

**STRUCTURAL AND LITHOLOGICAL FEATURES OBSERVED  
FROM AN AIR PHOTO MOSAIC**

**LITTLE SQUAW GOLD MINING COMPANY  
PROJECT**

**CHANDALAR, ALASKA, USA**

**Latitude 148<sup>0</sup> 09' 54" N  
Longitude 67<sup>0</sup> 34' 51" W**

**Map sheet  
Chandalar (C3) Alaska**

**Prepared for:**

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## Summary

The Chandalar Mining district is about 190 air miles north of Fairbanks, in rugged mountains on the south flank of the Brooks Range. Historical access has been by winter roads from the Dalton Highway. There are three landing strips near the Company holdings. In order to access lands owned and managed by the State of Alaska, plans are underway by the Alaska Department of Natural Resources to permit trail improvements for a 55-mile-long, all-season pioneer road from the Dalton Highway to Chandalar Lake, just west of LSGMC holdings. The village of Beaver occurs along the Dalton highway.

The purpose of the study is to identify geological structures. Structures that may be associated with gold occurrences in a belt of mostly mixed Proterozoic sediments and minor greenstones.

Numerous geological features, mostly linear and curvilinear, are identified. Most are considered likely to represent structures in bedrock.

The principle recommendation is to review the location of known gold occurrences in relation to the linears and other features identified from this study. Linear Features, associated with gold occurrences, can be used as a guide for further exploration. A study of the glacial eskers and drumlins can aid in geochemical sampling. Large curvilinears or circular features are useful for targeting regional uplifts. These uplifts can be important in the search for gold. Major linears especially where they may form a regional rift is an excellent exploration tool in the search for gold.

Features that are promising for gold occurrences include:

1. Intersection points of major linears.
2. Linear offsets.
3. Areas where linears are abundant and of sufficient length to suggest a regional break.
4. Areas where there are abundant linears of all types suggesting block faulting.
5. Using the criteria considered prospective for gold, 59 point locations were selected for field investigation.

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APPENDIX A: Major Linear Intersections or Targets

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### **SUPPLIED SEPARATELY, NOT BOUND WITH THIS REPORT**

#### Photographic Enlargements

- Image: Air Photo Mosaic Study Area at a scale of 1:25,000 (28" x 30".)

#### Line Drawings at a scale of 1:25,000

- Compilation of Linear Features and Exploration Targets  
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## **INTRODUCTION AND TERMS OF REFERENCE**

Little Squaw Gold Mining Company commissioned the following report, to summarize the Air Photo Mosaic image interpretation of the Chandalar Gold Project near Chandalar, in Alaska. James A. Turner was retained to compile a report, for Little Squaw. Recommended work programs are included in another part of the report.

## **DISCLAIMER**

The attached report has been prepared by using public documents obtained by the author and private documents given to the author for this purpose. While reasonable care has been taken in preparing this report, James A. Turner cannot guarantee the accuracy or completeness of all supporting documentation. In particular, James A. Turner did not attempt to determine the accuracy of geological and geophysical data reported by third parties, nor did James A. Turner carry out duplicate sampling for comparison with the geochemical results provided by other parties. James A. Turner has not visited the property. The air photo mosaic was not checked for accuracy in the field and any linear determined from the mosaic may not be accurately located. Consequently, the use of this report shall be at the user's sole risk and James A. Turner hereby disclaims any and all liabilities arising out of the use or distribution of this report. The interpretive views expressed herein are those of the author(s) and may or may not reflect the views of Little Squaw Gold Mining Company

## **PROPERTY DESCRIPTION AND LOCATION**

The Chandalar Property is located 305 km north of Fairbanks and 77 km east-northeast of Coldfoot in northeast Alaska. The property and study area is located in an area covered by four 1-mile (1:63,360) quadrangles:

Chandalar (C-3) 1990 67148-E1-TF-063  
Chandalar (C-2) 1990 67147-E5-TF-063  
Chandalar (B-2) 1990 67147-C5-TF-063  
Chandalar (B-3) 1990 67148-C1-TF-063

The Projection of the map sheets are in the UTM or Universal Transverse Mercator projection, Zone 6 and NAD27 Datum. Figure 1 is location map of the area and Figure 2 is a claim map of the Chandalar property. The property is centered at 148°09'54" W longitude and 67°54'31" N latitude. The study area is bounded by the UTM coordinates:

437900 E 7500700 N  
460300 E 7500700 N  
460300 E 7480200 N  
437900 E 7480200 N

The claims are located at an elevation of 651 meters at Little Squaw Lake to 1,650 meters at the highest point.

The following is from the Pacific Rim Report of 2004:

“ Mineral rights are held by the Little Squaw Gold Mining Co. (LSGMC) as fee simple federal mining patents and Alaska State mining claims. Unpatented federal mining claims that pre-dated Statehood were converted to Alaska State mining claims by previous LSGMC management in 1987. LSGMC presently holds patent title to 426.5 acres on 21 lode and one mill site claims (figure 3). Additionally, there are 1,020 acres within 26 older state claims pre-dating the 2003 management change; in 2003, 55 Alaska state 160-acre mining claims were located-under provisions of the new Alaska MTRSC staking regulations. These claims encompass the favorable areas surrounding the previous mining property some overlap occurs between the new MTRSC claims and the older claims, which have been adjusted to a total claim holding of 8,553 acres (R.R. Walters, written communication, 2003, 2004; figure 3, this study).

The patented claims include most of the known lode deposits at Chandalar and are configured as four separate tracts aligned with the vein systems. Patents are on file with U.S. Bureau of Land Management in Fairbanks. State claims are recorded at the Fairbanks Recording District, and claims are further platted and documented at the Alaska Division of Mining, Land, and Water (ADMLW), in the Alaska Department of Natural Resources (ADNR), Fairbanks, Alaska. Because the Chandalar district does not lie within an organized borough, there are no annual property taxes.

Mineral production on state lands is subject to a maximum 3.0 percent net profits royalty with applicable Exploration Incentive Credits of up to \$20 million. Alaska requires a mining license tax for all mineral production net income of the taxpayer regardless of underlying land ownership. For a mining operation, it is computed \$4,000 plus 7.0 percent of the excess over \$100,000 of net income (Alaska Department of Natural Resources, 2002). Furthermore, there is a 3.5-year tax exemption after initial production begins. Depletion as an allowable deduction of 15 percent of annual gross income, excluding from the gross income an amount equal to rents and royalties. The state corporate income tax rate is 9.4 percent if net profit is more than a set threshold amount.

Annual rental of Alaska State mining claims are based on the number of years of continuous activity since a mining claim was first located. The annual rental amounts are as follows: 1) for 0-5 years, \$0.50/acre; 2) for 6-10 years, \$1.00/acre; and 3) for 11 or more years, \$2.50/acre (Alaska Department of Natural Resources, 2002).

LSGMC holds clear title to the federal patents with an overriding 2 percent production royalty due to the previous company management. The 2 percent royalty also applies to the un-patented state claims that were held by the previous management, but does not apply to more recently state MTRSC claims, nor does it apply to seven state claims purchased separately by the present management of LSGMC (agreement signed April 14, 2003). The present company has the option to purchase all of the attached 2 percent production royalty for \$250,000 before June 23, 2013. Appendix IV (I-IV) depicts status of the various claim groups the company holds in the Chandalar Mining district.”

## PHYSIOGRAPHY

Access to the study area is either by aircraft from Fairbanks, or winter road from Coldfoot.

Vegetation is limited to the lower elevations where spruce is found in the larger river valleys. Higher elevations are barren of vegetation except moss, lichen, and some grasses. Spruce has been used for construction and historic mine workings. Forest resources are under the jurisdiction of the Alaska Division of Forestry, Fairbanks

Spruce forests occur at lower elevations and along large river valleys. Moss, lichen and grasses are found at higher elevations. Spruce was used to construct Historic mine workings.

Breakup generally occurs toward the end of May and there is about a 60-day growing season where summer temperatures range from 60-80° Fahrenheit (F), freeze-up returns by early to mid-October. Winter temperatures, drop to -50° F. Annual precipitation is 15-20 inches of rain and snow.

### ***Water Rights*** (after Pacific Rim 2004)

“LSGMC holds a right from the State of Alaska, filed under ADL 403439, to withdraw water for mining use for continuing protection of water rights, LSGMC should continue to file a *Request for Permit Extension* with ADNR.

An additional right to water has been granted in the past to lessees of LSGMC as part of the Alaska Placer Mining Authorization (APMA) permit required for placer mining as issued by ADNR. These rights are only valid for the period of the permit.”

### ***Infrastructure***

“Since the early 1990s, the Chandalar properties have received little physical attention, and no facilities maintenance has been conducted beyond the mining lease activities on Tobin and Big Creeks. Consequently, only the 3,600 foot long Little Squaw Creek airstrip is still usable. Airstrips on Tobin Creek and on Big Creek need to be repaired and cleared of vegetation. Similarly, about 20 miles of mine road will require blading to clear slide rock and repair local wash outs. Serious slides are reported on upper Little Squaw Creek road. These roads connect all the principal workings and prospects.”

“There are various structures on the property; all are in a state of disrepair. On Tobin Creek, there is a 100 ton-per-day (tpd) mill contained within a 34 foot by 160 foot steel building and a 35 foot by 38 foot shop. The mill includes gravity, floatation, amalgamation, and cyanide circuits, but it never operated efficiently on the Mikado ore when last used in the mid-1980s. An inventory of mine equipment and supplies is tabulated and updated by Strandberg (1990, 1994).

It is unlikely that most of the equipment onsite is worth putting into operation, but may better serve as a valuable source of parts.

There is no electrical power grid in northern Alaska. Previous mining by lessees to LSGMC have relied on diesel powered generators- and at least two 250 kw generators and fuel tanks are located at Tobin Creek.

Should development of the district go forward, previous operators have recommended that permanent camp and mill facilities be situated in the Spring Creek mill site area on lower Little Squaw Creek. Because the site is connected to the historic mine road system, with available water and a better climate compared to the south side of the hills, this site is preferred by those who have worked in the area. A natural spring, located on the patented mill site, is reported to flow 140 gpm year round at a temperature of 40° F. Just north of this location a site suitable for an improved 5,280-foot long airstrip has been identified running southeast from Squaw Lake near the present 3,000 foot-long airstrip (Strandberg, 1994).”

## **GLACIATION**

Glaciation occurred from the north. According to Pacific Rim “the steep hill slopes are shingled in slabby scree rock, the product of periglacial mass wasting and solifluction.”(i.e. mass wasting can be seen on the Air Photo Mosaic at coordinates 448522 E, 7497182 N.) This scree rock has an effect on an air photo interpretation, the light from the camera is highly reflected by the flat sides of the scree or talus and this may cause the examiner to produce false results. Bedrock is mostly limited to ridge crests and creek bottoms. Permafrost is continuous and extends to depths of several hundred feet.

## **HISTORY**

For an excellent description of the history of exploration and development, please see the Pacific Rim report; pages 10-14.

## **REGIONAL GEOLOGY**

The following passage is taken from Pacific Rims report 2004.

“The Kotuku-Chandalar region is underlain by regionally metamorphosed rocks that were originally referred to as the “southern Brooks Range Schist Belt” by Brosge and Reiser, (1964); Fritts (1970), Fritts and others (1971), Wiltse (1975), and Hitzman and others, (1982). This east-west-trending belt of poly-metamorphic rocks extend across the southern Brooks Range from the Kobuk River basin to the upper Sheenjek River drainage about 50 miles west of the Alaska-Yukon border.”

“ The regionally metamorphosed rocks are now considered to be part of the Arctic Alaska terrane (Moore and others, 1994), a large Late Proterozoic-to-Cretaceous, composite tecto-stratigraphic terrane that underlies the bulk of the

Brooks Range in northern Alaska (figure 4). According to Dillon (1989), the Arctic Alaska terrane is composed of five (5) sub-terrane in the southern Brooks Range. From south to north, they are Coldfoot, Hammond, Endicott, Delong Mountains, and North Slope sub-terrane, each separated from each other by east-west-trending regional thrust faults or 'thrust panels'. Four of these thrust panels occur in the study area and are described below.

The Coldfoot terrane consists mainly of Proterozoic to Lower Paleozoic, met sediment schist that has been intruded and overlain by bimodal metavolcanics, and granitic rocks of Devonian age. The Coldfoot sub-terrane contains the Ambler sequence, which host's world-class volcanogenic massive sulfide (VMS) deposits west of the Dalton Highway corridor (Hitzman and others, 1982). The metamorphic rocks that have been assigned to the Coldfoot sub-terrane in the Chandalar Mining district consist of schist, phyllite, and slate, and minor amounts of meta-gabbro and meta-diabase. Based on sparse fossil control found west of Wiseman, Brosge and Reiser (1964) assigned a Devonian age for metamorphosed sedimentary rocks in the Chandalar quadrangle, but there is no firm evidence for that age assignment in the Chandalar area. Rocks underlying the area described in this summary could range from Late Proterozoic to Devonian. As currently mapped, all of the gold-quartz deposits in the Chandalar District are hosted in the Coldfoot sub-terrane, as are gold-quartz vein deposits in the Nolan-Wiseman and Wild Lake areas.

The Hammond sub-terrane, which occurs immediately north of the Coldfoot sub-terrane, consists of Cambrian calc-schist and marble, Ordovician pelitic and graphitic schist that have been overlain by Devonian siliciclastic and volcanoclastic rocks and Upper Devonian marble. These layered rocks have in turn been intruded by felsic bimodal plutons of both Mesozoic and Devonian ages."

"The Endicott and North Slope sub-terrane, which occur north of the Hammond sub-terrane, include the Devonian Hunt Fork shale and Devonian-Triassic low-grade metamorphic metasedimentary rocks.

In summary, although stratigraphic and mineralogical comparisons between the Chandalar area with sections in the Dalton Highway corridor are lacking, the Coldfoot sub-terrane probably underlies most of the Chandalar Mining district."

## **DEPOSIT TYPES**

Gold occurs in veins and lenses of quartz. Most veins occur in or near northwest trending shear zones. Mineralization has found to occur at elevations between 3,100 and 5,000 feet. There has

been no sub-surface exploration below the 3,100-foot outcrop elevation along the valley floor. Quartz veins are hosted in Devonian phyllite, quartzite, and schist with no apparent association with intrusive rocks.

A full description of the deposit types is beyond the scope of this report.

## **PURPOSE OF INVESTIGATION**

This report describes the features observed from a study of an Air Photo mosaic image over the Chandalar Project Area. Little Squaw Gold Mining Company of Spokane, Washington, commissioned the study USA.

This study consists of four parts:

- Part 1: Focuses on Air Photo imagery, the task was to make detail maps of the area. All the data was corrected using a second order geometric correction. The data consisted of six air photos and a photo mosaic, unfortunately the mosaic did not match any map. The data was re-geocoded using the maps listed above and using 90 meter DEM or digital elevation model. A new ortho-photo mosaic was completed. The resulting mosaic is correct with a RMS or root mean square error of 15-20 meters. Various filters and enhancements were applied to create a useable image with a resolution of 15 metres. The final image is used to generate maps of the area.
- Part 2: Focuses on outlining the linears observed on the air photo mosaic, the task was to trace linears on clear Mylar overlays and then digitize them onto AutoCad drawings.
- Part 3: Focuses on identification of linear features, the task is to identify linear features that may be indicative of faults and fractures in bedrock. Gold deposits are associated with structures of various types, including major rifting and uplifting,

## **CHARACTERISTICS AND USES OF AIR PHOTO DATA**

### **Terms Used to Describe Linear Features**

Geomorphic features and tonal contrast cause linear features that occur on the air

photo imagery. Typically linears on an image indicate: topographic features (rivers, streams, glacial deposits, etc.) and/or bedrock features (changes in rock or soil type, structural breaks, etc.). Linear features can be enhanced or suppressed using a variety of filters. Definitions used in this section are summarised below.

A **linear feature** expresses line-like characteristics of surface features or roughness without structural implications.

A **curvilinear feature** expresses full or partial circular features on an image without inferring structure.

A **lineament** is a mappable feature or series of linear features that align in a straight or slightly curving manner and are distinctive from the patterns of adjacent features. Generally a lineament expresses a subsurface, structural phenomenon.

A **linear intersection** is a point where two or more linears or lineaments intersect.

North-South and East-West linears are referred to as such and labelled “N-S” and “E-W” respectively. The convention adopted for naming linears that are not trending along the cardinal points of the compass is to refer to their north-hemisphere orientation. For example, a linear trending Northeast-Southwest is labelled “NE” and referred to as “Northeast” (i.e. not “Southwest”).

## INTERPRETATION OF ORTHOPHOTO MOSAICS

### Methods Applied

For this study, all linear and curvilinear features were outlined on Mylar overlay of the 1:25,000 air photo mosaic. Linears were digitized using AutoCAD 2000. Six (Figures 3-9) of these drawings are produced at page size within the report and two are produced separately at a scale of 1:25,000. While many features can be identified from the images, caution must be exercised in interpreting air photo data without follow-up field investigation or "ground truthing". Only ground investigation can determine whether features are structural, geological, topographic or cultural.

### Description of Linear Features

Linear and curvilinear features have been grouped by orientation and described in general terms below. The more significant individual linear and curvilinear features are labelled on Figures 3 to 7. Figure 8 is a compilation of all linear features. Figure 9 is an interpretation, with target selection of all linears.

- Northeast linear features (Figure 3) Count 138
  - NE linears are the most abundant in the map area. Most linears are less than 3 km in length but several continuous linears can be traced for up to 10 km. i.e. NE-3 & 3. Most of these linears occur in the southeast portion of the study area, just off the boundary of the claims. There are two orientations for these linears near 3 & 4, which may indicate drag folds or offsets of linears. The ranges of NE linears are  $035^{\circ}$  to  $050^{\circ}$  azimuth and  $055^{\circ}$  to  $060^{\circ}$ .
  
- Northwest linear features (Figure 3) Count 115
  - NW linears are abundant on the image area. Most linears are short in the 4-4 km range. Linears, NW-1-4, in the central portion of the study area outline the major thrusts, of Chips 1970. Linear intersections occur with NE-2 and NW-2 and NE-3 and NW-4. Most linears occur at  $290^{\circ}$  azimuth but they range from about  $280^{\circ}$  to  $300^{\circ}$  azimuth.
  
- North-Northeast linear features (Figure 4) Count=77
  - NNE linears are not abundant on the image area. One linear, NNE-4, can be traced discontinuously for up to 8 km. This linear occurs in the southeastern part of the map area. This linear intersects several linears of all types near UTM 453100 E and 7490000 N. of the map area. North-Northeast linears trends are over several azimuths from  $005^{\circ}$  –  $035^{\circ}$ , but most are in the  $020^{\circ}$  -  $030^{\circ}$  range.
  
- North-Northwest linear features (Figure 4) Count 54
  - NNW linears are not abundant on the study. Linear NNW-2 can be traced discontinuously over 15 km Intersections of NNE and NNW linears are not frequent, however, intersections with northwest are. These linears range from  $330^{\circ}$  to  $350^{\circ}$  azimuth.
  
- North-South and East-West linear features (Figure 5) Count 34 and 27
  - These linears are also not abundant in the map area. Linear NS-3 is composed of several 1-3 km linears they occur on the east center area of the claims; here they intersect the Little Squaw thrust (Fig-8). Linear EW-2 is ~3km long and occurs near the southeast boundary of the claims. Target # 44 is at the intersection of this linear and the Mikado thrust. North—South linears trend from  $355^{\circ}$  to  $005^{\circ}$  azimuth and EW linears trend  $265^{\circ}$  to  $275^{\circ}$  azimuth.
  
- West Northwest and East Northeast linear features (Figure 6) Count 26 and 37
  - These linears are not abundant in the map area. These linears are at a slightly higher density in the center part of the claims, but overall they seem to be random and not very dense over the study area. These linears trend from  $275^{\circ}$  to  $290^{\circ}$  f azimuth or West Northwest linears

and 070<sup>0</sup> and 085<sup>0</sup> azimuth for East Northeast linears.

- Curvilinear features (Figure 4)
  - o Curvilinear features are not abundant on the image area, and most are less than 1 km in diameter. There are a few in the 3-4 km range. Some of these features are just curved linears but some are circular.

The greatest value of the features described in this report is to be derived from observing linears most closely related to gold occurrences or to geochemical anomalies. Features so identified can then be used to guide further exploration.

The following structural features are considered positive for gold exploration:

- rift valleys or evidence of hoarst and graben structures in the basement i.e. Archean
- linear intersections particularly those associated with the above
- areas of dense linears of all types
- small circular features especially those near linear intersections

The areas listed below have been selected with the understanding that interpretation of structure from air photos images is only one of the numerous methods used in any exploration program. The localities and areas listed below should be reviewed in the light of other data, particularly data derived from on-site examination.

## **FEATURES SELECTED FOR EXAMINATION**

Intersections of major lineaments are listed in Appendix A. In the expectation that gold are likely to be structurally controlled, the point locations defined by these intersections deserve at least preliminary examination.

## **DATA VERIFICATION**

No data verification or ground truthing has been done by the author of this report.

## **ADJACENT PROPERTIES**

There are no applicable comments under this heading.

## **OTHER RELEVANT DATA AND INFORMATION**

There are no applicable comments under this heading.

## **CONCLUSIONS**

Study of the Orthophoto mosaic image over the Chandalar Study Area has led to the following conclusions:

- a. Numerous linear features, some over 5 km in length, have been identified.

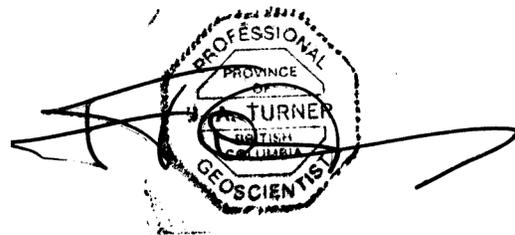
- b. The linears, when grouped into categories according to their orientation, show areas of concentration and periodicity, which probably represent greater deformation than elsewhere.
- c. Hoarst and graben like features with block-like faulting occurs on the on the map area and May represent a basement signature, NW and EW features may outline some of these structures.
- d. Northeast and Northwest linears are the most abundant in the map area. They also follow several different directions as seen on Figure 3 and as depicted on the rose diagrams on Figure 10.

## RECOMMENDATIONS

The following steps are recommended:

- a. Matching of known gold occurrences and anomalies with linear features and investigation of selected linears and linear intersections as possible controls to gold deposition.
- b. Obtaining detailed imagery such as QuickBird (60cm resolution) or Ikonos (1 m resolution) satellite imagery. This is to help define linears found from the above study and to provide a more accurate map. With Ikonos data plotting of a two meter contour is possible.
- c. On-site investigation of linear intersections listed in Appendix A.

J.A. Turner, P.Geo.



August 25, 2004.

## REFERENCES

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## **DATE**

The effective date of this report is August 25, 2004.

## **Appendix A MAJOR LINEAR INTERSECTIONS**

<u>Target #</u>	<u>Eastings</u>	<u>Northings</u>
1	438887	7499716
2	440302	7499492
3	443450	7499883
4	440917	7497947
5	439967	7496942
6	439688	7496440

7	443245	7496495
8	445498	7496551
9	445070	7496253
10	444474	7495379
11	443934	7495099
12	443207	7493443
13	441774	7492493
14	442835	7490669
15	441085	7490259
16	439539	7490110
17	446299	7495546
18	447211	7494950
19	448124	7494355
20	449930	7494373
21	449316	7494131
22	449520	7493629
23	446951	7493536
24	447398	7493275
25	451178	7493629
26	451103	7493294
27	450787	7493070
28	450750	7492549
29	449800	7492680
30	449576	7492344
31	449372	7491897
32	447342	7492065
33	448385	7491804
34	446466	7491544
35	448310	7490613
36	451141	7492195
37	450210	7490241
38	450377	7490539
39	445405	7490073
40	453208	7491935
41	457510	7491786
42	453599	7490818
43	457267	7490092
44	450489	7488920
45	445368	7486518
46	440731	7484005
47	445777	7485792
48	450284	7486443
49	442854	7484042

<u>Target #</u>	<u>Eastings</u>	<u>Northings</u>
50	445628	7483595
51	446578	7483763
52	454977	7482757
53	445442	7491078
54	452566	7490088
55	451853	7489826
56	453428	7489863
57	453223	7489055
58	454366	7487951
59	456841	7484653

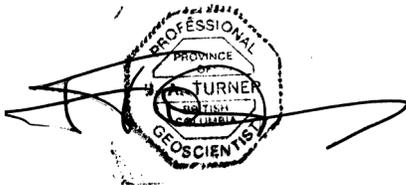


## **CERTIFICATE OF THE WRITER**

I, James A. Turner, P.Ge., am a Professional Geoscientist of South Surrey, British Columbia, hereby certify that:

1. I am a geologist residing at 14149 17 A Avenue, Surrey, British Columbia.
2. I am a graduate of the University of British Columbia with a Bachelor of Science Degree in Physics, Math and Geology in 1973 and 1976 and have practiced my profession since 1976 and continuously since 1980.
3. From, 1998 to June 2001 I was a consultant to Pacific Geomatics Inc., a private remote sensing company specializing in data acquisition, processing and interpretation.
4. From March 1995 to April 1998 I was a principle of TerraSat Geomatics Inc., a private company, specialising in satellite imaging and its' application to mining exploration.
5. From 1990 to March 1995, I subcontracted my services as an image analyst to MineQuest Exploration Associates Inc.
6. I am a registered member of the Professional Engineers and Geoscientists of British Columbia, (Registration #19843).
7. I am a fellow of the Geological Association of Canada.
8. I am the author of this report and my compensation is strictly on a professional fee basis.
9. I am presently a Consulting Geologist and have been so since March 1989. As a result of my experience and qualification I am a qualified person as defined in National Instrument 43-101.
10. Since 1976 I have been involved in mineral exploration (with major mining companies such as Cominco, Noranda and Newmont) for copper, lead, zinc, gold, silver, tungsten, tin and diamonds. I have been involved in remote sensing and Geomatics since 1984. Since 1990 I have been involved in remote sensing and satellite interpretation for diamond deposits in the Lac de Gras area of the NWT. I have also conducted remote sensing work for companies working in Ghana, Guyana, Mali, Alberta, British Columbia, Mexico, Vietnam, China, Ireland, Arizona, Utah, Nevada, Bolivia, Chili, Peru, Nunuvut, Quebec, Central America, Brazil, India and Indonesia.

11. I have read the reports by Bundtzen Thomas K. and Barker James C., 2004: *“Gold Deposits of the Chandalar Mining District, A Discussion and Recommendations”* by Pacific Rim Geological Consulting Inc. and Chipp, E.R. 1970: *Geology and geochemistry of the Chandalar area, Brooks Range, Alaska* and am familiar with the subject matter of these reports.
12. In the disclosure of information relating to the property. I have relied on information provided to me by Little Squaw Gold Mining Company.
13. I am not aware of any material fact or material change with respect to the subject mater of this technical report, which is not reflected in this report, the omission to disclose which would make this report misleading.
14. **I have not been in the project area and have not examined any property therin.**
15. I have no interest, direct or indirect, in the Chandalar Gold Project; the property ownership or in the securities of Little Squaw Gold Mining Company, nor do I expect to receive such interest. I am independent of Little Squaw Gold Mining Company, in accordance with the application of Section 1.5 of National Instrument 43-101.
16. I have read the National Instrument 43-101, Form 43-101 F1 and this report has been prepared in compliance with NI 43-101 and Form 43-101F1. **The exception is: item 14 of this certificate.**
17. I hearby grant Little Squaw Gold Mining Company this report in support of documents submitted to any agency, Securities Commission or for other corporate purposes in accordance with applicable government regulations. Written excerpts may be quoted from this report provided no statements are taken out of context and are approved by the author in writing as required by securities regulations.



Signed and sealed: “J.A. Turner”

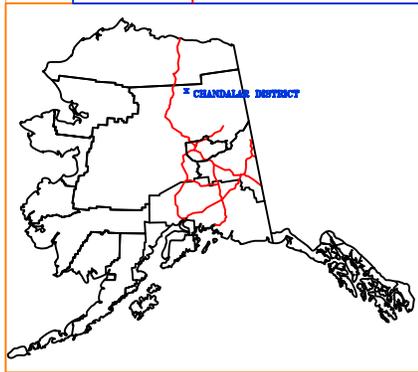
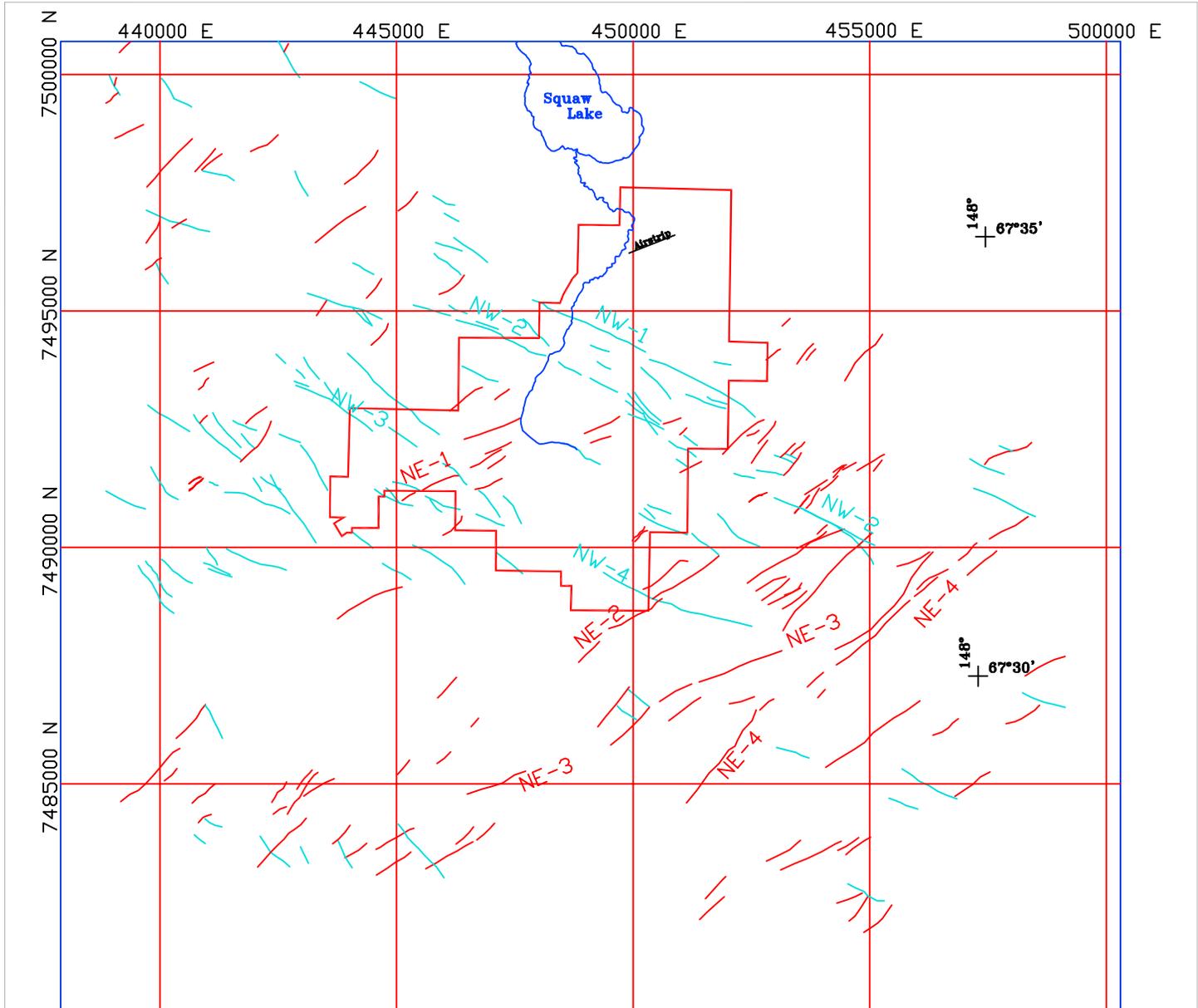
**James A. Turner, P. Geo**

14149 17 A Avenue

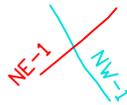
Surrey B.C.

V4A 6R8 Dated at Surrey, B.C. this 25<sup>th</sup> day of August, 2004.

Reg. No. 19843 Association of  
Professional Engineers and Geoscientists of  
British Columbia.



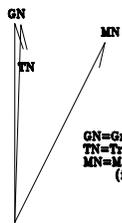
Linears



0 5 km



Source | Acquired Little Squaw Gold Mining Company  
of data | Orthorectified AirPhoto Mosaic @ 2m pixel  
resolution, 2004



GN=Grid North  
TN=True North 1°04' E of GN  
MN=Magnetic North 24°45' E of TN  
(inc. 14'/yr) 2004



LITTLE SQUAW GOLD MINING COMPANY

Chandalar Gold District  
Alaska, USA

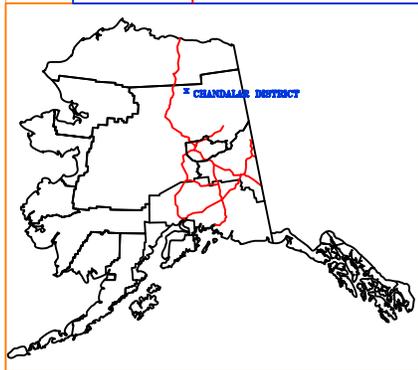
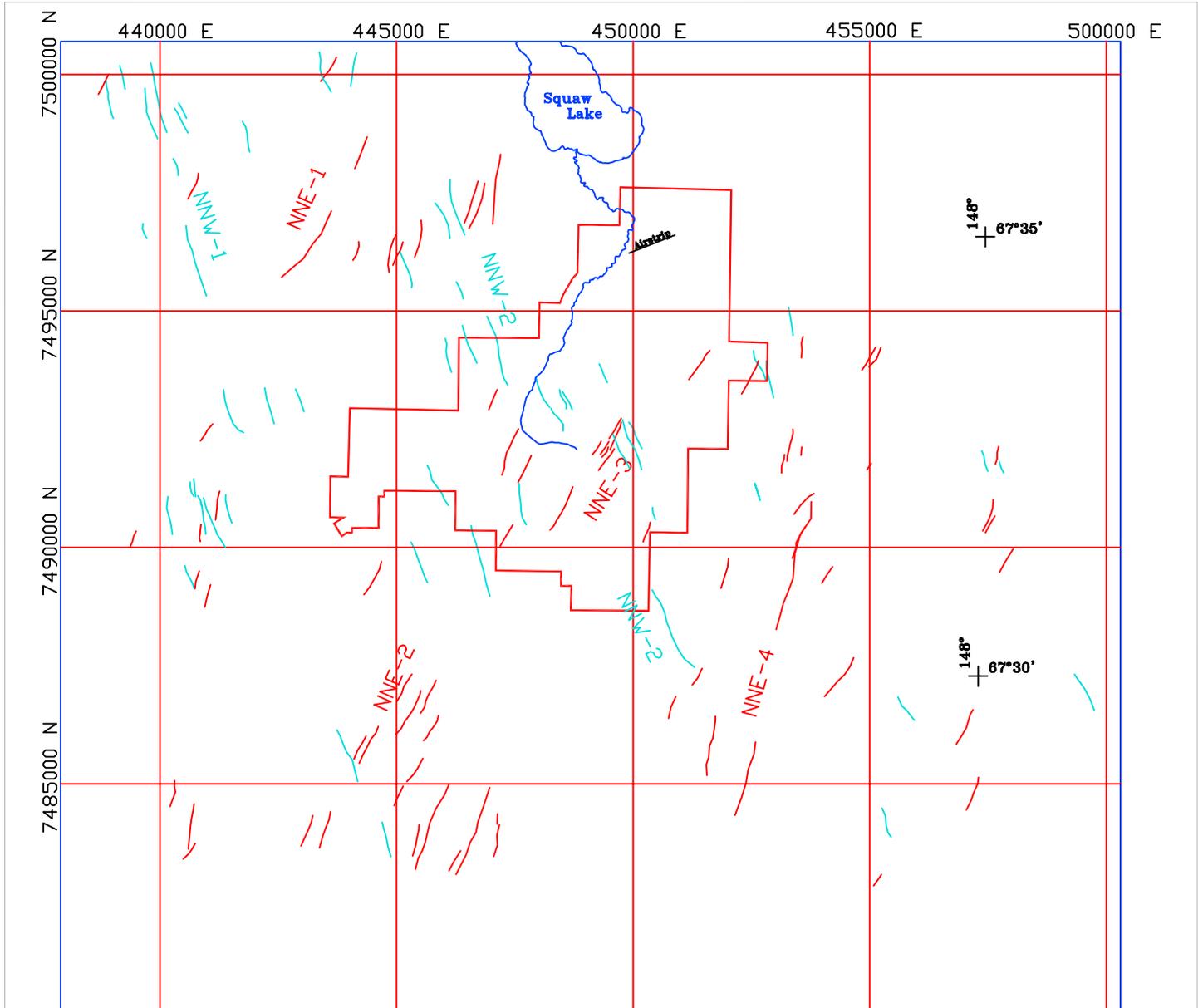
CHANDALAR GOLD PROJECT

Northeast and Northwest  
Linear Features

Universal Transverse Mercator  
Zone 6  
NAD 27 Datum

Figure 3

James A Turner, P.Geo

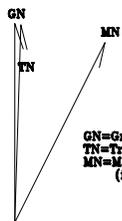


Linears

0 5 km



Source | Acquired Little Squaw Gold Mining Company  
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LITTLE SQUAW GOLD MINING COMPANY

Chandalar Gold District  
Alaska, USA

CHANDALAR GOLD PROJECT

North Northeast and North Northwest  
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Universal Transverse Mercator  
Zone 6  
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Figure 4

James A Turner, P.Geo