Magnetic and VLF Electromagnetic Surveys
by
Geosearch Consultants Limited
for
Placer Dome Inc.
on
Project 387 - One Pine Option
Poisson Township, Ontario
To Accompany Maps 89-111, 112, 113, 114 (A, B, C)

May 15, 1989
INTRODUCTION

A VLF electromagnetic and a total field magnetic survey were carried out for Placer Dome Inc. on Project 387, One Pine Option, Poisson Township, Ontario in February and March 1989.

The property consists of 27 contiguous, unpatented mining claims, a list of which is appended to this report. The property is situated along the southern boundary of Poisson Township, on and around Savant Lake. Access to the property can be made by fixed winged aircraft from the towns of Savant Lake and Pickle Lake, Ontario.

The purpose of the surveys was to outline subsurface, geo-electrical conductors, and to identify structures which may prove conducive for gold mineralization.

Eleven conductive horizons were located, most of which are due to surficial conductivity. The magnetics outlined a rather large "S" fold and a dextral fault.

The accompanying maps show the area surveyed and the results obtained.
METHOD

The magnetic survey was completed using Gem Systems GSM-18 Proton Precession Magnetometers. The diurnal variations were corrected by means of a base station recorder with readings taken at three second intervals. The very high magnetic values were taken using a Gem Systems GSM-19 magnetometer. The values were posted (Maps 89-111-A, B, C) and contoured (Maps 89-113-A, B, C). Contouring was completed by Placer Dome Inc.

The VLF-EM survey was completed using Geonics EM-16 receivers. The transmitting station used was NLK, located near Seattle, Washington, transmitting at a frequency of 24.8 kHz. The inphase and quadrature components were posted and profiled (Maps 89-112-A, B, C). The inphase data was fraser-filtered, and these values were posted and contoured (Maps 89-114-A, B, C). Contouring was completed by Geosearch Consultants using Geosoft Software.

RESULTS

The magnetic data outlines an area with very high magnetic amplitudes (in excess of 100,000 gammas). Many of these high anomalies are linear in nature, reflecting bands of iron formation. A large "S" fold is traced out by these bands, covering the entire survey area. This large fold is made up of three
or four narrow IF bands within a relatively quieter background. Within this "S" fold, a dextral fault is observed. It extends from L 40+00E, 36+00S to L 60+00W, 12+00N. Offsets of the narrow IF bands are evident along the length of the fault.

The VLF electromagnetic survey outlined numerous conductive horizons. A list of these locations are as follow:

1) L 78+00W, 8+20S to L 76+00W, 8+20S
2) L 74+00W, 9+70S to L 70+00W, 9+30S
3) L 64+00W, 18+10S to L 48+00W, 22+10S
4) L 44+00W, 19+80S to L 36+00W, 22+10S
5) L 36+00W, 27+70S to L 32+00W, 28+00S
6) L 66+00W, 5+80N to L 46+00W, 14+00S
7) L 42+00W, 4+20S to L 30+00W, 10+50S
8) L 32+00W, 34+80N to L 18+00W, 33+00N
9) L 24+00W, 3+80N to L 12+00W, 8+20S
10) L 10+00W, 0+75N
11) L 10+00E, 0+70S to L 12+00E, 0+80S

There is a remarkable coincidence between these conductors and the narrow channels of Savant Lake. Conductors # 1, 2, 3, 4, 5 and # 6 are all deemed to be caused by surficial conductivity, and not bedrock conductors. Conductor # 8 appears to
follow a creek bed. Conductor # 9 is located in very swampy terrain. Conductors # 10 and # 11 are located at the lake shore of Savant Lake. All of these are also deemed not to be due to bedrock conductivity. Conductor # 7 appears to follow an old channel, as a bay is located along the strike of its eastern extremity. However, there is an apparent correlation of this conductor with a magnetic low.

RECOMMENDATIONS

The majority of conductive horizons appear to be due to surficial conductivity, rather than bedrock conductors. The fact that conductor # 7 has a magnetic correlation with the "S" fold may indeed be coincidental. Prior to drill testing, it is recommended that a horizontal loop electromagnetic survey test conductor # 7. The intense magnetics will cause interference with the inphase data of the HLEM survey, however, the magnetics are not excessive over conductor # 7.

The "S" fold and fault reflected in the magnetics require further geological interpretation. The high amplitude magnetics suggest that there is very limited overburden cover. Correlation of the data presented with the known geology should be completed prior to any drilling.

Respectfully submitted,

Louis Racic
Geophysicist
**Report of Work**

**(Geophysical, Geological, Geochemical and Expenditures)**

**Form: TVFR**

**Township or Area:** Poisson Twp. G-2883

**Claim Holder(s):** Placer Dome Inc.

**Prospector’s Licence No.:** T-837

**Address:** P.O. Box 350, IBM Tower, TD Centre, Toronto, Ont.

**Survey Company:** Geosearch Consultants Limited

**Date of Survey (from & to):** 19.02.89 to 05.03.89

**Total Miles of line Cut:** 48.16 miles

**Name and Address of Author (of Geo-Technical report):** Louis Racic, 360-111 Queen St. E., Toronto, Ont., M5C 1S2

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**Special Provisions per Each Claim in Columns at right**

1. **Geophysical**
   - Electromagnetic
   - Magnetometer
   - Radiometric
   - Other

2. **Geological**
   - Sample
   - Other
   - Geological

3. **Geochemical**
   - Electromagnetic
   - Magnetometer
   - Radiometric

---

**Credits Requested per Each Claim in Columns at right**

1. **Geophysical**
   - Electromagnetic
   - Magnetometer
   - Radiometric
   - Other

2. **Geological**
   - Sample
   - Other
   - Geological

3. **Geochemical**
   - Electromagnetic
   - Magnetometer
   - Radiometric

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**Revenue**

**Airborne Credits**

**Note:** Special provisions credits do not apply to Airborne Surveys.

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**Expenditures (Excludes Power/Repower)**

**Type of Work Performed**

**Performed on Claim(s)**

**Calculation of Expenditures**

**Total Expenditures**

**Instructions**

Total Days Credits may be apportioned at the claim holder’s choice. Enter number of days credits per claim selected in columns at right.

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**Date Recorded:** March 16, 1989

**Mineral Referred:**

**Date Approved as Recorded:** 89/08/03

**Certification Verifying Report of Work**

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

**Name and Address of Author:** Louis Racic, 360-111 Queen St. E., Toronto, Ont., M5C 1S2

**Date Certified:** 03/03/89

**Certified by:** [Signature]

---

**Total number of mining claims covered by this report of work:** 272
Type of Survey(s): VLF-Electromagnetic & Magnetic

Township or Area: Poisson Twp., Ontario

Claim Holder(s): Placer Dome Inc.

Survey Company: Geosearch Consultants Ltd.

Author of Report: Louis Racic

Address of Author: 360-111 Queen St. E., Toronto, Ont.

Covering Dates of Survey: 19/02/89 - 15/05/89

Total Miles of Line Cut: 48.16 miles

**MINING CLAIMS TRAVERSED**

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<td>Pa</td>
<td>486010-486013</td>
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<tr>
<td>Pa 517557-517571</td>
<td>Placer Dome Inc.</td>
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<td>820983-820984</td>
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**SPECIAL PROVISIONS**

CREDITS REQUESTED

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<tr>
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<td>Radiometric</td>
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<td>ENTER 20 days for each additional survey using same grid.</td>
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**AIRBORNE CREDITS**

(Special provision credits do not apply to airborne surveys)

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<tr>
<td>Radiometric</td>
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**DATE:** 15/05/89

**SIGNATURE:**

Author of Report or Agent

Res. Geol. Qualifications: 28017

**Previous Surveys**

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**TOTAL CLAIMS:** 27
GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS — If more than one survey, specify data for each type of survey

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<th>Number of Readings</th>
<th>5064 5056</th>
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<td>Contour interval</td>
<td>100 gammas</td>
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MAGNETIC

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<td>Diurnal correction method</td>
<td>Base station recorder with readings taken</td>
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<tr>
<td>Base Station check-in interval (hours)</td>
<td>at 3 second intervals</td>
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<tr>
<td>Base Station location and value</td>
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ELECTROMAGNETIC

<table>
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<tr>
<th>Instrument</th>
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<td>Coil configuration</td>
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<td>Coil separation</td>
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<td>Accuracy</td>
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<tr>
<td>Method:</td>
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<td>Frequency</td>
<td>NLK Seattle 24.8 kHz</td>
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Parameters measured: In phase and quadrature components of the vertical secondary field.

GRAVITY

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<td>Corrections made</td>
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<td>Base station value and location</td>
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INDUCED POLARIZATION

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EXPLORATION DEPARTMENT

May 17, 1989

DELIVER

Ministry of Northern Development
and Mines
Mining Land Section
880 Bay Street
3rd. Floor
Toronto, Ontario
M5S 1Z8

Attention: Dr. W.R. Cowan
Provincial Manager, Mining Lands
Mines & Minerals Division

Re: Geophysical Report - Poisson Township, Ontario

We enclose herewith, in duplicate, a Report and Plans prepared by Geosearch Consultants Limited covering 60 days Magnetic and Electromagnetic Survey in Poisson Township.

Enclosed is a copy of the Report of Work which we forwarded to the Mining Recorder in Sioux Lookout, Ontario.

Please date-stamp the enclosed copy of this letter and return it to me.

Yours very truly,

PLACER DOME INC.

M. Luba Vcislo
Land Manager

MLV:sh
Encl.
### REFERENCES

**AREAS WITHDRAWN FROM DISPOSITION**

- M.R.O. - MINING RIGHTS ONLY
- S.R.O. - SURFACE RIGHTS ONLY
- M.S. - MINING AND SURFACE RIGHTS

### LEGEND

<table>
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<th>Type of Document</th>
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<td>Mining Rights Only</td>
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**Notations:**
- Mining Rights in parcels patented prior to May 6, 1913, vested in original patentee by the Public Lands Act, R.S.O. 1970, Chap. 3Bq, Sec. 63, Subsec 1.

### SCALE

1 inch = 40 chains

### TOWNSHIP

**POISSON**

**M.N.R. ADMINISTRATIVE DISTRICT**

**SIOUX LOOKOUT**

**MINING DIVISION**

**PATRICIA**

**LAND TITLES/REGISTRY DIVISION**

**THUNDER BAY**

Ministry of Land and Natural Resources, Ontario

**Date:** May 1985

**Number:** G-2883
TOTAL FIELD MAGNETIC SURVEY
by GEOSEARCH CONSULTANTS LTD.
for PLACER DOME INC.
PROJECT 387 - ONE PINE OPTION
POISSON TOWNSHIP, ONT.
DATE: FEB 1989
DRAWN: J.A.R.
NTS: 52J7, 89-111-A
TOTAL FIELD MAGNETIC SURVEY
GEOSEARCH CONSULTANTS LTD.
for PLACER DOME INC.
PROJECT 387 - ONE PINE OPTION
POISSON TOWNSHIP, ONT.
DATE: FEB 1989
ORIGIN: J.A.R.
NTS: 52 J 7, 89-111-C
VLF ELECTROMAGNETIC SURVEY
GEOSEARCH CONSULTANTS LTD.
for PLACER DOME INC.
PROJECT 387 - ONE PINE OPTION
POISSON TOWNSHIP, ON.
DATE: FEB 1989
DRAWN: J.A.R.

SCALE 1:2,540
1 inch = 200 ft

52J08NW8845 2.12487 POISSON TOWNSHIP, ON.
TOPOGRAPHY

CLAIM POST — LAKE
STREAM
SWAMP
ACCESS ROAD
RUSH ROAD

SCALE 1: 2,400
1 In. = 200 ft

VLF ELECTROMAGNETIC SURVEY
by GEOSEARCH CONSULTANTS LTD.
for PLACER DOME INC.
PROJECT 387 - ONE PINE OPTION
POISSON TOWNSHIP, ONT.
DATE: FEB 1989
DRAWN: J.A.R.
TOPOGRAPHY CLAIM POST ———;
LAKE STREAM SWAMP ACCESS ROAD RUSH ROAD

VLF PROFILES

inch = 80 7

PROFILE - POSTING I

Instrument : GEONICS EM-16

CONDUCTOR A XIS.-————————-

HAP KEY

SCALE l : 2.400

200 ft (FEET) 2QO___________400

VLF ELECTROMAGNETIC SURVEY by GEOSEARCH CONSULTANTS LTD.

for PLACER DOME INC.

PROJECT 387 - ONE PINE OPTION POISSON TOWNSHIP, ONT.

DATE : FEB 1989 DRAWN : J.A.R.

NTS : 52 J 7, 89-112-C

52J08NW8B45 2,12487 POISSON

SAVANT LAKE
VLF FRASER FILTERED CONTOURS

MAP KEY

Dimensionless Units
Calculated from In Phase Data

INSTRUMENT: GEONICS EM-16
NLK SEATTLE WASH. 24.8 kHz.

SCALE 1: 2,400
1 In. = 200 ft

DATE: FEB 1989
DRAWN: J.A.R.

PROJECT 387 - ONE PINE OPTION
POISSON TOWNSHIP, ONT.

PLACER DOME INC.

POISSON TOWNSHIP, ONT.

NTS: 52 J 6
89-114-B

GEOSEARCH CONSULTANTS LTD.