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**LAND SELECTION UNIT 33 (MELOZITNA, AND TANANA QUADRANGLES):
REFERENCES, DGGS SAMPLE LOCATIONS, GEOCHEMICAL AND MAJOR
OXIDE DATA**

by

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Land Selection Index Map Evaluation Unit 33



LAND SELECTION UNIT 33 (MELOZITNA AND TANANA QUADRANGLES): REFERENCES, DGGS SAMPLE LOCATIONS, GEOCHEMICAL & MAJOR OXIDE DATA

Introduction:

Land Selection Unit 33 encompasses 415,000 acres in the Melozitna and Tanana quadrangles. In 1992, the authors spent one day doing helicopter-supported field work in Unit 33, in the Melozitna quadrangle. The work was in support of DGGS mineral resource evaluation of lands available for selection as State land. The analytical results from samples collected by DGGS are presented in this Public-data File, and the references used in the evaluation process are listed. The analytical data are also available on disk, by quadrangle, as part of the DGGS Public-Data File 93-37 series. NURE data were also used in the evaluative process, and maps of DGGS' statistical treatment of the NURE data will be available by quadrangle as part of the Public-Data File 93-38 series.

Samples collected by DGGS are briefly described in the first table. In the following table of trace element geochemical data, the asterisks indicate the analytical procedure that we consider to be more reliable for those elements that were analyzed by more than one method. Negative numbers denote values below the analytical detection limit. CIPW norms on the major oxide table were calculated using the UAF/PETCAL program, with oxide values normalized on an anhydrous basis.

Summary of Geology:

The western and northern parts of evaluation Unit 33 are underlain by Cretaceous sedimentary rocks and Tertiary - Cretaceous volcanic rocks ranging from mafic to intermediate in composition. The southeastern part of the evaluation unit is underlain by Precambrian to Paleozoic metamorphic schist and quartzite. Cretaceous granitic rocks intrude the sedimentary, volcanic and metamorphic rocks.

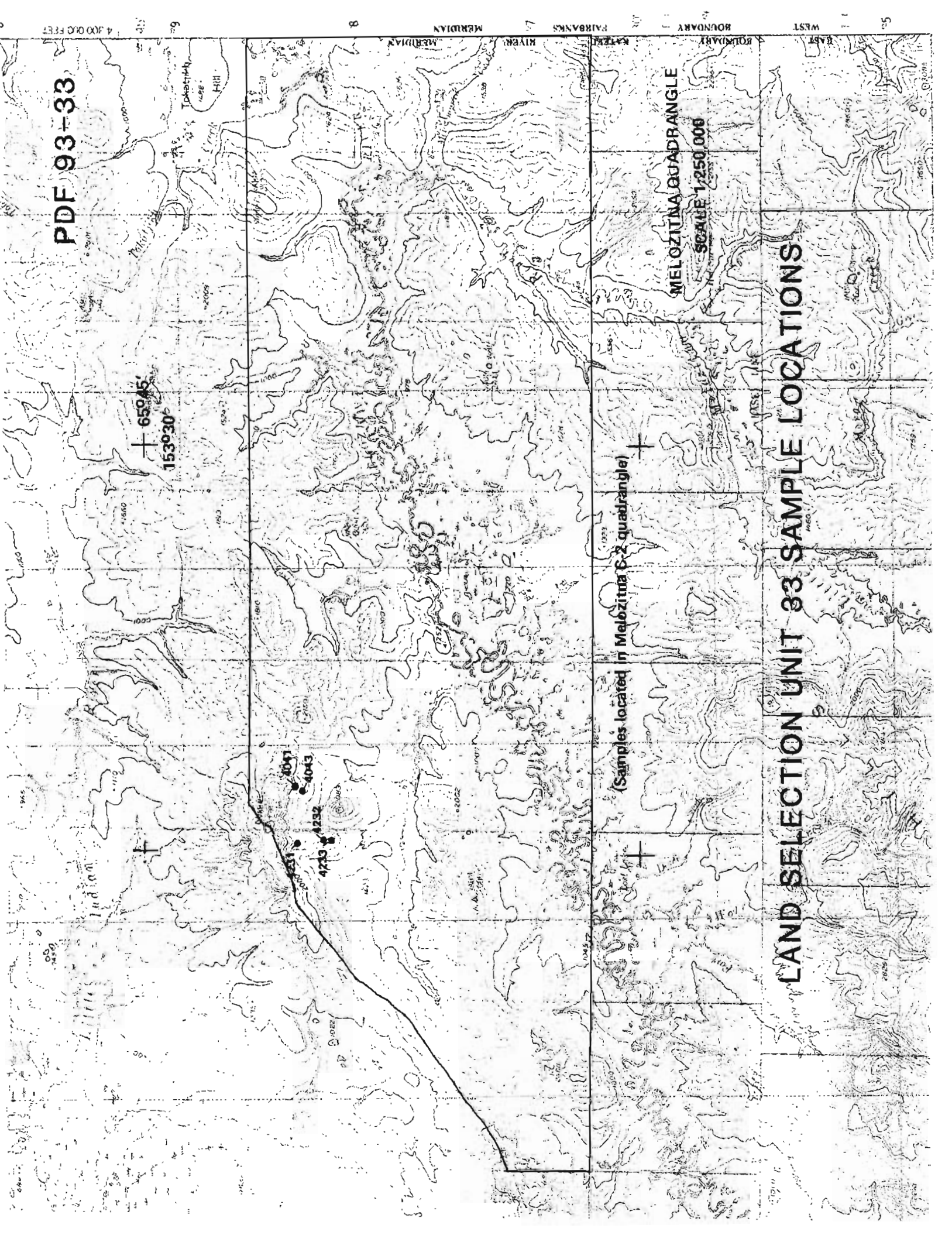
One of the intrusive rock units was found to be associated with previously unreported sulfide-bearing alteration, and rock grab samples collected by DGGS contained elevated concentrations of such elements as Cu, Mo, Au, Bi, As, and Zn.

65045
153030

(Samples located in Melozitina 6-2 quadrangle)

MELOZITINA QUADRANGLE
SCALE 1:250,000

LAND SELECTION UNIT 33 SAMPLE LOCATIONS



WEST BOUNDARY, EAST BOUNDARY, PAIRBANKS, KATEL, RIVER, MERIDIAN, 8, 9, 4 400 000 FEET

LAND SELECTION UNIT 33 SAMPLES

QUAD	STATION	GC No.	MO No.	DESCRIPTION	LONG.	LAT.
MEL C-2	92BT318			Andesite flows, tuff, pyroclastic breccia, seds	-153.925	65.683
MEL C-2	92BT319	4041		Tourmaline(?) veins w/alteration halo in hf	-153.918	65.676
MEL C-2	92BT319	4030		Porphyritic dike in volcanics	-153.918	65.676
MEL C-2	92BT319	4042		Sulfide-tourmaline veins	-153.918	65.676
MEL C-2	92BT320		4043	Medium-gr. bt granite	-153.924	65.672
MEL C-2	92DNS156			Andesite	-153.988	65.68
MEL C-2	92DNS157		4231	Hb bt granodiorite	-153.988	65.68
MEL C-2	92DNS158	4232		Fe-stained felsic intrusive w/ sparse malachite	-153.984	65.661
MEL C-2	92DNS159	4233		Fe-stained felsic intrusive	-153.984	65.657

LAND SELECTION UNIT 33 GEOCHEMICAL DATA (Analyses by Bondar-Clegg)

	<u>METHOD</u>	<u>UNITS</u>	<u>L.LIMIT</u>	<u>U.LIMIT</u>	<u>4030</u>	<u>4041</u>	<u>4042</u>	<u>4232</u>	<u>4233</u>
AG	ICP *	PPM	0.5	50	-0.5	0.9	-0.5	1.4	-0.5
Ag	INAA	PPM	5	300	-5	-5	-5	-5	-5
Al	ICP	PCT	0.01	10	2.42	5.37	6.5	0.39	0.51
As	ICP	PPM	5	2000	-5	82	29	121	57
As	INAA *	PPM	1	10000	8	5	11	143	74
Au	INAA	PPB	5	10000	6	5	6	120	93
Ba	ICP	PPM	5	2000	2000	812	589	384	466
Ba	INAA *	PPM	100	20000	2900	1100	650	570	730
Bi	AA	PPM	1	2000	1	-1	-1	2	-1
Bl	ICP *	PPM	5	2000	11	52	12	11	-5
Br	INAA	PPM	1	30000	-1	-1	-1	2	-1
CA	ICP	PCT	0.01	10	0.22	3.95	4.95	0.07	-0.01
Cd	ICP *	PPM	2	2000	-2	-2	-2	2.1	-2
Cd	INAA	PPM	10	2000	-10	-10	-10	-10	-10
Ce	INAA	PPM	10	30000	29	63	69	34	60
Co	ICP *	PPM	1	20000	-1	17	21	7	-1
Co	INAA	PPM	10	20000	-10	17	21	-10	-10
CR	ICP *	PPM	2	20000	7	49	42	94	44
Cr	INAA *	PPM	50	30000	-50	76	87	82	59
Cs	INAA	PPM	1	10000	-1	4	5	1	2
Cu	ICP	PPM	1	20000	29	67	268	1185	220
Eu	INAA	PPM	2	30000	-2	-2	-2	-2	-2
Fe	ICP	PCT	0.01	10	0.58	3.24	6.23	1.63	1.29
Fe	INAA *	PCT	0.5	10	0.7	4.2	6.6	2.3	1.9
GA	ICP	PPM	10	2000	12	39	22	14	17
Hf	INAA	PPM	2	30000	2	4	4	2	4
Ir	INAA *	PPB	100	1000	-100	-100	-100	-100	-100
K	ICP	PCT	0.01	10	1.23	0.94	0.99	0.82	1.07
LA	ICP	PPM	5	2000	9	15	19	11	13
La	INAA *	PPM	5	30000	14	29	30	14	28
LI	ICP	PPM	2	2000	-2	6	16	6	13
Lu	INAA	PPM	0.5	2000	-0.5	-0.5	-0.5	-0.5	-0.5
MG	ICP	PCT	0.01	10	0.03	1.25	2.33	0.17	0.07
Mn	ICP	PPM	5	20000	75	1041	1057	217	22
Mo	ICP *	PPM	1	20000	1	7	3	56	10
Mo	INAA	PPM	2	30000	-2	-2	2	54	11
NA	ICP *	PCT	0.01	10	2.68	2.92	2.71	0.9	0.14
Na	INAA *	PCT	0.05	10	2.4	3.2	2.7	0.83	0.16
Nb	ICP	PPM	5	2000	14	17	11	7	10
NI	ICP *	PPM	1	20000	2	48	36	59	6
Ni	INAA	PPM	20	30000	-20	39	33	54	-20
Pb	AA *	PPM	2	10000	24	46	17	186	13
Pb	ICP	PPM	2	10000	34	47	14	165	9
Rb	INAA	PPM	10	10000	110	70	68	55	110
SB	ICP	PPM	5	2000	10	19	-5	7	-5

-9 denotes not analyzed, other negative numbers denote below detection level

LAND SELECTION UNIT 33 GEOCHEMICAL DATA (Analyses by Bondar-Clegg)

	<u>METHOD</u>	<u>UNITS</u>	<u>L.LIMIT</u>	<u>U.LIMIT</u>	<u>4030</u>	<u>4041</u>	<u>4042</u>	<u>4232</u>	<u>4233</u>
Sb	INAA *	PPM	0.2	9999	1.9	1.8	4.3	16	6.5
Sc	INAA	PPM	0.5	2000	2.1	10	10	3.5	4.5
Se	INAA	PPM	10	30000	-10	-10	-10	-10	-10
Sm	INAA	PPM	0.2	2000	2.2	4.4	3.9	2.1	4.1
SN	ICP *	PPM	20	2000	-20	35	21	-20	-20
Sn	INAA	PPM	200	30000	-200	-200	-200	-200	-200
Sn	XRF **	PPM	1	10000	-9	-9	-9	11	10
Sr	ICP	PPM	1	2000	180	553	638	55	8
Ta	ICP	PPM	5	2000	-100	-100	-100	-100	-100
Ta	INAA *	PPM	1	2000	2	1	-1	-1	1
Tb	INAA	PPM	1	30000	-1	-1	-1	-1	-1
Te	ICP	PPM	25	2000	-25	-25	-25	-25	-25
Te	INAA	PPM	20	2000	-20	-20	-20	-20	-20
Th	INAA	PPM	0.5	3000	15	10	10	6.8	13
Tl	ICP	PCT	0.01	10	0.06	0.29	0.2	0.08	0.13
U	INAA	PPM	0.5	2000	6.3	4.1	5.3	4.4	3.1
V	ICP	PPM	2	2000	8	96	75	43	34
W	ICP	PPM	20	2000	-20	-20	-20	-20	-20
W	INAA *	PPM	2	30000	6	-2	-2	3	15
Y	ICP	PPM	5	2000	-5	5	6	-5	-5
Yb	INAA	PPM	5	2000	-5	-5	-5	-5	-5
ZN	ICP *	PPM	2	20000	45	265	119	65	10
Zn	INAA	PPM	200	30000	-200	450	-200	-200	-200
Zr	ICP	PPM	5	2000	30	58	83	10	17
Zr	INAA *	PPM	500	10000	-500	-500	-500	-500	-500

-9 denotes not analyzed, other negative numbers denote below detection level

LAND SELECTION UNIT 33 MAJOR OXIDES (Analyses by Bondar–Clegg)

MAJOR OXIDE ANALYSES (wt.%)		
	4043	4231
SiO ₂	63.5	64.32
TiO ₂	0.46	0.54
Al ₂ O ₃	14.9	16.13
Fe ₂ O ₃	4.98	3.59
FeO	1.16	1.29
MnO	0.06	0.07
MgO	2.24	2.18
Na ₂ O	3.8	4.13
K ₂ O	2.58	2.61
CaO	3.72	4.13
P ₂ O ₅	0.2	0.25
LOI	1.02	0.59
Cr	65	25
Ba*	1500	1500
Nb	22	-5
Rb	104	91
Sr	921	1081
Y	10	14
Zr	124	116
Sum as oxides	97.46	98.53
CIPW NORMS		
Quartz	21.84	19.58
Orthoclase	15.83	15.77
Albite	33.38	35.73
Anorthite	16.59	18.16
Diopside	0.95	0.87
Hypersthene	5.35	5.15
Magnetite	2.70	2.88
Hematite	1.97	0.22
Ilmenite	0.91	1.05
Apatite	0.48	0.59
Sum	100.00	100.00

Negative numbers denote below detection limit

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