strong shear foliation, crackled with clusters of small biotite grains controlled by fractures intermixed with sericite. Sericite forms a diffuse network throughout the rock filling fractures and slip surfaces. Late brecciation carbonate filled. Iron stained.

Mineralized by magnetite, pyrite, hematite, very minor chalcopyrite, traces malachite.

Petrography

Feldspar

K-feldspar, 50%, anhedral, (to 1 to 2 mm), interlocking grains, shows poorly developed microcline quadrille structure locally (otherwise untwinned). Slight dusting of alteration.

Note: stained slab shows the K-feldspar staining as a minute network throughout the grains. This structure is not obvious in thin section.

Plagioclase; <10%, subhedral, (to 0.2 mm) only conspicuous locally by remnant polysynthetic twinning.

Quartz <5%, anhedral, (0.2 mm), in vugs associated with biotite and opaque minerals.

Biotite; <10%, anhedral, bladed (to 0.2 mm), irregular diffuse clusters of grains to several mm. Dark olive green pleochroic to light yellow. Fracture controlled. Locally intimately intermixed with sericite.

Alteration

Sericite, 20%, fibrous/bladed, (<.01 to 0.3 mm), forms felted clusters of grains in feldspar; but primarily felted/foliated filling crackle breccia fractures, breccia matrix and slip surfaces among K-feldspar grains.

Carbonate; <5% anhedral, (to 0.3 mm) forming aggregates of grains which, with very minor quartz, fill former cavities.

Opagues 2%

Magnetite, pyrite, chalcopyrite, hematite, trace malachite.

Sample # monodeterite

note: this is the lower altered or one side of rocks.

The rock is composed of coarse interlocking grains of K-feldspar and plagioclase with partially fracture controlled clusters of olive green brown biotite, in close association with sericite. Conspicuous interstitial quartz (introduced?).

A diffuse network of sericite follows fractures and slip surfaces. The sericite spreads to form large diffuse felted masses. Sericite replaces some feldspar grains also forming diffuse felted masses so that fracture control is not always obvious. Partings of coarser sericite indicate multistage fracturing.

Open spaces are filled by clusters of quartz grains associated with biotite clusters and about 5% sulphides (pyrite). Nonmagnetic.

5% Pyrite cubes associated with block matic

Healed fine granulated zones-whispy branching. Nonmagnetic.

Petrography

Rock forming minerals

K-feldspar; 45%, anhedral, (to >2.0 mm), interlocking grains, show poorly developed microcline quadrille structure and carlsbad(?) twinning. Very slight dusting of alteration, clusters of sericite grains.

Note: stained slab shows the K-spar staining is a minute network throughout the grains. This structure is not obvious in thin section.

Plagioclase; 15%, subhedral, (to 1.0 mm), only conspicuous by few grains showing polysynthetic twinning. Index of refraction low (-?).

Biotite; 15%, olive brown anhedral bladed, (to 0.4 mm), irregular diffuse clusters of grains to several mm. Fracture controlled. Some association with sericite, carbonate and quartz.

Quartz; <5%, anhedral, (to 0.3 mm), clusters of grains associated with carbonate and biotite filling open spaces.

Apatite (?); traces.

Sample 4 (Continued):

Alteration

Sericite: pyrophyllite: 20%, fibrous/bladed (<.01 to 0.3 mm), forms felted clusters of grains in feldspar but primarily felted/foliated diffuse masses and networks of very fine grains. Cut by diffuse foliated wispy stringers of coarser grains. Partly replacing feldspar and filling crackle breccia matrix and slip surfaces.

Carbonate: <5% anhedral, (to 0.3 mm) forming aggregates of grains which, with minor quartz, fill former cavities. Associated with biotite.

Opakes

1% anhedral/subhedral, aggregates of grains closely associated with biotite.

sample 5

LEUCOCRATIC PHASE

massive K-feldspar, cracked, quartz-filled with K-feldspar and plagioclase has grown in optical continuity from wall rock.

Petrography

Rock forming minerals

K-feldspar: 10%, anhedral grains, (generally 1.5 mm),
irregular, interlocking, very fine alteration dusting.

Plagioclase: 25%, anhedral laths.

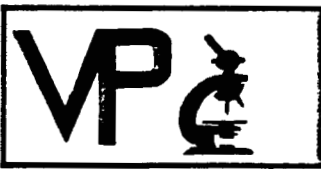
Sericite/muscovite: <5%, bladed/irregular, (to 0.3 mm),
clusters of grains.

Veining Quartz: large masses several mm long

Veins; fracture filling in which feldspars both orthoclase and plagioclase project in unaltered optical continuity from altered wall rock minerals. Plagioclase twinning is clear and well developed.

Carbonate; clusters of grains in vein and scattered clusters of grains throughout rock matrix.

Opaque; pyrite, euhedral



Vancouver Petrographics Ltd.

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SEP 11 1989

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Report for: Douglas B. Forster,
Pacific Sentinel Gold Corp.,
1020-800 West Pender St.,
Vancouver, B.C.
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Invoice 8420

September 8th, 1989

Samples:

4 core samples from the Great Western Star Project for sectioning and petrographic description. Samples are numbered as follows:

DDH S-46 157'
DDH S-46 174'
DDH S-51 214'
DDH S-51 244'

The samples were prepared as polished thin sections.

Summary:

These rocks are quartz-free, medium-grained, intrusive rocks.

The two from DDH S-46 are leucocratic monzonites. They show weak, intergranular carbonate-sericite alteration, probably associated with incipient microbrecciation. They both contain 3-4% disseminated pyrite, as discrete grains of apparent primary or deuteric origin.

The two samples from DDH S-51 are of syenites. They contain minor accessory chlorite and Fe oxides, but no sulfides.

Sample S-51 214' shows localized intergranular sericite-carbonate alteration and micro-granulation, similar in type to the S-46 rocks, but slightly more strongly developed.

Sample S-51 244' shows a much more intense development of the same feature. This rock now consists of small remnants of the original K-spar aggregate set in an invasive matrix of felted sericite which clearly follows a network of strong, intergranular microbrecciation and granulation.

Individual petrographic descriptions are attached.

A handwritten signature in cursive script, appearing to read 'J.F. Harris', is centered on the page.

J.F. Harris Ph.D.

(929-5867)

Estimated mode

K-feldspar	85
Sericite	8
Chlorite	4
Carbonate	2
Apatite	trace
Sphene	trace
Rutile	trace
Hematite)	1
Limonite)	

This is a rock of related type to the S-46 samples, but distinctive for its apparent lack of plagioclase. It consists essentially of K-feldspar, as a subhedral aggregate of grain size 0.3 - 3.0mm, and is classifiable as a syenite.

It includes a few rather extensive, but localized, veniform patches and networks of minutely granulated K-spar.

Original minor mafics are now represented by chlorite, as small pockets and intergranular wisps. Sericite is often associated, or seen in like mode, together with small granules and flakes of iron oxides and derived limonite. Reflected light observations show that the iron oxides are predominantly hematite. No sulfides were seen.

Sericite also occurs in this rock as scattered patches of rather strong, diffuse alteration, with intergrown fine-grained carbonate, apparently affecting scattered specific feldspar crystals. Overall, however, the rock is only weakly altered.

Small subhedra of sphene and apatite are trace accessories not seen in the monzonite samples.

Estimated mode

K-feldspar	50
Plagioclase	2
Sericite	46
Quartz	1
Chlorite	trace
Rutile	trace
Magnetite)	1
Hematite)	
Limonite	trace

This rock probably originated as a very similar type to S-51 214', but differs in showing strong sericitic alteration.

This is of a distinctive textural type, consisting of more or less extensive pockets and networks of minutely felted sericite - apparently originating as intergranular permeations associated with microbrecciation and granulation - extending to complete replacement of specific feldspar grains or granulated zones.

As a result, the rock now consists of remnant grains and grain clumps of perthitic K-feldspar, 0.2 - 3.0mm in size, scattered through a matrix of felted sericite.

Generally the sericite is non-oriented, though local, wispy/ foliaceous development is seen.

The relict patches of granular K-feldspar are themselves fresh and free of pervasive alteration, but show intimate penetration of the matrix sericite along grain boundaries and microfractures.

Small patches of finely granulated feldspars (including fresh plagioclase and possible minor quartz) are seen throughout the sericite matrix and in fringing relationship to the remnant K-spar kernels.

Traces of chlorite, flecks of rutile, irregular grains of partially hematized magnetite, and a little diffuse limonite staining are the only accessories.

No sulfides were seen.

Estimated mode

Plagioclase	38
K-feldspar	50
Sericite	4
Carbonate	5
Rutile	trace
Pyrite	3

This rock is composed essentially of a randomly oriented aggregate of subhedral, prismatic grains of intergrown plagioclase and perthitic K-feldspar, 0.3 - 3.0mm in size.

The feldspars are generally fresh except for occasional sparse flecks of sericite in a few plagioclase grains.

Accessories are carbonate and sericite, usually closely associated, as an evenly distributed, intergranular phase of slender threads and interstitial pockets.

This may represent a totally altered, and partially redistributed minor, interstitial mafic component in a markedly leucocratic rock. This rock is a medium-grained monzonite, of typical intrusive textural aspect.

Individual subhedral grains of pyrite, 20 - 300 microns in size, are widely distributed, as a disseminated accessory of apparent primary or deuteritic origin. The pyrite grains are generally in interstitial relation to the feldspar crystals, but show no special association with the sericite-carbonate clumps.

Estimated mode

K-feldspar	60
Plagioclase	28
Quartz	trace
Sericite	2
Carbonate	5
Chlorite	1
Apatite	trace
Rutile	trace
Pyrite	4

This is a rock of closely similar type to S-46 157', being composed essentially of an interlocking aggregate of subhedral, prismatic grains of intergrown K-feldspar and plagioclase.

It is predominantly of grain size 0.3 - 2.0mm, but also shows minor pockets and networks of finer intergranular recrystallization/granulation, in the form of aggregates of grain size 0.05 - 0.1mm.

The feldspars are essentially unaltered but for a slight local dusting of sericite.

As with the previous sample, this rock is notably leucocratic and contains no primary mafics.

Accessories are predominantly carbonate and lesser sericite and chlorite. The carbonate forms a network of threads and pockets intergranular to the feldspar. Occasional clumps of intergrown chlorite are associated.

Carbonate and/or sericite and chlorite also concentrate in occasional cross-cutting microfractures.

Disseminated pyrite is relatively abundant. It occurs as anhedral to subhedral individuals, 0.1 - 0.6mm in size, often sieved with silicate specks. The pyrite grains commonly aggregate as elongate clumps, in generally interstitial relation to the feldspars, and sometimes associated with carbonate pockets.

The slide includes rare, discrete, elongate patches of minutely felted chlorite, flecked with rutile. These may represent totally altered mafics of comparable grain size to the feldspars.



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Report for: Douglas B. Forster,
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Invoice 8295

July 17th, 1989

Samples:

2 rock samples, numbered TN-1 and TN-2, for petrographic examination. The samples were prepared as polished thin sections to allow for observation of opaque phases.

Summary:

TN-1 is a sericitized quartz feldspar porphyry of quartz diorite composition. It shows probable incipient shear-related recrystallization.

Though its origin is indeterminate from petrographic features alone, its coarsely porphyritic character favours an intrusive origin. Weakly developed flow features in the groundmass are not necessary inconsistent with this hypothesis.

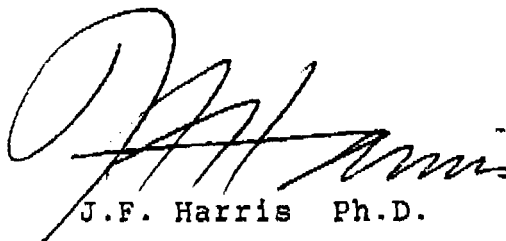
It contains rather abundant, clumpily disseminated Fe oxides. These appear to be mainly limonitic, and are possibly secondary after pyrite. They are associated with a noticeable drusy porosity in the rock.

TN-2 consists of compact carbonate (dolomite or ankerite) showing concentrically banded grain size variations. This may represent crustification in a vein filling or breccia cement, or could be a metasomatic feature. Again, petrographic study of a single sample cannot establish the origin. Field relationships may aid in a choice of interpretation.

The sample contains minor sulfides (principally sphalerite) which appear largely to post-date the carbonate, occurring as they do in interband pore spaces and in discordant microfractures. The sulfides have a distinctive associated silicate gangue assemblage of quartz, plagioclase and K-feldspar - suggesting possible pegmatitic affinities for the mineralization.

The mineralogical and textural observations neither support nor disprove a genetic connection between these two samples.

Individual petrographic descriptions are attached.

A handwritten signature in cursive script, appearing to read 'J.F. Harris', is written over the typed name below.

J.F. Harris Ph.D.

(929-5867)

Estimated mode

Quartz	20
Plagioclase	48
Sericite	30
Apatite	trace
Fe oxides)	2
Limonite)	
Pyrite	trace

This is a strongly porphyritic igneous rock of quartz diorite or dacite composition.

About 60% of the rock is made up of phenocrysts. These range in size from 0.2 - 5.0mm.

By far the most abundant phenocryst type is plagioclase, as prismatic subhedra. These show variable strong alteration to sericite. Some are totally converted to fine-grained felted sericite, whilst others show patchy, sometimes core or rim-zoned growths of meshwork flakes of sericite.

Less common phenocryst types include quartz - showing typical rounded to embayed/amoeboid form - and patches of sericite, microgranular quartz and Fe oxide granules, which probably represent some totally altered original mafic.

The phenocrysts are set in a felsitic groundmass, of grain size 10 - 30 microns, which consists of plagioclase and accessory quartz in uncertain proportions. This contains intimately intergrown sericite as tiny individual flecks, locally concentrating as wisps and schlieren.

The fine-grained groundmass sericite shows a general preferred orientation. The concentrated schlieren sometimes swing around and show compression between the large phenocrysts.

The rock contains relatively abundant disseminated Fe oxides and limonite - frequently associated with patches of drusy porosity and/or altered phenocrysts. Occasional grains of Fe oxides contain specks of pyrite, and rare pyrite grains rimmed by oxides are seen. It seems likely that the Fe oxides are predominantly secondary in character (after pyrite), though some may be primary.

The orientation of the groundmass sericite may be partially a primary, emplacement-related, flow effect. However, the consistent orientation of tiny disseminated sericite flakes is sometimes mirrored within totally altered feldspar phenocrysts which grade to streaked-out sericite schlieren, suggesting incipient recrystallization related to dynamic metamorphism.

Estimated mode

Carbonate	90
Quartz	2
Plagioclase	2
K-feldspar	2
Sericite	trace
Sphalerite	4
Pyrite	trace
Galena	trace
Chalcopyrite	trace

This sample consists predominantly of a compact aggregate of carbonate. This is unreactive to dilute acid, and is probably dolomite (or possibly ankerite).

The carbonate shows concentrically banded, grain-size variations, from micritic aggregates in the 5 - 10 micron grain size range up to coarse, comb-textured aggregates of elongate grains, 0.2 - 1.0mm in size. Crystal form is anhedral throughout, and the coarser bands show the shadowy strain polarization typical of massive dolomite rock.

The banding could represent a crustification texture in a vein (though the lack of any vugginess is notable), or possibly a diffusion effect related to metasomatic processes - as for example in the skarn environment.

Accessory components consist of sulfides (principally sphalerite) and a closely associated silicate assemblage of feldspars and quartz. Segregations of these minerals occur within the carbonate host, partly as small pockets and lenses concordant with the concentric banding, and partly in hairline fractures which cross-cut, and locally displace, the banding.

The sphalerite is a pale, unzoned, low-Fe variety. It locally contains sparse, micron-sized specks of exsolved chalcopyrite. Galena is another trace associate, as tiny inclusions and rare simple intergrowths with the sphalerite.

Pyrite is the commonest of the trace accessory sulfides, occurring as individual, irregular to subhedral grains, 0.05 - 0.3mm in size, within sphalerite and, occasionally, as tiny euhedral grains disseminated in the carbonate host, independent of sphalerite.

The sphalerite pockets appear to be open-space fillings in pre-existing dolomite, occupying natural interband pore spaces or microfractures. Sometimes the walls of these cavities are lined by a growth of fine-grained calcite, and subsequently infilled by sulfide.

Sample TN-2 cont.

Some of the sulfide pockets have associated feldspars and quartz - generally as marginal growths to the sphalerite. The plagioclase forms euhedral crystals, and the K-feldspar occurs as anhedral aggregates; both are fresh and clear. Quartz forms microgranular patches and strings of anhedral grains.

Silicates also occur as scattered, individual grains in the carbonate, and as small pockets and veinlets without sulfides. Traces of sericite occur as wisps between some silicate pockets.

The sulfides and silicates appear cogenetic - possibly representing mineralization of pegmatitic affinities.

APPENDIX VI
GEOCHEMISTRY

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Hg	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
SH 4993	34	7336	19781	26191	199.9	7	157	563	14.82	596	5	4	2	111	189	2268	38	3	1.67	.044	7	1	.01	7	.01	2	.08	.01	.05	3	4820
SH 4984	1	125	68	155	1.4	7	20	931	5.25	9	5	ND	4	128	1	2	2	143	2.15	.177	12	10	1.73	71	.16	7	1.97	.02	.97	1	5
SH 4995	2	517	73	125	1.9	3	13	882	3.01	4	5	ND	6	104	2	2	3	21	2.21	.131	13	5	.17	44	.01	23	.47	.02	.19	2	50
SH 4986	44	5813	3569	2640	124.7	3	1	386	1.25	23	5	ND	1	243	19	288	15	12	5.47	.032	19	3	.16	11	.01	4	.13	.01	.97	1	93
SH 4997	1	1452	92	275	1.6	5	13	849	3.42	9	5	ND	3	132	2	2	2	76	2.42	.153	11	7	1.29	59	.11	2	1.54	.01	.74	1	87
SH 4938	2	82	6	54	.2	98	28	924	5.11	7	5	ND	3	487	2	2	2	124	4.13	.275	38	309	4.00	904	.26	6	2.50	.03	.01	1	13
SH 4989	1	379	5	116	.5	6	30	1207	5.44	13	5	ND	1	148	2	2	2	204	2.97	.306	4	4	2.96	407	.25	2	3.53	.01	2.61	1	40
STD C/AU-R	19	64	40	133	7.3	72	31	1009	4.23	42	22	7	39	49	13	14	20	60	.48	.091	40	54	.93	181	.07	32	2.05	.06	.13	13	520

- ASSAY REQUIRED FOR CORRECT RESULT - for Cu, Pb, Zn > 1%
 Hg > 30 ppm
 Sb > 1000 ppm -

ACME ANALYTICAL LABORATORIES LTD.

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852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE (604) 253-3158

FAX (604) 253-1716

DATE REPORT MAILED:

Aug. 17/89.

ASSAY CERTIFICATE

- SAMPLE TYPE: Pulp

AU** AND AG** BY FIRE ASSAY FROM 1/2 A.T.

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

PACIFIC SENTINEL GOLD CORP. FILE # 89-2342R

SAMPLE#	Pb %	Zn %	Ag** OZ/T	Au** OZ/T
SH 4811	1.64	2.53	6.75	.032
SH 4818	-	1.63	-	-
BA 5440	-	4.37	-	-
BA 5451	-	1.56	-	-
BA 5453	-	1.22	-	-
BA 5455	1.18	1.93	-	-
BA 5456	-	1.22	-	-
BA 5457	1.27	3.28	1.44	-
BA 5458	-	3.88	-	-
BA 5459	2.45	6.30	3.69	.032
BA 5461	7.36	1.48	4.63	.076

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DATE REPORT MAILED: *Aug. 17/89..*

ASSAY CERTIFICATE

- SAMPLE TYPE: Pulp AG** & AU** BY FIRE ASSAY FROM 1/2 A.T.

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

PACIFIC SENTINEL GOLD FILE # 89-2438R

SAMPLE#	ZN %	AG** oz/t	AU** oz/t
BA 5470	1.51	1.04	.163
BA 5473	-	-	.018
SH 4866	-	-	.008
SH 4873	-	-	.012
SH 4885	-	-	.101
SH 4886	-	-	.054
SH 4888	-	-	.027
SH 4894	-	-	.026
SH 4895	-	-	.036
SH 4896	-	-	.038

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PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: AUG 21 1989

DATE REPORT MAILED:

Aug. 26/89

ASSAY CERTIFICATE

- SAMPLE TYPE: Pulp
AU** AND AG** BY FIRE ASSAY FROM 1/2 A.T.

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

PACIFIC SENTINEL GOLD CORP. FILE # 89-2834R

SAMPLE#	Cu %	Pb %	Zn %	Ag** OZ/T	Au** OZ/T
SK-1	-	-	-	-	.034
SK-2	-	-	-	-	.041
BA 5555	-	-	3.21	1.29	-
BA 5556	-	1.35	4.20	1.59	-
BA 5557	-	-	3.10	-	-
BA 5569	-	-	-	-	.282
BA 5572	-	-	-	-	.053
BA 5578	-	1.08	1.50	5.06	.051
BA 5581	3.89	1.40	-	50.22	-
BA 5582	-	-	-	-	.076
BA 5583	1.47	-	-	-	-
SH 4979	-	-	2.33	-	-
SH 4980	-	-	2.69	-	-
SH 4982	-	-	-	6.09	-
SH 4983	-	2.20	2.55	6.68	.136
SH 4986	-	-	-	3.37	-

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PHONE (604) 253-3158 FAX (604) 253-1716

DATE RECEIVED: AUG 21 1989

DATE REPORT MAILED: *Aug. 26/89.*

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: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

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

PACIFIC SENTINEL GOLD FILE # 89-3050 Page 1

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
BA 5612	11678 ✓	26	41	11.1	980
BA 5613	243	9	54	.1	10
BA 5614	299	25	278	1.2	6
BA 5615	1275	8	72	1.2	19
BA 5616	2155	102	327	6.4	500
BA 5617	4317	1494	148	78.4 ✓	2700
BA 5618	1941	2277	44	52.8 ✓	390
BA 5619	479	14	61	.5	95
BA 5620	401	15	67	1.7	86
BA 5621	469	7	73	.2	30
BA 5622	528	7	73	1.3	21
BA 5623	558	7	56	.1	46
BA 5624	502	8	62	.1	39
BA 5625	477	7	30	.4	75
BA 5626	1219	5	59	.1	880
BA 5627	476	4	20	.1	1200
BA 5628	1491	4	26	.2	960
BA 5629	1138	6	31	.2	260
BA 5630	903	3	22	.1	700
BA 5631	465	3	28	.1	300
BA 5632	498	4	32	.1	290
BA 5633	405	5	28	.3	250
BA 5634	699	5	28	.2	360
BA 5635	415	5	35	.2	94
BA 5636	819	7	10	.1	1430
BA 5637	1022	7	21	.4	810
BA 5638	324	6	26	.2	43
BA 5639	253	4	15	.1	30
BA 5640	284	4	30	.2	250
BA 5641	332	4	30	.1	740
BA 5642	447	4	9	.1	720
BA 5643	283	7	16	.1	620
BA 5644	245	5	38	.1	90
BA 5645	308	8	23	.2	380
BA 5646	299	8	51	.1	52
BA 5647	242	4	27	.1	1
STD C/AU-R	64	40	133	7.2	490

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB	
BA 5648	538	8	42	.3	220	
BA 5649	1344	2	34	.6	128	
BA 5650	536	7	39	.4	88	
BA 5651	582	10	40	.2	92	
SH 5104	2061	2	23	3.6	78	Start of Prob. Trace
SH 5105	1873	3	38	.6	23	4+CSN, U+74E
SH 5106	423	2	128	1.4	1910	3.1, 0-75N (10mg)
SH 5107	165	3	88	.2	38	
SH 5108	226	2	74	.4	10	STAR TRENCH
SH 5109	143	3	87	.1	11	LIN
SH 5110	316	3	72	.4	18	
SH 5111	209	3	70	.3	10	
SH 5112	307	2	91	.4	15	
SH 5113	249	7	83	.3	13	
SH 5114	217	8	86	.4	27	
SH 5115	193	2	91	.2	14	
SH 4995	9298	2	75	5.3	570	Float. at N. end Star
SH 4996	115	14	111	.1	27	Star clear cut
SH 4997	47	16	24	.2	45	"
SH 4998	59	8	106	.2	4	"
* SH 4999	345	61	8	6	520	Star clear cut, Ab. at
SH 5000	124	49	87	.2	4	Star clear cut, 31-2-
GD 10961	5284	44	695	1.6	56	
GD 10962	475	4	44	.6	38	
GD 10963	11312	2266	4510	11.7	15	
GD 10964	150	17	155	.3	10	
GD 10965	37	85	205	.1	3	
GD 10994	209	17	161	.6	6	
GD 10995	520	7	51	.4	19	
GD 10996	518	6	77	.2	17	
GD 10997	467	6	119	.6	15	
GD 10998	119	56	87	.2	4	
GD 10999	469	91	230	.5	2	
STD C/AU-R	56	44	132	6.7	490	

✓
- ASSAY REQUIRED FOR CORRECT RESULT -

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
GD 11002	10	27	435	9	4.6	4	1	45	.70	2	5	ND	1	4	1	2	2	1	.04	.004	2	4	.01	10	.01	2	.02	.01	.05	2	370
GD 11003	3	162	52	156	.5	3	10	786	3.88	4	5	ND	4	70	2	2	2	21	1.66	.145	12	4	.23	78	.02	2	.46	.02	.26	4	22
SH 4990	7	87	15	21	.7	4	1	24	1.50	4	5	ND	8	10	1	2	2	4	.02	.023	6	3	.01	28	.01	4	.19	.03	.10	2	149
SH 4991	1	1142	7	37	1.1	2	6	223	3.45	2	7	ND	10	24	1	2	3	34	.22	.059	12	2	.22	24	.04	10	.61	.03	.26	1	3220
SH 4992	52	3425	7060	197	83.9	2	4	96	7.29	259	10	3	2	87	1	952	7	45	.05	.144	33	9	.13	123	.06	6	.43	.01	.25	1	3290
SH 4993	1	110	26	103	.2	3	10	992	3.00	4	5	ND	5	37	1	2	2	37	1.23	.154	13	6	.72	53	.06	2	.94	.01	.43	1	16
SH 4994	5	419	993	73	26.8	5	2	36	2.95	2	5	ND	1	3	1	2	3	21	.01	.027	2	39	.01	23	.01	2	.09	.01	.05	2	4110
STD C/AU-R	17	64	41	133	6.8	71	30	1009	4.25	43	20	7	37	48	18	14	20	58	.50	.096	38	55	.86	174	.07	32	2.08	.06	.14	12	510

- ASSAY REQUIRED FOR CORRECT RESULT - *for Cu = 1%
Ag > 30ppm*

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DATE RECEIVED: AUG 23 1989

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED:

Aug. 29/89...

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: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

SIGNED BY... *C. Leong* D.TOYE. C.LEONG. J.WANG: CERTIFIED B.C. ASSAYERS

PACIFIC SENTINEL GOLD FILE # 89-3124 Page 1

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
BA 5652	178	9	78	.1	8
BA 5653	122	9	84	.2	12
BA 5654	179	13	90	.2	47
BA 5655	545	6	87	.3	14
BA 5656	172	8	70	.2	80
BA 5657	77	5	68	.1	7
BA 5658	351	9	74	.3	15
BA 5659	118	5	78	.1	6
BA 5660	223	4	72	.2	38
BA 5661	213	4	74	.1	16
BA 5662	1616	2	100	1.2	58
BA 5663	564	4	65	.5	175
BA 5664	702	11	43	1.8	176
BA 5665	543	7	56	.4	52
BA 5666	855	4	45	.8	5830
BA 5667	388	3	40	.4	250
BA 5668	554	10	59	.7	157
BA 5669	581	15	51	.6	132
BA 5670	457	5	49	.7	99
BA 5671	539	4	58	.5	70
BA 5672	526	9	43	1.0	390
BA 5673	369	12	50	.4	56
BA 5674	228	5	68	.3	19
BA 5675	188	8	62	.2	13
BA 5676	232	3	51	.4	520
BA 5677	189	8	47	.1	4
BA 5678	402	8	50	.3	47
BA 5679	430	5	44	.9	116
BA 5680	181	11	47	.2	5
BA 5681	238	7	52	.3	10
BA 5682	139	12	59	.2	4
BA 5683	112	9	51	.3	8
BA 5684	414	8	69	.6	12
BA 5685	70	12	92	.2	3
BA 5686	156	9	47	.3	13
BA 5687	25320	10	117	13.4	860
STD C/AU-R	62	41	132	7.1	480

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
BA 5688	14197	12	137	9.3	540
BA 5689	639	12	80	.6	54
BA 5690	2085	17	81	1.7	55
BA 5691	924	3	64	.8	115
BA 5692	1336	8	115	1.2	22
BA 5693	853	12	100	.9	83
BA 5694	589	9	82	.3	39
BA 5695	1390	52	192	1.6	410
BA 5696	1624	9	78	6.4	450
BA 5697	2436	8	79	11.5	830
BA 5698	855	6	48	.6	55
BA 5699	3384	2	51	3.8	49
BA 8901	5479	5	124	10.9	490
BA 8902	1697	10	102	4.2	84
BA 8903	515	10	61	.5	13
BA 8904	252	6	47	.3	21
BA 8905	576	8	54	.9	23
BA 8906	243	5	48	.4	4
BA 8907	348	8	62	.5	8
BA 8908	248	7	53	.1	100
BA 8909	1023	10	67	1.0	960
BA 8910	327	8	56	.1	7
SH 5116	1754	8	17	2.8	220
SH 5117	1510	16	23	3.6	97
GD 10966	2664	9	141	3.0	18
5021	4974	112	89	27.1	1820
STD C/AU-R	64	38	133	6.7	510

- ASSAY REQUIRED FOR CORRECT RESULT - *for Au > 1%*

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852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: AUG 28 1989

DATE REPORT MAILED:

Sept. 1/89.

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: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

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

PACIFIC SENTINEL GOLD FILE # 89-3246 Page 1

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
SH 5118	459	16	101	.4	132
SH 5119	184	5	102	.1	23 ✓
SH 5120	148	6	93	.2	25 ✓
SH 5122	214	6	97	.1	33 ✓
SH 5123	151	4	94	.2	15 ✓
SH 5124	159	6	92	.1	16 ✓
SH 5125	214	7	101	.1	101 ✓
SH 5128	231	6	91	.2	24 ✓
SH 5129	235	6	92	.2	45 ✓
SH 5130	190	6	95	.2	12 ✓
SH 5131	231	4	78	.1	18 ✓
SH 5132	248	8	89	.2	14 ✓
SH 5133	615	9	88	1.4	36 ✓
SH 5134	372	9	95	.4	18 ✓
SH 5135	219	13	93	.1	21 ✓
SH 5136	201	8	99	.1	15 ✓
SH 5137	370	16	108	.1	16 ✓
SH 5138	312	24	89	.3	42 ✓
SH 5139	623	7	101	1.3	73 ✓
SH 5140	247	9	105	.3	14 ✓
SH 5141	288	8	93	.1	19 ✓
SH 5142	163	7	89	.1	15 ✓
SH 5143	165	8	86	.1	8 ✓
SH 5144	270	5	96	.1	17 ✓
SH 5145	280	9	106	.1	11 ✓
SH 5146	314	11	97	.4	23 ✓
SH 5147	353	9	101	.3	32 ✓
SH 5148	219	14	130	.3	35 ✓
SH 5149	470	28	142	.7	45 ✓
SH 5150	736	265	352	3.9	350 ✓
SH 5151	1525	126	118	3.6	410 ✓
SH 5152	436	10	131	.3	43 ✓
SH 5153	481	15	128	1.2	39 ✓
SH 5154	566	8	110	1.5	92 ✓
SH 5155	205	12	124	.4	37 ✓
SH 5156	258	10	105	.2	20 ✓
STD C/AU-R	62	40	132	7.0	480

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
SH 5157	235	15	98	.4	21 ✓
SH 5158	283	8	86	.5	54 ✓
SH 5159	499	4	82	2.3	59 ✓
SH 5160	162	9	88	.3	8 ✓
SH 5161	229	10	96	.4	41 ✓
SH 5162	154	6	85	.1	20 ✓
SH 5163	581	5	87	1.4	39 ✓
BA 8915	469	4	61	.1	70
BA 8916	2077	8	58	6.3	480
BA 8917	1396	6	80	2.1	5680
BA 8918	254	3	68	.9	133
STD C/AU-R	58	42	132	6.6	520

PACIFIC SENTINEL GOLD FILE # 89-3246

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	Hg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
EA-100	2	82	4	38	.1	72	30	475	6.70	6	5	ND	4	177	1	2	2	198	2.10	.392	75	174	2.72	1815	.19	2	2.40	.08	1.65	1	14

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: AUG 29 1989

Sept. 7/89

DATE REPORT MAILED:

ASSAY CERTIFICATE

- SAMPLE TYPE: Pulp AG** & AU** BY FIRE ASSAY FROM 1/2 A.T.

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

PACIFIC SENTINEL GOLD FILE # 89-3050R

SAMPLE#	CU %	AG** oz/t	AU** oz/t
BA 5612	1.21	-	-
BA 5617	-	2.65	.088
BA 5618	-	1.74	-
BA 5627	-	-	.052
BA 5636	-	-	.042
SH 5106	-	-	.058
GD 10963	1.25	-	-

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: AUG 29 1989

DATE REPORT MAILED: *Sept. 9/89.*

ASSAY CERTIFICATE

- SAMPLE TYPE: Pulp AU - 10 GM REGULAR ASSAY.

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

PACIFIC SENTINEL GOLD CORP., FILE # 89-2878R

SAMPLE#	CU %	AG oz/t	AU oz/t
BA 5585	-	-	.018 ✓
GD 10983	-	.89	- ✓
GD 10984	-	2.00	- ✓
GD 10990	-	1.10	- ✓
GD 10991	1.84	4.71	.056 ✓
SH 4991	-	-	.060
SH 4992	-	2.59	.111
SH 4994	-	-	.152

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE (604) 253-3158 FAX (604) 253-1716

DATE RECEIVED: SEP 6 1989

DATE REPORT MAILED: *Sept. 13, 1989*

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 HG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

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

Pacific Sentinel Gold Corp. FILE # 89-3465

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
GD 10967	587	53	202	3.2	210

ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: SEP 12 1989
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED: *Sept. 21/89*

ASSAY CERTIFICATE

- SAMPLE TYPE: Pulp AU** BY FIRE ASSAY FROM 1/2 A.T.

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

PACIFIC SENTINEL GOLD FILE # 89-3124R

SAMPLE#	CU	AU**
	%	oz/t
BA 5666	-	.039
BA 5687	2.56	-
BA 5688	1.41	-
5021	-	.056

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: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: SEP 14 1989 - DATE REPORT MAILED: *Sept 19/89* SIGNED BY: *C. Long* .D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

Pacific Sentinel Gold Corp. File # 89-3663

SAMPLE#	Nc	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Hg	Ba	Ti	S	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	
BIG GASP #2	2	6	15	25	.1	2	1	322	.86	2	5	ND	3	9	1	2	2	9	.18	.014	4	3	.09	172	.01	19	.47	.02	.13	1	2
BIG GASP #3	1	6	9	28	.1	2	3	136	1.45	5	5	ND	6	12	1	2	2	16	.09	.034	3	22	.05	45	.01	10	.51	.02	.09	1	1
BIG GASP #4	2	1	5	4	.1	4	1	86	.20	3	5	ND	1	6	1	2	2	3	.02	.004	2	4	.01	30	.01	8	.18	.01	.09	1	89
BIG GASP #5	4	4	10	18	.2	2	1	254	.71	4	5	ND	3	18	1	2	2	4	.03	.015	2	25	.01	454	.01	2	.29	.02	.14	1	2
BIG GASP #6	1	3	13	38	.1	4	2	465	1.21	2	5	ND	4	90	1	2	2	10	.32	.020	5	3	.17	44	.03	13	.75	.03	.08	1	4
BIG GASP #7	1	3	28	70	.1	2	2	545	1.46	2	5	ND	4	181	1	2	2	17	.60	.027	8	21	.25	59	.05	5	1.09	.03	.07	1	2
BIG GASP #8	1	2	11	33	.1	2	1	164	.71	2	5	ND	5	12	1	2	2	5	.03	.008	6	4	.02	62	.01	2	.29	.03	.07	1	3
BIG GASP #9	1	4	4	9	.1	4	1	164	.26	2	5	ND	1	19	1	2	2	3	1.11	.001	2	41	.01	28	.01	30	.22	.02	.06	1	2
BIG GASP #10	2	19	4	29	.1	31	7	206	2.24	2	5	ND	1	4	1	2	2	51	.08	.042	4	55	.85	7	.01	5	1.05	.01	.04	1	4
BIG GASP #11	2	6	10	19	.2	4	3	351	1.13	5	5	ND	6	18	1	2	2	11	.11	.023	6	33	.03	89	.01	9	.37	.01	.14	1	1
STD C/AU-R	13	63	44	130	5.5	67	31	1006	4.08	43	20	7	38	49	18	15	21	59	.49	.092	39	55	.89	174	.07	36	2.03	.06	.13	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 Hg Pb Sn Ca P LA CR MG BA TI B V AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
 - SAMPLE TYPE: ROCK AU ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: MAY 25 1989 DATE REPORT MAILED: *May 29/89* SIGNED BY: *C. Long* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

CONTINENTAL GOLD CORP. File # 89-1211

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	ST	Cr	Sb	Bi	V	Ce	P	La	Cr	Mg	Ba	Ti	R	Al	Na	K	V	Au ¹	
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
3866	1	66	7	55	.8	4	8	1191	3.68	4	5	ND	8	60	1	2	2	42	1.20	.395	11	7	.39	93	.02	4	.66	.04	.29	3	250	ALMA N
3887	1	2240	15	104	2.5	8	15	828	4.08	2	5	ND	1	70	1	2	5	110	.63	.746	10	11	1.50	56	.12	7	1.85	.04	.73	1	180	CLEAR CUT TRENCH
3888	5	2215	42	117	5.1	6	3	1486	5.93	5	5	ND	2	161	1	22	2	14	5.62	.007	8	20	1.77	12	.01	9	.12	.01	.05	1	1080	STAR
3889	365	6171	1162	2748	19.6	3	13	1243	2.35	712	5	ND	2	175	22	828	2	11	10.29	.055	11	3	.11	14	.01	4	.21	.01	.13	1	1050	EUREKA ADIT
3744	66	60	386	258	86.3	26	55	47	12.01	2	5	51	2	7	6	2	15	28	.08	.028	2	28	.04	8	.01	5	.29	.01	.21	1	55000	ALMA N
3745	9	135	38	95	1.1	4	8	1079	2.37	11	5	ND	9	37	1	3	2	10	.37	.071	9	3	.03	65	.01	4	.33	.03	.24	1	260	ALMA N
3746	2	63	8	95	.9	5	15	859	4.24	2	5	ND	4	46	1	2	2	54	7.31	.136	14	10	.67	83	.09	3	1.07	.03	.72	1	270	TRENCH CLEFT
3747	12	14011	5	108	8.2	8	19	200	4.69	2	5	ND	6	19	1	2	2	89	.32	.112	19	5	1.52	62	.11	2	1.78	.04	1.03	1	34	TRENCH CLEFT
3748	5	623	145	85	4.5	5	14	125	4.23	6	5	ND	4	33	1	2	2	25	.30	.129	11	6	.11	38	.01	4	.56	.01	.33	1	760	STAR
3749	19	948	941	283	25.6	4	6	585	2.02	2	5	ND	5	16	1	2	2	49	.22	.091	18	8	.63	23	.01	7	.67	.01	.18	2	1670	DSI STAR
3750	4	1451	630	124	32.8	2	3	190	2.20	5	5	ND	6	18	1	2	3	29	.12	.090	11	8	.16	29	.01	4	.42	.01	.22	2	1620	DSI STAR
3751	11	22631	13	33	6.8	2	5	41	3.28	2	5	6	13	10	1	2	38	3	.11	.043	11	2	.02	23	.01	5	.42	.06	.19	1	9000	EUREKA
3752	5	13949	221	44	15.6	5	3	1003	1.99	2	5	ND	1	301	1	2	8	1	5.21	.602	8	21	.63	4	.01	2	.83	.01	.03	1	960	EUREKA
3753	1	2719	9	270	4.3	4	8	416	3.01	4	5	ND	5	55	1	2	2	56	1.68	.101	9	4	.59	64	.07	5	.95	.01	.70	2	142	EUREKA
3754	1	113	9	100	1.3	5	12	787	5.85	6	5	ND	7	102	1	3	2	48	2.95	.119	9	9	.51	51	.10	5	1.18	.02	.83	2	270	EUREKA
3755	36	248	66	39	8.2	3	10	1807	3.19	3	5	8	1	1125	2	2	22	7	7.33	.041	2	3	.51	14	.01	2	.51	.01	.89	1	13916	EUREKA
3756	3	189	9	87	.8	8	23	1587	4.51	2	5	ND	3	328	1	2	2	67	5.65	.153	6	12	1.87	48	.09	2	1.97	.01	.66	1	2210	GRANITE POND
3757	1	5958	14	25	5.0	4	7	229	4.13	4	9	ND	35	42	1	2	13	64	.23	.009	7	2	.16	23	.04	9	.35	.34	.19	2	740	A CRC
STD C/AU-1	17	60	44	132	8.0	73	30	950	4.19	41	16	7	39	50	17	15	20	59	.53	.091	39	55	.90	176	.07	37	1.97	.06	.16	13	495	

ASSAY REQUIRED FOR CORRECT RESULT.

MAY 29

PACIFIC SENTINEL GOLD CORP. FILE # 89-2342

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
BA 5447	1	361	8	962	1.0	52	27	3589	7.21	25	5	ND	1	62	4	4	2	136	4.64	.108	4	151	2.56	223	.08	2	3.05	.01	.43	1	18
BA 5448	1	250	9	702	1.0	30	27	2894	6.94	25	5	ND	1	59	4	3	2	71	4.12	.113	5	53	1.93	168	.01	2	2.18	.01	.21	1	31
BA 5449	1	114	11	286	.6	27	23	3305	5.83	27	5	ND	1	145	1	5	2	30	4.74	.103	4	46	2.00	69	.01	2	.72	.01	.19	1	35
BA 5450	1	68	268	3179	2.0	79	30	6624	5.64	75	5	ND	1	204	16	3	2	14	13.38	.050	2	13	4.52	46	.01	2	.14	.01	.07	1	30
BA 5451	1	116	1003	14488	5.1	29	7	20334	4.08	41	5	ND	1	194	90	2	3	6	15.99	.020	2	19	6.17	57	.01	2	.05	.01	.02	2	62
BA 5452	1	108	663	9868	5.5	36	11	29695	7.04	58	5	ND	1	236	63	2	4	6	14.56	.015	3	9	4.28	24	.01	2	.04	.01	.01	4	168
BA 5453	3	516	386	11451	5.4	35	9	22304	5.69	55	5	ND	1	204	74	6	2	9	16.03	.015	3	13	5.44	35	.01	2	.02	.01	.01	3	155
BA 5454	1	111	805	3798	5.8	38	22	8872	5.05	44	5	ND	1	153	25	9	2	10	8.98	.067	2	10	3.14	24	.01	2	.18	.01	.10	1	58
BA 5455	4	252	12467	16980	28.9	25	7	24370	5.10	119	5	ND	1	194	97	23	6	7	15.95	.012	3	13	5.24	28	.01	2	.03	.01	.01	2	310
BA 5456	1	142	3084	11252	9.6	57	26	16991	7.18	85	5	ND	1	220	73	7	2	12	11.39	.046	3	20	3.83	11	.01	2	.10	.01	.06	2	200
BA 5457	8	2289	13417	31340	68.5	39	11	24575	5.53	147	5	ND	1	202	246	90	60	5	15.22	.011	3	13	5.05	37	.01	2	.02	.01	.01	3	460
BA 5458	6	594	9350	38026	23.9	51	19	9471	9.96	157	5	ND	1	78	239	19	3	6	4.35	.026	2	16	1.66	8	.01	7	.08	.01	.04	1	490
BA 5459	4	2976	26252	59330	142.5	39	14	13125	3.61	116	5	ND	1	134	431	195	72	4	8.38	.007	2	1	2.77	37	.01	4	.01	.01	.01	3	1470
BA 5460	1	496	100	701	2.0	44	28	10993	4.83	62	5	ND	1	194	4	4	2	17	7.13	.131	2	5	2.27	29	.01	2	.28	.01	.15	1	41
BA 5461	2	1016	23925	15136	163.5	88	10	1645	4.04	116	5	3	1	22	116	123	157	1	1.18	.004	2	11	.50	13	.01	7	.01	.01	.01	2	8650
BA 5462	12	47	173	191	1.3	3	1	76	4.24	62	5	ND	3	4	1	15	2	7	.03	.037	10	3	.02	24	.01	6	.16	.01	.07	1	28
BA 5463	22	138	261	397	1.7	3	6	124	7.09	22	5	ND	1	12	1	5	2	9	.05	.096	10	8	.04	51	.01	3	.37	.01	.13	1	24
BA 5464	7	130	72	131	.2	16	7	344	8.52	16	5	ND	2	30	1	2	3	96	.10	.146	10	26	1.02	90	.04	2	1.78	.01	.24	2	13
BA 5465	1	357	528	346	2.5	18	24	3439	5.82	24	5	ND	1	268	2	5	2	54	8.30	.157	5	16	1.72	78	.06	2	.64	.01	.34	1	9
BA 5466	1	22	21	56	.1	4	12	1456	2.17	8	5	ND	2	17	1	2	2	9	.25	.083	16	5	.07	63	.01	5	.43	.01	.15	1	4
BA 5467	1	10	18	61	.1	3	6	1083	2.15	9	5	ND	3	24	1	2	2	9	1.85	.086	16	5	.06	140	.01	5	.41	.01	.13	2	33
BA 5468	1	238	11	79	.5	49	26	1528	5.36	19	5	ND	1	261	1	2	2	54	8.42	.125	4	50	2.60	29	.01	2	.17	.01	.10	1	62
BA 5469	1	29	29	95	.1	15	24	1508	4.90	10	5	ND	1	346	1	3	2	45	6.72	.140	3	10	1.48	105	.05	2	.56	.01	.31	1	32
STD C/AU-R	17	63	38	123	7.2	67	29	1015	3.82	40	19	6	36	47	17	15	22	60	.47	.086	38	52	.91	173	.07	37	1.87	.06	.14	12	515

- ASSAY REQUIRED FOR CORRECT RESULT for Pb, Zn, > 1%
Ag > 30ppm.

U.C. 10/10/89

PACIFIC SENTINEL GOLD ILE # 89-2438

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	Hg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
SH 4905	2	175	9	638	.2	78	37	5502	8.67	15	5	ND	1	24	5	2	3	28	.56	.112	3	16	.25	29	.01	2	.55	.01	.19	1	39
SH 4906	4	117	14	561	.3	64	36	2874	7.11	17	5	ND	1	23	4	2	4	30	.44	.129	3	24	.52	21	.03	11	.80	.01	.39	1	49
SH 4907	1	89	9	38	.2	69	32	1244	5.97	17	5	ND	1	16	1	2	3	27	.13	.129	4	34	.53	92	.03	2	.96	.01	.47	1	46
SH 4908	3	177	9	140	.2	62	33	1447	7.30	15	5	ND	1	26	1	2	2	45	.43	.142	3	43	.82	16	.05	2	1.08	.01	.56	1	51
SH 4909	3	147	10	74	.5	25	20	596	6.29	13	5	ND	1	53	1	2	4	29	.54	.186	2	15	.52	16	.02	3	.71	.01	.35	1	49
SH 4910	3	171	13	123	.4	41	26	1135	6.92	15	5	ND	2	48	1	2	2	16	.05	.155	6	15	.09	174	.01	6	.58	.01	.26	1	44
SH 4911	2	132	12	112	.3	33	25	758	8.86	24	5	ND	2	26	1	2	2	35	.03	.146	4	27	.77	97	.03	2	1.03	.01	.30	1	75
SH 4912	3	63	11	233	.3	38	46	6504	6.79	19	5	ND	2	9	1	2	2	22	.11	.132	4	33	.56	53	.01	2	.88	.01	.24	1	45
SH 4913	4	622	17	310	.8	74	44	5360	10.03	23	5	ND	1	55	4	2	4	23	2.24	.118	2	22	1.10	10	.01	2	.79	.01	.24	1	81
SH 4914	7	123	149	405	1.2	82	65	7054	9.20	91	5	ND	1	46	6	2	3	16	2.65	.112	2	15	.75	9	.01	3	.52	.01	.19	1	122
SH 4915	2	42	20	164	.4	109	44	5754	6.59	39	5	ND	1	35	1	2	2	19	2.59	.106	3	15	.50	20	.01	2	.46	.01	.22	1	49
SH 4916	3	90	40	147	1.7	79	41	2720	12.36	333	5	ND	2	19	2	4	3	23	1.05	.096	3	16	.32	75	.01	2	.50	.01	.18	1	410
SH 4917	2	63	24	179	.5	141	63	5656	7.70	42	5	ND	1	32	1	2	2	32	1.79	.105	3	53	.83	105	.01	2	1.03	.01	.23	1	72
SH 4919	2	52	46	403	.6	58	33	9715	6.31	34	5	ND	2	107	5	2	3	30	5.92	.085	3	41	2.34	26	.05	7	.96	.01	.54	1	66
SH 4919	2	131	15	605	.8	56	34	3325	6.03	23	5	ND	1	51	7	2	2	42	2.46	.114	4	51	1.24	89	.06	2	1.19	.01	.60	1	111
SH 4920	1	123	16	736	1.4	29	21	1103	4.56	9	5	ND	2	26	7	2	2	22	.61	.098	7	21	.40	54	.01	2	.78	.01	.30	13	300
SH 4921	1	24	21	91	.1	7	10	374	2.24	2	5	ND	2	27	1	2	2	4	.54	.085	9	4	.17	57	.01	2	.43	.01	.11	1	53
SH 4922	1	23	17	116	.1	13	19	305	2.34	2	5	ND	3	11	1	2	2	7	.21	.080	13	5	.32	83	.01	4	.93	.01	.16	2	37
SH 4922	1	11	14	67	.1	7	12	916	2.35	6	5	ND	3	12	1	2	2	7	.30	.070	14	6	.24	65	.01	6	.64	.01	.17	1	91
SH 4924	1	3	12	50	.1	10	8	240	2.22	3	5	ND	3	14	1	2	2	7	.34	.074	13	6	.32	93	.01	6	.70	.02	.15	1	5
SH 4925	1	22	10	45	.1	8	7	794	2.07	5	5	ND	3	46	1	2	2	7	1.01	.078	15	7	.28	62	.01	2	.64	.01	.14	1	10
SH 4925	1	35	9	38	.1	11	7	313	2.10	3	5	ND	3	16	1	2	2	6	.42	.080	14	6	.06	82	.01	2	.47	.01	.15	1	4
SH 4927	1	25	2	26	.1	6	7	812	1.99	2	5	ND	3	24	1	2	2	5	.62	.075	15	4	.03	84	.01	5	.43	.01	.14	1	5
SH 4923	1	32	9	27	.1	7	8	913	2.06	2	5	ND	3	41	1	2	2	7	1.07	.081	16	5	.07	111	.01	6	.56	.02	.17	3	55
STD C/AU-R	17	58	38	132	7.2	68	30	1927	4.07	41	19	7	37	48	18	14	20	57	.52	.090	38	55	.92	175	.07	31	2.00	.06	.14	12	470

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE (604) 253-3158 FAX (604) 253-1716

DATE RECEIVED: AUG 2 1989

DATE REPORT MAILED: Aug. 7/89...

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: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

SIGNED BY *C. Leong* D. TOYE. C. LEONG. J. WANG: CERTIFIED B.C. ASSAYERS

PACIFIC SENTINEL GOLD CORP. FILE # 89-2628 Page 1

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
SH 4929	117	9	587	.5	23
SH 4930	39	6	404	.5	19
SH 4931	84	13	401	.5	12
SH 4932	259	4	411	.6	23
SH 4933	117	15	380	.9	95
SH 4934	241	16	444	.6	110
SH 4935	127	12	320	.8	89
SH 4936	318	6	292	.8	51
SH 4937	150	28	209	1.7	65
SH 4938	73	16	421	.7	21
SH 4939	191	9	498	.9	19
SH 4940	100	12	434	.6	22
SH 4941	119	2	337	.5	9
SH 4942	89	38	409	.7	58
SH 4943	113	5	250	.8	49
SH 4944	93	4	364	.7	60
SH 4946	93	987	1242	2.5	66
SH 4947	98	18	382	.7	270
SH 4948	303	7	529	.9	145
SH 4949	175	2	203	.5	20
SH 4950	99	9	188	.4	33
SH 4951	110	17	1805	.4	36
SH 4952	215	62	992	.7	36
SH 4953	298	83	1629	.5	28
SH 4954	282	853	1612	9.0	430
SH 4955	512	231	1475	2.9	106
SH 4956	189	4	938	.3	9
SH 4957	135	11	474	.4	5
SH 4958	230	7	258	.5	18
SH 4959	40	7	123	.2	60
SH 4960	185	2	166	.3	4
SH 4961	148	2	185	.5	6
SH 4962	130	4	149	.3	7
SH 4963	178	2	152	.5	2
SH 4964	35	10	138	.2	31
SH 4965	34	10	84	.1	430
STD C/AU-R	60	40	132	6.6	475

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
SH 4966	25	12	139	.2	36
SH 4967	90	72	812	1.8	146
SH 4968	37	2915	5966	3.9	73
SH 4969	79	13	220	.6	7
SH 4970	42	13	469	.5	2
SH 4971	127	17	96	1.1	8
SH 4972	636	7148	3640	77.2	1210
SH 4973	328	94	1210	1.7	86
SH 4974	378	17	78	.7	740
SH 4975	27	745	1651	9.1	131
SH 4976	11	172	281	1.2	5
SH 4977	14	543	1116	9.3	70
SH 5052	315	15	67	.6	730
SH 5053	171	16	83	1.2	960
SH 5054	126	7	64	.7	350
SH 5055	163	15	83	.8	540
SH 5056	274	11	85	.7	39
SH 5057	276	27	136	1.1	960
SH 5058	247	24	960	1.1	1610
SH 5059	26	32	146	1.0	260
SH 5060	128	26	166	.7	270
SH 5061	105	10	112	.4	25
SH 5062	116	17	124	.5	57
SH 5063	37	10	102	.2	28
SH 5064	80	26	122	.9	50
SH 5065	79	31	214	.7	154
SH 5066	104	15	189	.6	51
SH 5067	46	20	193	.4	69
SH 5068	912	20	477	1.1	185
SH 5069	212	19	433	.5	109
SH 5070	809	35	918	1.6	161
SH 5071	381	21	393	1.2	83
SH 5072	177	13	173	.4	21
SH 5073	331	16	265	.6	15
SH 5074	178	57	347	.6	210
SH 5075	81	19	111	.6	270
STD C/AU-R	63	42	132	6.6	525

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
SH 5076	103	10	108	.5	74
SH 5077	237	10	164	.7	35
SH 5078	186	11	199	.4	7
SH 5079	208	13	229	.5	10
SH 5080	52	7	137	.2	6
SH 5081	128	11	173	.3	9
SH 5082	33	9	343	.2	1
SH 5083	295	17	303	.8	29
SH 5084	255	94	738	1.2	23
SH 5085	215	132	1081	1.2	17
SH 5086	260	577	3394	2.7	37
SH 5087	188	35	483	.9	4
SH 5088	336	34	545	.9	11
SH 5089	203	207	704	.9	820
SH 5090	170	17	239	.6	92
SH 5091	245	17	164	.7	23
SH 5092	260	17	234	.6	1
SH 5093	43	16	145	.3	1
SH 5094	412	11	124	.6	4
SH 5095	468	13	129	.5	5
SH 5096	330	10	123	.8	8
SH 5097	275	9	148	.7	4
SH 5098	173	129	251	1.1	9
SH 5099	258	16	152	.7	7
SH 5100	254	4	170	.7	5
SH 5101	152	8	207	.5	1
SH 5102	135	5	190	.5	1
SH 5103	349	50	195	1.1	35
SH 5104	107	10	65	.8	3070
SH 5512	147	8	86	.3	51
SH 5513	179	10	94	.6	32
SH 5514	196	4	93	.4	17
SH 5515	233	3	118	.5	35
BA 5474	439	44	187	.6	5
BA 5475	157	16	112	.3	6
BA 5476	124	6	112	.3	7
STD C/AU-R	63	39	132	6.7	470

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
BA 5477	253	87	370	.9	12
BA 5478	391	258	900	1.6	124
BA 5479	141	16	239	.6	62
BA 5480	121	61	645	.4	20
BA 5481	160	8	990	.2	3
BA 5482	81	9	1318	.2	7
BA 5483	159	20	1356	.3	7
BA 5484	69	37	781	.2	21
BA 5485	88	16	370	.4	24
BA 5486	184	176	630	.8	36
BA 5487	138	31	379	.5	48
BA 5488	112	21	590	.4	59
BA 5489	23	27	278	.3	17
BA 5490	44	3483	13940	4.5	76
BA 5491	56	2019	4579	2.6	22
BA 5492	15	32	92	.1	10
BA 5493	7	16	45	.1	11
BA 5494	38	12	57	.5	97
BA 5495	63	19	45	.8	1520
BA 5496	26	15	69	1.7	6290
BA 5497	254	4	215	.5	1010
BA 5498	65	3	124	.3	120
BA 5499	100	3	108	.2	73
BA 5500	191	7	103	.2	21
BA 5501	148	8	103	.1	18
BA 5502	114	12	72	.2	130
BA 5503	112	8	120	.1	24
BA 5504	36	7	109	.2	24
BA 5505	188	9	74	.3	74
BA 5506	73	3	77	.2	29
BA 5507	91	2	57	.1	51
BA 5508	106	10	99	.1	44
BA 5509	114	3	216	.1	23
BA 5510	200	5	106	.2	25
BA 5511	132	8	90	.2	66
BA 5516	132	4	135	.3	83
BA 5517	127	2	115	.4	89
STD C/AU-R	60	41	132	6.7	530

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
BA 5518	138	6	112	.3	146
BA 5519	205	4	122	.3	300
BA 5520	687	3	116	.5	410
BA 5521	68	5	135	.3	270
BA 5522	168	2	130	.3	200
BA 5523	256	2	131	.5	600
BA 5524	75	8	129	.2	130
BA 5525	86	3	78	.5	340
BA 5526	47	3	75	.2	118
BA 5527	647	5	82	1.3	240
BA 5528	1316	5	81	1.8	300
BA 5529	165	5	73	.2	41
BA 5530	485	9	102	.9	88
BA 5531	252	7	280	.2	42
BA 5532	39	9	64	.3	121
BA 5533	36	11	64	.1	25
BA 5534	297	217	1591	1.0	41
BA 5535	37	11	212	.3	5
BA 5536	355	48	397	2.3	83
BA 5537	74	30	228	.4	127
BA 5538	32	4	147	.3	30
BA 5539	47	18	133	.8	176
BA 5540	100	21	318	.6	99
BA 5541	459	30	381	1.2	170
BA 5542	300	91	185	1.4	230
BA 5543	751	3	23	.7	11
BA 5544	425	4	67	.7	36
BA 5545	135	4	74	.3	24
BA 5546	549	7	33	1.6	220
BA 5547	119	66	28	1.4	1300
BA 5548	33	5	131	.1	53
BA 5549	74	613	62	3.0	580
BA 5550	43	25	446	.4	26
BA 5551	113	9	162	.4	30
BA 5552	63	21	149	.9	115
BA 5553	360	10885	40353	63.4	290
BA 5554	495	19563	76316	84.2	290
STD C/AU-R	62	37	132	6.6	520

- ASSAY REQUIRED FOR CORRECT RESULT -

for Pb, Zn > 1%
Ag > 30 ppm

CHEMICAL ANALYSIS CERTIFICATE

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.
 RE AL FOR MM 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.

AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

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

PACIFIC SENTINEL GOLD CORP. FILE # 89-2628 Page 1

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
SH 4929	117	9	587	.5	23
SH 4930	39	6	404	.5	19
SH 4931	84	13	401	.5	12
SH 4932	259	4	411	.6	23
SH 4933	117	15	380	.9	95
SH 4934	241	16	444	.6	110
SH 4935	127	12	320	.8	89
SH 4936	318	6	292	.8	51
SH 4937	150	28	209	1.7	65
SH 4938	73	16	421	.7	21
SH 4939	191	9	498	.9	19
SH 4940	100	12	434	.6	22
SH 4941	119	2	337	.5	9
SH 4942	89	38	409	.7	58
SH 4943	113	5	250	.8	49
SH 4944	93	4	364	.7	60
SH 4946	93	987	1242	2.5	66
SH 4947	98	18	382	.7	270
SH 4948	303	7	529	.9	145
SH 4949	175	2	203	.5	20
SH 4950	99	9	188	.4	33
SH 4951	110	17	1805	.4	36
SH 4952	215	62	992	.7	36
SH 4953	298	83	1629	.5	28
SH 4954	282	853	1612	9.0	430
SH 4955	512	231	1475	2.9	106
SH 4956	189	4	938	.3	9
SH 4957	135	11	474	.4	5
SH 4958	230	7	258	.5	18
SH 4959	40	7	123	.2	60
SH 4960	185	2	166	.3	4
SH 4961	148	2	185	.5	6
SH 4962	130	4	149	.3	7
SH 4963	178	2	152	.5	2
SH 4964	35	10	138	.2	31
SH 4965	34	10	84	.1	430
STD C/AU-R	60	40	132	6.6	475

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
SH 4966	25	12	139	.2	36
SH 4967	90	72	812	1.8	146
SH 4968	37	2915	5966	3.9	73
SH 4969	79	13	220	.6	7
SH 4970	42	13	469	.5	2
SH 4971	127	17	96	1.1	8
SH 4972	636	7148	3640	77.2	1210
SH 4973	328	94	1210	1.7	86
SH 4974	378	17	78	.7	740
SH 4975	27	745	1651	9.1	131
SH 4976	11	172	281	1.2	5
SH 4977	14	543	1116	9.3	70
SH 5052	315	15	67	.6	730
SH 5053	171	16	83	1.2	960
SH 5054	126	7	64	.7	350
SH 5055	163	15	83	.8	540
SH 5056	274	11	85	.7	39
SH 5057	276	27	136	1.1	960
SH 5058	247	24	960	1.1	1610
SH 5059	26	32	146	1.0	260
SH 5060	128	26	166	.7	270
SH 5061	105	10	112	.4	25
SH 5062	116	17	124	.5	57
SH 5063	37	10	102	.2	28
SH 5064	80	26	122	.9	50
SH 5065	79	31	214	.7	154
SH 5066	104	15	189	.6	51
SH 5067	46	20	193	.4	69
SH 5068	912	20	477	1.1	185
SH 5069	212	19	433	.5	109
SH 5070	809	35	918	1.6	161
SH 5071	381	21	393	1.2	83
SH 5072	177	13	173	.4	21
SH 5073	331	16	265	.6	15
SH 5074	178	57	347	.6	210
SH 5075	81	19	111	.6	270
STD C/AU-R	63	42	132	6.6	525

FILE #

to 3

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SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
SH 5076	103	10	108	.5	74
SH 5077	237	10	164	.7	35
SH 5078	186	11	199	.4	7
SH 5079	208	13	229	.5	10
SH 5080	52	7	137	.2	6
SH 5081	128	11	173	.3	9
SH 5082	33	9	343	.2	1
SH 5083	295	17	303	.8	29
SH 5084	255	94	738	1.2	23
SH 5085	215	132	1081	1.2	17
SH 5086	260	577	3394	2.7	37
SH 5087	188	35	483	.9	4
SH 5088	336	34	545	.9	11
SH 5089	203	207	704	.9	820
SH 5090	170	17	239	.6	92
SH 5091	245	17	164	.7	23
SH 5092	260	17	234	.6	1
SH 5093	43	16	145	.3	1
SH 5094	412	11	124	.6	4
SH 5095	468	13	129	.5	5
SH 5096	330	10	123	.8	8
SH 5097	275	9	148	.7	4
SH 5098	173	129	251	1.1	9
SH 5099	258	16	152	.7	7
SH 5100	254	4	170	.7	5
SH 5101	152	8	207	.5	1
SH 5102	135	5	190	.5	1
SH 5103	349	50	195	1.1	35
SH 5104	107	10	65	.8	3070
SH 5512	147	8	86	.3	51
SH 5513	179	10	94	.6	32
SH 5514	196	4	93	.4	17
SH 5515	233	3	118	.5	35
BA 5474	439	44	187	.6	5
BA 5475	157	16	112	.3	6
BA 5476	124	6	112	.3	7
STD C/AU-R	63	39	132	6.7	470

0474W

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
BA 5477	253	87	370	.9	12
BA 5478	391	258	900	1.6	124
BA 5479	141	16	239	.6	62
BA 5480	121	61	645	.4	20
BA 5481	160	8	990	.2	3
BA 5482	81	9	1318	.2	7
BA 5483	159	20	1356	.3	7
BA 5484	69	37	781	.2	21
BA 5485	88	16	370	.4	24
BA 5486	184	176	630	.8	36
BA 5487	138	31	379	.5	48
BA 5488	112	21	590	.4	59
BA 5489	23	27	278	.3	17
BA 5490	44	3483	13940	4.5	76
BA 5491	56	2019	4579	2.6	22
BA 5492	15	32	92	.1	10
BA 5493	7	16	45	.1	11
BA 5494	38	12	57	.5	97
BA 5495	63	19	45	.8	1520
BA 5496	26	15	69	1.7	6290
BA 5497	254	4	215	.5	1010
BA 5498	65	3	124	.3	120
BA 5499	100	3	108	.2	73
BA 5500	191	7	103	.2	21
BA 5501	148	8	103	.1	18
BA 5502	114	12	72	.2	130
BA 5503	112	8	120	.1	24
BA 5504	36	7	109	.2	24
BA 5505	188	9	74	.3	74
BA 5506	73	3	77	.2	29
BA 5507	91	2	57	.1	51
BA 5508	106	10	99	.1	44
BA 5509	114	3	216	.1	23
BA 5510	200	5	106	.2	25
BA 5511	132	8	90	.2	66
BA 5516	132	4	135	.3	83
BA 5517	127	2	115	.4	89
STD C/AU-R	60	41	132	6.7	530

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
BA 5518	138	6	112	.3	146
BA 5519	205	4	122	.3	300
BA 5520	687	3	116	.5	410
BA 5521	68	5	135	.3	270
BA 5522	168	2	130	.3	200
BA 5523	256	2	131	.5	600
BA 5524	75	8	129	.2	130
BA 5525	86	3	78	.5	340
BA 5526	47	3	75	.2	118
BA 5527	647	5	82	1.3	240
BA 5528	1316	5	81	1.8	300
BA 5529	165	5	73	.2	41
BA 5530	485	9	102	.9	88
BA 5531	252	7	280	.2	42
BA 5532	39	9	64	.3	121
BA 5533	36	11	64	.1	25
BA 5534	297	217	1591	1.0	41
BA 5535	37	11	212	.3	5
BA 5536	355	48	397	2.3	83
BA 5537	74	30	228	.4	127
BA 5538	32	4	147	.3	30
BA 5539	47	18	133	.8	176
BA 5540	100	21	318	.6	99
BA 5541	459	30	381	1.2	170
BA 5542	300	91	185	1.4	230
BA 5543	751	3	23	.7	11
BA 5544	425	4	67	.7	36
BA 5545	135	4	74	.3	24
BA 5546	549	7	33	1.6	220
BA 5547	119	66	28	1.4	1300
BA 5548	33	5	131	.1	53
BA 5549	74	613	62	3.0	580
BA 5550	43	25	446	.4	26
BA 5551	113	9	162	.4	30
BA 5552	63	21	149	.9	115
BA 5553	360	10885	40353	63.4	290
BA 5554	495	19563	76316	84.2	290
STD C/AU-R	62	37	132	6.6	520

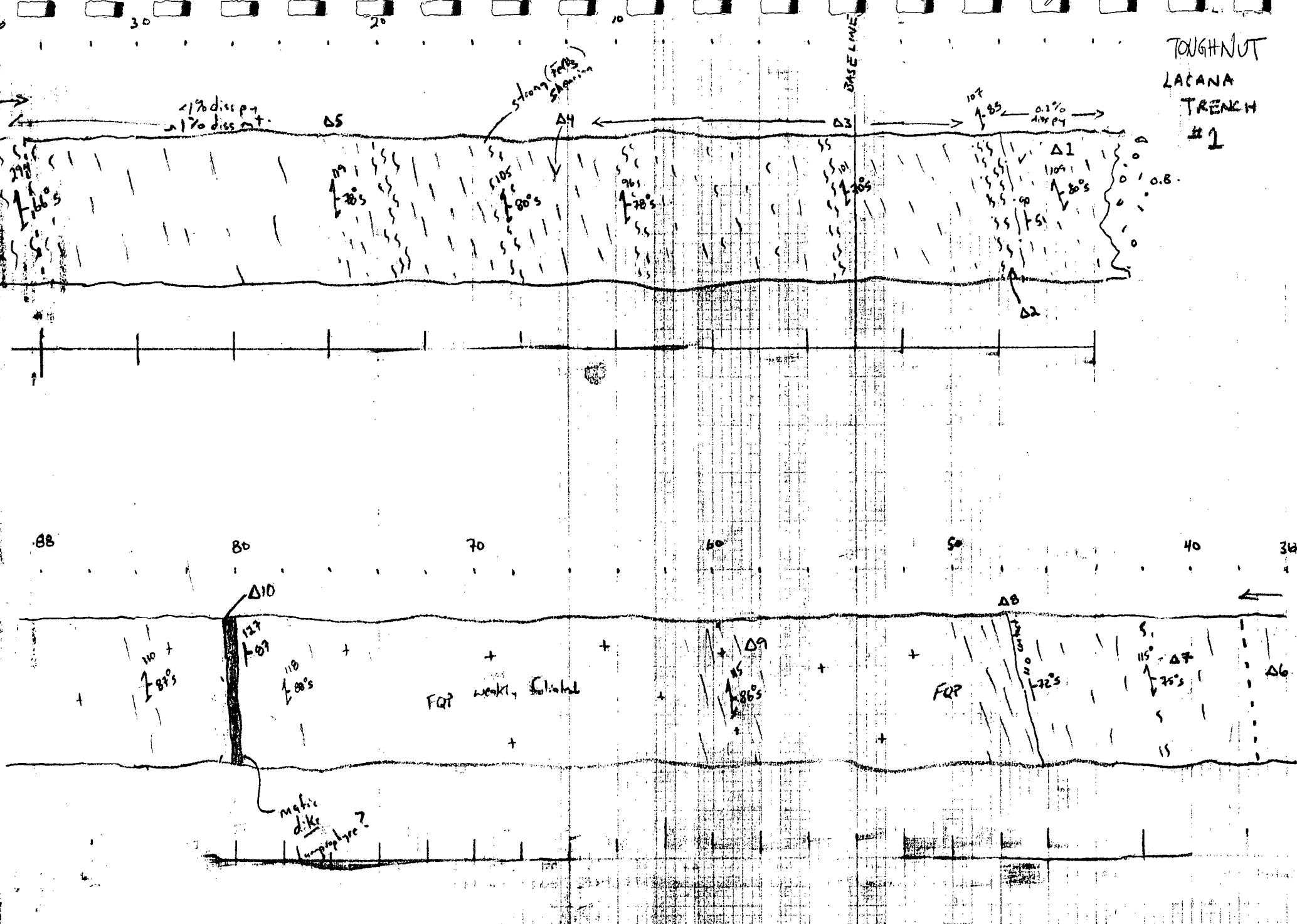
- ASSAY REQUIRED FOR CORRECT RESULT -

for Pb Zn > 1%
Ag > 30 ppm

APPENDIX VII

1:200 FIELD TRENCH MAPS

TOUGHNOT
LACANA
TRENCH
#1

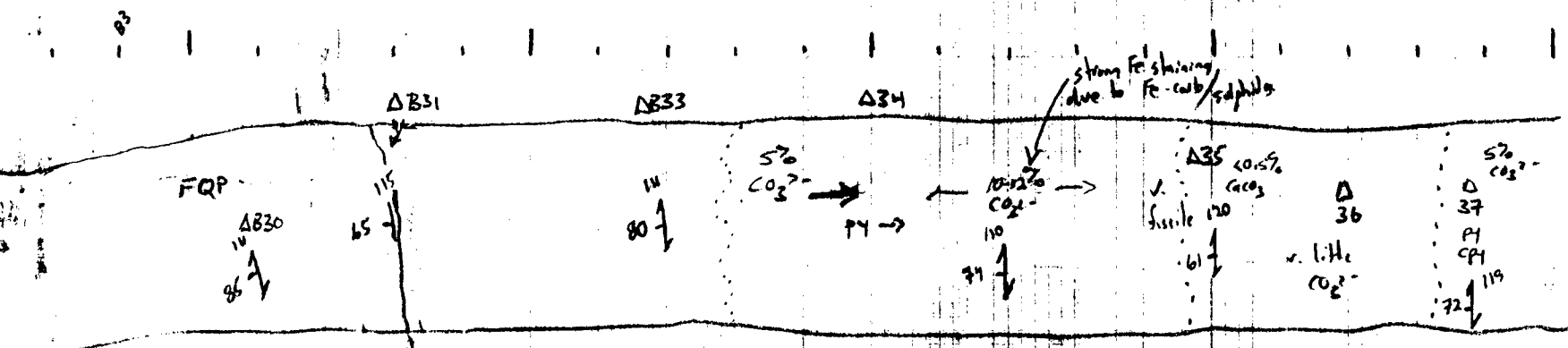


34 samples from 10S → 86N:

Horizontal Scale 1:200
Vertical Scale Exaggerated

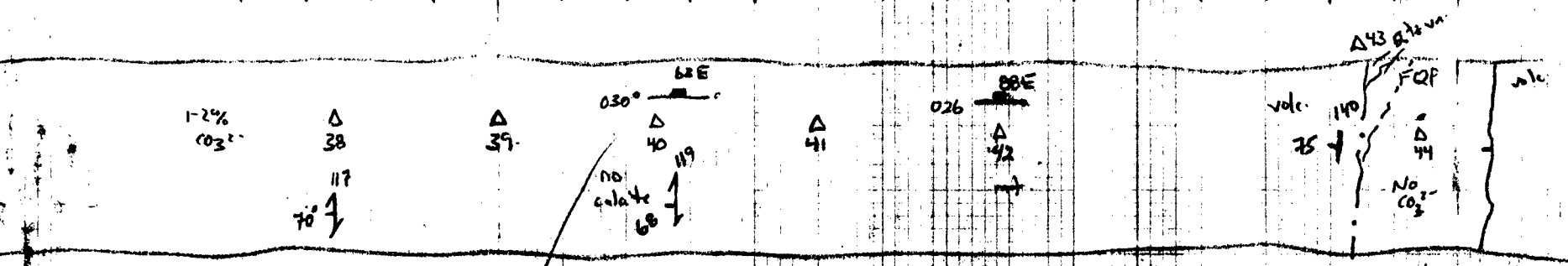
TOUGH NUT

0+85N 0+95N 1+05N 1+15N 1+25N

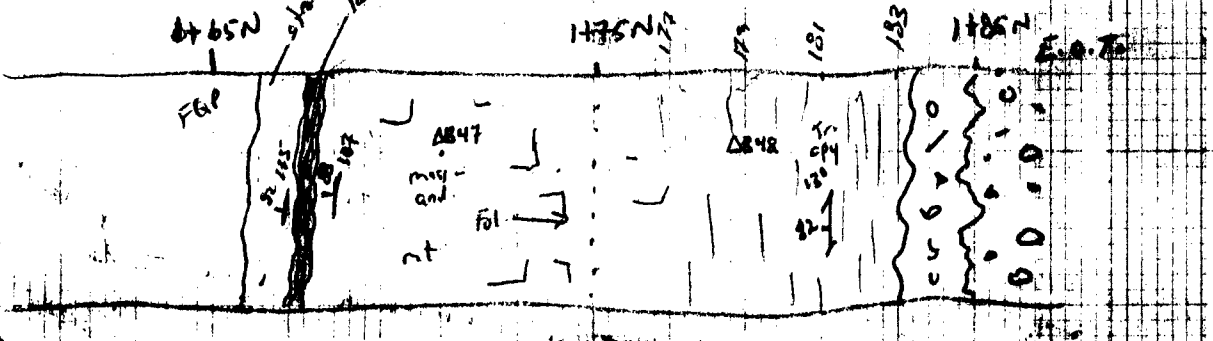


Samples: 5492 5493 5494 5495 5496 5497 5498 5499

1+25N 1+35N 1+45N 1+55N 1+65N



0+65N sharply affected with
barrenly ΔB45
ΔB46

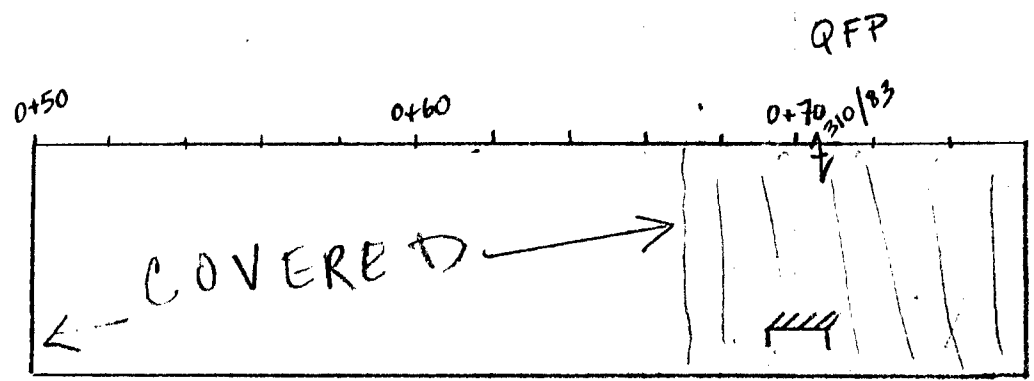


S ←

1 KENCH OTOOE

→ N DOGHNUI

FACING 300°

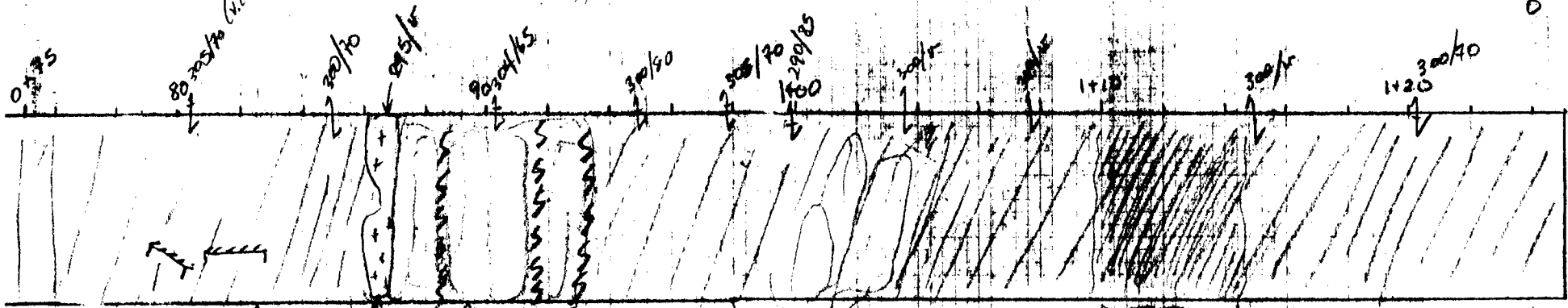
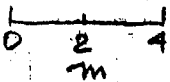


← schistose

Prominent Fracture 218/65°

QFP: Bleached buff-off white weath'd color
 at eyes
 chl + bp + qtz + sericite
 Equigranular qtz eyes 2-5mm (10-15%)
 Mod-hly carb altn
 Slt. magnetic
 Chl as patches or blebs on folia planes
 Mineralization: Tr-2% py
 Tr-1% magnetite

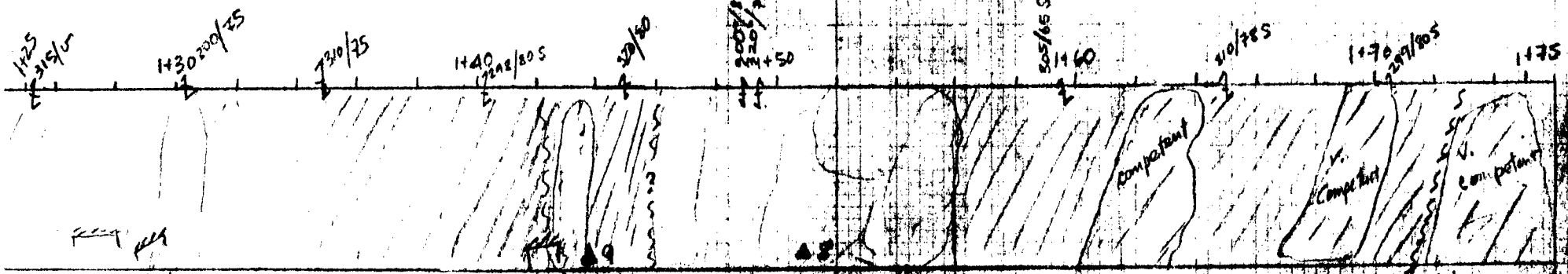
QFP = massive
 Locally, sugary/granular texture
 up to 50% Fe carb. altn



QFP
 14825m
 CONTACT
 (= 90.5 actual)
 803
 vein

VOLCANICS
 more competent chert-ser.
 volcs indurated
 - extr. oxidized, friable lenses
 - silicic/felsic layers
 - ↑ carb. ace'n
 - ↑ sulfides

Gouge
 Note competent
 schist

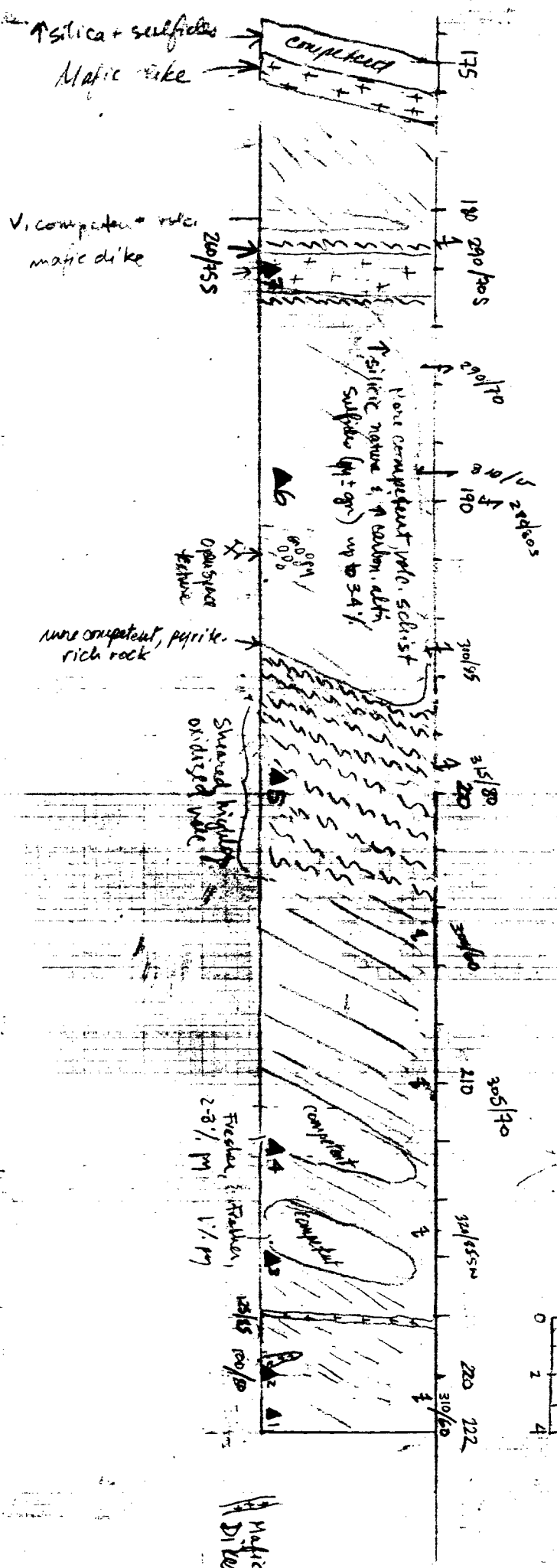


230/80M
 Prom. fract.
 more competent
 volc
 schist

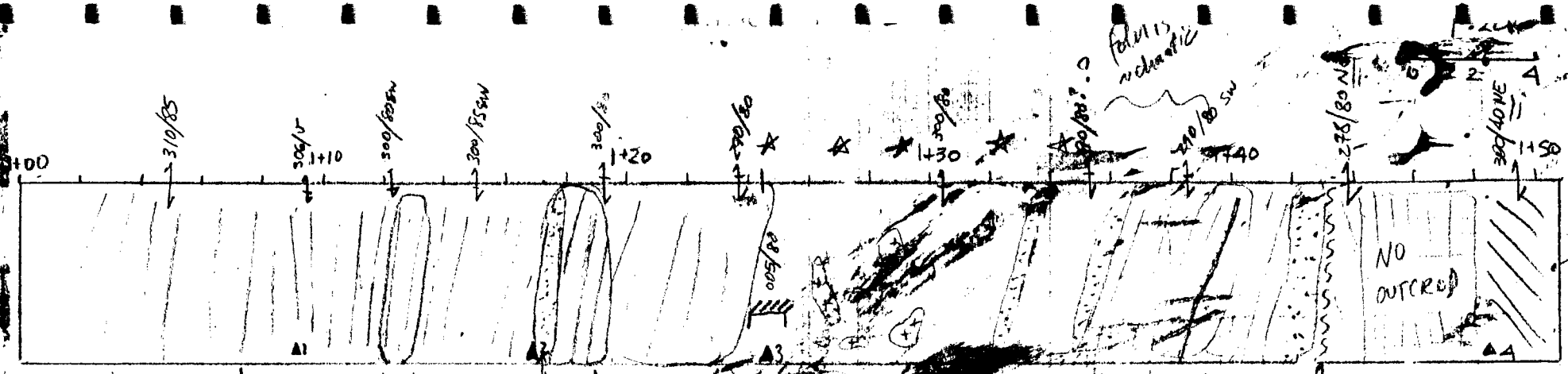
300/80
 Competent rock
 Same rock as in P. 6
 1446 to 1456: Blocky, massive
 etc. of competent rock
 Diss. pm 1-5%
 Diss. fm Tr-2%
 Diss. sph Tr-1%

Competent
 Competent
 Competent

highly oxid., rusty matrix
 friable lenses
 ↑
 ↑ Prom. fract. & sulfides



Mafic
Dike



More competent
 CW. Vole =
 high Fe carb. alt
 2-3% pyrite
 seric.

↑ weath.
 ↑ seric

less
 matrix
 more competent

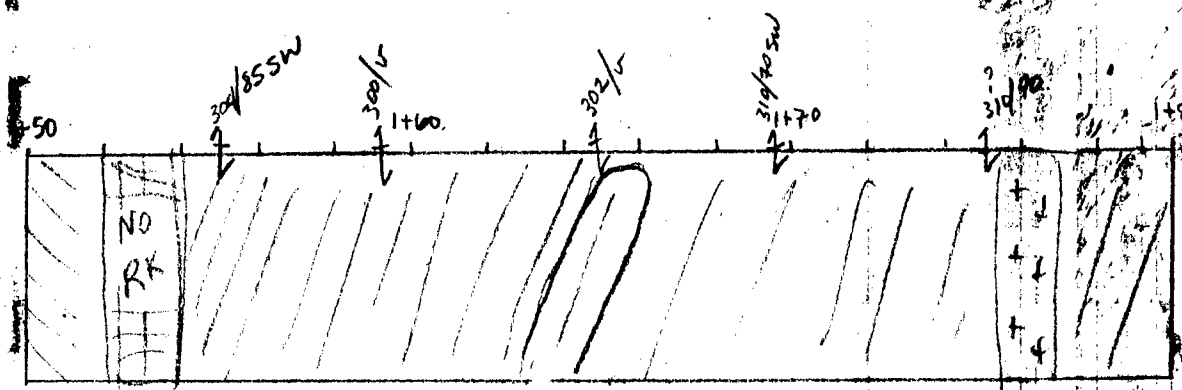
↑ fcauh
 ↑ sericite
 ↑ pyrite

v. excessive
 highly oxidized
 sericite schist

Competent
 vales

Ext. rusty
 orange
 weathered
 shered vales

TOUGH UT



More
 competent

Mafic
 like

Slit - mod. weather'd
ch. volc schist

NVS

Mod. highly weather'd sericitic-chl schist
V. rusty qtz in folia planes

Fe carb. weather'd spots (ex-fp), folia planes
Fract: 205/80NW

Sericitic-chl schist - calcite blebs +
Fe carb. after fsp. - phreatic

Competent rock
V. prominent fracture controls etc
Mod. weather'd to rusty brown

Granular, xline, siliceous chl. volc sch
Mod. magnetic, highly carbon. alt'd
3-4% py, dissemin. fsp

Competent
2-3% dissemin. py, mod magnetic
highly carb. alt'd
Spec. hematite
More massive than feldic volc sch.
2-3% diss. py
Fracture: 110/70SW

Sericitic chl volc schist
Highly weather'd - Fe carb. along
folia, fract's + spots (weather'd amygdules
or phreatic). Locally bleached

Competent volc schist - Fe carb. eyes
Chl. sch. Highly carbon. alt'd
K magnetic
Fract's: 330/75, 230/70, 030/65SE

Prominent fracture: 360/50SW
↑ sericitic, chl. volc schist
Highly Ext. carb alt'd. Abundant rusty
spots. Highly magnetic

Competent, massive etc of
sch. volc schist

Extr. weather'd/oxidized chl. volc
schist - punky. locally bleached
Mafic dike, 20cm, 260/85SE

V. competent, highly Fe
carb. alt'd. Abundant weather'd
spots + Fe carb. filled amygdules
Tr-2% dissemin. py, py
cqb, eyes

Highly to Extr. Fe carb. alt'd
chloritic volc. schists.
* Rust-orange, weather'd out
spots (≤ 1cm across) = ex-fp,
ex-py or amygdules
Dk. rusty, oxidized chl
volc schist + sericitic
Fe carb. stockwork

V. competent siliceous
volc. Mod. highly weather'd
Veinlets = qtz, py, cpy
↑ carb. alt'd, ↑ py content

Intermediate = chl. sch

Mafic dike 7m 270/80
Mafic dike 20cm 210/80S

Felsic Dike 850/70S
Bleached!

V. competent siliceous
granular volc c
2-4% py
↑ carb. alt'd

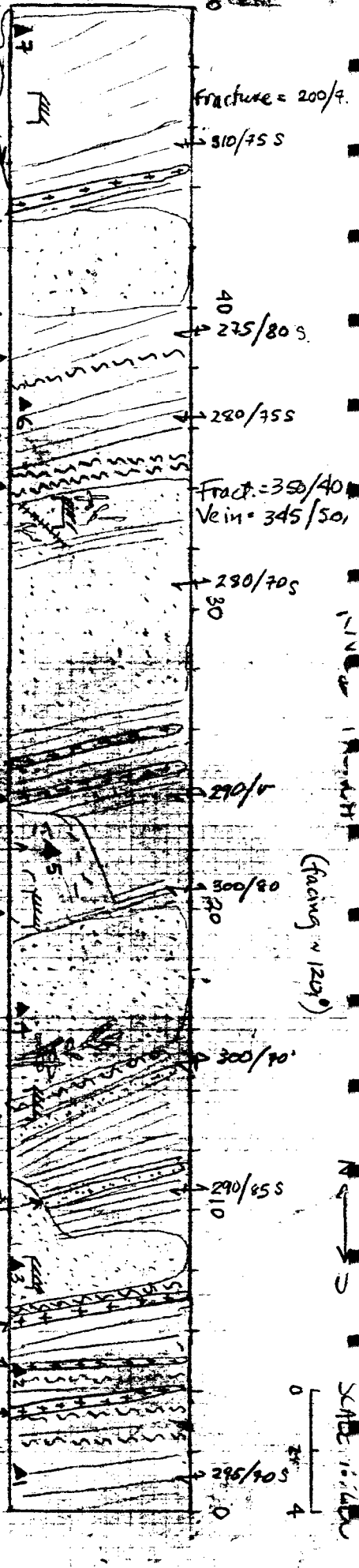
Fe carb. stockwork c 5-7%
py

Silicic layers = Tpy, fsp
↑ carb. alt'd, intercalated

V. competent silicic volc.
Prom. fract. = 010/85NW

Mafic dikes
Felsic dike

Sheared volcanics v.
rusty weathered, and
interlayered carbonate alt'd
(Gough?) massive volc
etc



SCALE 1:10,000

WIDTHS ARE TO SCALE
VEINLETS, HEIGHT OF STC ARE NOT

IL vesicular, bedding / schist

1.5-5.0	41.0-45.0
5.0-9.0	45.0-49.0
9.0-13.0	49.0-53.0
13.0-17.0	53.0-57.0
17.0-21.0	57.0-61.0
21.0-25.0	61.0-65.0
25.0-29.0	65.0-69.0
29.0-33.0	69.0-73.0
33.0-37.0	73.0-77.0
37.0-41.0	77.0-81.0

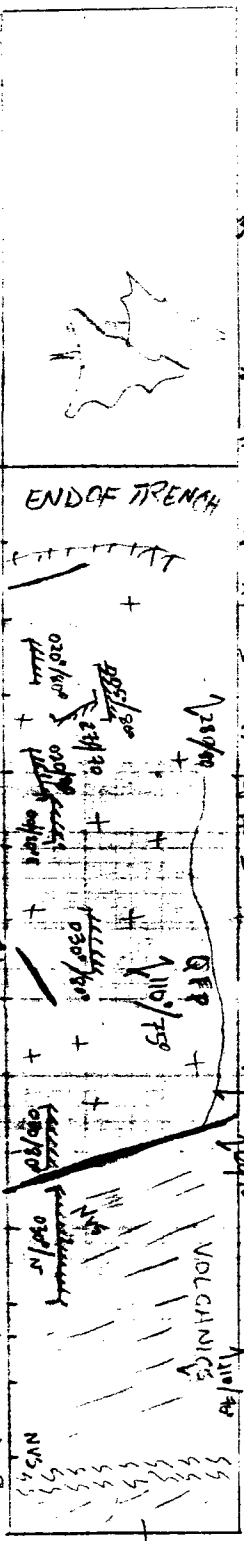
QEP
7-65m: Lt-tan gray QEP unit, weathers rusty blackskin in color. Strongly foliated (cleavage spaced on av. few mm to .25cm scale). Locally appears more massive. Prominent fracture plane = 050/V. May be filled c. R_2 , 000°/80E. $mp < 5\%$, $py > 20\%$. Sericite, 60% fsp, 5% py, 5% anker. Sericite in blebs and on foliation plane. Py veins are rounded. Veinlets are common; Qtz + ser + py texture is dominated by variety of fracture + foliation planes.

mineralization = veinlets of Qtz + py hematite on fract. surface. Dissem. py (often oxid. to black) along fol. planes. Open space Qtz textures, v. rusty.

CONTACT ZONE 49m

Rusty weathering friable volc schists. Contact zone is 45cm wide. $110°/80SW$. Blebs, at contact = few mm scale. Schistosity. Prom. fractures = $210°/80°NW$. Anker weath. on fact.

VOLCANICS (40-49m)
Red, dk green, chloritic volc schist. Fg volc, no obvious phenocrysts. Locally rusty weathered (oxidized sulfides). Locally, v. weathered along fractures + schistosity planes. Also locally, v. chloritic. NVS but calcite = Qtz = sulfides veinlets @ $100°/80°E$.



40m: Massive to but x schistose, weathered along rusty spots = ex-angite porphy? Prominent fractures: 030°/00°SE. Rusty rx. Qtz + ankerite veinlet x cuts $205°/50°SW$. Extr. rusty v. bleb massive volc c. visible py = $210°/80°$. Fg volc, no porphy. Veinlets of calcite c. pyrite. Orange rusty weathering.

32-36m: Massive to. Lt. gray-green, sericitic, fsp. purple volc. c. numerous (Ca. 1-5%) rusty spots prob = angite porphy. Locally x rusty + sheared. Rare Qtz-carb veinlets, <1% dissem. sulf. NVS

31-32m: V. rusty, friable sheared zone. NVS. 26-31m: Volc schist c. poker chip texture, generally brown to green in crust. Rare veinlets c. calcite + py but <0.5% sulfides. 25-26m: Fsp + purple lolo.

BASELINE TO 24m
Several prominent fractures give schist more massive appearance in otc. Fracture surfaces are rusty, weath. Few if any calcite + Qtz veinlets. Diamond shaped otc. pieces c. $40°$ angles. Fg. volc, no obvious ang. or fsp. porphy. V. schistose (sericitic) in nature. Common = v. rusty + weathered surfaces (ex-chlorite?). NVS but rusty spots + surfaces. 21-23m: v. strong x fractures, rusty.

3-10m: <1% sulfides in veinlets + some dissem. Qtz-carb veinlets c. ank? + py + opy? $310°/80°$, slightly crosscutting foliation. Also dissem. py in sericitic, tube silicate carbon rich vols. 0-10m: Rusty gray-green volcanics, highly schistose (local layers of mod. carb. py (and Qtz?) rich volc.



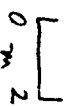
LENGTH = 64m
TREND OF TRENCH = $2030°$
2m
200 SCALE
JUVENILE LACANNA TRENCH #2



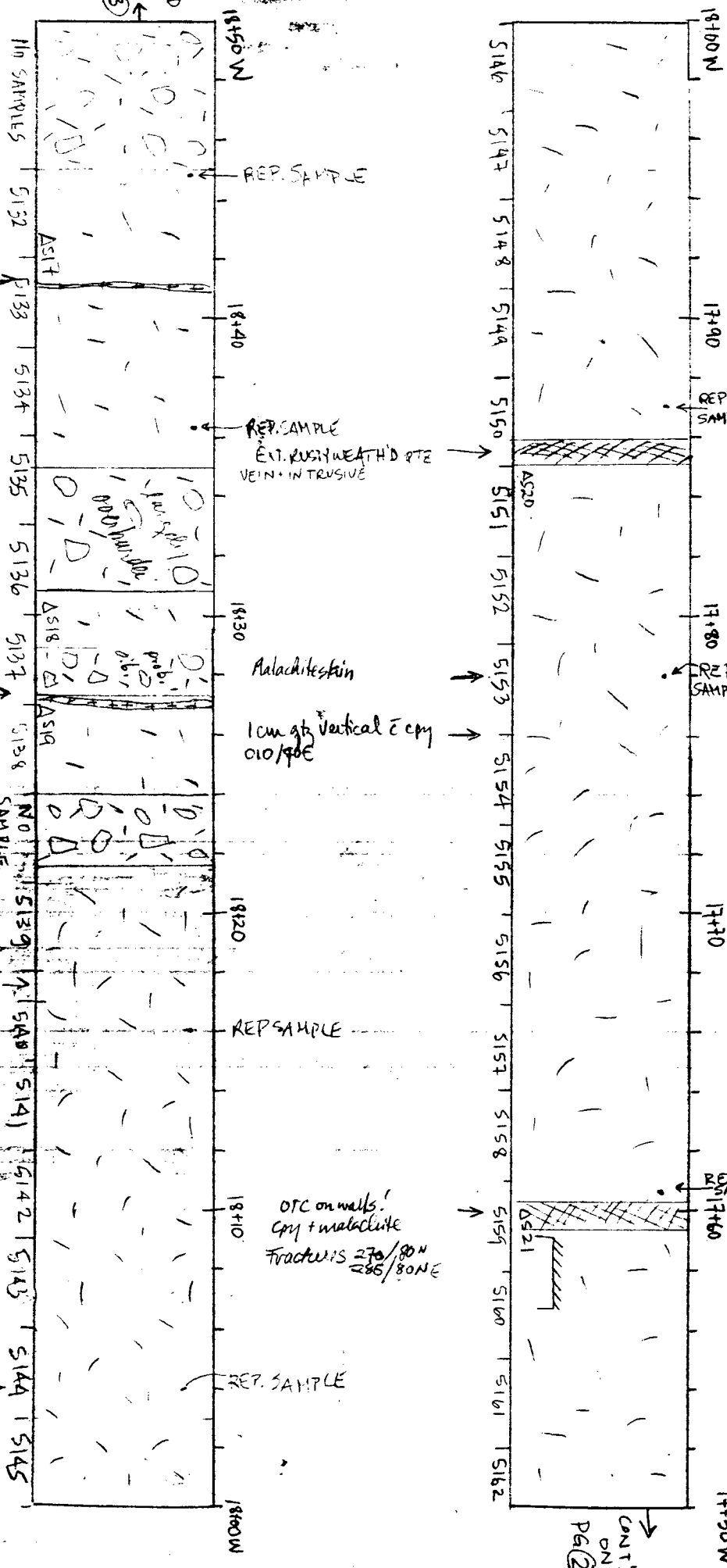
TRENCH: L12N (R0N)

IS A MODERATE SUCCESS... BEDROCK AND/OR NEAR BEDROCK EXPOSED AT TRENCH BOTTOM, ONLY PARTLY EXPOSED ON TRENCH WALLS. *Y.N.B.: CLAY LAYER (HARDPAN) ABOVE PX

SCALE 1:200



①



EXT. RUSTY QZT VEIN 220/80NE

NO SAMPLE

V. RUSTY QZT VEIN, 4.5CM WIDE 040/00

Incr. chloritic alt'n of biots & on fract. Med. grained

Ext. rusty stain = qb vein? Nvs. bleached intr. of margins

FRACTS: 190/80NW, 190/FLAT massive etc, med. gr., fresh, ϕ 10-20 alt'n, ϕ magn. response

REP. SAMPLE EXT. RUSTY WEATH'D QZT VEIN + INTRUSIVE

Malachite stain

1cm qb vertical cpy 010/80E

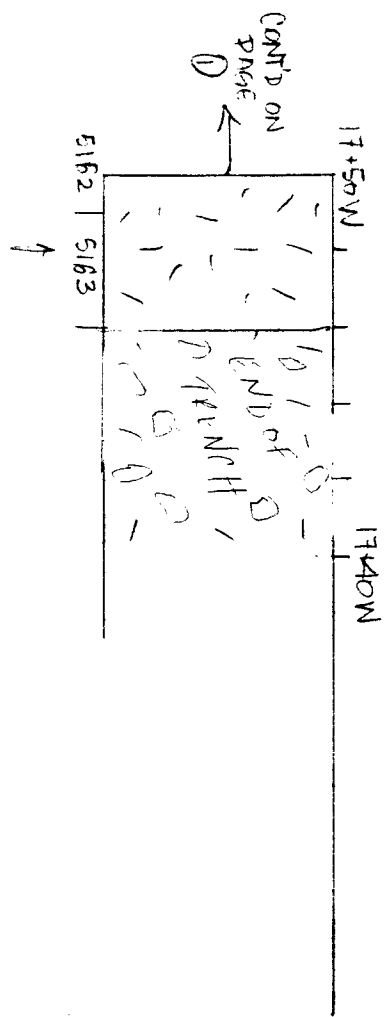
REP. SAMPLE

OTC on walls! cpy + malachite Fractures 270/80N 285/80NE

REP. SAMPLE

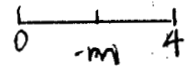
CONT'D ON Pg 2

Malachite stain on chertic fracture surfaces



SCALE
1:200
0 1 2
m

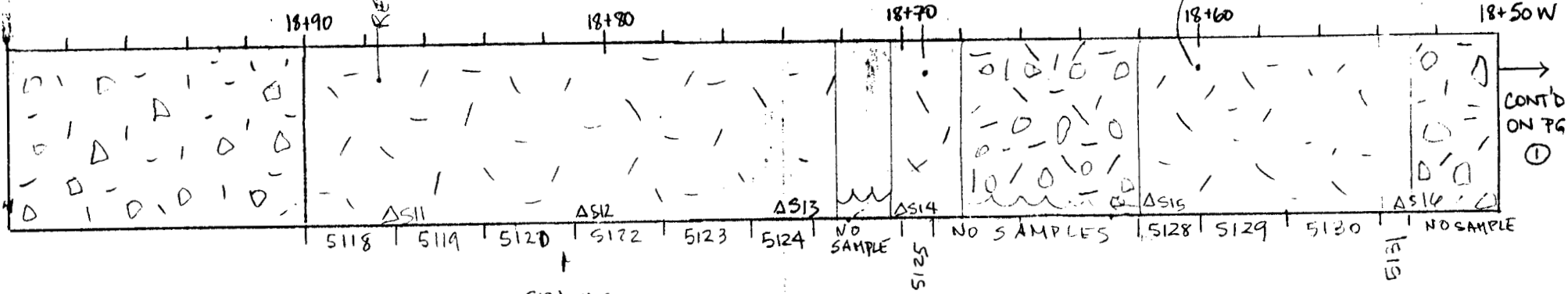
AVG. 24, 1989



REF SAMPLE N

REF SAMPLE

REF SAMPLE



CONT'D ON PG ①

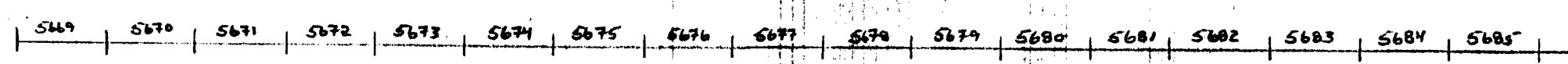
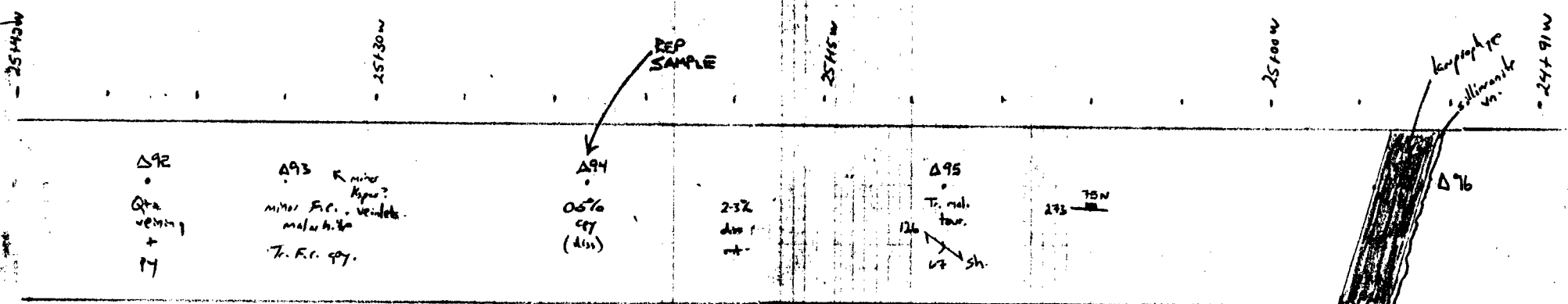
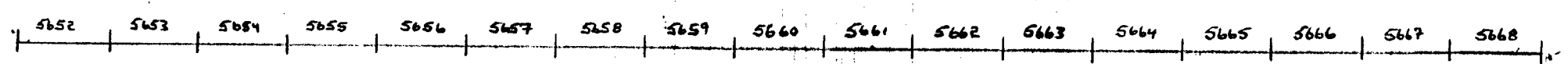
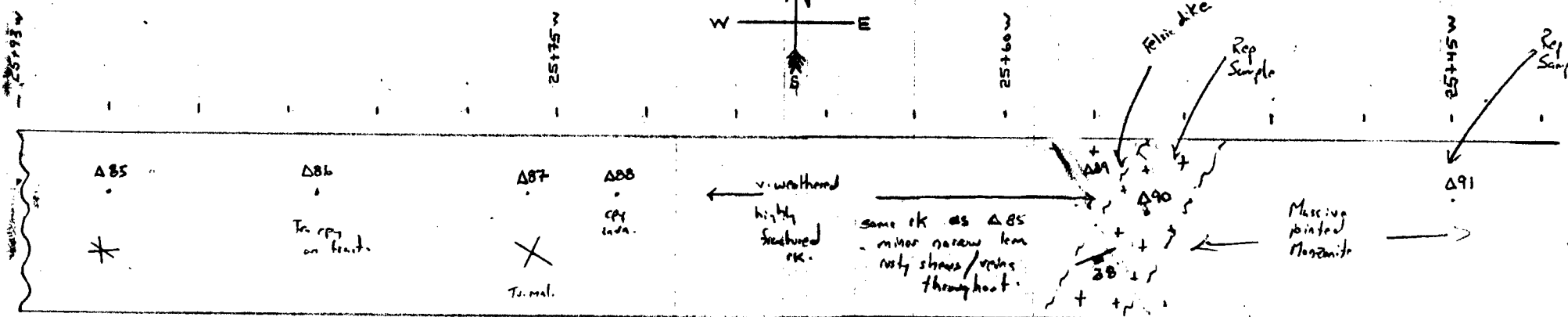
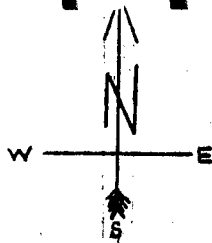
5121 was duplicate of 5120

TRENCH 18+00 N

TRENCH 18+00N

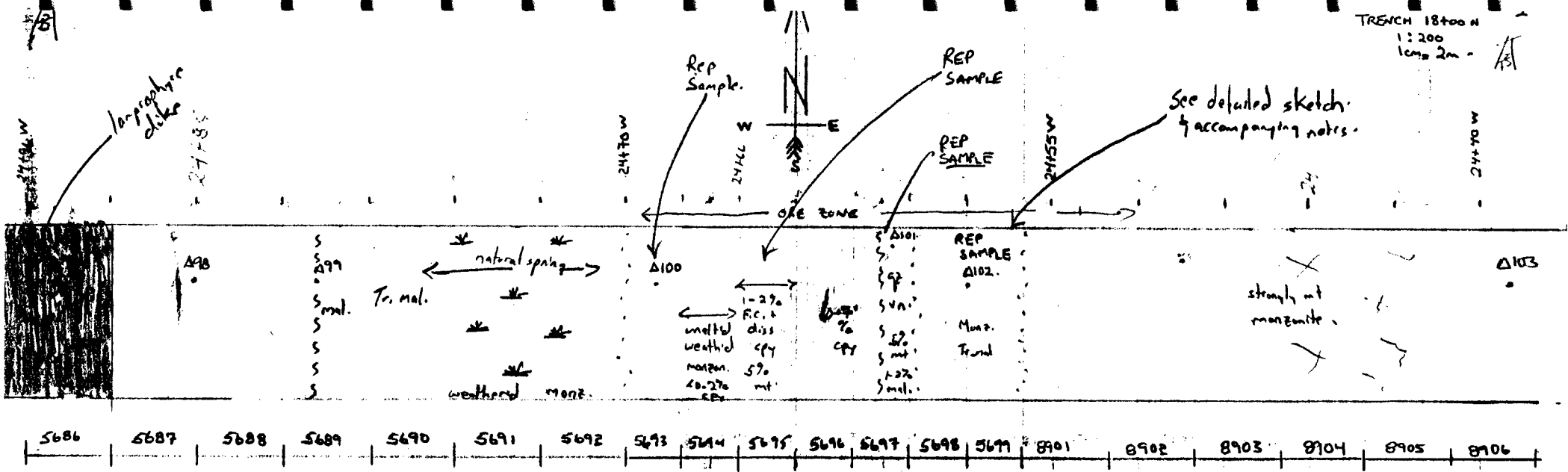
12

1:200
1cm = 2m

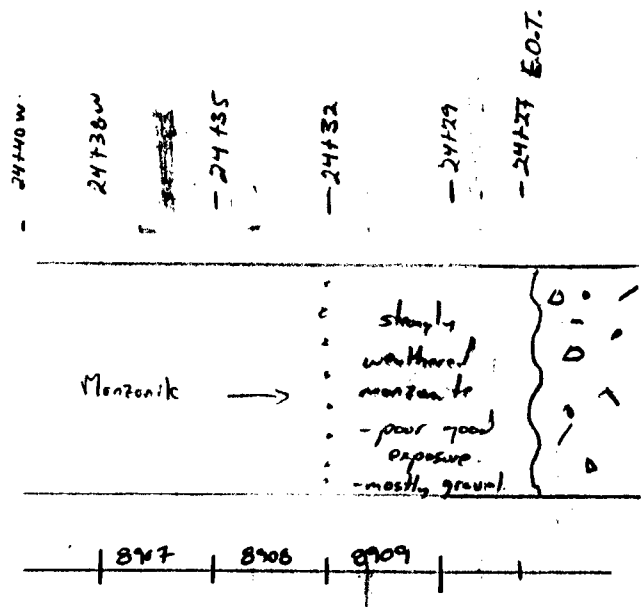


N.B. Overburden in this trench varies from 2-6' with a strongly weathered zone from 1-5'

TRENCH 18+00 W
 1:200
 1cm = 2m



5686 5687 5688 5689 5690 5691 5692 5693 5694 5695 5696 5697 5698 5699 8901 8902 8903 8904 8905 8906



Monzonite →

strongly weathered monzonite
 - poor good exposure
 - mostly ground

8907 8908 8909

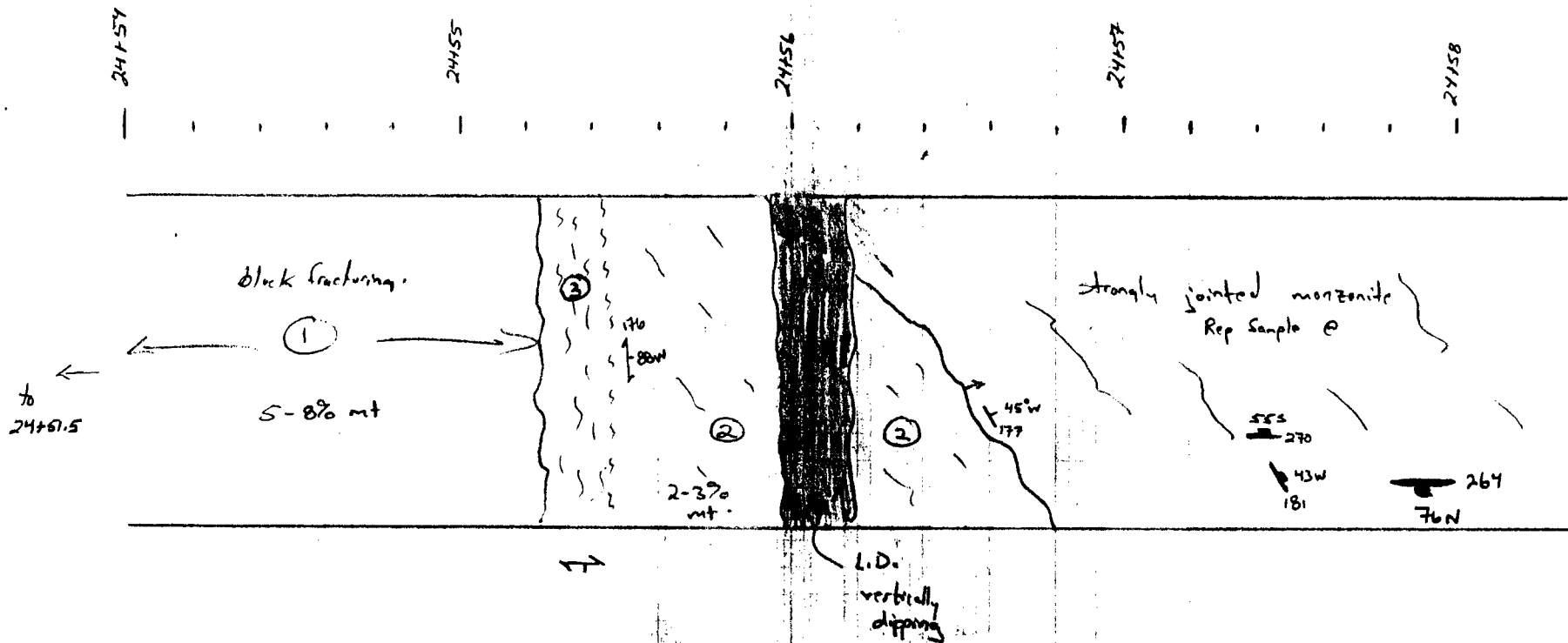
DETAILED SKETCH OF A PORTION OF TRENCH 18+00N

FST

FROM 24+54 W TO 24+58 W

FACING SOUTH

1:20
1cm = 20cm.



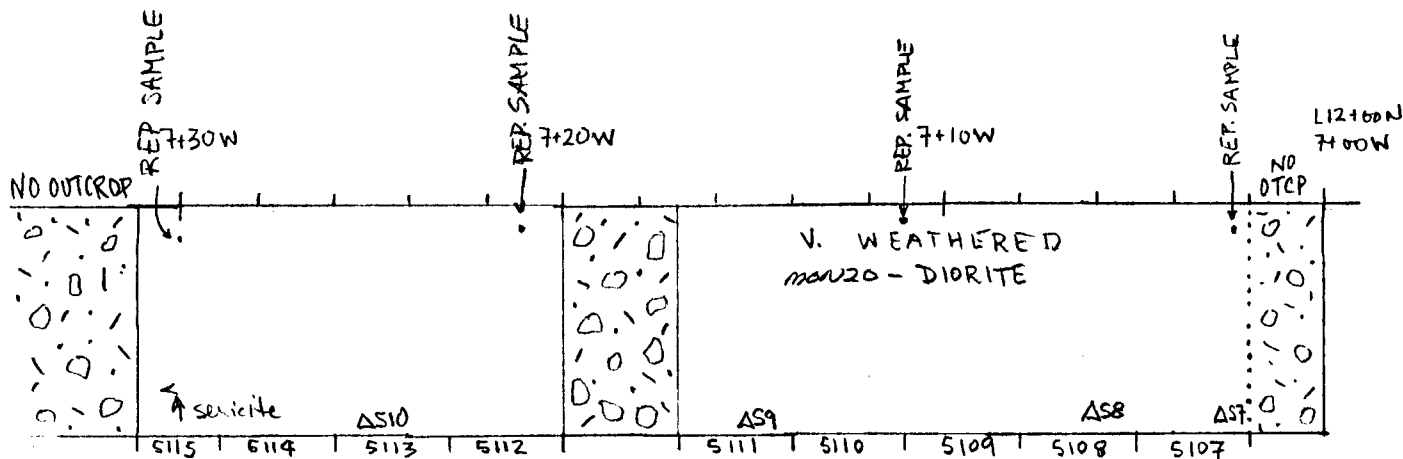
- ① This rock is an unusually hybrid rock, (hornfelsed?) monzonite w/ v. strong magnetite, and unusually well-developed CaCO_3 alt'n, usually as replacements along fractures. Overall the rock is v. dk. colored, melanocratic. Magnetite occurs disc + F.C. as black shiny grains and also as purplish veinlets w/ qtz. This rock may be intensely crackle fractured. Minor F.C. copy. CaCO_3 disc copy. Similar rock was seen at 24+69W. Rep Sample Taken w/ more detailed description to follow.
- ② Bleached, beige to lt. grey rock, composed of either plag or ksp + qtz. Displays a sharp contact to the west with the monzonite, and a sheared contact ③ to the east with the rock of ①. It is cut by a lamprophyre dike. Well-developed malachite on fractures (3%), 2-3% disc mt, + tr. spy. Rep Sample taken.
- ③ Mostly sheared' rK of ②. v. strong shear w/ good malachite development and locally spy \rightarrow 270.

NOT 100% SURE THAT ANY
ROCK IN TRENCH 12+00 N
IS OUTCROP



TRENCH 12 N,
7+00 to 7+31 W
1:200
1 cm = 2 m

SMH
STAR



Trench exposes extremely chlorite-rich diorite, punky/friable in nature due to mod.-high degree of weathering.

Tr-1% magnetite, locally trace py.

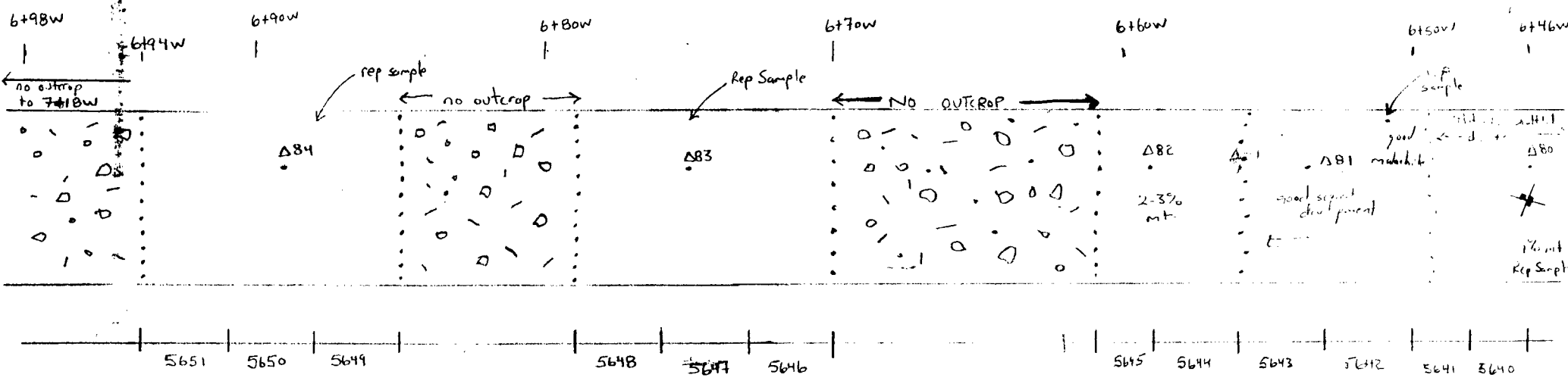
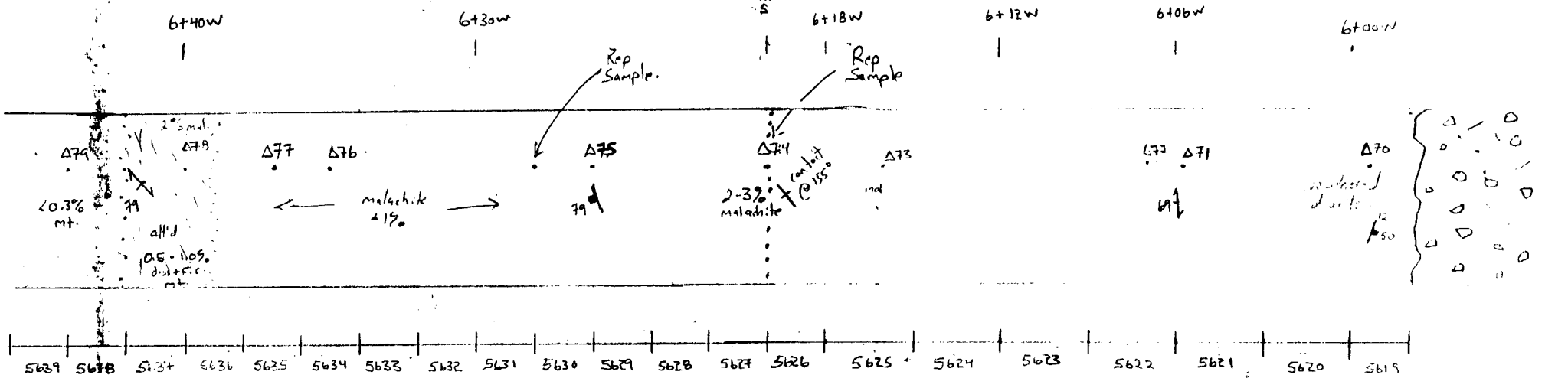
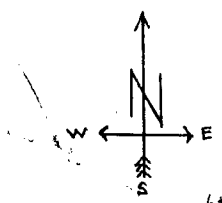
Mod. carbonate alteration

Slight magnetic response

Fsp ± ksp? + biot + chl + hornbl? + vare gbt.

1:200
1cm = 2m.

TRENCH 10+55N
EUREKA AREA



↳ E.O.T. @ 7+18W.

* ...