

KIF Fig S1

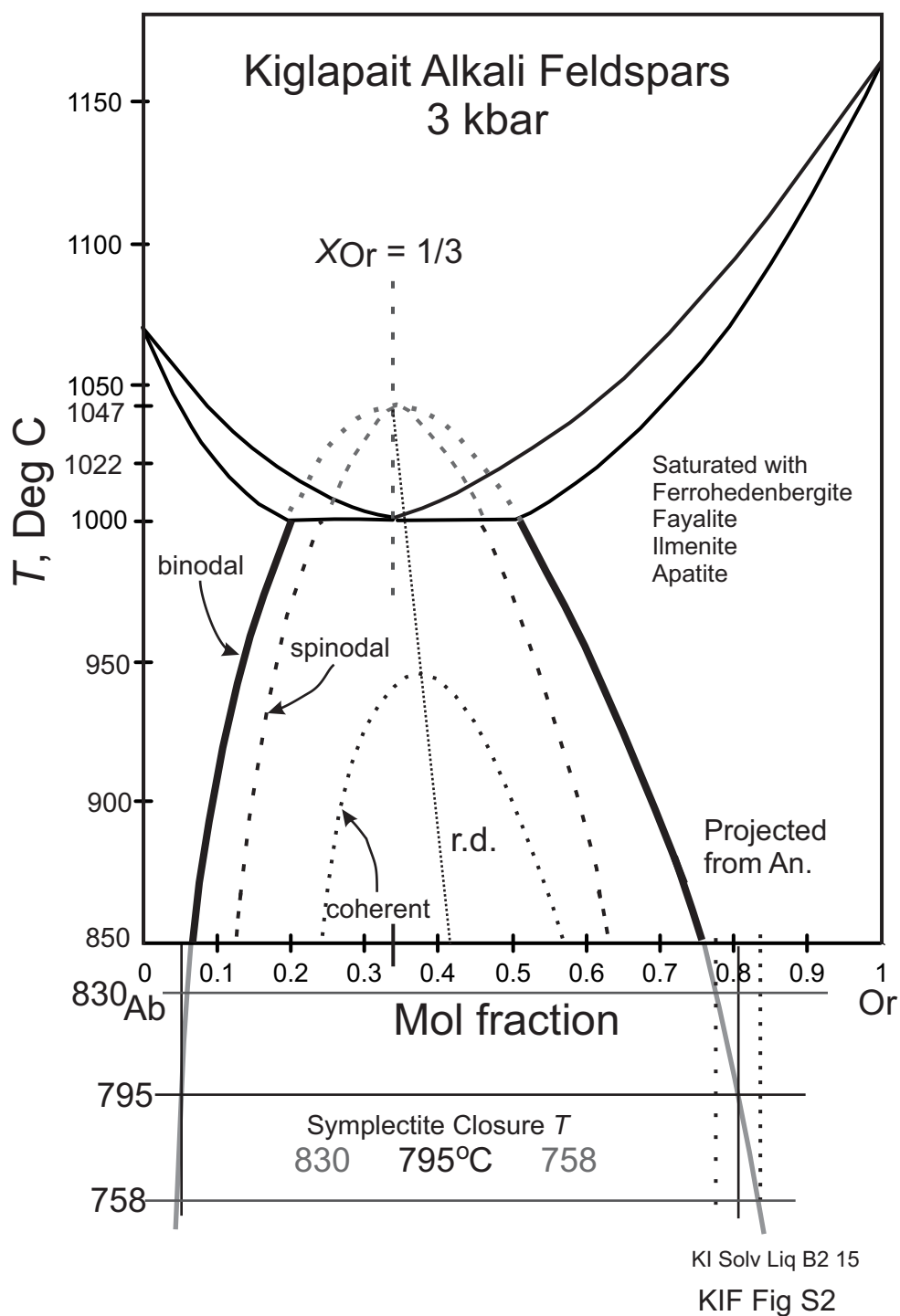


Fig. S2. Kiglapait solvus model extended down-temperature to estimate the closure temperature of the symplectites at 795 ± 36 C, 3 kbar. The limiting compositions are taken from Fig. 10 in the main text.

compositions could not be chosen to lie as near the solvus as in the join itself. The results from Ne-Ks-SiO₂-H₂O therefore furnish no basis for declaring a difference between peralkaline and one-to-one solvi.

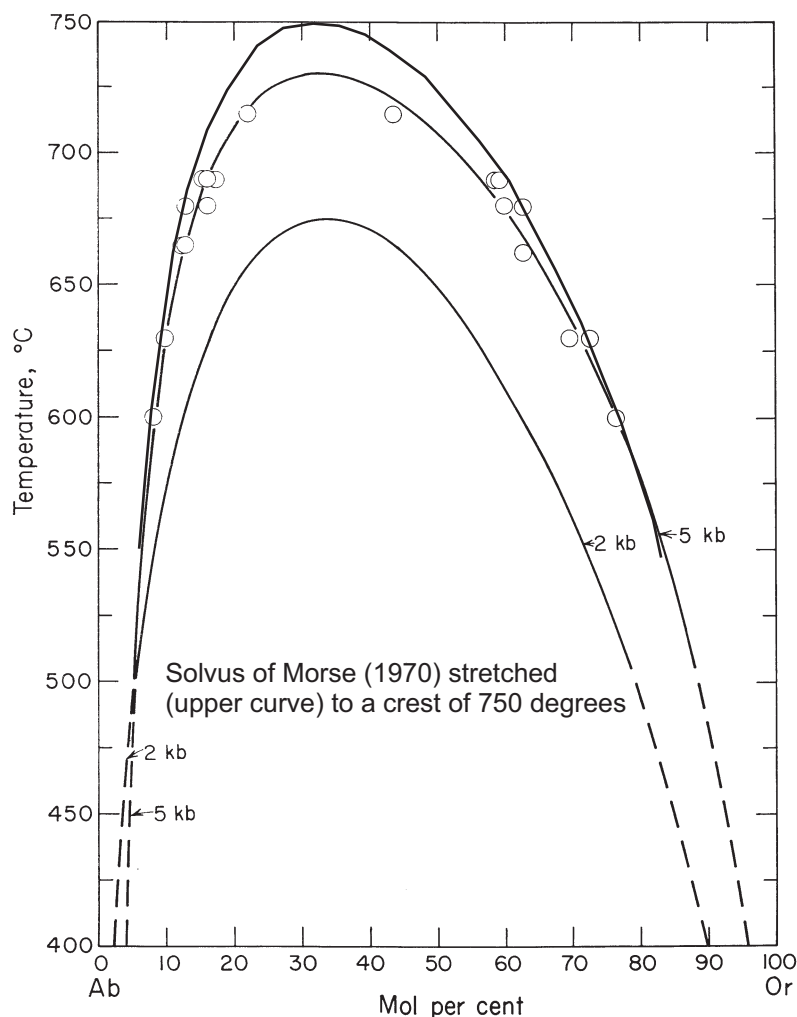
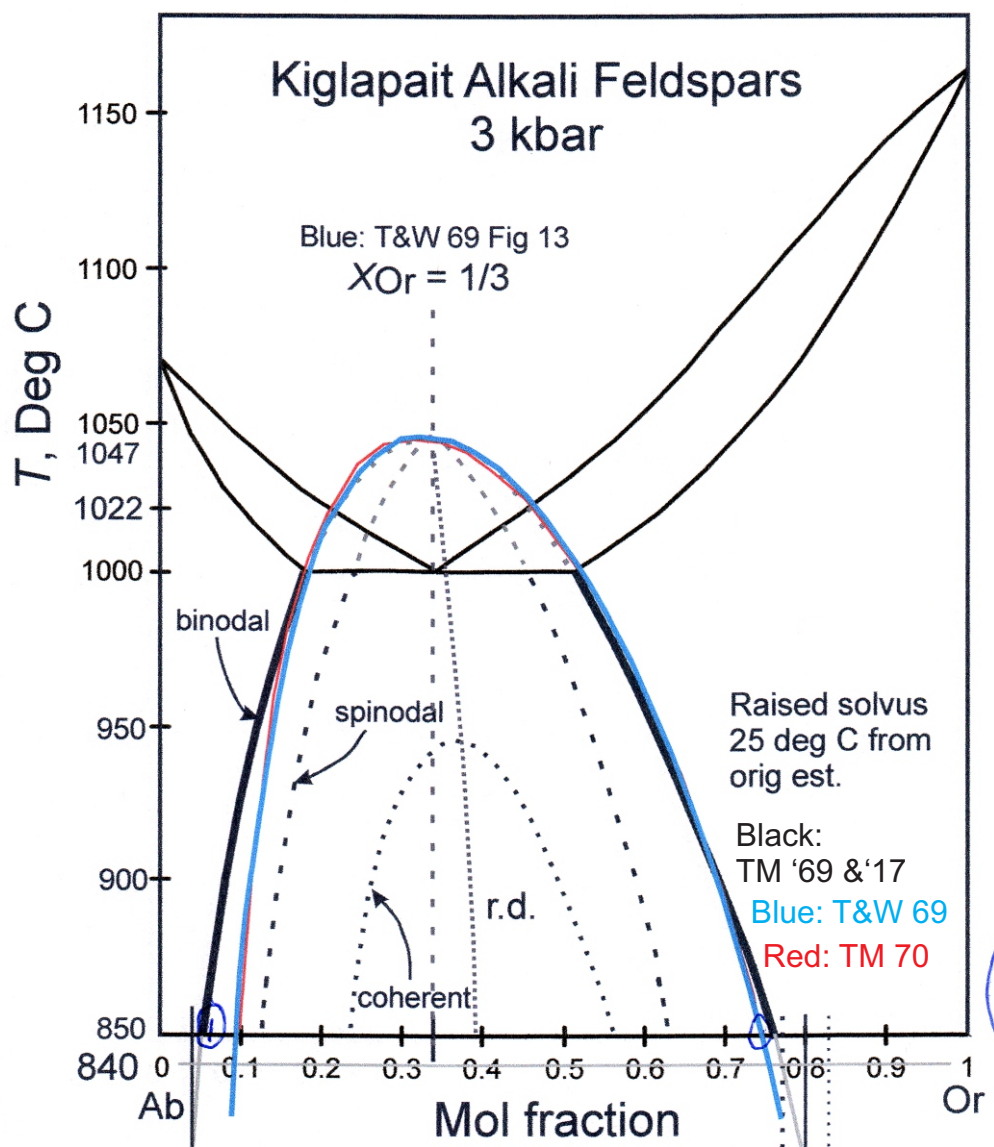


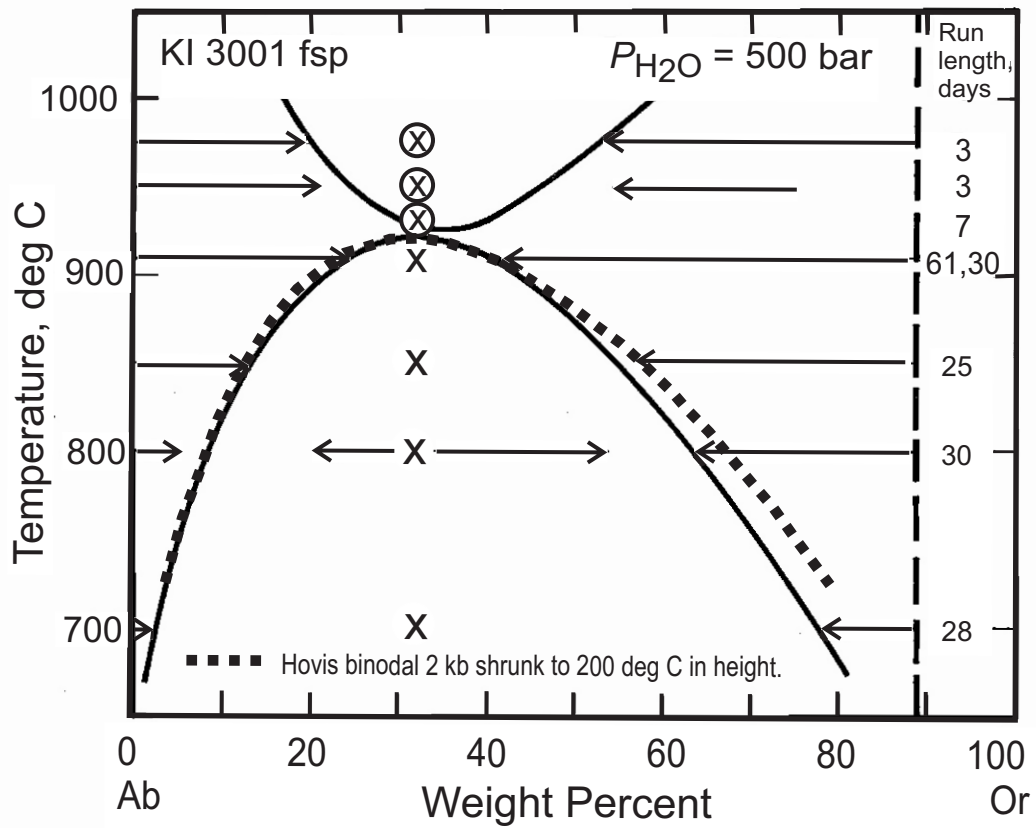
FIG. 6. The 5 kb solvus (present study) compared with the 2 kb solvus calculated by Thompson & Waldbaum (1969) from peralkaline data of Orville (1963) and Luth & Tuttle (1966). At 5 kb, the Margules solvus, not shown, virtually coincides with the parametric solvus everywhere in the data range, but lies outside the parametric solvus above and below the data range. The crossing of Ab-rich limbs in the figure is spurious and illustrates the inadequacy of the parametric equations for extrapolation far below the critical region, where the Margules equation retains its validity.



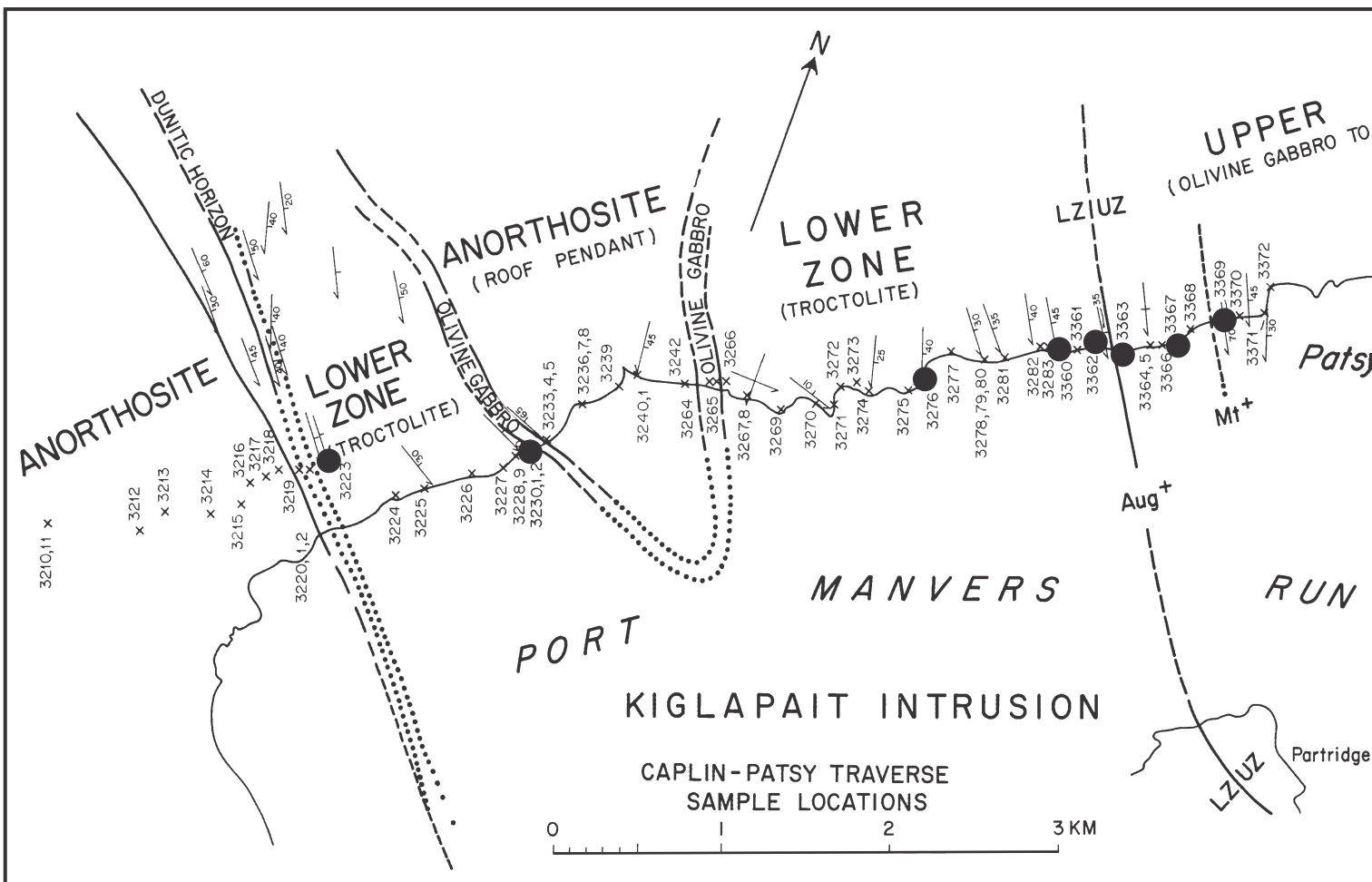
Comparisons of four solvi: Morse 1969 and 2017 in black; Thompson & Waldbaum 1969 in blue, and Morse 1970 in red, all adjusted to a common crest temperature.

KIF Fig S4

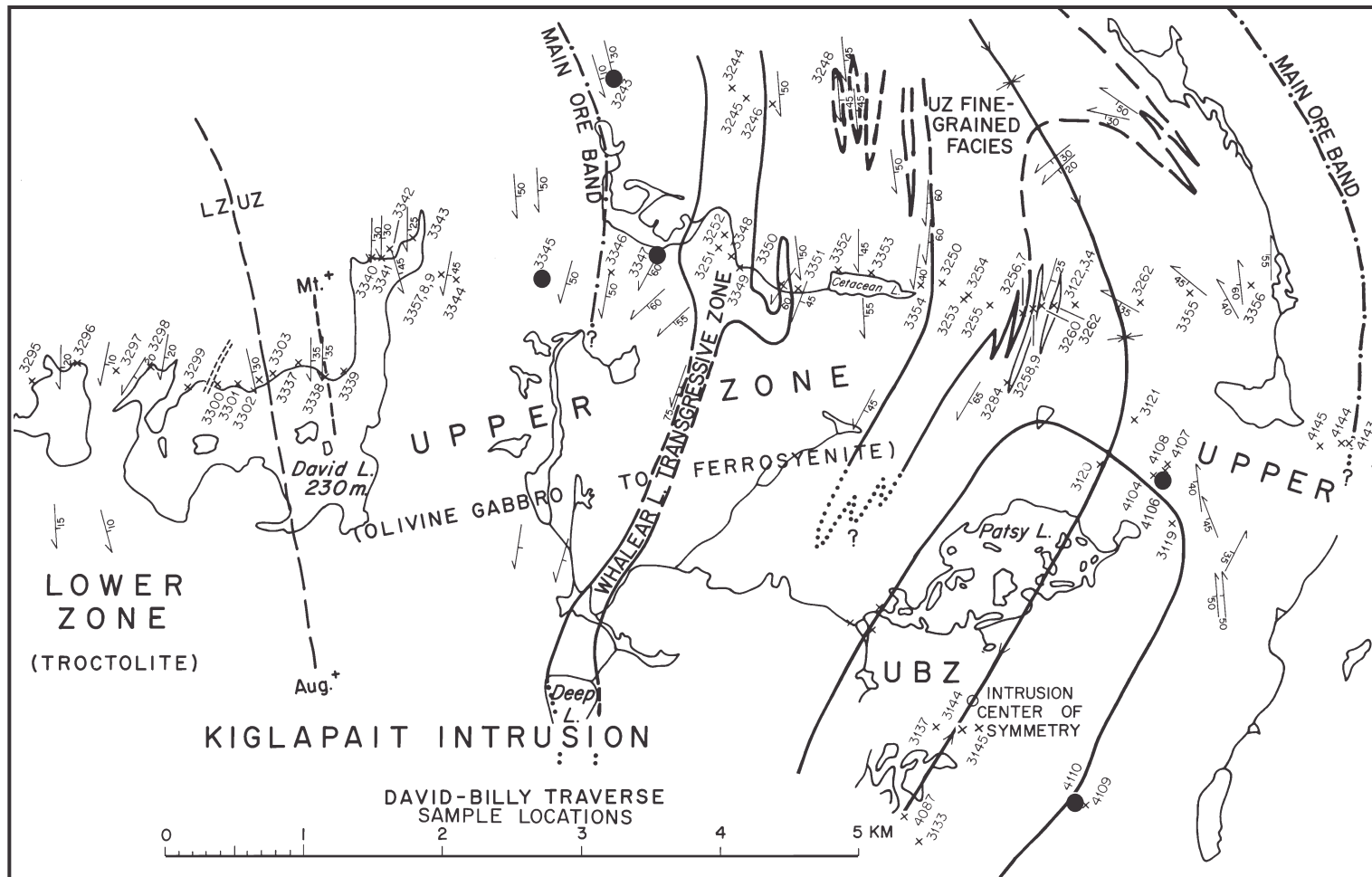
Experimental solvus of Morse (1969)
 compared with Hovis et al. (1991) shown
 in heavy dashed line

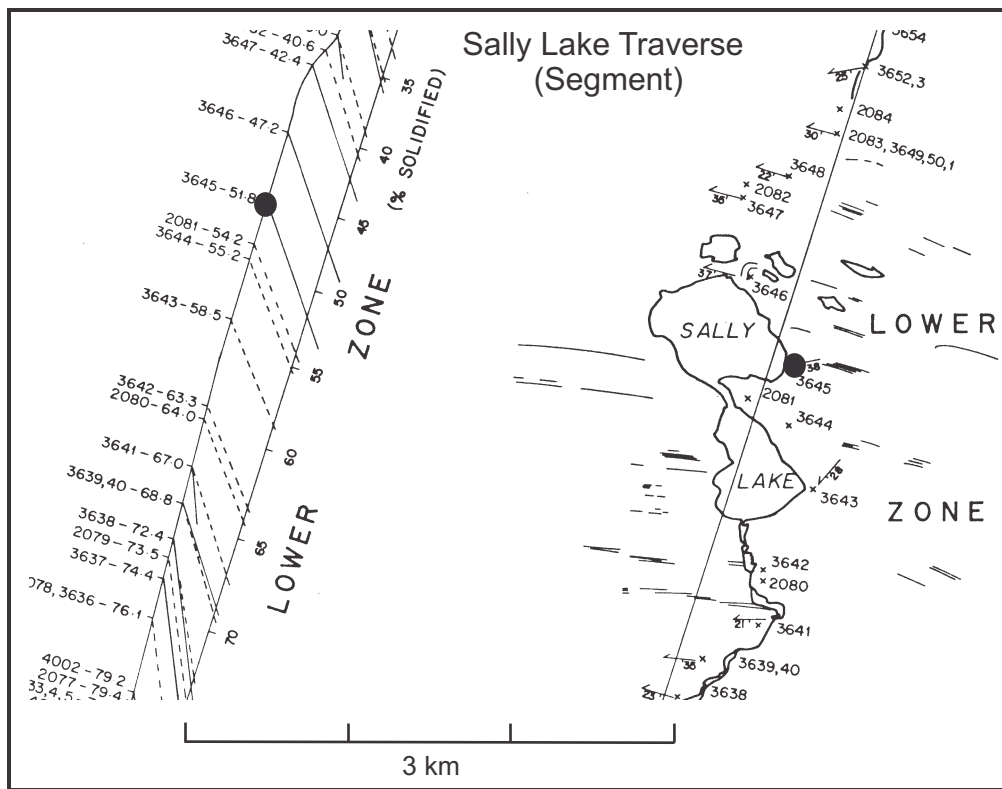


KIF Fig S5



KIFSP SM Map 1





KIFSP SM 4

Principal Syenite
Sample Locations

UBZ

UZ

57°00'N

61°28'W

Mesoperthite

0 1 km

Near 4082:
4109, 4106,
3001, 4062

4075

4077,8

4076

3384

4084

4082

4083

4081

4080

4079

3381

4121

4122

4119

4123

4120

3121

4108

4107

4105,6

4104

3120

4103

4099

4100,1,2

4098

3119

4097

4096

2063

4095

4094

4093

4092

3028

3029

4091

3144

3145

2064

3143

3142

3137

3141

3136

3135

3139

3134

4116

3140

3138

4117

3174

3172

3175

4118

4115

4114

4113

4112

4111

4109

4110

4089

4088

4087

3133

4086

3132

3131

4073

3129

3128

3127

3130

4071

4072

4074

1031

4066

4065

4064

4067

4068

4069

4070

4084

4082

4083

4081

4080

4079

3384

3381

4121

4122

4119

4123

4120

Mesoperthite

0 1 km

KIFSP SM 5: UBZ Area