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Énergie, Mines et
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Geological Survey
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Commission géologique
du Canada

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20 February 1992

P. Lougheed
Senior Geologist
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Dear Peter:

Enclosed is a reprint of Henderson et al. paper, a schematic stratigraphic section, a regional geological diagram that has been used for a talk and posters, some crude incomplete geology for the Treaty Glacier area, a map showing the approximate location of GSC 1991 traverses in the Treaty Glacier area, a list of RVK 1991 samples from the area (marked in yellow), and reference to Drewes' USGS paper on the southwest. I counted 74 RVK 1991 samples for the Treaty area and presumably Henderson samples would boost the total to over 100(?). If you decide that you would like to have them analyzed on the same terms as last year let me know.

Thanks in advance for any materials that you send.

Best regards.

Sincerely,

R.V. Kirkham

RVK/lo

Encl.

Canada



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1842-1992
Commission géologique du Canada
Au service de la nation depuis 150 ans

Number	Formation	Location	Description
91-58	altered monz.	vis 5m S 58L instr.	58J - same pale grey py altered monz @ scattered K-spar
LC (58K)	(larger spec. to show K-spar)	vis 10 S 58S	58K " " " " " " " " " " " "
91-59	Mount Dilworth	High ridge N. Mt. Dilworth	59 - white-weather, pale grey, hard rhy. welded tuff @ flame
		" " ~100m W 59	59A - pale green-grey well-bedded lens (in " ") sed?
		" " ~50m W 59	59B - wh. rusty-weather. pale ball pyrite unit (rhy?)
Pb sample		" " ~20m W 59B	59C - white-weather. grey (sl. maroon) ash tuff @ scattered l. p. l. f. g. eyes
91-60	Betty Creek? (no ic)	" " ~200m W 59C	cobble-pebble green-grey v. immature cgl - breccia
91-61	Mount Dilworth	" " ~200m SSW 60	one green-grey kauchia-type pelecypod
91-62	" "	" " ~80m W 61	62A - sheared, bedded, pale-weather grey qz-eye ash tuff
91-63	Hazleton Group?	" " Upper Treaty Pt	63A - dark grey, hb-pyrox porphyry andesite?
		" " " ~200m N	63B - " maroon grey andesite? flow
91-64	Mount Dilworth	" " " ~10m N 63B	64A - ~4m thick, white-weather, hard pale rhyolite
		" " " ~30m W 64A	64B - white relative massive extratuffaceous chert @ minor sulphides??
Salmon River		" " " ~20m W 64B	64C - several white-weathering pyrite-rich pajama beds?
" "		" " " ~500m NW	64D - typical black well-bedded carbonaceous mudstone
91-65	West Zone	~40-50m N of rise	R5-6 65A - 30-50cm wide high-grade py tetrah, pyrox, sp, grt
		R5-6	65B - ~10-20cm wide high-grade @ spherical ore str.
91-66	Eraser Zone	~2 N trending vein	~10-30cm v. high-grade tetrah-rich zone
91-67	Bielecke	most westerly cut	67A - sampled some 5-10cm qz veins, over ~2m width
		sawcut middle of	67B - " cut over ~2-3m NS of EW
		~3m EW trench	67C - dismembered qz-carb-tetrah-py etc veins schist
91-68	silicified porph	N. of Shog Zoned	grey dense hard silicified porphyry??
91-69	vein & stockwork	~50m " " "	69A - 5cm & 20-30cm quartz veins @ py, tetrah, sp, grt
		ESSO T-11 a 20m	69B - typical quartz, sericite, pyrite schist @ qz stockwork
		~6m N 69A	69C - completely leached ~4-5m qz-barite vein system on strike zone
		~10m N 69B	69D - sericite pyrite schist (calcite veins?)
		~70m N 69C	69E - " " " @ some qz py veins
		~30m N 69D	69F - selected leached qz veins in qz-ser-py schist zone
		~10m NE 69E	69G - " " " " " " " " " " " "
91-70	qz, ser, py schist	str @ base of John Walker	70A - sericite, pyrite (~10%) schist
		~80m SW of 70A gully	70B - " " schist & leached qz veins - on strike @ N.
91-71	Toarcian seds.	Survey Sta. 24	71A - typical drab grey, limy, fossiliferous, gritty sandstone
91-72	Mount Dilworth	Knippen Icefield	71B - sandy congl. (~2m above arg. contact) (~2m unit)
91-73	Betty Creek	Knippen Icefield	71C - typical gritty dark grey carbonaceous mudstone

Number	Formation	Location	Description
KQ-91-72	Mount Dilworth	~3m below ^{metre} contact	72A - white-weathering, grey bedded dust tuff ^(15-6m unit) on reworked tuff
			72B - " " pale grey 2m-thick cherty rhy @ ^{8m unit} fuzzy field
			72C - grey tuff @ purple clasts (in cl) (5-6m bedded unit)
	Betty Creek	~1.5m above ^{metre} Vol.	72D - graded green-grey mottled lapilli tuff-tuff unit ^(10m unit)
	" "	~2-3m below ^{contact}	72E - dark maroon bedded tuff & lap. tuff (14m unit)
	" "		72F - well-bedded maroon grey lapilli tuff & tuff br. (photos) ^(2m unit)
	" "		72G - sl. cleaved, hematitic red tuff & lap. tuff @ ^(4-5m unit) embedded biotite ^{etc}
	" "	base of ofe	72H - maroon-grey volcanic breccia (photo)
KQ-91-73	diabase dyke	" 8m wide dyke	medium maroon-grey diabase @ alt. ^{cut by} zone mafic ^{members} ^{etc}
KQ-91-73A	B. Bowser L.	^{South Side} ^{South} ^{Treaty} ^{Glacier}	73A - medium grey, f.g., feldspathic sandstone
	" "	~300m N 73A	73B - well bedded graphitic black (py) mudstone
KQ-91-74	Mt. Dilworth	" " ^{float from} ^{cliffs}	73C - white & crusty-weathering hard grey rhyolite
KQ-91-75	Salmon R.?	" " ~100m N 74	75A - pale to med. grey alt. ser py (1%) schist
	" "	" " ~20m N 75A	75B - pale altered (4% py) basalt pillow br. & hyaloclastite
	" "	" " ~100m N 75B	75C - " " " amyg. " " lava? ^{site of flow?}
	" "	" " ~80m N 75C	75D - f.g. med. green columnar jointed sl. amyg. basalt
KQ-91-76	" Betty Creek "	" " ~50m N 76	76A - maroon-grey tuff breccia
			76AA - maroon float @ malachite stains - ^{found by Tom} flattened ves. ^{along} ^{fracture}
	Mt. Dil. dyke	" " ~50m N 76A	76B - white-weathering 1-3m wide grey rhyolite dyke
	Salmon R. Fm?	" " ~150m N 76B	76C - pale altered pyritic mafic pillow (?) lava
KQ-91-77	Mt. Dilworth	" " ~30m N 76C	77A - well-bedded tuff & lap. tuff
	" "	" " ~5m N 77A	77B - pale-weathering grey flow-layered rhyolite ^{12m thick}
	" "	" " ~30m N 77B	77C - " " dense " lava
KQ-91-78	^{Salmon R.?} Bowser L. ^{North Side} ^{in contact} ^{with} ^{glacier}	^{base} ^{of} ^{unit}	78A - sandstone and sandy granule conglomerate
	" "	" " ^{1cm thick} ^{at} ^{top}	78B - black pyritic mudstone just above contact
KQ-91-79	Mt. Dilworth	" " ^{5-6m unit}	79A - pale-weathering massive lapilli tuff (2-3cm frags) ^{into some 10-20cm}
	" "	" " ^{10m lower} ^{unit}	79B - white-weathering hard green-grey rhyolite breccia ^{fragments of}
	" "	" " ^{10m lower} ^{unit}	79C - pale & dark rusty- " drab green-grey massive dacite?
KQ-91-80	^{Ed} Premier Porphyry	" " ~80m ^{sl. of} ^{unit} ^{130m} ^{strat.} ^{lower}	80A - maroon-grey trachyandesite (?) porph. (2 feld.?)
		" " ~20m ^{strat.}	80B - pink-to maroon-grey flow-layered & brecciated 2 feld
		" " ~25m "	80C - " " " " brecciated (photos) 2 feld ^{porph}
KQ-91-81A	" " ?	" " ~30m "	81A - f.g. pl. ~K-spar?? grey (hem. fract.) porphyry

U-Pb zircon sample
U-Pb zircon sample

Number	Formation	Location	Description
91-106	Hazellton Group	West side Tule Creek	106A - pale altered, py (3-4%) lapilli tuff 106B - pale alt. high pyrite (10-20%) rock overlying 106A 106C - 4-5m dark carbonaceous diamictite @ pale alt. tuff 100m E 106D - drab green-grey poly lithic tuff-breccia 100m NE 106E - " green-grey andesitic? amyg. flow @ chd. p. tuff
91-107A	dark sed. rk	" " " 11m S on N 107A	dark graphitic metamorphosed fossil wood (frag. 30cm)
91-108	intrusive(?) breccia	" " " 11m 200m N 108	green-grey poly lithic breccia cutting bl. arg. f. s.s.
91-109	Hazellton Group	" " " 11m 109A	109A - pale green grey alt. frothy amyg. siliceous bas? 100m N 109B - pale green-grey amyg. and. (w. 1/2 filled amyg.) 100m W 109C - pale alt. py volcanic rock 1.5m W 109D - f.g. rel. mas. pyrite pods
91-110	Salmon R. Fm.	" " " intr 30m N 110A	110A - slaty pyrite graphitic black argillite " " " 170m N 110B
		" " " 100m N 110C	110C - rusty " " py "
91-111	Stuhini Group	" " Ceparly Glacier 111A	111A - massive f.g. immature (aug. & feld. xls) dark S.S. " " " 50m N 111B
		" " " 300m N 111B 111A	111A - massive medium green-grey poly lithic vol. br
91-112A	" "	" " " 300m N 112A	112A - massive medium green-grey poly lithic vol. br
91-113	Altered sills?	Ceparly Cr. 100m N 113A	113A - buff-weathering, pale grey, carbonate alt. feld. (1/2) pop. b. 200m N 113B - " " " " " " " "
91-114	Mount Dilworth	W. of Atkins St. 114A	114A - rusty weathering, pale altered siliceous lapilli tuff 20m 114B - " " " " " " " " " " 25m 114C - pale green-grey, siliceous bedded tuff @ feld. micro lites 20m 114D - rusty weath, grey, " lapilli tuff unit
91-115	Hazellton Grp.	" " " 100m N 115A	115A - massive pale green-grey dacitic? lap. tuff " " " 140m S 115B
		" " " 115B	115B - dense, massive, dark green-grey, faulted basalt?
91-116	" "	" " " 116A	116A - massive, medium green (ep, chl), pl. phytic and br. " " " 160m S 116A 116B - " " (sl. max.) grey, " " " " " " " 160m S 116A 116C - " " " grey " " andesite
91-117	" "	" " " 70m S 117A	117A - " " maroon-grey Premier Porphyry br. @ 400m S 117B " " " 40m S 117B 117B
		" " " 117B	117B - bedded, " " lapilli tuff
91-118	Stuhini Grp.	" " " 300m S 118A	118A - well- " black argillite & green f.g. S.S. & sil. stone " " " 30m S 118B
		" " " 118B	118B - 10m wide medium grey plagioclase porphyry
" "	" "	" " " 10m S 118C	118C - medium grey, med. grained mas. S.S. - d. it. /

Number	Formation	Location	Description
KQ-91-120	Stuhini Grp. ? veins	Drill site N. Treaty ^{CA}	120A - qz vein @ qz + stibnite? tetrah? ~10m N
			120B - grungy dark poly lithic sed. on and/or
			120C - qz veins @ tetrah. + cp
KQ-91-121	"Transition" Unit	40m N ^{top of ridge}	121A - fossil (ammon., Melias, pectis, gastrop., bel.) in limy grey SS
		121B - buff weathering (fossiliferous) grey sandstone	
KQ-91-122	Hazelton Grp.	W. side of Treaty Cl. ^{121B}	122A - grey pl phytic andesitic tuft breccia
		" " " "	122B - typical " massive f. q. pl. phytic and. monomitic br.
		" " " "	122C - sl. maroon grey, pl (k-spar?) - ls "dac?" " porph.
		" " " "	122D - massive, sl. mar. grey, pl. phytic andesite
KQ-91-123 alt.	" "	" " " "	123A - pale to med. grey, ser. alt, py (3-4% of q) and?
		" " " "	123B - " " " " " " " "
		" " " "	123C - " " " " " " " "
		" " " "	123D - medium green mas. Porph. @ scattered k-spar.
KQ-91-124	Mount Dilworth	E. of Treaty Cl. ^{N. of Treaty}	124A - grungy grn felsite (dyke?) @ microclites
		" " " "	124B - massive medium green - grey rhyolite
KQ-91-125	Salmon River	" " " "	125A - dark carbonaceous limy (?) argillite
		" " " "	125B - medium green tuft breccia @ felsic fragments
		" " " "	125C - massive medium green, amyg. (cl. cal) bas. br.
		" " " "	125D - " " " " (tuft) " "
KQ-91-126	Hazelton Group	" " " "	126A - medium maroon grey Premier Porph. br.
		" " " "	126B - medium green immature gritty S.S.
KQ-91-127	" (layered qz-py)	" " " "	127A - pale white - grey intensely altered, sl. vol. br.
		" " " "	127B - foliated f. q. pyrite (1m-wide zone)
		" " " "	127C - layered qz-py (natro-alunite) rtk
		" " " "	127D - " " " " (50%) " " "
		" " " "	127E - " " " " " " " "
		" " " "	127F - " " " " " " " "
		" " " "	127G - " " " " " " " "
KQ-91-128	immature green SS	" " " "	127G - medium green immature S.S.
KQ-91-129	Hazelton Grp. Cr.?	W. side Bruce ^{below}	129A - "green-grey massive lapilli tuft
		" " " "	129B - " " " " " " - tuft
KQ-91-130	Mount Dilworth	" " " "	130A - pale grey py (~2%) ser alt mas SS below Dilworth felsite
		" " " "	130B - white weathering, pale grey welded tuft @ ~10% glass



Approximate
Locations 1991
GSC Traverses
Tantalus Property B

- SRH - Jack Henderson
- MNH - Mariee Henderson
- TOM - Tom Wright
- RVK - Rod Ivie

Feb 20 1992

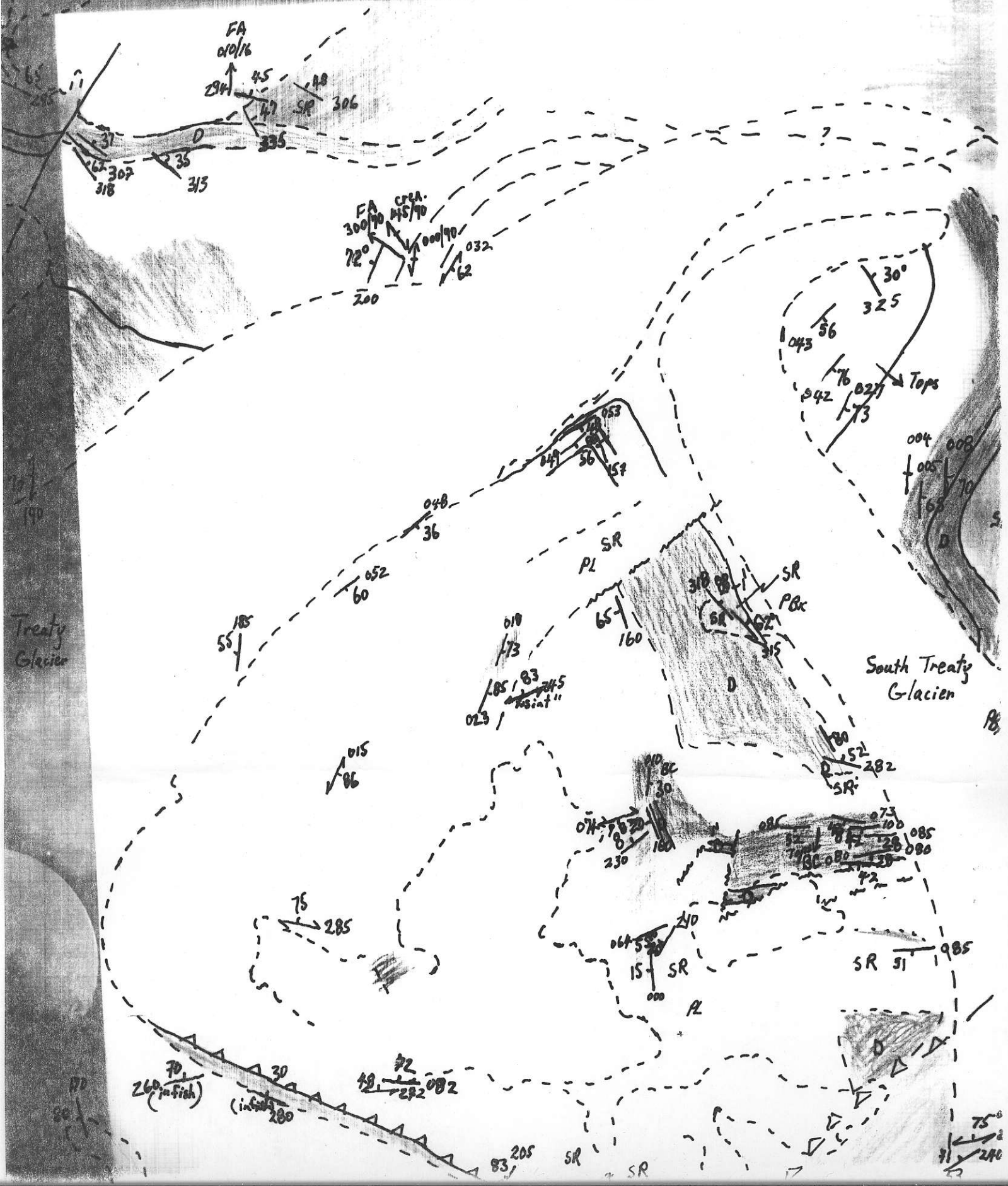
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RVK
Sept. 3/91

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BL



FA
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147 SR 306

FA
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72°
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30°
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043 56
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Tops

South Treaty
Glacien

Treaty
Glacier

70
260 (in fish)

72
181 282 082

SR 51 985

75°
71 240

