

2.18511 05SW2003

010

2.18511

### Phase I Exploration Program, Dogpaw Lake Property

**Assessment Report** 

#### STARCORE RESOURCES LTD.

Kenora Mining Division, Northwestern Ontario

NTS 52 F/5 SW

Latitude 49°21'30" Longitude 94°08'00" Magnetic Declination 2°32'

By:

Jeff Morgan, B.Sc. Avalon Ventures Ltd.

May 14, 1998

### Summary

In December 1996, Starcore Resources Ltd. acquired the option to earn a 100% interest in five contiguous mining claims totalling 77 units, collectively called the Dogpaw Lake Property. The property is located approximately 70 kilometres southeast of the town of Kenora in northwestern Ontario. During the spring and fall of 1997, a Phase I exploration program was carried out to evaluate the potential for shear hosted lode gold mineralization on the property. The spring program included establishing a control grid and performing a ground magnetometer survey on the lake ice, as well as linecutting over a small area of the land portion of the property. The fall program included the establishment of a cut control grid, a ground magnetometer survey, geological mapping, and rock sampling on the land portion of the property.

The Dogpaw Lake Property is situated near the junction of two regional faults, the northeast trending Wabigoon Fault and the northwest trending Pipestone-Cameron Deformation Zone (PCDZ), which passes through the southern portion of the property. Each of these deformation zones is traceable for hundreds of kilometres along strike. Numerous gold occurrences and significant deposits have been discovered along both structures, commonly in association with secondary splay structures that propagate from them. These include Nuinsco's Cameron Lake deposit, Royal Oak's Shoal Lake deposit, and Teck and Corona Gold's Thunder Lake deposit.

At the historic Gauthier Occurrence, located on the northwestern portion of the Dogpaw Lake Property, high grade gold mineralization is reportedly contained within discontinuous quartz veins along discrete, east to east-southeast trending shear zones near the contact between a mafic volcanic unit and a felsic to intermediate volcanic unit. Shallow diamond drilling at the Gauthier Occurrence in 1945 yielded gold values up to 19.84 g/t over 1.83 metres and 24.10 g/t over 1.52 metres, while grab samples taken in 1985 reportedly assayed up to 111.98 g Au/t. Rock sampling at the occurrence during Starcore's Phase I program produced considerably lower gold assays, up to 1.46 g/t.

Geological mapping completed during the Phase I program has shown the Dogpaw Lake Property to be predominantly underlain by intermediate to mafic metavolcanic rocks, intercalated with minor amounts of felsic metavolcanic and tuffaceous metasedimentary units. Early phase, strongly foliated, quartz-feldspar phyric felsic dykes occur locally. A large, 600 x 1000 metre, moderately to weakly magnetic gabbroic unit occurs in the central to north-central portion of the property, coincident with an anomalous magnetic high identified from the ground magnetometer survey. Moderate to strong chloritic alteration is widespread in the volcanic rocks, along with locally variable carbonate, epidote, sericite, and silica alteration. Five separate zones of intense ankerite and silica alteration were identified, one of which is exposed over a width of 15 metres. Due to thick overburden, however, these zones were only traced for short distances along strike.

Six northwest to west northwest trending shear zones, including the regional PCDZ, pass through the Dogpaw Lake Property. They occur as anastomosing zones of highly fissile, carbonate-chloritesericite schists. Some of these shears may be secondary splays off the PCDZ, and all represent targets for shear hosted gold mineralization.

In relation to the regional and local geology, the Dogpaw Lake Property is favourably situated for the discovery of shear hosted lode gold deposits, and several targets which merit further investigation have been delineated. Recommendations for further work include induced polarization surveys over MINI L' Int Mappi MINI L' INT MAPPI IGEOSCIENCE ASSESSMENT select areas of the property, a soil geochemistry survey, further geological mapping, prospecting, and a 500 metre diamond drilling program.

14 May 1998



DOGPAW LAKE

52F05SW2003 2.18511

010C

#### **Table of Contents**

	Summary	
1.0	Introduction	1
2.0	Location and Access	1
3.0	Disposition	2
4.0	Regional Geology	2
5.0	Previous Exploration	3
6.0	Current Program	5
7.1	Ground Magnetometer Survey	5
7.2	Property Geology	6
8.0	Discussion	9
9.0	Conclusions and Recommendations	10
	Current Budget	11
	Bibliography	12
	Statement of Expenditures	13
	Statement of Qualifications	14

#### List of Tables:

Table 1:	Dogpaw Lake Property Claims Disposition	Page 2
----------	---	--------

#### List of Figures:

Figure 1:	Dogpaw Lake Property Location Map	Following page 1
Figure 2:	Dogpaw Lake Property Claims Map	Following page 1
Figure 3:	Regional Geology Map	Following page 2

#### List of Maps:

Map 1:	Property Geology and Sample Locations (1:5,000)	In back pocket
Map 2a:	Total Field Magnetics Postings Map (1:5,000)	In back pocket
Map 2b:	Contoured Total Field Magnetics Map (1:5,000)	In back pocket

#### List of Appendices:

Appendix 1: Certificates of Analysis



#### 1.0 Introduction

In December 1996, Starcore Resources Ltd. acquired the option to earn a 100% interest in five mining claims comprising 77 units in the western portion of the Wabigoon Subprovince. Collectively referred to as the Dogpaw Lake Property, these claims are situated approximately 70 kilometres southeast of the town of Kenora in northwestern Ontario. The primary exploration target is shear hosted lode gold deposits.

The Dogpaw Lake Property occurs near the junction of two regional faults, the Pipestone-Cameron Deformation Zone (PCDZ) and the Wabigoon Fault, each of which is known to be associated with significant gold deposits elsewhere in the region. These include Teck and Corona Gold's Thunder Lake deposit, Nuinsco's Cameron Lake deposit, and Royal Oak's Shoal Lake deposit. On Avalon's Dubenski Property, which is located less than two kilometres south of the Dogpaw Lake Property, an estimated deposit of 253,000 t grading 6.80 g Au/t occurs along a secondary splay structure off the PCDZ.

On behalf of Starcore Resources Ltd., Avalon Ventures Ltd. ("Avalon") of Thunder Bay, Ontario, initiated a Phase I exploration program on the Dogpaw Lake Property in the spring of 1997. This included a ground magnetometer survey on the lake ice covering the western potion of the property, as well as limited linecutting in the south and the northwest. During the fall of 1997, a grid consisting of 200-metre spaced, north-south striking cut lines was established over the majority of the land portion of the property. A ground magnetometer survey was then completed over this grid. Geological mapping and rock sampling was also carried out on the grid and along the shoreline. The purpose of this report is to document the results of the Phase I exploration program.

#### 2.0 Location and Access

The Dogpaw Lake Property is located in the Kenora Mining Division of northwestern Ontario, approximately 70 kilometres south southeast of the town of Kenora (Figure 1). It is centred on Latitude 49°21'30" and Longitude 94°08'00", NTS reference 52 F5/SW. The five claims comprising the Dogpaw Lake Property (Figure 2) span the north central portion of claim sheet Dogpaw Lake G-2613 and the south-central portion of claim sheet Lobstick Bay G-2627.

Access to the property can be gained by travelling east from Highway 71 along the Cameron Lake Road, located approximately 10 kilometres south of the town of Sioux Narrows. After travelling about 15 km along the Cameron Lake Road, a 3 to 4 km boat ride to Caviar Lake via Flint Lake provides excellent access to the eastern portion of the property. Access to the western portion of the property can be gained by boating north to Dogpaw Rapids and then south into Dogpaw Lake, or by utilizing a well-maintained 200-metre portage between the southernmost parts of Caviar and Dogpaw Lakes. Alternatively, a boat can be launched from the Whitefish Bay Indian Reserve on the northwest side of Dogpaw Lake.





#### 3.0 Disposition

The Dogpaw Lake Property consists of five mining claims totalling 77 units, covering a total area of 3,080 acres (Figure 2). These claims span the north central portion of claim sheet Dogpaw Lake G-2613 and the south-central portion of claim sheet Lobstick Bay G-2627. The claims are recorded in the Kenora Mining Recorder's Office in the names of James Bond II and Kenneth Fenwick. Pertinent claim information is provided in Table 1.

Claim	Units	Recorded	Assessment Due	Assessment Required
K 1178864	14	30 Jan 1997	30 Jan 1999	\$5,600
K 1178865	16	30 Jan 1997	30 Jan 1999	\$6,400
K 1215707	16	25 Oct 1996	25 Oct 1998	\$6,400
K 1215785	15	25 Oct 1996	25 Oct 1998	\$6,000
K 1215786	<u>16</u>	25 Oct 1996	25 Oct 1998	<u>\$6,400</u>
	77			\$30,800

Table 1: Do	ogpaw Lake	e Property	<b>Claims</b>	Disposition
-------------	------------	------------	---------------	-------------

Starcore acquired the option to earn a 100% interest in the property from the vendors in December 1996. Starcore can exercise the option by issuing a total of 100,000 shares, making \$60,000 in cash payments, and completing \$250,000 in exploration expenditures in staged amounts by December 2000.

#### 4.0 Regional Geology

The Dogpaw Lake Property is situated in the western portion of the Wabigoon Subprovince of the Superior Province of the Canadian Shield. This subprovince is a granite-greenstone terrain separating the gneissic terrains of the Quetico Subprovince to the south and the English River Subprovince to the north. The volcanic stratigraphy consists of a lower mafic tholeiitic sequence, overlain by a middle mixed mafic to felsic, calc-alkaline and tholeiitic sequence, capped locally by an upper mafic tholeiitic sequence (Blackburn et al. 1985).

As illustrated in Figure 3, the Dogpaw Lake Property occurs near the junction of two regional faults, the Pipestone-Cameron Deformation Zone (PCDZ) and the Wabigoon Fault, each of which is traceable for hundreds of kilometres along strike and is spatially associated with several significant gold occurrences. The PCDZ trends in a northwest direction across the southern portion of the property, while the Wabigoon Fault cuts stratigraphy in a north northeasterly direction less than five kilometres east of the property.

The PCDZ is a major zone of shearing up to hundreds of metres wide, defined by strongly schistose rocks and extensive carbonate, sericite, and chlorite alteration. Notable gold occurrences proximal to this structure include Nuinsco's Cameron Lake deposit, which contains an estimated 3.1 mt grading 5.10 g Au/t, and Royal Oak's Shoal Lake deposit, which



contains 2.0 mt grading 9.92 g Au/t. On Avalon's Dubenski Property, located less than two kilometres to the south of the Dogpaw Lake Property, an estimated deposit of 253,000 t grading 6.80 g Au/t has been identified. On Houston Lake Mining's Canadian Arrow Property, contiguous with the southern boundary of the Dogpaw Lake Property, drilling has intersected zones of gold mineralization grading up to 30.05 g/t over 7.9 metres.

The Wabigoon Fault has been traced for over one hundred kilometres to the northeast near the town of Sioux Lookout in northwestern Ontario. In 1997 joint venture partners Teck and Corona Gold announced an underground exploration program on their Thunder Lake Property, which hosts estimated reserves of 850,000 ounces gold within a second order structure off the Wabigoon fault. The deposit is located roughly 15 kilometres east of the town of Dryden.

### 5.0 **Previous Exploration**

Since gold was first discovered in the Kenora region in the late 1800's, a number of small mines have experienced short-lived periods of gold production. Around the turn of the century, two different mines were developed in the immediate area of Starcore's Dogpaw Lake Property. These are the Gold Panner Mine and the Flint Lake Mine (Davies and Morin, 1976), located on Caviar Lake and Flint Lake, respectively (see Figure 3). At the Gold Panner Mine, which operated from 1899 to 1903, gold occurs in association with quartz veins in a 2.4 metre wide carbonatized shear zone within a quartz porphyry dyke. At the Flint Lake Mine, two vertical shafts and a number of trenches were developed, along with a plant, mill, and assay office. Shortly thereafter, all work was abandoned and no gold was ever produced. The gold mineralization was reportedly contained within sulphide bearing quartz veins in carbonatized basalts.

The Dogpaw Lake Property has experienced sporadic periods of exploration by various parties since the mid 1900's, when gold was first discovered on the property. The following is a brief history of exploration that has been carried out:

- 1944: Albert Gauthier discovered gold in the northwestern portion of the present Dogpaw Lake Property and staked a number of claims in the area.
  1944: Sylvanite Gold Mines Ltd. optioned several of the Gauthier claims and performed limited sampling of a number of altered shear zones and veins; additional ground was then staked to the north of the claims.
- 1945: Sylvanite Gold Mines Ltd. performed limited trenching and diamond drilling on their claims, and gold values up to 0.08 opt were reported.

- 1945: Albert Gauthier staked a number of claims in the northwestern portion of the current Dogpaw property and discovered gold in quartz veins along a silicified and carbonatized shear zone at what is presently known as the Gauthier Occurrence. Work carried out on this showing included a number of shallow pits and three shallow drill holes. Samples collected from pits 46 metres apart produced assay results of 2.00 and 2.40 opt Au. Assay results returned from a 27.7 metre drill hole included 0.20 opt Au over 1.52 metres and 0.18 opt Au over 0.45 metres. The claims were allowed to lapse by 1947.
- 1972: Ten contiguous claims in the vicinity of the Gauthier Occurrence were staked in the northwestern portion of the property, and a cut grid was established with line spacings of 400 feet. Chester J. Kuryliw carried out geological mapping at a scale of one inch = 400 feet, and recommended 300 feet of diamond drilling on the Gauthier Occurrence.
- 1980: Seven trenches were excavated on the peninsula in the vicinity of the Gauthier Occurrence under the direction of A.S. Bayne for S.S. Szetu. Details regarding further work and sampling of these trenches are unknown.
- 1982-83: Twenty-six contiguous claims were staked around the peninsula in the northwestern portion of the current property and optioned to FTM Resources Inc. In 1983, FTM Resources carried out magnetic and electromagnetic surveys on the property, and resampled several of the existing trenches in the vicinity of the Gauthier Occurrence. Geological mapping was also carried out and further work was recommended for the property.
- 1983: Micham Exploration Inc. obtained 40 claims extending from the southeastern portion of the current Dogpaw Lake Property to the Flint Lake Occurrence on the northeast side of Flint Lake. Geological mapping identified a number of targets for potential gold mineralization. Further work consisted of linecutting and soil sampling, and an induced polarization survey was recommended.
- 1984: Channel sampling of four trenches excavated by FTM Resources in the northwestern portion of the current property returned gold values up to 244 ppb over 0.71 metres.
- 1986: First General Mine Management and Gold Corporation in partnership with Nuinsco Resources Ltd. drilled a total of 205 metres in three holes near the Gauthier Occurrence. Several zones of alteration, shearing, and quartz veining were encountered, but gold mineralization was found to be only slightly anomalous, and the highest value reported was 0.062 opt Au over 0.42 metres.

#### 6.0 Current Program

A Phase I exploration program on the Dogpaw Lake Property was initiated in the spring of 1997, and included approximately 10.5 kilometres of linecutting in the southern and northwestern portions of the property. A picketed grid totalling approximately 43.0 line kilometres was also established on the lake ice in the western to southern portion of the property. This grid was constructed to provide control for a ground magnetometer survey that was carried out by Gibson and Associates of Sault Ste. Marie, Ontario.

In October 1997, Vytyl Exploration Services Ltd. of Thunder Bay, Ontario tied onto the existing cut lines in order to complete the control grid on the land portion of the property. 19.5 kilometres were cut along north-south striking, 200-metre spaced lines and two east-west trending tie lines, bringing the total line distance of the control grid to 73 kilometres (30 on land + 43 on lake ice). Vytyl then proceeded to complete the ground magnetometer survey over the land portion of the property, bringing the total line coverage of the complete total field magnetics survey to 60 kilometres.

Geological mapping and rock sampling was carried out from mid-October to early November 1997 on the control grid as well as along the shoreline. Additionally, flagged grid lines were established and mapped in the northwestern portion of the property in the vicinity of the Gauthier Occurrence. Line stations were flagged at 25 metre spacings along lines 5+00E, 7+00E, 9+00E, and 11+00E, for a total distance of approximately 1.4 kilometres. A total of 99 rock samples were collected during the Phase I program and sent to Chemex Labs of Vancouver for gold analysis by fire assay. Access to the property was gained by boat from Dogpaw Lake and Caviar Lake via Flint Lake. Due to the onset of winter weather conditions, the shoreline on claim K1178865 in the northern part of the property was not mapped.

Results of each aspect of the Phase I exploration program for the Dogpaw Lake Property are discussed below.

#### 7.1 Ground Magnetometer Survey

#### **Instrument Specifications**

The total field magnetic survey by Gibson and Associates was carried out using two Scintrex Envi-Mag portable total-field magnetometers. One unit was used as a base station to correct for diurnal variations. The other was used as a portable field unit operated in the stop and go mode configured for mineral exploration. Field readings were taken at 12.5 metre intervals along the picketed grid lines and corrected for diurnal variation.

The land survey that was carried out by Vytyl Exploration Services Ltd. was performed using a GSM-19 portable magnetometer. Readings were taken at 12.5 metre intervals along the cut grid lines and corrected for diurnal variation. The data from the two surveys was levelled and combined, and is presented as postings on Map 2a, and as contours on Map 2b (back pocket).

#### **Results and Interpretation**

The total field magnetic data displays a sharp break, roughly corresponding to the eastern shore of Dogpaw Lake, between an area of low magnetic susceptibility to the west and an area of high magnetic susceptibility to the east. This contrast can be largely attributed to the presence of a large, weakly to moderately magnetic gabbroic intrusion in the north-central portion of the landmass of the property.

As stated above, the large magnetic high in the north-central portion of the property roughly corresponds with a gabbroic intrusion that was identified during the mapping program. The gabbro occurs over an aerial extent of  $600 \times 1000$  metres, and appears to plunge to the southeast. As shown on Map 2b, this unit is cut by numerous, northwest trending magnetic lows, indicative of strong shearing. In outcrop, however, the gabbro is typically fairly massive and unfoliated. This suggests that the unit deformed more brittly than the surrounding volcanic rocks, with the magnetic lows representing discrete zones of shearing.

A northwest trending magnetic low that passes through the southern portion of the property coincides with the location of the regional PCDZ, which manifests itself as an anastomosing zone of very fissile chlorite-carbonate-sericite schists. These highly deformed rocks frequently contain deformed and folded quartz-ankerite veins, similar to veins that are known to carry gold elsewhere in the immediate vicinity of the Dogpaw Lake Property.

#### 7.2 Property Geology

The majority of the Dogpaw Lake Property is underlain by calc-alkaline intermediate to mafic metavolcanic rocks belonging to the middle series of the Rowan Lake Group, which hosts Nuinsco's Cameron Lake deposit. As shown on Map 1, these rocks mainly occur as fine to coarse grained, locally pillowed flows and lesser tuffaceous units. Several deformed, strongly foliated, east-west trending quartz-feldspar phyric felsic dykes, each less than 0.5 metres wide, cut the volcanic stratigraphy on islands in the southwest part of the property.

Moderately to strongly chloritized mafic flows predominate in most areas of the property. These rocks are typically moderately to weakly foliated, but locally contain narrow, discrete zones of intense shearing. Pillow textures are common in the east-central to west-central parts of the property, most conspicuously along the western shore of Caviar Lake. Pillow tops are usually difficult to determine, but appear to be toward the north. Individual pillows exhibit moderate to mild degrees of elongation. Vesicular flow tops and flow breccias occur on the southwestern portion of the peninsula directly south of the Gauthier Occurrence.

Five separate tuffaceous units, mafic to intermediate in composition, were identified in the western portion of the property. The southernmost of these units is characterized by the presence of elongated mafic clasts, up to one metre long, within a buff to beige, intermediate matrix. A northwest trending lapilli tuff to tuff breccia unit occurs along the southern edge of the peninsula that hosts the Gauthier Occurrence. Two types of clasts are present in this unit. Beige to buff, angular to subrounded, quartz-feldspar porphyritic clasts up to 30 centimetres

7

in size (2-4 centimetres average) predominate along the western exposures of this unit, while subrounded, chloritized mafic fragments predominate along its eastern exposure. A similar unit outcrops along the eastern shore of Dogpaw Lake, just north of BL-15+00N. The two other tuffaceous units occur along the east shore of Dogpaw Lake, between 19+50N and 23+00N, and range from 50 to 100 meters in apparent thickness. Sericitic and chloritic alteration is common, and quartz-feldspar dykes occur locally within the tuffaceous units.

A large (600 x 1000 metres), moderately to mildly magnetic gabbroic unit occurs in the central to north-central portion of the property (see Map 1). This intrusive unit occurs as a topographic high and corresponds with a strong magnetic susceptibility anomaly. Its magnetic signature suggests that it plunges to the southeast. This gabbro is typically medium grained, massive, and usually unfoliated. However, as shown on Map 2b, the unit is cut by numerous northwest trending, linear magnetic low anomalies, indicative of strong shearing. This suggests that the gabbro deformed more brittly than the surrounding volcanic rocks, with the magnetic lows representing discrete, more intensely altered shear zones. Some of the oblong magnetic highs just north of the baseline in the central portion of the property may represent mafic sill-like bodies intruded along planes of weakness, but no direct evidence for this was found.

Regional deformation and shearing is evident in the form of penetrative foliations within the volcanic rocks, and rarely in the mafic intrusive units. These foliations generally strike in a northwest to west-northwest direction with steep northerly to sub-vertical dips. Discrete zones of high strain and intense alteration occur over the entire property, and range from metres to tens of metres in width. These discrete structures define larger scale, anastomosing shear zones, such as the PCDZ, along which high grade gold mineralization may occur. These large scale shear zones are manifested in the form of very fissile, strongly schistose rocks characterized by variable chlorite, carbonate, and sericite alteration. Discontinuous, deformed quartz-ankerite veins, typically less than 20 centimetres thick, are common within the shear zones. These veins developed as early tension gashes and were buckled during progressive deformation.

Six large scale shear zones, including the PCDZ, were identified on the Dogpaw Lake Property during the Phase I program (see Map 1). Some may have developed as secondary splays off the regional PCDZ, and all represent favourable targets for shear hosted gold mineralization. These zones are defined by linear magnetic lows identified from the total field magnetic survey (see Map 2b), and are discussed in greater detail below.

Sulphide mineralization on the property consists of disseminated pyrite and lesser chalcopyrite, typically in association with quartz-carbonate veins and altered shear zones. Disseminated pyrite content in narrow zones within the wallrock adjacent to some of these veins is as high as 15%. Minor malachite occurs in east-west trending syenitic dykes, typically less than 0.5 metres wide, within the sheared mafic volcanic rocks on one of the islands in the southwestern portion of the property.

14 May 1998

Starcore Resources Ltd.

#### Shear Zones:

The regional PCDZ trends in a northwest direction through the southern portion of the property, and manifests itself as a 500 to 600 metre wide zone of strongly schistose rocks characterized by intense sericite, chlorite, and lesser carbonate alteration. Deformed quartz-ankerite veins are common along this shear zone, and have usually been rotated into a subparallel orientation with the foliation. Magnetic susceptibility is low along the PCDZ. A narrow zone of intense shearing identified on the northern side of an island at 3+00E, 11+50N likely represents a secondary splay off the main PCDZ.

The Gauthier Occurrence, located on the peninsula in the northwestern portion of the property, occurs along a northwest trending shear zone (Gauthier Shear Zone, Map 1) interpreted from the magnetic data to extend in a southeast direction across the entire property. Gold mineralization appears to be concentrated within discrete shears and deformed quartz-ankerite veins within a 30 metre wide zone of silicification along the southern boundary of the Gauthier Shear Zone. This zone of silicification was traced for 250 metres along strike. The host lithologies consist of mafic volcanic rocks and lesser quartzfeldspar crystal tuffs. Historic grab samples taken at the Gauthier Occurrence reportedly grade up to 111.98 g Au/t. Grab samples taken during the current program yielded much lower values, up to 1.46 g Au/t, but verify the presence of anomalous gold mineralization. Along the northern edge of the Gauthier Shear Zone at 22+00E, 27+00N a zone of intense silica, ankerite, and albite alteration was identified. This zone is at least 15 metres wide and exhibits a very similar alteration style to that at the Shaft Zone on Avalon's Dubenski Property, where gold values sharply increase with depth below the surface trenches. Four similar zones of pervasive alteration were identified at separate localities during the current program (see Zones A to E, Map 1).

Among the other shear zones identified during the current program, the one exposed along the shoreline in the eastern portion of claim K1178865, referred to as the *Caviar Lake Shear Zone* on Map 1, is the most intense. The rocks here are highly schistose, and are characterized by strong chloritic and sericitic alteration. The foliation strikes at about 280° and dips steeply to the north, typical with foliations elsewhere on the property. The Caviar Lake Shear Zone is at least 250 metres wide, but due to the onset of winter weather conditions its full extent could not be determined.

The *Fourth Shear Zone* occurs between the Caviar Lake and the Gauthier Shear Zones, and is approximately 300 metres in width along the west shore of Caviar Lake. It is also characterized by strongly foliated, locally schistose mafic to intermediate volcanic rocks with strong chlorite, sericite, and lesser ankerite alteration. A grab sample of strongly altered basalt taken from a shoreline exposure of this shear returned a grade of 0.095 g Au/t.

The *Fifth Shear Zone* strikes across the property in a northwest direction, just north of the PCDZ, and likely developed as a secondary splay off it. Its width varies from 200 metres along the east shore of Dogpaw Lake to about 330 metres along the west shore of Caviar Lake. The northern boundary of this shear zone corresponds with a sharp break in the area of high magnetic susceptibility. Intense sericite and chlorite alteration characterizes this shear.

8

The *Sewell Shear* (see Map 1) crosses the Dogpaw Lake Property south of the PCDZ and extends into the vicinity of the historic Sewell Occurrence, which reportedly grades up to 23.81 g Au/t. The lower limit of intense shearing generally follows the contact between a mafic to intermediate tuff unit to the north and locally pillowed basalt to the south. The basalt exposures exhibit a weak foliation, whereas the tuff unit is strongly foliated and characterized by moderate to strong chloritic and sericitic alteration.

The six shear zones discussed above represent major zones of deformation and are favourable targets for the discovery of shear hosted lode gold deposits. Several less pronounced structural breaks, along which potentially gold bearing hydrothermal fluids would have been preferentially channelled, are inferred from the ground magnetic data.

#### 8.0 Discussion

Geological mapping has delineated six major northwest trending shear zones on the Dogpaw Lake Property, all of which represent potential hosts for high grade gold mineralization. At the historic Gauthier Occurrence, gold mineralization occurs within discrete sericite-ankerite shears, usually in association with quartz-ankerite veins. Historic gold grades obtained from the occurrence are quite variable, and some of the extremely elevated values (111.98 g/t) may reflect a "nugget effect" in these samples. However, grab samples grading up to 1.46 g Au/t that were taken during the current program do verify the presence of anomalous gold mineralization at this showing, and further work is warranted.

FTM Resources trenched two areas in the northwestern portion of the property (see Map 1) approximately one kilometre southeast along strike from the Gauthier Occurrence during the mid-1980's. Reported gold values from these trenches include 1.59 g/t and 1.91 g/t. During the current mapping program, the northernmost of these trenches was located and resampled. Sheared basalt and quartz-ankerite veins up to 15 centimetres wide are exposed in the trench. Up to 5% disseminated pyrite occurs within the quartz-ankerite veins and up to 15% within the altered wallrock, but limited sampling yielded low assay results. These trenches are situated along a strong, northwest trending magnetic low near the inferred contact between altered mafic volcanic rocks and the main gabbroic unit.

Several intensely altered zones (*Zones A to E*, Map 1), four of which occur within 150 metres of the Gauthier Shear Zone, were identified during the mapping program. These zones of intense ankerite, silica, and albite alteration represent structural breaks along which potentially gold-bearing fluids preferentially migrated. Exposures are limited by thick overburden, but Zone E, located on line 22+00E, was traced over a width of 15 metres. Limited sampling of these zones yielded low gold assays. However, with regard to alteration style and structural setting, these zones are very similar to Avalon's Shaft Zone, located less than two kilometres south of the Dogpaw Lake Property. At the Shaft Zone, gold grades often increase significantly with depth from the surface trench. Therefore, the altered zones on the Dogpaw Lake Property may also contain gold mineralization at depth or along strike.

somewhat enigmatic in that

In general, rock sampling results from the current program are somewhat enigmatic in that some veins and shear zones carry anomalous gold mineralization, while other essentially identical shears and veins are barren. Previous work indicates that the most significant gold mineralization in the Dogpaw Lake area is usually hosted by quartz-carbonate veins within altered shear zones, such as at the historic Flint Lake Mine (Burwash, 1933). At the Cameron Lake deposit, the highest grade gold mineralization occurs in association with quartzcarbonate-albite breccia veins that developed in response to high pore fluid pressures and/or high differential stresses (Melling et al., 1986). These veins post-date an early set of buckled, quartz-carbonate extensional veins but pre-date a later set of unbuckled quartz-carbonate veins. Neither set of extensional veins contains significant gold mineralization.

On the Dogpaw Lake Property, detailed structural mapping and sampling is required to identify different generations of quartz veining and to determine the local controls on gold mineralization. At present, the highest potential for the discovery of a shear hosted gold deposit occurs at the historic Gauthier Occurrence, located in the northwestern portion of the property. Further exploration should focus on the six major shear zones discussed above, particularly the Gauthier Shear Zone, along which several zones of intense hydrothermal alteration/replacement were identified. Lithological contacts also represent potential sites for gold deposition, particularly the contact between the large gabbroic unit and the surrounding volcanic rocks. Historic sampling from trenches near the western margin of the gabbro produced assays including 1.76 g Au/t and 1.91 g Au/t.

### 9.0 Conclusions and Recommendations

Results of the Phase I program indicate that the Dogpaw Lake Property has potential to contain shear hosted lode gold mineralization along several northwest trending structures. Six major shear zones, including the regional PCDZ, were identified along with numerous other smaller scale structural breaks inferred from the ground magnetometer survey. These shear zones, up to 600 metres wide, are characterized by strong sericite, chlorite, and lesser carbonate alteration, along with frequent quartz-ankerite veining. These shear zones are similar in alteration, mineralization, and structural style to known gold bearing structures in the Dogpaw Lake area, including the Flint Lake Shear Zone, which hosts an estimated gold deposit of 253,000 t grading 0.24 opt at the Shaft Zone on Avalon's Dubenski Property.

Further exploration on the Dogpaw Lake Property should be concentrated along the major shear zones identified during the Phase I program. Given the somewhat enigmatic nature of gold mineralization within these shears, it is recommended that an induced polarization (IP)/resistivity survey be carried out over select areas and used in conjunction with a soil geochemistry survey in order to generate specific targets for follow-up work.

It is recommended that the proposed IP/resistivity survey be carried out along the Gauthier Shear Zone, particularly in the vicinity of the historic Gauthier Occurrence, which is considered to be the highest priority target on the property. Any coincident resistivity and chargeability high anomalies that are identified from this survey would represent the most favourable targets for further exploration and drilling. Four of the five intensely altered zones (*Zones A to D*, Map 1) discovered during the mapping program occur within 150 metres of the Gauthier Shear, and should be included in the area covered by the survey.

It is also recommended that a soil geochemistry survey be carried out over as much of the property as possible, especially along the identified shear zones. Mobile Metal Ion (MMI) analysis of soil samples has been very successful in identifying anomalous gold mineralization on nearby properties. Soil geochemistry data would be especially useful in the vicinity of the PCDZ in the southern portion of the Dogpaw Lake Property, where overburden limits the outcrop exposure of the regional structure.

Fill-in linecutting and a ground magnetometer survey should be completed along lines 10+00E and 12+00E, since this represents a priority area for continued exploration. The linecutting is also necessary to facilitate the proposed IP/resistivity survey. Additional linecutting will also be necessary to perform the proposed IP/resistivity survey in the vicinity of the Gauthier Occurrence. A 500 metre diamond drilling program is recommended to test high priority targets. The proposed budget for this work is as follows.

#### **Proposed Budget:**

Mob/Demob		\$2,500
Linecutting/Grid Extension (6 km @ \$350/km)		\$2,100
Fill-In Ground Magnetics (1 km @ \$100/km)		\$100
Geological Mapping (6 days @ \$400/day)		\$2,400
Prospecting (3 days @ \$400/day)		\$1,200
Induced Polarization/Resistivity Survey (8 km @ \$1,500/km)		\$12,000
Soil Geochemistry Survey		\$10,000
Diamond Drilling (500 metres @ \$120/metre, all incl.)		\$60,000
Support		\$10,000
Report and Administration		\$8,500
Contingency		<u>\$2,575</u>
	Total	\$111.375

#### **Bibliography**

- Buck, S., 1988. Structural and Metallogenetic Studies in the Flint-Cameron Lakes Area, District of Kenora. Ontario Geological Survey OFR 5682.
- Burwash, E.M., 1933. Geology of the Kagaki Lake Area in Ontario Department of Mines Vol. 42, Pt. 4, pgs.41-92. Accompanied by Maps 42b and 42c, scale 1 inch to 1 mile.
- Campbell, I., 1997. Summary Report on the Dogpaw Lake Property. Starcore Resources Ltd. Internal Report.
- Davies, J.C. and J.A. Morin, 1976. Geology of the Cedartree Lake Area, District of Kenora. Geoscience Report 134.
- Holbrooke, G.L., 1945a. Report on the Gauthier Claim Group, Dogpaw Lake Area; unpublished report for Sylvanite Gold Mines Ltd., Resident Geologist's Files, Ontario Ministry of Natural Resources, Kenora.
- Melling, D.R., 1989. The Geological Setting and Distribution of Gold in the Cameron Lake-Rowan Lakes Area, District of Kenora, with Emphasis on the Monte Cristo and Victor Island Prospects. Ontario Geological Survey, OFR 5713.

Ministry of Northern Development and Mines, Assessment Files, Kenora, Ontario.

Thompson, R., 1945b. Report on the A. Gauthier Claim Group, Dogpaw Lake; unpublished report for Ontario Department of Mines, Resident Geologist's Files, Ontario Ministry of Natural Resources, Kenora.

## **Statement of Expenditures**

Linecutting (73 km @ \$260/km average over ice and land grid)	\$18,980
Ground Magnetometer Survey (60 km @ \$90/km)	\$5,400
Geological Mapping (28 days @ \$200/day)	\$5,600
Sample Analysis (99 samples @ \$15/sample)	\$1,485
Supplies and Equipment	\$350
Mobilization/Demobilization	\$800
Boat and Vehicle Rental + Gas	\$950
Accommodations and Meals	\$2,520
Supervision and Report	\$2,500
Total Expenditures	\$38,585

#### STATEMENT OF QUALIFICATIONS

I, Jeffery A. Morgan, of 158 Inglewood Crescent, Thunder Bay, Ontario, hereby certify:

I am a graduate of Memorial University of Newfoundland and hold a Bachelor of Science (Honours) Degree in Geology, 1996.

I have been employed on a contractual basis as an exploration geologist with three mining and exploration companies during the past 2 years.

I have been employed for the past year as a geologist with Avalon Ventures Ltd. of 851 Field Street, Thunder Bay, Ontario.

Dated in Thunder Bay, Ontario this 14th day of May, 1998.

Jefferry a. Margan Jefferry A. Morgan, B.Sc.

14 May 1998

## Appendix I

Certificates of Analysis (Rock Samples)



Analytical Chemists \* Geochemists \* Registered Assayers

5175 Timberlea Blvd., Mississauga Ontario, Canada L4W 2S3 PHONE: 905-624-2806 FAX: 905-624-6163

To: AVALON VENTURES LTD.

777 RED RIVER RD. THUNDER BAY, ON P7B 1J9

Page Number : 1 Total Pages : 1 Certificate Date: 04-NOV-97 Invoice No. : 19748292 P.O. Number : OPJ Account

Project : 527 Comments: ATTN: IAN CAMPBELL CC: DON BUBAR

					CERTIFICATE OF ANALYSIS A9748292						
SAMPLE	PREP CODE	Au ppb FA+AA									
490751 490752 490753 490754 490755	205 226 205 226 205 226 205 226 205 226 205 226	<pre>&lt; 5 &lt; 5&lt;</pre>									
490756 490757 490758 490759 490760	205 226 205 226 205 226 205 226 205 226 205 226	<pre>&lt; 5 &lt; 5</pre>									
490801 490802 490803 490804 490805	205 226 205 226 205 226 205 226 205 226 205 226	<pre>&lt; 5 &lt; 5 </pre>									
490806 490807 490808 490809 490810	205 226 205 226 205 226 205 226 205 226 205 226	< 5 < 5 < 5 < 5 < 5 < 5 < 5									
490811 490812 490813 490814 490815	205 226 205 226 205 226 205 226 205 226 205 226	<pre>&lt; 5 &lt; 5 &lt; 5 &lt; 5 165 &lt; 5</pre>		1							
490816 490817 490818 490819	205 226 205 226 205 226 205 226 205 226	< 5 < 5 < 5 < 5 < 5									
						c			,	1.1	



Analytical Chemists \* Geochemists \* Registered Assayers

5175 Timberlea Blvd., Mississauga Ontario, Canada L4W 2S3 PHONE: 905-624-2806 FAX: 905-624-6163

Au ppb

PREP

To: AVALON VENTURES LTD.

777 RED RIVER RD. THUNDER BAY, ON P7B 1J9

Project : 527 Comments: ATTN: IAN CAMPBELL CC: DON BUBAR Page Number : 1 Total Pages :2 Certificate Date: 06-NOV-97 Invoice No. P.O. Number :19748980 :OPJ Account

**CERTIFICATE OF ANALYSIS** A9748980

SAMPLE	CODE	FA+AA								
490761 490762 490763 490764 490765	205226205226205226205226205226	25 < 5 < 5 10 115								
490766 490767 490768 490769 490770	205 226 205 226 205 226 205 226 205 226 205 226	50 1460 90 < 5 < 5								
490771 490772 490773 490774 490775	205 226 205 226 205 226 205 226 205 226 205 226	<pre></pre>								
490776 490777 490778 490779 490780	205 226 205 226 205 226 205 226 205 226 205 226	<pre>&lt; 5 75 &lt; 5 &lt; 5 &lt; 5 &lt; 5&lt;</pre>								
490781 490782 490783 490820 490821	205 226 205 226 205 226 205 226 205 226 205 226	<pre>&lt; 5 &lt; 5 &lt; 5 &lt; 5 &lt; 5 &lt; 5 &lt; 5</pre>								
490822 490823 490824 490825 490826	205 226 205 226 205 226 205 226 205 226 205 226	15 115 755 10 < 5								
490827 490828 490829 490830 490831	205 226 205 226 205 226 205 226 205 226 205 226	20 15 < 5 < 5 < 5								
490832 490833 490834 490835 490835 490836	205 226 205 226 205 226 205 226 205 226 205 226	<pre>&lt; 5 &lt; 5</pre>								
	Ll <sub></sub>	L	1	<u> </u>	l	I	· (	۸:⊷	and f	mh'



Analytical Chemists \* Geochemists \* Registered Assayers

5175 Timberlea Blvd., Mississauga Ontario, Canada L4W 2S3 PHONE: 905-624-2806 FAX: 905-624-6163 To: AVALON VENTURES LTD.

777 RED RIVER RD. THUNDER BAY, ON P7B 1J9

Project : 527 Comments: ATTN: IAN CAMPBELL CC: DON BUBAR Page Number :2 Total Pages :2 Certificate Date: 06-NOV-97 Invoice No. :19748980 P.O. Number : Account :OPJ

and the second

						CERTIFICATE OF ANALYSIS A97				'48980		
SAMPLE	PREP CODE	Au ppb FA+AA										
490837 490838 490839 490840 490841	205 226 205 226 205 226 205 226 205 226 205 226	20 25 < 5 < 5 < 5 < 5										
490842 490843 490844 490845 490846	205 226 205 226 205 226 205 226 205 226 205 226	15 10 < 5 < 5 < 5 < 5										
490847	205 226	< 5										
E .												

Г



Analytical Chemists \* Geochemists \* Registered Assayers

5175 Timberlea Blvd., Mississauga Ontario, Canada L4W 2S3 PHONE: 905-624-2806 FAX: 905-624-6163 To: AVALON VENTURES LTD.

777 RED RIVER RD. THUNDER BAY, ON P7B 1J9

Project : 527 Comments: ATTN: IAN CAMPBELL CC: DON BUBAR Page Number :1 Total Pages :1 Certificate Date: 11-NOV-97 Invoice No. : 19749563 P.O. Number : Account :OPJ

				CERTIFICATE OF ANALYSIS			A97	A9749563		
SAMPLE	PREP CODE	Au ppb FA+AA								
490784 490785 490786 490787 490788	208 226 208 226 208 226 208 226 208 226 208 226	<pre>&lt; 5 5 5 5 5 5 5 5</pre>								
490789 490790 490791 490792 490793	208 226 208 226 208 226 208 226 208 226 208 226	<pre>&lt; 5 &lt; 5 &lt; 5 &lt; 5 95 &lt; 5 </pre>								
490794 490795 490796 490797 490798	208         226           208         226           208         226           208         226           208         226           208         226	<pre>&lt; 5 &lt; 5 25 &lt; 5 &lt; 5 &lt; 5 </pre>								
490799 490848 490849 490850	208 226 208 226 208 226 208 226 208 226	< 5 < 5 < 5 < 5 < 5								

🗑 Ontario	Ministry of Northern Development and Mines

### **Declaration of Assessment Work Performed on Mining Land**

Transaction Number (office use)
Assessment Files Research Imaging

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990



of subsections 65(2) and 66(3) of the Mining Act. Under section 8 of the b review the assessment work and correspond with the mining land holder. 3 Recorder, Ministry of Northern Development and Mines, 6th Floor,

52F05sw2003	2.18511	DOGPAW	LAK

900



2.18511

	Decorded	holdor(a)	(Attach	a liet	16	nanonanu
1.	Hecoraea	noiger(s)	(Allach	<b>a</b> iist	н	necessary

Client Number 300/18
Telephone Number 807-344-6568
Fax Number 807 - 345 - 09/6
Client Number /09716
Telephone Number 3 04 - 4 36 - 6 444
Fax Number 304 - 436 - 3902

#### Type of work performed: Check ( ~ ) and report on only ONE of the following groups for this declaration. 2.

Geotechnical: prospecting, surveys, assays and work under section 18 (regs)	Physical: drilling, stripping, trenching and associated assays
Work Type	Office Use
Linecutting, ground magnetometer sui	Commodity
geology, rock sampling	Total \$ Value of Work Claimed 38, 585.
Dates Work Performed From 01 03 97 To 24 Day Month Year Day	12 97 NTS Reference
Giobal Positioning System Data (If available) Township/Area Dog paw	Lake Area Mining Division Kempra
M or G-Plan Number G - 2.6	13 Resident Geologist District Kenarcu

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required; - provide proper notice to surface rights holders before starting work; - complete and attach a Statement of Costs, form 0212; - provide a map showing contiguous mining lands that are linked for assigning work; - include two copies of your technical report.

### 3. Person or companies who prepared the technical report (Attach a list if necessary)

Fax Number 807 - 346 - 4233 Telephone Number
Telephone Number
Fax Number
Telephone Number
Fax Number MAY 2 2 1338
hat I have personal knowledge of the facts se b be performed or witnessed the same during

Signature of Recorded Holder or Agent Karen Ree	o Avalon Ventures Ltd.	Date 12 May, 1998
Agent's Address 851 Field St. Thunder	Bay, ON P78686 807-346-0404	Fax Number 807 - 346 - 4233

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

( <i>U</i> ) - 18 / <i>U</i> - 000 75							
Mining work w mining column indicate	Claim Number. Or if as done on other eligible land, show in this the location number ed on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to th <del>is</del> claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.	
eg	TB 7827	16 ha	\$26, 825	N/A	\$24,000	\$2,825	
eg	1234567	12	0	\$24,000	0	0	
eg	1234568	2	\$ 8, 892	\$ 4,000	0	\$4,892	
1	K 1178864	14	4,600	5,600 -	٥	0	
2	K 1178865.	16	2,000	6,400	٥	0	
3	K 1215707.	16	10,535	6,400-	2,000	2,135	
4	K 1215785'	15	10,200	6,000	1,000	3,200	
5	K 1215786°	16	11,250	6,400	2,400	2,450	
6				2.18	511		
7					011		
8				$\delta$			
9			ENE				
10				13 GOENT			
11			Wit 3.99	SESSME		· · · · · · · · · · · · · · · · · · ·	
12			SCIENCEFI				
13			GEU				
14							
15							
		Column Totals	38,585	30, 800	5,400	7,785	

I, <u>Karen Rees</u>, do hereby certify that the above work credits are eligible under (Print Full Name) subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing Date 1998 12 May Kee

#### 6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check ( $\nu$ ) in the boxes below to show how you wish to prioritize the deletion of credits:

1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.

2. Credits are to be cut back starting with the claims listed last, working backwards; or

3. Credits are to be cut back equally over all claims listed in this declaration; or

4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

MAY 2 2 1998

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only		
Received Stamp	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining R	ecorder (Signature)

# Statement of Costs for Assessment Credit

Transaction Number (office use) 90 DDD

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 685.

Work Type	Units of Work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilo- metres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Linecutting	73 km	avg. \$260/km	18,980
Mag survey	60 km	avg. \$ 90/km	5,400
Geology	28 days	\$200/day	5,600
Rock assays	99 samples	\$15/sample	1,485
Supervision and Report	10 days	avg. \$ 250/day	2,500
· · · · · · · · · · · · · · · · · · ·	2 . 1 8 5 j		
Associated Costs (e.g. supplies,	mobilization and demobilization).		
5	upplies and Equipment		350
M	1061 Demoks time	\$ 200/mday	800
		· J	
	a mangangan ang ang ang ang ang ang ang ang	· · ·	
Transpo	ortation Costs		
Boat	·Vehicle rental/gas		950
	ſ	RECORDE	<u>م</u>
Food ar	d Lodging Costs		2,520
		MAT 2 2 1998	
IRE	269 L		
N 12:39/	Total Value	of Assessment Work	38, 585
Calculations of Filing Discounts:			
<ol> <li>Work filed within two years of p</li> <li>If work is filed after two years a Value of Assessment Work. If the second s</li></ol>	erformance is claimed at 100% of th nd up to five years after performance his situation applies to your claims, u	e above Total Value of A e, it can only be claimed se the calculation below	Assessment Work. at 50% of the Total :
TOTAL VALUE OF ASSESSME	NT WORK × 0.50 =	Total \$ val	ue of worked claimed.
<b>Note:</b> Work older than 5 years is not el A recorded holder may be require request for verification and/or corre Minister may reject all or part of th	gible for credit. ad to verify expenditures claimed in t oction/clarification. If verification and/ e assessment work submitted.	his statement of costs w or correction/clarification	ithin 45 days of a is not made, the
Request for verification and/or correct Minister may reject all or part of th Certification verifying costs: Karen Rees (please print full name)	e assessment work submitted.	e amounts shown are a	is not made, the

the accompanying Declaration of Work form as (recorded holder, agent, or state company position with signing authority) I am authorized

to make this certification.

Signature Date 12 May 1998

Ministry of Northern Development and Mines Ministère du Développement du Nord et des Mines

August 14, 1998

KENNETH GEORGE FENWICK 84 VELVA AVENUE THUNDER BAY, ONTARIO P7A-6N5 🐨 Ontario

Geoscience Assessment Office 933 Ramsey Lake Road 6th Floor Sudbury, Ontario P3E 6B5

Telephone: (888) 415-9846 Fax: (705) 670-5881

Visit our website at: www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

Dear Sir or Madam:

Submission Number: 2.18511

 Subject: Transaction Number(s):
 W9810.00095
 Deemed Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Bruce Gates by e-mail at gatesb2@epo.gov.on.ca or by telephone at (705) 670-5856.

Yours sincerely,

- Ha

ORIGINAL SIGNED BY Blair Kite Supervisor, Geoscience Assessment Office Mining Lands Section

## Work Report Assessment Results

Submission Numbe	er: 2.18511				
Date Correspondence Sent: August 14, 1998 Assessor:Bruce Gates					
Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date	
W9810.00095	1178864	DOGPAW LAKE	Deemed Approval	August 13, 1998	
<b>Section:</b> 12 Geological GEOL 14 Geophysical MAG	3				
Correspondence to	):		Recorded Holder(s)	and/or Agent(s):	
Resident Geologist			Karen Rees		
Kenora, ON			THUNDER BAY, ON	IARIO, CANADA	
Assessment Files Lit	brary		KENNETH GEORGE	FENWICK	
Sudbury, ON			THUNDER BAY, ON	TARIO	
			JAMES EDWARD II WELCH, WEST VIRG	BOND GI	



(4) A. D. Manager, and Mathematical Activity of the second secon second sec

![](_page_31_Figure_0.jpeg)

320	+·	741        /I.3           745         7/2           743         7/8           746         7/8           733         4/5           740         4/4           739         4/4           739         4/4           746         7/1           746         7/1	751 745 744 734 736 736 742 743 743 745 747 746	814 745 757 747 743 745 745 745 735 735 735 732 734		- 726 75 688 75 629 75 704 75 982 74 634 74 681 74 680 74 672 74 672 74 672 74	8 715 4 607 9 70] 9 752 8 758 5 786 5 786 3 785 3 759 1 757	832 960 771 760 779 785 755 759 780 782	-1227 965 1042 962		- 381 - 495 - 36 1581		735 648 930 517 659 1096 953 432 432 432 2122 2122	-4-		- 304 389 404 331 300 227 241 456 - 242 385	5 7 8 7 7 8 7	-1224 -94 1340 2814 31 1951 3857 3750 5991 5293	<b>6</b> .	350 276 351 576 470 464 512		- 575 541 8054 645 586 586 723 790 613 480			+				+ <		+		7+		+100N
3000N	+	150         150           751         1753           753         1761           783         1751           773         1753           743         1751           743         1754           732         1754           732         1754           732         1754           732         1754           736         137           737         136	743 732 737 725 729 740 750 740 750 742 721 131 135 737 737	730 739 744 755 754 754 754 756 756 766 749 746 740	731 726 733 736 737 735 742 742 749 740 740	001         //4           086         73           671         74           665         74           666         73           695         70           695         70           649         72           636         90           665         85           600         76           657         73           659         71           74         72	0 732 8 751 2 751 7 745 9 745 9 745 7 744 9 744 9 744 9 744 9 743 2 753 9 743 2 753 9 743 731 731 745 746 745 745 745 745 745 745 745 745	741 731 746 703 705 705 705 705 705 705 703 993 993 993 993					1281 1782 2481 1714 1247 FOURTH: BASE 1030 1301 1301 928 905 973 973 197 866	11 12 22 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	170 170 106 137 179 179 179 179 179 179 179 179 179 17	301 187 216 171 177 177 177 186 997 196 123 204 123		200- 2002 - 2800 5756 3415 - 2807 - 2807 - 2807 - 287 - 280 - 280	8 	347 489 1847 2246 		2477 2670 1133 727 641 642 630 642 630 645 645 646 646 646 646 646 646	505 702 847 782 819 610 506 614 506 599 599 596 599		+				+		+ 5		+		3000N
2800N	+	732         738           736         741           738         738           757         733           742         733           740         730           743         733           743         735           743         735           744         735	746 741 740 743 739 734 736 736 736 728 716 727 728 716 727 727 730	735 725 698 750 748 729 729 729 729 729 729 729 729 729 729	733 735 736 735 737 738 739 735 731 731 731 731 733 740 739	715         72           714         58           726         70           725         71           728         71           732         72           738         71           741         71           736         71           736         71           736         73           735         735	3         723           3         723           5         723           4         720           8         716           9         724           1         732           6         742           7         751           6         759           2         839           5         906           9         1028	600 687 555 556 730 723 740 756 756 756 756 756 756 767 822 825 825					565 583 554 797 797 796 1768 2270 1891 1891 1720 4675 52243 1538	1 2 2 1 2 1 2 1 2 1 2 1 1 1 1 1 1 1 1 1	253 263 264 264 264 265 264 265 264 265 265 265 265 265 265 265 265	188 189 155 195 172 145 176 329 369 389 389 389 389 294		3174 4703 4687 3043 1014 2001 1053 2865 		1064 1738 502 9.37 9.39 775 1.584 2065 1678 1656 2065 1.354		505 505 600 805 1128 2527 633 667 643 829 100 100 100 100 100 100 100 10	639 624 635 619 809 872 595 595 595 595 595 595 595 595 595 59		+		+	, inser .	+	e Second Second	+		+		2800N
NOO	-+-	742         749           742         742           740         742           737         743           738         732           734         738           735         742           736         738           734         738           735         740           736         740           736         740           736         740           736         740           737	732 732 732 734 733 735 735 735 735 735 735 735 735 736 736 736	742 741 742 743 738 743 735 735 735 734 730 731 732 731 732	736 736 740 739 739 737 737 737 733 733 730 732 729 726 727	733         73           731         73           731         73           727         73           731         72           727         72           731         72           731         72           731         72           731         72           731         72           731         72           734         72           735         73           725         73	e         ) 119           5         985           6         885           4         812           2         775           6         753           7         732           6         727           8         727           8         727           8         728           3         726           1         728	835 885 927 793 752 737 732 730 733 733 733 731	880 737 721 710 705 705 706 707 707 707 707 707 707	596 658 678 534 640			1197 1339 905 934 1267 1267 1913 6236 681 597 2192 2031 1985	8 19 19 10 11 14 14 14 15 16 16 16 16 16 16 16 16 16 17 16 16 16 17 17 17 17 17 17 17 17 17 17 17 17 17	211 517 554 189 189 189 189 189 189 189 189 184 184	240 405 595 615 245 247. 271 273 703 703 703 157. 147 157. 187.		15-50 19-800 2034 10-90 1152 877 544 1507 1220 1106 1102 1106 834 - 905	·	1.852 1007 967 775 1094 1112 2173 1532 1523 3575 3698 - 2387		573 734 743 1189 787 783 937 857 857 854 854 854 856	573 582 577 594 605 611 624 622 809 559 		• • •. • •						ł		+		1 2002
- 26		735         744           737         753           738         744           739         144           741         743           737         143           737         743           737         743           736         743           736         743           736         743           736         743           736         743           736         743           736         743           736         743           736         743           736         743           737         743           736         743           736         743           734         744	737 738 739 738 738 742 238 740 742 739 739 739 738 737 737	731 732 730 734 736 736 739 739 741 742 741 742 741 741 740	725 728 727 727 727 729 731 732 735 738 739 741 740	721         74           721         73           723         73           722         73           723         73           724         73           725         73           726         72           733         72           734         72           739         72           743         72           746         72	1 731 8 732 7 735 2 736 1 739 8 740 6 741 6 740 6 741 6 740 740 740 740 739 739 7 232 9 721 7 221	732 733 733 735 736 737 736 737 738 736 735 735 735 735 735 735 735 735	707 709 713 7-7 712 722 724 725 726 728 727 728 727 720 729	844 656 667 675 680 885 693 695 695 695 702 707 713	632 648 657 665 672 683		3435 2439 3083 2280 1258 933 556 1464 1524 1425 14425 1493 1915 -3145	85 7 2 16 19 19 19 19 19 19 19 19 19 19 19 10 11 11 11 11 11 11 11 11 11 11 11 11	37 19 13 12 12 16 107 107 107 107 107 107 107 107	260 277 313 118 164 250 254 189 240 189 240 189 240 240 256 256 220 276 220 238		716 1809 1414 1904 3406 3358 2822 1783 1416 1479 2205 2797		2399 1825 1332 947 813 1269 1727 1877 2646 1031 2059 1272 1744		1005 946 923 924 1134 1179 1525 1812 3756 4997 1460 1665 2366	853 841 855 -958 857 752 842 714 712 652 827 812 827 812 812 812 812 812 812 812 812 812 812		:										NO
2400N	- <b>+</b>	734         744           734         744           735         740           736         739           737         741           736         742           735         740           737         741           736         742           735         740           735         740           735         740           735         740           735         740           735         740           736         739           737         737	737 735 735 736 736 736 736 735 735 735 735 732 746 733 732 740	739 738 738 733 733 733 734 733 734 734 735 734 735 734 734 735	745 745 743 743 743 742 742 742 741 743 738 736 736 735 735	750         75           753         73           753         73           752         73           753         73           754         73           755         73           754         73           755         73           751         72           747         72           744         72           741         72           737         72	2 717 2 717 2 726 3 742 3 734 0 729 9 730 9 731 8 733 7 735	724 725 721 728 740 728 740 724 724 724 724 725 725 726	706 728 731 730 730 730 730 730 734 731 735 731	694 705 716 719 728 732 738 738 738 734 738 734 738 738 738 738 738	000 000 000 000 000 000 000 000		0005 1996 1785 2221 1803 1358 938 540 488 482 550 558	6 10 96 84 10 10 10 10 10 10 10 10 10 10 10 10 10	557 7007 727 7332 73 73 75 75 75 75 75 75 75 75 75 75 75 75 75	183 1711 205 205 372 370 229 260 246 165 217 217 218 217 218		2002 2042 1935 3618 3770 5045 2486 2023 1794 2025 1794 2026 1405		1870 306 1539 2035 2397 2389 3738 3032 1656 2356 2354 2793		1906 2735 2014 2360 2394 1561 1406 986 866 2285 2285 2285	87D 771 594 598 607 608 577 9.57 9.57 646 613 613 610		+		+		-: + -		+		+		2400N +
2200N	+	737         729           740         744           736         735           738         742           638         740           735         738           736         736           736         733           736         733           736         733           740         733           742         740           741         744	733 733 734 735 735 735 735 735 734 734 734 733 737 736 734	733 739 732 731 731 731 731 731 731 731 731 731 732 732 732	728 729 728 730 730 730 730 730 730 731 731 731 734 735	734         72           733         73           731         73           731         73           731         73           731         73           729         73           728         72           729         73           729         73           729         73           729         73           729         73           729         73           729         72           729         72           729         72           729         72           729         72           729         72           729         72           729         72           729         72           729         72           729         72           729         72           729         72           729         72           729         72	9 735 2 732 2 734 1 737 2 736 1 737 2 736 738 8 735 0 739 8 735 0 739 7 726 9 721 7 726	728 730 737 757 757 757 753 753 753 726 726 726 726 726 728 992 728	732 734 736 739 744 747 744 738 734 734 734 734	736 746 746 744 747 745 748 745 748 745 745 745 741 740 741 740 744	739 738 746 752 754 754 755 752 754 756 756 758	818 756	615 502 503 520 550 559 559 490 499 499 496 480 492 480	22 12 55 41 56 56 52 52 52 52 55 55 55 55 55 55 55 55 55	//02 //1 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2	334 350) 3464 210) 1621 246 246 246 245 954 954 954 954 954 954 954 954 954 9		983 1040 4105 1451 4455 1857 - 802 2538 2258 1840 1177 1968		1787 1808 1442 1184 536 2152 1963 3153 1954 1861 1436 1944 2582		1323 1765 1565 1565 1565 1229 1104 985 688 688 688 688 688 688 688 688 688 6	593 608 613 845 881 -→-703 725 726 896 890 644 674		+		+		+		+		+		2200N
2000N	4	740         745           741         745           743         747           743         747           743         747           743         747           743         747           743         747           743         747           744         743           741         744           742         741           743         739           746         742           743         739           748         742           752         732	730 736 732 733 735 735 735 735 735 735 735 735 735	731 732 731 731 731 731 732 732 733 732 732 733 733 733 733 735	735 735 735 735 735 735 735 735 731 731 732 730 730 729 729 750 729	727         73           728         72           730         72           730         72           730         72           731         72           732         72           731         72           732         72           732         72           732         72           736         72           737         72           730         72           730         72           730         72           730         72           730         72           730         72           730         72           731         72           732         72           730         72           730         72           730         72           730         72           732         72           736         72           736         72	723           9         723           7         725           8         722           7         726           9         720           9         720           9         720           7         720           8         722           9         720           7         720           8         722	742 769 745 731 720 716 719 727 718 736 736 736 757	736 736 738 738 728 724 726 668 739 735 735 735	243 745 741 742 737 735 735 736 736 523 884 1180	757 760 755 751 745 751 745 751 750 728 750 750 751 751 751 751	755 761 773 778 790 780 780 780 787 761 761 763 761	400 475 457 455 470 461 466 486 487 481 481 482	4 55 55 55 56 49 46 45 48 48 57 7 7	45 17 17 12 17 10 17 18 18 18 19 19 10	970 1950 1950 1951 1951 1951 1954 1957 1957 1957 1957 1957 1957 1957 1957		764 1611 1484 1165 661 614 1069 1882 801 648 673 967		1051 1171 914 1266 1129 1525 1467 1248 1082 		640 653 719 065 647 1018 820 475 2781 1618 1147 818	632 631 635 624 1161 526 713 670 703 703 704 705		+		+-		+ .		+		+		2000N
Z		765         745           730         746           753         714           754         725           758         735           766         749           778         750           765         750           766         749           778         750           612         752           628         728           780         752           780         752           780         752           783         740	732 733 734 734 737 736 736 740 737 736 740 737 738 738 738	732 730 730 730 731 752 731 752 731 732 733 732 733 732 733	730 729 730 730 731 731 729 728 731 730 731 730 730 730	730         73           731         72           728         73           723         72           724         72           725         71           725         71           725         72           725         72           725         72           725         72           725         72           726         72           725         72           725         72           726         72           725         72           726         72           725         72           726         72           727         72           726         72           727         72           726         72           727         72           726         72           727         72           728         72           729         72           720         72           720         72           724         72	0 718 7 718 0 716 9 716 9 716 9 716 9 716 9 716 718 720 5 720 5 720 5 720 5 720 5 720 5 720 7 10 7 10 7 10 7 10 7 10 7 10 7 10 7 1	749 739 732 728 728 726 724 724 731 734 736 735 735	730 734 731 731 735 725 725 726 725 720 717 715	1063 734 729 729 641 605 723 724 725 727 727 727 727 721	740 735 733 733 739 726 775 725 726 726 726 726 727 727 722 722	736 737 737 736 737 736 737 736 736 736	475 485 485 487 471 466 469 479 498 479 498 472 	99 10 10 10 10 10 10 10 10 10 10 10 10 10	5 82 11 13 13 13 13 13 14 14 14 14 15 10	578 1044 4164 940 943 1960 943 1960 950 795 795 795 795 795 795 795 795 795 795		1025 1340 1511 1328 1054 1014 897 879 1550 1809 852 852		403 546 525 1961 1278 606 2100 1127 1454 1052 933 1510		932 1236 1236 1237 913 1664 1092 753 936 29 872 1 872 1 872 1 1 1 1 1 1 1 1 1 1 1 1 1	668 961 630 575 863 1339 463 -87 802 823 736 272 823 736												18
180	- <b>4</b> .	772        745           767         751           784         758           795         723           791         744           781         768           799         783           752         701           746         784           745         764           743         770	736 755 737 739 644 736 739 745 745 751 114 293 277		730 729 727 729 729 729 729 729 728 729 728 729 729 725 729 732 731		718           3         718           3         718           3         718           1         715           1         717           2         718           5         722           2         724           1         722           1         722           2         721	K 7472 1 743 743 743 743 743 745 731 724 722 722 722 722 722 722 722 722 722	15785-719 725 728 738 738 734 736 739 729 729 724 717 725 724 724	629 670 734 752 742 740 748 747 734 734 734 735 732 728	- 727 727 724 724 719 715 718 718 718 718 712 711 711 713 717	718 718 715 715 715 715 716 710 710 710 710	856 841 792 1165 1055 1012 1092 800 715 529 895	51 45 49 48 48 48 48 49 45 55 55 56	8 8 10 13 15 15 15 15 15 15 15 15 15 15 15 15 15	882 656 644 609 635 1165 ( 803 1122 2444 1121 2444 1121 657		+ 1333 1544 1142 812 745 759 2000 1287 1135 755 1669 1368		1273 2120 1275 2014 952 568 677 2311 2743 2004 993		1002 1052 1063 931 813 892 731 890 663 743 1025 1025	- 723 756 766 770 724 692 728 797 729 551 726 725		· · · ·		+		+		+ \	±	+		+ 00N
N0091	+	741         765           740         652           741         756           743         758           713         762           723         758           721         744           747         750           759         759           740         716           774         730           733         733	772 775 782 771 773 768 754 754 752 750 748 748 748 748 748	745 750 755 763 	733 735 736 739 739 739 739 739 740 741 745 745 750 750 750	725         72           726         72           727         72           727         72           728         72           728         72           730         72           729         71           729         71           729         71           732         71           733         71	4         720           3         720           2         720           2         720           2         720           2         720           2         720           0         719           9         722           0         720           7         720           7         718           7         718	777 32 32 32 570 724 722 719 721 720 720 720 720 720 720 720 720 720 720	724 729 732 731 730 730 725 725 726 726 726 726 726 727 724	774 777 722 722 723 724 725 725 725 726 727 716 717 717	716 717 720 714 710 710 710 712 710 712 710 711 711 711 711 712	714 717 718 718 719 718 719 718 719 718 719 714 714 710 714 717 714	2/7 7/12 7/11 7/11 7/11 7/10 7/05 7	49 51 51 52 52 52 54 55 55 55 57 57 57	// 1 5 1 8 9 9 9 3 3 3 3 3 7 1 1 5 6 4 	960 - 494 146 1101 - 166 549 - 535 534 - 535 534 - 519 - 505 - 505		925 753 1506 2586 3196 1689 1263 539 754 958 1686 1886		665 642 744 1785 1381 1983 2293 813 1801 1022 837 	· •	870 877 348 879 2704 1397 1049 1012 1776 686 526 401	5000 705 744 740 - 761 781 732 705 686 694 679 612 2050		- 20 m - 1 * ****		+				+ + - BL 15+0		<pre> t t t t t t t t t t t t t t t t t t t</pre>		+ + 000N
1400N	+	779         740           756         745           739         760           728         763           705         753           725         747           744         744           745         739           735         747           746         747           747         743           735         733           737         740	770 786 811 823 809 779 752 755 745 745 724 729 746 728	785 762 756 754 751 755 751  747 744 744 744 744 742 750	756 758 757 754 751 747 742 742 742 745 752 781 764 764	733         711           735         711           736         711           738         711           738         711           738         711           735         72           731         72           730         76           730         76           728         77           723         78           725         72           723         78           726         75           729         75	8 71.5 6 71.5 6 71.4 8 71.4 8 71.4 8 71.2 8 71.3 7 709 6 710 7 709 6 710 7 709 6 709 7 709 6 708 7 08 7 09 7 08 7 08 7 08 7 08 7 08 7 09 7 09 7 09 7 09 7 08 7 09 7 08 7 09 7 08 7 09 7 08 7 09 7 08 7 09 7 08 7 09 7 08 7 09 7 09 7 08 7 09 7 08 7 09 7 08 7 09 7 08 7 09 7 08 7 09 7 09 7 09 7 09 7 08 7 09 7 00 7 0 7	718 217 714 716 712 710 710 710 712 714 714 714 714 714	722 720 719 716 716 716 717 711 710 708 704 706 704 706 707	718 71- 706 710 711 717 711 707 700 707 867 707 867 706	708 709 708 709 709 709 707 707 706 704 706 704 702 702 702	724 733 724 716 716 710 700 700 593 698 698	70: \$99 \$99 703 706 745 730 735 735 706 893 894 894	1         1 <th1< th=""> <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<></th1<>	100 36 56 58 59 57 57 57 57 57 57 57 57 57 57 57 57 57	Pile         B	8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	85 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	8 3 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	a (a) 1 − 2 2072 (a) 1 − 2 (a) 1 −	11 10 20 11 10 20 11 10 20 10 20 10 10 20 10 20 10 10 20 10 10 10 10 10 10 10 10 10 10 10 10 10	333         5         1	Solution         Solution	19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	870 857 865 814 815 709	2 3 5 6 7 2 1167 5 4 6 7 2 1 1 167 5 913 5 39 8 09 7 32 8 17 4 51 5 80 7 72 7 95 8 10 8 20 8 17 4 51 5 80 7 82 7 95 8 10 8 20 8 20 8 17 4 51 5 8 17 5	835 832 835 901 830 829 829 829 829 823 810 798 798 780 773 761	823 818 686 650 871 818 723 813 775 803 929 784 794	907 905 775 806 815 815 812 808 	812 815 789 809 809 809 809 801 781 781 781 783 798 992	+		+		140CN
1 200N	+	722         734           732         751           727         755           774         739           711         749           713         705           714         739           715         714           715         705           715         715           715         706           715         711           715         721	749 729 565 253 658 731 731 725 719 719 719 716 719	736 727 724 721 720 747 720 747 747 742 742 742	757 756 756 744 743 731 722 718 718 718 727 752 758	734         73           734         72           735         72           733         72           734         72           735         72           734         72           735         72           734         72           745         72           774         721           762         73           745         138           740         734	7 707 9 708 2 712 1 711 0 709 1 711 0 709 1 711 6 714 9 714 9 714 9 714 9 714 9 714 9 718 719 712 711 711 711 709 709 709 709 709 709 709 709	712 710 709 709 709 706 706 709 706 710 710 710 707	709 703 705 701 693 599 701 705 700 700 700 700 700 700 700	709 711 707 757 751 693 694 696 696 695 595 894 691 691	698 703 705 705 707 696 697 696 695 695 693 693 693 693 693 693 693 693 693 693	696 595 595 595 595 595 585 585 584 585 584 585 584 585 584 585 584	595 595 595 595 595 595 595 595	S98         70           700         72           703         72           S91         72           S94         71           712         72           S93         70           S93         71           705         71           S93         71           705         71           S93         70           S93         70           S93         70	77 71 14 71 15 72 19 77 10 77 19 77 13 71 14 77 19 77 15 77 19 77 19 77 19 77 10 77 19 77 10	19         263           16         1759           25         774           21         762           19         761           19         761           15         728           24         113           17         698           301         -732           28         696           97         482	-113 42 -360 1021 922 853 858 839 722 922 1250 1006	594 511 1356 851 724 862 535 517 457 456 	615 672 746 693 647 1336 470 1125 2212 812 431 1796 602	931 642 569 568 592 916 1014 804 539 477 443 407 403		963 831 904 785 627 538 666 592 563 562 583 583 583 585	1077 1365 1125 1305 1261 1020 961 1222 1254 1157 1029		794 909 805 801 804 834 834 874 982 1022 1052 	619 820 820 814 815 806 819 819 819 819 819	747 708 693 694 636 751 751	796 796 791 792 778 737 737 735	796 796 794 799 617 822 792	782 782 785 790 736 790 736 893	<del>.</del> .		+		1200N
Z		719         722           755         721           745         721           747         720           722         702           724         732           736         723           734         722           734         723           734         729           742         733           755         737	736 736 738 673 713 713 714 715 714 718 731 730 743 741 741	730 721 719 716 708 708 708 717 725 722 718 720	729 722 716 712 6975 720 724 722 716 714 712 711	740         73           742         73           748         72           754         72           737         72           747         72           741         72           755         72           728         72           715         70           715         70           710         70	50 735 22 735 39 738 7 738 7 735 6 726 7 736 7 736 7 736 7 736 7 737 7 735 8 719 7 717 7 717 9 706 9 706	710 711 708 712 713 710 717 710 717 712 713 709 704 702	704 705 705 694 700 698 696 696 697 696 593 692 692 692	667 654 692 687 584 688 690 691 690 691 690 668 664 664 682	685 685 682 680 682 682 681 682 681 682 681 682 678 877 672 665	578 580 578 573 595 575 571 571 571 575 566 564 565 564 563 580	579 0 578 0 775 0 375 0 375 0 568 1 568 1 561 0 556 0 560 0 560 0	778         66           370         64           370         67           574         67           570         64           570         64           570         64           570         66           559         66           559         66           551         65           551         65           551         65	0.0         66           88         66           876         68           67         68           68         67           64         67           71         82           86         55	J         COS           85         684           82         685           84         682           89         683           70         897           88         643           98         651           39         685           31         665           32         665           33         665           34         653	792 764 753 690 705 705 696 684 670 677 657 857	579 578 486 301 487 588 2471 407 588 583 651 667	255 1477 447 551 391 831 1331 989 755 567 755 567 765 418 1055	433 465 1306 886 893 474 690 577 427 952 508 524		543 602 680 682 683 551 682 713 629 575 575 469	896 840 665 799 799 799 799 605 797 791 779 791 779 779 779 776 723		843 831 818 519 830 857 884 842 839 827 814 786										
1000	+	761         739           761         739           756         738           755         740           751         741           745         744           746         747           748         747           733         752           733         751           754         754	734 742 740 740 735 755 729 729 729 733 736 741 743	722 723 724 726 727 727 727 727 725 721 721 721 721	712 713 714 718 720 721 724 726 726 726 726 725 719	708         701           706         702           707         703           707         699           707         699           707         699           710         699           710         699           710         699           710         699           710         699           711         702           703         700           704         699           705         700	5 706 5 699 2 695 9 683 9 683 6 65 5 689 5 689 5 689 5 689 5 689 5 689 5 689 5 689 5 689 6 88 6 88 6 95 6 95	702 896 994 992 1851 686 686 684 862 677 674 669 874	592 - 686 - 689 - 689 - 689 - 675 - 675 - 675 - 675 - 670 - 963 - 663 - 663	678 678 678 679 679 679 673 677 677 677 673 673 085 664	565 667 689 669 677 666 667 654 856 657 675 654	561 556 559 562 554 554 554 554 556 648 530 548 539 544 544 544 544 545 546 550 546 550 550 556 556 556 556 556 55	555 550 550 550 550 550 550 550 550 550	549         62           145         64           1542         63           1541         63           1543         62           1533         62           1533         62           1533         59           1529         62           1527         62           1529         62           1529         62           1529         62           1529         62           1529         62           1529         62           1529         62           1529         62           1529         62           1529         62           1529         62           1529         62           1529         62           1530         62           1531         62      152         153         62           153         62         63           153         62         63           154         64         64           155         64         64           156         64         64           157         65	00 64 55 64 99 84 17 64 12 61 12 61 15 61 15 61 13 61 13 61 11 61 14 61	43         646           46         -643           47         627           56         632           19         618           22         522           19         619           19         619           19         610           19         611           19         612           19         613           19         613           19         613           10         672	\$72 562 553 653 648 645 635 625 635 622 622 622 622 623	6.56 613 603 503 51 619 633 696 978 678 678 678 672 597 622 594	383 500 587 562 595 596 561 561 662 525 659 596	573 525 -136 -233 -237 487 569 541 513 484 417 593		1091 630 6 636 6 836 1 645 6 772 7 744 6 891 6 645	741 748 765 757 761 756 758 758 758 758 753 753 760 775		800 600 603 796 822 633 814 286 782 777 770 757					12	+-		+		+1000v
800N	+	747 751 743 740 752	752 754 742 732 758 751 10,39 756 756 768 625	726 731 736 740 741 741 741 742 743 740 740 740 736	714 714 711 714 714 715 717 719 719 718 715 715 715 715 715	703         667           704         687           704         687           704         687           705         687           706         688           705         688           698         648           698         646           695         645           695         645           695         645           695         645           695         645           695         645           695         670           695         677	x01         x07         x07         x05         x07         x05         x07         x05         x05 <th>670 671 671 672 643 665 855 855 855 855 855</th> <th>666 666 666 665 663 663 663 657 655 655 663 641</th> <th>653 653 647 645 642 643 655 655 655 655 657 657 657 652 642 634</th> <th>638 644 633 634 632 635 635 635 628 621 619 620 615</th> <th>642 640 639 647 629 627 627 627 627 627 621 811 806 606 606</th> <th>229         336         1           331         1         1           328         1         1           528         1         1           529         1         1           527         1         1           514         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           523         1         1           524         1         1           527         1         1           528         1         1           529         1         1           520         1         1           521         1         1           522         1         1</th> <th>199 61 1905 61 521 61 197 61 197 61 197 61 197 61 198 60 199 56 1909 56</th> <th>2 61 4 66 5 51 6 62 0 60 4 81 1 80 77 56 7 56 7 56 4 52 3 51</th> <th>All         Rose           381         602           382         603           393         603           309         611           312         633           365         369           37         37           37         37           37         37           37         37           37         37</th> <th>415 588 598 597 598 598 598 598 599 599 599 595 595 595</th> <th>522 496 532 482 504 506 507 499 497 516 497 517</th> <th>48.1 628 664 945 1833 494 576 528 508 524 566 596</th> <th>687 579 587 199 705 745 625 529 499 510 468 466</th> <th></th> <th>234   </th> <th>782 782 670 </th> <th></th> <th>791 743 728</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>K 1178864</th> <th></th> <th>.+</th> <th>C</th> <th>т 1008</th>	670 671 671 672 643 665 855 855 855 855 855	666 666 666 665 663 663 663 657 655 655 663 641	653 653 647 645 642 643 655 655 655 655 657 657 657 652 642 634	638 644 633 634 632 635 635 635 628 621 619 620 615	642 640 639 647 629 627 627 627 627 627 621 811 806 606 606	229         336         1           331         1         1           328         1         1           528         1         1           529         1         1           527         1         1           514         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           522         1         1           523         1         1           524         1         1           527         1         1           528         1         1           529         1         1           520         1         1           521         1         1           522         1         1	199 61 1905 61 521 61 197 61 197 61 197 61 197 61 198 60 199 56 1909 56	2 61 4 66 5 51 6 62 0 60 4 81 1 80 77 56 7 56 7 56 4 52 3 51	All         Rose           381         602           382         603           393         603           309         611           312         633           365         369           37         37           37         37           37         37           37         37           37         37	415 588 598 597 598 598 598 598 599 599 599 595 595 595	522 496 532 482 504 506 507 499 497 516 497 517	48.1 628 664 945 1833 494 576 528 508 524 566 596	687 579 587 199 705 745 625 529 499 510 468 466		234   	782 782 670 		791 743 728						K 1178864		.+	C	т 1008
600N	+	+	777 782 775 785 989 1153 613 713 780 860 850 850 844	738 743 754 746 736 739 736 739 736 730 751 777 763 773	707 710 716 721 724 728 728 728 728 728 728 728 728 727 722 722	692         57           691         67           697         67           697         67           704         68           712         683           707         67           705         67           705         67           705         67           703         534           699         666	8 88 889 2 889 5 859 5 859 5 859 5 859 5 855 5 855 6 857 6 859 6 859	552 549 851 844 844 847 848 645 645 645 645 644 543 841 841	837 637 638 641 639 633 633 633 633 633 633 629 828	621 615 616 615 629 629 629 628 623 623 623 623 623 623 623 623 623 623	809 610 607 608 614 609 805 605 604 604 604 604	502 509 509 509 509 505 500 500 500	800 593 593 593 593 593 593 593 593 595 592 592 587 558 587 558 558 557 555 558 558 558	\$25         54           \$261         6.6           \$261         6.6           \$261         6.6           \$261         6.6           \$265         5.6           \$277         57           \$277         57           \$277         56           \$265         56           \$265         56           \$265         55           \$265         55           \$265         55           \$265         55           \$265         55           \$265         55           \$265         55           \$265         55           \$265         55           \$265         55           \$265         55           \$263         55	C         51           12         56           14         55           11         56           11         56           11         56           12         56           13         56           14         57           15         56           16         55           17         56           17         56           17         56           17         56           17         56           17         56           18         57           19         57           10         55           10         55           10         55           10         55           10         55           10         55           10         55           10         55           10         55           10         55           10         55           10         55           10         55           10         55           10         55           10 <t< th=""><th>79 80 85 85 10 81 91 75 55 55 52 54 54 57 57 58 68 6 1</th><th>574 585 592 558 560 591 597</th><th></th><th>538 543</th><th></th><th></th><th></th><th></th><th></th><th>· · · · · · · · · · · · · · · · · · ·</th><th></th><th>. +</th><th></th><th>+</th><th>•</th><th>+</th><th>+</th><th>+</th><th></th><th>+ +</th></t<>	79 80 85 85 10 81 91 75 55 55 52 54 54 57 57 58 68 6 1	574 585 592 558 560 591 597		538 543						· · · · · · · · · · · · · · · · · · ·		. +		+	•	+	+	+		+ +
NO	+		842 824 830 823 799 782 777 639 771 635 635 634 642 646	763 765 757 764 766 735 757 754 754 754 754 754 754 754	710 710 714	657 6877 6877 6877 687 656 657 657 657	43 43 44 45 45 45 45 545 545 545 545	641 837 633 634 634 634 634 834 834 834 834 824 612 622	678 623 623 620 622 821 821 821 615 615 615 609 609 659 659	615 616 615 610 608 605 601 569 599 600 599 599	500 597 593 592 588 587 588 584 584 586 586 586 586 586 586 588	564 578 572 569 572 569 572 572 572 572 572 572 572 575 566 567 565	564 562 560 557 556 553 554 554 554 554 552 552	56 565 56 56 56 56 56 55 56 54 54 54 54 54 54 54 54 54 55 55 56 56 56 56 56 56 56 56 56 56 56	- 58 8 562 9 562 9 56 9 56 9 56 5 56 5 57 4 57 8 57 8 57 8 57 8 57 8 57 8 58 8 58 8	54 54 56 55 55 55 75 75 75 75 75 75 75 75 75 75	· · · · · · · · · · · · · · · · · · ·	····	••	+	·				<u> </u>	а 		$\sum_{i=1}^{n}$	+	. 1976,		ے			40(
40			789 754 760 783 786 786 786 785 775 783 783 752 755 783	763 765 765 766 758 751 743 735 729 721 721 721		· ·			534 634 619 619 613 613 823 597 597 597	985	583 566 585 586 587 587 587 587 588 540 697 607 607 607 607 607 607 607	560 556 556 555 555 557 577 557 557 557 557	543 540 539 558 558 556 543 543 543 524	57 57 58 58 58 60 60 60	0 56 7 59 9 66 4 61 4 61 5 61 3 61 0 61	99 77 71 11 13 15 15 15 12					*								7		Flint	2	.1851	1	)N
200N	+ 1 <u>k</u>	1215707	759 754 742 341	720 713 891		+			673 672 574 651		646 656 669	94 973 989				+		+		.+•	ŧ		_/ +			•	<b>+</b> •		+		+		RECEIVED MAY 22 1998 MAY 22 1998	ENT	200N +

![](_page_31_Figure_2.jpeg)

![](_page_32_Figure_0.jpeg)

![](_page_33_Figure_0.jpeg)