A Geological, Geochemical and Geophysical Report

on the **JAKE CLAIMS**

Omineca Mining Division

N.T.S 94D/3W

Latitude 56° 12' N Longitude 127° 20' W

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Vancouver, B.C.

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Stephen M. Price
Richard Cannon, P. Eng.

Date: Oct 1, 1990

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1.0 SUMMARY

A geochemical, geophysical and geological work program was conducted between the 19th and 27th of July, 1990 on the JAKE claims, 160 km north of Smithers, British Columbia. The program consisted of soil sampling, geophysical surveying and limited mapping, north of In creek.

The JAKE claims are underlain by rocks of the Bowser Lake Group which are intruded by Babine/Kastberg Intrusions.

Soil geochemistry results outlined an anomalous gold, silver and copper zone with isolated high lead values. Both zinc and arsenic are elevated peripheral to this zone. Recommendations for the JAKE property are 1) extension of the soil sampling and geophysics to the east and south in an attempt to further define the geochemical anomaly, and 2) trenching of the geochemically anomalous zone.

2.0 INTRODUCTION

The exploration program on the JAKE claims was performed in an attempt to find a northeasterly extension of a known Cu-Au soil geochemical anomaly. This anomaly is believed to be associated with a Cu porphyry system. Mapping and rock sampling was done to determine if the porphyry system is nearer to the surface on the north side of In creek.

2.1 Location and Access

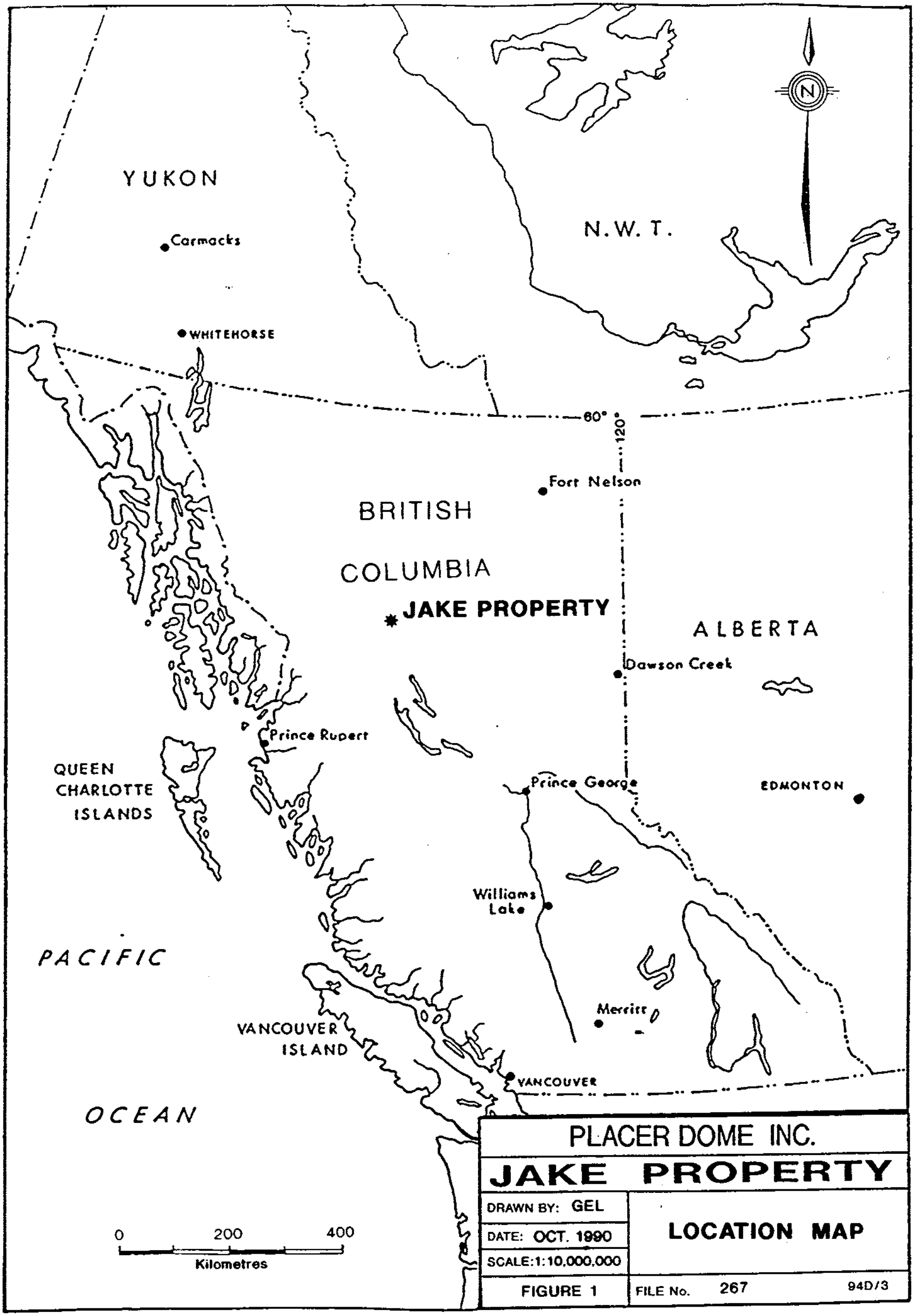
The JAKE claims are located 160 km north of Smithers, British Columbia within the Omineca Mining Division, on N.T.S. map sheet 94D/3W (Figure 1). The centre of the claims is at latitude 56^{0} 12'N and longitude 127^{0} 20'W.

Access is by fixed-wing aircraft to an airstrip at Bear Lake, 28 km east of the claims and then by helicopter to the property.

2.2 Topography and Vegetation

The claims straddle two northeast trending valleys that drain into Jake Creek near its confluence with the Squingula River. Elevations on the property range from approximately 900 to 1790 m. Local relief is up to 900 m with treeline at approximately 1400 m. Upland areas are flat to gently rolling; however, some valleys are deeply incised with slopes up to 40 degrees.

Vegetation is mostly pine in forested areas with slide alder and devil's club along streams and in open areas.



PLACER DOME INC.

JAKE PROPERTY

DRAWN BY: GEL	**LOCATION MAP**
DATE: OCT. 1990	
SCALE: 1:10,000,000	
FIGURE 1	FILE No. 267 94D/3

2.3 Work History

Mineralization on the JAKE claims was discovered by Kennco Exploration (Western) Ltd. in 1965. Kennco conducted stream sediment and rock chip sampling, and diamond drilled two AX holes totalling 55.5 m. The claims were allowed to lapse.

Canadian Superior Exploration Limited staked the area of the JAKE claims in 1968 and conducted stream sediment and rock chip sampling. The claims were allowed to lapse.

Canadian Superior re-staked the area as the IN group, in 1971, after following up anomalous copper values from a large gossan located on the property. Initial results indicated up to 0.4% Cu in altered feldspar porphyry. The discovery stimulated large work programs by Canadian Superior in 1972, 1973 and 1976 which included soil and rock sampling, geological mapping, ground magnetic surveying, trenching, road building and diamond drilling. Drilling consisted of three X-ray holes totalling 94.5 m, two BQ holes totalling 305 m and seven NQ holes totalling 900.5 m.

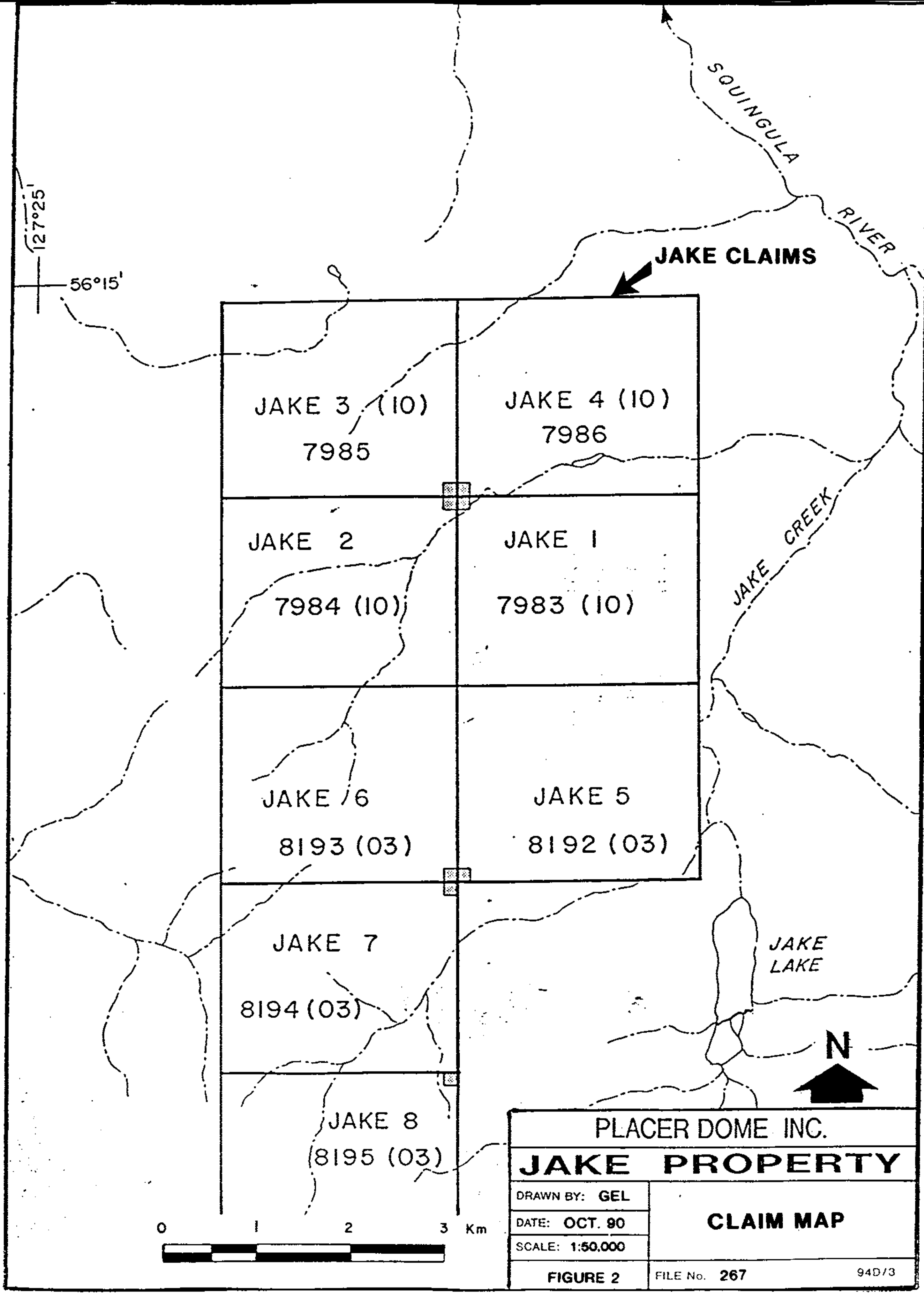
Cities Service Minerals Corporation optioned the property in 1977. They conducted additional soil and rock sampling, geological mapping and 437 m of diamond drilling in two holes.

The Canadian Superior Exploration Limited's discovery zone returned 0.39% Cu and 27.43 g/t Ag across a surface exposure of 27.5m. The best drill intersection found by Canadian Superior Exploration Limited was similar in grade and width; the best intersection found by Cities Service Minerals Corporation was 0.19% Cu and 3.67 g/t Ag over 40m. Apparently only a few of the rock samples were assayed for Au; these generally returned less than 0.34 g/t, although a few were up to 0.69 g/t.

In 1986, Placer Development Limited conducted heavy mineral, rock and soil sampling throughout the area now covered by the JAKE claims. Placer Development Limited optioned the property to QPX Minerals in 1987. QPX conducted reconnaissance geological mapping, prospecting and rock, soil and stream sampling in selected areas covering the JAKE claims.

2.4 Summary of Work Done

Field work was conducted on the JAKE-4 claim from the 19th to 27th of July, 1990. A 10.9 km grid was established with a base line 1.1 km long and seven crosslines 1.4 km long. Line separation was 200 m for six of the lines and 100 m for the southern line. Lines were established with compass and



127°25'
56°15'
SQUINGULA RIVER
JAKE CLAIMS
JAKE 3 (10)
7985
JAKE 4 (10)
7986
JAKE 2
7984 (10)
JAKE 1
7983 (10)
JAKE CREEK
JAKE 6
8193 (03)
JAKE 5
8192 (03)
JAKE 7
8194 (03)
JAKE LAKE
JAKE 8
8195 (03)
N
0 1 2 3 Km
PLACER DOME INC.
JAKE PROPERTY
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DATE: OCT. 90
SCALE: 1:50,000
CLAIM MAP
FIGURE 2
FILE No. 267
94D/3

and 100 m for the southern line. Lines were established with compass and hipchain and slope corrected where necessary. Soil sampling, magnetometer and VLF-EM surveys were performed on the grid. Magnetometer and VLF-EM surveys were also performed on three roads north of In Creek. Geological mapping, prospecting and rock sampling were carried out along a portion of In Creek and on the roads on the north side of In Creek.

2.5 Claim Status

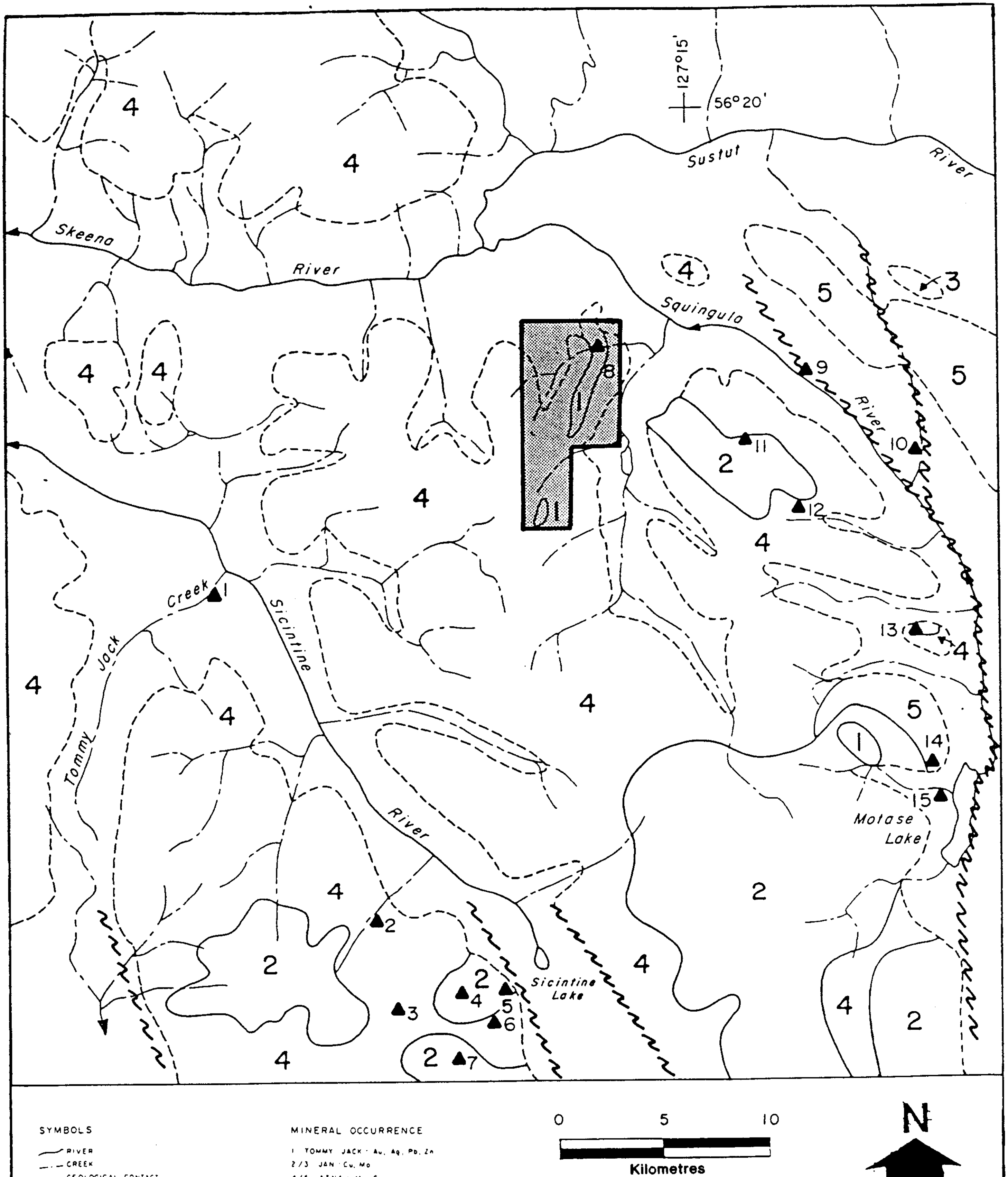
The JAKE property comprises eight mineral claims totalling 160 units. The claims are 100% owned by Placer Dome Inc., Vancouver, British Columbia. Claim information is as follows:

Claim Name	Units	Record No.	Expiry Date
Jake 1	20	7983	Oct 9, 1990
Jake 2	20	7984	Oct 9, 1990
Jake 3	20	7985	Oct 9, 1990
Jake 4	20	7986	Oct 9, 1990
Jake 5	20	8192	Mar 3, 1991
Jake 6	20	8193	Mar 3, 1991
Jake 7	20	8194	Mar 3, 1991
Jake 8	20	8195	Mar 3, 1991

3.0 REGIONAL GEOLOGY

The JAKE claims and the surrounding area are underlain primarily by sedimentary rocks of the Middle to upper Jurassic Bowser Lake Group which are intruded by Tertiary and Cretaceous plutonic rocks. East of the Squingula River and northwest of Motase Lake, sedimentary and volcanic rocks of the lower to Middle Jurassic Hazelton Group predominate. Sedimentary rocks of the lower Cretaceous Sustat Group are exposed further to the east.

Plutonic rocks in the area belong to the Cretaceous Bulkley and Tertiary Babine and Kastberg Intrusions. The Bulkley Intrusions comprise granodiorite and quartz diorite stocks. They outcrop southeast of the JAKE claims to Motase Lake and



SYMBOLS

- RIVER
- CREEK
- GEOLOGICAL CONTACT
- OUTCROP BOUNDARY
- FAULT
- CLAIM GROUP
- ▲ MINERAL OCCURRENCE

ROCK UNITS

TERTIARY
- 1 BABINE / KASTBERG INTRUSIONS

CRETACEOUS
- 2 BULKLEY INTRUSIONS
- 3 SUSTUT GROUP

JURASSIC
- 4 BOWSER LAKE GROUP
- 5 HAZELTON GROUP

MINERAL OCCURRENCE

1	TOMMY JACK · Au, Ag, Pb, Zn
2/3	JAN · Cu, Mo
4/5	ATNA · Mn, Cu
6	ATNA · Au, Ag, Pb, Zn
7	PEAK · Mo, Cu
8	MOTASE A · Cu
9	RED · Cu, Ag
10	PAT · Cu, Ag
11	QUIN · Cu, Mo
12	SUN · Cu, Mo
13	HORN · Cu, Mo
14	RIM · Cu, Mo
15	FC/HM · Ag, Au

PLACER DOME INC.

JAKE PROPERTY

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FIGURE 3

REGIONAL GEOLOGY MAP

FILE No. 267 94D/3

southwest of Sicintine Lake. The Babine/Kastberg Intrusions comprise swarms of feldspar porphyry dykes. They occur on the northern portion of the JAKE claims, northwest of Motase Lake and near the mouth of Tommy Jack Creek.

4.0 PROPERTY GEOLOGY

The JAKE-4 claim is underlain by interbedded mudstone, siltstone, sandstone, wacke and minor conglomerate of the Ashman Formation of the Bowser Lake Group (Figure 4). Tuffaceous rocks on the property belong to the Hazelton Group. Siltstone which outcrops upstream along In creek at the break in slope is part of the Bowser Lake Group. This siltstone is light grey, fine grained and calcareous with 1% fine grained pyrite. Previous mapping indicates that the sedimentary rocks intruded by dyke swarms or adjacent to large intrusions are generally altered to hornfels (Sketchley, 1988)$_1$.

Intrusive rocks on the Jake-4 claim is comprised of two Tertiary plagioclase porphyries which can be distinguished by the presence or absence of biotite phenocrysts. The intrusive rocks outcrop extensively along the northern slope of In creek as a northeasterly trending dyke swarm.

The sedimentary rocks are gently dipping with at least one phase of folding (Sketchley, 1988)$_1$. The open folds trend north-northwest and have nearly vertical axial planes that plunge gently to the south-southeast. Fracture measurements taken during the 1990 work program confirm two steeply dipping joint sets that strike northeast and northwest.

Mineralization consists mainly of sulphidization associated with a large copper porphyry system. Examination of outcrop during the 1990 work program shows the mineralization of the plagioclase porphyry consists of chalcedonic and crystalline quartz veining with copper sulphides as blebs within the veins. Mineralization in the plagioclase-biotite porphyry is restricted to copper sulphides in fractures and microveins. Clay alteration is present in most outcrops with varying degrees of intensity.

5.0 GEOCHEMISTRY

5.1 Soil Samples

Soil sample pits were excavated using a mattock and samples placed in labelled Kraft paper bags. Soil samples were taken at 50 m stations on the baseline and at 40 m stations on the gridlines. A total of 261 samples were collected. All samples were geochemically analyzed for Au, Ag, As, Cu, Mo, Pb, and Zn. The extraction techniques and detection limits are listed in

Appendix 1.

Soil samples were collected from the B-horizon where possible. Notes on the nature of the soil material collected and on site conditions were recorded to aid interpretation of the geochemical results. The soils on the JAKE claims are well developed with a distinct B-horizon. The B-horizon is light orange-brown to red-brown in colour and has developed mainly from colluvial material. Colluvium is derived by down-slope movement of materials of various origins; within the property, these materials are dominantly bedrock.

5.1.1 <u>Results</u>

Analytical results are listed in Appendix II, and displayed in Figures 5 to 11. Concentrations ranges for the different metals are as follows:

	Range	Mean	
Ag	<0.2 - 17	ppm	1.7 ppm
As	<1 - 1600	ppm	64 ppm
Au	<5 - 290	ppb	14 ppb
Cu	<2 - 1760	ppm	90 ppm
Mo	<1 - 52	ppm	2 ppm
Pb	<2 - 3600	ppm	124 ppm
Zn	30 - 2500	ppm	233 ppm

Gold and Silver

Geochemical results show gold and silver to be anomalous at the south end of the grid in a crescent shaped zone narrowing at 5400 N, and 4000 E. Elevated values are concentrated along L5100 N and L5200 N between 3600 E and 4400 E. East of the baseline, anomalous silver values extend up to 5800 N.

Copper

A northeasterly trending broad zone of moderately anomalous copper values transects the southeastern section of the grid. A more pronounced zone approximately 150 metres wide between L5400 N, 4000 E and L5800 N, 4160 E lies within the larger zone and is defined by values greater than 500 ppm.

On the west side of the grid, on L5600 N from 3160 E to 3400 E five of the seven sample sites are anomalous with values above 200 ppm. At 3160 E and 3240 E the values are 950 and 510 ppm, respectively.

Zinc and Lead

Zinc values are elevated on the north and east sides of the gold and silver anomaly with values generally above 500 ppm. Lead values follow a similar pattern to zinc but with only weakly anomalous values. A few lead spot highs occur on or near the baseline below 5600 N with values between 1100 and 3600 ppm.

Molybdenum

The only significant anomalous area is on the east slope below the base camp. It is 100 metres wide extending in a northeasterly direction from 5100 N to 5200 N and is centred at 3300 E. This zone is coincident with part of the gold, silver and copper anomaly.

The two highest values for molybdenum occur on L5600 N at 3160 E and 3240 E. The values are 26 and 20 ppm, respectively and coincide with anomalous copper values.

Arsenic

Anomalous values for arsenic occur along lines 6000 N and 5800 N between 3580 E and 4280 E. Values are generally between 100 and 200 ppm with spot highs to 1600 ppm. A narrow northeasterly trending linear anomaly starts at 5400 N, 3300 E and joins the gold, silver and copper anomaly on line 5600 N at 3550 E.

5.1.2 Discussion

Results from the geochemical survey indicate the potential for Au-Ag-Cu mineralization related to a porphyry style system. Peripheral anomalous Zn and As values indicate epithermal fluids possibly associated with the porphyry system.

5.2 Rock Samples

A total of seven rock samples were taken on the JAKE property. All samples were geochemically analyzed for Au, Ag, As, Cu, Hg, Mo, Pb, Sb, and Zn. The extraction techniques and detection limits are listed in Appendix 1.

5.2.1 Results

Sample locations are shown on Figure 4. Analytical results are listed in Appendix III, along with brief sample descriptions. Rock sample results show anomalous values for Cu, Ag and Hg, and to a lesser extent Au and Mo in the majority of the samples.

Samples that exhibit copper mineralization in the form of sulphides or oxides returned high values for both Cu and Ag. Pyritization is present in all the rock samples with a range of 1-5%.

Examination of the results shows a correlation between gold, silver, copper and molybdenum. Lead, mercury, and arsenic also appear to be associated.

5.2.2 Discussion

Analyses show weak mineralization of the porphyritic units. Mineralization associated with both vuggy white quartz and chalcedonic veins was probably controlled by epithermal fluids as anomalous samples were relatively high in arsenic and mercury. These epithermal fluids may be related to a deep seated porphyry system.

6.0 GEOPHYSICS

Magnetometer and VLF-EM surveys were conducted on seven northwest-southeast gridlines. Three additional lines were surveyed along old drill roads designated Road 1, 2 and 3 (Figure 4) for a total of 13.1 km of geophysics. Magnetometer readings were taken at 10 metre stations while VLF-EM readings were taken at 20 metre stations.

Readings were dumped out to disk in a Toshiba laptop portable computer. The stored data was transferred to a Sun system computer for final processing and plotting.

6.1 Magnetometer Survey

The magnetometer survey was conducted using two Geometrics G-856 portable proton magnetometers. One was used in the field mode while the other was used in a base station mode. The internal clocks were synchronized before commencement of the survey. The data from the two magnetometers was merged and corrected for diurnal drift from an established base station value.

6.1.1 Results

The magnetometer survey results are plotted as plan maps of contoured data and stacked profiles (Figure 12 & 13). The majority of the main grid is extremely flat. A small sized anomaly is located as follows on the southwest corner of the grid.

L5400N	3100-3650E
L5200N	3200-3900E
L5100N	3250-3900E

No significant anomalies are present on the three road lines.

6.1.2 Discussion

The magnetic anomaly in the southwest corner of the grid does not directly correspond with any geochemical anomalies. Elevated copper and molybdenum values from soil samples form a weak discontinuous halo around the small magnetic high but whether there is a correlation is questionable.

The cause of the magnetic anomaly is possibly a small intrusive body.

6.2 VLF-EM Survey

The VLF-EM survey employed a Geonics EM-16 which used the transmitting station at Lualualei, Hawaii (NPM, 23.4 kHz) along the northwest-southeast lines. Readings were taken facing 160 degrees azimuth. The Seattle, Washington transmitter (NLK, 24.8 kHz) was used for two and a half of the road lines as the Hawaii transmitter was off the air. Readings using Seattle transmitter were taken facing 145 degrees azimuth. Cross-overs are in the sense of positive to negative as one traverses southeast along the lines.

6.2.1 Results

The VLF-EM survey results are plotted as stacked In-Phase, Quadrature and Fraser Filter profiles (Figure 14). Positive values are plotted on the north side of the profile. The Fraser Filter data was calculated as per the method put forth by D.C. Fraser, 1969.[2]

6.2.2 Discussion

Numerous north-northeast trending conductors were detected by the survey. These conductors trend in the same general direction as Tertiary intrusive dykes which outcrop to the southeast of the grid and along the roads. Correlating conductors from the grid to the roads is restricted by the fact that the roads could only be plotted as straight lines and are not representative of their true position.

The conductors could be reflecting major fracture directions which are known to strike in a northeast direction. Soil geochemical results do not indicate if these structures are mineralized. Northwest fractures were not reflected by the VLF results.

7.0 CONCLUSIONS

1. Geochemical results indicate an anomalous zone of copper, gold and silver with anomalous zinc and arsenic distal to the main zone along the north and east sides.

2. No large scale magnetic anomalies were detected indicating that no large intrusive body is present close to the surface.

3. VLF survey results indicate possible major northeast trending structures. The presence of mineralization along these structures is unknown. Geology and ground conditions from outcrops along drill roads support potential for precious and base metal mineralization.

8.0 RECOMMENDATIONS

Geochemical and geophysical results indicate that further work should be done on the JAKE claims. The sampling grid should be extended to the east and south to determine the extent of anomalous zones present in the southeast section of the grid. Geochemical and geophysical surveys should be carried out on the grid extensions.

Anomalous zones on L5600N and L5800N east of the baseline, below the base camp, and along the baseline from 5100N to 5600N should be trenched, mapped and sampled. Detailed mapping should be conducted over the area, especially the old drill roads that traverse the grid. Exposure of rock, by means of a bulldozer, is necessary before mapping can be efficiently done along the roads.

At present there are no viable drill targets.

APPENDIX I

Analytical Techniques and Detection Limits

ANALYTICAL TECHNIQUES AND DETECTION LIMITS

Placer Dome Inc's Vancouver Analytical Laboratory

	Units	Wt(g)	Attack	Time	Range	Method
Ag	ppm	0.5	HCLO4/HNO3	4 hrs	0.2-20	A.A. Background Correction
As	ppm	0.5	Aqua Regia	3 hrs	2-2000	DC Plasma
Au	ppb	10.0	Aqua Regia	3 hrs	5-4000	A.A. Solvent Extraction
Cu	ppm	0.5	HCLO4/HNO3	4 hrs	2-4000	Atomic Absorption
Hg	ppb	0.25	DIL HNO3/HCL	2 hrs	5-2000	A.A. Cold Vapor Gen.
Mo	ppm	0.5	HCLO4/HNO3	4 hrs	1-1000	Atomic Absorption
Pb	ppm	0.5	HCLO4/HNO3	4 hrs	2-3000	A.A. Background Correction
Sb	ppm	0.5	HCL/HNO3	3 hrs	2-2000	DC Plasma
Zn	ppm	0.5	HCLO4/HNO3	4 hrs	2-3000	Atomic Absorption

APPENDIX II

Soil Sample Analyses and Statistics

PDI GEOCHEM SYSTEM: Jake claims - Soil Sample Analyses

SAMPLE		AG PPM	AS PPM	AU1 PPB	CU PPM	MO PPM	PB PPM	ZN PPM
5100N	3120E	0.2	5	2.5	17	1	7	53
5100N	3160E	0.2	11	2.5	16	1	8	51
5100N	3200E	0.2	13	2.5	18	0.5	13	70
5100N	3240E	0.2	5	2.5	13	0.5	8	37
5100N	3280E	0.1	12	2.5	17	1	10	51
5100N	3320E	0.1	6	2.5	14	1	10	38
5100N	3360E	0.1	5	2.5	13	0.5	7	30
5100N	3400E	0.2	5	2.5	14	1	11	42
5100N	3440E	0.2	5	2.5	15	1	11	57
5100N	3480E	0.2	13	2.5	21	0.5	14	43
5100N	3520E	0.2	10	2.5	38	2	14	93
5100N	3560E	1.2	32	2.5	53	8	122	65
5100N	3600E	4.1	91	100	244	20	730	140
5100N	3640E	1.7	73	35	162	0.5	84	210
5100N	3680E	3.3	5	2.5	14	1	36	37
5100N	3720E	0.7	9	2.5	22	0.5	30	58
5100N	3760E	0.7	12	2.5	21	0.5	23	65
5100N	3800E	2.8	48	35	121	12	96	142
5100N	3840E	2.9	36	150	145	1	160	177
5100N	3880E	1.0	15	2.5	36	0.5	46	225
5100N	3920E	1.5	59	2.5	84	0.5	82	1050
5100N	3960E	8.0	39	2.5	311	1	94	940
5100N	4000E	2.8	19	2.5	76	1	100	192
5100N	4040E	9.0	164	75	131	0.5	1720	360
5100N	4080E	4.8	47	2.5	100	0.5	440	317
5100N	4120E	6.0	20	2.5	29	0.5	43	373
5100N	4160E	1.5	34	2.5	22	0.5	82	400
5100N	4200E	0.8	23	2.5	28	0.5	37	300
5100N	4240E	3.0	68	35	100	0.5	208	760
5100N	4280E	0.6	51	35	34	0.5	147	560
5100N	4320E	2.6	62	60	126	1	250	200
5100N	4360E	3.4	41	40	185	1	560	800
5100N	4400E	0.8	31	2.5	35	0.5	98	1330
5100N	4440E	0.4	21	50	25	0.5	70	288
5100N	4480E	2.9	82	15	17	0.5	820	610
5200N	3120E	0.3	10	2.5	20	0.5	14	72
5200N	3160E	0.1	18	2.5	18	1	19	51
5200N	3200E	0.3	18	2.5	22	1	16	62
5200N	3240E	0.2	15	2.5	23	8	16	55
5200N	3280E	0.2	17	2.5	23	1	15	54
5200N	3320E	0.2	7	2.5	23	4	11	66
5200N	3360E	0.4	17	2.5	43	4	17	46
5200N	3400E	0.1	10	2.5	14	1	11	45
5200N	3440E	0.1	9	2.5	18	4	14	48
5200N	3480E	0.3	10	2.5	23	0.5	13	56
5200N	3520E	2.3	27	10	31	0.5	175	92
5200N	3560E	0.9	13	2.5	36	0.5	21	93
5200N	3600E	1.9	21	2.5	37	10	46	72
5200N	3640E	3.4	28	85	188	52	175	82
5200N	3680E	1.7	36	2.5	277	12	32	110
5200N	3720E	10	64	75	193	18	318	85
5200N	3760E	1.1	32	10	170	10	66	78
5200N	3800E	0.6	41	5	134	0.5	41	130
5200N	3840E	1.1	55	275	184	0.5	57	170
5200N	3880E	0.5	23	20	59	6	40	153
5200N	3920E	11	58	50	29	0.5	380	95
5200N	3960E	3.4	53	75	35	8	301	66
5200N	4000E	4.8	19	50	80	6	49	70
5200N	4040E	9.0	290	250	275	6	3600	71
5200N	4080E	3.1	32	15	84	4	142	83
5200N	4120E	4.3	60	100	134	0.5	670	171

5200N	4160E	1.0	30	2.5	39	0.5	30	160
5200N	4200E	1.6	22	2.5	16	0.5	34	161
5200N	4240E	1.4	16	290	22	10	68	109
5200N	4280E	0.6	17	10	23	1	43	240
5200N	4320E	8.0	73	75	141	8	660	294
5200N	4360E	2.9	35	35	78	1	103	730
5200N	4400E	0.8	17	2.5	36	1	92	264
5200N	4440E	1.7	12	2.5	14	1	57	180
5200N	4480E	2.5	79	2.5	25	1	380	293
5400N	3120E	1.2	6	2.5	79	4	8	40
5400N	3160E	0.5	11	2.5	25	4	11	59
5400N	3200E	0.4	12	2.5	35	1	7	48
5400N	3240E	0.6	16	2.5	31	4	11	60
5400N	3280E	0.8	18	2.5	219	6	20	54
5400N	3320E	6.0	205	5	217	6	242	186
5400N	3360E	0.9	30	2.5	234	16	21	100
5400N	3400E	0.4	8	2.5	28	4	6	43
5400N	3440E	0.4	7	2.5	38	4	12	58
5400N	3480E	0.3	9	2.5	19	4	12	62
5400N	3520E	0.9	17	2.5	163	8	14	75
5400N	3560E	0.6	12	2.5	47	1	8	67
5400N	3600E	1.1	16	2.5	48	1	19	64
5400N	3640E	1.0	17	10	67	14	17	48
5400N	3680E	3.6	56	2.5	53	14	180	71
5400N	3720E	2.1	31	2.5	31	8	197	68
5400N	3760E	3.1	8	2.5	24	6	26	74
5400N	3800E	1.2	27	2.5	105	4	98	73
5400N	3840E	2.9	42	2.5	78	1	37	81
5400N	3880E	0.8	17	2.5	31	2	28	61
5400N	3920E	1.9	12	2.5	18	2	16	67
5400N	3960E	2.7	24	2.5	27	2	114	102
5400N	4000E	17	149	190	363	1	2360	300
5400N	4040E	2.0	21	2.5	28	1	33	170
5400N	4080E	0.7	10	2.5	47	1	25	180
5400N	4120E	0.9	19	2.5	29	2	39	325
5400N	4160E	8.0	25	2.5	104	1	50	180
5400N	4200E	8.0	19	2.5	195	4	810	265
5400N	4240E	4.1	32	60	121	6	60	270
5400N	4280E	0.5	33	100	78	0.5	56	460
5400N	4320E	1.5	31	2.5	33	0.5	138	235
5400N	4360E	1.4	58	2.5	66	4	234	400
5400N	4400E	1.4	50	20	134	4	291	500
5400N	4440E	1.9	66	25	58	1	345	410
5400N	4480E	3.1	78	20	90	4	1360	880
5600N	3120E	0.6	70	2.5	32	1	35	102
5600N	3160E	0.5	64	2.5	950	20	26	126
5600N	3200E	1.0	56	2.5	82	6	30	73
5600N	3240E	0.2	34	2.5	510	26	22	82
5600N	3280E	0.6	22	2.5	125	0.5	14	93
5600N	3320E	0.2	160	2.5	326	4	62	204
5600N	3360E	0.2	180	2.5	201	0.5	29	196
5600N	3400E	0.5	72	2.5	234	1	40	205
5600N	3440E	8.0	240	2.5	100	6	215	212
5600N	3480E	0.6	260	2.5	182	6	78	302
5600N	3520E	0.9	64	2.5	92	4	38	132
5600N	3560E	0.5	46	2.5	25	0.5	24	124
5600N	3600E	1.5	114	30	224	2	101	335
5600N	3640E	1.1	46	2.5	16	0.5	122	73
5600N	3680E	1.6	64	10	114	2	186	235
5600N	3720E	1.0	42	2.5	97	1	21	106
5600N	3760E	0.5	12	5	15	0.5	12	65
5600N	3800E	1.1	26	5	129	0.5	13	107
5600N	3840E	0.7	26	2.5	30	1	40	81
5600N	3880E	11	240	125	270	14	1500	106
5600N	3920E	0.9	56	2.5	66	1	59	77
5600N	3960E	1.1	16	2.5	45	1	29	100

5600N	4000E	2.5	68	2.5	510	0.5	41	127
5600N	4040E	3.3	44	2.5	390	1	32	110
5600N	4080E	2.5	24	20	1760	1	106	560
5600N	4120E	2.3	40	2.5	48	1	101	238
5600N	4160E	4.5	46	2.5	52	0.5	110	208
5600N	4200E	4.6	38	2.5	118	1	125	550
5600N	4240E	5.0	10	2.5	610	0.5	100	378
5600N	4280E	2.7	28	2.5	50	0.5	200	272
5600N	4320E	0.7	36	2.5	56	1	105	540
5600N	4360E	3.7	46	5	58	1	225	346
5600N	4400E	3.6	32	2.5	152	1	500	2500
5600N	4440E	2.8	68	2.5	40	1	350	500
5600N	4480E	3.1	58	15	117	2	700	2100
5800N	3120E	0.2	20	2.5	32	4	13	90
5800N	3160E	0.2	18	2.5	32	0.5	10	90
5800N	3200E	0.2	34	2.5	20	1	10	70
5800N	3240E	0.5	40	5	54	1	12	106
5800N	3280E	0.4	42	2.5	275	0.5	18	171
5800N	3320E	0.6	120	2.5	68	0.5	34	120
5800N	3360E	0.4	18	2.5	22	0.5	15	69
5800N	3400E	0.3	18	2.5	15	0.5	10	44
5800N	3440E	0.4	60	2.5	27	0.5	34	130
5800N	3480E	2.8	280	2.5	35	0.5	80	290
5800N	3520E	0.5	64	2.5	20	0.5	14	82
5800N	3560E	1.1	460	2.5	45	0.5	22	255
5800N	3600E	0.9	40	2.5	13	1	12	48
5800N	3640E	1.4	40	2.5	27	0.5	37	113
5800N	3680E	2.8	340	2.5	105	0.5	120	287
5800N	3720E	1.2	34	2.5	26	1	22	134
5800N	3760E	1.1	84	2.5	39	0.5	34	133
5800N	3800E	2.2	1600	25	46	1	170	330
5800N	3840E	1.1	280	2.5	22	0.5	32	255
5800N	3880E	1.2	72	2.5	19	1	20	84
5800N	3920E	1.1	50	2.5	49	1	38	130
5800N	3960E	1.8	70	2.5	28	0.5	41	360
5800N	4000E	1.3	100	2.5	28	1	51	240
5800N	4040E	3.6	86	2.5	47	1	85	430
5800N	4080E	2.1	40	2.5	470	1	71	450
5800N	4120E	2.9	110	2.5	116	1	71	400
5800N	4160E	7.0	90	2.5	630	1	76	235
5800N	4200E	2.4	100	2.5	314	1	97	240
5800N	4240E	2.0	52	2.5	395	1	74	530
5800N	4280E	4.1	100	2.5	70	1	114	342
5800N	4320E	1.8	10	2.5	25	1	27	103
5800N	4360E	0.1	NSS	2.5	10	0.5	4	134
5800N	4400E	2.1	50	35	104	0.5	133	153
5800N	4440E	1.3	62	2.5	45	1	96	640
5800N	4480E	0.5	92	2.5	45	1	104	560
6000N	3120E	0.5	40	2.5	83	1	24	122
6000N	3160E	1.1	24	2.5	42	1	18	132
6000N	3200E	0.1	18	2.5	16	0.5	10	52
6000N	3240E	2.3	34	2.5	49	0.5	19	134
6000N	3280E	1.9	20	2.5	54	0.5	41	240
6000N	3320E	0.7	42	2.5	65	0.5	26	140
6000N	3360E	0.5	46	2.5	58	1	23	184
6000N	3400E	1.0	44	2.5	44	2	29	150
6000N	3440E	1.0	70	2.5	110	1	40	124
6000N	3480E	0.5	34	2.5	30	1	24	72
6000N	3520E	0.3	40	2.5	28	0.5	38	170
6000N	3560E	0.3	46	2.5	26	2	21	120
6000N	3600E	0.2	86	2.5	27	2	44	174
6000N	3640E	0.2	240	2.5	48	4	117	540
6000N	3680E	2.1	130	2.5	50	1	680	1070
6000N	3720E	0.6	420	2.5	19	0.5	115	710
6000N	3760E	0.2	132	2.5	37	1	36	181
6000N	3800E	3.7	400	20	40	0.5	168	970

6000N	3840E	6.0	500	2.5	95	0.5	212	740
6000N	3880E	2.6	184	2.5	46	0.5	70	326
6000N	3920E	1.2	160	2.5	47	0.5	75	387
6000N	3960E	0.4	120	2.5	26	0.5	83	306
6000N	4000E	2.8	240	5	94	1	111	330
6000N	4040E	2.0	160	2.5	70	0.5	67	760
6000N	4080E	0.8	100	2.5	29	1	57	430
6000N	4120E	1.4	220	2.5	37	2	151	450
6000N	4160E	1.2	160	2.5	49	0.5	78	240
6000N	4200E	1.2	118	2.5	58	2	70	391
6000N	4240E	0.4	80	2.5	56	1	57	254
6000N	4280E	0.3	90	2.5	42	0.5	56	260
6000N	4320E	0.7	80	2.5	78	1	51	360
6000N	4360E	0.9	88	2.5	280	0.5	53	490
6000N	4400E	0.2	44	2.5	59	0.5	26	340
6000N	4440E	0.8	76	2.5	318	0.5	55	570
6000N	4480E	0.6	32	2.5	48	0.5	21	120
6200N	3120E	0.5	22	2.5	53	0.5	26	180
6200N	3160E	0.2	26	2.5	32	0.5	14	101
6200N	3200E	0.3	20	2.5	25	0.5	15	85
6200N	3240E	0.6	38	2.5	31	2	24	126
6200N	3280E	0.2	34	2.5	20	0.5	58	124
6200N	3320E	0.3	50	2.5	31	2	37	91
6200N	3360E	0.2	20	2.5	26	0.5	18	83
6200N	3400E	0.6	46	2.5	82	2	31	171
6200N	3440E	0.6	22	2.5	18	0.5	22	85
6200N	3480E	0.7	64	2.5	38	0.5	39	153
6200N	3520E	1.0	72	10	60	2	53	174
6200N	3560E	0.3	40	2.5	16	1	29	103
6200N	3600E	0.3	34	2.5	11	0.5	13	68
6200N	3640E	0.8	36	2.5	7	0.5	11	88
6200N	3680E	0.1	34	NSS	1	0.5	1	75
6200N	3720E	0.2	54	2.5	12	0.5	11	144
6200N	3760E	1.1	70	2.5	38	0.5	58	160
6200N	3800E	1.5	50	2.5	70	1	52	370
6200N	3840E	0.1	42	2.5	15	1	11	111
6200N	3880E	0.2	50	10	14	1	22	228
6200N	3920E	0.4	36	2.5	21	1	28	132
6200N	3960E	0.6	18	NSS	18	3	11	68
6200N	4000E	1.4	66	2.5	25	0.5	34	200
6200N	4040E	0.1	10	2.5	24	0.5	9	60
6200N	4080E	0.2	16	2.5	8	1	1	57
6200N	4120E	0.5	12	2.5	16	0.5	6	47
6200N	4160E	0.2	16	2.5	14	1	45	156
6200N	4200E	1.1	14	2.5	35	2	33	320
6200N	4240E	0.2	12	2.5	24	0.5	16	90
6200N	4280E	1.3	36	2.5	48	1	40	351
6200N	4320E	0.4	18	2.5	24	4	15	105
6200N	4360E	0.3	24	2.5	31	2	20	162
6200N	4400E	0.2	10	2.5	20	2	15	110
6200N	4440E	0.3	10	2.5	27	2	16	103
6200N	4480E	0.4	16	2.5	42	3	25	260
5150N	4000E	3.3	76	120	135	2	275	130
5250N	4000E	0.8	1	50	19	3	31	60
5300N	4000E	0.7	1	35	22	2	22	102
5350N	4000E	0.7	40	2.5	53	5	50	330
5450N	4000E	8.0	1	150	550	7	1120	290
5500N	4000E	2.0	40	35	650	4	49	253
5550N	4000E	1.1	10	25	47	0.5	53	56
5650N	4000E	1.2	40	2.5	30	0.5	26	110
5700N	4000E	2.2	38	2.5	61	0.5	31	113
5750N	4000E	1.2	36	2.5	22	0.5	30	108
5850N	4000E	2.4	144	2.5	68	0.5	133	500
5900N	4000E	2.5	160	2.5	54	0.5	124	370
5950N	4000E	2.6	126	2.5	84	0.5	80	920
6000N	4000E	0.2	26	2.5	17	0.5	30	180

6100N	4000E	0.4	34	2.5	18	2	26	134
6150N	4000E	2.7	60	2.5	120	2	84	610

```
HISTO:                    V267 JAKE                      RUN ON 90:11:09  AT  15:09:30

File: soils                    Field name: AU1     LOG = 1  REPVAL =   0.00100
                                           ----
 259 SAMPLES WITH AU1    MINIMUM:   2.50000          MAXIMUM:  290.000

  57 VALUES PLOTTED:   202 NOT IN RANGE   5.00000     to  290.000

    GEOMETRIC MEAN:         31.5466         DISPERSION:  10.2067     97.5035

  SCALE OF HISTOGRAM IS   0.10 COUNTS /PRINT POSITION    # = 5,50,95%

  N   MIDPOINT  PERCENT  0         1         2         3         4         5         6         7         8         9         10
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
  7    5.0000   # 12.28  I**********************************************************************                               I
  0    5.5342     0.00   I                                                                                                    I
  0    6.1255     0.00   I                                                                                                    I
  0    6.7800     0.00   I                                                                                                    I
  0    7.5043     0.00   I                                                                                                    I
  0    8.3061     0.00   I                                                                                                    I
  0    9.1936     0.00   I                                                                                                    I
  7   10.176     12.28   I**********************************************************************                               I
  0   11.263      0.00   I                                                                                                    I
  0   12.466      0.00   I                                                                                                    I
  0   13.798      0.00   I                                                                                                    I
  3   15.273      5.26   I******************************                                                                      I
  0   16.904      0.00   I                                                                                                    I
  0   18.710      0.00   I                                                     ————— 20                                       I
  5   20.710      8.77   I**************************************************                                                  I
  0   22.922      0.00   I                                                                                                    I
  3   25.371      5.26   I******************************                                                                      I
  0   28.082      0.00   I                                                                                                    I
  1   31.082      1.75   I**********                                                                                          I
  8   34.403    # 14.04  I********************************************************************************                    I
  1   38.079      1.75   I**********                                                                                          I
  0   42.147      0.00   I                                                                                                    I
  0   46.650      0.00   I                                          ————— 50                                                  I
  4   51.635      7.02   I****************************************                                                            I
  2   57.151      3.51   I********************                                                                                I
  0   63.258      0.00   I                                                                                                    I
  0   70.016      0.00   I                                                                                                    I
  4   77.497      7.02   I****************************************                                                            I
  1   85.777      1.75   I**********                                                                                          I
  0   94.941      0.00   I                               ————— 100                                                            I
  3  105.09       5.26   I******************************                                                                      I
  1  116.31       1.75   I**********                                                                                          I
  1  128.74       1.75   I**********                                                                                          I
  0  142.49       0.00   I                                                                                                    I
  2  157.72       3.51   I********************                                                                                I
  0  174.57       0.00   I                                                                                                    I
  1  193.22       1.75   I**********                                                                                          I
  0  213.87       0.00   I                                                                                                    I
  0  236.72       0.00   I                                                                                                    I
  2  262.01     # 3.51   I********************                                                                                I
  1  290.00       1.75   I**********                                                                                          I
-----                    I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
 57                      0         1         2         3         4         5         6         7         8         9         10
```

```
HISTO:                      V267 JAKE                          RUN ON 90:11:09  AT  14:49:42

File: soils                   Field name: AG      LOG = 1  REPVAL =   0.00100
                                          ----
 261 SAMPLES WITH AG     MINIMUM:  0.100000        MAXIMUM:  17.0000

 219 VALUES PLOTTED:    42 NOT IN RANGE  0.210000     to  17.0000

    GEOMETRIC MEAN:         1.31286        DISPERSION: 0.526366     3.27452

  SCALE OF HISTOGRAM IS   0.20 COUNTS /PRINT POSITION    # = 5,50,95%

  N   MIDPOINT  PERCENT  0         2         4         6         8         10        12        14        16        18        20
                         I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
  0  0.21000      0.00   I                                                                                                   I
  0  0.23438      0.00   I                                                                                                   I
  0  0.26160      0.00   I                                                                                                   I
 14  0.29197   #  6.39   I**********************************************************************                             I
  0  0.32587      0.00   I                                                                                                   I
  0  0.36370      0.00   I                                                                                                   I
 14  0.40593      6.39   I**********************************************************************                             I
  0  0.45306      0.00   I                                                                                                   I
 15  0.50567      6.85   I***************************************************************************                        I
  0  0.56438      0.00   I                                                                                                   I
 15  0.62991      6.85   I***************************************************************************                        I
 10  0.70304      4.57   I**************************************************                                                 I
  9  0.78467      4.11   I*********************************************                                                      I
  8  0.87578      3.65   I****************************************                                                           I
  8  0.97746      3.65   I****************************************                                                           I
 14   1.0910      6.39   I**********************************************************************                             I
 10   1.2176   #  4.57   I**************************************************                                                 I
  9   1.3590      4.11   I*********************************************                                                      I
  7   1.5168      3.20   I***********************************                                                                I
  3   1.6929      1.37   I***************                                                                                    I
  6   1.8894      2.74   I******************************                                                                     I
 10   2.1088      4.57   I**************************************************                                                 I
  5   2.3537      2.28   I*************************                                                                          I
 10   2.6269      4.57   I**************************************************                                                 I
 12   2.9320      5.48   I************************************************************ ——————— 3                             I
 10   3.2724      4.57   I**************************************************                                                 I
  5   3.6523      2.28   I*************************                                                                          I
  4   4.0764      1.83   I********************                                                                               I
  4   4.5497      1.83   I******************** ——————— 5                                                                     I
  1   5.0779      0.46   I*****                                                                                              I
  0   5.6675      0.00   I                                                                                                   I
  3   6.3255      1.37   I***************                                                                                    I
  1   7.0600      0.46   I*****                                                                                              I
  6   7.8797   #  2.74   I******************************                                                                     I
  2   8.7946      0.91   I**********                                                                                         I
  1   9.8157      0.46   I*****    ——————— 10                                                                                I
  2   10.955      0.91   I**********                                                                                         I
  0   12.227      0.00   I                                                                                                   I
  0   13.647      0.00   I                                                                                                   I
  0   15.232      0.00   I                                                                                                   I
  1   17.000      0.46   I*****                                                                                              I
-----                    I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
 219                     0         2         4         6         8         10        12        14        16        18        20
```

```
HISTO:                      V267 JAKE                           RUN ON 90:11:09  AT  16:07:21

File: soils                      Field name: AS      LOG = 1  REPVAL =   0.00100
                                             ----
 260 SAMPLES WITH AS     MINIMUM:    1.00000          MAXIMUM:  1600.00

 260 VALUES PLOTTED:      0 NOT IN RANGE    1.00000     to  1600.00

    GEOMETRIC MEAN:          36.3082        DISPERSION:  12.6893     103.890

  SCALE OF HISTOGRAM IS   0.40 COUNTS /PRINT POSITION    # = 5,50,95%

  N   MIDPOINT  PERCENT  0         4         8         12        16        20        24        28        32        36        40
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
  3   1.0000      1.15   I*******                                                                                            I
  0   1.2025      0.00   I                                                                                                   I
  0   1.4461      0.00   I                                                                                                   I
  0   1.7390      0.00   I                                                                                                   I
  0   2.0913      0.00   I                                                                                                   I
  0   2.5149      0.00   I                                                                                                   I
  0   3.0243      0.00   I                                                                                                   I
  0   3.6368      0.00   I                                                                                                   I
  0   4.3734      0.00   I                                                                                                   I
  6   5.2593      2.31   I***************                                                                                    I
  2   6.3246      0.77   I*****                                                                                              I
  4   7.6056    # 1.54   I**********                                                                                         I
 14   9.1461      5.38   I***********************************                                                                I
 11   10.999      4.23   I***************************                                                                        I
  4   13.226      1.54   I**********                                                                                         I
 16   15.905      6.15   I****************************************                                                           I
 18   19.127      6.92   I*********************************************                                                      I
 14   23.001      5.38   I***********************************                                                                I
 10   27.660      3.85   I*************************                                                                          I
 28   33.263    # 10.77  I**********************************************************************                             I
 22   40.000      8.46   I*******************************************************  ————————— 45                              I
 20   48.102      7.69   I**************************************************                                                 I
 15   57.845      5.77   I*************************************                                                              I
 22   69.561      8.46   I*******************************************************                                            I
 12   83.651      4.62   I******************************  ————————— 100                                                     I
  6   100.59      2.31   I***************                                                                                    I
  7   120.97      2.69   I*****************                                                                                  I
  2   145.47      0.77   I*****                                                                                              I
  8   174.94      3.08   I********************                                                                               I
  2   210.37      0.77   I*****                                                                                              I
  5   252.98    # 1.92   I************                                                                                       I
  3   304.22      1.15   I*******  ————————— 300                                                                             I
  2   365.84      0.77   I*****                                                                                              I
  2   439.95      0.77   I*****                                                                                              I
  1   529.06      0.38   I**                                                                                                 I
  0   636.22      0.00   I                                                                                                   I
  0   765.08      0.00   I                                                                                                   I
  0   920.05      0.00   I                                                                                                   I
  0   1106.4      0.00   I                                                                                                   I
  0   1330.5      0.00   I                                                                                                   I
  1   1600.0      0.38   I**                                                                                                 I
-----                    I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
 260                     0         4         8         12        16        20        24        28        32        36        40
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HISTO:                    V267 JAKE                    RUN ON 90:11:09  AT  15:09:30

File: soils                    Field name: CU      LOG = 1  REPVAL =   0.00100
                                           ----
 261 SAMPLES WITH CU     MINIMUM:   1.00000        MAXIMUM:  1760.00

 259 VALUES PLOTTED:     2 NOT IN RANGE   5.00000     to  1200.00

    GEOMETRIC MEAN:          50.0967       DISPERSION:  19.0999     131.398

  SCALE OF HISTOGRAM IS   0.30 COUNTS /PRINT POSITION    # = 5,50,95%

  N   MIDPOINT  PERCENT  0         3         6         9         12        15        18        21        24        27        30
                         I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
  0   5.0000      0.00   I
  0   5.7342      0.00   I
  1   6.5763      0.39   I***
  1   7.5420      0.39   I***
  0   8.6495      0.00   I
  1   9.9197      0.39   I***
  2   11.376      0.77   I*******
  3   13.047      1.16   I**********
 17   14.963   #  6.56   I*********************************************************
 11   17.160      4.25   I*************************************
 12   19.680      4.63   I****************************************
 17   22.570      6.56   I*********************************************************
 16   25.884      6.18   I*****************************************************
 20   29.685      7.72   I*******************************************************************
 14   34.044      5.41   I***********************************************
 11   39.044      4.25   I*************************************
 16   44.777   #  6.18   I*****************************************************
 18   51.352      6.95   I************************************************************
 10   58.893      3.86   I*********************************
  9   67.541      3.47   I******************************
  9   77.460      3.47   I******************************  ———————— 75
  8   88.834      3.09   I***************************
  8   101.88      3.09   I***************************
  9   116.84      3.47   I******************************
  8   134.00      3.09   I***************************
  4   153.67      1.54   I*************       ———————— 150
  5   176.24      1.93   I*****************
  3   202.12      1.16   I**********
  6   231.80      2.32   I********************
  5   265.84      1.93   I*****************
  4   304.88   #  1.54   I*************
  1   349.65      0.39   I***
  2   400.99      0.77   I*******
  1   459.88      0.39   I***  ———————— 500
  3   527.41      1.16   I**********
  2   604.86      0.77   I*******
  1   693.68      0.39   I***
  0   795.55      0.00   I
  1   912.37      0.39   I***
  0   1046.3      0.00   I
  0   1200.0      0.00   I
-----                    I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
 259                     0         3         6         9         12        15        18        21        24        27        30
```

```
HISTO:                          V267 JAKE                          RUN ON 90:11:09  AT  15:17:48

File: soils                    Field name: MO       LOG = 1  REPVAL =   0.00100
                                           ----
 261 SAMPLES WITH MO     MINIMUM:  0.500000          MAXIMUM:  52.0000

  81 VALUES PLOTTED:   180 NOT IN RANGE   1.10000     to  52.0000

    GEOMETRIC MEAN:           4.52867         DISPERSION:  2.13938     9.58636

  SCALE OF HISTOGRAM IS   0.30 COUNTS /PRINT POSITION   # = 5,50,95%

  N   MIDPOINT  PERCENT  0         3         6         9         12        15        18        21        24        27        30
                         I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
  0   1.1000      0.00   I                                                                                                    I
  0   1.2113      0.00   I                                                                                                    I
  0   1.3339      0.00   I                                                                                                    I
  0   1.4689      0.00   I                                                                                                    I
  0   1.6175      0.00   I                                                                                                    I
  0   1.7812      0.00   I                                                                                                    I
 25   1.9615    # 30.86  I***********************************************************************************                 I
  0   2.1600      0.00   I                                                                                                    I
  0   2.3786      0.00   I                                                                                                    I
  0   2.6193      0.00   I                                                                                                    I
  3   2.8843      3.70   I**********                                                                                          I
  0   3.1762      0.00   I                                                                                                    I
  0   3.4976      0.00   I                                                                                                    I
 21   3.8516    # 25.93  I**********************************************************************                              I
  0   4.2414      0.00   I                                                                                                    I
  0   4.6706      0.00   I       ------------------- 5                                                                        I
  1   5.1432      1.23   I***                                                                                                 I
  0   5.6637      0.00   I                                                                                                    I
 10   6.2369     12.35   I*********************************                                                                   I
  1   6.8680      1.23   I***                                                                                                 I
  0   7.5631      0.00   I                                                                                                    I
  6   8.3284      7.41   I********************                                                                                I
  0   9.1713      0.00   I           ---------------- 10                                                                      I
  3   10.099      3.70   I**********                                                                                          I
  0   11.121      0.00   I                                                                                                    I
  2   12.247      2.47   I*******                                                                                             I
  3   13.486      3.70   I**********                                                                                          I
  0   14.851      0.00   I                                                                                                    I
  1   16.354      1.23   I***                                                                                                 I
  1   18.009    #  1.23  I***                                                                                                 I
  2   19.831      2.47   I*******    ------------------- 20                                                               I
  0   21.838      0.00   I                                                                                                    I
  0   24.048      0.00   I                                                                                                    I
  1   26.482      1.23   I***                                                                                                 I
  0   29.162      0.00   I                                                                                                    I
  0   32.113      0.00   I                                                                                                    I
  0   35.362      0.00   I                                                                                                    I
  0   38.941      0.00   I                                                                                                    I
  0   42.882      0.00   I                                                                                                    I
  0   47.221      0.00   I                                                                                                    I
  1   52.000      1.23   I***                                                                                                 I
-----                    I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
 81                      0         3         6         9         12        15        18        21        24        27        30
```

HISTO: V267 JAKE RUN ON 90:11:09 AT 15:09:30

File: soils Field name: PB LOG = 1 REPVAL = 0.00100

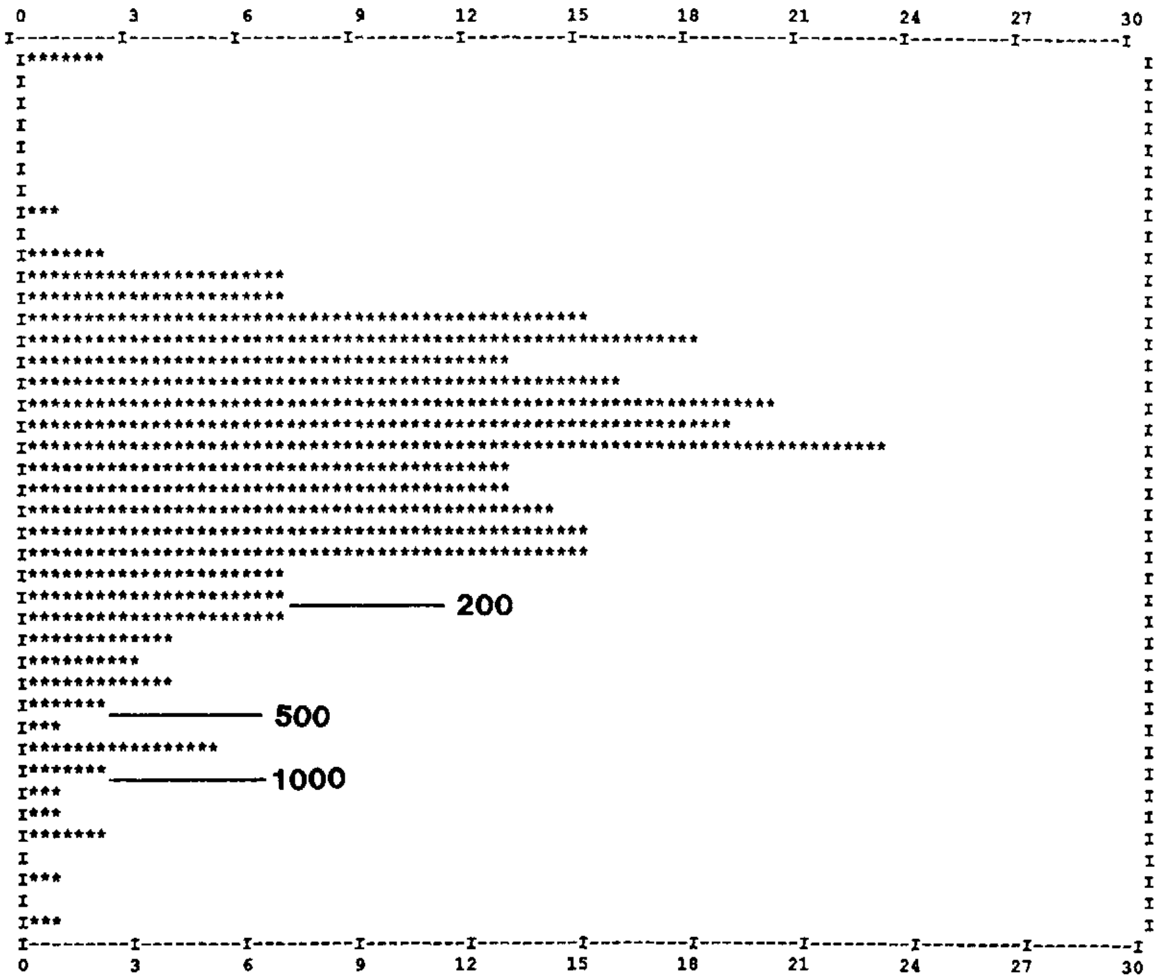
261 SAMPLES WITH PB MINIMUM: 1.00000 MAXIMUM: 3600.00

261 VALUES PLOTTED: 0 NOT IN RANGE 1.00000 to 3600.00

GEOMETRIC MEAN: 46.6245 DISPERSION: 13.1076 165.846

SCALE OF HISTOGRAM IS 0.30 COUNTS /PRINT POSITION # = 5,50,95%

N	MIDPOINT		PERCENT
2	1.0000		0.77
0	1.2272		0.00
0	1.5060		0.00
0	1.8481		0.00
0	2.2679		0.00
0	2.7832		0.00
0	3.4154		0.00
1	4.1913		0.38
0	5.1435		0.00
2	6.3120		0.77
7	7.7460		2.68
7	9.5057	#	2.68
15	11.665		5.75
18	14.315		6.90
13	17.567		4.98
16	21.558		6.13
20	26.456		7.66
19	32.466		7.28
23	39.842	#	8.81
13	48.893		4.98
13	60.000		4.98
14	73.631		5.36
15	90.358		5.75
15	110.89		5.75
7	136.08		2.68
7	166.99		2.68
7	204.93		2.68
4	251.48		1.53
3	308.61		1.15
4	378.72		1.53
2	464.76		0.77
1	570.34	#	0.38
5	699.91		1.92
2	858.91		0.77
1	1054.0		0.38
1	1293.5		0.38
2	1587.3		0.77
0	1948.0		0.00
1	2390.5		0.38
0	2933.6		0.00
1	3600.0		0.38
261			



```
HISTO:                    V267 JAKE                      RUN ON 90:11:09  AT  14:49:42

File: soils                    Field name: ZN        LOG = 1  REPVAL =   0.00100
                                           ----
 261 SAMPLES WITH ZN     MINIMUM:   30.0000          MAXIMUM:  2500.00

 261 VALUES PLOTTED:     0 NOT IN RANGE   30.0000      to  2500.00

    GEOMETRIC MEAN:          157.618         DISPERSION:  67.2218     369.575

   SCALE OF HISTOGRAM IS   0.20 COUNTS /PRINT POSITION    # = 5,50,95%

   N    MIDPOINT   PERCENT  0         2         4         6         8         10        12        14        16        18        20
                           I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
   1    30.000      0.38   I*****                                                                                               I
   0    33.507      0.00   I                                                                                                    I
   3    37.425      1.15   I***************                                                                                     I
   5    41.801      1.92   I*************************                                                                           I
   7    46.688    # 2.68   I***********************************                                                                 I
   8    52.146      3.07   I****************************************                                                            I
  11    58.243      4.21   I*******************************************************                                             I
  13    65.053      4.98   I*****************************************************************                                   I
  15    72.658      5.75   I***************************************************************************                         I
  13    81.153      4.98   I*****************************************************************                                   I
  10    90.641      3.83   I**************************************************                                                  I
  13    101.24      4.98   I*****************************************************************                                   I
  10    113.08      3.83   I**************************************************                                                  I
  18    126.30      6.90   I******************************************************************************************          I
   8    141.06    # 3.07   I****************************************                                                            I
   9    157.55      3.45   I*********************************************                                                       I
  16    175.97      6.13   I********************************************************************************                    I
   7    196.55      2.68   I***********************************________________ 200                                             I
   5    219.53      1.92   I*************************                                                                           I
  13    245.19      4.98   I*****************************************************************                                   I
   8    273.86      3.07   I****************************************                                                            I
  10    305.88      3.83   I**************************************************                                                  I
  13    341.64      4.98   I*****************************************************************                                   I
   9    381.59      3.45   I*********************************************                                                       I
   5    426.20      1.92   I*************************                                                                           I
   5    476.03      1.92   I*************************    _______________ 500                                                    I
   7    531.68      2.68   I***********************************                                                                 I
   3    593.85      1.15   I***************                                                                                     I
   1    663.28      0.38   I*****                                                                                               I
   5    740.82    # 1.92   I*************************                                                                           I
   1    827.44      0.38   I*****                                                                                               I
   4    924.18      1.53   I********************_______________ 1000                                                            I
   2    1032.2      0.77   I**********                                                                                          I
   0    1152.9      0.00   I                                                                                                    I
   1    1287.7      0.38   I*****                                                                                               I
   0    1438.3      0.00   I                                                                                                    I
   0    1606.4      0.00   I                                                                                                    I
   0    1794.2      0.00   I                                                                                                    I
   1    2004.0      0.38   I*****                                                                                               I
   0    2238.3      0.00   I                                                                                                    I
   1    2500.0      0.38   I*****                                                                                               I
 -----                     I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
  261                      0         2         4         6         8         10        12        14        16        18        20
```

PDI DATA ANALYSIS SYSTEM: Jake claims - Correlation matrix for Soil Samples

	AG	AS	AU1	CU	MO	PB	ZN
AG	1.000	0.365	0.423	0.543	0.157	0.755	0.448
AS	0.365	1.000	0.087	0.329	-0.092	0.499	0.555
AU1	0.423	0.087	1.000	0.339	0.266	0.544	0.127
CU	0.543	0.329	0.339	1.000	0.315	0.517	0.388
MO	0.157	-0.092	0.266	0.315	1.000	0.166	-0.196
PB	0.755	0.499	0.544	0.517	0.166	1.000	0.608
ZN	0.448	0.555	0.127	0.388	-0.196	0.608	1.000

END OF LISTING

- value of 1.000 indicates perfect correlation

APPENDIX III

Rock Sample Analyses and Descriptions

PDI GEOCHEM SYSTEM: Data From: Jake claims - Rock Sample Analyses

SAMPLE	Ag PPM	As PPM	Au1 PPB	Cu PPM	Hg PPB	Mo PPM	Pb PPM	Sb PPM	Zn PPM
A4590	12	300	365	192	118	13	172	<2	197
A4591	0.3	26	<5	32	20	1	11	2	190
A4592	2.2	14	50	2370	12	12	6	<2	47
A4593	0.4	36	<5	19	97	<1	86	<2	294
A4594	4.5	18	115	2160	162	9	83	<2	140
A4595	13	60	205	0.47%	320	39	8	<2	238
A4596	18	220	155	760	>2000	45	306	6	27
A4596*	18	240	160	740	>2000	45	302	6	27

END OF LISTING -   11 RECORDS PRINTED

* - indicates repeat analysis

ROCK SAMPLE DESCRIPTIONS

Sample	Type	Description
A4590	outcrop grab	fine grained light grey calcareous siltstone, 1% fine grained pyrite
A4591	outcrop grab	light grey plagioclase porphyry, 2% fine grained disseminated pyrite
A4592	outcrop grab	plagioclase-biotite porphyry, malachite staining on fractures, 0.5% chalcopyrite and trace molybdenite along a microvein
A4593	outcrop grab	plagioclase-biotite porphyry strongly clay altered with 1% weathered coarse euhedral pyrite
A4594	outcrop grab	plagioclase porphyry with chalcedonic quartz microveins, malachite staining on fracture surfaces near microveins, 2% pyrite as blebs in microveins and fine grained disseminations in wallrock, 0.5% chalcopyrite as fine grained blebs in microveins
A4595	outcrop grab	microfault zone 2-5 cm wide with strong iron and malachite/azurite staining, 5% fine grained disseminated pyrite in wallrock
A4596	outcrop grab	vuggy quartz vein 20 cm wide in sericitized plagioclase porphyry, strong limonite staining, 5% medium grained cubic pyrite, trace bornite and chalcopyrite as blebs within the vein

APPENDIX IV

Statement of Costs

STATEMENT OF COSTS

Labour (Salary and Benefits)		
S. Price, Project Geologist,	15.5 days @ $220/day	3,410.00
G. Linden, Geologist,	15 days @ $200/day	3,000.00
C. Woolverton, Field Assistant,	10.5 days @ $146/day	1,533.00
J. Gordon, Field Assistant,	12.5 days @ $120/day	1,500.00
R. Cannon, Geophysicist,	4 days @ $316/day	1,264.00
Site Costs		
Expediting Services		900.00
Lodging & Meals	(4 persons for 2 days)	350.00
Mobile Radio Rental		45.05
Equipment Purchases		924.51
Freight		
Sample and Supplies Shipment (Smithers to Vancouver)		413.50
Transportation		
Aircraft (mob/demob)		936.25
Truck Rental		136.36
Helicopter		
4.3 hours @ $635/hour		2,730.50
Fuel (473 litres)		496.65
Analyses		
7 Rock @ $19.75/sample (Au,Ag,Mo,As,Cu,Pb,Zn,Hg,Sb)		138.25
261 Soil @ $12.90/sample (Au,Ag,Mo,As,Cu,Pb,Zn)		3,366.90
Report Preparation		
Drafting	2 days @ $200/day	400.00
Maps		134.29
Computer Costs		108.43
G. Linden	6 days @ $200/day	1,200.00
S. M. Price	2.5 days @ $220/day	550.00
	Total	23,537.69

APPENDIX V

Statements of Qualifications

STATEMENT OF QUALIFICATIONS

I, Gerald E. Linden, of the municipality of Surrey, British Columbia, do hereby certify that:

1. I am a graduate of the University of British Columbia where I received a B.Sc. in Geology in 1989.

2. I have practised my profession full-time since 1989.

3. I am currently employed by Placer Dome Inc.

4. I was involved in the exploration work on the Jake claims during 1990 and co-authored this report.

Gerald E. Linden

STATEMENT OF QUALIFICATIONS

I, Stephen Price, of the City of Vancouver, British Columbia, do hereby certify that:

1. I am a graduate of the University of British Columbia where I received a B.Sc. in Geology in May, 1987.

2. I have practised my profession since graduation, primarily in a variety of exploration projects in British Columbia and Saskatchewan.

3. I am an Associate of the Geological Association of Canada.

4. I am currently employed by Placer Dome Inc.

4. I supervised the work done on the Jake property, reviewed the data and co-authored this report.

for · Stephen M. Price

STATEMENT OF QUALIFICATIONS

I, Richard W. Cannon, of the City of Vancouver, Province of British Columbia, herby certify as follows:

1. I am a graduate of the University of British Columbia where I received a B.A.Sc. in Geological Engineering (Geophysics Option) in May, 1966.

2. I am a member of the Association of Professional Engineers of British Columbia and have been so since 1968. Registration No. 6742.

3. I am a member of the Canadian Institute of Mining and Metallurgy, Society of Exploration Geophysicists, and the B.C. Geophysical Society.

4. I have practised my profession since 1966.

Respectfully Submitted,

R.W. Cannon, P. Eng.

APPENDIX VI

References

References

1. Sketchley. D.C., 1988. Jake Mineral Claims - Geochemistry and Geology. QPX Minerals Inc., private report.

2. Fraser, D.C., 1969. Contouring of VLF-EM Data. Geophysics, vol. 34, p. 958-967.


CLAIM BOUNDARY
3100E
4000E
4500E
6200N
6000N
5800N
5600N
5400N
5200N
5100N
CONTOUR INTERVAL = 50 FEET
BASE CAMP
ROAD 1
ROAD 2
ROAD 3
PPBF
PPFX
TUFF
SILT
A4594
A4595
A4596
A4590
A4591
A4592
A4593
IN CREEK
IN CREEK
56°14'
127°20'
LEGEND
TERTIARY
PPBF Biotite-plagioclase porphyry
PPFX Plagioclase porphyry
UPPER JURASSIC - CRETACEOUS
SILT Bowser Group: non-marine, deltaic sediments - siltstone
UPPER JURASSIC
TUFF Hazelton Group: eugeosynclinal sequence - tuff
SYMBOLS
Rock Outcrop
Geological Contact (defined, approximate, assumed)
Fault (defined, approximate, assumed)
Joint (inclined, vertical)
Vein
Rock Sample
Road
- geophysics (magnetometer & VLF-EM) done on highlighted section of road
GEOLOGICAL BRANCH
ASSESSMENT REPORT
20,607
0 100 250 500m
metres
FIGURE 4
PLACER DOME INC.
JAKE PROPERTY
DRAWN BY: GEL
DATE: JUNE 90
SCALE: 1 : 5000
REVISED:
GEOLOGY AND SAMPLE LOCATION MAP
FILE No. 267
94D/3

JAKE PROPERTY SOIL GEOCHEMISTRY
AU IN PPB

- < 5 PPB AU
- 5 - 20 PPB AU
- 20 - 50 PPB AU
- 50 - 100 PPB AU
- > 100 PPB AU

NOTE: VALUES BELOW 5 PPB NOT POSTED

DATA PLOTTED ON THIS MAP:
DIRECTORY: $EXPL/JAKE/GCHM

	FIELD	FILE
POINTS:	AU1	SOILS.ROT
POINTS:	AU1	SOILS.ROT
———	SEG	ROADS.ROT
———	SEG	TOPO.ROT
———	SEG	CREEK.ROT

GEOLOGICAL BRANCH
ASSESSMENT REPORT

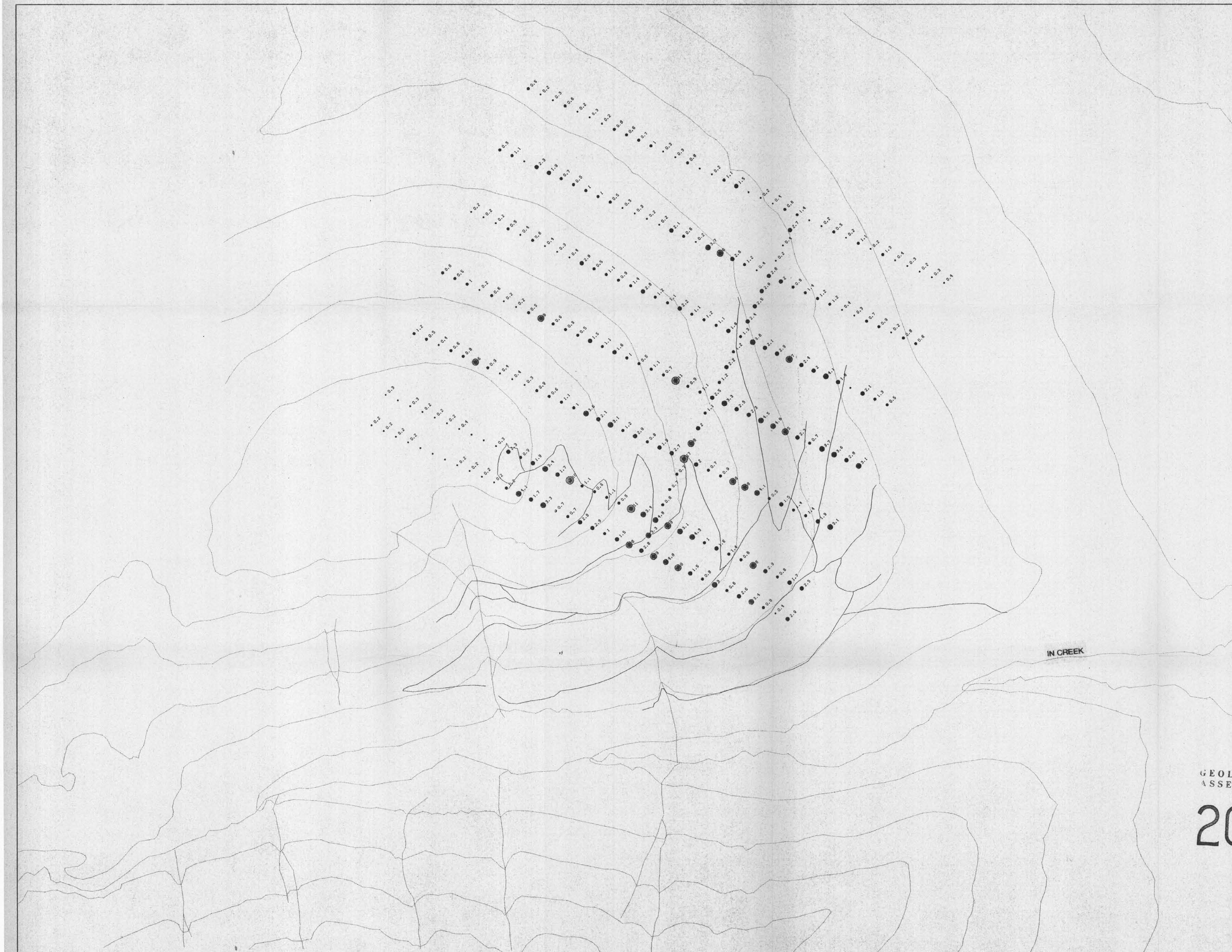
20,607

N

0 200 400 600
METRES

PLACER DOME INC.

DRAWN SHP	JAKE PROPERTY SOIL GEOCHEMISTRY AU IN PPB
DATE 90:10:23	
SCALE 1:5000	
FIGURE 5	NO. PLATE



JAKE PROPERTY SOIL GEOCHEMISTRY
AG IN PPM

- < 0.5 PPM AG
- 0.5 - 1.5 PPM AG
- 1.5 -3.0 PPM AG
- 3.0 - 5.0 PPM AG
- 5.0 - 10.0 PPM AG
- > 10.0 PPM AG

NOTE: VALUES BELOW 0.2 PPM NOT POSTED

DATA PLOTTED ON THIS MAP:
DIRECTORY: 8EXPL/JAKE/GCHM

	FIELD	FILE
POINTS:	AG	SOILS.ROT
POINTS:	AG	SOILS.ROT
———	SEG	ROADS.ROT
········	SEG	TOPO.ROT
········	SEG	CREEK.ROT

GEOLOGICAL BRANCH
ASSESSMENT REPORT

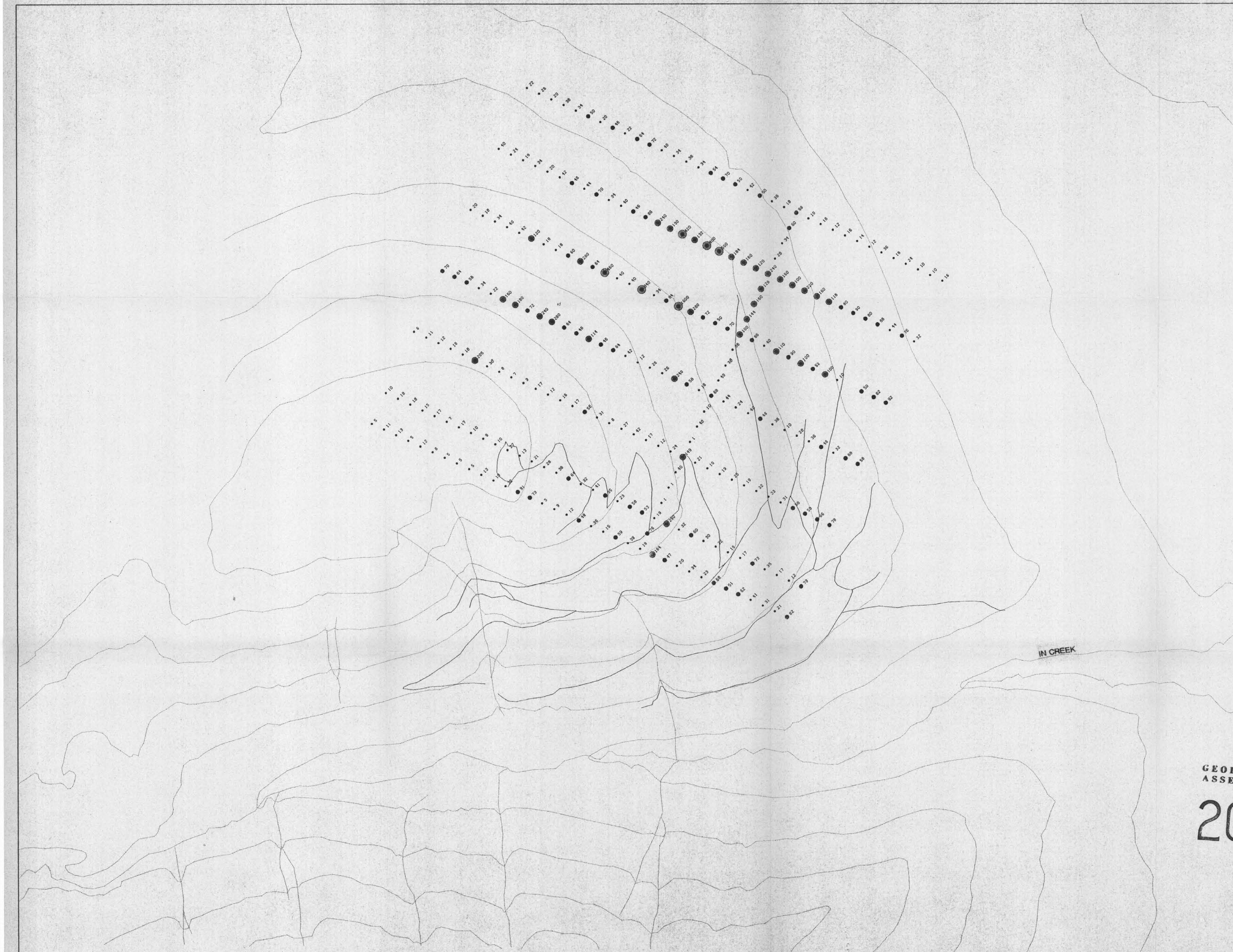
20,607

N

0 200 400 600
METRES

PLACER DOME INC.

DRAWN SMP	JAKE PROPERTY SOIL GEOCHEMISTRY AG IN PPM
DATE 90:10:23	
SCALE 1:5000	
FIGURE 6	NO. PLATE



JAKE PROPERTY SOIL GEOCHEMISTRY
AS IN PPM

- < 45 PPM AS
- 45 - 100 PPM AS
- 100 - 300 PPM AS
- > 300 PPM AS

DATA PLOTTED ON THIS MAP:
DIRECTORY: 8EXPL/JAKE/GCHM

	FIELD	FILE
POINTS:	AS	SOILS.ROT
POINTS:	AS	SOILS.ROT
———	SEG	ROADS.ROT
———	SEG	TOPO.ROT
———	SEG	CREEK.ROT

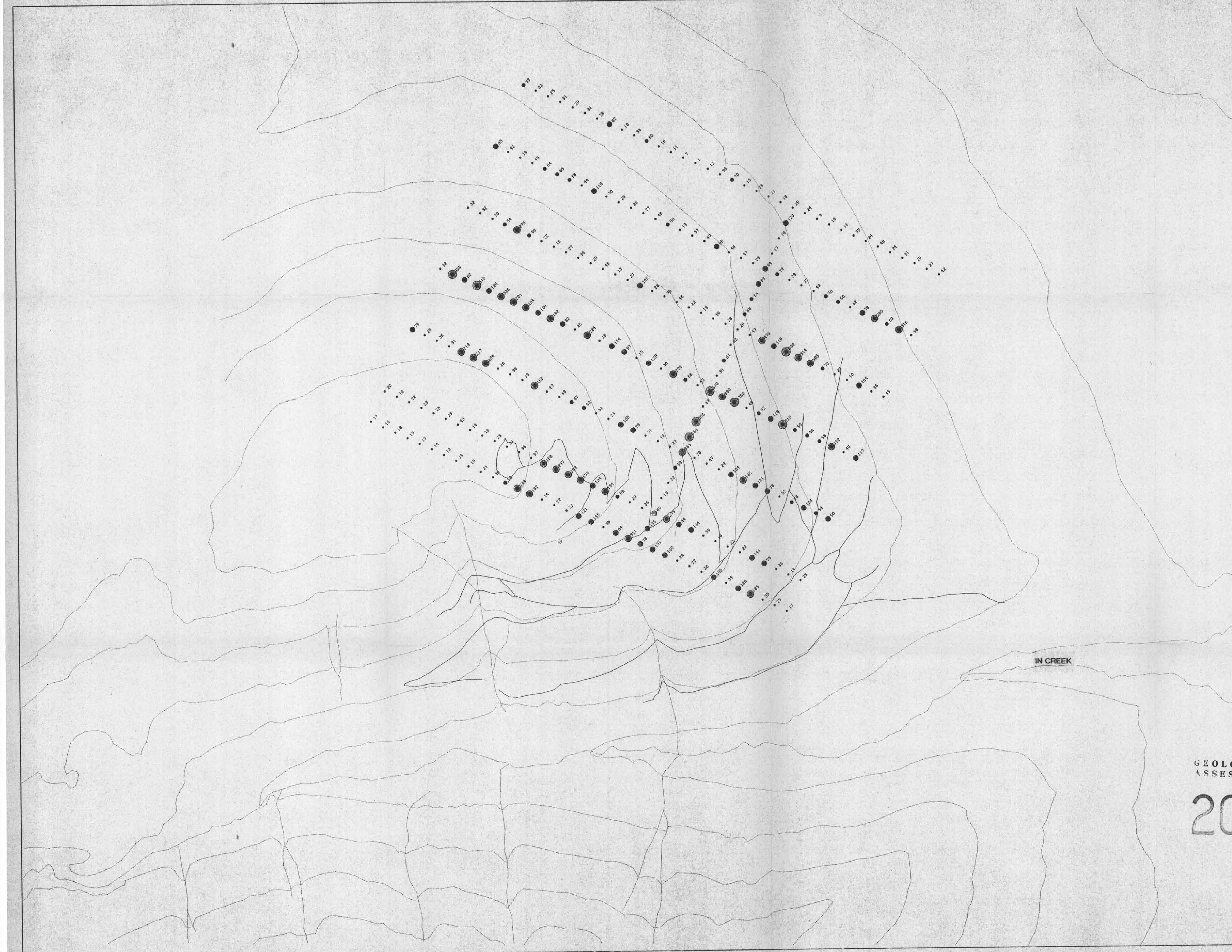
GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,607

N

0 200 400 600
METRES

PLACER DOME INC.	
DRAWN SMP	JAKE PROPERTY SOIL GEOCHEMISTRY AS IN PPM
DATE 90:10:23	
SCALE 1:5000	
FIGURE 7	NO. PLATE



JAKE PROPERTY SOIL GEOCHEMISTRY
CU IN PPM

- < 50 PPM CU
- 50 - 75 PPM CU
- 75 - 150 PPM CU
- 150 - 500 PPM CU
- > 500 PPM CU

DATA PLOTTED ON THIS MAP:
DIRECTORY: $EXPL/JAKE/GCHM

	FIELD	FILE
POINTS:	CU	SOILS.ROT
POINTS:	CU	SOILS.ROT
———	SEG	ROADS.ROT
———	SEG	TOPO.ROT
———	SEG	CREEK.ROT

GEOLOGICAL BRANCH
ASSESSMENT REPORT

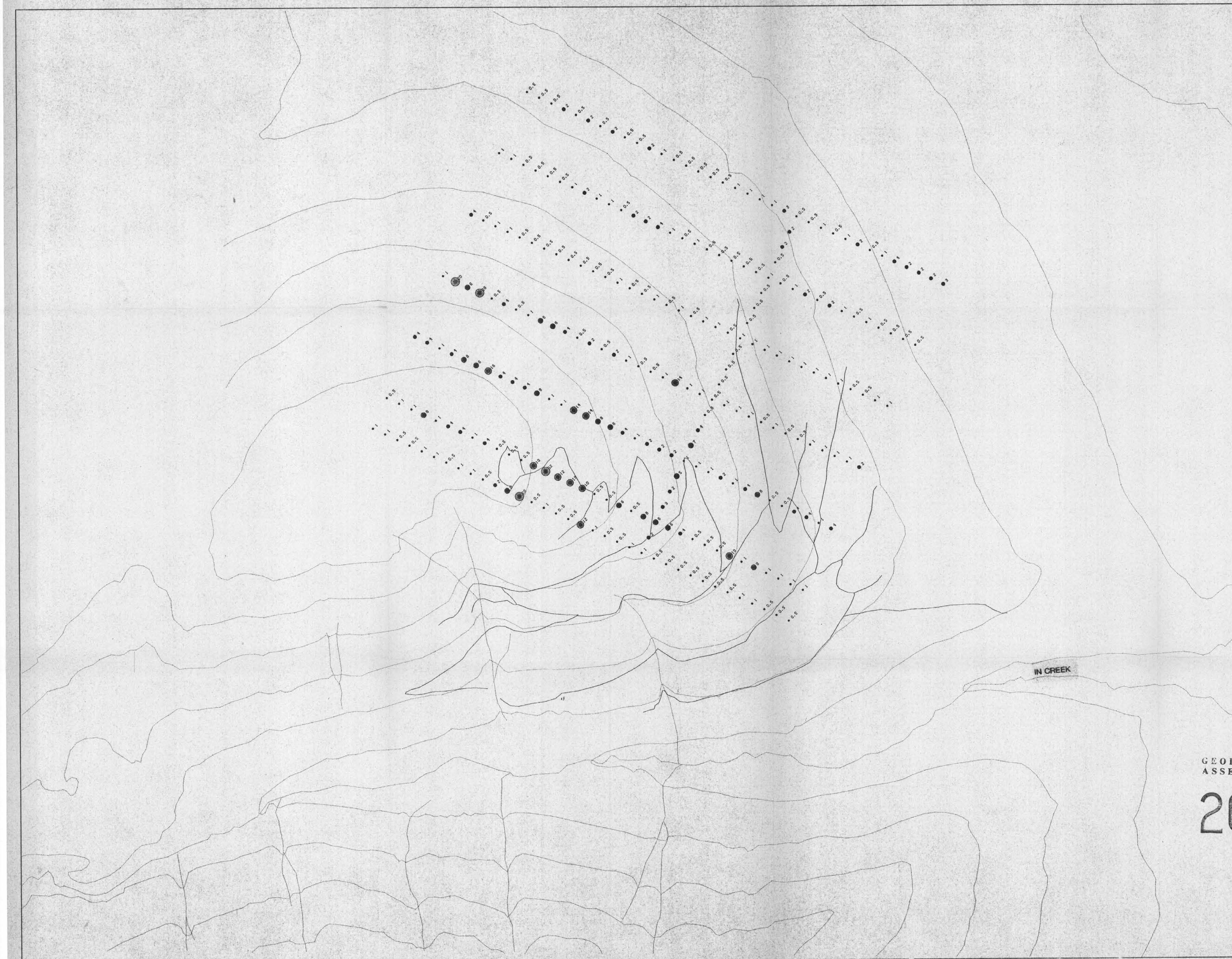
20,607

N

0 200 400 600
METRES

PLACER DOME INC.

DRAWN SMP	JAKE PROPERTY SOIL GEOCHEMISTRY CU IN PPM
DATE 90:10:23	
SCALE 1:5000	
FIGURE 8	NO. PLATE



JAKE PROPERTY SOIL GEOCHEMISTRY
MO IN PPM

- < 2 PPM MO
- 2 - 5 PPM MO
- 5 - 10 PPM MO
- 10 - 20 PPM MO
- > 20 PPM MO

DATA PLOTTED ON THIS MAP:
DIRECTORY: 8EXPL/JAKE/GCHM

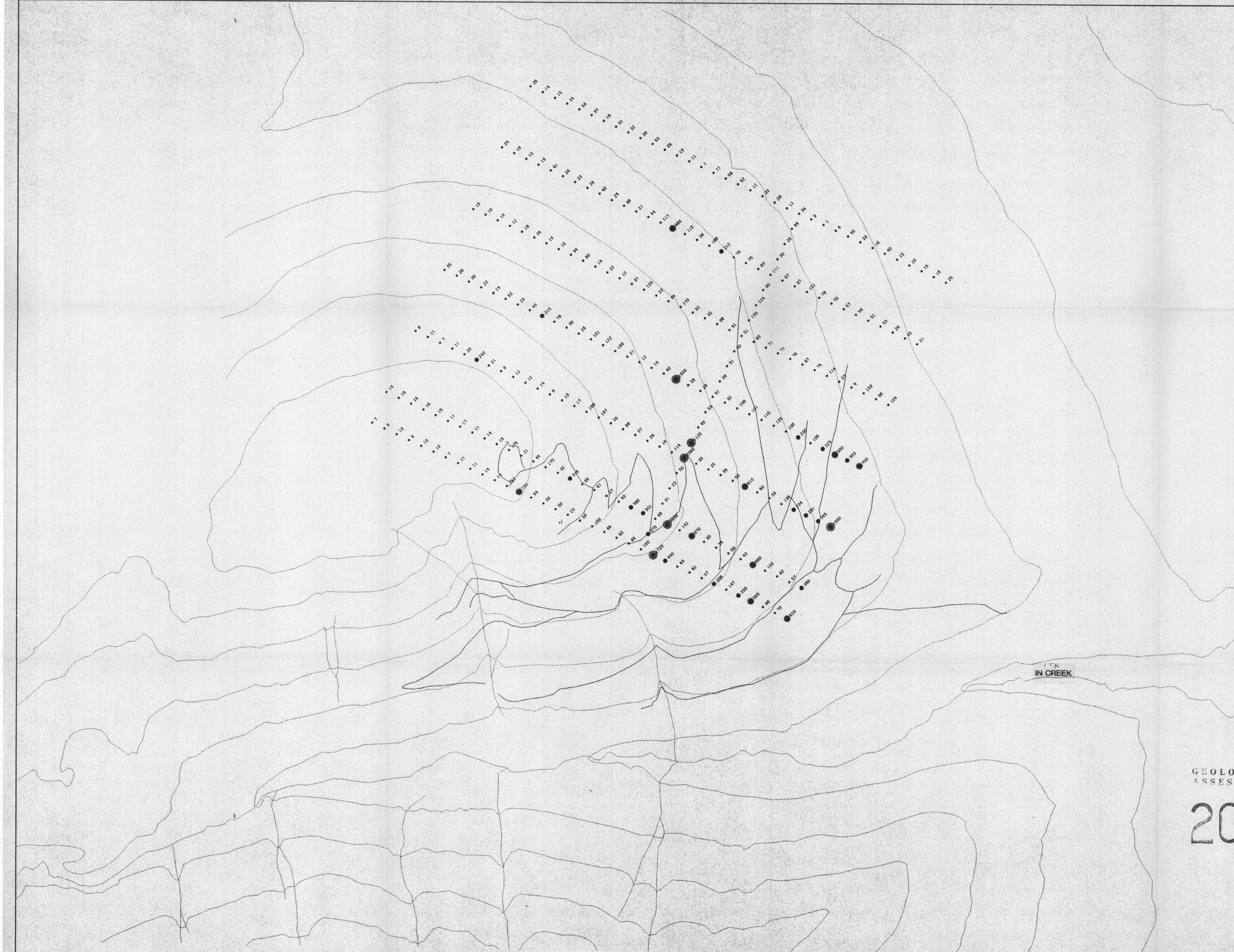
	FIELD	FILE
POINTS:	MO	SOILS.ROT
POINTS:	MO	SOILS.ROT
	SEG	ROADS.ROT
	SEG	TOPO.ROT
	SEG	CREEK.ROT

N

0 200 400 600
METRES

PLACER DOME INC.

DRAWN SMP	JAKE PROPERTY SOIL GEOCHEMISTRY MO IN PPM
DATE 90:10:23	
SCALE 1:5000	
FIGURE 9	NO. PLATE



JAKE PROPERTY SOIL GEOCHEMISTRY
PB IN PPM

- < 200 PPM PB
- 200 - 500 PPM PB
- 500 - 1000 PPM PB
- > 1000 PPM PB

DATA PLOTTED ON THIS MAP:
DIRECTORY: 8EXPL/JAKE/GCHM

	FIELD	FILE
POINTS:	PB	SOILS.ROT
POINTS:	PB	SOILS.ROT
———	SEG	ROADS.ROT
———	SEG	TOPO.ROT
———	SEG	CREEK.ROT

GEOLOGICAL BRANCH
ASSESSMENT REPORT

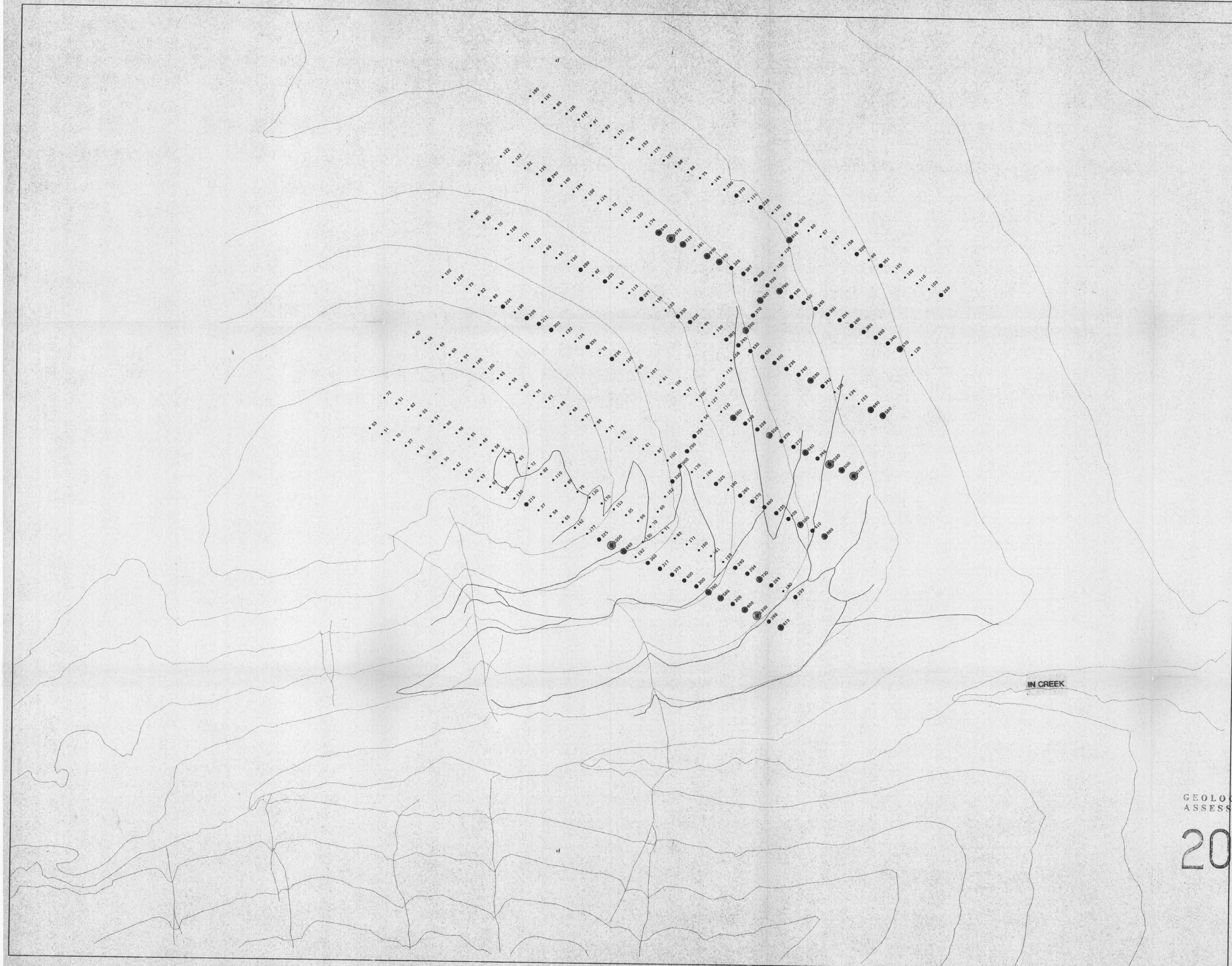
20,607

N

0 200 400 600
METRES

PLACER DOME INC.

DRAWN GEL	JAKE PROPERTY SOIL GEOCHEMISTRY PB IN PPM
DATE 90:11:14	
SCALE 1:5000	
FIGURE 10	NO. PLATE



JAKE PROPERTY SOIL GEOCHEMISTRY
ZN IN PPM

- < 200 PPM ZN
- 200 - 500 PPM ZN
- 500 - 1000 PPM ZN
- > 1000 PPM ZN

DATA PLOTTED ON THIS MAP:
DIRECTORY: $EXPL/JAKE/GCHM

	FIELD	FILE
POINTS:	ZN	SOILS.ROT
POINTS:	ZN	SOILS.ROT
	SEG	ROADS.ROT
	SEG	TOPO.ROT
	SEG	CREEK.ROT

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,607

N

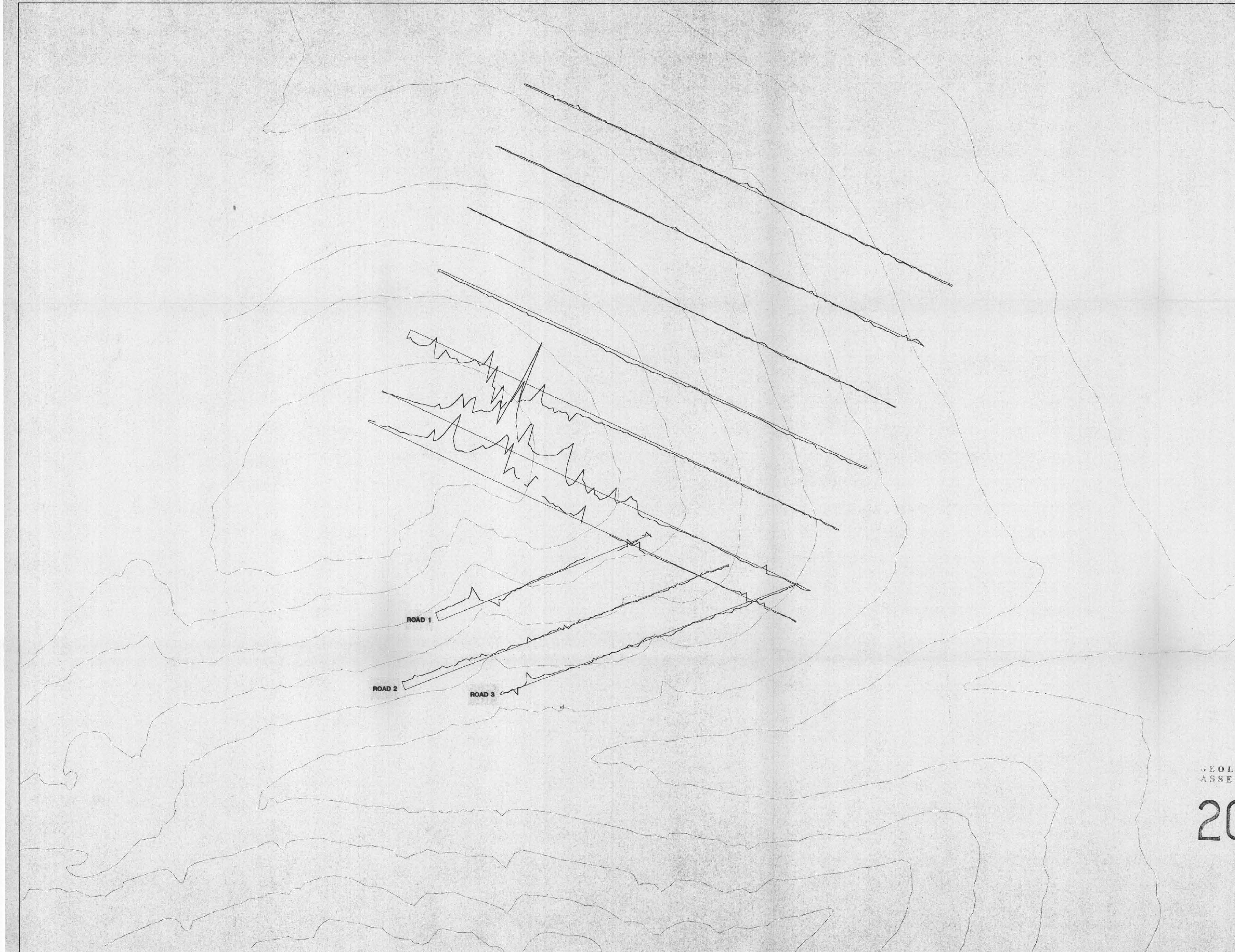
0 200 400 600
METRES

PLACER DOME INC.

DRAWN GEL	JAKE PROPERTY SOIL GEOCHEMISTRY ZN IN PPM
DATE 90:11:14	
SCALE 1:5000	
FIGURE 11	NO. PLATE

JAKE PROJECT
STACKED MAGNETIC PROFILES

UNITS = NANOTESLAS



DATA PLOTTED ON THIS MAP:
DIRECTORY: ØEXPL/JAKE/GP

	FIELD	FILE
——	MAG	JAKE.MAGS.ROT
	SCALE:	200 UNITS / CM
	BASE LEVEL:	57800
······	-3	../GCHM/TOPO.ROT
······	-3	../GCHM/CREEK.ROT

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,607

N

0 200 400 600
METRES

PLACER DOME INC.	
DRAWN RWC	JAKE PROJECT
DATE 90:11:09	STACKED MAGNETIC PROFILES
SCALE 1:5000	
FIGURE 12	NO. PLATE

JAKE PROJECT
CONTOURED MAGNETIC DATA

UNITS = NANOTESLAS

DATA PLOTTED ON THIS MAP:
DIRECTORY: /PLACER1_IF/EXPL/JAKE/GP

	FIELD	FILE
CONTOURS:	MAG	JAKE.GRD.ROT
LINES:		../GCHM/TOPO.ROT
LINES:		../GCHM/CREEK.ROT

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,607

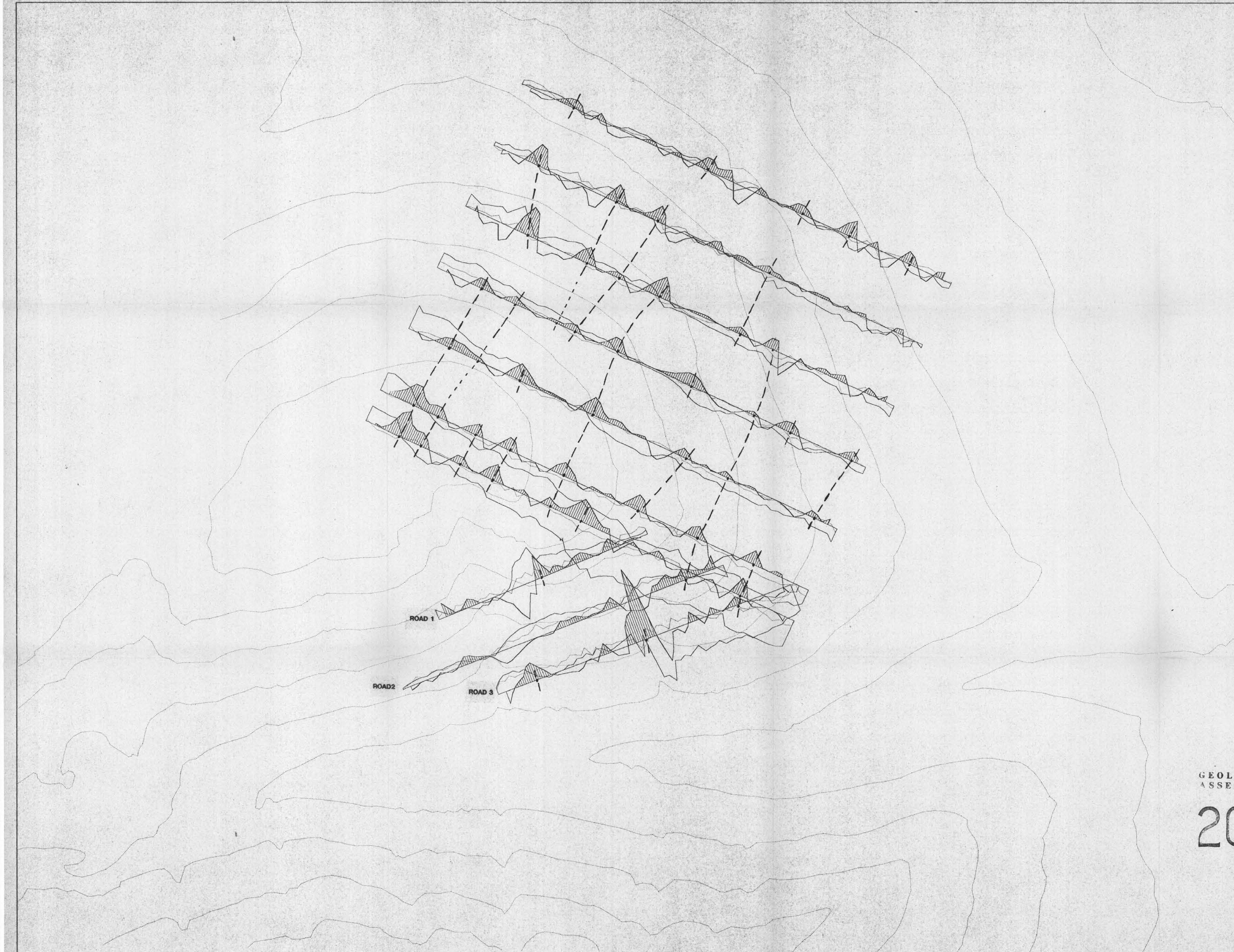
0 200 400 600
METRES

PLACER DOME INC.

DRAWN RWC	JAKE PROJECT
DATE 90:11:09	CONTOURED MAGNETIC DATA
SCALE 1:5000	
FIGURE 13	NO. PLATE

JAKE PROJECT
STACKED VLF PROFILES

LIGHT LINE = QUADRATURE
MEDIUM LINE = IN-PHASE
DARK LINE = FRASER FILTER



CONDUCTOR AXES

DATA PLOTTED ON THIS MAP:
DIRECTORY: %EXPL/JAKE/GP

FIELD	FILE
IP	JAKE.IPS.ROT SCALE: 20.0 UNITS / CM BASE LEVEL: 0.0
IP	JAKE.IPS.ROT SCALE: 20.0 UNITS / CM BASE LEVEL: 0.0 FRASER FILTER APPLIED
QD	JAKE.QDS.ROT SCALE: 20.0 UNITS / CM BASE LEVEL: 0.0
-3	../GCHM/TOPO.ROT
-3	../GCHM/CREEK.ROT

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,607

N

0 200 400 600
METRES

PLACER DOME INC.

DRAWN RWC	JAKE PROJECT STACKED VLF PROFILES
DATE 90:11:09	
SCALE 1:5000	
FIGURE 14	NO. PLATE