

PROJECT 117-1

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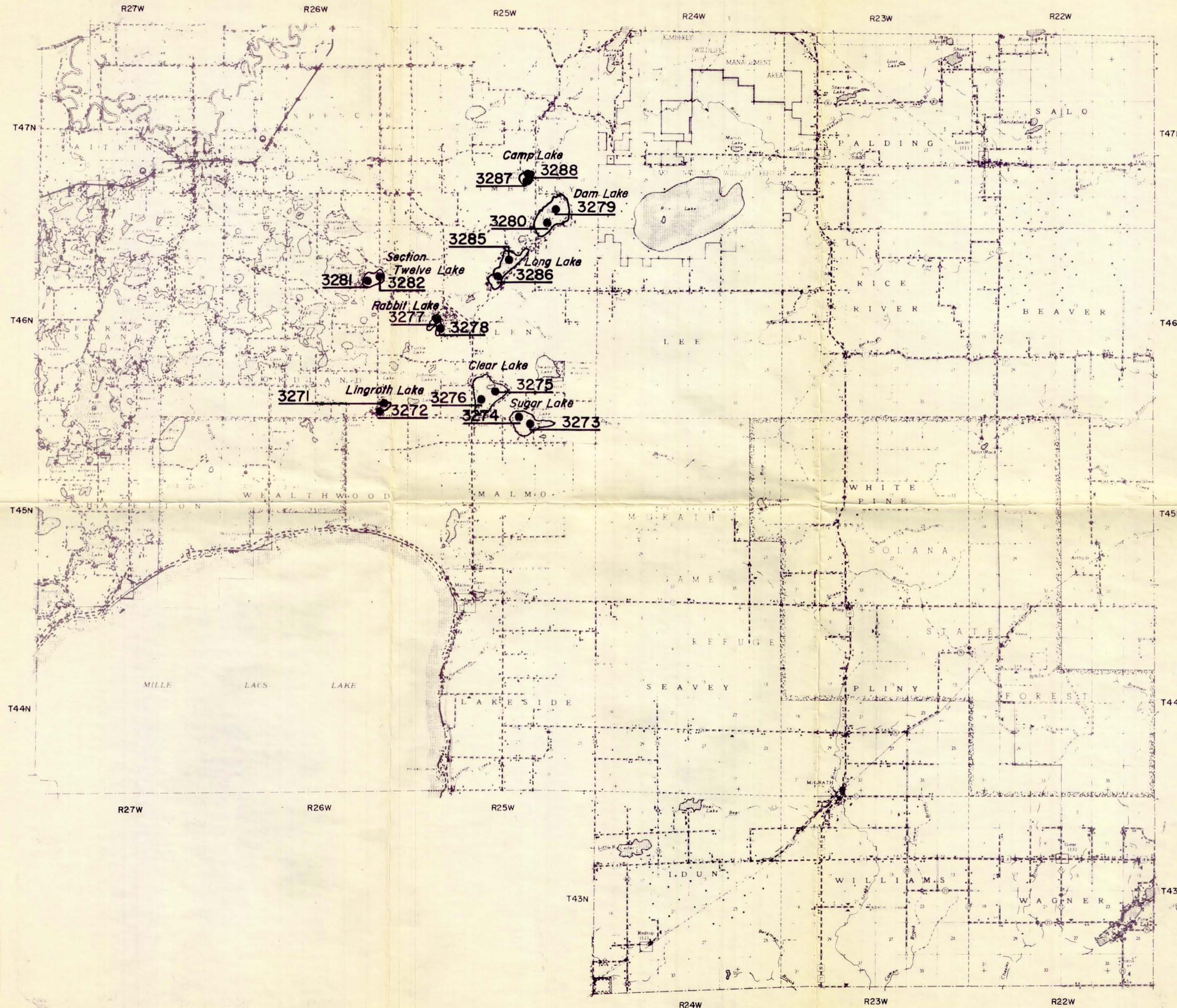
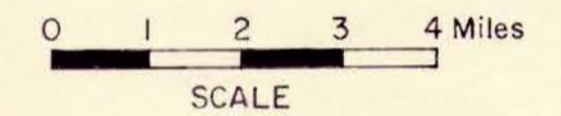
MINNESOTA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERALS

ORGANIC-RICH LAKE SEDIMENT EXPLORATION GEOCHEMICAL PILOT SURVEY, AITKIN COUNTY

1977

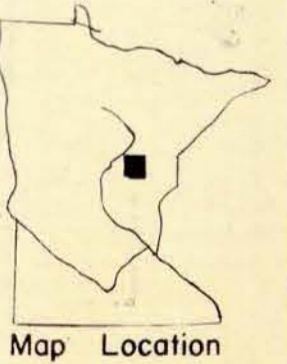
By D.G. Meineke, M.K. Vadis and A.W. Klaysmat
D.G. Meineke, Supervisor of Minerals Exploration

● 3286 Sample site with sample number



Base from Minnesota Department of Transportation
General Highway map or southern Aitkin County

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Map Location

Sample Number	Lake Name	Rock Type	Sample Depth (feet)	Ag (ppm)	As (ppm)	Co (ppm)	Cu (ppm)	Mo (ppm)	Ni (ppm)	Pb (ppm)	Zn (ppm)	Fe (%)	Mn (ppm)	LOI (%)
3271	Lingroth	Q & B	23	<.01	3.7	26	13	< 20	12	7	55	1.20	3500	40.36
3272	Lingroth	Q & B	23	<.01	2.8	23	15	< 20	14	13	80	.77	1750	45.99
3273	Sugar	G	40-43	<.01	2.2	8	20	< 20	13	4	50	.74	300	48.47
3274	Sugar	G	25	<.01	1.1	8	19	< 20	12	4	38	.51	425	46.80
3275	Clear	B, G & I	25-26	<.01	0.8	10	36	< 20	22	7	38	.47	250	36.09
3276	Clear	B, G & I	20-30	<.01	0.7	8	30	< 20	19	7	41	.31	75	55.57
3277	Rabbitt	B & I	35-40	<.01	2.8	13	33	< 20	16	7	38	1.74	3250	41.65
3278	Rabbitt	B & I	45-49	<.01	2.8	14	20	< 20	19	9	38	1.77	3250	45.60
3279	Dam	Q & B	23-24	<.01	1.9	8	22	< 20	17	12	73	.93	505	43.96
3280	Dam	Q & B	27-30	<.01	1.5	9	20	< 20	15	8	60	1.23	1150	44.03
3281	Section 12 Lake	Q	25-27	<.01	3.2	4	18	< 20	10	8	45	.91	425	47.09
3282	Section 12 Lake	Q	16-18	<.01	2.6	6	18	< 20	13	7	50	1.20	610	51.58
3285	Long	B	40-45	<.01	1.9	9	21	< 20	21	10	40	1.10	675	34.86
3286	Long	B	35-42	<.01	1.8	7	23	< 20	22	12	38	.91	600	36.51
3287	Camp	Q	5	<.01	0.5	4	10	< 20	10	7	38	.74	250	61.07
3288	Camp	Q	5-6	<.01	NA	3	8	< 20	7	4	35	.34	250	59.01

NA = Not analyzed

ROCK TYPE*

Q = quartzite; quartzose siltstone and argillite
 B = basic to intermediate extrusives and intrusives
 I = carbonate and pyritic iron-formation; carbonaceous argillite
 G = granite gneiss

* Rock types from: Morey, G. B., 1975, Bedrock Geologic Map -- Duluth Sheet: Minnesota Geological Survey, Open File Map.

All elements analyzed by atomic absorption on unignited sample.
 Ag, Co, Cu, Mo, Ni, Pb, Zn, Fe and Mn extracted in 4M HNO₃ - 1M HCl.
 Arsenic extracted in concentrated HCl. LOI determined by ignition at 800°C.

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COEFFICIENTS OF DETERMINATION (r²)

	As	Co	Cu	Ni	Pb	Zn	Fe	Mn	LOI
LOI	*.05	*.14	*.25	*.49	*.19	*.01	*.12	*.08	
Fe	.45	.12	.00	.03	.14	.04		.71	
Mn	.55	.49	*.01	.00	.10	.08	.71		
WD	.13	.10	.36	.45	.09	.01	.20	.11	*.55

* Negative relation

WD = Water depth at sample site

r² determined by log y = a + b log x, except water depth (y) where r² determined by y = a + b log x.

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