

REPORT  
ON  
AJ-JA PROPERTY  
OF  
CODY HAWK RESOURCES INC.  
DAWSON MINING DISTRICT  
YUKON TERRITORY  
NTS 116B8

092041



H. J. Hodge P. Eng.  
June 6th, 1983

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1.0 SUMMARY

The following report describes the geology, gold mineralization and results of previous exploration on the AJ and JA claims of Cody Hawk Resources Inc., located in the Dawson Mining District, Yukon Territory.

The property consists of 42 contiguous patented mining claims numbered AJ 3 to 6 (inclusive), 15 and 16, and JA 1 to 36 (inclusive), and are recorded on Claim Sheet No. 116 B 8 of the Department of Northern Affairs and Natural Resources.

The property is located on the east slope of Antimony Mountain in the Ogilvie Mountain range, approximately 40 miles east northeast of Dawson City. Access is by helicopter from Dawson City, or for approximately sixty miles by road from Dawson City, and hence by helicopter for nine miles to the property.

The area is rugged with property elevations ranging from 3,500 to 6,000 feet above sea level. A north east flowing tributary of O'Brien Creek bisects the property.

The property lies approximately 20 miles north of the Tintina Trench, a major northwest trending fault which separates Proterozoic to Mesozoic sedimentary, volcanic and intrusive rocks on the northeast from metamorphic rocks of uncertain age on the southwest. The claims straddle a northwesterly trending contact between syenite and sedimentary rocks, chiefly quartzite with minor argillite. The sedimentary rocks strike generally east west and dip to the south at shallow to steep angles. Locally the bedding has been moderately deformed.

Gold is the principal mineral of economic interest. Copper and antimony bearing sulphides also occur on the property and in the adjacent area.

Gold was first discovered on the property in 1966 by Conwest Exploration Company during a regional prospecting program under the direction of G.W. Grant. A program of geological mapping, trenching, surface sampling, limited geophysics and geochemical sampling, and 659 feet of diamond drilling in four holes was carried out during 1966. In 1975, Acheron Mines Ltd. optioned the property and conducted an exploration program consisting of geological mapping, resampling of trenches, limited geochemical sampling, and 545 feet of diamond drilling in three holes. In 1980, Riocanex carried out limited electromagnetic surveys over the showings during an examination of the property.

Gold occurs in three roughly parallel zones exposed along the banks of the creek. The zones, known as the NORTH, SOUTH and RIDGE ZONES, consist of massive to semi-massive veins of sulphides, predominantly arsenopyrite, with minor pyrrhotite and pyrite, within zones of shearing and fracturing. These zones which occur within quartzite, strike slightly north of west, and dip steeply south. The veins have been exposed in trenches and partially explored to shallow depth by diamond drilling, totalling 1,204 feet in seven holes, essentially in one cross section.

The NORTH ZONE consists of four separate sulphide veins of arsenopyrite within a 50 foot wide shear zone. Assays on representative samples taken from surface trenches are as follows;

0.11 ounces gold and 0.31 ounces silver per ton across 0.5 feet.

0.31 ounces gold and 0.21 ounces silver per ton across 0.6 feet.

3.50 ounces gold and 1.24 ounces silver per ton across 4.3 feet.

0.38 ounces gold and 0.02 ounces silver per ton across an undisclosed width.

Diamond drilling on this zone consisted of two holes put down below the trenches. These holes intersected the zone approximately 50 and 100 feet below surface. In the upper intersection, 20 feet of core assayed 0.04 ounces gold and 0.39 ounces silver per ton, and in the lower section low gold assays were intersected over seven feet. Core recoveries were very low. Sludge Samples taken over these core lengths assayed 0.43 ounces gold in the upper section, and low values in the deeper section.

The SOUTH ZONE consists of three separate veins of sulphides, similar to the NORTH ZONE, within a 30 foot wide shear zone. Assays on representative samples from surface trenches are as follows:

0.30 ounces gold and 0.04 ounces silver per ton across 2.0 feet.

1.92 ounces gold and 0.59 ounces silver per ton across 5.8 feet.

0.71 ounces gold and 0.61 ounces silver per ton across 7.0 feet.

Diamond drilling consisted of three holes underneath the trenches and two holes to intersect the zone approximately 100 feet to the west. The trench section intersected roughly 15 feet of mineralized zone in all three holes which

averaged .32 ounces gold per ton over 6.0 feet, .83 ounces gold per ton over 9.3 feet, and .60 ounces per ton gold over 10.0 feet. The holes to the west encountered minor mineralization with low gold values. The intervening quartzite apparently carries low to negligible values in gold.

The RIDGE ZONE is located one quarter mile to the south of the SOUTH ZONE and consists of three narrow, northeasterly trending, veins of pyrrhotite, arsenopyrite and pyrite. The best assay from surface sampling was 1.28 ounces per ton gold in a grab sample. No drilling was carried out on this zone.

Limited electromagnetic surveys were carried out over the mineralized zones with mixed results. The NORTH ZONE is conductive, and is indicated to be at least 600 feet long. A parallel conductive zone occurs 200 feet to the north of the NORTH ZONE, and probably represents an unexposed sulphide zone, similar to the NORTH ZONE.

Geochemical sampling was carried out over the showings, and results were largely inconclusive. Soil development is very poor and the thickness and nature of the soils (colluvium, talus) may make geochemical soil sampling impracticable.

In summary, the gold zones are very high grade and relatively unexplored. Previous surface work and limited diamond drilling indicate erratic but persistent gold values and the zones are open both along strike and down dip. In addition, at least one new sulphide zone is indicated to occur to the north.

In the opinion of the writer, this property offers good potential for high grade vein type economic gold deposits.

A program of exploration is recommended to further evaluate the known showings and investigate the remainder of the property for additional gold bearing zones.

Stage I of this program should consist of bulk sampling of the showings for metallurgical testing; VLF EM, magnetic, and self potential surveys over a control grid covering the showings and adjacent areas; orientation geochemical soil sampling surveys over the showings; detailed geological mapping; and 6,000 feet of diamond drilling to investigate the known gold zones at 100 foot spacing for a strike length of 600 feet. In addition the north electromagnetic conductor should be investigated either by trenching or drilling.

Stage II will be contingent upon the results of Stage I, but will probably consist of more extensive diamond drilling and/or possible underground exploration of the zones.

The estimated cost of Stage I is \$351,600.



## 2.0 INTRODUCTION

The following report was prepared at the request of the Board of Directors of Cody Hawk Resources Inc. It describes the geology, mineral occurrences, and results of previous exploration on the AJ and JA Claims of Cody Hawk Resources in the Dawson Mining District, Yukon Territory, and recommends a program of exploration to further evaluate the economic potential of the property.

The report is based primarily on the writer's first hand knowledge of the property. While employed as Chief Geologist of Conwest Exploration Company Ltd., the writer was involved in directing exploration on the AJ claims including a personal examination of the gold showings in 1974. The documentation for this report was acquired from a thorough review of all available Company reports and maps in Conwest private files in Toronto, and published government reports and maps covering the property area.

## 3.0 PROPERTY DESCRIPTION

The property consists of 42 contiguous mining claims comprising approximately 2,350 acres. These claims are recorded on Claim Sheet No. 116 B 8, of the Department of Northern Affairs and Natural Resources.

Claim details are presented in the following table.

<u>CLAIM NUMBERS</u>	<u>NO. OF CLAIMS</u>	<u>RECORDING DATE</u>	<u>RENEWAL DATE</u>
AJ 3 to 6 (inclusive)	4	July 15, 1966	July 16, 1983
AJ 15 to 16	2	July 15, 1966	July 15, 1983
JA 1 to 36 (inclusive)	36	Sept.21, 1982	Sept.21, 1983

The writer has not carried out a title search on these claims. The claims are shown on Plate No. 3

#### 4.0 LOCATION

The property is located on the east slope of Antimony Mountain in the Ogilvie Mountain range. It is approximately 40 miles east northeast of Dawson City. The approximate co-ordinates of the property are latitude 64° 17.5' north, and longitude 138° 00' west.

The location is shown on Plates No. 1 and No. 2

#### 5.0 ACCESS

The property lies nine miles to the east of the Dempster Highway (Highway 11). Access can be gained either by helicopter directly from Dawson City, or by 60 miles by road from Dawson City and from there by helicopter to the property.

#### 6.0 PHYSIOGRAPHY

The area covered by the property is rugged, with elevations ranging from 3,500 to 6,000 feet above sea level. The central and eastern portion of the property is bisected by a northeasterly flowing tributary of O'Brien Creek. (Plate No. 3). The area adjacent to the creek is, for the most part, covered by coarse colluvium which is probably in excess of 50 feet thick in places. Soil development is poor.

## 7.0 HISTORY OF EXPLORATION

Gold was first discovered on the property in July, 1966 by prospectors Arthur John and Ole Haug, for Conwest Exploration Company as part of a regional prospecting program, under the direction of G.W. Grant.

Following staking of a large block of claims, an exploration program was carried out during July and August, 1966, to investigate the gold occurrences. This program consisted of prospecting, trenching, sampling, geological mapping, limited geophysical surveys, and 659 feet of diamond drilling in four holes.

In 1975, Acheron Mines Ltd. optioned the claims, and in August and September of that year conducted an exploration program consisting of resampling of surface trenches, geochemical soil sampling, and 545 feet of diamond drilling in three holes.

In 1980, Riocanex Ltd. examined the property, and carried out a limited geophysical survey using the Apex Max-Min EM system.

## 8.0 REGIONAL GEOLOGY

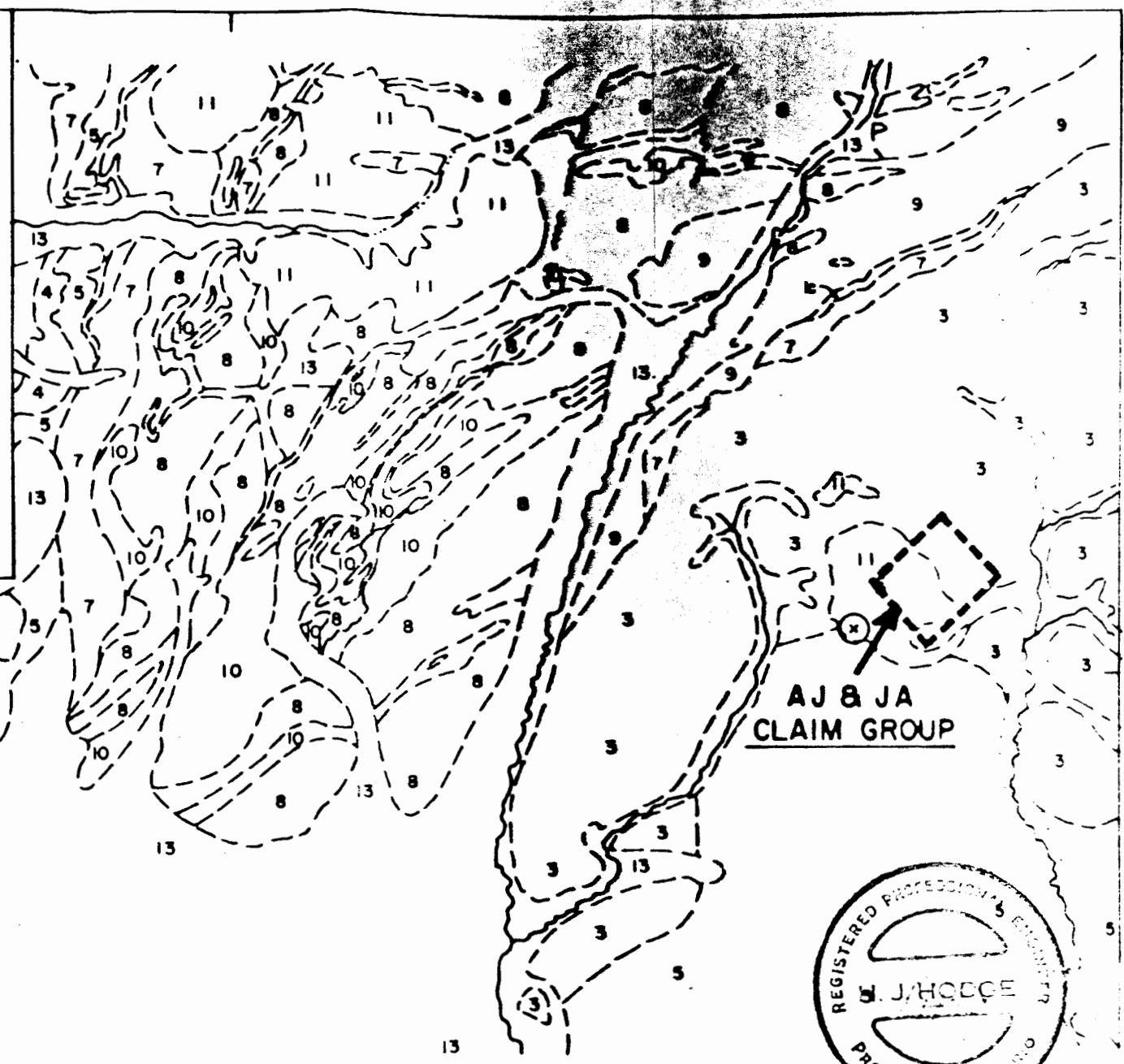
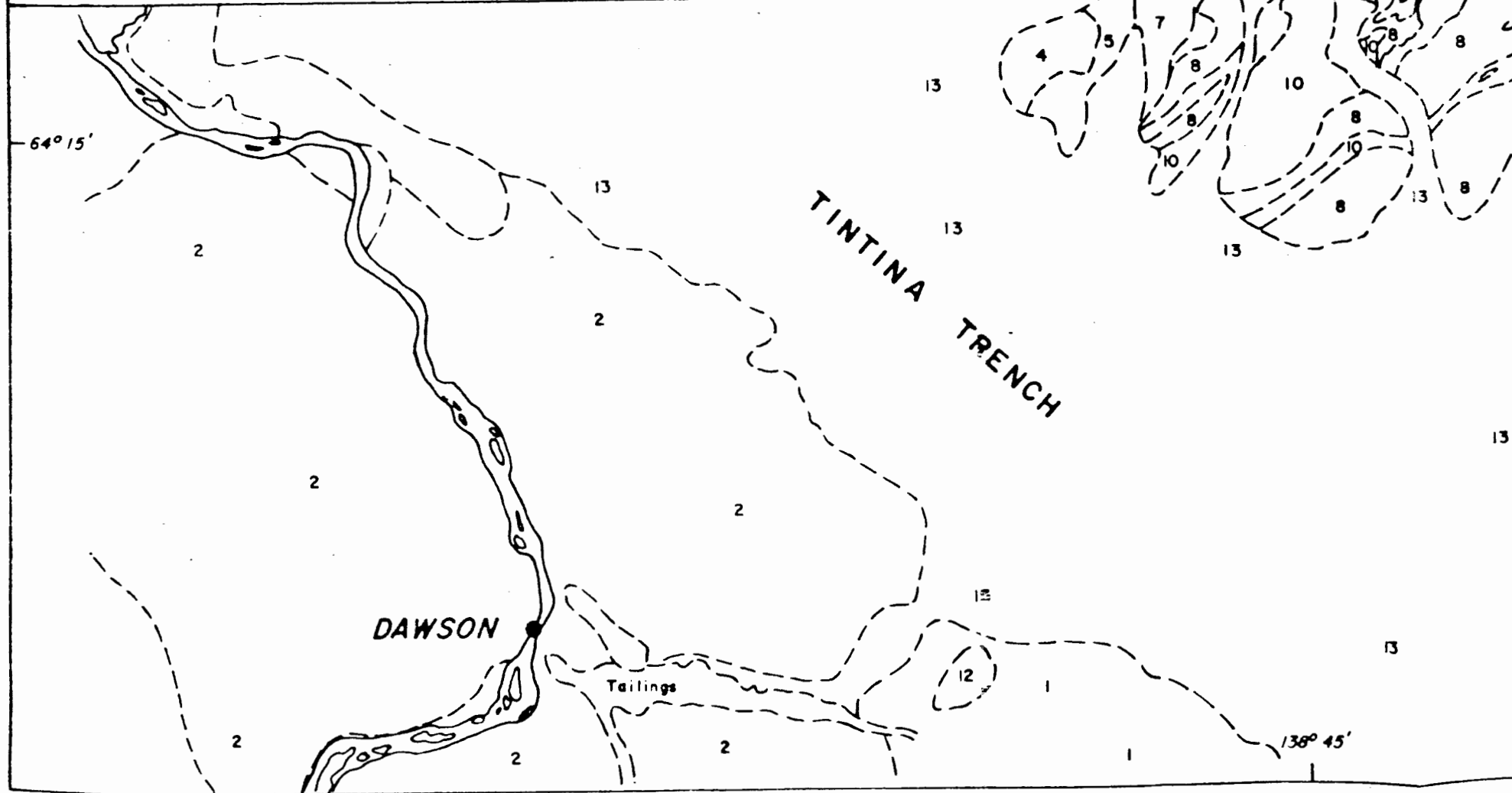
The property lies approximately 20 miles north east of the Tintina Trench, a major regional north west trending structural feature which separates sedimentary, volcanic and intrusive rocks ranging in age from Proterozoic to Mesozoic on the north east, from Metamorphic rocks of uncertain age on the south west (Plate No. 2), (Green).

The rocks north east of the trench consist predominantly of sedimentary rocks ranging from probable Proterozoic up to

# LEGEND

- 13 Unconsolidated glacial and alluvial deposits
- 12 Andesite and Basalt, minor Shale, Sandstone and Conglomerate
- 11 Biotite Granodiorite, Biotite Quartz Monzonite
- 10 Diorite, Gabbro
- 9 Green and Maroon Shale, Siltstone
- 8 Keno Hill Quartzite: Quartzite, Minor Phyllite (graphitic)
- 7 Lower Schist: Argillite, Slate, Phyllite, Quartzite, Graphite Schist
- 6 Black weathering Shale and Limestone
- 5 Road River formation: Interbedded black Chert & Argillite, Minor Quartzite and Conglomerate Ordovician, Silurian
- 4 Volcanic Rock: Breccia, Tuff Agglomerate, minor Shale, Chert, Siltstone, Limestone
- 3 Quartzite, Sandstone, Conglomerate, Shale, Slate, Schist, minor Limestone, Chert
- 2 Klondike Schist
- 1 Masina Series

- Quaternary
- Tertiary
- Cretaceous
- Jurassic
- Triassic
- PreCambrian or Later



H.J. HODGE INC. TORONTO, ONTARIO

**CODY HAWK RESOURCES INC.**

**AJ & JA PROPERTY**  
 DAWSON MINING DISTRICT  
 YUKON TERRITORY

**REGIONAL GEOLOGICAL MAP**

DRAWN BY: R. SEDORE	SCALE: 1:250,000
DATE: MAY, 1983	PLATE No: 2

Upper Cretaceous age, with minor components of volcanic rocks of early Paleozoic age. Unconformities interrupt the sequences at Cambrian, Ordovician, and Cretaceous times. The sedimentary rocks have been intruded by sills of diorite and gabbro, and stocks of granitic rocks ranging from granodiorite to syenite, all of probable Cretaceous age (Green). These rocks have been subjected to two major periods of folding, the first restricted to PreCambrian rocks, and the second involving PreCambrian and later rocks.

The Tintina Trench is believed to represent the topographic expression of a major fault extending from Alaska to the southwest Yukon, and a lateral right displacement of 220 to 260 miles has been suggested along it (Green).

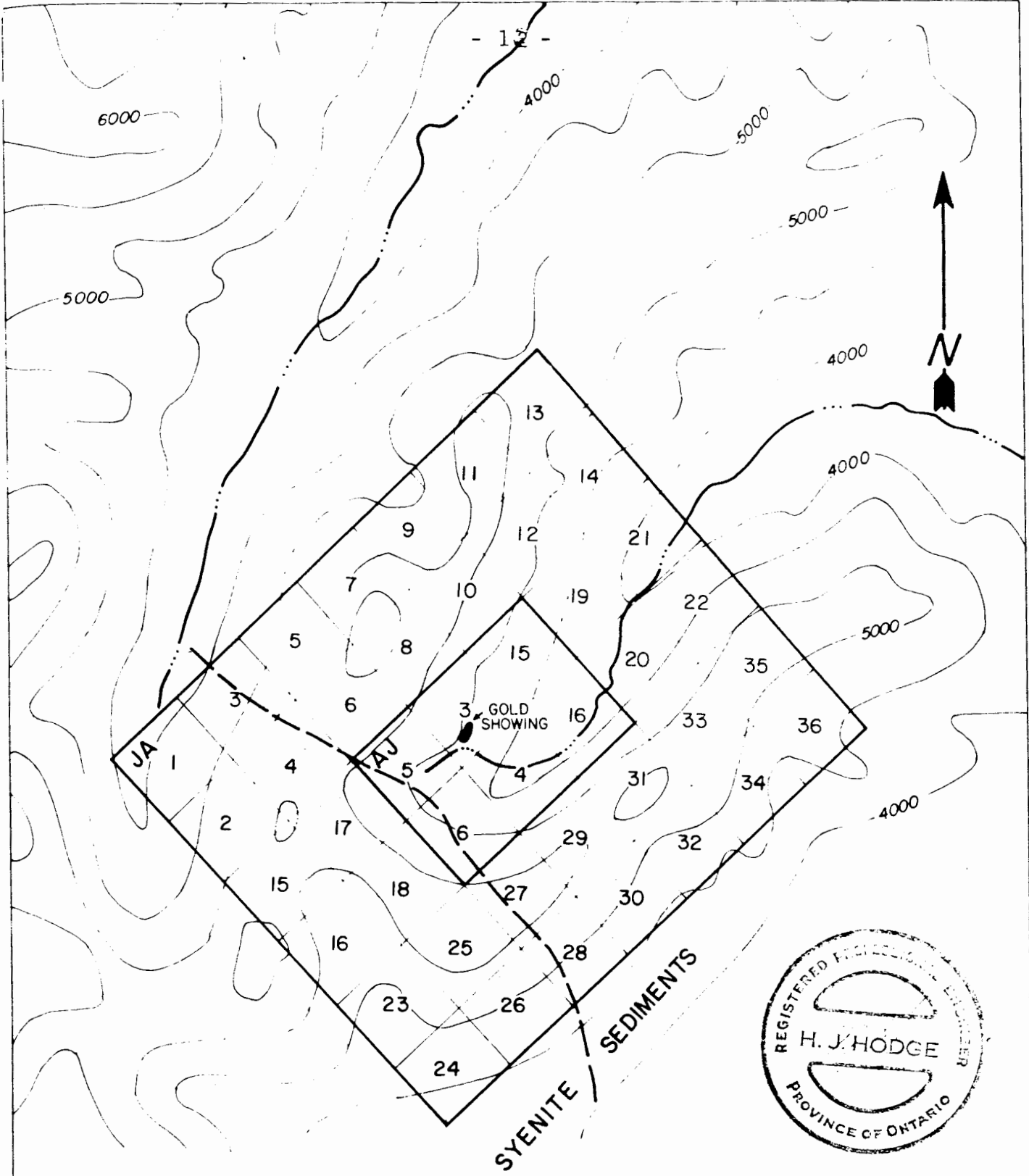
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#### PROPERTY GEOLOGY

The AJ and JA claims have not been mapped in detail. Limited geological mapping has been carried out by Conwest and Acheron Mines in the areas immediately adjacent to the gold showings. This mapping, along with regional reconnaissance mapping by the Geological Survey of Canada (Green), indicates that the property straddles a northwesterly trending contact between syenite on the southwest and sedimentary rocks on the northeast. (Plates No. 2 and No. 3)

The sediments are presumed to be PreCambrian in age, and consist predominantly of quartzites with subordinate interbedded argillite. These rocks strike generally east-west, and have a shallow to steep dip to the south. Locally bedding is variable due to folding and possibly faulting. Diorite dykes, trending east-west, cut the sediments.

The syenitic intrusive, where exposed, exhibits gradational changes from a basic fine-grained phase to a coarse porphyritic phase.



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CODY HAWK RESOURCES INC.	
<b>AJ &amp; JA PROPERTY</b> DAWSON MINING DISTRICT YUKON TERRITORY <b>092041</b>	
<b>PROPERTY GEOLOGY</b>	
DRAWN BY: R SEDORE	SCALE: 1" = 1/2 mile

North 70° east trending, south dipping, shear and fracture zones cut through the sedimentary assemblage. These zones are generally accompanied by sulphides giving rise to surface gossan exposures. Gold bearing arsenopyrite veins are associated with these shear zones.

Plates Nos. 3, 4 and 5 show the property geology.

#### 10.0 ECONOMIC GEOLOGY

Gold is the principal mineral of economic interest known to occur on the property. However, a copper occurrence has been discovered on the claims, and the potential for base metal deposits should not be overlooked. In addition, a stibnite showing occurs on the south contact of the syenite intrusive, just off the AJ-JA claims, and hence the possibility of economic deposits of antimony and related metals occurring on the property should be kept in mind.

#### 11.0 GOLD OCCURRENCES

Gold occurs in massive and semi-massive sulphide zones consisting predominantly of arsenopyrite with minor pyrite and chalcopyrite. Quartz and tourmaline are generally associated with the arsenopyrite.

Dark grey dyke and/or argillite, along with occasional cherty material also are associated with the veins. The sulphides occur within sheared, fractured, and brecciated zones in quartzite, which result in highly oxidized (gossan) zones in surface exposures. This oxidation extends for some distance below surface. The quartzite walls adjacent to the sulphide zones, have been strongly fractured and altered (silicified) for several feet, and often contain minor dis-

seminated sulphides. The gold occurrences are shown on Plates No. 4 and No. 5.

There are three principal zones of gold mineralization, known as the NORTH, SOUTH, and RIDGE showings. The surface showings have been sampled and partially explored to shallow depth by diamond drill holes by Conwest and Acheron. Following is a summary of the results.

#### 11.1 NORTH ZONE - Surface Trenching and Sampling

This showing has been exposed by several surface trenching and has been partially explored by two diamond drill holes. It consists of four separate sulphide veins separated by non-mineralized to slightly mineralized quartzite. The total width of the zone is approximately 50 feet. (Plate No. 5)

Vein No. 1 (south) is a one foot wide arsenopyrite vein within a three foot wide shear zone. It is irregular, trends east-west, and dips south at  $80^{\circ}$ . It transgresses the quartzite bedding, which here strikes north  $40^{\circ}$  west, and dips  $20^{\circ}$  to  $30^{\circ}$  south. Chip sampling yielded assays of 0.11 ounces gold, and 0.31 ounces silver per ton over 0.5 feet.

Vein No. 2 is exposed in a trench 40 feet north of Vein No. 1. It consists of a six inch wide vein of massive arsenopyrite in a shear zone with fault gouge. The vein trends north  $50^{\circ}$  west, and dips  $75^{\circ}$  south. Assays of grab samples from surface trenches gave 0.31 ounces gold and 0.21 ounces silver per ton.

Vein No. 3 is six feet north of Vein No. 2. This is the main vein, and consists of a three foot wide vein of massive pyrrhotite within a shear zone six feet wide, trending east-west, and dipping  $68^{\circ}$  south. Bedding in the quartzite walls

shows a sharp change in attitude from north 30° west - 20° south north of the vein to north 60° east - 25° south, south of the vein, indicating either folding or displacement along the shear. Six chip samples from surface trenches along a 10 foot length of the vein averaged 3.5 ounces gold, and 1.24 ounces silver per ton, over 4.3 foot width.

Vein No. 4 (North Vein) is 25 feet north of Vein No. 3, and consists of stringer sulphides in a northwesterly trending fracture zone. Pyrite is the principal sulphide. The width of the fracture zone can not be determined from the surface exposure but it is estimated to be in excess of 15 feet. A grab sample of heavy pyrite assayed 0.38 ounces of gold, and 0.02 ounces of silver per ton.

#### 11.2 NORTH ZONE - Diamond Drilling

Two drill holes were put down to investigate this zone down the projected dip below the trenches, one hole by Conwest (CEX 4), and one hole by Acheron (ACH 3), (Plates No. 5 and No. 6). These holes intersected the zone at vertical depths of approximately 50 and 100 feet below hole collars (Plate No. 6). In the upper hole (CEX 4), 20 feet of disseminated and massive arsenopyrite in fractured quartzite from 59 to 79 feet averaged 0.04 ounces gold and 0.39 ounces silver per ton. Core recovery was only 51 percent. Sludge samples for the section from 58 to 82 feet averaged 0.43 ounces per ton gold. In hole ACH 3, a strong fracture zone carrying disseminated arsenopyrite was intersected from 135 to 142 feet, but only 11 percent of the core was recovered. Assays on the recovered core and sludge samples carried low gold values only.

#### 11.3 SOUTH ZONE - Surface Trenching and Sampling

This showing is located approximately 250 feet to the

south of, and upstream from, the North Zone. It consists of three, roughly parallel, east-west trending sulphide veins within a 30 foot wide zone of fracturing and shearing cutting quartzite. The zone has been partially explored by surface trenching and five diamond drill holes, one of which was lost in overburden. (Plate No. 5)

Vein No. 1 (south) is a two foot wide vein of massive pyrite, striking north 70° east with a strong shear zone along the south contact. Five representative surface chip samples averaged 0.30 ounces gold and 0.04 ounces silver per ton over five feet.

Vein No. 2 which is located 12 feet north of, and parallel to, the No. 1 Vein, consists of massive arsenopyrite with quartz veining in highly fractured, oxidized and altered quartzite. Four representative chip samples from trenches averaged 1.92 ounces gold, and 0.59 ounces silver per ton over a width of 5.80 feet.

Vein No. 3 (north), which is located 14 feet north of Vein No. 2, is seven feet wide, and consists of massive arsenopyrite with minor quartz within a strongly sheared, altered and fractured quartzite with a narrow zone of fault gouge along the north wall. Representative chip samples taken from trenches assayed 0.71 ounces per ton gold, and 0.61 ounces per ton silver over 7 feet.

Two samples were taken of the fractured and sheared quartzite between the arsenopyrite veins over the 30 foot width, and assays were negligible in gold and silver.

#### 11.4 SOUTH ZONE - Diamond Drilling

Three holes, CEX 1 and CEX 2, and ACH 1 were put down

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directly underneath the surface trenches, and two holes, ACH 2 and CEX 3, were drilled to intersect the zone about 100 feet to the west. Hole ACH 2 did not reach bedrock.

Holes CEX 1 and CEX 2, and ACH 1 intersected the zone which consisted of massive and stringer arsenopyrite mineralization over approximately 15 feet total width of core length in each hole. Core assays were 0.32 ounces gold over 6.0 feet, 0.83 ounces gold over 9.3 feet, and 0.60 ounces gold over 10 feet respectively. Core recoveries were 60% to 70% in these holes. Sludge assays were higher; 0.96 ounces gold and 0.84 ounces gold per ton for holes CEX 1 and CEX 2.

Hole ACH 2 drilled 100 feet west of holes CEX 1 and CEX 2, did not reach bedrock.

Hole CEX 3, located 100 feet south of CEX 1 and CEX 2, was drilled to the northwest and intersected three feet of disseminated sulphides including minor arsenopyrite. Recovery was less than 50%. Core assays were low in gold. Sludge samples assayed 0.04 ounces per ton gold.

#### 11.5 RIDGE ZONE

This showing is located approximately 1,300 feet south of the South Zone at an elevation of approximately 1,000 feet above the creek on the east ridge (Plate No. 4). It consists of three narrow veins exposed in outcrop. The veins trend northeasterly, and are near vertical. They consist of quartz, pyrrhotite, arsenopyrite and minor pyrite, and occur in strongly fractured and oxidized quartzite over a total width of 50 feet.

Original sampling by Conwest returned assays up to 1.28

ounces of gold per ton from grab samples.

Grab samples from surface exposures by Acheron returned generally low gold and silver values with 0.106 ounces per ton gold being the best assay.

No drilling has been carried out on this showing.

11.6 SURFACE AND DRILL SAMPLING RESULTS of the showings are presented in the table below.

<u>TABLE NO. 1</u>					
<u>NORTH ZONE</u>					
<u>SURFACE SAMPLING</u>	<u>WIDTH/CORE LENGTH/FT.</u>	<u>AU OZ/T</u>	<u>AG OZ/T</u>	<u>REMARKS</u>	
Vein No. 1	0.5	0.11	0.31	Chip samples	
Vein No. 2	0.5	0.31	0.21	Grab samples	
Vein No. 3	4.3	3.50	1.24	Chip samples	
Vein No. 4	15.0	0.38	0.02	Grab samples	
<u>DIAMOND DRILLING</u>					
DDH CEX 4(Core)	20.0	0.04	0.39	Core recovery 51%	
CEX 4(Sludge)	24.0	0.43			
ACH 3(Core)	5.5			Core recovery 85%	
ACH 3(Sludge)	10.0	.003	.01		
<u>SOUTH ZONE</u>					
<u>SURFACE SAMPLING</u>					
Vein No. 1	5.0	0.30	0.04	Chip samples	
Vein No. 2	5.8	1.92	0.59	Chip samples	
Vein No. 3	7.0	0.71	0.61	Chip samples	
<u>DIAMOND DRILLING</u>					
DDH CEX 1(Core)	6.0	0.32		Core recovery 60%	
CEX 1(Sludge)	10.0	0.96			
CEX 2(Core)	9.3	0.83		Core recovery 70%	
CEX 2(Sludge)		0.84			
CEX 3(Sludge)	3.0	0.04		Core recovery 50%	
ACH 1(Core)	10.0	0.60			
ACH 2				Lost in overburden	
<u>RIDGE ZONE</u>					
<u>SURFACE SAMPLING</u>		1.28 (best)		Grab sample	

## 2.0 GEOPHYSICAL SURVEYS

Limited geophysical surveys were carried out by Conwest personnel in 1966 over the showings in an attempt to trace the strike extension of the zones. Vertical and horizontal loop electromagnetic surveys were carried out over the immediate area of the showings, and results indicated that the zones were not conductive with the frequencies employed by available equipment.

In 1980, Riocanex carried out six short lines of vertical loop EM over the showings using a fixed transmitter located on the sulphide veins utilizing two frequencies, 3555 and 888 Hz. Results indicated that the North Zone is conductive and has a strike length of at least 600 feet. A second conductor, was located 200 feet to the north of the North Zone.

## 3.0 GEOCHEMICAL SAMPLING

Acheron Mines Ltd. carried out a limited soil sampling survey over the North and South showings in 1975. Samples were collected at 100 foot intervals along three lines 400 feet apart oriented at north 20° east. A total of 71 'B' horizon soil samples were collected and analyzed for zinc and arsenic utilizing the Atomic Absorption analytical method.

Results of the sampling were inconclusive. Although anomalous zinc and arsenic values were recorded, no anomalous values were picked up immediately adjacent to the gold bearing arsenopyrite veins. It was concluded that because of a combination of poor soil development, heavy overburden consisting largely of transported glacial till and colluvium, the geochemical sampling method was not practicable.

14.0 DISCUSSION OF RESULTS

Exploration carried out to date on the AJ gold showings has been limited to surface trenching along very short strike lengths and to five shallow diamond drill holes representing essentially one cross section of the zones underneath the trenches.

Results of surface sampling indicate three zones of fracturing and shearing with multiple veins of arsenopyrite rich sulphides. These veins range from one half foot up to seven feet (and more), in width. Gold values are erratic, ranging from nil up to 3.50 ounces per ton over 4.3 feet. Gold is confined to the veins. The quartzite wall rocks, though fractured, sheared and altered, appear to carry low to negligible gold values.

Results of diamond drilling indicate that two zones, the North Zone and the South Zone, persist at least to shallow depth. Gold concentration, though erratic, is persistent. Furthermore, the best assays were co-incident with the best core recovery, suggesting that actual gold concentration may be higher than core assays indicate.

The zones are open both along strike and down dip.

Results of limited geophysical surveys carried out over the mineralized zones indicated that at least portions of the sulphide-shear zones are conductive. Limited geophysical coverage indicate that the North Zone may extend for a minimum strike length of 600 feet, and a previously undetected conductor, 200 feet north of the North Zone, may reflect an additional parallel zone of mineralization.

15.0 CONCLUSIONS

In attempting to evaluate the economic potential of the gold mineralization on the AJ-JA property, the following must be considered.

- 1) Gold mineralization occurs in at least three separate zones on the property.
- 2) These zones consist of disseminated and massive sulphide veins consisting of arsenopyrite, pyrrhotite and pyrite in highly fractured, sheared, and altered quartzites of assumed PreCambrian age.
- 3) Surface sampling and limited diamond drilling on the North and South Zones indicate high grade gold values over mineable widths. The best sections averages 3.50 ounces per ton gold over 4.3 feet in the North Zone; and 1.92 ounces per ton gold over 5.8 feet in the South Zone.
- 4) Although gold values are erratic, the zones are open along strike and down dip.
- 5) Core recoveries in the drilling program were very low in the mineralized zones due to fracturing, shearing and near surface oxidation. Generally less than 50% of the core was recovered in these zones, and as low as 11% in specific intersections. Gold values were generally directly proportional to core recovery, i.e. the highest gold values occurred with the best core recovery. Furthermore, sludge samples were generally higher in gold than core samples. This would indicate that average grades of the zones are significantly higher than core sample assays indicate.
- 6) Limited geophysical (electromagnetic) surveys carried out over the showings and immediately adjacent areas indicate that the North Zone, at least, is conductive

and extends for a strike length of 600 feet. In addition, a conductor was picked up approximately 200 feet north of the North Zone in an overburden covered area. In all probability this conductor is caused by a sulphide/shear zone similar to the North and South zones.

- 7) Limited geochemical soil sampling surveys for zinc and arsenic carried out over the showings were essentially negative, indicating that the application of soil sampling may not be practicable in this area. This is probably due to the nature and thickness of the overburden and to poor soil development.

In summary this property holds excellent potential for high grade vein type economic gold deposits, and merits a comprehensive program of further exploration.

#### RECOMMENDED EXPLORATION PROGRAM

In order to fully investigate the economic potential of the AJ-JA property, the following systematic program of exploration is recommended.

This program should be conducted in two stages.

#### STAGE I

- 1) Establish a ground control grid over the North and South showings and adjacent areas with lines oriented North 20° east at 100 foot intervals. The lines should extend a minimum of 1,000 feet to the east and west of, and 500 feet north and south of, the showings.

- 2) Carry out VLF EM, self potential, and total field magnetic surveys over the control grid with readings at

100 feet stations increasing to 25 feet in anomalous areas.

3) Carry out detailed geological mapping of the grid, particularly where mapping has not previously been carried out.

4) Geochemistry should consist of a preliminary orientation test survey over the showings and the immediately adjacent area on a 25 foot center grid. The 'A' (humus), 'B', and 'C' horizon soils should be sampled and analysed for gold to determine if gold is detectable in overburden. If this survey is successful in detecting known bedrock gold showings, the survey should be expanded to cover the geophysical grid.

5) Prospecting should be carried out over all of the AJ and JA Claims to determine if additional gold and/or antimony showings may be present.

6) Bulk sampling of the gold bearing mineralization and preliminary metallurgical testing should be carried out to determine the nature of the gold occurrence and anticipated recoveries.

7) Diamond drilling should be carried out to delineate the North and South Zones, and investigate any new zones discovered in geophysical/geochemical surveys/prospecting.

Drilling of the North and South Zones should be carried out initially at 100 foot intervals east and west of the showings for a total strike length of 600 feet. Two holes should be drilled per section with the hole locations designed to intersect the zone at depths of 100 and 200 feet

below surface. This would amount to approximately 500 feet per section. The EM conductor north of the North Zone should be tested by a minimum of two holes.

Estimated drilling footage is 6,000 feet.

STAGE II

Contingent upon results of Stage I. Probably further diamond drilling and/or underground exploration of gold zones.

ESTIMATED COST OF RECOMMENDED PROGRAM

Control Grid and Geophysical Surveys	\$ 5,000
Geological Mapping	5,000
Geochemical Sampling	3,000
Prospecting	10,000
Metallurgical Testing of Bulk Sample	40,000
Diamond Drilling - 6,000 ft. at \$35/ft.	210,000
Management, supervision, travel, trans.	20,000
Contingency - 20%	<u>58,600</u>
TOTAL	<u>\$351,600</u>

Respectfully submitted,



H. J. Hodge P. Eng.  
June 6th, 1983



REFERENCES

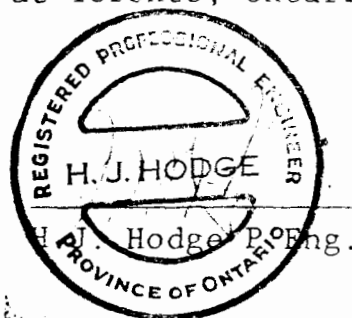
- Green, L.H., 1972; Geology of Nash Creek, Larsen Creek and Dawson Map Areas, Yukon Territory. Memoir 364, Geological Survey of Canada
- McRea, J. Bailey, 1983; Ballpark Cost of Metallurgy, Private Preliminary Estimate to Cody Hawk Resources Inc.
- Holcapek, F., 1975; Report on the AJ Claim Group, O'Brien Creek, Dawson City M.D., Yukon Territory Private Report for Acheron Mines Ltd. (N.P.L.)
- Hodge, H.J., 1974; AJ Property, Proposed Exploration. Private Report, Conwest Exploration Co. Ltd.
- Map 43396; Aeromagnetic Map, Upper Klondike River, Yukon Territory. Scale 1:63,360. Geological Survey of Canada
- Claim Map 116B8; Department of Northern Affairs and National Resources.
- Grant, G.W., 1972; Summary Report on AJ Group. Private Progress Report, Conwest Exploration Co. Ltd.
- Conwest Exploration Co. Files; Various private progress reports, diamond drilling logs, etc.

CERTIFICATION OF QUALIFICATION

I, HARRY J. HODGE, of the City of Toronto, in the Province of Ontario, do hereby certify that:

- 1) I am a consulting geologist, employed by H.J. Hodge Incorporated.
- 2) I am a member in good standing of the Association of Professional Engineers of the Province of Ontario.
- 3) I graduated in 1959 from St. Francis Xavier University with a Bachelor of Science degree, and I have been practicing my profession as a geologist continuously for the past 24 years.
- 4) I have no interest direct or indirect, nor do I expect to receive or acquire any interest, direct or indirect, in the mining property which is the subject of this report, or in the securities of Cody Hawk Resources Inc., or other companies holding interest in the property.
- 5) My report is based on a study of all available published reports and maps and of all data on past exploration in the files of Conwest Exploration Company Ltd., of Toronto. This is supplemented by a visit to the property as Chief Geologist of Conwest Exploration Company in 1974.

Dated this 6th day of June, 1983, at Toronto, Ontario



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