



(SIR, HMC and Routine Water Field Card - June 2005)

N.T.S. SHEET		YEAR	SAMPLE NUMBER	REF. STA.	WATER BODY	DATE	TIME	COLLECTORS	
GENERAL PHYSIOGRAPHY <input type="checkbox"/> Mountainous <input type="checkbox"/> Hilly <input type="checkbox"/> Plain <input type="checkbox"/> Peneplain <input type="checkbox"/> Swamp		STREAM REGIME(S) <input type="checkbox"/> Ground <input type="checkbox"/> Spring/Well <input type="checkbox"/> Glacier <input type="checkbox"/> Recent Rain <input type="checkbox"/> Unknown		WATER COLOUR _____		CONTAMINATION(S) <input type="checkbox"/> None <input type="checkbox"/> Possible <input type="checkbox"/> Probable <input type="checkbox"/> Definite <input type="checkbox"/> Mining <input type="checkbox"/> Industry <input type="checkbox"/> Agriculture <input type="checkbox"/> Domestic <input type="checkbox"/> Forestry <input type="checkbox"/> Burn <input type="checkbox"/> Other		STREAM SEDIMENT SAMPLE COLOUR(S) _____	
SURFACE EXPRESSION <input type="checkbox"/> Hummocky <input type="checkbox"/> Inclined <input type="checkbox"/> Level		STREAM CLASS <input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> Tertiary <input type="checkbox"/> Quaternary <input type="checkbox"/> Undefined		WATER CLARITY <input type="checkbox"/> Transparent <input type="checkbox"/> Partially Cloudy <input type="checkbox"/> Cloudy		STREAM SEDIMENT COMPOSITION Sand _____ % Silt & Clay _____ % Organics _____ %		HMC: R/W COMPOSITION Cobbles _____ % Pebbles _____ % Sand _____ % Silt _____ % Clay _____ % Organics _____ %	
DRAINAGE PATTERN <input type="checkbox"/> Dendritic <input type="checkbox"/> Herringbone <input type="checkbox"/> Rectilinear <input type="checkbox"/> Trellis <input type="checkbox"/> Poor <input type="checkbox"/> Discontinuous <input type="checkbox"/> Closed		STREAM TYPE <input type="checkbox"/> Permanent <input type="checkbox"/> Intermittent <input type="checkbox"/> Re-emergent <input type="checkbox"/> Undefined		VEGETATION <input type="checkbox"/> Coniferous <input type="checkbox"/> Deciduous <input type="checkbox"/> Mixed <input type="checkbox"/> Grass <input type="checkbox"/> Bog <input type="checkbox"/> Other		BANK PRECIPITATE <input type="checkbox"/> No <input type="checkbox"/> Yes Colour(s) _____		CLAST LITHOLOGY(IES) _____ % _____ % _____ % _____ %	
SITE DRAINAGE <input type="checkbox"/> Well <input type="checkbox"/> Moderate <input type="checkbox"/> Poor		STREAM FLOW <input type="checkbox"/> Stagnant <input type="checkbox"/> Slow <input type="checkbox"/> Moderate <input type="checkbox"/> Fast <input type="checkbox"/> Torrential		BANK TYPE(S) <input type="checkbox"/> Alluvium <input type="checkbox"/> Gravel <input type="checkbox"/> Till <input type="checkbox"/> Outwash <input type="checkbox"/> Bare Rock <input type="checkbox"/> Talus/Scree <input type="checkbox"/> Organic <input type="checkbox"/> Other		BOTTOM PRECIPITATE <input type="checkbox"/> No <input type="checkbox"/> Yes Colour(s) _____		BEDROCK EXPOSED <input type="checkbox"/> No <input type="checkbox"/> Yes Depth(s) _____	
N A D		Latitude		Longitude		IN-SITU WATER <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		CLAST SHAPE Rounded _____ % Sub-angular _____ % Angular _____ % Polyhedral _____ %	
COMMENTS		BOULDERS PRESENT <input type="checkbox"/> No <input type="checkbox"/> Yes Type(s) _____							



e.g.

0	3	1	G	0	5
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NTS Sheet: National Topographic System 1:250,000 index reference, consisting of three numbers and one letter e.g. 031G and occupy the first four boxes. The final two boxes are used for the 1:50,000 sheet identification e.g. 05, if applicable.

e.g.

2	0	0	3
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Year: The four-digit year, e.g. 2003.

e.g.

1	0	0	1
---	---	---	---

Sample Number: A four-digit sample number e.g. 1001. The first digit refers to the collection party crew number, while the other three digits are a sequential series from 001 to 999, for example:

- Crew 1 samples range from 1001 to 1999,
- Crew 2 samples range from 2001 to 2999,
- Crew 3 samples range from 3001 to 3999, ...

e.g.

0	0
---	---

Rep Stat (Replicate Status): A two digit number e.g. 00, defining the relationship of the current sample to others in the survey

- 00 routine sample
- 10 first sample of a field duplicate pair
- 20 second sample of a field duplicate pair
- 80 blind duplicate number (empty bag) for a blind duplicate cut of one of previous 18 field samples
- 90 control reference number (empty bag) for cut of a control reference sample

e.g.

1	1
---	---

Stream Width: width of the stream estimated in metres to the closest $1/10^{\text{th}}$ of a metre e.g. 1.1metres wide.

e.g.

0	1
---	---

Stream Depth: depth of the stream estimated in metres to the closest $1/10^{\text{th}}$ of a metre e.g. 0.1 metres deep.

e.g.

3	0	5
---	---	---

Date: date of collection, DD MM format, e.g. May 30 = 30 05

e.g.

1	4	2
---	---	---

Time: time of day (24 hour clock), e.g. 2:26pm = 14:26

e.g.

A	B	C	D	E	F
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Collectors: initials of the collection crew, first three boxes for the navigator, last three for the second sampler, e.g. ABC DEF

GENERAL PHYSIOGRAPHY

- ☐ Mountainous
Youthful - reasonably rounded, rugged area of uplift having at least 300m gain from base to peak
- ☐ Mountainous
Mature - relatively steep sided part of the earth's crust with greater than 300m elevation gain from base to peak
- ☐ Hilly - natural elevation change, of less than 300m, while having a well defined outline
- ☐ Plain - any flat area at low elevation
- ☐ Peneplain - any almost flat area, gently undulating surface
- ☐ Swamp - low waterlogged area having shrubs and/or trees

SURFACE EXPRESSION

- ☐ Hummocky - series of rounded knobs and kettles
- ☐ Inclined - constant sloping surface
- ☐ Level - flat or gently sloping

DRAINAGE PATTERN

- ☐ Dendritic - "tree-like" network of streams
- ☐ Herringbone - V-shaped pattern of streams
- ☐ Rectilinear/Trellis - series of parallel streams with near right-angle turns and perpendicular intersections
- ☐ Parallel - streams flowing parallel before joining at small angles
- ☐ Poor/Deranged - no clear geometry in the drainage and no true stream valley pattern
- ☐ Discontinuous - stream disappears for a short distance then re-appears down slope
- ☐ Closed

SITE DRAINAGE

- ☐ Well - stream channel well developed and well drained
- ☐ Moderate
- ☐ Poor - stream channel poorly developed

STREAM SOURCE

- ☐ Ground - stream flow originates from natural springs or seeps
- ☐ SpringMelt - stream flow greater due to melting of winter's snow
- ☐ Glacier - stream originates from melting glacier
- ☐ Recent Rain - stream flow greater due to recent rain
- ☐ Unknown

STREAM CLASS

- ☐ Primary - smallest stream, originates from springs and seeps
- ☐ Secondary - stream below confluence of two primary streams
- ☐ Tertiary - stream below confluence of two secondary streams
- ☐ Quaternary - stream below confluence of two tertiary streams
- ☐ Undefined

STREAM TYPE

- ☐ Permanent - year-round flow
- ☐ Intermittent - seasonal flow during wet season or spring runoff
- ☐ Re-emergent - discontinuous stream course
- ☐ Undefined -

STREAM FLOW

- ☐ Stagnant - little or no flow
- ☐ Slow - speed of a slow walker
- ☐ Moderate - speed of someone briskly walking
- ☐ Fast - speed of a jogger
- ☐ Torrential - speed of a quick jogger

WATER COLOUR



dominant colour (if any)
of the stream water

WATER CLAIRITY

- ☐ Transparent - clear (any colour)
- ☐ Partially Cloudy - semi opaque (any colour)
- ☐ Cloudy - opaque or nearly opaque (any colour)

VEGETATION

- ☐ Coniferous - having needle-like leaves, e.g. spruce, pine, incl. tamarack.
- ☐ Deciduous - trees that shed their leaves annually, e.g. maple, poplar ...
- ☐ Mixed - roughly equal mixture of coniferous and deciduous trees
- ☐ Grass - grasslands surrounding site
- ☐ Bog - waterlogged spongy ground, sphagnum moss dominate
- ☐ Other _____

BANK TYPE

- ☐ Alluvium - clay, silt, sand or gravel recently deposited by stream action
- ☐ Colluvium - accumulation of soil
- ☐ Till - glacial till (unsorted)
- ☐ Outwash - stratified sand or gravel deposited by glaciofluvial melt water
- ☐ Bare Rock - bedrock
- ☐ Talus/Scree - loose rock fragments derived from an adjacent steep rocky slope
- ☐ Organic - peaty organic soil or sediment
- ☐ Other _____

CONTAMINATION

☐ None - no sign of any human activity
☐ Possible - some human activity in area, no obvious sign of contamination
☐ Probable - site, area disturbed by human activity
☐ Definite - obvious contamination due to human activity

(Specify)

☐ Mining
☐ Industry
☐ Agriculture
☐ Domestic
☐ Forestry
☐ Burn
☐ Other

BANK PRECIPITATE

☐ No Yes ☐

Colour(s)

Syntax
 single colour
 dominant-subordinant
 multiple distinct colours
 dominant ; subordinate

BOTTOM PRECIPITATE

☐ No Yes ☐

Colour(s)

Syntax
 single colour
 dominant-subordinant
 multiple distinct colours
 dominant ; subordinate

STREAM SEDIMENT SAMPLE COLOUR(S)

↓ ↓

Syntax
 single colour
 dominant-subordinant
 multiple distinct colours
 dominant ; subordinate

STREAM SEDIMENT COMPOSITION

Sand _____ % - particles between 0.0625 and 2 mm in size
 - will fall apart when squeezed into a ball

Silt & Clay _____ % - particles smaller than 0.0625 mm
 - holds together when squeezed, silt is fine grained with gritty feel, clay is very fine grained and has slippery feel

Organics _____ % - muck-like light weight sediment composed of organic materials

SAMPLE TYPE(S)

Check ALL applicable boxes

☐ NGR Silt
☐ HMC Bulk
☐ Clast/Pebble
☐ Routine Water
☐ Cation Water
☐ Other

IN-SITU WATER

PH COND

If applicable

N A D

Datum, either NAD27 or NAD83

ZN

Universal Transverse Mercator Zone

UTM EASTING

Universal Transverse Mercator Easting

UTM NORTHING

Universal Transverse Mercator Northing

HMC SITE

- ☐ Longitudinal Bar - elongated bodies of sediment parallel to stream flow
- ☐ Transverse Bar - lobate bodies of sediment oriented roughly perpendicular to stream flow
- ☐ Point Bar - elongated bodies of sediment that form on the inside of stream bend, often attached to the inside bank
- ☐ Diagonal Bar - elongated bodies of sediment orientated obliquely to the stream flow
- ☐ Boulder Trap - sediment on the down-stream side of a boulder
- ☐ Log Trap - sediment on the down-stream side of a log
- ☐ Vegetation Trap - sediment on the down-stream side of vegetation
- ☐ Bedrock Step - sediment collects down-stream of break in bedrock slope
- ☐ Pool - sediment collects down-stream of waterfall or set of rapids
- ☐ Gravel Veneer - thin layer of gravel atop finer sediment
- ☐ Stream Bed - sediment taken from main stream channel
- ☐ Beaver Dam - coarse sediment exposed by flushing action adjacent or below dam

SITE RATING*

- ☐ Good - Clast supported, tightly packed, poorly sorted gravel in well formed bedrock depression, pothole or crevice. Clast sizes: boulders, cobbles, pebbles, granules. Matrix contains sand and silt. Excavation to bedrock and/or presence of abundant well-rounded clasts enhances site rating. Lack of boulders diminishes rating.
- ☐ Good to Moderate - Clast supported, tightly packed, poorly sorted gravel upstream or downstream of prominent rock bar or large boulder and preferably at a level well below the obstruction. Clast sizes: boulders, cobbles, pebbles, granules. Matrix contains sand and silt. Excavation to bedrock and/or presence of abundant well-rounded clasts enhances site rating.
- ☐ Moderate - Clast supported, poorly sorted gravel amongst boulders. Packing moderate to tight. Clast sizes boulders (mainly small), cobbles, pebbles, granules. Matrix contains sand and silt. Excavation to bedrock and/or presence of many well-rounded clasts and/or association with some kind of obstruction enhances site rating. Lack of boulders diminishes rating.
- ☐ Moderate to Poor - Matrix supported, generally loosely packed gravel strewn on river bed and not associated with any prominent obstruction. Sorting is moderate to poor. Boulders are rare or absent. Main clast sizes: cobbles, pebbles, granules. Matrix contains sand and silt.
- ☐ Poor - Matrix supported, very loosely packed, fine gravel. Clasts are relatively rare and often form a thin surface veneer on sand or are confined to isolated lenses within a sand mass. Clast sizes: cobbles (rare), pebbles, granules. Matrix of sand and/or silt. No associated obstruction.

*Muggeridge, M.T., 1986. Pathfinder sampling techniques for locating primary sources of diamond: Recovery of indicator minerals, diamonds and geochemical signatures. *Journal of Geochemical Exploration* 53 183-204.

CLAST SHAPE

- Rounded _____ % - smooth and rounded clasts
- Sub-Angular _____ % - rough and semi-rounded clasts
- Angular _____ % - sharp edged angular clasts
- Platy/Flat _____ % - disclike clasts, one dimension much shorter than other two

HMC SITE COMPOSITION

- Cobbles _____ % - particles between 64 and 256 mm in size
- Pebbles _____ % - particles between 2 and 64 mm in size
- Sand _____ % - particles between 0.0625 and 2 mm in size
- will fall apart when squeezed into a ball
- Silt _____ % - particles between 0.02 and 0.0625 mm
- holds together when squeezed, silt is fine grained with gritty feel
- Clay _____ % - particles smaller than 0.02 mm
- holds together when squeezed, clay is very fine grained and has slippery feel
- Organics _____ % - muck-like light weight sediment composed of organic materials

CLAST LITHOLOGY(IES) - Rough estimate of clast lithologies

- _____ %
- _____ %
- _____ %
- _____ %

BEDROCK EXPOSED

- ☐ No ☐ Yes
- _____
- Type(s)

BOULDERS PRESENT

- ☐ No ☐ Yes
- _____
- Type(s)