

**AMPHORA RESOURCES  
GEOPHYSICAL REPORT ON AN  
AIRBORNE MAGNETIC AND VLF-EM SURVEYS  
FIS 1-5, JADE 2 & 3, AND JUMBO 2 CLAIMS  
SKEENA MINING DIVISION**

NTS: 104B/7E & 8W

LATITUDE: 56° 21'-26'N LONGITUDE: 130° 27'-36'W

AUTHOR: Jeffrey C. Murton, B.Sc., P.Geoph.

DATE OF WORK: MARCH 7, 1990

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ASSESSMENT REPORT**

**20,301**

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\* Written by Woods (1988)

**INTRODUCTION:**

On March 7, 1990 an airborne reconnaissance magnetic and VLF-EM survey was conducted over the Fis 1-5, Jade 2, 3, and Jumbo 2 claims (also referred to in this report as the Fis, Jade, and Jumbo property) by Western Geophysical Aero Data Ltd. for Amphora Resources. The intention of this survey is to direct further exploration to favorable target areas and to assist in the geological mapping of the property.

Approximately 51.3 line kilometers of airborne magnetic and VLF-EM data have been collected, processed, and displayed in order to evaluate this property. The survey was concentrated in the area covered by Fis 4, Fis 5, Jade 2, and Jade 3 claims.

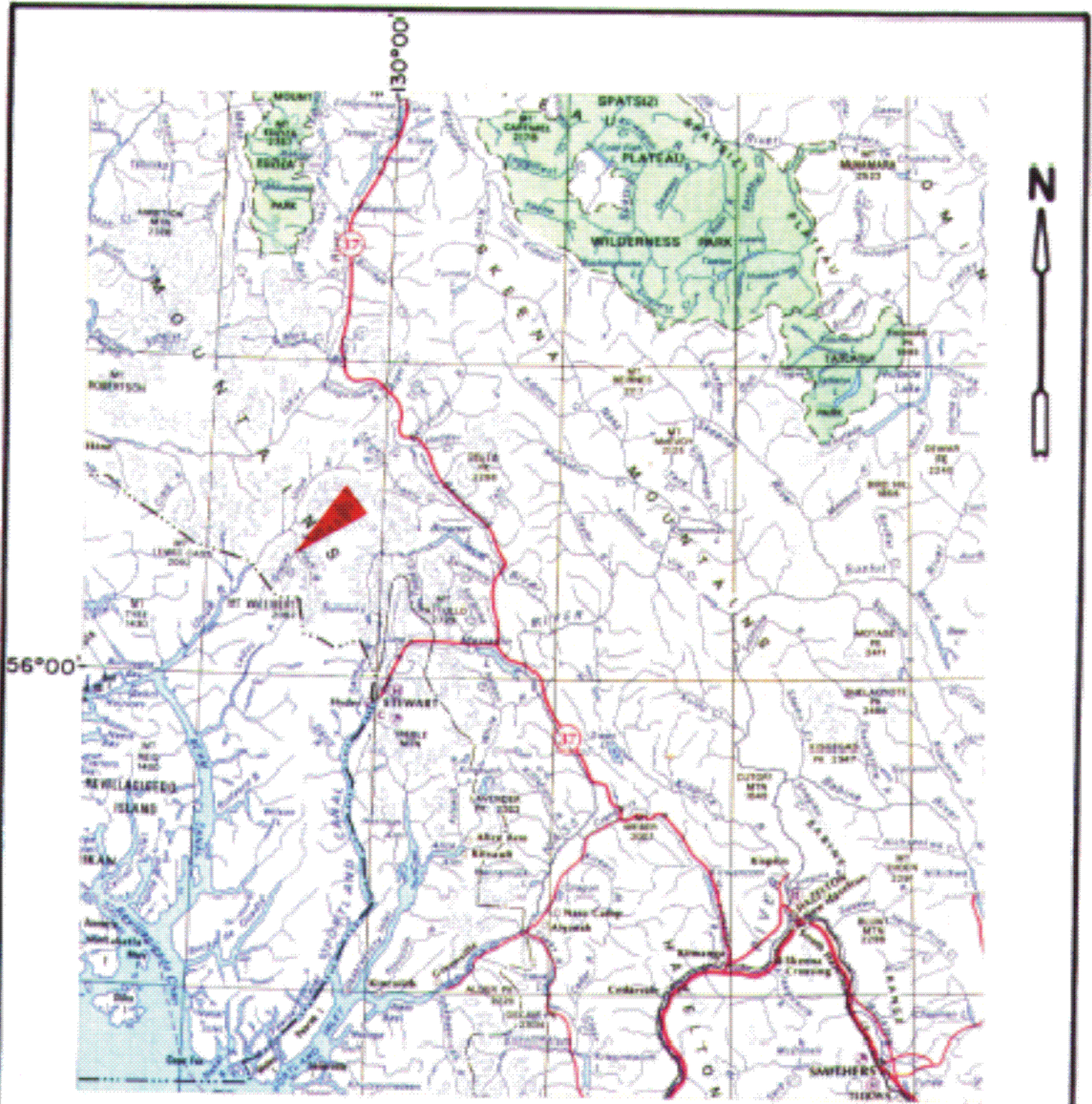
**LOCATION AND ACCESS**

The Fis, Jade and Jumbo property is located thirty-four kilometres west and fifty-one kilometres north of Stewart, B.C. (Figure 1). The north border of the Jade 2 claim is six kilometres south of the confluence of the Unuk and South Unuk Rivers. The majority of the property is situated between the Unuk River, to the east, and west of the confluence of Gracey Creek and the South Unuk River. The north half of the property straddles the prominent, NNE trending, McQuillan Ridge.

There is year-round highway access to the helicopter base in Stewart. Property access was gained by a thirty-five minute helicopter charter to the McQuillan Ridge survey area.

**PROPERTY:**

The Fis, Jade, and Jumbo property consists of 156 units and is located in the Skeena Mining Division (Figure 2) and is summarized as follows.



**AMPHORA RESOURCES**

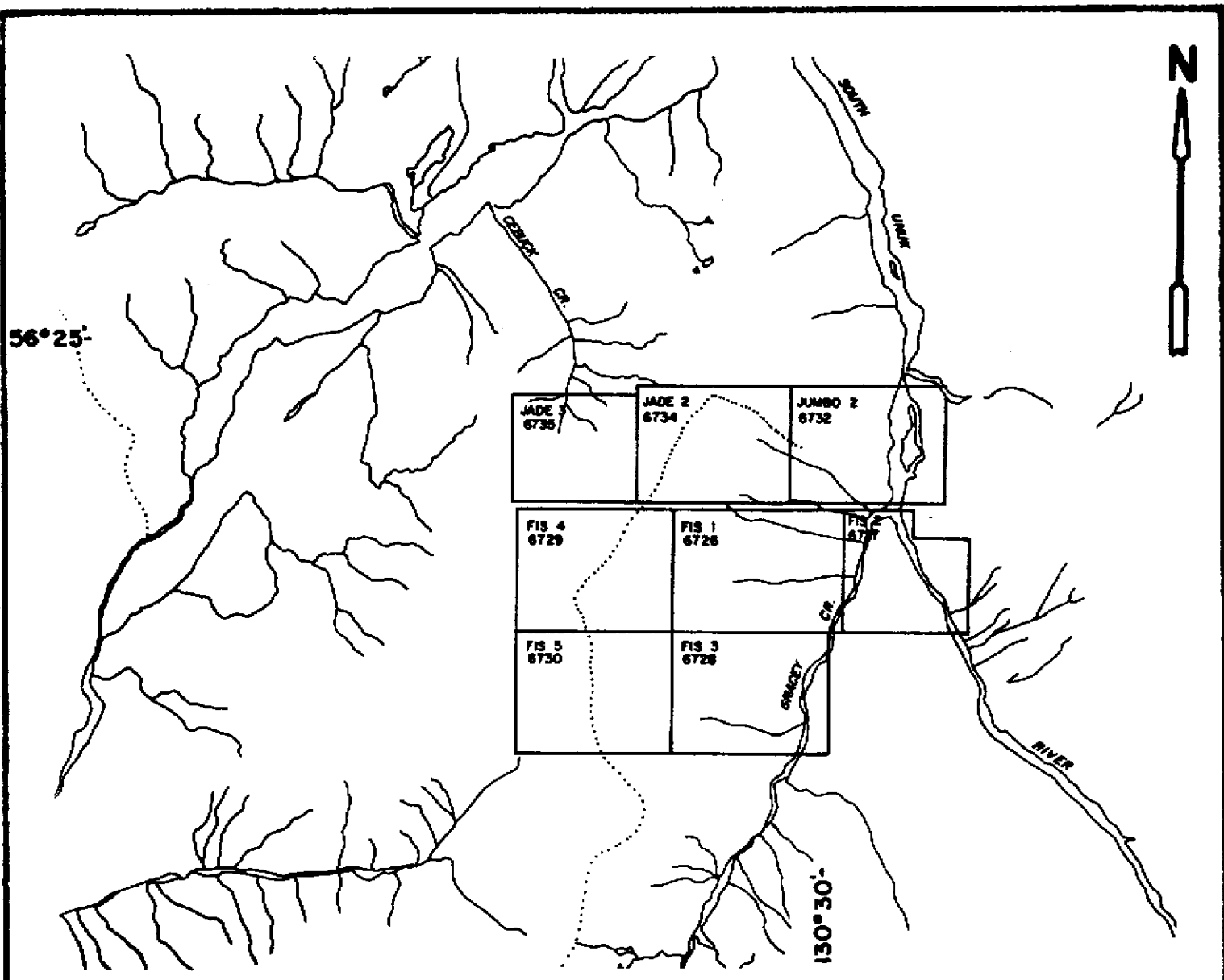
**JADE 2 & 3, JUMBO 2 & FIS 1,2,3,4,5**

**LOCATION MAP**

SCALE=1:2 000 000

N.T.S. 104B/ 7E & 8W

FIG.1



**AMPHORA RESOURCES**

**JADE 2 & 3, JUMBO 2 & FIS 1,2,3,4,5**

**CLAIMS MAP**

**N.T.S. 104B/7E & 8W**

**SCALE=1:100 000**

**FIG.2**

Claim Name	Record Number	Number of units	Expiry Date
Fis 1	6726	20	June 27, 1991
Fis 2	6727	20	June 27, 1991
Fis 3	6728	20	June 27, 1991
Fis 4	6729	20	June 27, 1991
Fis 5	6730	20	June 27, 1991
Jumbo 2	6732	20	June 27, 1991
Jade 2	6734	20	June 27, 1991
Jade 3	6735	16	June 27, 1991

#### AREA HISTORY

Mineral exploration in the Stewart-Unuk River area began in the early 1890's when placer miners on their way out of the Cariboo prospected the Unuk River and its tributaries. In 1898, an expedition of placer miners landed at the head of Portland Canal and proceeded to explore the Bear River and Salmon River valleys. The discovery of mineralized float and vein material led to an influx of "hard-rock" prospectors. The townsite of Stewart was established (named after the prospecting family of "Pop", John and Bob Stewart), and by 1910 most of known mineral occurrences in the Stewart area, including the future Silbak Premier mine, had been discovered.

Mine development over the next three decades resulted in slow but steady growth of the Stewart area. In particular, the discovery of high-grade silver and gold ore at Premier in 1918 led to the development of one of the richest mineral deposits in British Columbia and the incentive for intensive exploration and development in the Salmon River basin.

Most of the small mines in the Stewart region were worked out by the 1940's except for the Silbak Premier mine which continued through to the 1970's. Total production of the Premier group consisted of 4 million ounces of gold, 41 million ounces of silver, 4 million pounds of copper, 52 million pounds of lead and 19 million pounds of zinc, making it the second largest silver producer (after Sullivan) and the third largest gold producer

(after Bralorne-Pioneer and Rossland) in B.C. The development of the Granduc massive sulphide orebody in the Unuk River area northeast of Stewart and construction of the Cassiar-Stewart-Terrace highway maintained the growth and exploration activity of the Stewart area during the 1960's and 1970's. Significant discoveries in the Iskut River - Stikine River areas north of Stewart have led to an increased intensity of mineral exploration activity in recent years.

Almost all of the early mineral discoveries in the Stewart-Unuk River area have been found by prospecting gossans sighted from accessible stream or river valleys in areas of negligible vegetation. Recent discoveries have results from prospecting mineralized showings revealed by ablating glaciers (i.e. Granduc Mine). Exploration is hampered by dense vegetation at low elevations and snow cover at high elevations. Soil geochemistry is impractical in most areas due to a lack of suitable soil cover. Hence, the best approach to mineral exploration in the Stewart-Unuk River area is a combination of geological and geophysical surveying to discover unknown hidden deposits, and detailed reappraisal of known showings using geophysical and geochemical techniques together with modern geological concepts of ore genesis.

#### REGIONAL GEOLOGY

The Stewart-Unuk River area is composed of three distinct tectonic zones of Mesozoic to Cenozoic age along the western margin of the Cordilleran (Figure 3). From west to east they are: the Coast Plutonic Complex or Crystalline Belt, the Stewart Complex and the Bowser Basin. The Stewart Complex is a deformed belt of volcanic, volcanoclastic and sedimentary rocks of Upper Triassic to Middle Jurassic age which extend from Alice Arm in the south to the Iskut River in the north. These rocks are in intruded contact with Middle Jurassic to Eocene felsic plutonic rocks of the Coast Plutonic Complex to the west, and



unconformably underlay the Upper Jurassic to Cretaceous marine clastic sedimentary rocks of the Bowser Basin to the east. The Stewart Complex is one of the most important metallogenic regions in British Columbia.

Stratigraphic nomenclature of the Stewart Complex and Bowser Basin has been adopted from Grove (1986) following modifications from Grove (1971). The oldest rocks of the Stewart-Unuk River area are the Upper Triassic volcanic conglomerates, sandstones and siltstones comprising the Takla Group near Unuk River. In the absence of correlatable fossil evidence, the distinction between these Takla Group volcanoclastics and the overlying Hazelton Group volcanoclastics is not conclusive.

The lowest member of the Jurassic Hazelton Group is the Lower Jurassic Unuk River Formation consisting of green, red and purple volcanic breccia, conglomerate, sandstone and siltstone, pillowed lava and volcanic flows, and minor crystal tuff, limestone and chert. The Unuk River Formation is unconformably overlain by the Middle Jurassic Betty Creek Formation of predominantly volcanic breccia, conglomerate, sandstone and siltstone, which, in turn, is unconformably overlain by siltstone, greywacke, sandstone and argillite of the Salmon River Formation. Grove (1971) referred to the Unuk River Formation as the Hazelton assemblage, and the Betty Creek and Salmon River Formation as the Bowser assemblage.

The Upper Jurassic Nass Formation overlies the Salmon River Formation to form the uppermost constituent of the Bowser basin. The Nass Formation consists of a thick sequence of marine clastic sedimentary rocks (siltstones, greywackes, sandstones).

In addition to the volcanic epiclastic and sedimentary rocks of the Unuk River, Betty Creek and Salmon River Formations, the Stewart Complex is also partially composed of their cataclastic and metamorphic equivalents. Cataclasite and mylonite are found near the intruded contact of the Late Jurassic Texas Creek



**JURASSIC**

HAZELTON GROUP

UPPER JURASSIC

NASS FORMATION

MESOZOIC

17 SILTSTONE, GREYWACKE, SANDSTONE, SOME CALCARENITE, ARGILLITE, CONGLOMERATE, MINOR LIMESTONE, MINOR COAL (INCLUDING EQUIVALENT SHALE, PHYLLITE, AND SCHIST)

**MIDDLE JURASSIC**  
SALMON RIVER FORMATION

16 SILTSTONE, GREYWACKE, SANDSTONE, SOME CALCARENITE, MINOR LIMESTONE, ARGILLITE, CONGLOMERATE, LITTORAL DEPOSITS

15 RHYOLITE, RHYOLITE BRECCIA; CRYSTAL AND LITHIC TUFF

**BETTY CREEK FORMATION**

14 PILLOW LAVA, BROKEN PILLOW BRECCIA (a); ANDESITIC AND BASALTIC FLOWS (b)

13 GREEN, RED, PURPLE, AND BLACK VOLCANIC BRECCIA, CONGLOMERATE, SANDSTONE, AND SILTSTONE (a); CRYSTAL AND LITHIC TUFF (b); SILTSTONE (c); MINOR CHERT AND LIMESTONE (INCLUDES SOME LAVA (+14)) (d)

**LOWER JURASSIC**  
UNUK RIVER FORMATION

12 GREEN, RED, AND PURPLE VOLCANIC BRECCIA, CONGLOMERATE, SANDSTONE, AND SILTSTONE (a); CRYSTAL AND LITHIC TUFF (b); SANDSTONE (c); CONGLOMERATE (d); LIMESTONE (e); CHERT (f); MINOR COAL (g)

11 PILLOW LAVA (a); VOLCANIC FLOWS (b)

**TRIASSIC**  
UPPER TRIASSIC

TAKLA GROUP (?)

10 SILTSTONE, SANDSTONE, CONGLOMERATE (a); VOLCANIC SILTSTONE, SANDSTONE, CONGLOMERATE (b); AND SOME BRECCIA (c); CRYSTAL AND LITHIC TUFF (d); LIMESTONE (e)

**PLUTONIC ROCKS**

**OLIGOCENE AND YOUNGER**

9 DYKES AND SILLS (SWARMS), DIORITE (a); QUARTZ DIORITE (b); GRANODIORITE (c); BASALT (d)

**EOCENE (STOCKS, ETC.) AND OLDER**

8 QUARTZ DIORITE (a); GRANODIORITE (b); MONZONITE (c); QUARTZ MONZONITE (d); AUGITE DIORITE (e); FELDSPAR PORPHYRY (f)

7 COAST PLUTONIC COMPLEX: GRANODIORITE (a); QUARTZ DIORITE (b); QUARTZ MONZONITE, SOME GRANITE (c); MIGMATITE - AGMATITE (d)

**JURASSIC**

**MIDDLE JURASSIC AND YOUNGER ?**

6 GRANODIORITE (a); DIORITE (b); SYENODIORITE (c); MONZONITE (d); ALASKITE (e)

**LOWER JURASSIC AND YOUNGER ?**

5 DIORITE (a); SYENOGABBRO (b); SYENITE (c)

**TRIASSIC**

**UPPER TRIASSIC AND YOUNGER ?**

4 DIORITE (a); QUARTZ DIORITE (b); GRANODIORITE (c)

HORNBLende PREDOMINANT ..... H  
BIOTITE PREDOMINANT ..... B

GENOZOIC

MESOZOIC

**METAMORPHIC ROCKS**

**TERTIARY**

3 HORNFELS (a); PHYLLITE, SCHIST (b); SOME GNEISS (c)

**JURASSIC**

2 HORNFELS (a); PHYLLITE, SEMI-SCHIST, SCHIST (b); GNEISS, CATACLASITE, MYLONITE (d); TACTITE (e)

**TRIASSIC**

1 SCHIST (a); GNEISS (b); CATACLASITE, MYLONITE (c)

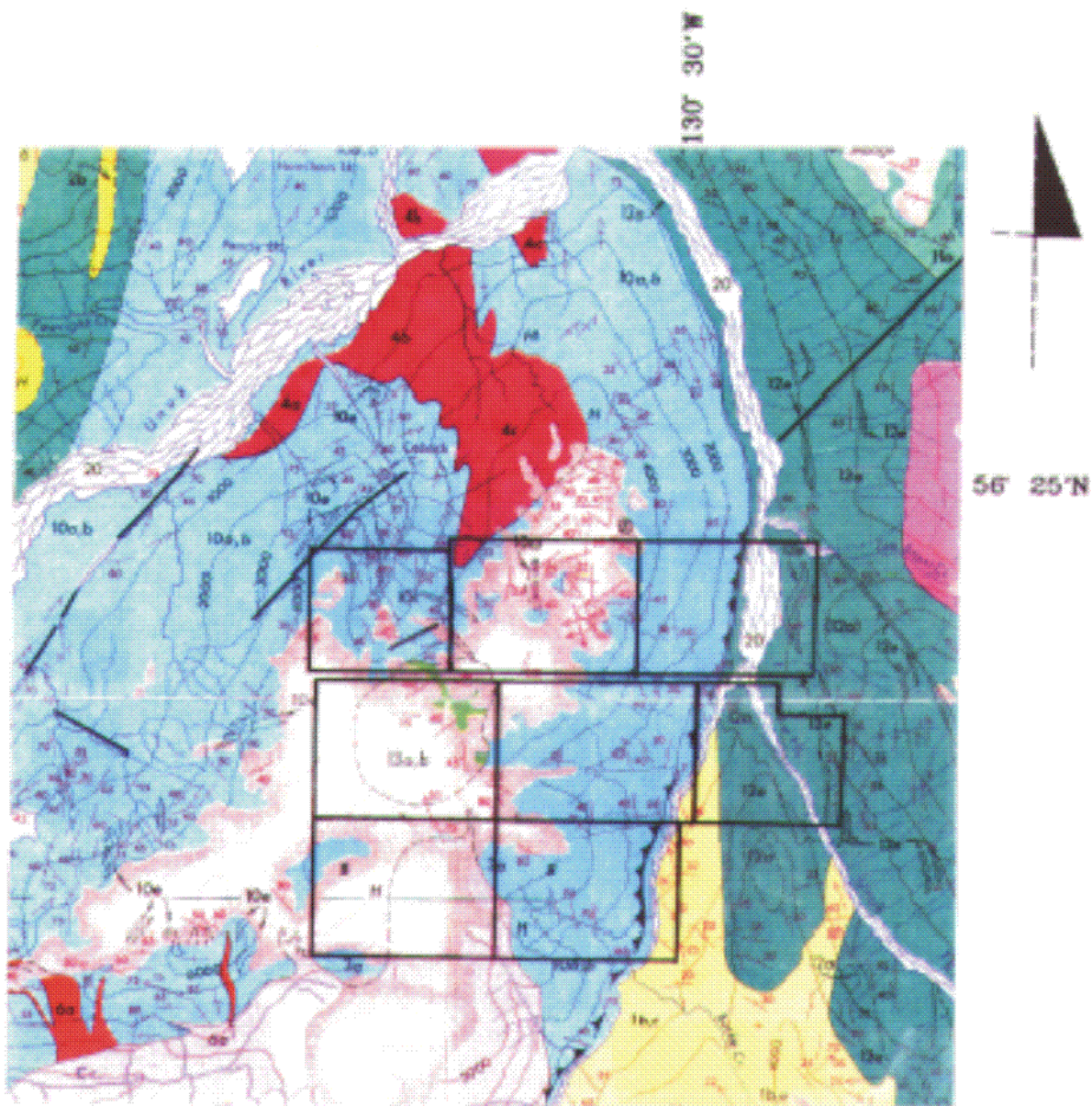
HORNBLende OR AMPHIBOLE DEVELOPED .....  
BIOTITE DEVELOPED .....  
POTASSIUM FELDSPAR DEVELOPED .....

AREA UNMAPPED

**SYMBOLS**

- ADIT .....
- ANTICLINE (NORMAL, OVERTURNED) .....
- BEDDING (HORIZONTAL, INCLINED, VERTICAL, CONTORTED) .....
- BOUNDARY MONUMENT .....
- CONTOURS (INTERVAL 1,000 FEET) .....
- FAULT (DEFINED, APPROXIMATE) .....
- FAULT (THRUST) .....
- FAULT MOVEMENT (APPARENT) .....
- FOLD AXES, MINERAL LINEATION (HORIZONTAL, INCLINED) .....
- FOSSIL LOCALITY .....
- GEOLOGICAL CONTACT (DEFINED, APPROXIMATE) .....
- GLACIAL STRIAE .....
- GRAVEL, SAND, OR MUD .....
- HEIGHT IN FEET ABOVE MEAN SEA LEVEL .....
- INTERNATIONAL BOUNDARY .....
- JOINT SYSTEM (INCLINED, VERTICAL) .....
- MARSH .....
- MINING PROPERTY .....
- RIDGE TOP .....
- SCHISTOSITY (INCLINED, VERTICAL) .....
- SYNCLINE (NORMAL, OVERTURNED) .....
- TUNNEL .....
- VOLCANIC CONE .....

Compilation and geology by E. W. Grove, 1964 to 1970, with assistance by N. H. Haimila and R. V. Kirkam, 1966 and James T. Fyles, 1967. Geology of the Alice Arm area by N. C. Carter, 1964 to 1968.



# AMPHORA RESOURCES

JADE 2 & 3, JUMBO 2 AND FIS 1-5 CLAIMS

PROPERTY GEOLOGY

NTS 104B/7E & 8W

SCALE 1:100,000

FIG. 3A

**INTRUSIVE ROCKS**

**TERTIARY**

**POST-TECTONIC DYKES**

13

- 13a Lamprophyne, andesite, diabase (Narrow not shown)
- 13b Ring Creek Dyke Swarm: feldspar porphyry dacite, andesite, diabase, quartz diorite
- 13c Hamilton monzonite: fine-grained leuco-monzonite

**COAST PLUTONIC COMPLEX**

12

- 12a Biotite granite
- 12b Hornblende-biotite quartz diorite
- 12c Lee Brent Stock: K-feldspar porphyry, hornblende-biotite quartz monzonite

**JURASSIC**

11

**MICHEL MOUNTAIN GABBRO:** melanocratic olivine-pyroxene gabbro

10

**SPY TO POST-VOLCANIC INTRUSIONS:** Porphyritic to phenitic textured, possibly hypabyssal equivalents of extensive dykes

- 10a Lehto Porphyry: K-feldspar-plagioclase-hornblende porphyry granodiorite to syenite
- 10b Barb Lehto Dyke: fine- to medium-grained hornblende diorite
- 10c Andesite-Diorite Complex: melanocratic, fine- to medium-grained diorite with abundant xenoliths of dark green meta-andesite (possibly Triassic)

9

**UNUK RIVER DIORITE SUITE:** medium- to coarse-grained, mafic to intermediate stocks

- 9a John Peak melanocratic hornblende diorite
- 9b Mac biotite-hornblende diorite, quartz diorite
- 9c Maxwell hornblende-biotite diorite to quartz diorite
- 9d Doc Ridge biotite monzodiorite

**TRIASSIC**

8

**BUCKE GLACIER STOCK:** light grey, gneissic to foliated, medium-grained hornblende-biotite quartz diorite

**METAMORPHIC ROCKS**

A - F

**METAMORPHIC EQUIVALENTS OF UNITS 1, 2 OR 3**

- A Metapelite: dark grey, carbonaceous quartz-feldspar-sericite phyllite
- B Felsic metavolcanics: light green quartz-albite-chlorite-sericite phyllite, locally with deformed lapilli
- C Mafic to intermediate metavolcanics: dark green, plagioclase-chlorite phyllite
- D Hornblende-plagioclase mylonite, mylonitic meta-tuff
- E Hornblende-plagioclase gneiss, sigmoidal megacrysts
- F Strongly sheared rocks within the Unuk-Harrymet fault zone

**GOSSANOUS ALTERATION ZONES**



Pyrite ± quartz ± sericite ± carbonate ± clay; locally foliated to schistose

Disseminated pyrite in felsic volcanics

**VOLCANIC AND SEDIMENTARY ROCKS**

(Note: No stratigraphic order is implied within sequences.)

**QUATERNARY**

**RECENT**

7

**UNCONSOLIDATED SEDIMENTS**

- 7a Alluvium, glaciofluvial deposits, landslide debris, moraine
- 7b Alluvium underlain by Pleistocene to Recent basalt

**PLEISTOCENE TO RECENT**

6

**BASALT FLOWS AND TEPHRA**

- 6a Dark grey to black, basalt flows and tephra; minor pillow lavas
- 6b Basalt tephra

**TRIASSIC TO JURASSIC**

**HAZELTON GROUP**

**MIDDLE JURASSIC (TOARCIAN TO BAJOCIAN)**

5

**SILTSTONE SEQUENCE (Salmon River Formation):** Dark grey, well-bedded siltstone with minor sandstone and conglomerate.

- 5c Chert pebble conglomerate and arenite
- 5f Rhythmically bedded siltstone and shale (turbidite)
- 5w Thinly bedded wacke
- 5p Andesitic pillow lavas and pillow breccias with minor siltstone interbeds

**LOWER JURASSIC (TOARCIAN)**

4

**FELSIC VOLCANIC SEQUENCE (Mount Dikow Formation):** Light weathering, intermediate to felsic pyroclastic rocks, including dust, ash, crystal and lithic tuffs, lapilli tuff. Locally pyritic (5 to 15%) and gossanous. Minor chlorite-quartz veins locally.

- 4a Variably bedded aerial tuffs
- 4f Massive felsic tuff
- 4r Black and white, carbonaceous felsic volcanics, locally flow banded and aureole brecciated

**LOWER JURASSIC (PLIENSCHACHIAN TO TOARCIAN)**

3

**PYROCLASTIC-EPICLASTIC SEQUENCE (Betsy Creek Formation):** Heterogeneous, grey, green, locally purple or maroon, massive to bedded pyroclastic and sedimentary rocks, pillow lava.

- 3a Green and grey, massive to poorly bedded andesite
- 3b Grey, green and purple dacitic tuff, lapilli tuff, crystal and lithic tuff, massive to well bedded, feldspar phytic
- 3f White weathering, felsic tuffs and breccias with quartz stringers
- 3c Andesitic lapilli tuff with pink siliceous clasts
- 3p Andesitic pillow lavas and pillow breccias with minor siltstone interbeds
- 3r Black, thinly bedded siltstone, shale and argillite (turbidite)

**UPPER TRIASSIC TO LOWER JURASSIC (NORIAN TO SINEMURIAN)**

2

**ANDESITE SEQUENCE (Unuk River Formation):** Green and grey, intermediate to mafic volcanics and flows with locally thick interbeds of fine-grained argillaceous sediments; minor conglomerate and limestone.

- 2a Grey and green, plagioclase ± hornblende porphyritic andesite, massive to poorly bedded
- 2h Grey and green, hornblende (± pyroxene)-feldspar porphyritic, andesitic lapilli and ash tuff
- 2g Grey, brown and green, thinly bedded, siliceous siltstone and fine grained wacke
- 2f Black, thinly laminated siltstone (turbidite); shale, argillite
- 2d Dark grey, matrix-supported conglomerate with granitic cobbles
- 2i Grey, variably bedded limestone (completely recrystallized along South Unuk valley)

**TRIASSIC**

**STUWNI GROUP**

**UPPER TRIASSIC (CARNIAN TO NORIAN)**

1

**LOWER VOLCANOSEDIMENTARY SEQUENCE:** Brown, black and grey, mixed sedimentary rocks interbedded with medium to dark green, mafic to intermediate volcanic and volcanoclastic rocks

- 1f Grey to black, thinly bedded siltstone, shale, argillite (turbidite)
- 1w Brown and grey, fine grained siliceous wacke, minor siltstone or conglomerate
- 1i Grey, impure, silty, sandy limestone
- 1g Green, fine-grained, andesitic ash tuff, feldspar and hornblende phytic
- 1b Dark green basalt
- 1p Grey and green, andesitic breccia with augite-hornblende-plagioclase clasts and augite-rich matrix

**MINERAL OCCURRENCES**

**MINFILE NUMBER (1048)**

**NAME**

**COMMODITY**

**MINFILE NUMBER (1048)**

**NAME**

**COMMODITY**

6	E & L	Ni Cu Pt Ag Ti Au	216	Bloss 1	Cu
7	Copper King, Lehto	Cu Fe	217	Bloss 4	Cu
8	MacKay	Au Ag Pb Zn Cu	218	Mal	Cu
9	Har, Jim, Max	Cu Fe	219	Jim, Flory	Cu Fe
10	Fox, Orl	Magnetite	220	McQuillan Ridge	Cu
11	Cumberland, Daly	Au Ag Zn Cu Pb Bi	221	Gracey Creek	Cu
12	McQuillan	Cu Fe	222	Celbuck Creek, Max	Au, Ag
13	Max, Granduc	Fe Cu	223	Fewright Creek Placer	Au
14	Doc, Gracey	Au Ag Cu Pb Zn	224	Homer 3	Cu
16	Globe, Doc	Au Ag Pb	225	Six Mile 2	Cu
17	Gold Run	Au Pb Zn	226	North Fork	Cu
18	Unuk Jumbo	Cu	227	Sulphide Creek Placer	Au
19	Florence	Pb Cu Au	228	GC	Cu
20	Sulphurite Creek Placer	Au	229	Granite Creek	Cu
72	Bruce Glacier	Zn	230	Bad	Zn Fe
79	V.V. Mt. Dunn	Cu Au Ag Mo	231	Fred, Dan	Cu
80	Harrymet Creek	Cu	232	Tat	Cu
81	Tag	Cu	233	G.F.J. Covey	Au Ag Cu Zn
83	Unuk (Zone 1)	Ag Pb	234	Mandy Glacier	Cu
86	Barb Lake	Au Ag	235	Unuk Finger	Cu
87	Up, Bloss 3	Cu Au Pb	238	Ted Morris Glacier	Cu
88	Unuk River	Cu	237	TMG	Cu
87	Fewright	Cu Ag Au Pb	238	That S	Cu
88	Canyon Creek	Au Pb Zn	239	Covey 16	Cu
119	Harrymet Creek South	Cu	240	C-10, Mount Madge	Au Ag Cu Zn
126	Chris, Arno	Cu Fe	279	Milne Peak	Asbestos
134	OC	Pb	287	Covey 8	Cu
182	Eric 2, Mount Dunn	Zn	327	Corn South	Cu Pb Zn Mo
178	Gleason Creek	Asbestos, Cu	340	Covey South	Au Ag
184	Sulphurite Lake	Au Ag Cu	344	Unuk Dome 2	Au Cu
209	Cole, Beat	Cu Ag Au	352	Colugh	Cu Pb Zn
215	Dave	Pb Cu	384	Eight	Au Ag Pb Zn Cu





## AMPHORA RESOURCES

JADE 2 & 3, JUMBO 2 AND FIS 1-5 CLAIMS

PROPERTY GEOLOGY

NTS 104B/7E & 8W

SCALE 1:100,000

FIG. 3B

granodiorite. Phyllites, schists and gneisses are confined to the intruded contact areas with the Tertiary Hyder quartz monzonite and Boundary granodiorite.

The Coast Plutonic Complex is composed of multiple phases of intrusion from Upper Triassic quartz diorite in the Unuk river area to Middle Jurassic granodiorites and Tertiary quartz monzonites in the Stewart area. Plutonic satellites of quartz monzonite, quartz diorite and granodiorite are also found toward the centre of the Stewart Complex. Dykes and sills of similar composition are found throughout the Stewart Complex but particularly in well defined zones cutting across the regional geologic trends.

Mineralization in the Stewart area is confined primarily to the Lower and Middle Jurassic Stewart Complex: Unuk River, Betty Creek and Salmon River Formations. Grove (1986) recognizes four classes of mineral deposits such as the Silbak Premier Mines, stratiform massive sulphide deposits such as the Hidden Creek Mine in the Anyox area, discordant massive sulphide deposits such as the Granduc Mine, and Tertiary porphyry copper-molybdenum deposits such as the Mitchell-Sulphurets property. The most important of these, in terms of number of deposits and quantity of ore, are the fissure and replacement vein deposits. However, in terms of exploration potential, all types of deposits have equal importance.

#### PROPERTY GEOLOGY

The following property geology has been taken from the BCMEMPR Bulletin 63 (Grove, 1986) and Open File Map 1989-10. The Fis, Jade, and Jumbo property is located between the Unuk River and Gracey Creek. The west side of the property contains Cebuck Peak at Fis 4 claim and McQuillan Peak to the SW at Fis 5. Extending NE from Cebuck Peak is McQuillan Ridge. On the east side of South Unuk River valley is the Lower Jurassic, strongly sheared

rocks of the Unuk-Harrymel fault zone (Figure 3B - Alldrick, 1989). The NE corner of Jumbo 2 is in contact with this fault zone. In previous literature Grove (1986) called this area the South Unuk Major Cataclastite Zone which "includes the large Granduc sulphide ore deposit and several lesser mineralized zones."

The dominant lithology on the property is the Upper Triassic to Lower Jurassic, Unuk River Formation andesite sequence. In the central portion of the property the Unuk River Formation rocks are classified as grey and green, hornblende- with or without pyroxene - feldspar, porphyritic andesitic lapilli and ash tuff. On Jade 3 grey, brown, and green, thinly bedded tuffaceous siltstone and fine grained wacke are part of the andesite sequence. Along the north border of Jade 2 and on the west border of Fis 3, east of the contact with the Coast Plutonic Complex, the Unuk River rocks are noted as containing grey and green, massive to poorly bedded, plagioclase with or without hornblende porphyritic andesite. Between Gracey Creek and South Unuk River Fis 2, Doc Ridge has been mapped corresponding to the andesite sequence - here mapped as grey, variably bedded limestone (completely recrystallized along the South Unuk River valley).

The north part of the Jade 3 claim, at the head of Cebuck Creek, have been mapped as corresponding to Upper Triassic Stuhini Group - a grey, impure, silty, sandy, limestone. At the border of Jade 2 and 3, on west side of McQuillan Ridge, there is a narrow zone mapped as the Unuk River Diorite Suite (Max showing biotite-hornblende diorite and quartz diorite). Along the north central claim boundary of Jade 2 the east contact of the Unuk River Diorite is a lower volcanosedimentary sequence corresponding to the Upper Triassic Stuhini Group. A large portion of Fis 5 and a small enclosed stock on Fis 3 are mapped as part of Tertiary Coast Plutonic Complex - a hornblende-biotite quartz diorite.

Four kilometres north of Jade 2 and 3 is the Har, Jim, and Max mineral showing of Au, Ag, Pb, Zn, Cu (Minfile 104B-9).

Approximately 300 metres north of the southern claim boundary of Jade 2 is the McQuillan Showing (Minfile 104B-12) of Cu and Fe.

The Max and Granduc mineral showing (Minfile 104B-13) of Cu and Fe lie 1700 metres north of Jade 3 near Cebuck Creek and the Unuk River Max hornblende-biotite to quartz diorite contact.

On Jumbo 2 contains the Unuk Jumbo showing 400 metres both west of South Unuk River and south of the northern claim boundary.

Further north of the property and along the east bank of the Unuk River are the Unuk River Cu showing (104B-96) and the Cebuck and Max Au and Ag showings (104B-222). One kilometre west of the SW corner of Fis 5 is the McQuillan showing (Minfile 104B-220) of Cu minerals.

The following geological information is from BCMEMPR Bulletin 63:

On McQuillan Ridge the mappable succession (of the Upper Triassic rocks) comprises a thick assemblage of interbedded green volcanic conglomerates, sandstones, and siltstones with andesitic and basaltic volcanic rocks and thin lenticles of grey carbonate, calcarenite, and quartzite which are prominent along the upper ridge. Crystal and lithic tuffs, thin bedded grey cherts, and quartz sandstones are intercalated with the epiclastic volcanic rocks. The rocks of McQuillan Ridge are folded; the major structure represents an upright northeasterly trending, open anticlinal fold or dome. This structure is truncated by Tertiary plutons and the west-central part of the ridge is penetrated by at least one pluton of Late Triassic age. Access to the complete stratigraphic succession is limited to the flanks and axial zone at the head of Cebuck Creek. The bulk of the rocks bounded by the flanks of Unuk River and Gracey Creek are thick-bedded grey-weathering, green volcanic conglomerates and sandstones with intercalated lenticular andesite flows, thinly banded calcareous siltstones and volcanic sandstones, and minor amounts of crystal and lithic tuffs. Bedding in the epiclastics is thinner toward the top of the ridge in the axial section of the fold and thin-banded, grey cherty limestone lenses are more abundant. At the head of Cebuck Creek several quartzite lenses up to 25 metres thick, intercalated within volcanic conglomerate and sandstone, form part of the carbonate-rich section.

The unaltered epiclastic volcanic rocks are largely composed of fresh andesitic fragments within a matrix of



rock fragments, plagioclase and quartz clasts. Augite fragments are common, with quartz and plagioclase fragments in the matrix of several fine-grained epiclastic units in which the rock clasts are porphyritic andesite. The volcanic conglomerates and sandstones are characterized by rapid facies changes, local unconformities, channeling, and occasional graded bedding which gives the rock a banded appearance. The carbonate lenses consist of grey sugary calcite and generally conform to bedding in the enclosing sedimentary rocks. The lenses are typically less than 150 metres long and rarely exceed 10 metres in thickness; most have an irregular nature presumably of local boudinage. The section at McQuillan Ridge includes about 1000 metres of section of predominantly sedimentary materials.

... The Upper Triassic belt extends north of McQuillan Ridge along the west side of Harrymel Crk toward the Iskut River... exposures are limited to creeks, some ridge lines, and open areas below ice and snow.

... The McQuillan Ridge area has been intruded by several small plutons. The south contact with plutonic rocks also marks the main eastern margin of the Coast Plutonic Complex. The small plutons along the Unuk River are probably of Late Triassic age. Mapping along the west slope of McQuillan Ridge revealed several swarms of dykes, some of which appear to predate the main phases of the Tertiary Coast Plutonic Complex.

The belt of Upper Triassic country rocks has suffered several phases of metamorphism and local deformation related to periodic plutonism. Contact or thermal metamorphism, expressed as narrow ragged aureoles, is marked by induration, variable recrystallization, and the presence of fine to coarse-grained, green-brown hornblende. These thermal zones are well developed along the eastern contacts of the two small quartz diorite plutons of probable late Upper Triassic age and along the margin of the Coast Plutonic Complex. ... Hornblende also developed in thermal aureoles along the south end of the McQuillan Ridge where the Upper Triassic sequence has been transected by the extensive Tertiary biotite granodiorite plutons. This zone is generally about 50 metres wide and is also marked by local deformation.

#### **AIRBORNE MAGNETIC AND VLF-EM SURVEY:**

This geophysical survey simultaneously monitors and records the output signals from a Barringer Research proton precession magnetometer and a Herz dual-frequency VLF-EM receiver. The

sensors are installed in an aerodynamically stable "bird" which is towed thirty metres below a helicopter where possible. Fixed to the helicopter skid is a shock and gimbal-mounted, downward-facing video camera. A video signal is recorded and later reviewed and correlated with a recent air photograph in order to determine the precise locations of the flight paths. The elevation of the helicopter above the ground is recorded by a radar altimeter and monitored by the pilot and navigator in order to maintain a constant ground clearance.

A computer records readings of the magnitude of the earth's magnetic field and of the fields induced by two powerful VLF-EM transmitters (located in Annapolis, Maryland and Seattle, Washington). This data, the time and date it was observed, radar altimeter values, and survey fiducial points are all superimposed on the video image and recorded on both video cassettes and 3.5 inch computer diskettes.

Data quality is assured by the survey operator monitoring a real-time display of direct and unfiltered recordings of all the geophysical output signals while a navigator directs the helicopter pilot from an air photograph.

Magnetic (Figures 5 & 6) data is useful for mapping the position and extent of regional and local geological structures which have varying concentrations of magnetically susceptible minerals. Many lithological changes correlate with a change in magnetic signature.

VLF-EM data is useful for mapping conductive zones. These zones usually consist of argillaceous graphitic horizons, conductive clays, water-saturated fault and shear zones, or conductive mineralized bodies. The VLF-EM data is presented as contoured total field data overlain by quadrature (out-of-phase component) profiles. Conductors are located at inflection points or a change in sign (cross-over) of the quadrature component over a

local total field VLF-EM high.

In a typical VLF-EM survey, satisfactory conductor coupling and imaging occurs only within 45° of the primary field selected (in the direction of the transmitter). For maximum coupling, and in turn, imaging, a transmitter should be selected in the same direction as geologic strike.

#### DATA PROCESSING:

The video image, with superimposed line and fiducial identification, recording times, and the recorded data, is correlated with both the navigator's and operator's field notes and topographic features observed from an air photograph. The "recovered" flight paths are digitized to obtain relative x and y positions which are then combined with the data. Subsequently, all geophysical data is filtered to remove spurious noise bursts and chatter, and then plotted as flight path profiles and contour maps for each of the sensors.

Both the total field magnetometer signal and the total field and quadrature components of VLF-EM signal are sensitive to topographic changes and bird oscillations. Short wavelength (less than 200 meters) oscillations, are attenuated by filtering the VLF-EM and the magnetic data and with a digital low-pass filter. Long wavelength effects (anomalies greater than 2000 metres), attributed to broad topographic features, are also removed from both the VLF-EM channels by high-pass filtering.

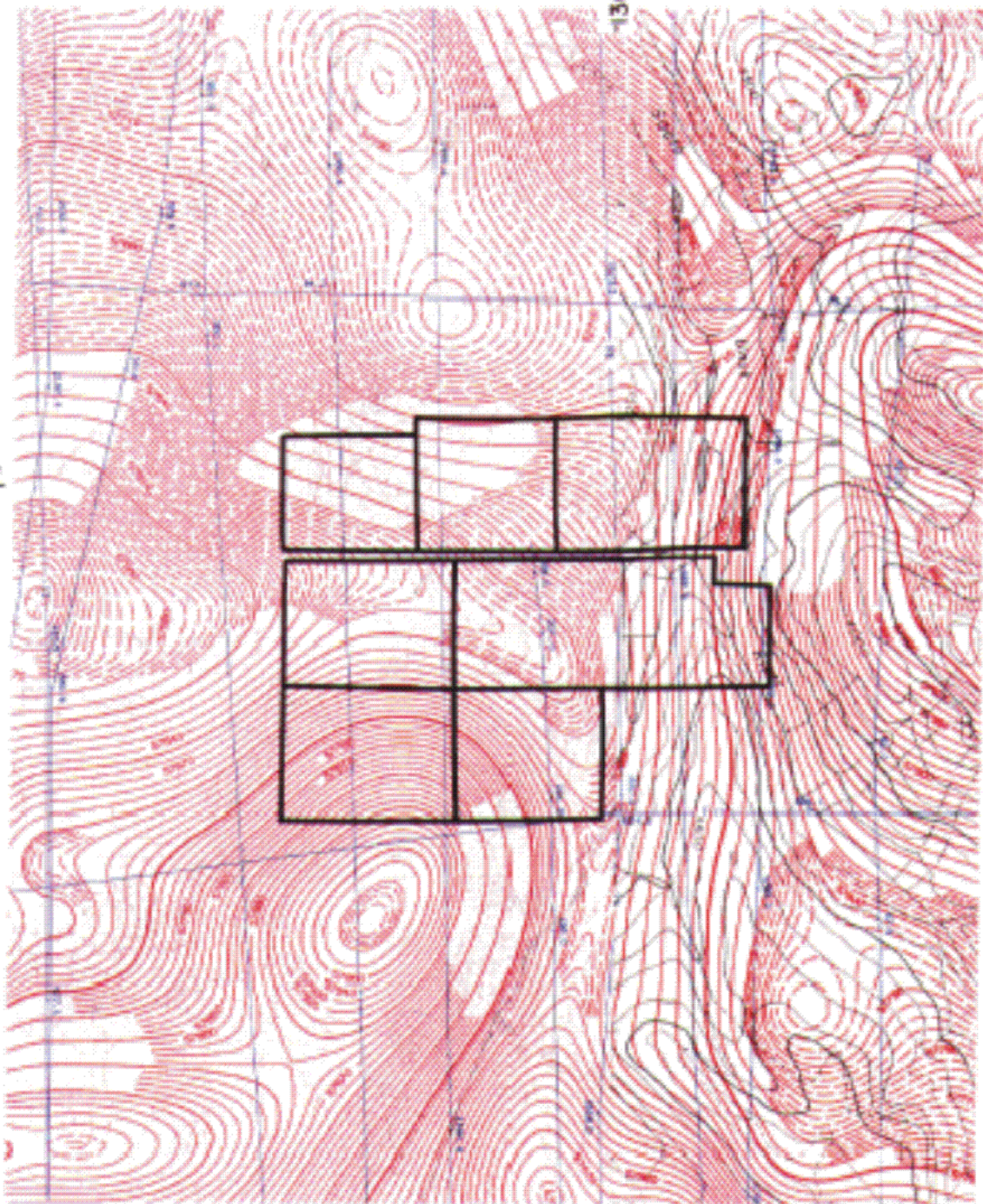
#### DISCUSSION OF RESULTS:

The west side of the Fis, Jade, and Jumbo property was surveyed on March 7, 1990. Over 51.3 line kilometers of airborne magnetic and VLF-EM survey data have been recorded and evaluated for this property. Survey lines were flown in a Hughes 500D helicopter with an average spacing of 300 metres. The geophysical survey



56°30'

130°30'



### AMPHORA RESOURCES

JADE 2 & 3, JUMBO 2 & FIS 1,2,3,4,5

### AEROMAGNETIC MAP

SCALE = 1:100 000

N.T.S. 104B/7E & 8W

FIG. 4

data were recorded on average three times per second for an effective sample interval of 15 metres. The sensors were towed below the helicopter with an average terrain clearance of 30 metres where possible. The survey covered contains few areas where terrain clearance of over 200 metres were encountered.

VLF-EM conductors corresponding to Seattle and Annapolis transmitters have been interpreted and numbered on the Geophysical Interpretation Map (Figures 12). Overall, both the Annapolis and Seattle data show equally good responses on this survey. The strongest conductors of the survey are associated with ridge lines on the south half of the survey area. Good conductors exhibit strong in-phase crossovers, the quadrature usually lags by up to 90 degrees or mirrors the in-phase response, and the total field is a local high. Conversely, for poor conductors, the quadrature response nearly mimics the in-phase and there are no strong in-phase crossovers and, in some cases, no associated total field anomalies. Poor conductors may be associated with conductive overburden, weathered bedrock, and, at lower elevations, conductive effects in swampy areas.

The topographic changes on the sub-grids contribute up to an additional 200 metres of ground-to-sensor separation in places (for example: SW end of Line 1, Figure 11). In any airborne geophysical survey an increase in the ground-to-sensor distance by five metres is noteworthy and by ten metres is significant. The effect of separation increases of this magnitude upon the magnetic and VLF-EM responses is a marked reduction in measured intensity. Increased sensor-ground separation attenuates the geophysical response and results in the appearance of a mappable magnetic or VLF-EM low. In many geological settings the location of ravines, creeks, and rivers correspond to either the surface expression of fault and shear zones, or lithological contacts and are likely areas to observe significant VLF-EM conductors. In part, the VLF-EM response, and to a less extent the magnetometer response, may have been "over-printed" or attenuated in these

areas by increased separation effects thus masking conductors that might be observed on a ground survey.

The GSC magnetic data (Figure 4) shows the two areas with characteristic magnetic signatures in the Fis, Jade, and Jumbo property area. The valley containing Gracey Creek, in the south, and the South Unuk River, further north-ward, define the boundary between the two areas. Along the east side of the valley the magnetic contour lines are parallel to the valley with increasing steep magnetic levels to the east. On the west side of this valley the magnetic contours have the appearance of a saddle truncated to the east; a local magnetic low is located four kilometres west of Fis 4 on the east side of the Unuk River, and two local magnetic highs are both located off-property approximately 1600 metres north of Jade 2 and south of Fis 5. Both local magnetic highs correlate with dioritic intrusions - the south magnetic feature has a higher level than the north side feature. The south side magnetic feature corresponds to the Tertiary Coast Plutonic Complex rocks - a hornblende-biotite quartz diorite. The elongated north side magnetic feature roughly corresponds to the extent of the Max biotite-hornblende diorite and quartz diorite - a Jurassic aged Unuk River suite.

The magnetic data collected on this survey also shows a distinct area of elevated magnetic response on Fis 5; here a geological-magnetic contact has been interpreted. This area contains the magnetic survey maximum. The elevated magnetic signature of this area is probably due to the increased concentration of magnetic minerals in the Coast Plutonic Complex biotite-hornblende quartz diorite relative to the less magnetic Unuk River andesite sequence. Further north, on the Jade 2 and 3 claims two NW striking faults and a geologic/magnetic contact have been interpreted where there are significant changes in the magnetic data. The interpreted contact, north of Cebuck Peak and west of McQuillan Ridge, correlates with a contact between the north-ward, more-magnetic Unuk River diorite and the less-magnetic Unuk



River Formation andesite sequence.

The geophysical data associated with the **Fis 4 and 5 claims** has a significant amount of topographic "over-printing" due to the rapid elevation changes encountered. Overall, both the VLF-EM conductive effects and the magnetic features recorded correlate with either a change in topographic elevation or change is in the ground-to-geophysical-sensor-separation. The topography associated with the north part of **Jade 2 and 3 claims** does not contain the elevation changes prevalent to the south. Conductor S7 and conductor pair A8-S6, the nature of the interpreted faults and the geologic/magnetic contacts in the northern portion of the survey are all of principal interest when considering the proximity to the numerous, nearby Minfile locations 104B-12, 104B-231, 104B-13, and 104B-222.

The VLF-EM response adjacent and nearby magnetic high may reflect lithologic change, fault structures, or the location of replacement vein or fissure vein mineralization.

#### CONCLUSIONS AND RECOMMENDATIONS

The **Fis, Jade, and Jumbo property** is located in area of promising mineralogical potential. Airborne geophysical surveying was conducted on the west side of the property area. The survey area is situated at high elevations along, west of, and south of McQuillan Ridge. McQuillan Ridge is located north of Cebuck Peak, east of Unuk River and west of South Unuk River and Gracey Creek. The geology of McQuillan Ridge area has been well documented; the central lithology of the survey area is the Unuk River andesite sequence located between two dioritic intrusive stocks to the north and south. Many sulphide mineral occurrences have been documented in the country rock near the contacts of these intrusive bodies.

The elevated magnetic data collected on **Fis 5** reflects the more-



magnetic nature of the Coast Plutonic Complex biotite-hornblende quartz diorite and has good correlation with the andesite-diorite contact mapped on Open File Map 1989-10. The south and central areas of the survey contain significant influences on the magnetic and VLF-EM data of topographic "over-printing" effects and ground-to-sensor separation effects. These areas contain thick glacier ice and prominent ridge lines.

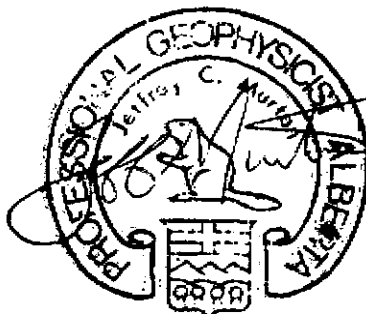
Topographic and separation effects are reduced on the north half of the Jade 2 and 3 claims. In this area the magnetic data is more complex; the magnetic signature may reflect both variable concentrations of magnetic minerals in the andesite sequence and well as the elevated concentration of magnetic minerals in the Unuk River diorite suite. The oblique-to-topography conductors imaged on the north part of the survey are noteworthy. Conductor pair A8-S6 is coincident with the local magnetic high on Line 3. Conductor S7, spanning Lines 4 to 6, is located in an area of steep magnetic gradients adjacent to magnetic highs on Lines 4 and 6.

A ground examination must be made to verify the geophysical interpretations presented in this report. It is recommended that a follow-up search of all sources for additional geological information, geophysical signatures, and any descriptions of past work on these and adjacent claims be undertaken. Subsequent to this search effort, a program of geological mapping should be undertaken in two phases. The first phase, should be conducted on the Jade 2 and 3 claims, to verify the position and presence of the postulated faults, geological contacts, and/or mineralization with the interpreted conductors. The second phase, on the Fis 4 and 5 claims, is to evaluate those conductors and magnetic anomalies which parallel the topographic features apparent on the air photo.

Following the proposed information search and geological verification of the geophysical features interpreted in this

report, a multi-frequency EM airborne survey should be considered to map the entire property. Outside areas of glacial coverage, the multi-frequency EM survey should have a line spacing of not more than 150 metres and off-property extensions to include the areas associated with BCMEMPR Minfile numbers 104B-220 (1000 metres west of Fis 5) and 104B-231 (700 metres north of Jade 2). Alternatively, soil sampling from the many drainages and a follow-up program of ground magnetics and EM surveying could be conducted over those airborne geophysical anomalies which are found to be located in a promising geological setting.

Respectfully submitted,



Jeffrey C. Murton, B.Sc., P.Geoph. (APEGGA)

**REFERENCES**

Britton, J.M., 1989, (Compiled by), Geology and Mineral Deposits of the Unuk Area, Open File Map 1989-10, BCMEMPR

Grove, E.W., 1986, Geology and Mineral Deposits of the Unuk River - Salmon River - Anyox Area, B.C., Bulletin 63, BCMEMPR

Woods, D.V., and Hermary, R.G., 1988, Geophysical Report on the Chris 1-4 Claims, Skeena Mining Division, 15 July, 1988

**STATEMENT OF QUALIFICATIONS**

**NAME:** MURTON, Jeff C.

**PROFESSION:** Geophysicist

**EDUCATION:** B.Sc - Geophysics Major  
University of British Columbia

**PROFESSIONAL ASSOCIATIONS:** Society of Exploration Geophysicists  
Association of Professional Engineers,  
Geologists, and Geophysicists of Alberta

**EXPERIENCE:** 1984-88 - Geophysicist, Interactive Graphics  
with Western Geophysical Company of  
Canada Ltd. in Calgary, Alberta.

1988 - Geophysicist with White Geophysical  
Inc.

## INSTRUMENT SPECIFICATIONS

### BARRINGER AIRBORNE MAGNETOMETER

**Model:** M 1041  
**Type:** Proton Precession  
**Range:** 20,000 to 100,000 gammas  
**Accuracy:** + 1 gamma at 24 V d.c.  
**Sensitivity:** 1 gamma throughout range  
**Cycle Rates:** Manual: Pushbutton single cycle  
                   External: Actuated by a contact closure  
                               (short) longer than 10 microseconds  
                   Continuous: 1.114 seconds with external pins  
                               shorted  
                   Internal: 1 second to 3 minutes in 1 second  
                               steps  
**Outputs:** Analogue: 2 channels, 0 to 99 gammas or 0 to  
                               990 gammas at 1 m.a. or 100 mV full scale  
                               deflection  
                   Digital: Parallel output 5 figure 1248 BCD,  
                               TTL compatible  
                   Visual: 5 digit numeric display directly in  
                               gammas  
**Size:** Instrument set in console  
                   19" x 3.5" x 10"  
**Weight:** 10.6 lbs.  
**Power Requirements:** 28 ± 5 volts dc, @ 1.5 amps - polarizing 4 amps  
**Detector:** Noise cancelling torroidal coil installed in  
                   air foil

## INSTRUMENT SPECIFICATIONS

### HERZ TOTEM - 2A VLF-EM SYSTEM

Primary Source:	Magnetic field component radiated from VLF radio transmitters (one or two simultaneously)
Parameters Measured:	Total field, vertical quadrature, horizontal quadrature and gradient
Frequency Range:	15 kHz to 25 kHz; front panel selectable for each channel in 100 Hz steps
Sensitivity Range:	130 $\mu$ V m to 100 mV at 20 kHz, 3 dB down at 14 kHz and 24 kHz
VLF Signal Bandpass:	-3 dB at +/- 80 Hz; < 4% variation at $\pm$ 50 Hz
Adjacent Channel Rejection:	300 to 800 Hz = 20 to 32 dB; 800 to 1500 Hz = 32 to 40 dB; > 1500 Hz > 40 dB (for < 2% noise envelope)
Out of Band Rejection:	10 kHz to 2.5 Hz = $5 \times 10^{-4}$ Am to $5 \times 10^{-1}$ Am < 2.5 kHz rising at 12 dB octave 30 kHz to 60 kHz = $5 \times 10^{-4}$ Am to $8 \times 10^{-3}$ Am > 60 kHz rising at 6 dB octave (for no overload condition)
Output Span:	$\pm$ 100% = $\pm$ 1.0 V
Output Filter:	Time constant 1 sec. for 0% to 50% or 10% to 90% noise bandwidth 0.3 Hz (second order LP)
Internal Noise:	1.3 $\mu$ V m rms (ambient noise will exceed this)
Sferics Filter:	Reduces noise contribution of impulse filter
Electric Field Rejection:	<0.5% error for 20 m tow cable
Controls:	Power switch, frequency selector switches (Line and Ortho), meter switch (Total Quad), and sferics filter switch
Displays:	Meters (Line and Ortho), sferics light, overhead light

**HERZ TOTEM - 2A VLF-EM SYSTEM - PAGE 2****Inputs:**

**Power:** 23 to 32 V DC; fused 0.5  
Amps

**Signal:** Sensor upper; sensor  
lower

**Outputs**

Total, quad, gradient,  
multiplexed (line and ortho)

Audio monitor, stereo line and  
ortho

**Dimensions and Weight:**

**Console:** 480 mm wide x 45 mm  
high x 340 mm deep, 3.8 kg

**Sensor and Preamplifier Assembly:**  
150 mm diameter x 460 mm long,  
1.5 kg



## INSTRUMENT SPECIFICATIONS

### DATA ACQUISITION UNIT

**Model:** HP-3852A  
**Mainframe Supports:** Eight function module slots  
 Data acquisition operating system  
 System timer  
 Measurement pacer  
 Full alphanumeric keyboard, command and result displays  
**Number of Channels:** 20 channel relay multiplexer HP44708A/H  
**Voltmeter:** 5½ to 3½ digit intergrating voltmeter  
 HP44701A measures:

DC voltage	
resistance	
AC voltage	
Range ±30V, ±0.008%, +300uV	
Intergration Time 16.7 msec	
Number of converted digits 6½	
Reading rate (readings/ sec)	57
Min-Noise rejection (dB)	
Normal Mode Rejection at 60 Hz ±0.09%	60
DC Common Mode Rejection with 1 KΩ in low lead	120
Effective Common Mode Rejection at 60 Hz ±0.09% with 1 KΩ in low lead	150

**Communication:** HP-IB interface with Compaq  
**Power Requirements:** 110/220 Volts AC at 60/50 Hz  
**Dimensions:** 45.7 cm x 25.4 cm x 61.0 cm  
**Weight:** 9.5 kg.

## INSTRUMENT SPECIFICATIONS

### CONTROLLER AND RECORDING SYSTEM - SPECIFICATIONS

Type: Compaq Portable II  
 An 80286 microprocessor  
 640 Kbytes of RAM  
 2 three and a half inch 720 Kbyte drives  
 one 20-Megabyte fixed disk drive  
 Monochrome, dual-mode, 9-inch internal monitor  
 Asynchronous communications interface  
 Parallel interface  
 Composite-video monitor interface  
 RGB monitor interface  
 RF modulator interface  
 Two expansion slots  
 Real-time clock  
 An 80287 coprocessor  
 A HP-IB Interface Card

Data Storage: 3 1/2 inch diskettes in ASCII  
 Roland 1012 printer for printed output  
 Beta I video cassettes

Power Requirements: 115 Volt AC at 60 Hz

Weight: 11 kg

Dimensions: 45 cm x 25 cm x 30 cm

**INSTRUMENT SPECIFICATIONS****FLIGHT PATH RECOVERY SYSTEM**

**T.V. Camera:** Model: RCA TC2055 Vidicon  
Power Supply: 12 volt DC  
Lens: Variable, selected on basis of expected terrain clearance  
Mounting: Gimbal and shock mounted in housing, mounted on helicopter skid

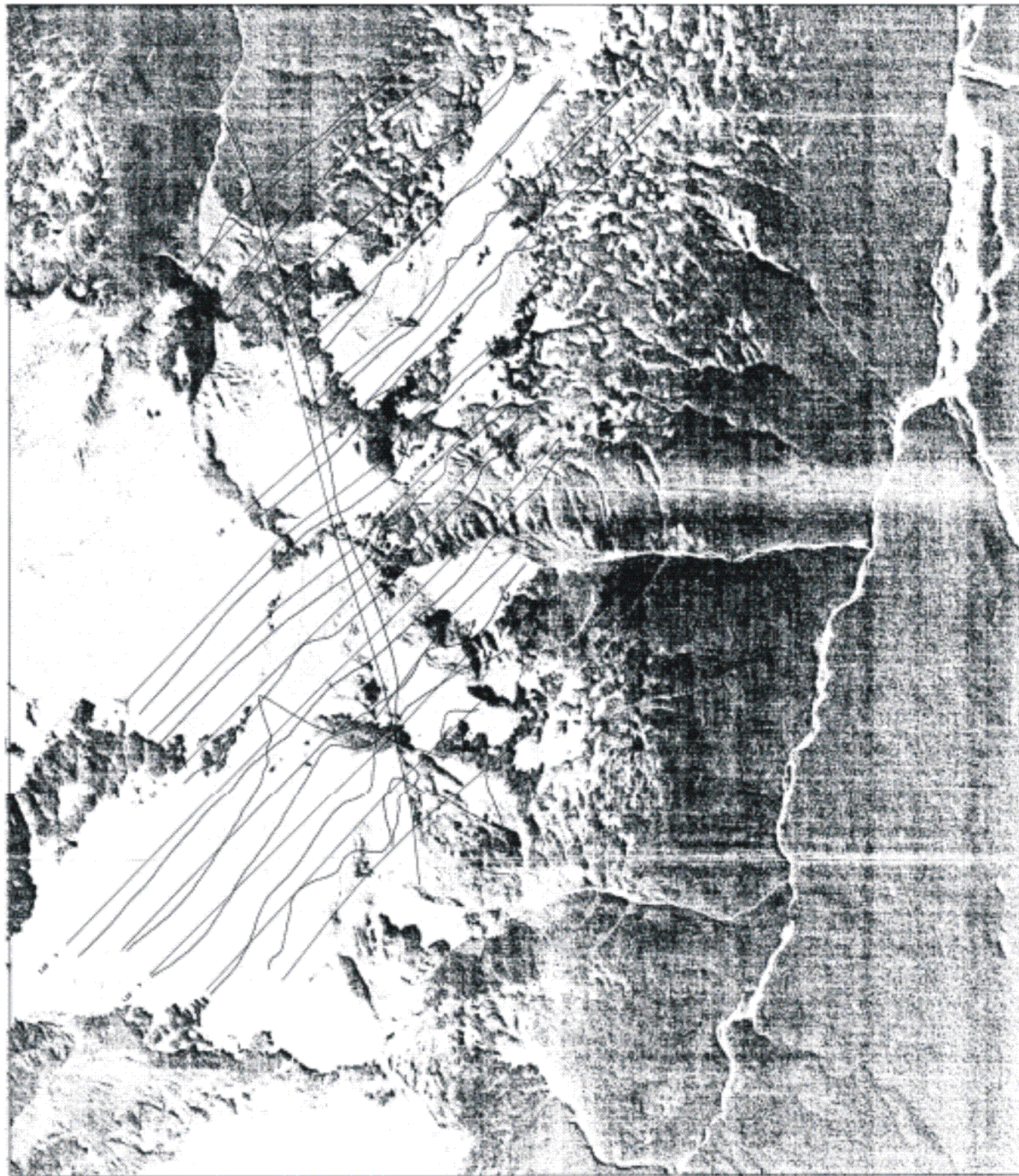
**Video Recorder:** Model: Sony SLO-340  
Power Supply: 12 volt DC / 120 volt AC (60Hz)  
Tape: Betamax  $\frac{1}{2}$ " video cassette - optional length  
Dimensions: 30 cm X 13 cm X 35 cm  
Weight: 8.8 Kg  
Audio Input: Microphone in - 60 db low impedance microphone  
Video Input: 1.0 volt P-P, 75 unbalanced, sync negative from camera

**Altimeter:** Model: King KRA-10A Radar Altimeter  
Power Supply: 0-25 volt (1 volt/1000 feet)  
DC signal to analogue meter, 0-10 v (4mv/ft)  
analogue signal to data acquisition unit  
Mounting: Fixed to T.V. camera housing, attached to helicopter skid

**COST BREAKDOWN:**

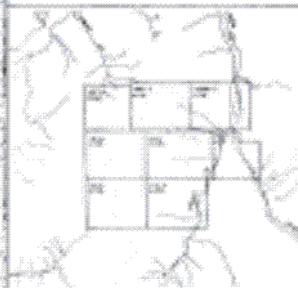
<u>DESCRIPTION</u>	<u>TOTAL</u>
<b>Survey totals</b>	
Mobilization and demobilization, 2 men, Brent Robertson and Gerald MacKenzie.....	\$ N/C
Data Acquisition:	
-Total daily charges for vehicle rental instrument rental, labour, room and board .....	\$ 3,904.28
-Airborne geophysical surveying (March 7, 1990) (51.3 km @ \$49.70/km) .....	\$ 2,549.61
Data processing and report charges .....	<u>\$ 6,046.11</u>
Total	<u>\$12,500.00</u>
<b>Allocation of charges to Fis 1-5 claims</b>	
Mobilization and demobilization.....	\$ N/C
Data Acquisition (March 7, 1990).....	\$ 4,137.11
Data processing and report charges .....	<u>\$ 3,875.71</u>
Subtotal	<u>\$ 8,012.82</u>
<b>Allocation of charges to Jumbo 2 and Jade 2 &amp; 3 claims</b>	
Mobilization and demobilization.....	\$ N/C
Data Acquisition (March 7, 1990).....	\$ 2,316.78
Data processing and report charges .....	<u>\$ 2,170.40</u>
Subtotal	<u>\$ 4,487.18</u>





GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,301



HTD 2018/VE & EN

AMPHODRA RESOURCES

7/15 1:05, JMS 2, 3, JMS 2, GLADYS  
MAGNETOMETER TOTAL FIELD PROFILE  
RAW LOGS - 37 100 HT, 2000 - 200 HT/100  
Scale 1: 10000.0



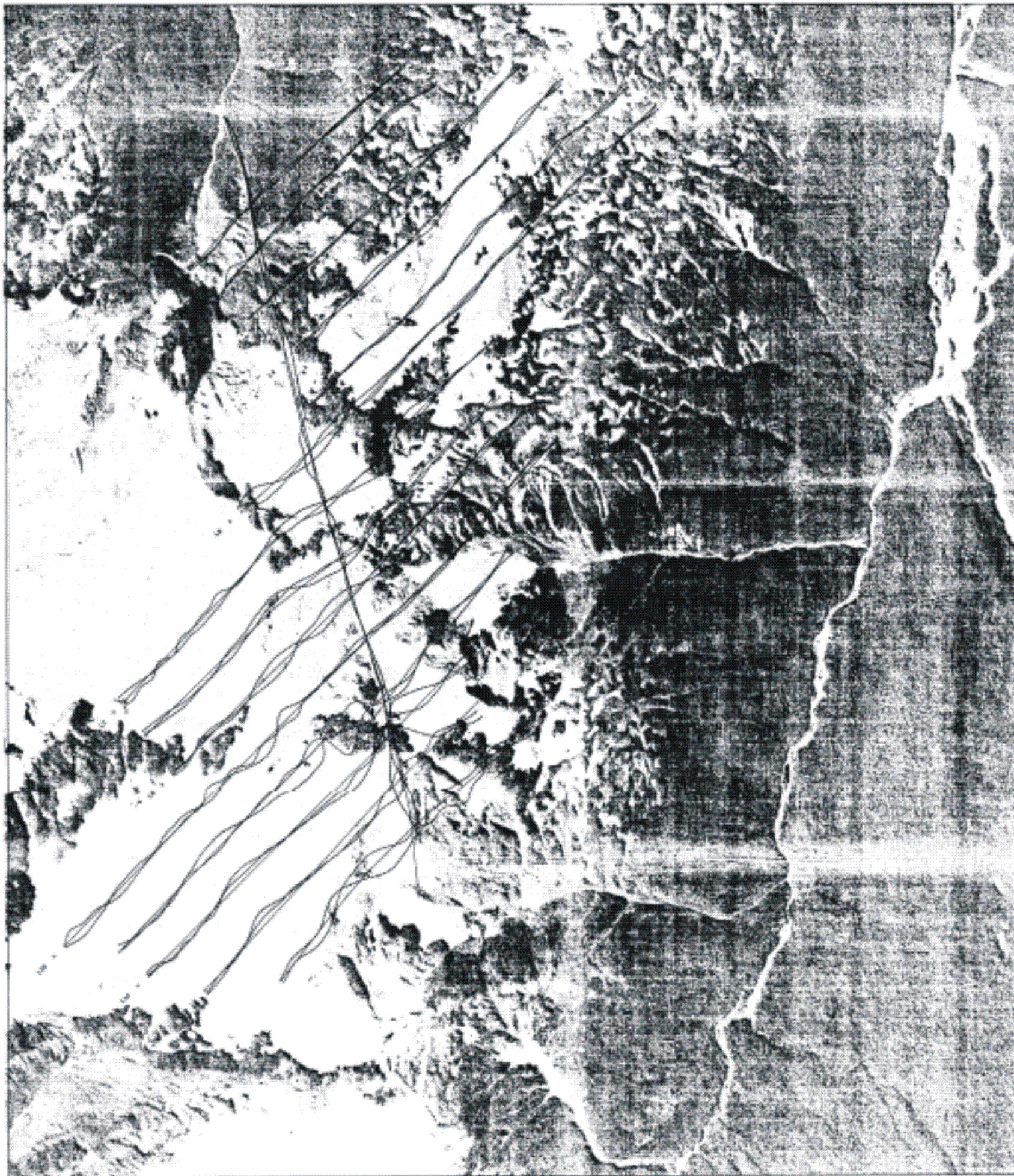
HTD 2018/VE & EN

WESTERN GEOPHYSICAL SERVICES LTD.







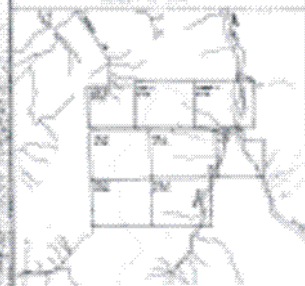


GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**20,301**

1. 1984-1985 BORE LOGS, 100%  
SCALE - 1:50,000

2. GEOPHYSICAL DATA, 100%  
SCALE - 1:50,000



NTS 1:50,000 & 1:25,000

AMPHORA RESOURCES

FIGS 1-5, JACK 2, 3 - LAND 2 CLAIM  
1/4-1/4" SEATTLE TRANSMITTED 104 8 4941  
TOTAL PERIOD AND QUANTITIES PROVIDED  
SCALE 1:50000.0

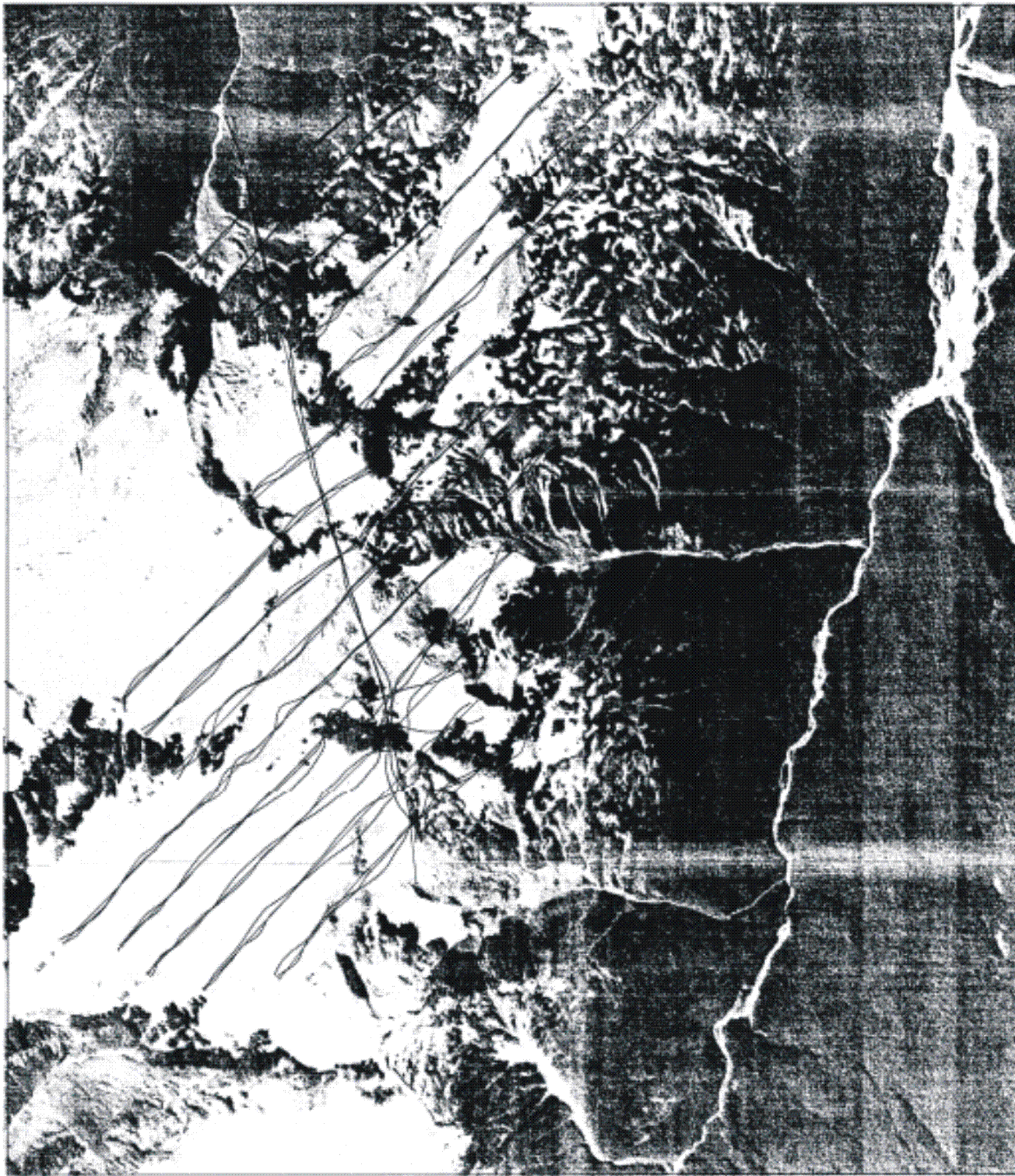


DATE: JAN 1987 DRAWN: J. M. M. P. 7  
MEDCORP GEOPHYSICAL SERVICES LTD.







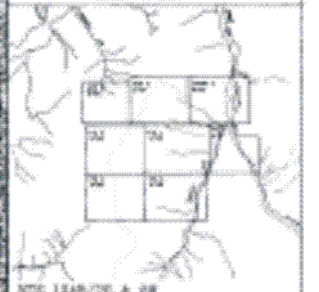


GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**20,301**

• TOTAL AREA 1000 ACRES ± 10%  
NEAR 1:50,000

• QUADRANT 1000 ACRES ± 10%  
SCALE 1:50,000



SEE 1000/20 & 21

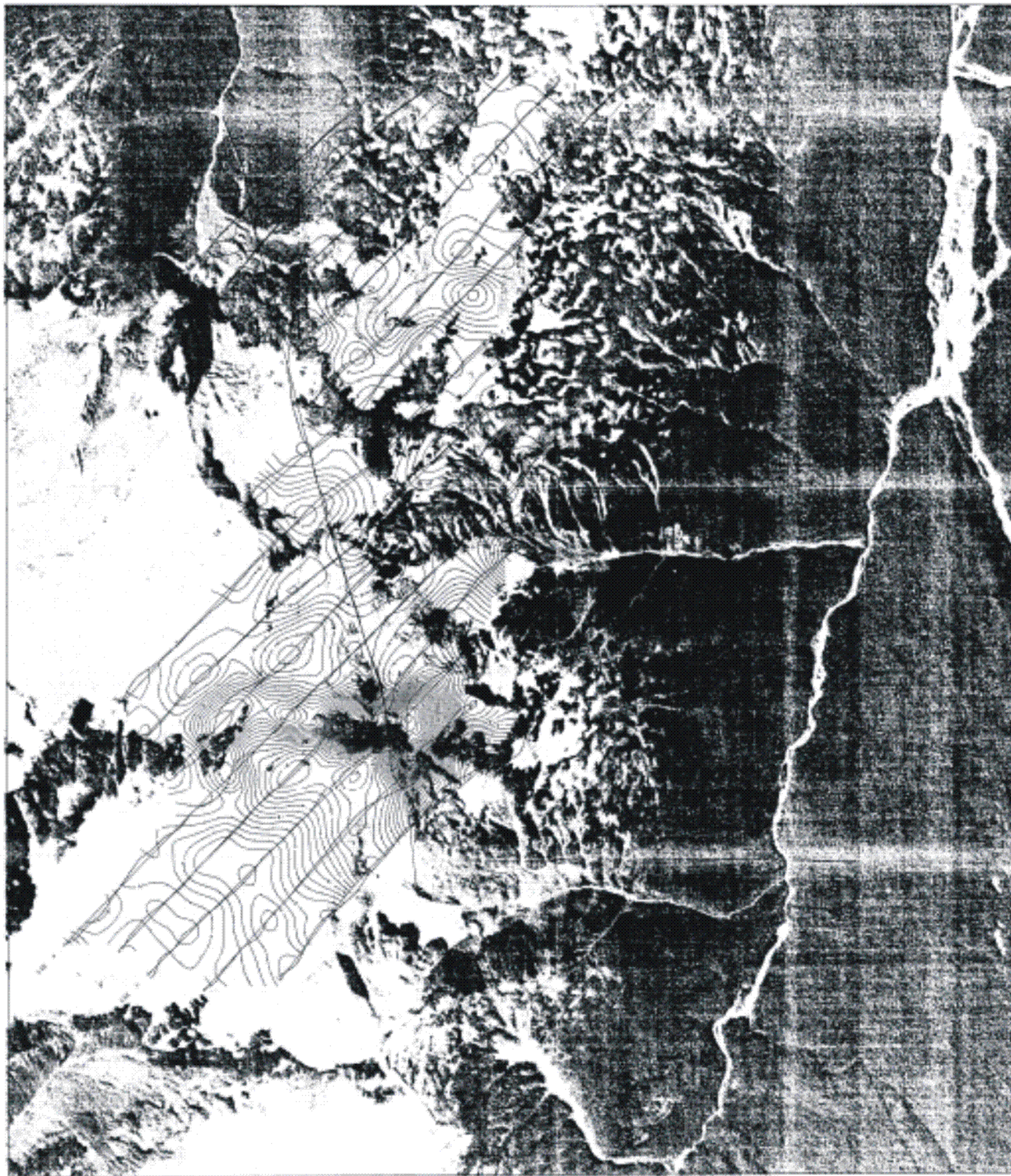
**AMPHORA RESOURCES**

FIG. 1-8, JADE 2.5-5/800 2 CLAIMS  
V.L. ON AMPHORA TRANSMITTER 100-4 AND  
TOTAL FIELD AND SIGNATURE PROFILES  
SCALE 1:50,000



DATE: JAN 20 1970 BY: J. W. H. No. 5  
WESTERN GEOLOGICAL AIRDATA LTD.

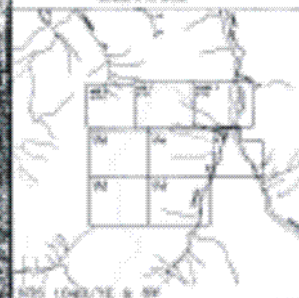




GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,301

QUADRANGLE LEVEL 10 N.  
SERIES 10 3-10



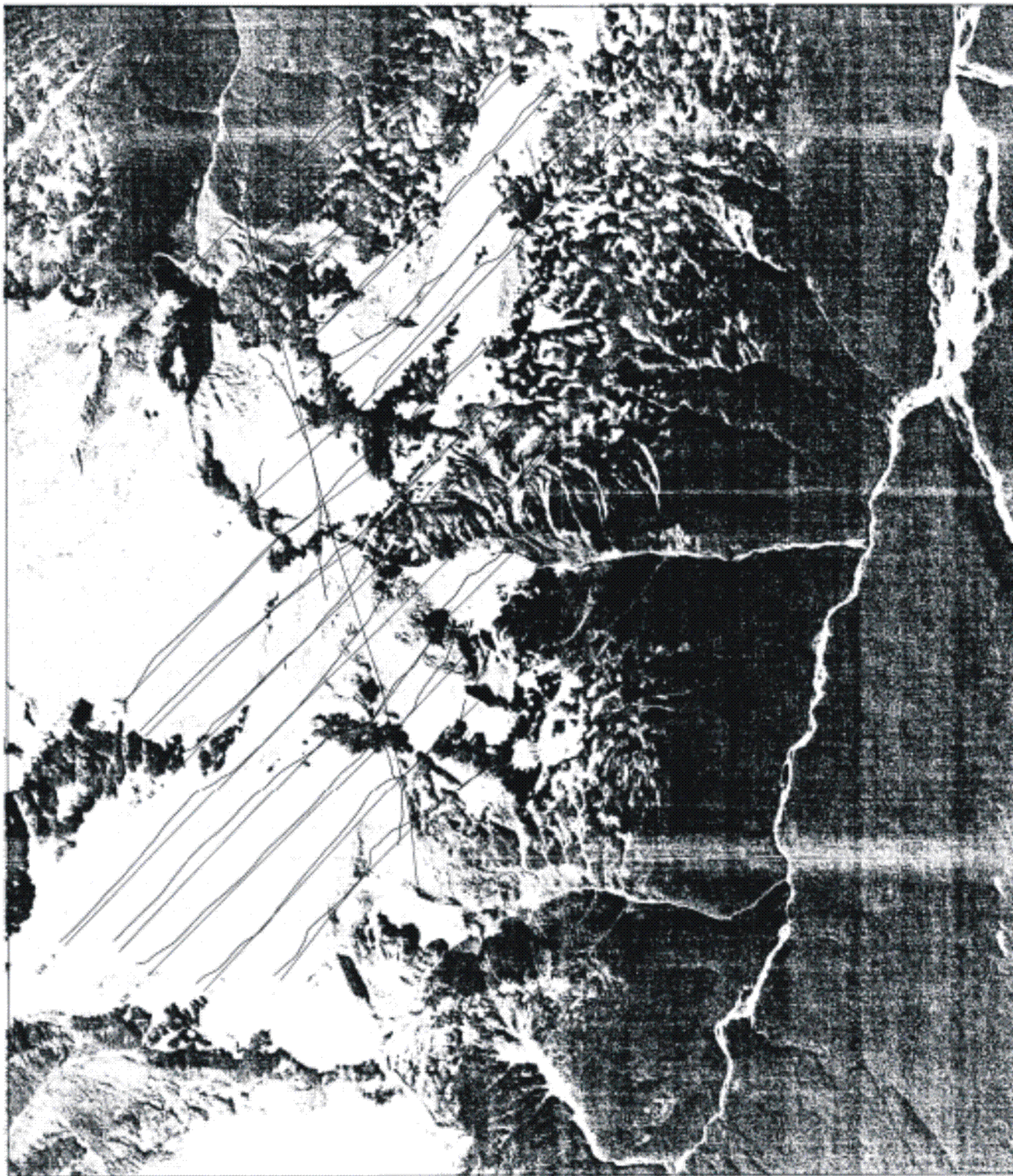
DIAPYCNIA RESOURCES

PER 2-0, JACK 2-0, GUNB 2, CL-176  
CL-176, AMERICAN TRANSMISSION CO. 2-0 AND  
AMERICAN TRANS. PLANT AND GENERATOR 2-0 AND  
Scale 1:10000



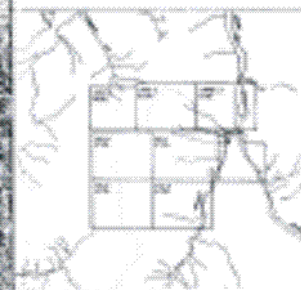
DIAPYCNIA RESOURCES LTD. 100 000  
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GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,301



NTS 2028/75 & 81

AMPHORA RESOURCES

FIS 1-5, UNK 2, 3 JMS 2, 0, 1, 2, 3  
RADAR ALTIMETER PROFILES

MAX. LEVEL = 56 metres, MIN. LEVEL = 10 metres

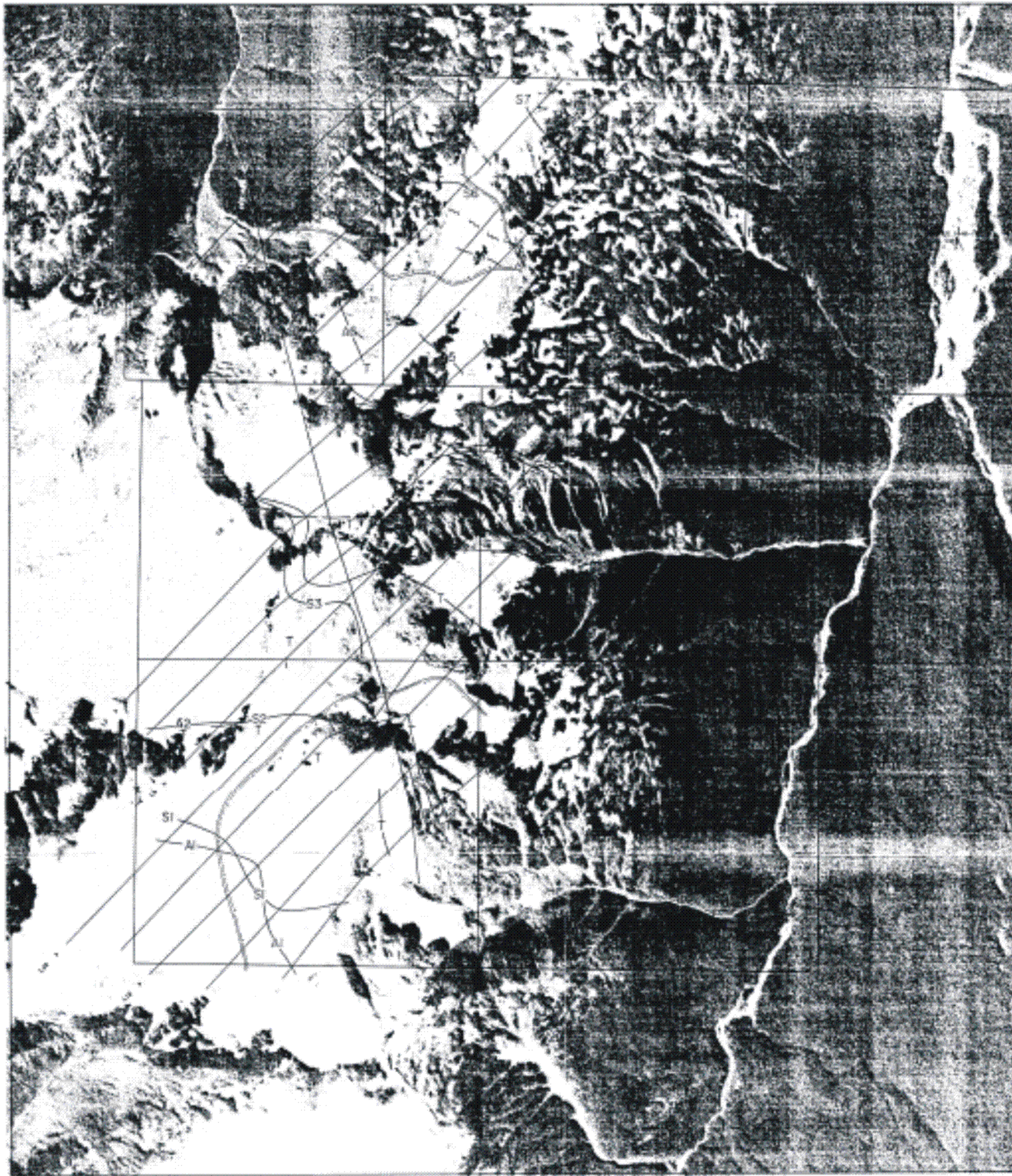
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WAL 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000

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GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,301

- SN — SURFACE TRENCH
- AS — ANTIPLACIAL TRENCH
- T — TENSILE EFFECT OF STRESS TO SEASON DEFORMATION GREAT
- — — — — INFERRED FAULT
- — — — — PHYSICAL GEOLOGICAL INTERPRETATION CONTACT



575 048/VE 0 09

AMPHORA RESOURCES

"15 1-15, JUNE 2, 1988 2 CLASS  
GEOLOGICAL INTERPRETATION MAP  
AND FIELD-LINE AND DATA REPORT SYSTEM  
SCALE: 1:50000



DATE: JUNE 1988 BY: J. W. H. NO. 12  
WESTERN GEOPHYSICAL AND DATA LTD.