## SURFACE AND DOWNHOLE INDUCED POLARIZATION AND RESISTTVITY SURVEYS


N.T.S. 82 M 12 E

LAT. $51^{\circ} 38^{\prime} \mathrm{N} \quad$ LONG. $119^{\circ} 48^{\prime} \mathrm{W}$

Owned by : Placer Dome Inc.
Denison Mines Ltd. ConRex Corporation

Work by : Scott Geophysics Ltd.
R.W. Cannon, P.Eng.


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## LIST OF PLATES

Noble Claims IPR11 Survey N=1, Contoured Chargeability 01
Noble Claims IPR11 Survey N=2, Contoured Chargeability 02
Noble Claims IPR11 Survey $N=1$, Contoured Resistivity 03
Noble Claims IPR11 Survey N=2, Contoured Resistivity 04
Drill Hole 88DD001 N = 1, Chargeability-Resistivity 05
Drill Hole 88DD001 N = 2, Chargeability-Resistivity 06
Drill Hole 88DD001 N = 3, Chargeability-Resistivity 07
Drill Hole 88DD002 N = 1, Chargeability-Resistivity 08
Drill Hole 88DD002 N = 2, Chargeability-Resistivity 09
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Drill Hole 88DD002 $\mathrm{N}=3$, Chargeability-Resistivity 10
Drill Hole 88DD003 N = 1, Chargeability-Resistivity 11
Drill Hole 88DD003 N = 2, Chargeability-Resistivity 12
Drill Hole 88DD003 N = 3, Chargeability-Resistivity 13
Drill Hole 88DD004 N = 1, Chargeability-Resistivity 14
Drill Hole 88DD004 N = 2, Chargeability-Resistivity 15
Drill hole 88DD004 N = 3, Chargeability-Resistivity 16

## INTRODUCTION

Surface and downhole Induced Polarization and Resistivity surveys were conducted over the Noble claims, Clearwater Area, British Columbia during the period from October 30 to November 18, 1988. The work was carried out by Scott Geophysics Ltd. on behalf of Placer Dome Inc.

The dipole-dipole electrode array was used on the surface survey, with an "a" spacing of 40 metres and " n " separations of 1 to 5 . The current electrodes were to the south of the receiving electrodes on Lines $8300 \mathrm{E}, 8400 \mathrm{E}$, and 8500 E . These positions were reversed on all other lines.

The pole-dipole electrode array was used for the downhole survey, with readings taken at "a" spacings of $2.5,5,10,20$ and 40 metres. The current electrode was at the bottom of the array.

## SUMMARY

Nine kilometres of Induced Polarization and Resistivity surveys were conducted along 17 lines. Four drill holes were also surveyed with a borehole I.P. survey. The surface survey outlined a narrow zone representing a mineralized horizon which can be traced along both limbs of a plunging anticline. Areas of increased chargeability and low resistivity represent targets which should be drilled. There was a good correlation between the borehole results and the sulphide content of the drill core. It is recommended that the positioning of the holes should be done in conjunction with results from the geological mapping and soil geochemistry results.

The Noble Claims are located on the south flank of Mount McClennan, some 15 kilometres east of Clearwater, British Columbia. Access to the survey area is by the McCorvie Lake logging road from Highway No. 5, approximately 4 kilometres east of Birch Island.

## PROPERTY STATUS

The property consists of 12 claims comprising 132 units which are as follows:

| NAME | UNITS | RECORD NO. | EXPIRY DATE |
| :--- | :---: | :---: | :--- |
| Noble 1 | 12 | 4388 |  |
| Noble 2 | 20 | 4389 | March 30, 1990 |
| Noble 3 | 20 | 4390 | March 30, 1989 |
| Noble 4 | 20 | 4391 | March 30, 1989 |
| Noble 5 | 15 | 4392 | March 30, 1990 |
| Noble 6 | 20 | 4561 | June 27, 1989 |
| Noble 7 | 20 | 7954 | August 10, 1989 |
| Noble 8 | 1 | 7986 | September 1, 1989 |
| Noble 9 | 1 | 7987 | September 1, 1989 |
| Noble 10 | 1 | 7988 | September 1, 1989 |
| Noble 11 | 1 | 7989 | September 1, 1989 |
| Noble 12 | 1 | 7990 | September 1, 1989 |




## 0 PREVIOUS WORK

The Redtop, Snow and Sunrise showings were first discovered in the early 1920's. A considerable amount of work was conducted then and in the 1940's, 1960's and 1970's. Placer Development Ltd carried out exploration programs between 1983 and 1986.

Previous work on the property included line cutting, trenching, geochemical soil sampling, VLF-EM surveys, magnetometer surveys and diamond drilling. During 1988, Placer Dome Inc. cut a new grid and had a UTEM survey carried out by S.J.V. Consultants Ltd. of Delta, British Columbia. This survey was followed up by geological mapping, sampling and the drilling of four NQ diamond drill holes.

## PHYSIOGRAPHY

The I.P. grid was located on a tree covered plateau near the northern limits of the claim block. Logging is presently being carried out on the claim block. The terrain consists of gently rolling ground which then dips steeply to the south as one leaves the plateau area. Numerous swamps are found throughout the grid, especially in the bench area.

## GEOPHYSICAL SURVEY

A total of 9.08 line kilometres of Induced Polarization and Resistivity surveys were conducted over 17 lines. The dipole-dipole method was used with electrode "a" spacings of 40 metres and separations of " $\mathrm{n} "=1$ to 5 .

Four drill holes were surveyed with the downhole system, namely holes 88DD001, 88DD002, 88DD003 and 88DD004. The holes were lined with PVC pipe to prevent collapse and allow easy access for the logging tool. This pipe was slotted with a saw to enable electrical contact with the wall rocks. Readings were routinely taken at 5 metre intervals within the borehole, but this interval was occasionally reduced to 1 or 2 metre intervals. All readings are plotted $1 / 4$ of the P1-C1 separation downhole from the P1 position. The data listed as $n=1$ is for the 2.5 metre "a" spacing, $n=2$ is for 5 metre, $n=3$ is for 10 metre, $n=4$ is for 20 metre and $n=5$ is for 40 metre.

## INSTRUMENTATION AND PROCEDURES

A Scintrex IPR11 time domain microprocessor based induced polarization receiver and a Scintrex 2.5 kw IPC 7 transmitter were used for the surface survey. The same receiver was used for the bore hole survey along with a Huntec M4 Lopo 0.5 kw transmitter and a Scintrex DHIP2 downhole induced polarization logging unit.

Readings were taken using a 2 second alternating square wave. The chargeability for the eighth slice ( 690 to 1050 milliseconds after shutoff: midpoint at 870 milliseconds, M7) was the value that has been plotted on the plan maps, pseudo-sections and drill hole sections.

The survey data was archived, processed and plotted using a Sharp PC7000 microcomputer running Scintrex Soft II and proprietary software. All chargeability values were analyzed for their spectral characteristics using curve matching procedures (Soft II).

## SURVEY RESULTS

The chargeability and resistivity results from the surface survey were plotted as pseudo-sections and as contoured plan maps for $n=1$ and 2 (see Appendix I and Plates in the folder at the back of report). The drill hole results have been presented as profiles of chargeability and resistivity on the drill hole sections (see Plates in the folder at the back of report). A listing of the results from the borehole survey are in Appendix II.

## DISCUSSION OF RESULTS

A narrow chargeability high, which is partially coincident with a resistivity low or flanked by this resistivity low, cuts across the grid as shown on Plates 01, 02, 03 and 04. This zone appears to outline the north limb and nose of an anticline and a portion of the southern limb. A study of the pseudosections reveals the anomalous zone to occur near surface. The causative body has chargeabilities which are twice background or slightly higher with values in the 45 millisecond range. Resistivities for the anomalous zone are less than 750 ohm-metres against background readings of greater than 1500 ohm-metres. The zone is not detected on Line 8000 where a fault has been postulated from the geological mapping.

The borehole IP survey results show that the $n=1,2$ and 3 data can be correlated with the pyrite content of the drill core and would prove useful in tracing zones from hole to hole. These areas of increased sulphide content have higher chargeabilities and lower resistivities than the surrounding rock. As the "n" separations increase, the values obtained begin to represent an average for the whole rock and therefore lose their usefulness. This shows on the $n=4$ and 5 results and thus they have not been plotted for this report even though the values are listed in Appendix II.

## CONCLUSIONS AND RECOMMENDATIONS

It was concluded that the IP survey method could be used to trace the mineralized horizon and would prove useful in outlining zones of increased sulphide content within this horizon. The borehole IP survey would be of use in correlating zones from hole to hole. This would be of particular use when drilling a fence of holes across the anomalous zone.

It is recommended that the IP survey be extended to follow the southern portion of this anomalous zone where there is no coverage at present. The higher chargeability areas within this zone should be drilled with a minimum of three holes. These holes should be drilled at approximately -45 degrees in a fence from north to south. The drill hole locations should be decided in combination with the soil geochemistry results.


## STATEMENT OF QUALIFICATIONS

I, Richard W. Cannon, of the City of Vancouver, Province of British Columbia, hereby 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 practiced my profession since 1966.

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O R. W. Cannon, P. Eng.

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## APPENDIX I

## I.P. PSEUDO-SECTIONS

| L 6700 | L 6900 |
| :---: | :---: |
| L 7000 | L7100 |
| L 7200 | L 7300 |
| L 7400 | L 7500 |
| L 7600 | L 7700 |
| L 7800 | L 7900 |
| L 8000 | L 8100 |
| L 8300 | L 8400 |
| L 8500 |  |

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| NOBLE CLAIMS " ${ }^{\text {n": }} \quad$ 40,0 SCINTREX IPF-11 RECEIVEA 0]POLE-DIPOLE ARRAY SCH | EARWATER AREA 7600 $\mathrm{N}=1$ TO 5 <br> TX FILLSE TIME: 2.0 SEC PECEIVE TIME: 2.0 SEC 2000 |
|  |  |





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L 8400



## APPENDIX II

## BOREHOLE I.P. RESULTS

$$
\begin{aligned}
& \mathrm{N}=1 \\
& \mathrm{~N}=2 \\
& \mathrm{~N}=3 \\
& \mathrm{~N}=4 \\
& \mathrm{~N}=5
\end{aligned}
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PLACER DOME INC.

| HOLE |  | READING | M7 | RES. |
| :---: | :---: | :---: | :---: | :---: |
| NUMBER |  | DEPTH |  |  |
| 1 | 1.00 | 21.63 | 49.20 | 1014.00 |
| 1 | 1.00 | 23.63 | 50.70 | 2468.00 |
| 1 | 1.00 | 25.63 | 34.30 | 2878.00 |
| 1 | 1.00 | 27.63 | 43.00 | 1275.00 |
| 1 | 1.00 | 29.63 | 37.90 | 767.00 |
| 1 | 1.00 | 31.63 | 38.20 | 239.30 |
| 1 | 1.00 | 33.63 | 36.20 | 120.90 |
| 1 | 1.00 | 35.63 | 50.40 | 930.00 |
| 1 | 1.00 | 37.63 | 43.70 | 2015.00 |
| 1 | 1.00 | 39.63 | 93.30 | 3810.00 |
| 1 | 1.00 | 41.63 | 85.30 | 2530.00 |
| 1 | 1.00 | 45.63 | 74.40 | 1354.00 |
| 1 | 1.00 | 47.63 | 56.10 | 514.00 |
| 1 | 1.00 | 49.63 | 40.30 | 170.90 |
| 1 | 1.00 | 51.63 | 34.90 | 143.50 |
| 1 | 1.00 | 53.63 | 57.40 | 112.60 |
| 1 | 1.00 | 55.63 | 10.30 | 74.80 |
| 1 | 1.00 | 57.63 | 3.10 | 49.30 |
| 1 | 1.00 | 59.63 | 30.40 | 53.40 |
| 1 | 1.00 | 61.63 | 23.90 | 42.00 |
| 1 | 1.00 | 63.63 | 23.80 | 65.20 |
| 1 | 1.00 | 65.63 | 30.50 | 89.60 |
| 1 | 1.00 | 67.63 | 55.90 | 182.00 |
| 1 | 1.00 | 69.63 | 40.80 | 147.00 |
| 1 | 1.00 | 71.63 | 32.40 | 129.00 |
| 1 | 1.00 | 73.63 | 14.80 | 48.40 |
| 1 | 1.00 | 75.63 | 42.60 | 152.00 |
| 1 | 1.00 | 77.63 | 26.80 | 66.80 |
| 2 | 2.00 | 20.63 | 54.50 | 111.80 |
| 2 | 2.00 | 25.63 | 66.70 | 62.50 |
| 2 | 2.00 | 30.63 | 46.80 | 74.00 |
| 2 | 2.00 | 35.63 | 64.70 | 181.00 |
| 2 | 2.00 | 40.63 | 66.20 | 198.00 |
| 2 | 2.00 | 45.63 | 49.60 | 28.60 |
| 2 | 2.00 | 50.63 | 64.20 | 228.00 |
| 2 | 2.00 | 54.63 | 43.00 | 73.30 |
| 2 | 2.00 | 60.63 | 58.40 | 160.60 |
| 2 | 2.00 | 65.63 | 53.10 | 67.80 |
| 2 | 2.00 | 70.63 | 47.60 | 106.80 |
| 2 | 2.00 | 75.63 | 48.50 | 1214.00 |
| 2 | 2.00 | 80.63 | 66.60 | 1276.00 |
|  | 2.00 | 85.63 | 59.20 | 294.00 |
| 2 | 2.00 | 90.63 | 71.10 | 1527.00 |
| 2 | 2.00 | 95.63 | 89.50 | 326.00 |
| 2 | 2.00 | 100.63 | 50.60 | 184.20 |
|  | 2.00 | 105.63 | 34.90 | 201.30 |
| 2 | 2.00 | 110.63 | 41.10 | 179.30 |
|  | 2.00 | 115.63 | 74.70 | 935.00 |
|  | 2.00 | 120.63 | 48.50 | 376.00 |
| 2 | 2.00 | 125.63 | 38.70 | 922.00 |
| 2 | 2.00 | 130.63 | 70.30 | 93.70 |

$N=1$


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|  | HOLE NUMBER |  | READING DEPTH | M7 | RES. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 4 | 4.00 | 27.63 | 48.90 | 130.70 |
|  | 4 | 4.00 | 32.63 | 37.20 | 648.00 |
|  | 4 | 4.00 | 37.63 | 41.70 | 838.00 |
|  | 4 | 4.00 | 42.63 | 19.10 | 1267.00 |
|  | 4 | 4.00 | 47.63 | 9.60 | 683.00 |
|  | 4 | 4.00 | 52.63 | 11.30 | 382.00 |
|  | 4 | 4.00 | 57.63 | 39.50 | 486.00 |
|  | 4 | 4.00 | 62.63 | 67.20 | 488.00 |
|  | 4 | 4.00 | 67.63 | 49.60 | 272.00 |
|  | 4 | 4.00 | 72.63 | 50.60 | 76.60 |
|  | 4 | 4.00 | 77.63 | 34.30 | 226.00 |
|  | 4 | 4.00 | 82.63 | 46.10 | 420.00 |
|  | 4 | 4.00 | 87.63 | 32.50 | 788.00 |
|  | 4 | 4.00 | 92.63 | 84.90 | 129.60 |
|  | 4 | 4.00 | 97.63 | 105.20 | 267.00 |
|  | 4 | 4.00 | 102.63 | 55.90 | 347.00 |
|  | 4 | 4.00 | 107.63 | 93.20 | 391.00 |
|  | 4 | 4.00 | 112.63 | 33.40 | 493.00 |
|  | 4 | 4.00 | 117.63 | 89.60 | 99.00 |
|  | 4 | 4.00 | 119.63 | 38.40 | 162.00 |
|  | 4 | 4.00 | 121.63 | 49.80 | 36.20 |
|  | 4 | 4.00 | 123.63 | 16.70 | 7.00 |
|  | 4 | 4.00 | 125.63 | 32.20 | 38.40 |
|  | 4 | 4.00 | 127.63 | 48.10 | 7.30 |
|  | 4 | 4.00 | 132.63 | 99999.00 | 99999.00 |
|  | 4 | 4.00 | 137.63 | 99999.00 | 99999.00 |
|  | 4 | 4.00 | 140.63 | 99999.00 | 99999.00 |
| 0 | 4 | 4.00 | 142.63 | 51.50 | 253.00 |
|  | 4 | 4.00 | 143.63 | 45.50 | 242.00 |
|  | 4 | 4.00 | 144.63 | 52.10 | 173.00 |
|  | 4 | 4.00 | 147.63 | 99999.00 | 99999.00 |
|  | 4 | 4.00 | 149.63 | 73.80 | 2010.00 |
|  | 4 | 4.00 | 152.63 | 101.90 | 328.00 |
|  | 4 | 4.00 | 157.63 | 105.80 | 524.00 |
|  | 4 | 4.00 | 162.63 | 52.40 | 2210.00 |
|  | 4 | 4.00 | 167.63 | 47.70 | 1141.00 |
|  | 4 | 4.00 | 172.63 | 71.90 | 3860.00 |
|  | 4 | 4.00 | 177.63 | 47.90 | 4190.00 |
|  | 4 | 4.00 | 182.63 | 38.70 | 2700.00 |
|  | 4 | 4.00 | 187.63 | 77.50 | 120.60 |
|  | 4 | 4.00 | 192.63 | 108.40 | 598.00 |
|  | 4 | 4.00 | 197.63 | 75.30 | 167.00 |
|  | 4 | 4.00 | 202.63 | 54.30 | 2250.00 |
|  | 4 | 4.00 | 207.63 | 27.40 | 2000.00 |
|  | 4 | 4.00 | 212.63 | 64.30 | 1630.00 |
|  | 4 | 4.00 | 215.63 | 65.80 | 1421.00 |
|  | 4 | 4.00 | 217.63 | 100.20 | 104.50 |
|  | 4 | 4.00 | 219.63 | 32.50 | 82.10 |
|  | 4 | 4.00 | 220.63 | 40.00 | 46.50 |
|  | 4 | 4.00 | 221.63 | 87.40 | 33.60 |
|  | 4 | 4.00 | 222.63 | 76.80 | 40.80 |
|  | 4 | 4.00 | 223.63 | 73.60 | 937.00 |
|  | 4 | 4.00 | 227.63 | 48.70 | 1540.00 |
|  | 4 | 4.00 | 232.63 | 67.30 | 388.00 |
| 0 | 4 | 4.00 | 237.63 | 69.20 | 416.00 |
|  | 4 | 4.00 | 242.63 | 27.30 | 1360.20 |
|  | 4 | 4.00 | 247.63 | 34.30 | 3400.00 |

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$45.50 \quad 1500.00$
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$57.00 \quad 1280.00$
$58.20 \quad 710.00$
$47.80 \quad 370.00$
$51.20 \quad 221.00$
$75.50 \quad 145.00$
$67.60 \quad 165.00$
$74.30 \quad 97.00$
$\begin{array}{lr}54.40 & 90.00 \\ 52.50 & 123.00\end{array}$
$56.60 \quad 149.00$
$80.10 \quad 122.00$
$79.40 \quad 114.00$
$53.00 \quad 200.00$
$50.50 \quad 228.00$
$40.80 \quad 240.00$
$53.30 \quad 219.00$
$39.70 \quad 136.00$
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## HOLE NUMBER

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| READING |  |  |
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| DEPTH | M7 | RES. |
| 20.00 | 33.70 | 1257.00 |
| 22.00 | 38.30 | 976.00 |
| 24.00 | 33.90 | 883.00 |
| 26.00 | 29.10 | 716.00 |
| 28.00 | 26.60 | 695.00 |
| 30.00 | 23.70 | 731.00 |
| 32.00 | 11.20 | 556.00 |
| 34.00 | 6.50 | 393.00 |
| 36.00 | 24.90 | 431.00 |
| 40.00 | 49.80 | 671.00 |
| 42.00 | 55.40 | 541.00 |
| 44.00 | 48.60 | 449.00 |
| 46.00 | 45.80 | 348.00 |
| 48.00 | 44.30 | 266.00 |
| 50.00 | 40.00 | 183.00 |
| 52.00 | 36.30 | 170.00 |
| 54.00 | 34.30 | 142.00 |
| 56.00 | 35.20 | 125.00 |
| 58.00 | 36.20 | 136.00 |
| 60.00 | 40.20 | 132.00 |
| 62.00 | 36.40 | 126.00 |
| 64.00 | 46.40 | 94.00 |
| 66.00 | 43.40 | 86.00 |
| 68.00 | 39.30 | 98.00 |
| 70.00 | 44.90 | 157.00 |
| 72.00 | 38.80 | 258.00 |
| 30.00 | 13.50 | 87.00 |
| 35.00 | 15.40 | 64.00 |
| 40.00 | 23.80 | 72.00 |
| 45.00 | 11.00 | 76.00 |
| 49.00 | 12.70 | 53.70 |
| 55.00 | 39.40 | 210.00 |
| 60.00 | 40.00 | 263.00 |
| 65.00 | 32.30 | 75.80 |
| 70.00 | 33.80 | 103.00 |
| 75.00 | 40.70 | 290.00 |
| 80.00 | 59.00 | 535.00 |
| 85.00 | 61.70 | 643.00 |
| 90.00 | 59.00 | 629.00 |
| 95.00 | 43.10 | 422.00 |
| 100.00 | 42.60 | 210.00 |
| 105.00 | 38.50 | 231.00 |
| 110.00 | 35.60 | 269.00 |
| 115.00 | 47.20 | 444.00 |
| 120.00 | 47.70 | 450.00 |
| 125.00 | 46.20 | 264.00 |
| 130.00 | 40.60 | 243.00 |
| 135.00 | 52.30 | 219.00 |
| 140.00 | 49.10 | 529.00 |
| 145.00 | 39.30 | 909.00 |
| 150.00 | 30.80 | 923.00 |

$\mathbf{N}=\mathbf{3}$

$N=3$


PLACER DOME INC.

| HOLE <br> NUMBER |  | READING |  |  |
| :---: | ---: | ---: | ---: | ---: |
| 2 | 2.00 | DEPTH | M7 | RES. |
| 2 | 2.00 | 41.50 | 42.70 | 182.00 |
| 2 | 2.00 | 47.50 | 38.50 | 144.90 |
| 2 | 2.00 | 52.50 | 52.70 | 150.90 |
| 2 | 2.00 | 57.50 | 48.20 | 149.70 |
| 2 | 2.00 | 62.50 | 54.80 | 241.10 |
| 2 | 2.00 | 67.50 | 56.30 | 208.00 |
| 2 | 2.00 | 72.50 | 60.50 | 242.00 |
| 2 | 2.00 | 77.50 | 56.90 | 327.00 |
| 2 | 2.00 | 82.50 | 57.10 | 431.00 |
| 2 | 2.00 | 87.50 | 48.10 | 443.00 |
| 2 | 2.00 | 92.50 | 44.00 | 382.00 |
| 2 | 2.00 | 97.50 | 40.20 | 380.00 |
| 2 | 2.00 | 102.50 | 44.90 | 342.00 |
| 2 | 2.00 | 107.50 | 45.10 | 328.00 |
| 2 | 2.00 | 112.50 | 50.50 | 277.00 |
| 2 | 2.00 | 117.50 | 51.90 | 239.00 |
| 2 | 2.00 | 122.50 | 48.30 | 319.00 |
| 2 | 2.00 | 127.50 | 45.00 | 369.00 |
| 2 | 2.00 | 132.50 | 44.70 | 383.00 |
| 2 | 2.00 | 137.50 | 45.80 | 336.00 |
| 2 | 2.00 | 142.50 | 42.10 | 484.00 |
| 2 | 2.00 | 147.50 | 34.70 | 750.00 |
| 2 | 2.00 | 152.50 | 32.70 | 1187.00 |
| 2 | 2.00 | 157.50 | 26.50 | 1465.00 |
| 2 | 2.00 | 162.50 | 20.60 | 1775.00 |
| 2 | 2.00 | 167.50 | 16.70 | 1956.00 |
| 2 | 2.00 | 172.50 | 13.10 | 1610.00 |
| 2 | 2.00 | 177.50 | 11.30 | 1685.00 |
| 2 | 2.00 | 182.50 | 9.00 | 1560.00 |
| 2 | 2.00 | 187.50 | 9.30 | 1546.00 |
| 2 | 2.00 | 192.50 | 11.80 | 2175.00 |
| 2 | 2.00 | 197.50 | 12.80 | 2560.00 |
| 2 | 2.00 | 202.50 | 13.30 | 2300.00 |
| 2 | 2.00 | 207.50 | 13.50 | 2180.00 |
| 2 | 2.00 | 212.50 | 14.30 | 2040.00 |
| 2 | 2.00 | 217.50 | 16.10 | 1810.00 |
| 3 | 3.00 | 29.50 | 38.80 | 668.00 |
| 3 | 3.00 | 34.50 | 32.10 | 762.00 |
| 3 | 3.00 | 39.50 | 31.50 | 637.00 |
| 3 | 3.00 | 44.50 | 29.30 | 561.00 |
| 3 | 3.00 | 49.50 | 29.40 | 463.00 |
| 3 | 3.00 | 54.50 | 31.50 | 424.00 |
| 3 | 3.00 | 59.50 | 29.80 | 535.00 |
| 3 | 3.00 | 64.50 | 33.20 | 544.00 |
| 3 | 3.00 | 69.50 | 39.40 | 591.00 |
| 3 | 3.00 | 72.50 | 42.30 | 717.00 |
| 3 | 3.00 | 74.50 | 34.80 | 1100.00 |
| 3 | 3.00 | 76.50 | 34.40 | 1140.00 |
| 3 | 3.00 | 79.50 | 35.50 | 1130.00 |
| 3 | 3.00 | 84.50 | 31.60 | 990.00 |
| 2 |  |  |  |  |


| $0$ | $\mathrm{N}=4$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | HOLE | Page 2 |  |  |  |
|  | NUMBER |  | DEPTH | M7 | RES. |
|  | 3 | 3.00 | 89.50 | 31.20 | 434.00 |
|  | 3 | 3.00 | 90.50 | 26.30 | 388.00 |
|  | 3 | 3.00 | 91.50 | 24.20 | 358.00 |
|  | 3 | 3.00 | 92.50 | 23.60 | 262.00 |
|  | 3 | 3.00 | 93.50 | 22.20 | 167.00 |
|  | 3 | 3.00 | 94.50 | 21.60 | 159.00 |
|  | 3 | 3.00 | 99.50 | 20.00 | 167.00 |
|  | 3 | 3.00 | 104.50 | 18.10 | 174.00 |
|  | 3 | 3.00 | 109.50 | 16.60 | 173.00 |
|  | 3 | 3.00 | 114.50 | 16.70 | 191.00 |
|  | 3 | 3.00 | 119.50 | 26.80 | 630.00 |
|  | 3 | 3.00 | 124.50 | 18.30 | 1180.00 |
|  | 3 | 3.00 | 127.50 | 18.40 | 1440.00 |
|  | 4 | 4.00 | 39.50 | 34.40 | 989.00 |
|  |  | 4.00 | 44.50 | 33.60 | 1142.00 |
|  | 4 | 4.00 | 49.50 | 29.40 | 1024.00 |
|  | 4 | 4.00 | 54.50 | 28.00 | 597.00 |
|  | 4 | 4.00 | 59.50 | 22.40 | 497.00 |
|  | 4 | 4.00 | 64.50 | 23.00 | 446.00 |
|  | 4 | 4.00 | 69.50 | 26.60 | 460.00 |
|  | 4 | 4.00 | 74.50 | 31.00 | 474.00 |
|  | 4 | 4.00 | 79.50 | 35.80 | 397.00 |
|  | 4 | 4.00 | 84.50 | 40.10 | 460.00 |
|  | 4 | 4.00 | 89.50 | 41.10 | 451.00 |
|  | 4 | 4.00 | 94.50 | 35.40 | 428.00 |
|  | 4 | 4.00 | 99.50 | 34.90 | 375.00 |
|  | 4 | 4.00 | 104.50 | 33.90 | 249.00 |
|  | 4 | 4.00 | 106.50 | 35.30 | 260.00 |
|  | 4 | 4.00 | 108.50 | 36.10 | 270.00 |
|  | 4 | 4.00 | 110.50 | 35.70 | 275.00 |
|  | 4 | 4.00 | 112.50 | 35.20 | 303.00 |
|  | 4 | 4.00 | 114.50 | 34.20 | 342.00 |
|  | 4 | 4.00 | 119.50 | 31.00 | 381.00 |
|  | 4 | 4.00 | 124.50 | 31.50 | 363.00 |
|  | 4 | 4.00 | 127.50 | 29.30 | 269.00 |
|  | 4 | 4.00 | 129.50 | 31.70 | 247.00 |
|  | 4 | 4.00 | 130.50 | 31.50 | 231.00 |
|  | 4 | 4.00 | 131.50 | 29.10 | 219.00 |
|  | 4 | 4.00 | 134.50 | 36.30 | 143.00 |
|  | 4 | 4.00 | 136.50 | 37.60 | 153.00 |
|  | 4 | 4.00 | 139.50 | 37.10 | 187.00 |
|  | 4 | 4.00 | 144.50 | 35.50 | 271.00 |
|  | 4 | 4.00 | 149.50 | 33.50 | 345.00 |
|  | 4 | 4.00 | 154.50 | 36.80 | 585.00 |
|  | 4 | 4.00 | 159.50 | 41.60 | 537.00 |
|  | 4 | 4.00 | 164.50 | 43.90 | 639.00 |
|  | 4 | 4.00 | 169.50 | 43.30 | 758.00 |
|  | 4 | 4.00 | 174.50 | 46.50 | 567.00 |
|  |  | 4.00 | 179.50 | 44.90 | 569.00 |
|  | 4 | 4.00 | 184.50 | 40.60 | 584.00 |
|  | 4 | 4.00 | 189.50 | 36.50 | 556.00 |
|  | 4 | 4.00 | 194.50 | 38.90 | 486.00 |
|  | 4 | 4.00 | 199.50 | 42.60 | 523.00 |
|  | 4 | 4.00 | 202.50 | 42.60 | 482.00 |
|  | 4 | 4.00 | 204.50 | 40.20 | 541.00 |
|  | 4 | 4.00 | 206.50 | 38.70 | 717.00 |


|  | $\mathrm{N}=4$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | HOLE |  | Page <br> READING | 3 |  |
|  | NUMBER |  | DEPTH | M7 | RES. |
| 0 | 4 | 4.00 | 207.50 | 36.80 | 806.00 |
|  | 4 | 4.00 | 208.50 | 35.40 | 871.00 |
|  | 4 | 4.00 | 209.50 | 34.40 | 915.00 |
|  | 4 | 4.00 | 210.50 | 33.90 | 981.00 |
|  | 4 | 4.00 | 214.50 | 32.90 | 963.00 |
|  | 4 | 4.00 | 219.50 | 39.20 | 683.00 |
|  | 4 | 4.00 | 224.50 | 34.70 | 641.00 |
|  | 4 | 4.00 | 229.50 | 39.70 | 518.10 |
|  | 4 | 4.00 | 234.50 | 41.10 | 501.00 |

PLACER DOME INC.

| hole |  | READING |  |  |
| :---: | :---: | :---: | :---: | :---: |
| NUMBER |  | DEPTH | M7 | RES. |
| 2 | 2.00 | 62.50 | 17.80 | 361.00 |
| 2 | 2.00 | 67.50 | 29.90 | 378.00 |
| 2 | 2.00 | 72.50 | 33.30 | 309.00 |
| 2 | 2.00 | 77.50 | 35.80 | 309.00 |
| 2 | 2.00 | 82.50 | 36.90 | 450.00 |
| 2 | 2.00 | 87.50 | 39.50 | 450.00 |
| 2 | 2.00 | 92.50 | 39.90 | 480.00 |
| 2 | 2.00 | 97.50 | 39.90 | 490.00 |
| 2 | 2.00 | 102.50 | 37.20 | 460.00 |
| 2 | 2.00 | 107.50 | 37.70 | 460.00 |
| 2 | 2.00 | 112.50 | 36.90 | 500.00 |
| 2 | 2.00 | 117.50 | 34.50 | 480.00 |
| 2 | 2.00 | 122.50 | 36.80 | 415.00 |
| 2 | 2.00 | 127.50 | 32.80 | 450.00 |
| 2 | 2.00 | 132.50 | 32.60 | 480.00 |
| 2 | 2.00 | 137.50 | 32.50 | 550.00 |
| 2 | 2.00 | 142.50 | 35.40 | 500.00 |
| 2 | 2.00 | 147.50 | 34.60 | 620.00 |
| 2 | 2.00 | 152.50 | 31.60 | 880.00 |
| 2 | 2.00 | 157.50 | 28.80 | 1090.00 |
| 2 | 2.00 | 162.50 | 26.40 | 1350.00 |
| 2 | 2.00 | 167.50 | 23.30 | 1580.00 |
| 2 | 2.00 | 172.50 | 20.30 | 1700.00 |
| 2 | 2.00 | 177.50 | 18.40 | 1580.00 |
| 2 | 2.00 | 182.50 | 17.90 | 1720.00 |
| 2 | 2.00 | 187.50 | 15.50 | 1640.00 |
| 2 | 2.00 | 192.50 | 14.60 | 1530.00 |
| 2 | 2.00 | 197.50 | 15.40 | 1700.00 |
| 2 | 2.00 | 202.50 | 15.70 | 1780.00 |
| 3 | 3.00 | 54.50 | 30.60 | 570.00 |
| 3 | 3.00 | 57.50 | 30.40 | 570.00 |
| 3 | 3.00 | 59.50 | 31.50 | 540.00 |
| 3 | 3.00 | 61.50 | 29.00 | 560.00 |
| 3 | 3.00 | 64.50 | 26.40 | 560.00 |
| 3 | 3.00 | 69.50 | 23.60 | 500.00 |
| 3 | 3.00 | 74.50 | 23.50 | 360.00 |
| 3 | 3.00 | 75.50 | 22.10 | 350.00 |
| 3 | 3.00 | 76.50 | 21.60 | 340.00 |
| 3 | 3.00 | 77.50 | 20.80 | 320.00 |
| 3 | 3.00 | 78.50 | 19.40 | 310.00 |
| 3 | 3.00 | 79.50 | 19.60 | 320.00 |
| 3 | 3.00 | 84.50 | 23.10 | 340.00 |
| 3 | 3.00 | 89.50 | 24.50 | 340.00 |
| 3 | 3.00 | 94.50 | 22.50 | 380.00 |
| 3 | 3.00 | 99.50 | 21.80 | 400.00 |
| 3 | 3.00 | 104.50 | 23.90 | 390.00 |
| 3 | 3.00 | 109.50 | 24.20 | 390.00 |
| 3 | 3.00 | 112.50 | 23.70 | 390.00 |
| 4 | 4.00 | 64.50 | 31.50 | 750.00 |
| 4 | 4.00 | 69.50 | 32.10 | 720.00 |
| 4 | 4.00 | 74.50 | 33.10 | 670.00 |

## $N=5$

















