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**REPORT ON GEOLOGICAL MAPPING**  
**OF**  
**THE LEMON LAKE PROPERTY**

**SITUATED**  
**IN**  
**THE CARIBOO MINING DISTRICT OF THE PROVINCE OF BRITISH COLUMBIA**  
**NTS 93 A / 06**

**GEOLOGICAL BRANCH**  
**ASSESSMENT REPORT**  
LATITUDE OF 52° 21' N  
LONGITUDE OF 121° 16' W

**22,844**

**March 10th, 1993**

**Hughes P. Salat, P. Eng.**  
**5904 Dalhousie Drive N.W.**  
**Calgary, Alberta**  
**T3A 1T1**

## TABLE OF CONTENTS

	page.
1 - Property, location and access .....	3
2 - Base map and air photo interpretation .....	3
3 - Regional geology .....	4
4 - Geological mapping .....	4
4 - 1. Rock exposure .....	4
4 - 2. Layered rock units .....	5
4 - 3. Intrusive rock units.....	5
4 - 4. Alteration.....	5
5 - Recommendations .....	6
Certificate.....	7
Statement of expenditures.....	8
Appendix 1 - Thin section study .....	9
 Illustrations.	
Figure 1 - Location map.....	after 3
Figure 2 - Geological map .....	in pocket

## **1 - Property. Location and access.**

The property consists of 20 two-post claims ( Horse 1 to 20 ) and one four-corner claim ( MARE ) comprising 8 units (Figure 1).

<b>Claim name</b>	<b>Record number</b>	<b>Expiry date</b>
HORSE 13 to 20	307355 to 307362	Jan. 14, 1993
HORSE 1 to 12	307343 to 307354	Jan. 15, 1993
MARE (8 units)	310780	June 16, 1993

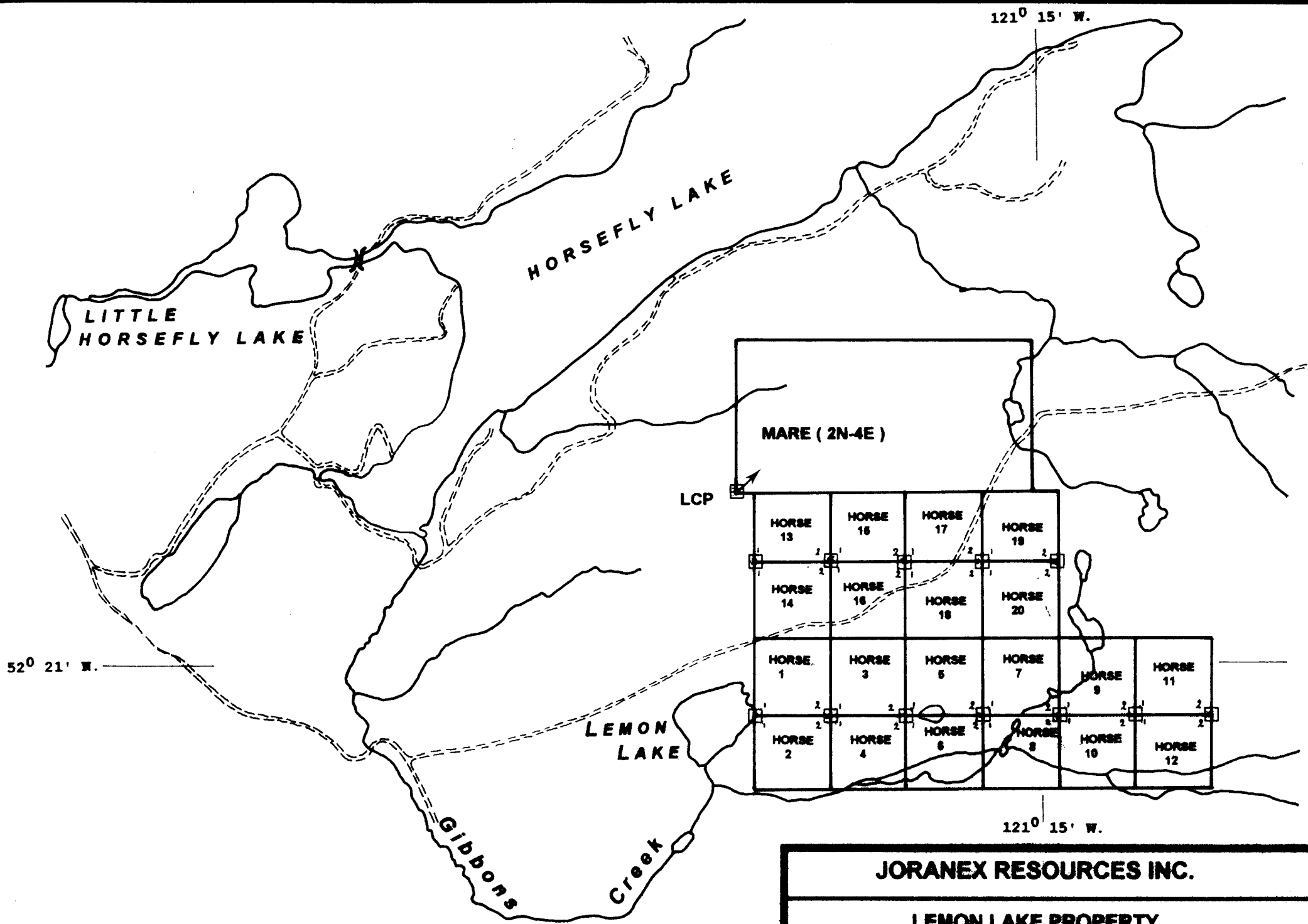
The claims are located South of Horsefly Lake 60 kilometers East of the town of Williams Lake, in a hilly area of mixed pine, fir trees, poplars and open grassy clearings. They cover in part grazing lands and are located at the limit between farming district and timber producing forest allotments.

Average elevation is around 910 meters above mean sea-level and the ground consists of wide undulating hills which makes walking over fairly easy. Access is excellent and is provided by a good logging road ( Logging Road 8500), which runs through the property from East to West. Over the property, there are some primitive tote roads and cattle trails.

## **2 - Base map and air photo interpretation.**

Mapping on the property was intended to be carried out at the minimum scale of 1: 5,000. However, no topographic base map was readily available at such a scale. The most recent aerial photographs (August 1989) of the area were obtained at the scale of 1/ 16,000 and controlled against the EMR topographic map at the scale of 1: 50,000. Thereafter a part of the aerial photographs covering the Lemon Lake property was enlarged by photographic processing to the required 1: 5,000 scale.

Detailed stereographic interpretation on air photos allowed to trace the cultural features such as roads, cultivated fields, etc... and to replace them onto the base map. However the dense forest cover in the area makes the task difficult and



<b>JORANEX RESOURCES INC.</b>	
<b>LEMON LAKE PROPERTY</b>	
<b>LOCATION MAP</b>	
<b>NTS 93 A/6</b>	
<b>SCALE 1 : 31,680</b>	
Date: March 20, 1993	Drawn By: C.Kemper
Fig No: 1	

uncertain in many instances and all the features had to be carefully checked out on the ground during the field investigation. From control points such as permanent bodies of water, major creeks and the main logging road, the secondary roads, trails, swamps, old visible trenches and drill sites were relocated by means of compass sighting and distances were chained.

The ground truthing obliged to redraw the final base map on which rock outcrops and geological observations were reported (Figure 2). Claim posts have also been carefully repositioned.

Geological air photo interpretation was not successful in delineating rock units; however it shows clearly a major break interpreted as a fault along Gibbons creek separating the sub-outcropping region to the North from deep fluvoglacial overburden covered areas to the South.

### **3 - Regional geology.**

The Lemon Lake property is situated 35 kilometers southeast of Mt Polley / Cariboo-Bell deposit within the southern Quesnel Trough. The Quesnel Trough consists of Triassic to Jurassic volcanic and sedimentary formations characteristic of back-arc deposition near a continental margin. The formations are intruded by coeval to distinctly post-tectonic plutonic stocks, many of them being of alkaline affinity. Many of these stocks are mineralized and are being mined (Copper Mountain / Ingerbelle, Afton) or are considered for production (Mt Polley). Many others will be mined in the future because of their remote location (Mt Milligan, Kemess and Galore Creek).

### **4 - Geological mapping.**

**4 - 1. Rock exposure.** The property covers the first moderate hills rising from the Horsefly Lake fluvio-glacial plain toward Horsefly Mountain. The only major rock exposures are found on the eastern border of the HORSE claims; also a few prominent ridges of basalt occur in the MARE claim. Otherwise, the area is covered with some glacial debris in low areas and good forest soils develop over the entire

property. However, on top of hills and on their immediate slopes, many boulder fields are encountered; the size (several meters in diameter) and their angularity suggest the boulders are frost-heaved and therefore reflect the sub-surface bedrock.

**4 - 2. Layered rock units.** In the Lemon Lake property and immediate surroundings, the layered units are uniquely made of volcanic rocks; no sediments has been encountered. In only two locations, the limit between two distinct units could be estimated but their actual contacts are recessive and the true attitude could not be measured.

The volcanic rocks outcrop widely to the East of the claims, and underlie the northern part of HORSE 13 -15 -17 and 19, and the MARE claim. To the East, trachyte-like flows (shonkinite), augite-phyric basalt and aquagene autobrecciated basalt flows dominate the highest hills. On the MARE claim and adjacent HORSE claims, alkali basalt flows and andesitic pyroclastics are observed with some aquagene autobrecciated basalts. Closer to the center of the property, more andesite are to be found.

**4 - 3. Intrusive rock units.** The main portion of the HORSE 1 to 20 claims is underlain by intrusive units which consist mostly of hornblende diorite, locally microdiorite. Leucocratic syenite outcrops on the eastern margin of the diorite intrusion, and some coarse crystalline nepheline syenite has been encountered to the southern edge toward Gibbons Creek. In most instances, the intrusive rocks have been altered and brecciated by strong potassium influx. Indeed, K-feldspar injection is so prevalent and in many places, veinlets are so anastomosed as to transform the rock into a breccia. The next step observed locally consists in near complete replacement of the diorite and changing it into a syenite. Interestingly, the eastern syenite unit itself is flooded with additional K-feldspar. Under such circumstances, special attention was paid to separating the original rock make-up of the intrusive units.

**4 - 4. Alteration.** The most widespread alteration consists into epidotization which affects the intrusive as well as the volcanic rocks exposed in the property. Toward the North, epidote is associated with calcite and chlorite and minor quartz; there, albitization locally very intense, has been noted. Elsewhere, the propylitization is not present whereas epidote replacement and invasion is general in the different rock units found in the property.

Mainly affecting the diorite, biotite and sericite replacement and addition are prominent and associated with K-feldspar flooding. The sericite affects essentially the original feldspars with various intensity; it can be pervasive or in large spots giving nebulous or cloudy textures. From the thin section study, the development of biotite has taken place in two stages. The second stage is clearly associated with the more intense invasion by K-feldspar which, in the central part of the property, has completely brecciated and replaced the original dioritic rock.

Sulfidization (pyrite and chalcopyrite) is ubiquitous in the intrusive rocks. It appears associated in successive phases, first with propylitization and second with the potassic alteration (biotite - sericite - K-feldspar). On the MARE claim, heavy pyrite is observed in the basaltic units which may have undergone strong albitization.

Magnetite is also frequent in the intrusive rocks but could not be separated from sulfide in thin section study. It is difficult at this stage to determine whether magnetite, locally accounting for several percent of the rock, is primary or secondary.

## **5 - Recommendations.**

The first phase of mapping on the Lemon Lake property illustrated interesting features whereby the existing intrusive stock and some adjacent and surrounding volcanic units are mineralized and strongly altered. The mapping also provided evidence that the intrusive and the volcanic formation around it, belong to the alkaline suite with a strong potassic character. It would be of prime interest to carry out some whole rock chemical analysis on the less altered units.

It is recommended that detailed mapping be carried out over the remaining large tracts of the property which have been left unexplored. A well laid out grid system would greatly facilitate the work of mapping and could serve for further exploration such as soil geochemistry, geophysics and direct prospecting.

## CERTIFICATE

I, HUGHES P. SALAT, of the City of Calgary, Alberta, certify that:

1/ My present address is 5904, Dalhousie Drive N.W., Calgary, Alberta, T3A 1T1 and my occupation is that of a consulting geologist.

2/ I am a holder of the french Baccalaureat in Mathematics, Physics, Latin and Greek.

3/ After three years of general sciences and successfully being admitted to the Ecole Nationale Supérieure de Géologie Appliquée de Nancy, I graduated from that school with a degree in Geological Engineering and with the diploma of Licence-es-Sciences from the Faculty of Earth Sciences, University of Nancy (France). I have also obtained an M.Sc. equivalence and completed all credit and research requirements for a degree of Ph.D. at the University of Southern California in Los Angeles (unwritten thesis due to military recall).

4/ I have been practising continuously my profession of geologist since 1968 in Canada and Europe in mineral exploration, first with Aquitaine Company of Canada then with SNEAP (Elf-Aquitaine).

Concomitantly from 1983 to 1987, I have also worked for the latter, as petroleum geologist on international projects dealing with Central Africa, Indonesia and South America.

Since 1988, I operate as an independant consultant in mineral exploration from the above-mentioned address.

5/ I am a fellow member of the Society of Economic Geology, of the Geological Association of Canada, of the Canadian Institute of Mining and Metallurgy, of the Association of Professional Engineers, Geologists and Geophysicists of the Province of Alberta and of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

This day 10 of March 1993

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Hughes P. Salat  
Consulting Geologist.



### STATEMENT OF EXPENDITURES

**Labor cost:**

Field time, consulting geologist - 6 days @ \$400/day .....	\$ 2 400
Travel time - 2 days @ \$400/day .....	\$ 800
Thin section study - 3 days @ \$400/day .....	\$ 1 200
Report, photo-interpretation - 3 days @ \$400/day .....	\$ 800

**Field costs:**

Field expenses - 8 days @ \$75/day .....	\$ 600
Thin section preparation .....	\$ 150
Drafting, reproduction & stationary .....	\$ 400
Shipping .....	\$ 30
Travel expenses - truck / 2,500 km @ \$0.30/km .....	\$ 750

Sub-total .....\$ 7130

Secretarial work & administration fees @ 10% of above .....\$ 710

**TOTAL** .....\$ 7840

APPENDIX - 1

**THIN SECTION STUDY**

( FOR LOCATION OF ROCK SAMPLES, REFER TO 1:5,000 SCALE GEOLOGICAL MAP )

**SM-92-01****Hand specimen description:**

-crystalline rock composed of two mineral fractions, a white fraction (25%) of angular, 0.3 to 0.75 mm size feldspars and a greenish fraction (75%) of hornblende phenocrysts. The rock is speckled with scattered biotite and cut by a dikelet - 3mm thick - of pinkish feldspar; Massive epidote veinlets (1 to 2 mm) or patches, and many sulfides (pyrite, chalcopyrite and malachite) next to epidote patches.

**Thin section description:**

- Texture is inequigranular and poikilitic; the rock is made of two components, the remnant of the original rock (20 to 30%) and replacement by alteration products.

**1) Original rock :**

- porphyritic texture,

- modal composition:

- 0.1 to 0.2 mm plagioclases (An25-40), clear euhedral,
- 1 to 2 mm plagioclase phenocrysts (An15-20?) ghosts completely replaced by sericite.
- 0.3 to 0.5 mm green hornblende euhedral but strongly corroded and rich in epidote grains ( less than 0.05 mm) in inclusions / poikilitic,
- 2 to 5 mm hornblende phenocrysts corroded rich in inclusions ( epidote, opaque minerals ).

**2) Alteration products:**

- large (0.5 to 1 mm) K-feldspars (orthoclase) sericitized, in part euhedral in part anhedral with many inclusions of plagioclase and hornblende; the K-feldspars are arranged in vein like structures but with no well defined borders,
- sericite which completely replaces plagioclase phenocrysts,
- biotite, euhedral to anhedral, corroding hornblende and in laminae within hornblende, from 5 to 25% of section,
- epidote in fresh 0.01 to 0.1 mm grains scattered and in inclusions, from 1 to 5% of section,
- rare quartz grains, less than 0.05 mm,
- opaque minerals scattered, 0.1 to 0.5 mm grains euhedral in inclusion or interstitial, often associated to biotite and epidote, up to 7 to 8%.

**Potassic altered diorite.**

**SM-92-02****Hand specimen description:**

- crystalline rock with 60% green phenocrysts - 1.5 to 4.5 mm - of hornblende and 40% of white angular 0.2 to 1 mm feldspars and speckled with black biotite. A 1 mm wide veinlet of whitish feldspar cuts across.

**Thin section description:**

- Texture: inequigranular porphyritic.

- Modal composition:

## 1) Macrocrysts:

- phenocrysts - 2 mm and over - of hornblende well separated often showing basal section and twinned; all show unaltered core surrounded by corona loaded with small aligned biotite inclusions, arranged parallel to cleavages. The phenocryst borders are corroded and rounded. Many inclusions of opaques. Note that the basal sections do not show the 56° cleavages; however hexagonal growth line are strongly outlined by microscopic fluid inclusions and have a moderate relief compared to epidote suggest that they are amphiboles.

- ghosts - 1 to 2 mm - of plagioclase replaced by sericite. Only small plagioclases - less than 0.5 mm - are preserved and clear with composition of An<sub>30-40</sub>.

## 2) Alteration products:

- sericite invades all plagioclase in places and produces a "nebulous" texture. Sericite represents 25 to 30% of section.

- biotite varies from 2 to 10% of section but where in clusters ( more than 75% ) biotite is euhedral with laths 1 to 1.5 mm in length and associated with subhedral opaques.

- quartz: a few rounded grains (0.05 to 0.1 mm) in the biotite clusters.

- epidote in rounded to subhedral grains (0.1 to 0.5 mm), fresh crystals / freshness and higher relief distinguish it from desintegrated pieces of hornblende.

- secondary potassic feldspar in small anhedral blobs among the sericitic groundmass.

- opaque minerals : 1 to 5% with intersertal texture, mostly associated with biotite and sericite.

**Potassic altered diorite.****SM-92-03****Hand specimen description:**

- crystalline rock made of 60% dark grey-green mineral (hornblende) with tendency to be in clots, 3 to 10 cm in diameter, and many biotite flakes; the leucocratic portion of sample contains white angular, 0.3 to 1.5 mm, feldspar and light green epidote. One side of sample is bordered by a 2 mm thick veinlet of pink K-feldspar.

**Thin section description:**

- Texture: sub equigranular (0.25 to 0.75 mm) in places to seriated to several mm size phenocrysts.
- Modal composition:
  - 50% of fresh euhedral green hornblende equant and lumped in large aggregates.
  - 25 to 30% of completely sericitized plagioclase; some partially clear laths suggesting An45. Includes a few phenocrysts 0.5 to 1.5 mm in size.
  - biotite, 5 to 25%, poikilitic and twinned lamination with epidote; some laths are bent; biotite is mainly concentrated in the feldspathic phase of the section. Up to 2 mm in size it shows two stages of formation.
  - epidote in large (0.5 to 2 mm) well formed grains (Fe-rich pistacite variety) most often associated to biotite. In one spot, pseudomorph after hornblende clots.
  - opaque minerals: 2 to 5% scattered sub automorphic grains, 0.2 to 0.5 mm.
  - quartz, some small (0.1 mm) grains often in inclusion in biotite along with epidote.

**Potassic altered porphyritic diorite.****SM-92-04****Hand specimen description:**

- holocrystalline rock, 0.25 to 0.75 mm grain size, leucocratic, with mica, epidote and abundant feldspar.

**Thin section description:**

- Texture: equigranular.
- Modal composition:
  - 80% orthoclase, 0.5 to 1 mm, subhedral, interlocking crystal boundaries (consertal texture). The K-feldspar show zoning and replacement of previous plagioclases; 10 to 20% are sericitized. The large laths are often more automorphic and tend to be poikilitic; one lath, 2 mm across includes grains of K-feldspar, biotite, epidote and opaques.
  - biotite in small flakes (0.05 to 0.1 mm), anhedral and neofomed, represents 5% of section.
  - epidote, euhedral, elongated grains (up to 1 mm) locally interlocking with biotite and opaque minerals, 10% of section.
  - opaque minerals, 3 to 5%, 0.05 to 0.25mm.
  - a few grains of sphene, up to 0.5 mm in size, less than 1%.

**Potassium flooded syenite.**

**SM-92-05****Hand specimen description:**

- microcrystalline, 0.1 to 0.5 mm, rock with half and half mafic minerals and leucocratic minerals. Thin fissures filled with chalcopyrite, also many scattered specks of same throughout.

**Thin section description:**

- Texture: equigranular.
- Modal composition:
  - feldspar (ghosts of plagioclases) represents 60 to 70% of section, are completely replaced by sericite and locally show replacement by orthoclase (K-feldspar),
  - epidote, 15% of section, scattered 0.1 to 0.75 mm grains, always with biotite,
  - biotite, 10% of section in small laths,
  - opaque minerals, 8 to 12% (sulfides) scattered;
  - a 0.5 mm veinlet of K-feldspar, sericite and epidote; along the walls in the host rock, the section shows an increase of up to 75% of large K-feldspar, epidote, biotite, some quartz and a few grains of calcite as well as some largely chloritized biotitic mesostasis next to quartz; also abundant opaque minerals.

**Potassic altered microdiorite.**

**SM-92-06****Hand specimen description:**

- fine grained (less than 0.25 mm) microcrystalline rock, containing high amount (10%) of very fine grained sulfides cut by 1 to 2 mm wide quartz veinlets.

**Thin section description:**

- Texture: equigranular, very fine grained 0.1 to 0.2 mm.
- Modal composition:
  - feldspar represent 75% of section and is composed of small remnants of plagioclases but essentially replaced by orthoclase which form well defined grains or larger mesostasis; a few rare phenocrysts (up to 1.5 mm) of orthoclase are sericitized. The K-feldspar mesostasis contains some 10 to 20% quartz
  - quartz as noted above. In some part of section, quartz is well developed in tiny grains and shows replacement with sericite of the host rock (silicification).
  - biotite in tiny jagged laths, scattered, 10 to 15% of section,
  - sericite in replacement of feldspar,
  - epidote in larger (0.25 to 1 mm) blobs, clear, broken-up, often replaced by biotite, 10% of section,
  - opaque minerals (sulfides) from 3 to 20% in small xenomorphic grains (0.2 to 0.5 mm) and also in tiny shattered sub-grains associated with sericitic silicified parts of section,
  - 2 veinlets (0.5 mmwide) quartz, cross-cut by 0.25 mm calcite veinlet (later).

**Potassic altered, sulfidized micro-syenodiorite.**

**SM-92-07****Hand specimen description:**

- holocrystalline rock, coarse grained (3 to 6 mm) composed of 50% white minerals (feldspar) and 25% hornblende - 25% biotite.

**Thin section description:**

- Texture: equigranular.

- Modal composition:

- plagioclase, euhedral, 40 to 50% of section, An45-60; some aggregates of plagioclase have their core replaced by sericite, K-feldspar phase and large biotite,
- rare large (up to 6 mm) hornblende corroded and replaced by epidote,
- K-feldspar, ill-defined crystal, in mesostasis within altered plagioclase associated with much sericite; the alteration affects 25 to 40% of plagioclase,
- epidote in rounded grains (0.2 to 0.5 mm) but in clusters, 10 to 20% of section,
- biotite, 10 to 15%, in rarely well formed laths up to 2 mm in length, but also in neofforming xenomorphic crystals; in some occasion, biotite shows (tectonic?) bending,
- opaque minerals, in blobs, 0.25 to 0.5 mm, 5 to 20% of section, often form matrix (intersertal texture) between epidote grains; rarely within feldspar rich areas.

Note: epidote, biotite, opaque minerals are closely associated into a net texture criss-crossing the feldspar rich phase.

**Potassic altered, mineralized diorite.**

**SM-92-08****Hand specimen description:**

- very coarse grained (2 to 12 mm) holocrystalline rock composed of large amphiboles and white feldspars.

**Thin section description:**

- Texture: equigranular.

- Modal composition:

- hornblende well developed (up to 10 mm), strongly pleochroic, high angle of extinction and a extra cleavage indicate hastingsite; occupy 40 to 45% of section; Some more broken, have epidote inclusions,
- orthoclase (no ghost of twinning) in 2 to 5 mm laths but completely replaced by sericite and epidote, locally large areas of feldspar replaced entirely by epidote; 25 to 30% of section.
- rare ghosts of plagioclase (An30?) replaced by sericite and epidote,
- nepheline, 5% of section, fresh, hexagonal, 0.15 to 0.5 mm.
- epidote in replacement of feldspar but also in large (4 to 5 mm) laths, representing 20 to 25% of section,
- chlorite in pseudomorph of small broken laths of amphibole; also next to large epidote lath and invading the nearby feldspar: 3 to 5%,
- opaque minerals, 2 to 3% often associated to chlorite, 0.3 to 0.5 mm across.

**Nepheline syenite.**

**SM-92-09****Hand specimen description:**

- fine grained crystalline rock with half white feldspar (0.1 to 0.2 mm) and half needles of amphibole (1 to 3 mm).

**Thin section description:**

- Texture: inequigranular to porphyritic,
- Modal composition:
  - 1) original rock:
    - amphibole, 50 to 55% large euhedral crystals but strongly corroded on their borders,
    - plagioclase, stubby laths (0.1 to 0.3 mm) An50-60, most are replaced by sericite and epidote and some tiny K-feldspar (orthoclase); 25 to 30% of section.
  - 2) alteration products:
    - epidote in pseudomorph of amphibole,  
in neofomed crystals with feldspar,  
in laminae within biotite laths,  
in microscopic specks in association with sericite and quartz;  
it represents 10% of section,
    - biotite, 5 to 10% in 2 stages: well formed laths, sometimes interlaminated with epidote, flexed and poikilitic, or in neofoming metastasis, anhedral, corroding and invading amphibole or plagioclase or in inclusion,
    - quartz 1 to 2%, small scattered, fresh grains,
    - some fresh neofomed orthoclase associated with new quartz,
    - a few sphene within or associated with epidote,
    - opaque minerals, 0.1 to 0.25 mm, anhedral, 1 to 2% of section.

**Potassium altered diorite.****SM-92-09 B****Hand specimen description:**

- pink rock with rectangular white laths - up to 2 mm long - of feldspar aligned within an aphanitic pink groundmass, also containing rounded to sub-rounded green to dark green crystals (pyroxene?) up to 2 mm long and small reddish spots (limonite).

**Thin section description:**

- Texture: pilotaxitic
- Modal composition:
  - 70% orthoclase in laths but their core is always saussuritized,
  - augite in scattered grains some being twinned, 5 to 10% of section; also a few grains of augite in the mesostasis,
  - nepheline in rare grains, 0.1 to 0.5 mm,
  - opaque minerals, 10% of section with reddish limonitic borders,
  - mesostasis is very altered and appears to be composed of orthoclase (20 to 25%) and many small grains of augite.

**Shonkinite.**



**SM-92-10****Hand specimen description:**

- non oriented polygonal stubby grey crystals, 1.5 to 5 mm, and white laths, 0.5 to 2 mm long, set in a grey-green aphanitic groundmass; some specks, 1 mm across, of pyrite.

**Thin section description:**

- Texture: pilotaxitic and porphyritic.

- Modal composition:

1) megacrysts:

- 50% stubby euhedral augite-pigeonite pyroxene, chloritized along cracks and diaclasses; some crystals are pseudomorphosed to sericite and chlorite,

- 50% laths of altered (saussuritized) alkali feldspar, orthoclase and anorthoclase; a few laths indicate they could be albite.

2) mesostasis:

- devitrified glass with tiny alkali feldspar and augite minerals; also many (20 to 30%) quartz rich spherules, 0.02 to 0.04 mm in diameter, a few up to 0.1 mm.

- opaque minerals, 5% of section, 0.1 to 0.5 mm, rounded to square crystals.

**Alkali basalt.**

**SM-92-12****Hand specimen description:**

- non oriented stubby greenish crystals, 1 to 3 mm, and rectangular whitish laths, 1 to 1.5 mm, set in pinkish-grey aphanitic groundmass.

**Thin section description:**

- Texture: felty groundmass and porphyritic.

- Modal composition:

1) megacrysts:

- prismatic and polygonal augite, many are altered or pseudomorphosed by epidote and calcite; represent 40% of megacrysts,

- laths of alkali feldspar (albite) indicated by complex Carlsbad-Baveno twinning, 25% of megacrysts and orthoclase, 10% of megacrysts; all are altered,

- large areas or blebs of epidote with minor calcite and chlorite, representing 10 to 15% of megacrysts,

- opaque minerals, 0.1 to 0.5 mm, scattered, 2 to 3% of section,

2) groundmass: 30 to 50% of section,

- almost only composed of fresh tiny needles of orthoclase varying in size from 0.02 to 0.04 mm.

**Propylitized alkali basalt.**

**SM-92-13****Hand specimen description:**

- greenish to whitish crypto-crystalline rock, with abundant pyrite in blebs and in veinlets representing 40% of the rock.

**Thin section description:**

- Texture: felty to porphyritic.

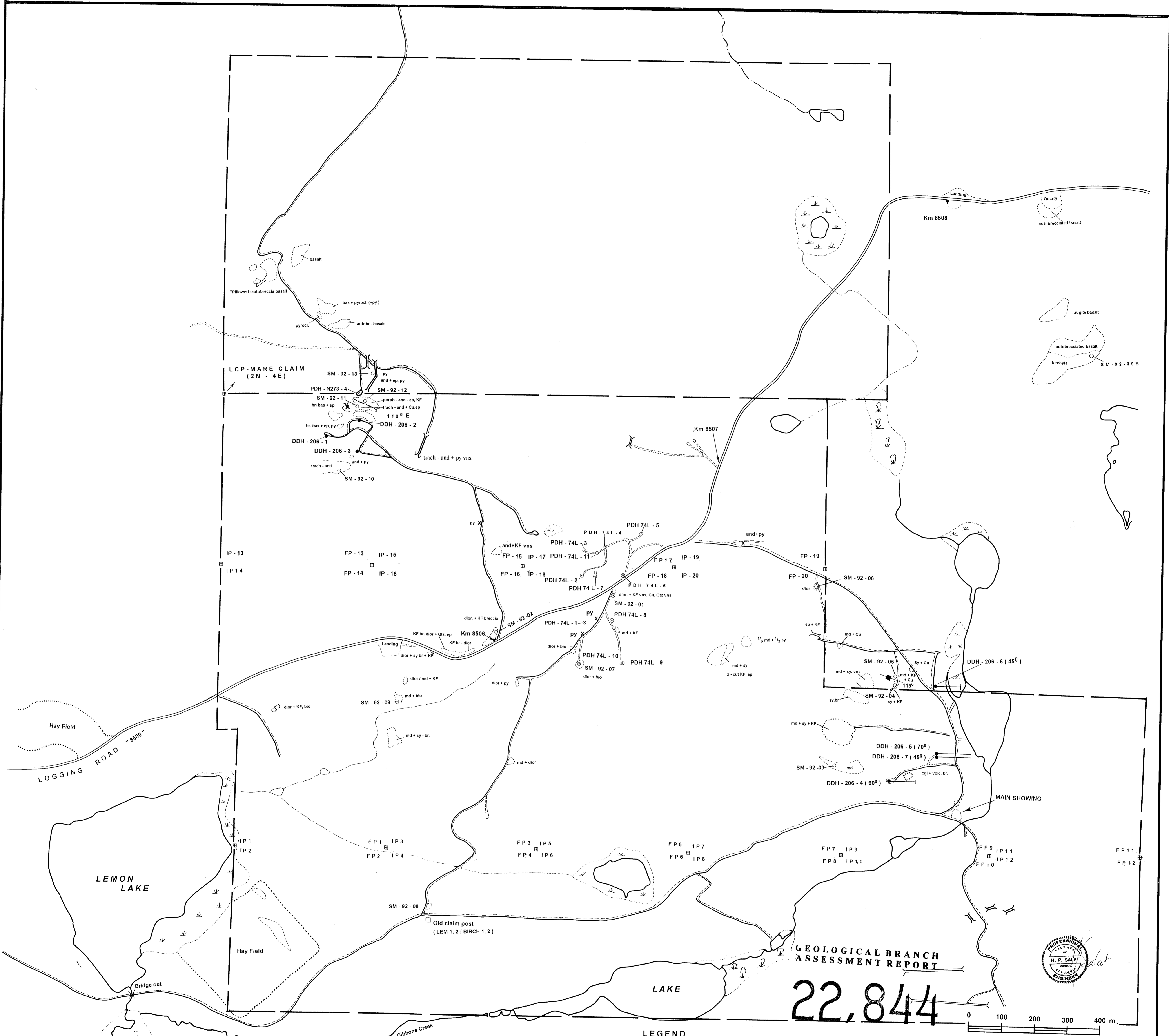
- Modal composition:

- euhedral augite phenocrysts, up to 3 mm in length, but broken up into small grains down to 0.1 mm in size, 25% of section,

- opaque minerals (pyrite), 30% of section, in large minerals also broken up into small pieces,

- groundmass ( 45% of section) is made of 60% albite (very low relief) and 40% of orthoclase in tiny fresh jagged needles, 0.02 to 0.1 mm long, although a fair proportion of about 20% are composed of larger crystals up to 0.2 mm.

**Albitized and pyritized augite-pyritic basalt.**



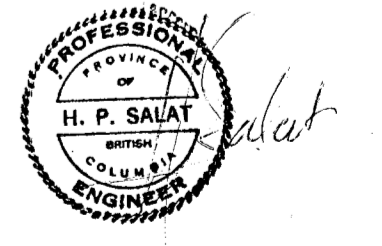
**ABBREVIATIONS**

and = andesite	bio = biotite
bas = basalt	Cu = chalcopyrite
br. = breccia	ep = epidote
cgl. = conglomerate	KF = K - feldspar
dior = diorite	neph = nepheline
md = microdiorite	py = pyrite
porph = porphyry	Qtz = quartz
sy = syenite	vns = veins
trach = trachyte	IP = initial post
volc = volcanic	FP = final post
	LCP = legal corner post

**LEGEND**

DDH - 206 - 4 (60°)	Diamond drill hole and surface projection (inclination angle)
PDH 74L - 8	Percussion drill hole
□	Claim post
—	Claim boundary
Km 8508	Main road and Km sign post
—	Trail
○	Outcrop / sub outcrop area
—	Jointing
X	Float
○	Location of sample for thin section
—	Trench

**GEOLOGICAL BRANCH ASSESSMENT REPORT**  
**22,844**



**JORANEX RESOURCES INC.**  
**LEMON LAKE PROPERTY**  
**GEOLOGICAL MAP**  
 Scale 1 : 5,000  
 Date: March 10, 1993  
 Drawn By: C. Kemper  
 Fig. No: 2

To accompany Report on Geological Mapping of the Lemon Lake Property, by: H.P.Salat