001276

Date: November 3, 1989

To: E. Kimura
M. Gareau

From: G.R. Haryett

Re: Kamma Creek Project; Geochemical Follow Up

INTRODUCTION

On August 16th and 17th, 1989, a stream sediment and soil sample follow up programme was done on two drainages in the immediate vicinity of the Arm and Cooper claims. Earlier work by Placer Dome Inc. indicated that these were drainages anomalous in gold.

Both creeks drain into Kamma Creek; one is south of the Arm claims and the other west of the Cooper claims. These areas are approximately 50 km northeast of Creston (Figure 1).

WORK SUMMARY

The samples collected on Drainage A (Figure 2) consist of three stream sediments, 38 soils and two rock samples. The samples of Drainage B consist of two stream sediments and 18 soils. The stream sediments were taken at old sites to confirm the previous anomalies. The soils were taken on either side of the drainage at 50 m spacings between the anomalous stream sediment samples. Soils were also taken above these to try and locate possible input sources. Due to poor rock exposure along the creeks, geological mapping was minimal.

GEOLOGY

Drainage A had no outcrop exposure in the stream bed or in the adjacent banks. However, according to the regional geology map (GSC Map 603A) this creek cuts two formations; the Kitchener-Siyeh Formation at the bottom and the Creston Formation towards the top. Creston Formation rocks outcrop in Drainage B.

DISCUSSION OF RESULTS

DRAINAGE A

Eleven soil samples from Drainage A are greater or equal to 20 ppb with the highest value being 40 ppb. All other soil samples were slightly above the detection limit. The low gold values pose a problem in defining an eluvial input source. However, an area spanning 100 m (samples A8563, A8565, A8567, A8574, A8576, A8578) has slightly higher gold values, which suggests a possible input source trending west to east across the drainage. There is no association between gold and other elements.

Stream sediment bulk samples taken in drainage A exhibit low gold values. These samples display no obvious geochemical patterns or input sources. The 1989 stream sediment samples confirm the original anomalies.

Two rock samples were taken in drainage A. Both samples are below detection limits for both gold and silver. Arsenic, copper, lead, zinc and molybdenum were are slightly above detection limits.

DRAINAGE B

Soil samples taken on drainage B suggests that the western bank has slightly higher gold values. There are three samples with 26 ppb and one with 30 ppb. These samples do not clearly define an eluvial input source but may hint towards a western source. There no correlation between gold and any other element.

Stream sediment sample A8997 contains 290 ppb gold .This sample is above the acquired soil samples and suggests a gold input source high in the drainage. Stream sediment sample A8998 is within the threshold for detection of gold. The copper, lead, zinc, arsenic, and molybdenum geochemistry for both samples are all low and show no recognizable patterns.

what was value of initial samples

CONCLUSIONS

1. Slightly elevated gold geochemical signatures suggest a possible lode sources in both drainages.

2. More exploration is warranted to follow up the highly anomalous stream sediment sample in Drainage B identified by the 1989 field programme.

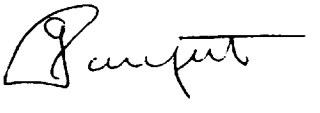
3. Gold appears to be the only element with values that are anomalous and suggestive of mineralization.

RECOMMENDATIONS

1. Additional soil samples and bulks should be taken on drainage B to define an eluvium input source for the stream sediment gold anomalies.

2. General prospecting, mapping and rock sampling should be done at both drainages.

3. Heavy minerals should be taken at the bottom of the drainages to try and determine the origin of the gold.



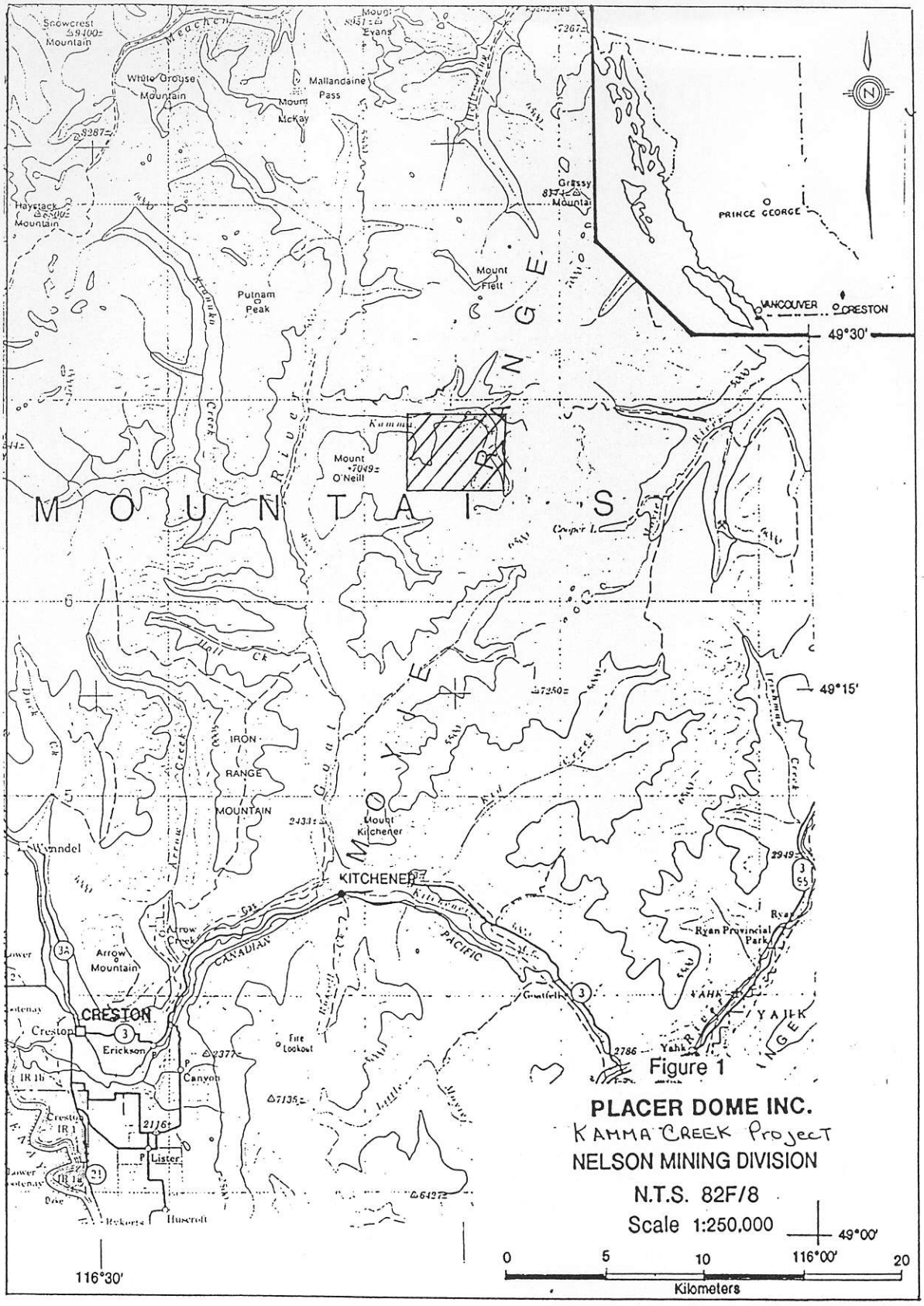


Figure 1

PLACER DOME INC.

KAMMA CREEK Project

NELSON MINING DIVISION

N.T.S. 82F/8

Scale 1:250,000

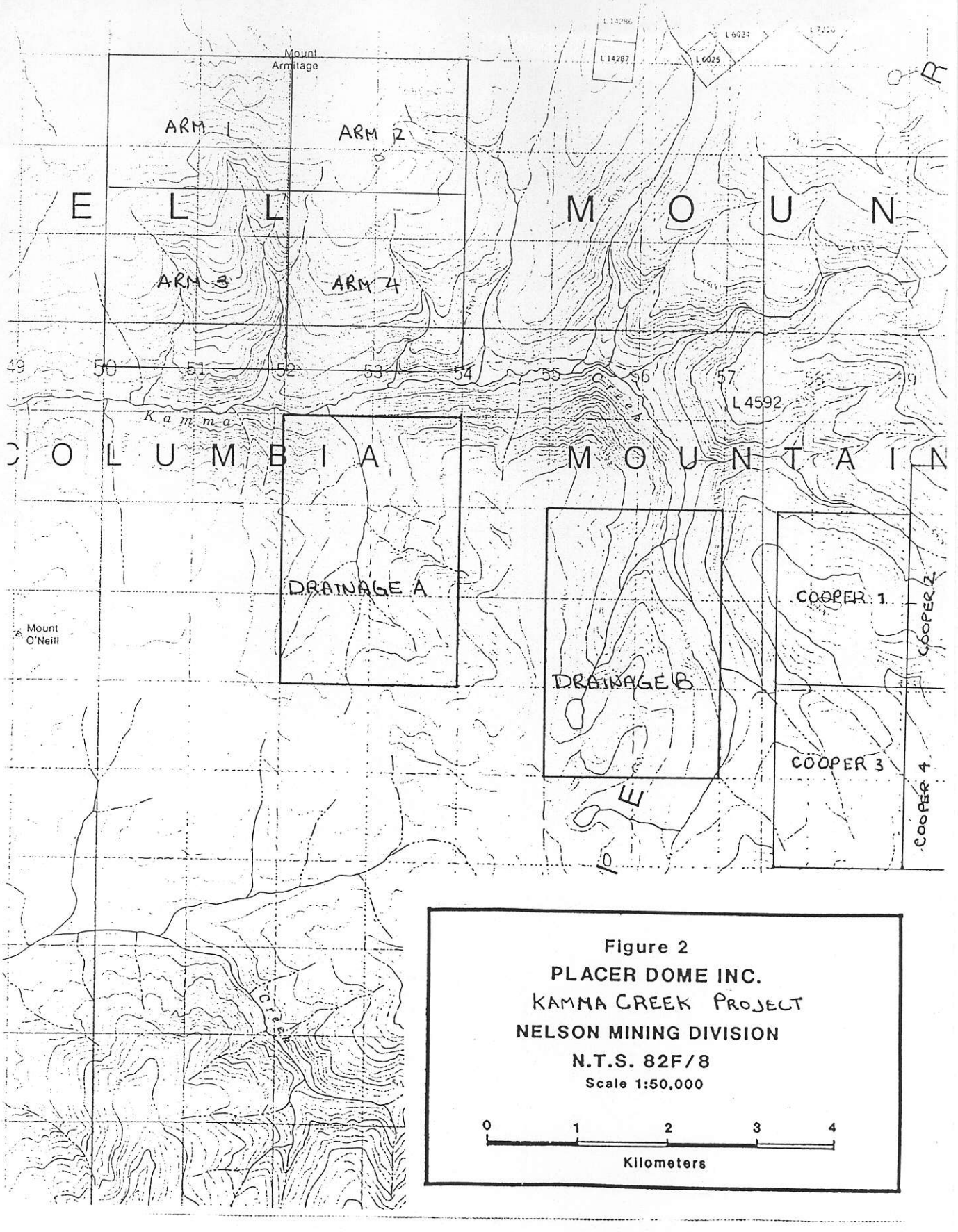
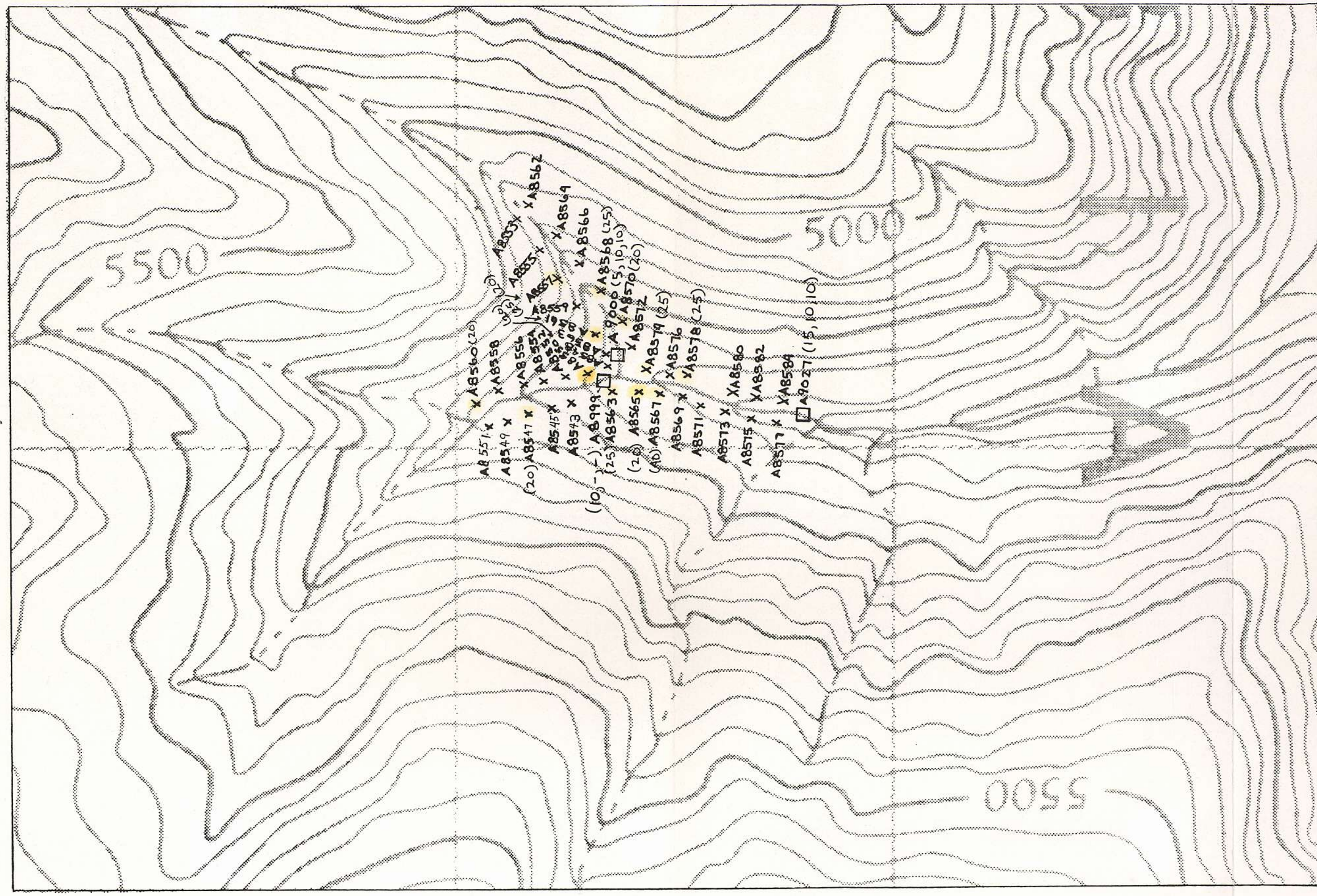


Figure 2
PLACER DOME INC.
KAMMA CREEK PROJECT
NELSON MINING DIVISION
N.T.S. 82F/8
Scale 1:50,000

0 1 2 3 4
Kilometers

DRAINAGE A: SOIL, STREAM SEDIMENT, AND ROCK SAMPLE LOCATION MAP.



LEGEND

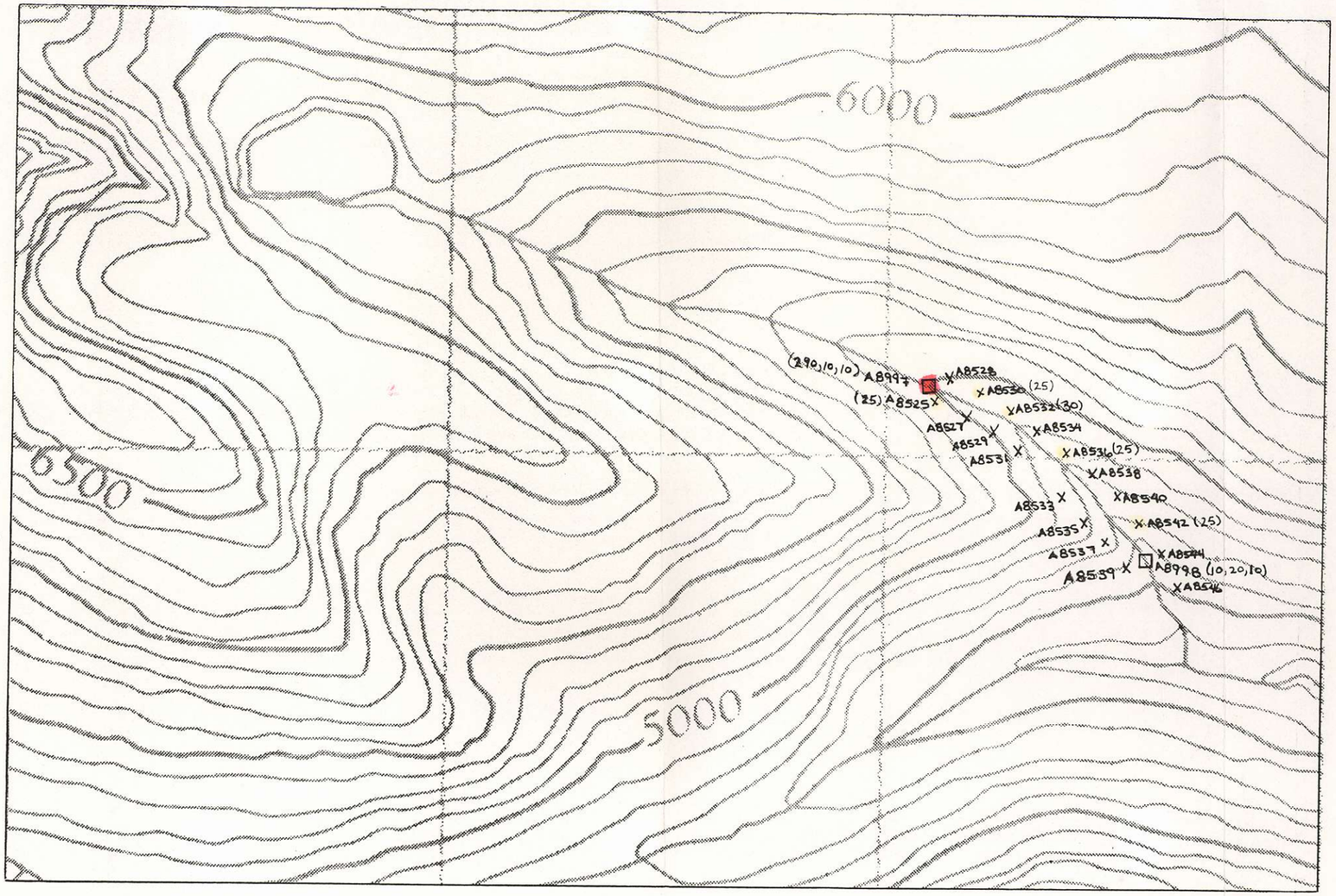
X 8528 Soil Sample

☐8500 Stream Sediment Bulk Samples

(20) Gold Soil Geochemistry Result in ppb (220 ppb)

(290, 10, 10) Gold Stream Sediment Geochemistry Results in ppb, Three Fractions

DRAINAGE B, SOIL AND Stream Sediment Sample LOCATION MAP.



LEGEND

X 8528 — Soil Sample

□ 8500 — Stream Sediment Bulk sample

(20) — Gold soil Geochemistry Result in ppb. (≥ 20 ppb)

(290,10,10) — Gold Stream Sediment Geochemistry Results in ppb, three Fractions

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ASSAYING - ENVIRONMENTAL TESTING
10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

OCTOBER 30, 1989

CERTIFICATE OF ANALYSIS ETK 89-817

Placer Dome Inc.
401, 1450 Pearson Place
KAMLOOPS, B.C.
V1S 1J9

DATE RECEIVED: OCTOBER 23, 1989
PROJECT: IP - COOPER/CAM
LAB NUMBER: 9411/9412
NUMBER SAMPLES: 16
TYPE SAMPLES: BULK

REJECTS: STORE
PULPS: STORE
NOTE: > = MORE THAN
** = INSUFFICIENT SAMPLE

ET#	Description	Au (ppb)	Au (ppb)	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	As (ppm)
PROJECT COOPER LAB# 9411										
817 - 1	8976	35	20	400	.6	24	54	117	<1	26
817 - 2	8977	15	<5	290	.4	16	25	76	3	15
817 - 3	8978	145	5	25	.6	19	45	103	4	20
817 - 4	8979	5	10	10	.2	12	44	97	5	8
817 - 5	8980	150	25	25	<.1	21	35	91	3	26
817 - 6	8981	10	15	20	.1	18	38	92	5	15
817 - 7	8982	5	5	670	<.1	16	27	76	<1	17
817 - 8	8983	5	5	5	<.1	25	41	101	3	18
817 - 9	8984	10	5	5	<.1	16	27	63	2	12
817 - 15	9032	485	165	410	<.1	116	33	82	3	15
817 - 16	9033	255	490	820	<.1	67	34	104	6	14
PROJECT CAM	LAB# 9412									
817 - 10	8997	290	10	10	.1	14	17	52	6	7
817 - 11	8998	10	20	10	<.1	15	15	51	6	17
817 - 12	8999	10	**	**	<.1	10	10	41	4	7
817 - 13	9000	5	10	10	<.1	25	14	41	5	10
817 - 14	9022	15	10	10	<.1	12	11	40	2	8

9027

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Placer Dome Inc. OCTOBER 27, 1989

ET#	Description	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	As (ppm)
PROJECT IP - COOPER (9410)								
813 - 29	8510	<5	<.1	12	29	58	3	20
813 - 30	8511	<5	<.1	61	27	70	1	15
813 - 31	8512	10	.2	18	36	76	1	18
813 - 32	8513	5	.1	16	26	49	<1	15
813 - 33	8514	10	.3	11	31	33	<1	7
813 - 34	8515	10	.1	15	22	79	<1	12
813 - 35	8516	15	2	16	25	57	<1	18
PROJECT IP - CAM (9607)								
813 - 36	8521	25	.1	17	28	75	<1	13
813 - 37	8522	<5	.2	15	43	56	1	17
813 - 38	8523	10	.1	12	19	49	<1	10
813 - 39	8524	15	<.1	14	20	74	2	11
813 - 40	8525	25	<.1	24	9	52	<1	6
813 - 41	8526	30	.2	23	26	54	2	14
813 - 42	8527	15	<.1	10	12	31	5	5
813 - 43	8528	10	<.1	15	9	37	2	5
813 - 44	8529	<5	<.1	10	5	24	2	4
813 - 45	8530	25	<.1	13	15	30	1	5
813 - 46	8531	15	<.1	11	10	37	1	4
813 - 47	8532	30	.1	14	20	56	3	8
813 - 48	8533	5	<.1	12	18	43	5	10
813 - 49	8534	5	.1	16	17	59	<1	7
813 - 50	8535	10	.1	12	14	34	<1	4
813 - 51	8536	25	<.1	11	8	32	<1	3
813 - 52	8537	10	<.1	13	17	59	<1	5
813 - 53	8538	10	<.1	12	10	35	2	4
813 - 54	8539	5	<.1	13	13	45	3	5
813 - 55	8540	10	.1	13	14	53	<1	6
813 - 56	8541	10	<.1	18	22	91	<1	14
813 - 57	8542	25	<.1	10	11	39	<1	7
813 - 58	8543	<5	<.1	13	10	44	1	5
813 - 59	8544	<5	.1	14	11	51	1	4
813 - 60	8545	10	<.1	7	7	35	2	5
813 - 61	8546	10	<.1	11	11	66	<1	4
813 - 62	8547	20	<.1	10	7	35	<1	5
813 - 63	8548	15	.1	18	20	53	2	6
813 - 64	8549	15	<.1	9	10	39	2	5
813 - 65	8550	20	.2	19	14	52	3	6
813 - 66	8551	10	<.1	10	10	34	<1	5
813 - 67	8552	5	<.1	17	13	88	1	6
813 - 68	8553	15	<.1	15	15	58	<1	7
813 - 69	8554	20	<.1	13	14	64	<1	5

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Placer Dome Inc. OCTOBER 27, 1989

ET#	Description	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	As (ppm)
PROJECT IP - CAM (9607)								
813 - 70	8555	5	.1	12	8	37	<1	5
813 - 71	8556	10	<.1	17	13	104	4	5
813 - 72	8557	20	<.1	18	15	48	2	9
813 - 73	8558	10	<.1	13	13	57	2	6
813 - 74	8559	10	<.1	23	12	42	<1	11
813 - 75	8560	20	<.1	35	16	55	2	5
813 - 76	8561	25	<.1	17	18	64	1	9
813 - 77	8562	15	.1	25	20	80	2	14
813 - 78	8563	25	<.1	17	19	58	<1	7
813 - 79	8564	15	<.1	17	20	86	<1	11
813 - 80	8565	20	<.1	16	22	61	<1	11
813 - 81	8566	15	<.1	14	19	83	<1	7
813 - 82	8567	40	<.1	12	15	51	<1	4
813 - 83	8568	25	<.1	20	18	83	<1	8
813 - 84	8569	5	<.1	9	13	44	<1	4
813 - 85	8570	20	<.1	16	29	79	<1	10
813 - 86	8571	15	<.1	22	14	73	<1	5
813 - 87	8572	10	.1	14	24	85	2	7
813 - 88	8573	10	<.1	20	14	93	6	6
813 - 89	8574	25	<.1	19	15	52	3	8
813 - 90	8575	10	<.1	12	12	43	5	5
813 - 91	8576	15	<.1	15	20	60	1	7
813 - 92	8577	5	<.1	4	10	30	<1	4
813 - 93	8578	25	.1	23	23	91	2	11
813 - 94	8579	5	.1	26	31	90	2	12
813 - 95	8580	10	<.1	13	22	57	1	11
813 - 96	8581	15	<.1	30	39	89	1	15
813 - 97	8582	10	.1	11	21	48	<1	11
813 - 98	8583	5	.2	16	28	73	3	12
813 - 99	8586	15	.1	21	27	122	2	8
813 - 100	8587	5	.2	12	19	44	<1	4
PROJECT IP - ARMITAGE (9585)								
813 - 101	1481	5	.1	15	11	57	<1	5

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SC89/PLACER9

PDI GEOCHEM SYSTEM: Data From: BC GEN IP CAM

GRID	SAMPLE	PROJECT		Ag PPM	As PPM	Au1 PPB	Cu PPM	Mo PPM	Pb PPM	Zn PPM
82F8	A	9026	9406	<0.2	20	<5	8	6	2	2
82F8	A	9028	9406	<0.2	16	<5	2	1	<2	3
82F8	A	9028*	9406	<0.2		<5	2	1	<2	3

END OF LISTING - 3 RECORDS PRINTED Run on: 89:09:08 at 16:51:26