# REPORT ON MAGNETOMETER AND INDUCED POLARIZATION SURVEYS CARMAN AND LANGMUIR TWPS. PROPERTY N.T.S. 42-A-6 GOLDEN PHEASANT RESOURCES LTD. VOLUME 2 - GEOPH YSICS <br> Porcupine Mining Division <br> Ontario <br> $48^{\circ} \mathbf{2 2}^{\prime} \mathrm{N}$ Latitude $\mathbf{8 1}^{\circ} \mathbf{0} 3^{\prime}$ W Longitude 

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## Miin...U LANDS SECTION

R.E. Gillick, M.Sc.

ROBERT E. GILLICK AND ASSOCIATES LTD. for JAMES WADE ENGINEERING LTD.
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1.0 SUMMARY

Eight chargeability anomalies selected from the IP results are interpreted as representing sulfide zones with potential for gold mineralization. At least one of the zones (line 16 N , $0+45 \mathrm{~W} \&$ line $17 \mathrm{~N}, 0+65 \mathrm{~W}$ ) may be related to iron formation. Other zones are located within mafic to intermediate volcanics and may represent sulfide emplacement associated with faulting or shearing.

The magnetics survey has delineated a northeast striking ridge of high magnetic response located near the new baseline. The feature is believed to represent iron formation. A linear north-south striking magnetic low, interpreted as a fault, appears to terminate or offset the iron formation at its northern extremity.

Trenching or drilling of selected IP anomalous zones is recommended. In addition, it is highly recommended that the magnetic trend interpreted as iron formation be thoroughly investigated on surface. If the presence of iron formation is confirmed, the zone should be prospected and drilled.

## INTRODUCTION

The following report describes ground geophysical surveys (induced polarization and magnetics) carried out during March and April, 1988, over parts of the Carman and Langmuir Property of Golden Pheasant Resources Ltd. in the Timmins area of northern Ontario.

## 3.0

## PROPERTY DESCRIPTION, LOCATION AND ACCESS

The Golden Pheasant property consists of a block of 36 contiguous unpatented mining claims located approximately 25 kilometres southeast of the municipality of Timmins in northern Ontario. The claim block is located near the southwest corner of Carman Township and northwest corner of Langmuir Township (Fig. No. 1).

The claims comprising the property are as follows (Fig. No. 2):

Claim Number
P 792475-792477
P 792481-792484
P 947051-947060
P 947114-947121
P 987235-987245
(3)

Recording Date
March 12, 1984
March 29, 1984
September 16, 1986
September 16, 1986
May 26, 1987

Total 36 Claims

The property is accessible by an all-season gravel road from the town of South Porcupine located on highway 101 to the north. By proceeding southeastwards along the gravel road for about 18 kilometres and then taking the Langmuir Mine branch road for an additional 5 kilometres, one passes within about 700 metres of the southern part of the Golden Pheasant property. From this point, the claims are accessible on foot or by snow machine.

The property can also be reached by helicopter from Timmins.



No bodies of water large enough to permit the landing and take-off of ski- or float-equipped fixed-wing aircraft occur on the property.

### 4.0 TOPOGRAPHY AND VEGETATION

Approximately $60 \%$ to $70 \%$ of the property area is low-lying and covered by swamp or muskeg. Over the remainder of the property, topographic relief is variable ranging from several metres to a maximum of about 20 metres. The relief is relatively abrupt in places especially over diabase dikes where differential weathering has left the hard dike rock prominently exposed.

Vegetation is generally mixed. Cedar is common in the swampy areas with black spruce and balsam fir occurring in the regions of muskeg. Stands of birch, poplar and pine occur along the ridges and in the dryer parts of the property.

### 5.0 PREVIOUS WORK

Although no documented evidence is available in assessment files indicating work on the Golden Pheasant property prior to the 1960's, old pits and trenches located on the property suggest that some work may have been carried out.

In 1962, Dumont Nickel Corporation of Quebec, drilled a single hole (602') on the property in the west central part of present claim 792481. The hole reportedly intersected several bands of siliceous pyrite-bearing iron formation. One of the bands assayed 0.67 ounces gold per ton over a core length of 6 feet.

In 1974, T. K. Dowe drilled a single hole (146') in the northeast corner of present claim 792481. Banded iron formation was intersected near the bottom of the hole. No significant gold assays were reported.

In 1982, Rio Tinto Canadian Exploration Ltd. carried out magnetometer and VLF-EM surveys over the southern part of the present property. One hole was drilled to a depth of 372 feet in the east central part of present claim 792482. The hole reportedly intersected several bands of siliceous iron formation well-mineralized (5-10\%) with pyrrhotite and pyrite and containing up to several percent chalcopyrite in places. No gold assays were published for this hole.

In 1984/85, J.K. Filo and M. C. Kean staked seven claims covering and surrounding the Dumont drill hole. VLF-EM surveying and geological mapping were carried out.

In 1986, Golden Pheasant Resources Ltd. optioned the Filo-Kean claims. During the latter part of 1986 and early part of 1987 , 29 additional claims were staked contiguous to the original block to form the present 36 claims. During the early part of 1987, Golden Pheasant commissioned geophysical surveying (HLEM, magnetometer, $I P$ ) and geological mapping over the southern 25 claims of the block.

### 6.0 REGIONAL GEOLOGY AND ECONOMIC MINERALIZATION

The Timmins area lies within the Abitibi Volcanic Belt which forms a sub-province of the Superior Province of the Canadian Shield. The belt is characterized by a predominance of Archean metavolcanic/metasedimentary rock types intruded by numerous felsic to ultramafic bodies. Six major gold/base metal mining camps are located along this belt making it one of the most productive mining regions in the world.

The Timmins area is located near the western extremity of the Abitibi Belt. Volcanic rocks within this sub-region have been divided into the Tisdale and Deloro groups. The Tisdale group consists of a basal formation of predominantly ultra-
mafic volcanic rocks (komatiites) overlying tholeiitic basalts which in turn are overlain by volcaniclastic rocks of calcalkaline dacite composition. The Deloro group is composed of andesitic and basaltic flows overlain by dacitic flows and and dacitic and rhyolitic pyroclastics. Iron formation commonly occurs near the top of the Deloro sequence. Both groups are overlain by interlayered and intercalated metasediments consisting of wacke, siltstone and, to a lesser extent, conglomerate. The regional metamorphic grade is lower to middle greenschist facies. Both groups have been intruded by numerous north and north-east trending diabase dikes.

The Destor-Porcupine Fault forms a major structural break in the Timmins area striking northeasterly between the Tisdale group and the Deloro group. The vast majority of gold deposits in the area are hosted in the lower volcanic rocks of the Tisdale sequence immediately to the north of the Destor-Porcupine Fault.

The Shaw Dome forms the main structural feature associated with the Deloro volcanic group. The easterly dip and northerly strike of the rocks on the Golden Pheasant property are due to their location along the eastern margin of the Shaw Dome.

Over 49 gold mines have operated in the Timmins area producing a combined total of 65 million ounces of gold from ore with an average grade of 0.254 ounces gold per ton. The majority of gold in the Timmins camp has been hosted in quartz-carbonate veins within volcanic rocks in the lower part of the Tisdale sequence. Most of the deposits are in close spatial association with ultramafic volcanic rocks suggesting that this latter rock type may have been the source rock for the gold.

Two iron formation hosted gold deposits are located within the Deloro volcanics about 2.5.kilometres northwest of the Golden

Pheasant property. The Carshaw and Malga deposits are reported to host 247,000 tons of ore with a combined average grade of 0.249 ounces gold per ton. Gold mineralization in both these deposits is associated with quartz veining and attendant pyrite replacement of magnetite-rich mesobands. The mineralization appears to have been emplaced by the percolation and precipitation of exotic gold and sulfur bearing hydrothermal solutions within fracture systems formed by the brittle deformation of the iron formation.

The Langmuir Mine, a former nickel producer, is located about 2.5 kilometres southeast of the Golden Pheasant property. Between 1973 and 1977, 1.1 million tons of ore grading $1.5 \%$ nickel were mined from this ultramafic hosted deposit.

### 7.0 PROPERTY GEOLOGY

The southeast portion of the Golden Pheasant property is underlain by ultramafic intrusive rock identified as serpentinized dunite or peridotite. Nost of the western and northern parts of the 1987 gridded portion of the property are underlain by intermediate volcanics intercalated with thin mafic flows. Several outcrops of quartz-feldspar-porphry occur in the west near line $1+00 \mathrm{~N}$ at approximately $10+00 \mathrm{~W}$. A large east-west trending carbonatized zone has been identified at $0+25 \mathrm{~S}, 4+00 \mathrm{~W}$. Large diabase intrusives transect the property in both northerly and northeasterly directions.

Two zones of siliceous oxide iron formation were delineated during the 1987 mapping program. One zone is located between lines $1+00 \mathrm{~N}$ and $2+00 \mathrm{~N}$ at $1+50 \mathrm{~W}$ and the second zone strikes northeasterly across lines $5+00 \mathrm{~N}$ and $6+00 \mathrm{~N}$ at $9+00 \mathrm{E}$. The iron formation is reported to exhibit intense local folding and contain variable quantities of sulfide mineralization. The hole drilled by Dumont in 1962 intersected the western zone of
iron formation indicating it to be composed of two separate bands, the westernmost band being auriferous and 'well-mineralized' with pyrite.

## 8.C DESCRIPTION OF GEOPHYSICAL PROGRAM

Between the dates of March 3 and March 30, 1988, inclusive, 23.95 kilometres ( 14.89 miles) of line were cut over 11 claims comprising the northern part of the Golden Pheasant property. A baseline oriented at an azimuth of $34^{\circ}$ was cut across the central part of the claim group and crosslines oriented perpendicular to the baseline were cut at 100 metre intervals to cover the claims. Labelled pickets were erected at 25 metre intervals along all crosslines and the baseline.

The linecutting was carried out by Mr. N. Wabie of Notre Dame du Nord, Quebec.

Between the dates of March 10 and April 4, 1988, inclusive, magnetometer and induced polarization surveying was carried out on the property by Robert E. Gillick \& Associates Ltd. of North Bay, Ontario. Total mileages surveged were as follows:

| Magnetometer survey | 20.16 kilometres |  |  |
| :---: | :---: | :---: | :---: |
| IP survey | 10.50 | " | ( $n=1$ to 4) |
|  | . 65 | ' | ( $n=1$ to 6) |

The personnel involved in the geophysical surveys were:
R. E. Gillick North Bay, Ont. March 10 - April 4
P. Butler North Bay, Ont. March 10 - March 27
T. Howe

North Bay, Ont. March 10 - March 27

The magnetometer survey was carried out exclusively on the newly cut grid lines covering the 11 northern claims of the property. The survey was performed using two EDA OMNI IV
proton precession magnetometers with memory capability. One magnetometer was used as a recording basestation unit to monitor drift/diurnal changes while the other was used to take field readings along the grid lines. The instruments were synchronized each day prior to commencement of the survey. The basestation magnetometer was set up at a fixed location near the survey area and programmed to take readings at one minute intervals. The 'roving' magnetometer was used to take readings of the total magnetic field at 25 or 12.5 metre intervals along the grid lines. At the end of each survey day, the two instruments were interfaced and field data was automatically corrected and dumped.

The IP survey was performed using an EDA IP-2 time-domain receiver in conjunction with a Phoenix 1 kilowatt IPT-1 transmitter. A two second on/off reversing polarity transmitted waveform was employed.

The survey was carried out using the dipole-dipole electrode array with an a-spacing of 25 metres. Dipole separations of $n=1$ to 4 were used on all lines surveyed except line 2 S where readings were taken at separations of $n=1$ to 6. The IP coverage included parts of both the old and the new grids. The lines read were as follows:

01d (1987)grid -

| Line | 2 | S | 6+25 | W to | $0+25$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Line | 1 | N | 5+50 | W to | 7+25 |
| Line | 3 | N | $4+25$ | W to | $10+25$ |
| Line | 5 | $N$ | 3+75 | W to | $2+50$ |
| Line | 6 | N | $2+50$ | W to | $3+75$ |
| Line | 7 | N | 1+75 | W to | $11+00$ |
| Line | 8 | N | 1+25 | W to | $4+25$ |
| Line | 9 | N | 0+75 | W to | $11+75$ |

New (1988) grid -
Line 12 N
Line 14 N
Line 15 N
Line 16 N
Line 17 N

$$
\begin{array}{lllll}
3+25 & \text { W to } & 3+00 & E \\
4+50 & W & \text { to } & 3+00 & \mathrm{E} \\
5+50 & \mathrm{~W} & \text { to } & 0+25 & \mathrm{E} \\
5+50 & \mathrm{~W} & \text { to } & 5+75 & \mathrm{E} \\
2+75 & W & \text { to } & 1+00 & \mathrm{E}
\end{array}
$$

The coverages indicated above are determined by the stations occupied by current or potential electrodes at the extremities of the surveyed portion of each line. The line coverage of the IP survey totalled 11.15 kilometres over a period of 13.5 production days, giving an average coverage of 826 metres per day. Although noise levels were generally low during the survey allowing relatively rapid reading times, survey speed was hampered somewhat due to difficulties encountered with electrode emplacement in areas of frozen swamp and outcrop.

### 9.0 RESULTS AND INTERPRETATION

a) Induced Polarization Results:

The results of the induced polarization survey are presented in pseudosection form in Drawings 1 through 13. A compilation of the IP anomalies picked is shown in Drawing 14.

The IP anomalies have been categorized as follows:
i) DEFINITE BEDROCK ANOMALY

This is an anomaly which has a known geological source as proven by drilling and/or surface geology, OR, an anomaly whose signature and correlation with other geophysical and/or geological data indicate a bedrock source even though the exact nature of the source is unknown.

## ii) PROBABLE BEDROCK ANOMALY

This is an anomaly whose signature $O R$ correlation with other geophysical/geological data suggest a bedrock source.
iii) POSSIBLE BEDROCK ANOMALY
This category includes generally low amplitude char-
$\quad$ geability anomalies with poor signatures and weak or
$\quad$ nil correlation with other data.

A line by line description of the induced polarization results follows:

Line 2 S (Drawing No. 1) -
A strong, sharp chargeability anomaly centred at $5+10 \mathrm{~W}$ correlates with a mineralized zone of iron formation intersected by a Rio Tinto diamond drill hole in 1982. According to the $\log$ for this hole, the zone had a drill indicated thickness of 3.25 metres and contained up to $35 \%$ magnetite and $15 \%$ sulfides. A low resistivity anomaly immediately to the east of the chargeable zone suggests a fault may be present.

A generally weak although well-formed chargeability response centred at $2+70$ Whas been drill-proven (1962\&1988) to represent a zone of silicified iron formation containing up to $20 \%$ sulfides over a core length of 1.65 metres. The 1962 drill results also suggested this zone to be auriferous.

Line 1 N (Drawing No. 2) -
A weak chargeability anomaly centred at $1+80 \mathrm{~W}$ and associated with an apparent resistivity high may represent a continuation of the sulfidized zone located on line 2 S at $2+70 \mathrm{~W}$. The as sociated resistivity high may indicate silicification.

A moderate amplitude chargeability response centred at 6+20 E, is located over a region mapped as felsic to intermediate volcanics near the contact with ultramafic intrusive rocks. The anomaly may represent a zone of disseminated sulfides. The weak resistivity high associated with the chargeability anomaly may indicate silicification.

Line 3 N (Drawing No. 3 ) -
Three moderate amplitude chargeability peaks appearing to correlate with resistivity highs are located between $0+00$ and $1+50 \mathrm{~W}$. The anomalies may be related to an inferred diabase dike interpreted from ground magnetics to strike northwards through this area. Sulfide mineralization along dike contacts
or sulfide/magnetite mineralization within the dike rock could be the chargeable source.

A moderate amplitude chargeability anomaly is centred at $6+60 \mathrm{~W}$. Again, this anomaly appears to be related to diabase. A flanking resistivity low immediately to the west of the chargeability peak may represent a fault.

A broad strong chargeability response at the eastern end of the line is due to serpentinized ultramafic rocks in this area.

Line 5 N (Drawing No. 4) -
A double-peaked ( $n=3,4$ ) chargeability anomaly in the vicinity of $3+00 \mathrm{~W}$ appears to be associated with a northeasterly trending diabase dike. Sulfide/magnetite mineralization along the dike contacts or within the dike rock itself may be the chargeable source.

Line 6 N (Drawing No. 5) -
A weak chargeability peak centred at $0+75 \mathrm{~W}$ and associated with a high resistivity appears to correlate with a diabasevolcanic contact. The chargeability response may be due to sulfide mineralization along the contact.

A moderate amplitude chargeability anomaly centred at $0+90 \mathrm{E}$ correlates with a resistivity low flanking a resistivity high to the east. The response may be due to a zone of sulfide mineralization within the volcanics. The associated resistivity low suggests a fault may be flanking the chargeable zone.

Line 7 N (Drawing No. 6) -
A weak chargeability response centred at $0+70 \mathrm{E}$ is associated with a resistivity low. The anomaly may represent a zone of weak sulfide mineralization along a fault or shear.

Moderate amplitude chargeability anomalies centred at $2+70$ E, $3+60 \mathrm{E}, 4+85 \mathrm{E}$ and $9+10 \mathrm{E}$ are all associated with strong resistivity highs and are interpreted as zones of elevated sulfide
or magnetite content within a broad easterly striking diabase dike inferred from ground magnetics and geological mapping to underlie most of the eastern half of line 7 N .

Line 8 N (Drawing No. 7) -
A weak to moderate amplitude chargeability anomaly centred at $1+35$ E exhibits flanking correlation with a resistivity low to the east. The response may indicate a zone of weak sulfide mineralization flanking a fault or shear.

A moderate amplitude chargeability anomaly centred at $2+45 \mathrm{E}$ is associated with a strong resistivity high. The response may represent a zone of disseminated sulfide mineralization within mafic to intermediate volcanic rocks.

Line 9 N (Drawing No. 8) -
Two moderate amplitude chargeability anomalies located at the eastern end of the line and associated with a broad resistivity high may represent zones of sulfide/magnetite mineralization within diabase or at the contact of diabase and volcanic rock.

Line 12 N (Drawing No. 9) -
A weak chargeability response centred at $0+70 \mathrm{E}$ is associated with a moderate amplitude well-formed high resistivity anomaly. The zone is located within a region mapped as mafic to intermediate volcanics. The high chargeability - high resistivity combination is similar to the response over the sulfidized and silicified zone located at $2+70 \mathrm{~W}$ on line 2 S . A similar geological source may be present on line 12 N .

A moderate amplitude chargeability response centred at $2+00 \mathrm{E}$ and associated with a strong resistivity high is believed to correlate with diabase. A zone of disseminated sulfide or magnetite within the dike or at the dike contact may be the causative source.

Line 14 N (Drawing No. 10) -
Two weak poorly-formed chargeability anomalies centred at $3+55 \mathrm{~W}$ and $0+45 \mathrm{~W}$ correlate with linear magnetic features believed to represent a diabase dike and iron formation, respectively.

Line 15 N (Drawing No. 11) -
Two unusual anomalies are present on this line. A weak chargeability anomaly centred at $3+75$ Wand responsive on $n=1,2$ only, is accompanied by sharp low resistivities on $n=3,4$. The higher chargeabilities may be due to weak sulfide or magnetite mineralization in the upper part of a diabase dike which is indicated to strike northwards through this area by the ground magnetics. The low resistivities may indicate the presence of of a fault along the dike contact. The sharpness of the resistivity low at $n=4$ is unusual. A second chargeability anomaly centred at $2+25 \mathrm{~W}$ is expressed as an extremely sharp negative chargeability on $n=1,2$. There is no associated resistivity anomaly. The chargeability response is similar to that which may occur over a buried wire or pipe. Alternatively, the response could be due to a very shallow vein of sulfide of very limited depth extent.

Line 16 N Drawing No. 12) -
A single anomaly centred at $0+45 \mathrm{~W}$ has been located on this line. The chargeability response is unusually shaped consisting of a sharp positive peak flanked to the east by a low zone of abnormally noisy readings. The resistivity data indicates a contrast suggesting a contact. The zone is associated with a sharp strong linear magnetic feature on northeasterly strike. The zone may represent sulfidized iron formation along a geologic contact.

Line 17 N (Drawing No. 13) -
A weak chargeability response centred at $0+65 \mathrm{~W}$ is associated with a dipolar magnetic anomaly. The response may be due to
weak sulfides associated with lean iron formation.
b) Magnetometer Survey Results:

The contoured results of the magnetometer survey on the newly cut grid covering the northern part of the Golden Pheasant property are presented on Drawing No. 15.

A strong narrow magnetic linear srtiking northwards near the western boundary of the property is believed to represent a diabase dike.

Regions of active magnetics in the eastern and northern parts of the property are believed to be underlain by ultramafic intrusive rocks perhaps accompanied by diabase intrusions.

A strong narrow magnetic linear on a northeasterly strike near the grid baseline is interpreted to be iron formation. The feature exhibits an apparent strike length of at least 600 metres extending from line 13 N to line 19 N . A narrow magnetic low trending northwards from line 14 N at $3+25 \mathrm{E}$ to line 22 N at $3+25 \mathrm{~W}$ may represent a fault or shear which has terminated or displaced the interpreted iron formation.

## CONCLUSIONS AND RECOMMENDATIONS

A number of zones of anomalous chargeability have been located on the Golden Pheasant property. More than half of these zones appear to be associated with diabase dikes and are not considered to warrant further work at this time. The chargeable zones not associated with diabase may contain sulfide mineralization emplaced along faults or shears. Several of these latter zones correlate with weak to moderate resistivity highs suggesting that silicification may be present. Three chargeable zones located near the baseline of the new grid may be associated with iron formation.

The following IP zones are considered to have potential for gold mineralization and should be investigated by trenching or diamond drilling:
a) Line $1 \mathrm{~N}, 1+80 \mathrm{~W}$
b) Line $6 \mathrm{~N}, 0+90 \mathrm{E}$
c) Line $7 \mathrm{~N}, 0+70 \mathrm{E}$
d) Line $8 \mathrm{~N}, 1+35 \mathrm{E}$ and $2+45 \mathrm{E}$
e) Line $12 \mathrm{~N}, 0+70 \mathrm{E}$
f) Line $16 \mathrm{~N}, 0+45 \mathrm{~W}$
g) Line $17 \mathrm{~N}, 0+65 \mathrm{~W}$

In addition to delineating a diabase dike near the western boundary of the property and magnetically active regions in the north and east parts of the grid, believed to be underlain by ultramafic intrusive rocks, the magnetics survey has defined a narrow northeast striking magnetic linear, located near the grid baseline, which may be iron formation. This latter trend extends from line 13 N to line 19 N where it appears to be fault terminated or offset. Since iron formation is known to host gold mineralization on the property, it is recommended that this zone be thoroughly investigated on the surface and, if the presence of iron formation is confirmed, the zone should be diamond drilled.

Respectfully submitted,

R. E. Gillick, M.Sc.

ROBERT E. GILLICK \& ASSOCIATES LTD. for

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J. A. Fyon, J. H. Crocket, H. P. Schwarcz, 1983, The Carshaw and Malga Iron-Formation-Hosted Gold Deposits of the Timmins Area, in OGS Misc. Paper 110 - The Geology of Gold in Ontario.
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A. Moore, 1987, Geological Report on the Property of Golden Pheasant Resources Ltd. in Langmuir and Carman Townships, Porcupine Mining Division.
R. J. Anderson, personal communication.

## APPENDIX A

CERTIFICATE OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

This is to certify that:

1) I am a consulting geophysicist with an office at 114 Willingdon Drive, North Bay, Ontario.
2) I hold a BSc.in Mathematics from Dalhousie University and an MSt. Diploma in Applied Geophysics (1979) from McGill University.
3) I have been working in the Mineral Exploration and Mining Industry for the past 13 years.
4) I am an associate member of the Society of Exploration Geophysicists.
5) I have no direct or indirect interest in the property described in this report.

Dated at North Bay, Ontario, this $2^{n d}$ day of MAY, 1988.

R. E. Killick.

## APPENDIX B

## TECHNICAL DATA STATEMENT

Ministry of
Northern Development and Mines

Assessment
Work Breakdown

1. Type of Survey Induced Potentlal.: Resistiyity
2. Township or Area ... Langrouir and_Corman
$\qquad$3. Numbers of Mining Claims Traversed by Survey
$\qquad$
4. Number of Miles of Line CutFlown
*5. Number of Stations Established
*6. Make and type of Instrument Used
$\qquad$*7. Scale Constant or Sensitivity*8. Frequency Used and Power Output9. Summary of Assessment Credits (details on reverse side)
Total 8 hour Technical Days (Include Consultants, Draughting ecc.) ..... 54.5
Total 8 hour Line-Cutting Days
$\qquad$

## Calculation

The dates listed on this form represent working time spent entirely within the limits of the above listed claims $\square$ Check If otherwise, please explain $\qquad$ Office days are spent off above llsted claims


Note: (A) * Complete only if applicable.
(B) Complete list of names, addresses and dates on reverse side.
(C) Submit separate breakdown for each type of survey.
(D) Submit in duplicate.

| Type of Work | Name \& Address | Dates Worked | Number of 8 hour days |
| :---: | :---: | :---: | :---: |
| Robert.Es Glllick and Assosjates ...........-....................... |  |  |  |
|  | . 4 4man | ... J3.5 da | 45.28. . . . . |
| . | ........J34.WנU | . ..... March . |  |
| North Bay Ontario |  |  |  |
|  |  |  |  |
|  |  |  |  |

## CONSULTANTS



TOTAL 8 HOUR TECHNICAL DAYS
54.5

LINE-CUTTING


TOTAL 8 hOUR LINE-CUTTING DAYS

## APPENDIX C

IP PSEUDOSECTIONS



LEGEND

INSTRUMENTATION
RECEIVER : EDA IP-2 (TIME DOMAIN)
TRANSMITTER : PHOENIX IPT-I
TX POWER : I kWATT
Tx DUTY CYCLE : 2 sec. on / 2 sec. off
















:







$N=1$
$N=2$.

$$
N=3
$$

$$
N=4 .
$$







LEGEND
instrumentation
RECEIVER : EDA IP-2 (TIME DOMA T.RANSMITTER : PHOENIX IPT-I

TX POWER : I k WATT
TX DUTY" CYCLE: 2 sec. on / 2 sec.


## ( ): NOISY READING

| .4 |  | .5 |  | .3 |  | .4 |  | .4 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | .5 |  | .3 |  | .5 |  | .3 |  | .$(4)$ |
|  | .5 |  | .4 |  | .5 |  | .3 |  | .$(8)$ |

## APPARENT RESISTIVITY (OHM-M)



## RAMETERS

DIPOLE/DIPOLE CING: 25 METRES ARATION: $1-4$

BEDROCK ANOMALY

- Definite
\#\# - PROBABLE
amm - possible

| GOLDEN | pheasant resources lto. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| I. P. SURVEY LINE AT I5N |  |  |  |  |
|  | R. |  |  | Donve . .o. |
| Ilfil James Wade Engineering Lid. |  |  |  |  |




$+00 \quad 5+00 \mathrm{w}$




Ministère du<br>Développement du Nord et dis Mines

September 7, 1988

| Your File: | W8806-158 |
| :--- | :--- |
| W8806-160 |  |
| Our File : | 2.11290 |

W8806-160
Our File :

Mining Recorder
Ministry of Northern Development and Mines
60 Wilson Avenue
Timmins, Ontario
PAN RS

Dear Sir:
RE: Notice of Intent dated August 22, 1988. Geophysical (Magnetometer \& Induced Polarization) Survey submitted on Mining Claims P 947057 et al in the Township of Carman

The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

W.R. Cowan, Manager Mining Lands Section Mines \& Minerals Division

Whitney Block, Roam 6610
Queen's Park
Toronto, Ontario MFA lW

ONTARIO GEOLOQCAL SURVEY ASSESSMENT FLEX OFFICE

Telephone: (416) 965-4888
neTT 131988
Received

CC: Golden Pheasant Resources Ltd Suite 500
455 Granville Street Vancouver, B.C. V6C lV

CC: Mr. G.H. Ferguson
Mining \& Lands Commissioner Toronto, Ontario

Cc: Resident Geologist Timmins, Ontario

CC: Mr. R.E. Gillick 114 Wellington Dr. North Bay, Ontario PIC 1E9
cc: Mr. U. Palter
James Wade Engineering Ltd Suite 501
5734 Yonge Street Willowdale, Ontario MAM 3T3

Ministry of Northern Development and-Mines Technical Assessment Work Credits

| Recorded Holder | Golden Pheasant Resources Ltd. |
| :---: | :---: |
|  | Carman |



Special credits under section 77 (16) for the following mining claims

## No credits have been allowed for the following mining claims

not sufficiently covered by the surveyinsufficient technical data filedThe Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geologocal - 40; Geochemical - 40; Section 77(18)-60.

Ministry of
Northern Development and-Mines

## Technical Assessment Work Credits

| Recorded Holder | Golden Pheasant Resources Ltd. |
| :--- | :--- |
| Township | Carman |


| Type of survey and number of Assessment days credit per claim | Mining Clalms Assossed |
| :---: | :---: |
|  | $\begin{aligned} & \text { P 947051-52-54-55-56 } \\ & \quad 987235-36-38 \end{aligned}$ |

Special credits under section 77 (16) for the following mining claims

## No credits have been allowed for the following mining claims

[ $X$ not sufficiently covered by the surveyinsufficient technical data filed

P 987239


Type of Survey (s)
Induced Potential - Resistivity Golden Pheasant Resources Ltd.
500-455 Granville St., Vancouver, B.C.


## Credits Requested per Each Claim in Columns at right


Expenditures (excludes power stripping)

Certification Verifying Report of Work
Mining Claims Traversed (List in numerical sequence)

Total number of mining claims covered by this 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.

Ministry of Northern Development and Mines

## Geophysical-Geological-Geochemical Technical Data Statement



Res. Geol.
Qualifications


Previous Surveys


## GEOPHYSICAL TECHNICAL DATA

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

Number of Stations $\qquad$ Number of Readings $\qquad$
Station interval Line spacing $\qquad$
Profile scale $\qquad$
Contour interval $\qquad$

Instrument $\qquad$
Accuracy - Scale constant $\qquad$
Diurnal correction method $\qquad$
Base Station check-in interval (hours)
Base Station location and value $\qquad$
$\qquad$

Instrument
Coil configuration $\qquad$
Coil separation
Accuracy $\qquad$
Method:
$\square$ Shoot backIn line Parallel line

Frequency $\qquad$ (specify V.L.F. station)
Parameters measured $\qquad$

Instrument
Scale constant
Corrections made $\qquad$

Base station value and location $\qquad$

Elevation accuracy

Instrument
EDA IP-2
Method $\triangle$ Time Domain
Frequency Domain
Parameters - On time $2 \mathbf{s e c}$. Frequency $\qquad$

- Off time 2 sec .

Range $\qquad$

- Delay time 160 millisec.
- Integration time $120,220,420,820$, millisec.

Power
Phoenix I kwatt IPT-1
Electrode array __dipole - dipole
Electrode spacing 25 metres.
Type of electrode steel stake

## SELF POTENTIAL

$\qquad$
Survey Method

Corrections made $\qquad$

## RADIOMETRIC

Instrument
Values measured $\qquad$
Energy windows (levels) $\qquad$
Height of instrument $\qquad$ Background Count $\qquad$
Size of detector $\qquad$
Overburden $\qquad$
OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)
Type of survey
Instrument $\qquad$
Accuracy
Parameters measured $\qquad$

Additional information (for understanding results)

## AIRBORNE SURVEYS

Type of survey(s)

| Instrument(s) |  |
| :--- | :--- |
| Accuracy | (specify for each type of survey) |
| Aircraft used | (specify for each type of survey) |

Sensor altitude $\qquad$
Navigation and flight path recovery method $\qquad$

Aircraft altitude $\qquad$ Line Spacing
Miles flown over total area Over claims only

Numbers of claims from which samples taken

Total Number of Samples
Type of Sample__ (Nature of Material)
Average Sample Weight_-
Method of Collection.

Soil Horizon Sampled.
Horizon Development $\qquad$
Sample Depth $\qquad$
Terrain $\qquad$

Drainage Development $\qquad$
Estimated Range of Overburden Thickness
$\qquad$
$\qquad$

| SAMPLE PREPARATION <br> (Includes drying, screening, crushing, ashing) |
| :---: |
| Mesh size of fraction used for analysis |

General $\qquad$
$\qquad$
General $\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Ministry of Northern Development and Mines

## Geophysical-Geological-Geochemical <br> Technical Data Statement

File $\qquad$

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

| Type of Survey(s) | Magnetometer |
| :--- | :--- |
| Township or Area Carman Twp |  |
| Claim Holder(s) $\quad$ Golden Pheasant Resources Ltd. |  |


| Survey Company | Robert E. Gillick \& Associates Itd. |
| :--- | :--- |
| Author of Report | R. E. Gillick |
| Address of Author 114 Wellington Dr., North Bay, Ontario |  |

Covering Dates of Survey March 3-April 4, 1988

Total Miles of Line Cut $\qquad$

| SPECIAL PROVISIONS |  | DAYs <br> per claim |
| :--- | :--- | :--- |
| CREDITS REQUESTED | Geophysical |  |
|  | --Electromagnetic | ENTER 40 days (includes |
| line cutting) for first | -Magnetometer_40 |  |
| survey. | -Radiometric |  |
| ENTER 20 days for each | -Other |  |
| additional survey using Geological <br> same grid. Geochemical |  |  |

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys) Magnetometer $\qquad$ Electromagnetic $\qquad$ Radiometric (enter days per claim)
$\qquad$


Res. Geol. $\qquad$ Qualifications
Previous Surveys


## GEOPHYSICAL TECHNICAL DATA

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


y Instrument

## 불

Coil configuration
Coil separation
Accuracy $\qquad$
Method:
Fixed transmitterShoot back
$\square$ In line
$\square$ Parallel line
Frequency (specify V.L.F. station)
Parameters measured

Instrument
Scale constant
Corrections made $\qquad$

Base station value and location $\qquad$

Elevation accuracy

Instrument


## SELF POTENTIAL

Instrument ..... RangeSurvey Method

$\qquad$

Corrections made $\qquad$

## RADIOMETRIC

Instrument $\qquad$
Values measured $\qquad$
Energy windows (levels) $\qquad$
Height of instrument Background Count $\qquad$
Size of detector $\qquad$
Overburden (type, depth - include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)
Type of survey
Instrument $\qquad$
Accuracy
Parameters measured $\qquad$

Additional information (for understanding results) $\qquad$
$\qquad$
$\qquad$

## AIRBORNE SURVEYS

Type of survey(s)
Instrument(s) (specify for each type of survey)
Accuracy
(specify for each type of survey)
Aircraft used $\qquad$
Sensor altitude $\qquad$
Navigation and flight path recovery method $\qquad$

Aircraft altitude Line Spacing
Miles flown over total area Over claims only

Numbers of claims from which samples taken

Total Number of Samples
Type of Sample (Nature of Material)
Average Sample Weight.
Method of Collection

Soil Horizon Sampled
Horizon Development
Sample Depth
Terrain.

Drainage Development
Estimated Range of Overburden Thickness

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)
Mesh size of fraction used for analysis $\qquad$

General___
$\qquad$
$\square$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
General

Ministry of
Northern Development
nd Mines

Assessment
Work
Breakdown

1. Type of Survey .-. Induced Potential - Resistivity
2. Township or Area - Langmuir and Carman Twp: $\qquad$
3. Numbers of Mining Claims Traversed by Survey

947051 947056
947052
947054.....947059...987238

947055 . . 947060 . . 987239

*5. Number of Stations Established
*6. Make and type of Instrument Used
*7. Scale Constant or Sensitivity
*8. Frequency Used and Power Output $\qquad$
9. Summary of Assessment Credits (details on reverse side)

Total 8 hour Technical Days (Include Consultants, Draughting etc.) $\qquad$
Total 8 hour Line-Cutting Days $\qquad$
Calculation
$\frac{54.4}{\text { Technical }} \times 7=\frac{381.5}{\text { This is the fraction }}+\frac{381.5}{\text { Line-cutting }} \div \frac{12}{\substack{\text { Number } \\ \text { of claims }}}=\frac{31.8}{\begin{array}{c}\text { Assessment credits } \\ \text { per claim }\end{array}}$
This is the fraction of the survey applicable to claims listed.
The dates listed on this form represent working time spent entirely within the limits of the above listed claims $\square$ Check If otherwise, please explain

Office days are spent off above listed claims

Dated:
 Signed:


Note: (A) * Complete only if applicable.
(B) Complete list of names, addresses and dates on reverse side.
(C) Submit separate breakdown for each type of survey.
(D) Submit in duplicate.

## FIELD WORK



CONSULTANTS

| Name \& Address | Dates Worked (specify in field or office) | Number of 8 hour days |
| :---: | :---: | :---: |
| R.... Robert J. Anderson, North Bay . . . Mar |  |  |
|  | March 4, April 25 Office | 3.35 |
| Robert E: | rth Bay . . . . . . May 1, 2, 3 Office | 2.51 |

DRAUGHTSMAN, TYPING, OTHERS (specify)

| Name \& Address | Type of Work | Dates Worked | Number of 8 hour days |
| :---: | :---: | :---: | :---: |
| April 22,25,27. |  |  |  |
| \#501-5734 Yonge St. |  |  |  |
| Willow |  |  |  |

TOTAL 8 HOUR TECHNICAL DAYS 54.5
LINE-CUTTING

Number of 8 hour days
$\qquad$

TOTAL 8 HOUR LINE-CUTTING DAYS $\qquad$





