83-#371 -11550

ASSESSMENT

REPORT

ON THE

HANK I MINERAL CLAIM

RECORD NO. 2831(7)

CHERRY CREEK AREA

KAMLOOPS MINING DIVISION

KAMLOOPS, BRITISH COLUMBIA

N. Lat. 50° 34'

W. Long. 120° 33'

92 - I - 10E

for

LIBRA ENERGY INC. Suite 1670 609 Granville Street Vancouver, British Columbia V6C 1X9



by

DONALD W. TULLY, P. ENG.

West Vancouver, B.C.

August 24, 1981

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Assay Certificates #83-1324(6)

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#### INTRODUCTION

This report was prepared pursuant to a request from the Directors of Libra Energy Inc., Suite 1670, 609 Granville Street, Vancouver, B.C. V6C 1X9.

The purpose of this report is to evaluate the previous exploration work performed on the HANK I mineral claim.

The basis of this report is the writer's extensive experience from the supervision of diamond drill programs on nearby claim groups, an examination of the claim post on April 6, 1981, and a study of the field data submitted by Strato Geological Engineering Ltd.

A further program of mineral exploration is recommended.

#### SUMMARY AND CONCLUSIONS

The HANK I mineral claim comprises twenty units located about six kilometres due south of the Afton Mine and some ten kilometres southwest of Kamloops, British Columbia.

Andesite and associated volcanic tuffs and fragmental rocks belonging to the Nicola Group underlie the claim area. The Iron Mask batholithic complex is situated about four kilometres to the northeast of the claim area. Bodies of base and precious metal mineralization often occur in Nicola volcanics in the general contact areas of the Iron Mask pluton.

The trend of the basement geological structure through the claim area is northwesterly.



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In 1981, a VLF (very low frequency) electromagnetic survey was carried out on a portion of the north sector of the HANK I claim. The remainder of the claim area was surveyed in July, 1983 and in addition, a geochemical survey was also performed at the same time.

The results of this work showed three anomalous electromagnetic conductor zones of interest.

It is concluded the HANK I mineral claim is located in a favourable geological environment for the occurrence of base and precious metals. A further program of mineral exploration to detail the indicated geophysical electromagnetic anomalies, is proposed.

A two-phase program of mineral exploration is recommended at an estimated total cost of \$40,000.

## PROPERTY - LOCATION, ACCESS, PHYSIOGRAPHY AND ENVIRONMENTAL CONSIDERATIONS

The HANK I mineral claim is located in the Kamloops Mining Division about 12 kilometres southwest of Kamloops, British Columbia. It consists of twenty units and covers an area of 500 hectares (1,235 acres).

The property is accessible by 4 WD vehicle along a bush road leading westward from the Logan Lake highway or alternately going southeasterly along a bush road from the Dominic Lake road. The road distance from Kamloops is about twenty kilometres and thence by bush trail to the claim.

The HANK I claim occupies a north-facing slope that is forested with pine, poplar and considerable underbrush. Elevations vary over the property between 1,200 metres on the north and rising to about 1,550 metres at the southern 24



extremity of the ground.

The climate is warm in summer and moderate in winter, with moderate to light annual precipitation.

The land area is under grazing lease.

## CLAIM

The property is situated in the Kamloops Mining Division, British Columbia.

The HANK I mineral claim comprises twenty units which total 500 hectares of land.

Information on file at the office of the Gold Commissioner at Kamloops is as follows:

Claim Name	Record No.	Units	Record Date	Recorded Owner
HANK I	2831	55 x 4W = 20	July 24, 1983	Roy Schemel

The HANK I mineral claim is indicated on British Columbia Mineral Titles Map M92-I-10E (Figure 3).

Assessment work has been filed pending approval by regulatory authority.

#### HISTORY - PREVIOUS DEVELOPMENT

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The mineral history of the Kamloops area dates back to the early 1880's when gold and silver were found on the east side of Stump Lake. Since that time, metalliferous deposits of copper, gold, silver, iron, silver, lead, zinc and mercury, as well as coal and gypsum, have been worked.

Total mineral production from the Kamloops Area has now reached many hundreds of millions of dollars in metal value.

The HANK I mineral claim is considered to be located in the environs of a favourable mineral producing area.

A VLF (very low frequency) electromagnetic survey was conducted over some 20% of the northern portion of the HANK I claim in September 1981 for Anglo-Western Petroleums Ltd.

#### REFERENCES

Geological Survey of Canada Memoir 249 and accompanying Map 886A

Geological Survey of Canada Aeromagnetic Maps 5216G and 5217G

Assessment Report on the HANK I (Record No. 2831(7)) mineral claim for Anglo-Western Petroleums Ltd., dated September 16, 1981, by Donald W. Tully, P.Eng.

## REGIONAL AND LOCAL GEOLOGICAL SETTING

The general geology of the HANK I claim area is shown on Geological Survey of Canada Map 886A (Nicola).

A tentative geologic timetable pertaining to the property area is as follows:

Formation	Description/Event	Age
Sand, gravel, glac- ial debris and loam	Unconsolidated	Quaternary
	(Erosional unconformity)	
Coast Intrusions	Complex intrusive se- quence of granite, granodiorite, diorite and related felsic and mafic dykes	Jurassic
	(Folding, faulting, shearing and related tectonic activity)	
Nicola Group of volcanics	Greenstone, andesite and basalt	Upper Triassic

Structurally, the rock sequence of Nicola volcanics which underlie the HANK I mineral claim, trend northwesterly. This is confirmed by a study of the aeromagnetic maps of the area, which reflect the basement geologic structural trend. The magnetic relief over the claim area rises gently northward towards the area of the Iron Mask pluton and inversely to the trend of the surface terrain.

# RESULTS OF THE 1983 PROGRAM OF GEOPHYSICAL AND GEOCHEMICAL SURVEYS

During the period July 5-15, 1983, Strato Geological Engineering Ltd., Suite 103, 709 Dunsmuir Street, Vancouver, British Columbia carried out a program of VLF (very low frequency) electromagnetic surveying and geochemical soil sampling over the remaining 80% of the HANK I mineral claim. The geophysical survey was conducted on east-west survey control lines with geophysical readings taken at 25metre stations.

The results of this work are shown on Figures 4, 5, 6 and 7.

## GEOPHYSICAL (Figures 4 and 5)

Three anomalous electromagnetic conductor zones were developed during the survey as follows:

- ZONE 1: On Line 2+00S near 9+50W trending southward towards Line 10+00S near 9+50W and having a strike length of some 800 metres.
- ZONE 2: On Line 2+00S near 5+00W trending southward towards Line 8+00S near 3+00W and having a strike length of about 600 metres.
- ZONE 3: On Line 6+00S near 15+00W trending southeasterly towards Line 12+00S near 14+00W and having a strike length of some 600 metres.

Indications of other anomalous zone of electromagnetic conductivity occur on Line 0+00 near 15+00W, Line 2+00S near 14+00W, Line 10+00S near 1+00W, Line 12+00S near 4+00W, Line 14+00S near 1+00W and Line 16+00S near 14+00W. Further detail surveying would be needed to outline the configuration of these indicated anomalous zones.

## GEOCHEMICAL (Figures 6 and 7)

A total of 207 geochemical soil samples were taken along the same east-west survey control lines as the geophysical survey, at station intervals of 100 metres. The soil samples were analyzed for copper, silver, arsenic, antimony and tungsten by the Induced Coupled Plasma (ICP) method.

The results of the analyses were as follows:

No	. of Samples	Range of Results								
Copper	13	0		20	parts	per	million			
	100	21	-	40	"		"			
	71	41	-	60		"	n			
	19	61	-	80			**			
	3	81	_	100						
	1	101	-	120			n			
		121+		127.23		"	#			
	207									

The highest value in copper was 114 parts per million on Line 2+00S at 15+00W and may not be anomalous.

Background is considered to be in the range of 50 parts per million.

Silver 207

0.00 - 1.0 parts per million

None of the analyses for silver are considered to be anomalous.

DON TULLY ENGINEERING LTD. SUITE 1205, 555-13TH STREET WEST VANCOUVER, BRITISH COLUMBIA V7T 2N8 7.

#### No. of Samples

5

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202 Arsenic 207

10 parts per million 0 20 .... = ... 11

The highest value in arsenic was 12 parts per million found at Line 6+00S - 1+00W and is not considered to be anomalous.

Antimony	205	0	-	4	parts	per	million
	ì	5	-	8	"		"
	_1	9	-	12	"	"	n
	207						

The highest value in antimony was 11 parts per million and may not be anomalous.

#### Tungsten

No anomalous results for tungsten were found in the analyses.

#### RECOMMENDATIONS

A two-phase program of mineral exploration is proposed.

#### Phase 1

A detail (VLF) electromagnetic geophysical survey on a 25-metre grid is recommended to delineate the configuration of the three zones of apparent electromagnetic conductors.

Additional detail geophysical surveying is also proposed to further outline the remaining indicated zones

of electromagnetic conductivity.

### Phase 2

Contingent upon an engineering evaluation of the results of the Phase 1 program, a deep-penetrating induced polarization survey is proposed to further test the several indicated electromagnetic zones of anomalous conductivity.

## ESTIMATED COST OF THE PROPOSED WORK PROGRAM

#### Phase 1

(VLF) electromagnetic surveying	\$12,500	
Contingency for engineering report and unforeseen expenditures	2,500	
Total estimated cost of Phase	1	\$15,000

## Phase 2

Contingent upon an engineering evaluation of the results of the Phase 1 program of mineral exploration and a recommendation to further test the property, it is proposed to carry out a deep-penetrating induced polarization survey over the claim area. Estimate 8 line-km of survey © \$2,500/ line-km 20,000 Contingency for engineering evaluation and unforeseen expenditures 5,000

Total estimated cost of Phase 2

25,000

\$40,000

Total estimated cost of Phases 1 and 2

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Respectfully submitted,

Donald W. helly

Donald W. Tully, P. Eng.

August 24, 1983

#### CERTIFICATE

I, DONALD WILLIAM TULLY, of the Municipality of West Vancouver, Province of British Columbia, hereby certify as follows:

- I am a Consulting Geologist with an office at Suite 1205, 555 - 13th Street, West Vancouver, British Columbia.
- I am a registered Professional Engineer in the Provinces of Ontario and British Columbia.
- I graduated with a degree of Bachelor of Science, Honours Geology, from McGill University in 1943.
- 4) I have practiced my profession for thirty-eight years.
- 5) I have no direct, indirect or contingent interest in the HANK I mineral claim, subject of this report, or in the securities of Libra Energy Inc., nor do I intend to receive any interest.
- 6) This report dated August 24, 1983 is based upon a field examination of the claim posts and claim area on April 6, 1981, a study of the available reports and published information, and personal communications with persons familiar with the ground.
- 7) I have examined the DAVE and "A" claims, HANK II and GREG mineral claims that are located within ten kilometres of the HANK I mineral claim during the past five years.
- Written permission is required from the writer to publish this report dated August 24, 1983 in any Prospectus or Statement of Material Facts.

DATED at West Vancouver, British Columbia this 29th day of August, 1983.

Brudd W. helly

DONALD W. TULLY, P. ENG.



STRATO GEOLOGICAL ENGINEERING LTD. 103-709 DUNSMUIR STREET VANCOUVER, BRITISH COLUMBIA V6C 1M9 TELEPHONE (604) 687-4610

August 24, 1983

LIBRA ENERGY INC 1670 - 609 Granville Street Vancouver, B.C. V2Y 1G5

#### HANK-1 CLAIM TIME-COST DISTRIBUTION

A Geochemical Soil Sampling and VLF Electromagnetic survey was conducted on a grid basis by Strato Geological Engineering Ltd. during the period July 5 to July 13, 1983 inclusive. A listing of personnel and distribution of costs are as follows:

#### Personnel

P.B.	Grunenberg, B.Sc.	Geologist, Project Supv.
J. G	ibson	Geophysical Operator, Sampler.

#### Cost Distribution

Labour - Field - Office - E.M. Data Red.	\$ 3,150.00 175.00
Room & Board	720.00
Vehicular - 4WD (incl. milage, gas & oil)	528.90
Equipment Rental - VLF E.M.	250.00
Geochemical Sample Analysis	1,164.35
Drafting, reproduction costs, etc.	515.38

Total

\$ 6,503.63

Signed:

Strato Geological Engineering Ltd.

APPENDIX

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DON TULLY ENGINEERING LTD. SUITE 1205, 555-13TH STREET WEST VANCOUVER, BRITISH COLUMBIA V7T 2N8

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ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH: 253-3158 TELEX: 04-53124

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DATE RECEIVED JULY 22 1983

DATE REPORTS MAILED July27/03

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## ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER. THIS LEACH IS PARTIAL FOR: Ca,P,Mg,A1,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. AU DETECTION 3 ppm. SAMPLE TYPE - SOIL

ASSAYER \_.

DEAN TOYE, CERTIFIED B.C. ASSAYER

PROJECT # 589 GROUP-HANK FILE # 83-1324 PAGE# 1

STRATO GEOLOGICAL

	7-		*	C		
SAMPLE	CU	AG	AS	SB	W ppm	
OS 20W OS 19W OS 18W OS 17W OS 16W	54 54 59 79 28	.1 .2 .3 .1	24252	20000	22222	
OS 15W OS 14W OS 13W OS 12W OS 11W	49 14 32 56 46	.2	4 2 2 5 4	NNNNB	NNNNN	
05 10W 05 9W 05 8W 05 7W 05 6W	33 28 70 78 64	.2	23426	2222	NNNNN	
05 5W 05 4W 05 3W 05 2W 05 1W	67 44 37 39 38		24422	4 11 2 3 4	NNNNN	
05 0W 25 20W 25 19W 25 18W 25 18W 25 17W	56 42 38 42 35	.2 .3 .2 .2	10 5 22 5	NNNNN	NNNN	
25 16W 25 15W 25 14W 25 13W 25 12W	30 114 39 42 39	.3 .2 .2 .1	35234	NNNNN	NNNNN	
25 11W 25 10W 25 9W 25 8W 25 7W	50 46 43 64 48	.2 .1 .2 .1 .3	693 64	NNNN	NNNNN	
25 6W 25 5W STD A-1	64 54 29	.2 .2 .3	9 2 10	2/	222	

STRATO GE	OLOGICAL	PROJECT	# 589	GROUP-H	ANK FILE	# 83-	1324 P	A
S	AMPLE		CU PPm	AG ppm	AS ppm	SB ppm	M M	
22 22 22 24	5 4W 5 3W 5 2W 5 1W 5 20W	2	47 45 49 42 29	.1 .1 .1 .1 .1	52822	2222	22222	
4 4 4 4 4 4 4 4	S 19W S 18W S 17W S 16W S 16W S 15W		24 21 45 27 39	.1 .1 .1 .1	NNN34	2022	2022	
4 4 4 4 4 4	S 14W S 13W S 12W S 11W S 10W		35 34 29 64	.1 .1 .1 .1 .1	30343	22222	22222	
4 4 4 4 4 4	5 9W 5 8W 5 7W 5 6W 5 5W		49 43 44 59 46	.1 .1 .1 .1 .1	47326	22222	22222	
4 4 4 4 4 4 4	S 4W S 3W S 2W S 1W S 0W		56 55 40 43 40	.1 .1 .1 .1 .1	2022	22222	22222	
	S 20W S 19W S 18W S 18W S 17W S 16W		44 36 46 73 36	.1 .1 .1 .1	822222	22222	22222	
	S 15W S 14W S 13W S 12W S 12W		30 40 29 34 48	.1 .1 .1 .1	2 4 2 2 3	22224	22222	
	S 10W S 9W STD A-1		25 74 30	.1 .1 .3	2 2 10	2222	222	

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STRATO	GEOLOGICAL	PROJECT	#	589	GROUP-HA	NK FILE	# 83-	1324	PAG
	SAMPLE			CU ppm	AG ppm	AS PPm	SB ppm	W ppm	
	65 8W 65 7W 65 6W 65 5W 65 4W			44 50 56 49 57	.1 .1 .2 .1 .1	10 8 6 3 3	NNNNN	NNNNN	
	65 3W 65 2W 65 1W 65 0W 85 20W			51 67 58 61 33	•2 •2 •4 •1	11 7 12 5	NNNNN	20000	
	85 19W 85 18W 85 17W 85 16W 85 16W 85 15W			51 36 35 34 40	.3 .2 .1 .1	93736	NNNNN	NNNNN	
	85 14W 85 13W 85 12W 85 11W 85 10W			34 29 29 28 33	.1 .1 .1 .1	72464	22222	22222	
	85 9W 85 8W 85 7W 85 4W 85 5W			70 80 36 47 34	.2 .1 .1 .1 .1	92373	20222	NNNN	
	85 4W 85 3W 85 2W 85 1W 85 0W			50 32 42 30 43	.2 .2 .3 .2	7 6 8 3 4	22422	NNNNN	
	105 20W 105 19W 105 18W 105 17W 105 16W			29 27 35 63 43	.1 .2 .2 .1	32577	NNNNN	20222	
	105 15W 105 14W STD A-1			26 29 30	.1 .1 .3	4 6 11	2 2 2	2222	
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ST	RATO	GEOL	OGI	CAL
	INHIU.	UEUL	.001	UNL

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1.1

SB W AS SAMPLE CU AG ppm ppm ppm ppm ppm 228 NNNNN NNNNN 105 13W 85 . 1 .12.22 105 12W 30 40 105 11W 39 24 105 10W 105 9W 87 NNNNN-NNNN 3 . 1 37 105 BW .1 4 105 60 7W .1 622 49 105 6W 105 5W 37 2 105 4W 43 .2 222222 5527 222222 32 105 JW 105 2W 105 1W 45 . 1 . 1 52 . 1 44 105 OW 3 . 1 17 125 20W NNNNN 12S 19W 12S 18W 12S 17W 12S 16W 12S 16W :2 22422 NNNNN 41 42 .1 .1 .1 27 30 19 NNNNN 23 NNNNN . 1 33 125 14W .1 60 125 13W 125 12W 125 11W 125 10W 4 43 . 1 .3 1 9 11W 10W 88 27 . 1 7 ŧ ŝ 52226 NNNNN . 1 NNNNN 42 125 9W 125 8W 125 8W 125 7W 125 6W 125 5W . 1 38 . 1 32 37 . 1 .2 29 NNNNN NNNNN 4 52 . 1 125 4W 45 125 3W 125 2W 125 1W 125 0W 2 . 1 4 . 1 49 . 1 4 3 38 . 1 222 NNN 2 145 20W 145 19W 21 . 1 31 . 1 4 .3 31 9 STD A-1

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SAMPLE	CU	AG	AS ppm	SB ppm	W PPm	
145 18W 145 17W 145 16W 145 15W 145 15W	30 23 21 22 23	.1 .1 .1 .1 .1	20000	NNNNN	NNNNN	
145 13W 145 12W 145 11W 145 10W 145 9W	26 56 78 31 31	.1 .1 .1 .1 .1	2 4 2 2 2 2	NNNNN	NNNN	
145 8W 145 7W 145 6W 145 5W 145 4W	31 31 33 42 50	.1 .1 .1 .1	4 2 2 2 3	NNNNN	NNNNN	
145 3W 145 2W 145 1W 145 0W 165 20W	42 34 42 43 29	.1 .1 .1 .1 .1	26242	NNNNN	NNNNN	
165 19W 165 18W 165 17W 165 17W 165 16W 165 15W	23 18 43 20 18	.1 .1 .1 .1	5222	NNNN	20000	a <sup>1</sup>
165 14W 165 13W 165 12W 165 11W 165 11W	19 19 25 25 18	.1 .1 .1 .2	22232	NNNNN	2022	
165 9W 165 8W 165 7W 165 6W 165 5W	22 28 69. 22 22	.1 .1 .1 .1	24222	NNNNN	NNNNN	
165 4W 165 3W STD A-1	36 28 30	.1 .1 .3	3 2 10	222	222	

STRATO	GEOLOGICAL		PROJECT	#	589	GROUP-H
	SAM	PLE			CU ppm	AG ppm
	165 165 165 185 185	2W 1W 0W 20W 19W	*		39 37 70 44 68	.1 .1 .1 .1 .1
	185 185	16W 15W			28 27	·1 ·2

165 165 165 185	2W 1W 0W 20W 19W	39 37 70 44 68	.1 .1 .1 .1	6 6 8 8 2	NNNNN	NNNNN
185 185 185 185 185	16W 15W 14W 13W 12W	28 27 16 45 18	.1 .2 .1 .2	67223	NNNNN	NNNNN
185 185 185 185 185	11W 10W 9W 8W 7W	21 20 45 25 29	.1 .1 .1 .1	43227	NNNN	NNNNN
185 185 185 185	- 6W 5W 4W 3W 2W	23 33 43 33 40	.1 .2 .1 .1	34626	22222	NNNN
185 185 STD	1W OW A-1	32 19 29	• 1 • 1 • 3	639	222	222

PROJECT # 589 GROUP-HANK FILE # 83-1324 PAGE# 6

AS ppm

SB ppm

M M



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