

MAP NO.: PLACER ASSESSMENT REPORT X
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MINING DISTRICT: Dawson
TYPE OF WORK: Percussion Drilling, Assays

REPORT FILED UNDER: Black Hills Gold Limited

DATE PERFORMED: March - April, 1981

DATE FILED: Feb. 22, 1982

LOCATION: LAT.: 63° 25'N

AREA: Black Hills Creek

LONG.: 138° 45'W

VALUE \$: 159,399.48

CLAIM NAME & NO.: P 5040
P5051

WORK DONE BY: Ace Parker Mines and Minerals Corporation Limited "Consulting Group"

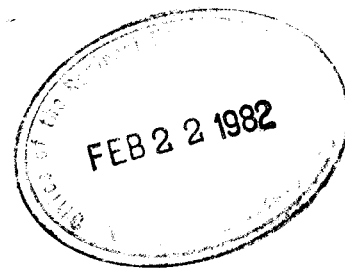
WORK DONE FOR: Black Hills Gold Limited

DATE TO GOOD STANDING:

REMARKS: BLACK HILLS CREEK, KLONDIKE REGION, Y.T.

120048

BLACK HILLS GOLD LTD.



PLACER GOLD
BLACK HILLS CREEK
YUKON TERRITORY

May 8, 1981

INDUSTRIAL ECONOMICS (HRA) LTD.

INTERIM
EXPLORATION AND VALUATION REPORT

ON

PROSPECTING LEASES
#5040 & #5051
(BLACK HILLS CREEK)

KLONDIKE REGION, YUKON TERRITORY
CANADA

FOR

BLACK HILLS GOLD LTD.

by

ACE PARKER MINES & MINERALS CORPORATION LTD.

"CONSULTING GROUP"

CALGARY, ALBERTA

MAY 8, 1981

TABLE OF CONTENTS

<u>ITEM</u>	<u>PAGE NO.</u>
I. INTRODUCTION	1
II. SUMMARY	2
III. PROPERTY AND OWNERSHIP	5
IV. LOCATION AND ACCESS	6
V. EXPLORATION AND DEVELOPMENT WORK (1981)	7
(i) Overview of Program	7
(ii) Control and Support Facilities	8
(iii) Drilling and Sampling	9
(iv) Sample Processing	10
(v) Assaying of Concentrates	12
(vi) Estimated Costs of 1981 Exploration and Development Program	13
VI. SURFICIAL AND ECONOMIC GEOLOGY - PLACER GOLD	14
VII. AURIFEROUS GRAVEL RESERVES	17
(i) General Commentary	17
(ii) Probable Reserves of Auriferous Stream Gravels	18
(iii) Probable Reserves of Bench Gravels	18
(iv) Proven (Blocked Out) Reserves of Bench Gravels and their indicated tenor - Area "A" (Refer to DWG. #80-110-4, Drill Sheet - Area "A" Preliminary)	18
VIII. MINING CONSIDERATIONS	19
IX. CONCLUSIONS AND RECOMMENDATIONS	20
X. CERTIFICATION	

APPENDIXES

ITEM

PAGE NO.

A. ASSAY CERTIFICATE - DRILL LINE
NO. 6

22

ENCLOSURES

DRAWING #80-110-3

EXPLORATION AND DEVELOPMENT
MAP SHOWING PLACER GEOLOGY
AND DRILL LINES

INTRODUCTION

Nineteen Eighty witnessed a drastic increase in placer gold mining activity in the Klondike region of the Yukon Territory with numerous stream drainages being reconsidered as potential sites for new mining operations, largely because of recent increases in the price of gold.

During August, 1980, Ace Parker Mines and Minerals Corporation Ltd. was commissioned by members of Alberta companies #243023 and 245688 to prepare a report on the placer gold potential of Black Hills Creek, in which an exploration and development program was recommended for 1981. During January 1981, the management of these companies retained Industrial Economics (HRA) Ltd. to initiate and manage exploration and development of placer prospecting leases #5040 and #5051. Subsequently, Ace Parker Mines and Minerals Corporation Ltd. was retained by Industrial Economics (HRA) Ltd. to design and conduct the actual field work, including assessment work required by Government regulatory bodies. Concurrently, Black Hills Gold Ltd. was formed as an operating vehicle for the project.

The initial exploration and development work is nearing completion and this report has been prepared to provide management with a preliminary insight into the nature of results evolving from field work conducted to date on prospecting leases #5040 and #5051 situated down stream from Territorial Gold Placers Ltd., a producing placer gold mine.

SUMMARY

During March and April, 1981, bench and stream deposits of auriferous gravel situated along Black Hills Creek on Prospecting Leases #5040 and #5051 were explored primarily with a series of Becker-type percussion drill holes positioned 100 feet apart along drill lines run at right angles to the current drainage pattern.

Initial reconnaissance drill lines were spaced approximately 6,000 feet apart, and a bench deposit labelled Area "A" was selected for closer spaced lines of "Development" drill holes spaced on an average of approximately 800 feet apart, thus allowing delineation of sufficient "proven" reserves of auriferous gravels to justify and support a mining operation on the property for the first year of operation.

Geologic studies suggest that the richest placer gold deposits probably exist in the present stream valley bottom, but these deposits are expected to be erratic in size and distribution due to the erosion process which was responsible for their current evolution and location. Most bench deposits on the property appear to contain the most uniform gold values.

Relative to the amount of funds allotted for initial exploration and development of the property, and the complicated problems associated with the evaluation of any gold placer deposit and initiation of production, a portion of the original gold-bearing channel which remains as a bench above the present creek was selected for development drilling in preparation for mining.

This work blocked out a probable "pay streak" of auriferous bench gravels approximately 6,900 feet long and an average

14 feet thick, which is covered at surface by a layer of frozen organic black muck which averages approximately 17 feet deep.

This deposit is approximately 600 feet wide near its northern end (at drill line #10), but tapers to less than 200 feet wide at its southern end (at drill line #26). Nuggets of coarse gold were observed in samples from drill line No. 26, but this line of drill holes has not been assayed at this time.

Gold values visible in samples of drill cuttings during sample concentration indicate that three separate but overlapping "braided runs" of gold exist in the deposits resulting in relatively uniform distribution of gold particles throughout its depth along drill line No. 3. Appreciable visible gold values exist through the vertical extent of this bench deposit, and all along its entire 6900 foot length within Area "A".

Gold dust, coarse colors and small flat nuggets of gold up to one-quarter inch in diameter were observed during the sample concentration process in which all material, including possible large gold nuggets, were rejected as waste and are not included in this evaluation. Two (2) ounce sized gold nuggets are being recovered in current mining operations located upstream from the present property and similar-sized nuggets may be expected on Prospecting Leases #5040 and #5051.

Quantitative assaying of drill samples from the area has just begun, but the first random line of drill holes (drill line #3, refer to DWG. 80-110-4) returned assayed gold values ranging from \$10.00 per cubic yard of gravel across a 600 foot mining width up to \$28.00 per cubic yard for a selected 100 foot wide area within the wider auriferous deposit.

Generally, results of the exploration and development program appear to be equal to or greater than those results forecasted in our original report on the property, but final amalgamation assay values must be completed and correlated for accuracy with the "color count" of gold observed in the samples before this opinion can be confirmed.

Because of the uniform distribution and overall extent of gold values observed during the sample concentration process of all samples from drill holes punched along drill lines which cross Area "A" bench, economic gold values found on any one drill line from the bench such as line No. 3 would justify the initiation of a placer gold mining operation the property. (Gold values greater than \$13 per cubic yard processed are believed necessary when employing mining contractors.)

Such a project could commence near drill line No. 26 at the south end of the bench where the auriferous deposit has been choked down to its narrowest width, thus providing a natural environment for concentration of all gold runs in the deposit. Production from this portion of the deposit could be achieved with a mechanical mining method employing bulldozers and scrapers to give a correlation between recovered gold and theoretical drill indicated reserves, but some pilot testing should be completed to substantiate drill results before full-scale mining operations commence.

PROPERTY AND OWNERSHIP

The property consists of two standard rectangular shaped and contiguous Placer Prospecting Leases totalling nine (9) miles in length. These leases are recorded at the Office of the Mining Recorder at Dawson, Yukon as follows.

<u>Lease Number</u>	<u>Expiry Date</u>	<u>Registered Owner</u>
P.L. 5040	March 5, 1982	243023 Alberta Ltd.
P.L. 5051	March 10, 1982	245688 Alberta Ltd.

Yukon Claim Sheet No. 115-0-7 (NTS) shows the location of these leases relative to topographic features and the local drainage pattern. The included Property Map (DWG. #80-101-1) in the appended report portrays the leases in relation to domestic service centers, transportation routes, and significant producing gold placer projects in the general region and on Black Hills Creek.

Aggregatively, the leases include approximately 873 hectares (2,181 acres) of Crown Land which has been located under the provisions of the Yukon Placer Mining Act. Assessment work has been performed on the leases for the 1980-1981 period and filed with the Government authorities. A particular lease must be broken into claims before commencing actual mining operations.

To the best of my knowledge and belief, no liens are registered against the property covered by this report, but the current registered owners maintain their holdings by an option agreement which this author has not examined.

LOCATION AND ACCESS

(Lat. $631^{\circ} 8' N$; Long. $138^{\circ} 45' W$.) The leases cover the lower reaches of Black Hills Creek and extend northerly along the axis of this stream from its confluence with the Stewart River upstream for a distance of nine (9) miles. Lease No. 5040 joins a series of placer claims apparently controlled by Territorial Gold Placers Ltd.

Seventy miles of secondary and tote-type road connect the property with Dawson, Yukon, where helicopters are available during summer months. Scheduled airlines and buses connect Dawson with the northern terminus of the White Pass Yukon Railroad at Whitehorse, Yukon, situated 340 road miles southeast of Dawson. Helicopters undoubtedly provide the most expedient mode of light transportation in the general area.

EXPLORATION AND DEVELOPMENT WORK (1981)

Overview of Program

Field work, either completed to date or in progress at this time, consists primarily of Becker-type percussion drilling of bench and stream gravels in conjunction with continuous sampling of drill cuttings, followed by sample concentration and determination of gold values in concentrates by assay. This work is supported by a twenty (20) man trailer camp and serviced by both light trucks and helicopters.

Tote trails, drill lines, helicopter transportation and percussion drilling are provided by contractors.

The actual drilling budgeted for the project has been completed and 60% (30 tons) of the samples have been concentrated in preparation for actual assaying.

Assaying is behind schedule and results have been received from only one line of drill holes (line #3). Nevertheless, all work should be completed before the 1st of June.

Control and Support Facilities

A tote trail was constructed with bulldozers between Territorial Gold Placer's camp on Black Hills Creek, downstream to the Stewart River and served to provide access to the various drill lines and specific drill sites. This tote trail also served as a base line for engineering control of the drill lines, the actual drill holes, and as a reference for geologic studies.

Seven miles of the tote trail between Territorial Placer's camp and the operating camp on Prospecting Lease #5040 was upgraded into a tote road to allow transport of the trailer camp onto the property under frozen conditions. The trailer camp was provided by Peace Trailer Industries Ltd.

A portion of the necessary bulldozer work, performed on and off the property, would benefit production operations, and was constructed by Northwest Consolidated Industries on an hourly contract.

Drilling and Sampling

Beck Construction Ltd. of Calgary, Alberta conducted the actual drilling by employing a track-mounted "Becker Percussion Drill". Their machine weighed approximately 42 tons and was rigged up to punch 6-5/8 inch diameter drill holes through the surficial deposits and into bed rock. The drill was equipped for holes seventy (70) feet deep.

Drilling and sampling was a continuous process with samples being brought to surface by compressed air (125 psi) within the drill pipe. Plastic bags were used to collect the samples after they were passed through a cyclone to separate the air from the drill cuttings.

Samples were collected continuously at two-foot intervals in each drill hole resulting in each gravel sample weighing approximately sixty (60) pounds. Surficial black muck samples weighed less than the underlying gravels, but all materials penetrated from the collar to the bottom of a particular hole were sampled. Approximately fifty (50) tons of samples were produced during the drilling program.

Sample Processing

Because of freezing conditions at the drill sites and the rapid advance of an average drill hole drilled on both day and night shifts, samples of drill cuttings were only bagged, coded, and logged as to type of material penetrated at the drill site.

The resulting collections of samples from each drill hole were transported by light truck to the main camp for sample processing, including concentration.

Sample processing included passing each gravel sample over a double deck vibrating screen where all materials were washed and sized into three fractions. One fraction, the material greater than one-quarter inch in diameter, was rejected as waste without further investigation of its gold content, especially any large gold nuggets.

The remaining two fractions, namely a minus one-quarter inch by plus one-eighth inch fraction, and a minus one-eighth inch fraction, were retained for further concentration on a shaking table.

Both remaining minus one-quarter inch fractions were passed over a Dyster shaking table where further concentration was accomplished by gravity separations in a water medium of the waste materials and minerals - garnet, iron sands, and pyrite - from the gold particles (small nuggets, colors and gold dust).

This procedure allows the evaluation engineer to observe the content, distribution, and nature of the contained heavy minerals and gold particles prior to the sample being treated by an assayer. This technique also provides advance information

on the location and magnitude of auriferous pay streaks (refer to DWG. #80-110-4 Area "A" attached herewith).

All gold nuggets greater than one-quarter inch in size, such as are known to occur in the auriferous gravels of Black Hills Creek, were rejected during this phase of the concentration process as a safety factor in the current evaluation of the property.

The average resulting samples of concentrate consisted of the heavy minerals, gold and waste rock in both fractions. Both fractions were combined into one product which weighed approximately two pounds and was removed by the assayer (located on site) for determination of their gold content by amalgamation.

Assaying of Concentrates

Geo Analytical Services (Western) Ltd. provided independent assay services on site for gold in the sample concentrates.

Their technique included amalgamation of the contained gold in each sample concentrate with 5 cc of liquid mercury, followed by separation of the gold-laden mercury from the theoretically barren concentrate sample. This process required approximately 1.25 hours per sample and included a period of one hour during which time each sample was placed in a quart-size jar with water, sodium hydroxide, and mercury and agitated on a roller frame which allowed collection of the gold in the mercury.

Excess mercury was removed from the amalgam mixture by squeezing the barren mercury resulting from the agitation phase through a chamois skin and retaining the remaining gold amalgam for further treatment with nitric acid.

Once placed in 250 m. beakers, approximately 100 ml of nitric acid were added to the gold amalgam and heated on a hot plate to dissolve the mercury from the mixture of gold and mercury. The resulting clean gold was dried in a parting crucible and weighed.

The gold from each sample was first weighed separately, followed by the weighing of all the combined gold from each separate sample resulting from a particular drill hole as a check. The resulting total gold values from each drill hole were then reported by certificate signed by the assayer (refer to Appendix "A" attached herewith).

Estimated Costs of 1981 Exploration and Development

Although the Black Hills exploration and development project is not complete at this time, and an absolute accounting is not available, it is estimated that work completed to date will cost approximately \$475,000. This estimate includes mobilization and demobilization charges, some road work chargeable to future production, and approximately \$50,000 applicable toward Government-required assessment work.

SURFICIAL AND ECONOMIC GEOLOGY - PLACER GOLD

Recent field work and data from drilling conducted in the area of Black Hills Creek and on Prospecting Leases #5040 and #5051 during March and April 1981 indicates that an "ancient" drainage channel probably contained the first gold in the current drainage system of Black Hills Creek. The bottom of this old channel generally lies between 15 and 100 feet above the present stream over its total length.

On Prospecting Leases #5040 and #5051, the grade of the old channel as it exists today is approximately 20 feet per mile and its top lies between 150 feet and 50 feet above the current stream. It appears that this channel received three overlapping washes of gold during its structurally undisturbed life.

Subsequent to deposition of the original channel, the area was uplifted causing the original stream to shift laterally from the channel at some locations and to cut downward along the entire stream drainage, resulting in a gradient in the resulting present stream of approximately 50 feet per mile.

Because of the regional uplift, the current stream in its down cutting process has both scattered and reconcentrated the gold values contained in the original channel at several locations where the current stream or tributaries have dissected the old auriferous drainage system.

Consequently, the current stream valley bottom probably contains relatively large areas of relatively low-grade auriferous gravels which at various locations contain zones of reconcentrated gold. Some small zones of rich gravel within these reconcentrated areas were partially mined underground

by old timers on Prospecting Lease #5040 where gold values are known to exceed one ounce of gold per cubic yard of gravel (Area "D" herein).

The old channel exists undisturbed as bench deposits at some locations (Area "A" herein) and appears to contain relatively uniform gold values including nuggets according to old reports.

Both the old channel gravels and the recent reconcentrated stream gravels are covered by a layer of frozen black organic muck which varies from two (2) to fifty (50) feet in thickness.

All of the stream gravels encountered during the recent drilling program are permanently frozen to bedrock whereas the bench gravels appear to be only sporadically frozen and contain very little moisture.

The gravels consist primarily of a loosely stratified mixture of normally flat mica and garnet schist pebbles generally less than four inches in diameter, in addition to approximately ten percent angular, but elongated quartz cobbles usually less than eight inches long. All of these various sized pieces of rock are embedded in a matrix of grey and red sand resulting from the breakdown of the larger materials. Boulders greater than one foot in diameter usually make up less than 2% of the gravel deposits.

All of the gravels and their contained gold appear to have travelled long distances and contain odd fragments of rock such as serpentine that is foreign to the immediate drainage system.

Concentration of drill samples reveals that less than three percent of the materials are heavy minerals including magnetite, hematite, ilmenite and garnet sands. Approximately 10% of the heavy sands in some drill holes in Area "A" bench are fine grained crystalline pyrite. The pyrite is often associated with the gold values and its decomposition has resulted in the formation of limonite which has stained much of the gravel on Area "A" bench to an orange/red color.

Samples of bench gravels contain gold dust, coarse colors and small flat gold nuggets less than one-quarter inch in diameter. Larger nuggets are also probably present as found in mining operations located upstream from the property, but were rejected from all drill samples during screening. These values exist throughout the total vertical extent of the bench deposits in Area "A".

The gold normally tends to be flat and rounded and varies from yellow to orangish yellow in color. It separates easily from the gravel and heavy sands and does not seem to be confined to the relatively small amount of clay associated with the gravels. Purity of the gold in this bench area probably ranges from 850 to 900 fine.

AURIFEROUS GRAVEL RESERVES

General Commentary

Auriferous stream gravel exist the full nine (9) mile length of the property and have been tested by five (5) reconnaissance drill lines (Line No. 1, 2, 13A, 5 and 6). Drill holes along these lines indicate deposits of permanently frozen gravel approximated eighteen (18) feet thick and 400 feet wide which are covered by a sheet of black muck which averages seven (7) feet thick. These holes have not been assayed so no absolute value can be attached to these stream gravel reserves at this time.

Nevertheless, some areas are apparently very rich as samples of trailings from an old shaft near the north end of the property yield approximately four dollars (\$4.00) worth of gold (gold @\$500 per troy ounce) per pan of gravel presumably taken from bed rock. (One hundred and eighty (180) pans is equivalent to one cubic yard).

Auriferous bench deposits exist along the west side of Black Hills Creek and drilling has defined an auriferous bench deposit (Area "A", herein) 6,900 feet long and varying from 150 to 600 feet wide, depending on future mining limits. This deposit averages fourteen (14) feet thick and is covered by an eighteen (18) foot layer of frozen black organic muck. These gravels have a relatively uniform gold content according to visual inspection of drill samples conducted during sample concentration.

PROBABLE RESERVES OF AURIFEROUS STREAM GRAVELS

(Refer to DWG. #80-110-3, herein)

<u>AREA</u>	<u>ESTIMATED VOLUME OF GRAVEL</u>	<u>ESTIMATED PROBABLE GROSS VALUE</u>
"C"	1,870,000 yd. ³	0.02 troy oz/yd. ^{2 3}
"D"	1,340,000 yd. ³	0.05 troy oz/yd. ³
"E"	8,100,000 yd. ³	0.04 troy oz/yd. ³
Sub total:	11,310,000 yd. ³	

PROBABLE RESERVES OF AURIFEROUS BENCH GRAVELS

(Refer to DWG. #80-110-3, herein)

<u>AREA</u>	<u>ESTIMATED VOLUME OF GRAVEL</u>	<u>ESTIMATED PROBABLE GROSS VALUE</u>
"B"	1,980,000 yd. ³	0.01(±) troy oz/yd. ³

PROVEN (BLOCKED OUT) RESERVES OF AURIFEROUS BENCH GRAVELS

(Refer to DWG. #80-110-3, herein)

<u>AREA</u>	<u>ESTIMATED VOLUME OF GRAVEL *</u>	<u>INDICATED GROSS VALUE</u>
"A"	1,322,000 yd. ³	0.03 troy oz/yd. ³

* (This auriferous gravel block is 2,300 yards long, 125 yards wide, 4.6 yards deep, and is covered by a black muck layer (barren) 5.8 yards deep. Indicated gold values are from assays and the visually estimated gold content. Indicated values could be increased to approximately \$28.00 per cubic yard (gold @ \$500 per ounce) by narrowing the mining limits.)

MINING CONSIDERATIONS

Providing that gold values obtained from the drilling, sampling and possible bulk testing programs live up to expectations, then a mining operation could probably get underway on Area "A" bench in the vicinity of drill line No.'s 3 or 26. Mining of other areas may also be possible the first year.

Because of ecological restrictions, standard earth moving machinery, including bulldozers and scrapers, should be employed the first year to allow preparation of settling ponds and for opening up the pay streak on Area "A" bench. This machinery would be needed also for stripping muck and for mining stream gravel deposits in the valley bottom.

A standard "Pearson Rock Box" sluice box, aluminum irrigation pipe and a 12' x 12' pump would allow processing of at least 400 cubic yards of gravel per hour from either bench or stream deposits.

Relatively economic hydraulic mining operations could probably commence the second year subject to Government regulations.

CONCLUSIONS AND RECOMMENDATIONS

Auriferous deposits of both bench and stream gravels exist on Prospecting Leases No. #5040 and #5051 situated on Black Hills Creek, Klondike Region, Yukon Territory.

Development drilling employing a Becker Percussion Drill has delineated approximately 1,322,000 cubic yards of auriferous bench gravels (Area "A") which appear to have a preliminary indicated gross gold value in the range between twenty-eight dollars (\$28.00) per cubic yard across a 100 foot wide mining width and ten dollars (\$10.00) per cubic yard across a 600 foot mining width according to combined visual gold estimations and assays of drilling concentrates conducted by Geo Analytical Services (Western) Ltd. These figures are based on gold at five-hundred dollars (\$500.00) per troy ounce and color counts of gold particles from drill hole samples from 8 drill lines which cross the bench. Only one of these lines, No.3, has been assayed to date. Drilling has been completed but assaying has just begun and the results reported here are for the first random line of drill holes.

The majority of the drill hole samples from Area "A" bench have been concentrated in preparation for assaying and a "color count" of gold particles, completed during the concentration process and correlated with the assays from drill line No. 3, indicates similar gold values may be expected from the entire 6,900 foot long bench "pay streak".

Coarse gold and small nuggets were observed in the samples from drill lines No. 3 and 26 with gold colors extending through the entire vertical extent of the deposit. All nuggets larger than one quarter inch in diameter were rejected in the sample concentration process as a safety

factor in this evaluation process. Thus, assay values can be regarded as a bare minimum measure of the gold content of the deposit.

Although Area "A" bench would be a most convenient place to start a mining operation, other areas on the property in the present stream valley bottom are considerably richer in gold (\$4.00 [four dollars] per pan from shaft samples or approximately seven-hundred and twenty dollars [\$720.00] per cubic yard) but are believed to be limited in size and number and require further exploration by drilling and/or test pits before any confident measure of either total yardage or its tenor can be placed on these rich areas.

Both the bench and stream deposits of gravel are frozen and are covered by a layer of black organic muck which must be removed before any of the gravels can be sluiced.

Subject to final assays and overall evaluation based on bulk testing and correlations with "color counts" of gold observed in drill samples, a decision can be made either to commence mining Area "A" bench during 1981, or further explorations and development of the rich stream gravels during 1981 in preparation for mining of these rich gravels in 1982 after removal of the surficial black muck during early spring under frozen conditions. Stripping of the muck in the stream valley during summer months might prove awkward while using mechanical equipment.

Respectfully submitted,
ACE PARKER MINES & MINERALS CORPORATION LTD.



DATE: May 8, 1981

Ace R. Parker, P. Eng.

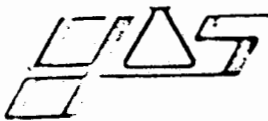
CERTIFICATION

I, Ace R. Parker, of Calgary, Alberta, certify and declare that:

- I am a Consulting Engineer, practicing with Ace Parker Mines and Minerals Corporation Ltd., #223, 513 - 8th Ave. S.W. Calgary, Alberta.
- I am a Bachelor of Science in Mining Engineering from the College of Earth Science and Mineral Industry, University of Alaska, Fairbanks, Alaska (1962). I hold a Diploma in Mineralogy from the Mineral Science Institute, Chicago Illinois, U.S.A. (1959).
- I am a member of the Association of Professional Engineers, Geologists, and Geophysicists of Alberta. I have been a member of the American Institute of Mining, Metallurgical and Petroleum Engineers since 1954.
- I have formally practiced the profession of Mineral Exploration and Development for the past 18 years after working in the Mineral Industry since 1953. I have found several economic mineral deposits in North America.
- I have no direct or indirect interests in 243023 Alberta Ltd. or 245688 Alberta Ltd., Black Hills Gold Ltd., Industrial Economics (HRA) Ltd. or in any securities relating to these companies or the property described in this report.
- This Certification is part of the attached "Interim Exploration and Valuation Report on Prospecting Leases #5040 and #5051 (Black Hills Creek) Yukon Territory, Dawson Mining District, Yukon Territory, Canada prepared for Black Hills Gold Ltd. and dated this 8th day of May, 1981.
- The attached Property Map shows the location of the Prospecting Leases which have been located in compliance with the Yukon Placer Mining Act and cover "Crown Land" in the Yukon Territory, according to field evidence and public documentation.
- This report is based on comprehensive personal study of documents, maps and reports, both oral and printed, relating to the property and work outlined herein. I am personally familiar with the project which was designed and scrutinized on site by me.

CALGARY ALBERTA
May 8, 1981


ACE R. PARKER, P. ENG.



GEO ANALYTICAL SERVICES (WESTERN) LTD.

BLACK HILLS GOLD LTD.

BLACK HILLS CREEK

YUKON

JOB NUMBER

DATE RECEIVED

RECEIVED FROM

BILL TO

RESULTS TO

No of SAMPLES

DESCRIPTION

AMOUNT

LINK 6

HOLE #

GOLD (mg).

14K

<5

13K

5

12K

<5

11K

<5

10K

5

9K

20

8K

15

7K

<5

6K

<5

5K

no weight

4K

<5

3K

5

2K

<5

1K

15

TOTAL GOLD ON LINK 6

85 mg.

BY BALANCE

55 mg.

DATE COMPLETED

Sun. May 17/81

SIGNED

James M. Mason

BLACK HILLS CREEK

DRILLING PROGRAMME

6½ inch diameter holes drilled by Beck Construction Ltd.

LINE 6

Fourteen holes for a combined depth of 394 linear feet.

Drill logs available on request.

PROJECT: BLACK HILLS CREEK
 LOCATION: DAWSON MD, YUKON
 CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.
 CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

DRILL LINE NO. 3

DRILL HOLE NO. 2W

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12		Black Organic Muck						
S7	12-14		Black Organic Muck						
S8	14-16		Black Organic Muck						
S9	16-18		Black Organic Muck						
S10	18-20		Black Organic Muck						
S11	20-22		Black Organic Muck						
S12	22-24		Black Organic Muck						
S13	24-26		Black Organic Muck						
S14	26-28		Black Organic Muck						
S15	28-30		Black Organic Muck						
S16	30-32		Black Organic Muck						

PROJECT: BLACK HILLS CREEK
 LOCATION: DAWSON MD, YUKON
 CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.
 CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

DRILL LINE NO. 3

DRILL HOLE NO. 3W

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2	35	Black Organic Muck						
S2	2-4	40	Black Organic Muck						
S3	4-6	35	Black Organic Muck						
S4	6-8	40	Black Organic Muck						
S5	8-10	50	Black Organic Muck						
S6	10-12	45	Black Organic Muck						
S7	12-14	40	Black Organic Muck						
S8	14-16	43	Black Organic Muck						
S9	16-18	43	Black Organic Muck						
S10	18-20	42	Black Organic Muck						
S11	20-22	45	Black Organic Muck						
S12	22-24	45	Black Organic Muck						
S13	24-26	44	Black Organic Muck						
S14	26-28	40	Black Organic Muck						
S15	28-30	45	Black Organic Muck						
S16	30-32	48	Black Organic Muck						

120048
 120048

PROJECT: BLACK HILLS CREEKLOCATION: DAWSON MD, YUKONCLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.DRILL LINE NO. 3DRILL HOLE NO. 0

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2	30	Black Organic Muck						
S2	2-4	40	Black Organic Muck						
S3	4-6	35	Black Organic Muck						
S4	6-8	35	Black Organic Muck						
S5	8-10	35	Black Organic Muck	.5%	.02%				
S6	10-12	35	Black Organic Muck	1%	.02%				
S7	12-14	35	Black Organic Muck	1%	.5%				
S8	14-16	45	Black Organic Muck	1%	.02%	.02%	1C		
S9	16-18	35	Black Organic Muck	2%		.5%			
S10	18-20	55	Light Grey Sand, Gravel						
S11	20-22	60	Grey White Fine Sand, Gravel				2C		
S12	22-24	35	Grey White Sand and Gravel				4C		
S13	24-26	45	Mostly Fine Sand, Gravel, Grey, Some Light Yellow				12C	One Piece coarse gold-flat	
S14	26-28	85	Grey Fine Sand, Gravel, Shattered Bedrock				28C	+ Flour Gold	
S15	28-30	25	Bedrock, Grey White			Noted	13C	+ Flour Gold	

120048

PROJECT: BLACK HILLS CREEKPAGE: 1/2LOCATION: DAWSON MD, YUKONCLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.DRILL LINE NO. 3DRILL HOLE NO. 4W

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12		Black Organic Muck						
S7	12-14		Black Organic Muck						
S8	14-16		Black Organic Muck						
S9	16-18		Black Organic Muck						
S10	18-20		Black Organic Muck						
S11	20-22		Black Organic Muck						
S12	22-24		Black Organic Muck						
S13	24-26		Black Organic Muck						
S14	26-28		Black Organic Muck						
S15	28-30		Black Organic Muck						
S16	30-32		Black Organic Muck						

ACE PARKER MINES & MINERALS CORPORATION LTD.
- DRILL HOLE LOG -

PROJECT: BLACK HILLS CREEK
 LOCATION: DAWSON MD, YUKON
 CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.
 CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

PAGE: 1/2

DATE: _____

DRILL LINE NO. 3

DRILL HOLE NO. 1W

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12		Black Organic Muck						
S7	12-14		Black Organic Muck						
S8	14-16		Black Organic Muck						
S9	16-18		Black Organic Muck						
S10	18-20		Black Organic Muck						
S11	20-22		Black Organic Muck						
S12	22-24		Black Organic Muck						
S13	24-26	50	Grey Black Sandy Gravel						
S14	26-28	65	Light Grey, Mostly Large Gravel						
S15	28-30	70	Light Grey Large Stone Gravel & Sand						
S16	30-32	30	Grey Sandy Gravel (1½" Stone)	Noted	Noted		1C	+ Flour Gold	

120048

PROJECT: BLACK HILLS CREEK
 LOCATION: DAWSON MD, YUKON
 CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.
 CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

DRILL LINE NO. 3

DRILL HOLE NO. 1E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WP (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2	45	Black Organic Muck	1%					
S2	2-4	25	Black Organic Muck	10%	.5%	.5%			
S3	4-6	25	Black Organic Muck	5%	.02%				
S4	6-8	35	Black Organic Muck	5%	.02%	.02%			
S5	8-10	40	Black Organic Muck	3%		.02%			
S6	10-12	45	Black Organic Muck	5%	.5%	.02%			
S7	12-14	43	Black Organic Muck	5%	.1%	.5%	1C		
S8	14-16	37	Grey Brown Gravel, Sand	1%			15C	+ Flour Gold	
S9	16-18	75	Grey Light Brown Sand, Gravel	1%			17C	+Flour Gold One Course Piece, Flat	
S10	18-20	55	Sandy Brown Gravel, Fine Sands	1%			43C	Two Pieces Coarse Gold, Globs	
S11	20-22	65	Sand, Light Grey, Silver Gravel, Shattered Bedrock	1%			11C	Flat, Fine Gold	
S12	22-24	50	Grey White, Shattered Bedrock, Gravel, Fine Sand	1%		L2%	9C	One Piece Coarse, +Flour Gold	
S13	21-26	45	Bedrock, Light Grey	1%		5%	3C	One Piece Coarse Gold	

PROJECT: BLACK HILLS CREEK
 LOCATION: DAWSON MD, YUKON
 CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.
 CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

DRILL LINE NO. 3

DRILL HOLE NO. 2E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2	30	Black Organic Muck						
S2	2-4	17	Black Organic Muck						
S3	4-6	28	Black Organic Muck						
S4	6-8	50	Clay				1C	Piece Gold, Clay Above Pay	
S5	8-10	50	Coarse Gravel, Grey Brown Sand				2C	Clay Above Pay	
S6	10-12	55	Coarse Gravel, Grey Brown Sand				1C	Coarse AU	
S7	12-14	78	Coarse Gravel, Rusty Gravel Sand				1C		
S8	14-16	60	Grey Brown Sand, Gravel				2C	Coarse Gold	
S9	16-18	77	Shattered Bedrock				2C	Coarse Gold	

PROJECT: BLACK HILLS CREEK

LOCATION: BARROW RD, YUKON

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

DRILL LINE NO. 3

DRILL HOLE NO. 3E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2	44	Black Organic Muck						
S2	2-4	26	Black Organic Muck						
S3	4-6	45	Light Brown Clay, Very Wet When Weighed						
S4	6-8	55	Rusty Coarse Gravel, Sands						
S5	8-10	70	Rusty Grey Large Stone Gravel, Sands						
S6	10-12	85	Light Grey Fine Sands, Coarse Gravel				1C	Flour Gold	
S7	12-14	72	Shattered Bedrock, Light Grey, Fine Sand, Coarse Gravel						
S8	14-16	85	Grey White Shattered Bedrock, Fine Sands						
S9	16-18	27	Bedrock						

PROJECT: BLACK HILLS CREEK
 LOCATION: DAWSON RD, YUKON
 CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.
 CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

PAGE: 1/1

DATE: _____

DRILL LINE NO. 3

DRILL HOLE NO. 4E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WF (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2	33	Black Organic Muck						
S2	2-4	50	Rusty Brown Sandy Gravel	1%			2C	Coarse Gold-Flat	
S3	4-6	47	Rusty Brown Sandy Gravel						
S4	6-8	55	Rusty Grey						
S5	8-10	45	Grey Brown Gravelly Sand	5%		.02%			
S6	10-12	57	Fine Grey Brown Sand, Some Gravel	5%	.5%	.02%			
S7	12-14	82	Fine Grey Sands, Shattered Bedrock	7%					
S8	14-16	50	Fine Grey Sands, (sort), Bedrock	10%					
S9	16-18	45	Fine Grey Sands, Bedrock	10%		.5%			

120048

PROJECT: BLACK HILLS CREEKLOCATION: RAWSON RD, YUKONCLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.DRILL LINE NO. 3DRILL HOLE NO. 5E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2	25	Red Muddy Sand						
S2	2-4	45	Red Gravelly Sand						
S3	4-6	55	Red Grey Sandy Gravel	1%	1%	.02%	3C		
S4	6-8	65	Grey Gravel, Sand	3%	3%				
S5	8-10	65	Grey Coarse Gravel, Sand	3%	10%	1%			
S6	10-12	75	Grey Brown Gravel, Large Stone	3%	10%	1%			
S7	12-14	65	Red Grey Coarse Gravel	3%	10%	.5%			
S8	14-16	65	Grey White Crushed Bedrock	1%	.5%	.02%			
S9	16-18	35	Bedrock	2%	.5%	2%			

120048

PROJECT: BLACK HILLS CREEKLOCATION: DAWSON MD, YUKONCLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.PAGE: 1/1

DATE: _____

DRILL LINE NO. 3DRILL HOLE NO. 6E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2	45	Red Sandy Mud	2%	.5%	2%			
S2	2-4	45	Coarse Sand, Rusty	1%	.5%	.5%	1C		
S3	4-6	65	Red Coarse Gravel	.5%	.02%	.02%	1C		
S4	6-8	55	Red Coarse Gravel	.5%	.02%	.02%			
S5	8-10	45	Large Grey White Stone	2%	1%	.5%			
S6	10-12	65	Fine Grey Sand	1%	.5%	.02%			
S7	12-14	75	Rusty Grey Sand, Large Stone	2%	.02%	.02%			
S8	14-16	65	Rusty Grey Sand, Large Stone	2%	.5%	1%			
S9	16-18	55	Grey Gravel, Sand	3%	.5%	2%			
S10	18-20	55	Grey Shattered Bedrock	2%		1%			

1 504

SUBJECT: BLACK HILLS CREEK
 LOCATION: DUNWISON RD, YUKON

PAGE: 1/2

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

DRILL LINE NO. 6H

DRILL HOLE NO. 1E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12		Black Organic Muck						
S7	12-14		Black Organic Muck						
S8	14-16		Black Organic Muck						
S9	16-18		Black Organic Muck						
S10	18-20		Black Organic Muck						
S11	20-22		Black Organic Muck						
S12	22-24	40	Coarse Sand Small Gravel Light Brown	3%	.5%	.5%	2C		
S13	24-26	40	Coarse Sand & Gravel Light Brown	1	.5	.5			
S14	26-28	40	Coarse Sand & Gravel Light Brown	1	.5	.5			
S15	28-30	60	Sand and Gravel Brown	.5	.5	1			
S16	30-32	65	Sand & Gravel Brown	3	1	1	1C		

120048

- DRILL HOLE LOG -

PROJECT: BLACK HILLS CREEK
 LOCATION: DUNSON RD, YUKON

PAGE: 1/2

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

EQUIPMENT: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

DRILL LINE NO. 6H

DRILL HOLE NO. 2E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12		Black Organic Muck						
S7	12-14		Black Organic Muck						
S8	14-16	50	Sand & Gravel Brown Some Rusty Brown	1	.5	.5			
S9	16-18	50	Sand & Gravel Brown	3	1	1			
S10	18-20	50	Coarse Sand Some Gravel Grey Brown	3	1	1			
S11	20-22	55	Coarse Sand Some Gravel Grey Brown	2	.5	.5			
S12	22-24	65	Coarse Sand & Gravel Grey	2		.5	2C		
S13	24-26	55	Coarse Gravel & Sand Grey Brown	2	.5	.5			
S14	26-28	40	Coarse Sand & Gravel Brown Some Rusty Brown	2	.5	.5			
S15	28-30	40	Sand Some Gravel Grey	1	.5	.5			
S16	30-32	65	Sand Some Gravel Grey	5	.5	.5			

120048

- DRILL HOLE LOG -

LOCATION: BLACK HILLS CREEK
 REGION: DENISON MD, YUKON
 CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.
 CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

PAGE: 1/1

DATE: _____

WELL LINE NO. 6H

DRILL HOLE NO. 3E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10	35	Sand & Gravel Rusty Brown	3	1	1			
S6	10-12	60	Sand & Gravel Brown Rusty Brown	3	1	1	1C		
S7	12-14	60	Gravel & Sand Brown	1	.5	.5			
S8	14-16	65	Sand & Gravel Brown	1	.5	.5	3C		
S9	16-18	50	Gravel & Sand Brown Grey	1	.5	.5	1C		
S10	18-20	55	Sand & Gravel Brown Grey	1	.5	.5	2C	Fine	
S11	20-22	75	Sand Brown	1	.5	.5			
S12	22-24	55	Sand Brown	15		5	1C		
S13	24-26	75	Sand & Gravel Grey	15		10			
S14	26-28	85	Sand & Gravel Grey	10		5			
S15	28-30	80	Sand & Gravel Grey No Bedrock						

120048

SUBJECT: BLACK HILLS CREEK
 LOCATION: DUNSMITH RD, YUKON

PAGE: 1/1

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

DRILL LINE NO. 6H

DRILL HOLE NO. 4E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12	50	Sand & Gravel Grey Brown	3	1	1			
S7	12-14	75	Sand & Gravel Grey	1	.5	.5			
S8	14-16	50	Sand & Gravel Grey Brown	1	.5	.5			
S9	16-18	55	Sand & Gravel Grey Brown	2	1	.5	3C		
S10	18-20	60	Sand Some Gravel Grey Brown	3	.5	1	2C		
S11	20-22	60	Sand Grey Brown	2	.02	.02			
S12	22-24	60	Sand Grey Brown	2	.02	.5			
S13	24-26	45	Sand & Gravel Bedrock Grey Brown	4	-	4			

120048

EQUIP: BLACK HILLS CREEK
LOCATION: DEWSON RD, YUKON

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

DRILL LINE NO. 6H

DRILL HOLE NO. 5E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12		Black Organic Muck						
S7	12-14	75	Sand & Gravel Grey	3	1	1			
S8	14-16	65	Sand & Gravel Grey Brown	3	.5	.5	2C		
S9	16-18	65	Gravel & Sand Grey Gravel	3	.5	.5			
S10	18-20	70	Sand & Gravel Grey Brown	3	2	.5	2C		
S11	20-22	60	Sand & Gravel Grey Brown	2	10	.5			
S12	22-24	50	Sand Grey Brown	1	2	.02			
S13	24-26	70	Sand Grey Brown	1	1	.5			
S14	26-28	50	Sand Some Bedrock Grey Brown						

120048

SUBJECT: BLACK HILLS CREEK
 LOCATION: DEWSON RD, YUKON
 CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.
 CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

PAGE: 1/1

DATE: _____

BILL LINE NO. 6H

DRILL HOLE NO. 6E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12		Black Organic Muck						
S7	12-14	55	Coarse Sand & Gravel Brown	3	1	.5			
S8	14-16	55	Sand Small Gravel Brown	3	1	.5	6C		
S9	16-18	65	Gravel & Sand Grey	3	1	.5	1C		
S10	18-20	50	Sand Grey	3	2	1			
S11	20-22	75	Sand Grey	3	10	1			
S12	22-24	75	Fine Sand Grey	3	10	5			
S13	24-26	45	Fine Sand Gravel & Bedrock Grey	3	5	10			

120048

SUBJECT: BLACK HILLS CREEK
 LOCATION: DAWSON RD, YUKON

PAGE: 1/1

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

EQUIPMENT: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

RILL LINE NO. 6H

DRILL HOLE NO. 7E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12		Black Organic Muck						
S7	12-14	45	Sand & Gravel Grey	1	.5	.5	2C		
S8	14-16	60	Sand & Gravel Grey Brown	4	.5	.5	5C		
S9	16-18	80	Sand & Gravel Grey Brown	3	1	1			
S10	18-20	75	Sand & Gravel Grey Brown	3	1	.5	3C		
S11	20-22	70	Sand & Gravel Grey Brown	2	.5	.5	1C		
S12	22-24	65	Gravel & Sand Grey Brown	1	.5	.02	1C		
S13	24-26	60	Gravel & Fine Sand Grey Brown	1	.02	.02	1C		
S14	26-28	60	Gravel & Sand No Bedrock Grey Brown	1	1	.02			

PROJECT: BLACK HILLS CREEK
 LOCATION: DAWSON RD, YUKON

PAGE: 1/1

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

EQUIPMENT: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

WELL LINE NO. 6H

DRILL HOLE NO. 8E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12	60	Sand & Gravel Grey Brown	1	1	.5	5C	& powder gold	
S7	12-14	40	Coarse Sand Brown	2	1	.5	3C		
S8	14-16	55	Sand & Gravel Grey Brown	1	.5	.5			
S9	16-18	60	Sand & Gravel Grey Brown	1	.02	.02	1C	Fine	
S10	18-20	50	Sand & Gravel Grey Brown	.5	.02	.02	1C		
S11	20-22	75	Sand & Gravel Grey Brown	.5	.5	.02	3C	1 Coarse	
S12	22-24	65	Sand & Gravel Grey Brown	1	1	.5	1C		
S13	24-26	55	Fine Sand Some Gravel Brown	1	.5	.02			
S14	26-28	70	Fine Sand Brown	3	.5	2			
S15	28-30	75	Sand & Gravel Grey No Bedrock	2	1	1			

- DRILL HOLE LOG -

SUBJECT: BLACK HILLS CREEK
 LOCATION: DAWSON RD, YUKON
 CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.
 CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

PAGE: 1/1

DATE: _____

WELL LINE NO. 6H

DRILL HOLE NO. 9E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10	50	Sand & Gravel Brown Rusty Brown	1	.5	.02			
S6	10-12	40	Sand & Small Gravel Brown	2	.5	.5	1C		
S7	12-14	50	Sand & Gravel Brown	3	1	.5	1C		
S8	14-16	50	Sand & Gravel Brown	3	1	.5	4C	1 Coarse	
S9	16-18	60	Sand & Gravel Brown	2	.5	.5			
S10	18-20	60	Sand & Gravel Brown	2	.5	.5	4C	1 Coarse	
S11	20-22	60	Sand & Gravel Grey	3	.5	3	1C	Coarse	
S12	22-24	70	Sand & Gravel Grey	3	.5	10			
S13	24-26	75	Sand & Gravel	5	-	15			
S14	26-28	45	Bedrock	10	-	20			

120048

SUBJECT: BLACK HILLS CREEK
 LOCATION: DUNFORD RD, YUKON
 CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.
 CONTRACTORS: BLACK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

PAGE: 1/1

DATE: _____

WELL LINE NO. 6H

DRILL HOLE NO. 10E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10	50	Sand & Gravel Brown	2	.3	.5	Flyspe		
S6	10-12	55	Sand & Gravel Brown	2	.5	.5	2C		
S7	12-14	55	Sand & Gravel Brown	1	-	-			
S8	14-16	65	Sand & Gravel Brown	2	.5	.5	2	Coarse	
S9	16-18	75	Sand & Gravel Brown	2	1	1			
S10	18-20	65	Sand & Gravel Brown	2	1	1			
S11	20-22	45	Sand & Gravel Brown						
S12	22-24	65	Sand & Gravel Grey						
S13	24-26	35	Fine Sand & Gravel No Bedrock						

PROJECT: BLACK HILLS CREEK
 LOCATION: DAWSON MD, YUKON

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

WELL LINE NO. 6H

DRILL HOLE NO. 11E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Sand & Gravel Brown						
S2	2-4	45	Coarse Sand Some Gravel Brown Rusty Brown	1	.5	.02			
S3	4-6	55	Coarse Sand Some Gravel Brown Rusty Brown	1	1	.02			
S4	6-8	50	Gravel & Sand Brown	1	1	.02			
S5	8-10	45	Gravel & Sand Brown	2	2	-			
S6	10-12	55	Coarse Sand & Gravel Brown	.5	-	-			
S7	12-14	45	Sand & Gravel Brown Grey	.5	-	-			
S8	14-16	60	Sand & Gravel Brown Grey	.5	-	-			
S9	16-18	65	Sand & Gravel Brown Grey	.5	-	-	1C	Coarse	
S10	18-20	50	Sand & Gravel Grey	.5	-	-	2C	1 Coarse	
S11	20-22	45	Sand & Gravel Grey	.5	-	-		Fly Spec	
S12	22-24	50	Sand & Gravel Grey	.5	.02	.02	1C		
S13	24-26	65	Sand & Gravel No Bedrock	1	.3	.5	2C	1 Coarse	

120048

SUBJECT: BLACK HILLS CREEK

PAGE: 1/1

LOCATION: DARFON RD, YUKON

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

WELL LINE NO. 6H

DRILL HOLE NO. 12E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck	.5	.5	-			
S2	2-4		Black Organic Muck	.5	.1	-			
S3	4-6		Black Organic Muck	1	1	.02	1C	1 Fly Spec	
S4	6-8	50	Sand and Gravel Brown	2	1	.02	1C		
S5	8-10	60	Sand Gravel Brown	2	1	.02	1C		
S6	10-12	60	Sand & Gravel Brown	1	.5	2	3C		
S7	12-14	60	Sand & Gravel Brown	1	.5	1			
S8	14-16	45	Sand & Gravel Brown	1	.5	.5			
S9	16-18	50	Sand & Gravel Brown	.5	.02	-			
S10	18-20	60	Fine Sand & Gravel Grey	.5	.5	.02	1C		

- DRILL HOLE LOG -

PROJECT: BLACK HILLS CREEK
 LOCATION: DUNFORD RD, YUKON
 CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.
 CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

PAGE: 1/1

DATE: _____

DRILL LINE NO. 6H

DRILL HOLE NO. 13E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6	50	Coarse Sand & Gravel Brown	1	2	.02	1 Fly Spec		
S4	6-8	50	Coarse Sand, Brown & Orange	1	2	.5	1C		
S5	8-10	50	Sand & Gravel Brown	5	3	.5	3C 1 Coarse		
S6	10-12	60	Sand & Gravel Brown	1	.5	.02	1C		
S7	12-14	70	Sand & Gravel Brown	1	.5	.02	1C		
S8	14-16	50	Coarse Sand Some Gravel Brown	1	.5	.02			
S9	16-18	50	Sand & Gravel Brown	1	.02	1			
S10	18-20	40	Sand & Gravel Brown	3	.02	2			
S11	20-22	60	Fine Sand & Gravel Grey	3	.02	10			
S12	22-24	80	Fine Sand Grey	5	-	10			
S13	24-26	70	Fine Sand & Gravel Grey	3	-	5			
S14	26-28	75	Fine Sand & Gravel Grey No Bedrock	3	-	5			

PROJECT: BLACK HILLS CREEK
LOCATION: DAWSON RD, YUKON

PAGE: 1/1

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

DRILL LINE NO. 6H

DRILL HOLE NO. 14E

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12	35	Sand & Gravel Brown	1	.5	.5			
S7	12-14	60	Sand & Gravel Brown	1	.5	.5			
S8	14-16	55	Sand & Gravel Brown	1	5	5			
S9	16-18	65	Sand & Gravel Brown	1	.02	.02			
S10	18-20	55	Sand & Gravel Brown	.5	.02	-			
S11	20-22	60	Sand & Gravel Brown	.5	-	-			
S12	22-24	60	Sand & Gravel Grey	.5	-	-			
S13	24-26	70	Sand & Gravel Grey	.5	-	-			
S14	26-28	75	Sand & Gravel Grey	.5	-	-			
S15	28-30	30	Sand & Gravel Grey	1	-	-			

120048

SUBJECT: BLACK HILLS CREEK
LOCATION: DAWSON RD, YUKON

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

DATE: _____

CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

DRILL LINE NO. 6H

DRILL HOLE NO. 4W

SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S17	32-34		Black Organic Muck						
S18	34-36		Black Organic Muck						
S19	36-38		Black Organic Muck						
S20	38-40		Black Organic Muck						
S21	40-42		Black Organic Muck						
S22	42-44	35	Gravel and Sand Brown	.5	.02	-			
S23	44-46	70	Gravel and Sand Brown	.5	-	-	1 Fly Spec		
S24	46-48	80	Sand and Gravel Brown	1	-	.5	2C		
S25	48-50	75	Sand Brown	2	-	.5	3C	1 Coarse	
S26	50-52	70	Sand and Gravel Grey	3	.5	1			
S27	52-54	40	Sand and Gravel Grey No Bedrock	3	.5	1	1C		

SUBJECT: BLACK HILLS CREEK
LOCATION: Dawson Rd, Yukon

PAGE: 1/2

CLIENT: INDUSTRIAL ECONOMICS/BLACK HILLS GOLD LTD.

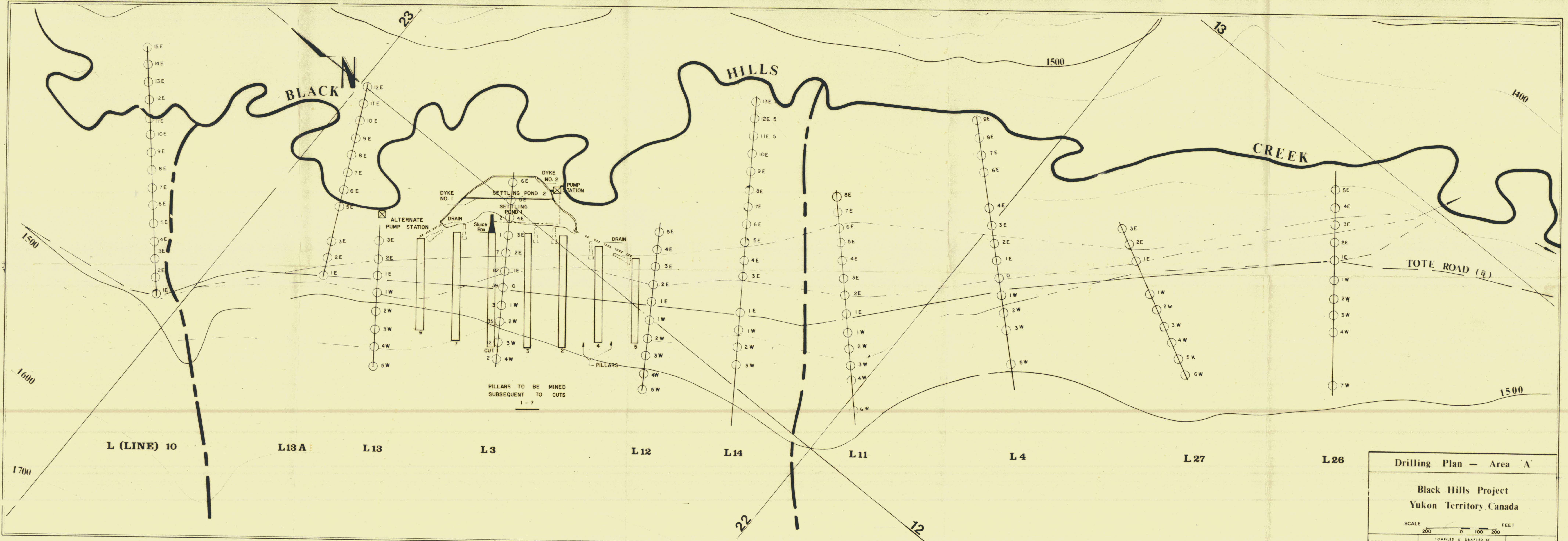
DATE: _____

CONTRACTORS: BECK CONSTRUCTION LTD./GEOANALYTICAL SERVICES LTD.

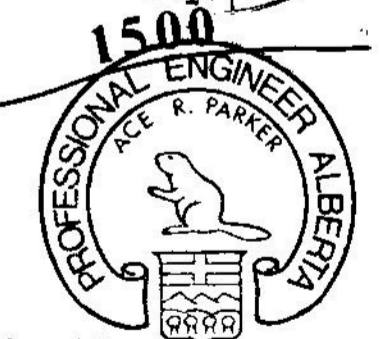
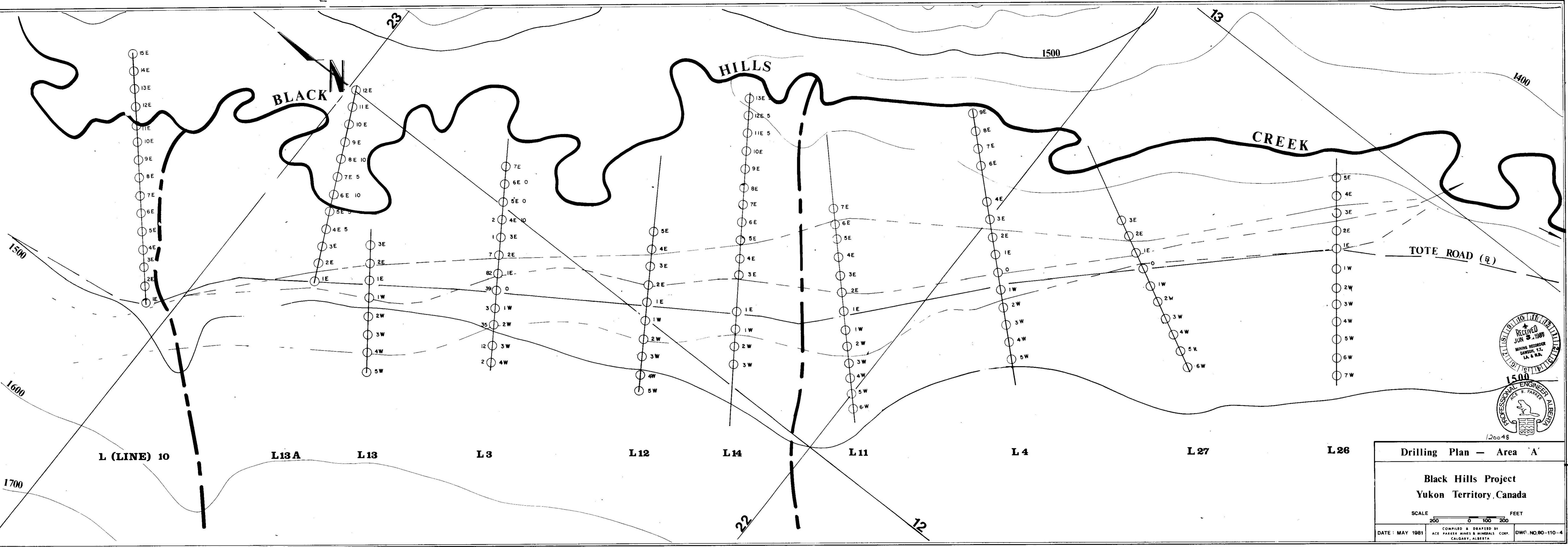
WELL LINE NO. 6H

DRILL HOLE NO. 4W

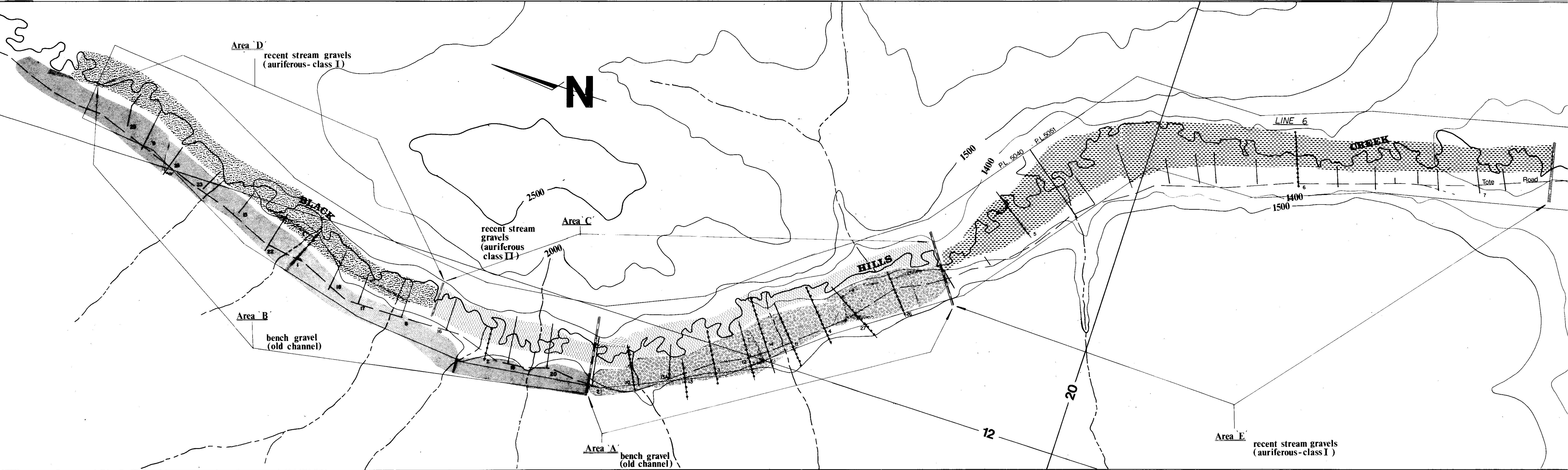
SAMPLE NO.	SAMPLE FOOTAGE	SAMPLE WT (#)	GEOLOGICAL DESCRIPTION	DESCRIPTION OF CONCENTRATE				DESCRIPTION OF GOLD	WEIGHT OF GOLD FROM ASSAY (MG)
				MAGNETITE	GARNET	PYRITE	GOLD		
S1	0-2		Black Organic Muck						
S2	2-4		Black Organic Muck						
S3	4-6		Black Organic Muck						
S4	6-8		Black Organic Muck						
S5	8-10		Black Organic Muck						
S6	10-12		Black Organic Muck						
S7	12-14		Black Organic Muck						
S8	14-16		Black Organic Muck						
S9	16-18		Black Organic Muck						
S10	18-20		Black Organic Muck						
S11	20-22		Black Organic Muck						
S12	22-24		Black Organic Muck						
S13	24-26		Black Organic Muck						
S14	26-28		Black Organic Muck						
S15	28-30		Black Organic Muck						
S16	30-32		Black Organic Muck						

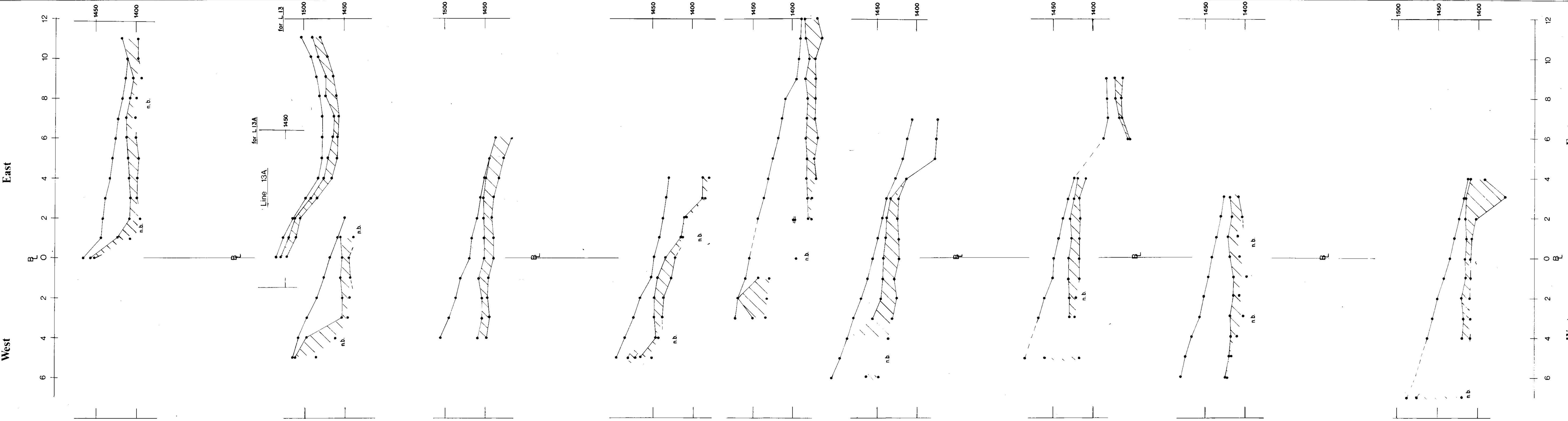


Drilling Plan — Area A		
Black Hills Project Yukon Territory, Canada		
SCALE 200 0 100 200 FEET		
DATE: MAY 1981	COMPILED & DRAFTED BY ACE PARKER MINES & MINERALS CORP. CALGARY, ALBERTA	DWC NO. 80-110-4A

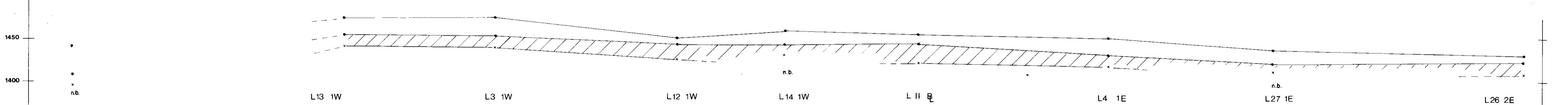


Drilling Plan — Area 'A'		
Black Hills Project		
Yukon Territory, Canada		
SCALE FEET		
DATE: MAY 1981	COMPILED & DRAFTED BY ACE PARKER MINES & MINERALS CORP. CALGARY, ALBERTA	DWC-NO.80-110-4





Elevation (ft.)



LONGITUDINAL SECTION

L (Line) 10 at hole 2E

Legend	
	Surface
	Gravel
	Bedrock
	n.b. no bedrock
	BL baseline

Revisions	DATE
(i) additional information - lines 14, 11, 4, 27, 26, 13A, 10	JUNE 81

Geologic Sections — Area 'A'

Black Hills Project
Yukon Territory, Canada
 Preliminary Data
 HORIZONTAL SCALE (FT.)
 200 0 100 200

DATE: MAY 1981
 COMPILED & DRAFTED BY
 ACE PARKER MINES & MINERALS CORP.
 CALGARY, ALBERTA
 DWG. NO. 80-110-5