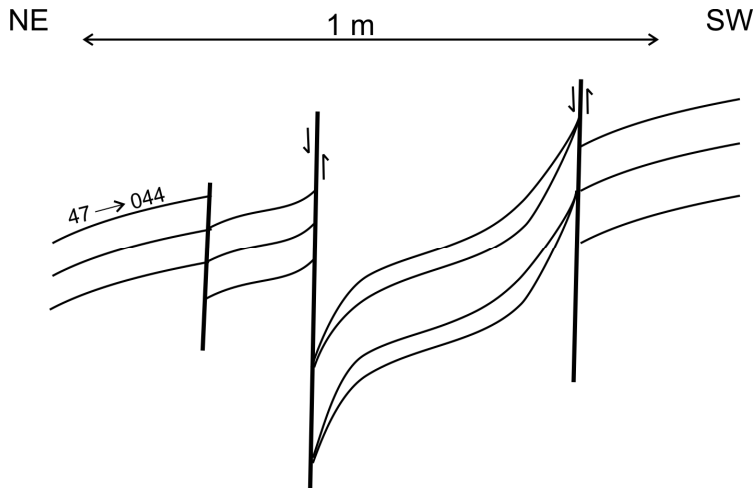


JULY 21st & 22nd, 06 (Sheep Mountain)

STOP 1, July 21st – Sheep Mountain (Lower)

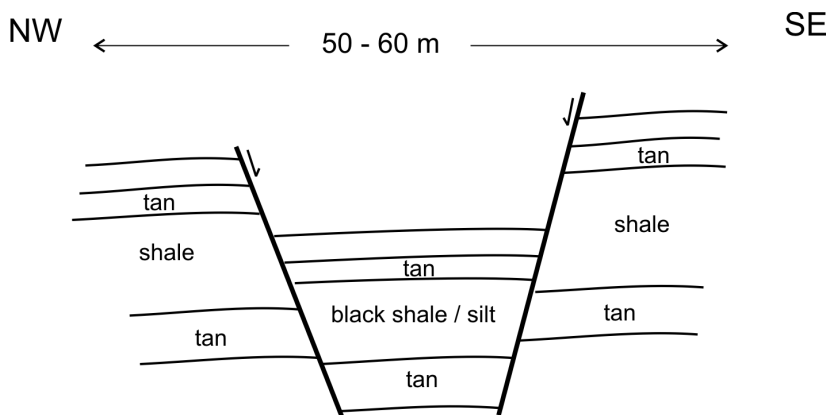
Aerial reconnaissance of several creeks on the west side of Sheep Mountain, [CRW_1572](#), [CRW_1570](#), [CRW_2345](#), [CRW_2346](#), indicated Cambrian sections present in narrow gulleys and creeks, [CRW_2347](#) (left), with lots of small waterfalls. No available landing sites in creeks so forced to land well downstream near convergence of several creeks and hike in to outcrops, [CRW_1569](#) (center), [CRW_2348](#), [CRW_2349](#), [CRW_2350](#), [CRW_2351](#), [CRW_2352](#), [IMG_5464](#). Half hour hike led to first major waterfall in narrow gulley, which initially blocked progress, [CRW_2394](#), [CRW_2353](#), [CRW_2354](#), [IMG_5467](#), [IMG_5500](#), GPS: 09W 0606039, 7152104 (poor reception), but after discussion and scouting by Gavin, [DSCN_11820002](#), the waterfall was climbed and we passed further upstream, [IMG_5470](#). Led to several additional smaller waterfalls, [CRW_2355](#), [CRW_2356](#), [CRW_2357](#), [CRW_2358](#), [IMG_5475](#) through a small normal fault zone, [CRW_2359](#), [CRW_2360](#), [CRW_2361](#), [CRW_2362](#), [IMG_5476](#) and eventually to the contact with the underlying Proterozoic Dead End Shale, [CRW_2363](#), [CRW_2364](#), [CRW_2365](#), [IMG_5484](#).

0.0m-50.0m 50.0m++ Start section within narrow slot canyon at major fault zone within the Dead End Shale, [IMG_5487](#). Uppermost 10m of Proterozoic Dead End Shale, massive, grey-colored, bedded siltstone to shale, [CRW_2376](#), [CRW_2378](#) highly fractured, [CRW_2370](#), [CRW_2371](#), [CRW_2372](#), [CRW_2373](#), [CRW_2374](#). GPS: 09W 0596942, 7193719. Fault zone is ~1.5-2.0m width (diagram below), striking 130d-310d and vertical, [DSCN_11910010](#), [IMG_5491](#), [IMG_5492](#), [IMG_5493](#), beds dipping 47d NE, Striking 44d, with slickenlines dipping 80d NE and striking 200d, and clear rhombohedral fracturing indicating a clear reverse fault, i.e. Cambrian side up, [CRW_2372](#) interpreted as original normal fault reversed during Laramide compression, similar to the fault on Carcajou Canyon. North canyon wall fault, [CRW_2375](#), [CRW_2377](#). View from slot canyon up-section into Cambrian Stratigraphy, [CRW_2369](#), [CRW_2382](#). Secondary fault dipping 82d NE, striking 236d, [DSCN_11920011](#). Bedding in Proterozoic at contact with Mt. Cap dipping 28d NE, striking 040d.



50.0m-59.0m 9.0m Basal section and sub-Cambrian unconformity exposed mid-cliff, [CRW_2367](#) (center), [CRW_2386](#) (center), [DSCN_11890009](#), interbedded fine-grained sandstone and siltstone, [CRW_2382](#) (hand on unconformity), [DSCN_11940012](#), [CRW_2384](#), cliff-forming, [CRW_2367](#) (center left), Sample: 06-JT-01-03, capped by “super green” bright lime green-colored glauconitic? sandstone, [CRW_2383](#), [CRW_2385](#) (lower), [CRW_2387](#) (lower), [CRW_2388](#) (lower), [CRW_2389](#) (lower), [CRW_2390](#) (lower), [CRW_2391](#), [CRW_2392](#), [DSCN_11950013](#), [DSCN_11970014](#), [IMG_5485](#), [IMG_5486](#), [IMG_5495](#), [IMG_5496](#), [IMG_5497](#), bioturbated, [IMG_5494](#), Sample: 06-JT-01-01 (at waterfalls in mid-canyon) very fine-grained to fine-grained, [IMG_5495](#) (lower), [IMG_5496](#), [IMG_5497](#), [IMG_5498](#) (lower), [CRW_2364](#) (lower right). Based on recent BHL sand study in Deep Basin perhaps analogous to aeolian silts and sands? [GPS @ approximate unconformity below slot canyon: 09W 05960942, 7193719](#). Beds dipping 30d NE, striking 060.

~ 200 m downstream of sub-Cambrian unconformity contact with the Proterozoic we cut a series of small extensional faults in the “nodular” siltstone interval described below, each trending 037d, [IMG_5489](#) (center), [CRW_2393](#), [CRW_2359](#), [CRW_2360](#), [CRW_2361](#), [CRW_2362](#), [DSCN_11840004](#), [DSCN_11850005](#), [DSCN_11860006](#), [IMG_5479](#), [IMG_5480](#), [IMG_5482](#):



Traced “super green” sandstone all the way downstream across several waterfalls to 1st waterfall of this morning, [DSCN_11830003](#). We had to cut section at noon to return Dennis & Gavin to Norman Wells for flight south, [IMG_5499](#). Partial description of overlying section from above waterfall, discontinued and picked up again below waterfall next day. End of section for today at top “super green” sandstone.

STOP 1, July 22nd – Sheep Mountain (Upper)

59.0m-62.5m 3.5m Above waterfall, July 21st, interbedded green to grey silty mudstone, fissile, Sample: [06-JT-01-02 \(July 21st\)](#), and medium-grained glauconitic? sandstones with occasional pebble lag layers, more thin-bedded, interpreted levee complex, [CRW_2387 \(upper\)](#), [CRW_2390 \(upper\)](#), [CRW_2389 \(upper\)](#). In basal section a buff-weathering dolomite (above waterfall), [CRW_2395 \(lower\)](#).

Picked up section below waterfall: [CRW_2395 \(upper\)](#), [IMG_5465](#), ~10cm thick bedded very fine to medium-grained sandstones, heavily bioturbated, bedding at 1st waterfalls dipping 24d SE, striking 056d, Samples: [06-JT-01-01a](#), [06-JT-01-01b](#), [CRW_2394 \(upper\)](#), [CRW_2395 \(upper\)](#).

62.5m-67.0m 4.5m [IMG_5531](#), Bioclastic, calcareous nodular siltstone interbedded with coarse siltstones and bioturbated very fine-grained sandstones, [JT-01-02](#), [IMG_2403](#).

67.0m-71.0m 4.0m Heavily bioturbated siltstone, thin-bedded, greenish brown-colored, [IMG_5532](#), [IMG_5477](#), [IMG_5478](#).

71.0m-74.8m 3.8m Glauconitic siltstone, fissile and recessive, [IMG_5534 \(lower\)](#).

74.8m-75.0m 0.2m Basal channel complex lag, 20-45cm thickness, accretion surface trough cross-bedding, [IMG_5534 & IMG_5535 \(center\)](#).

75.0m-79.5m 4.5m Channel complex, fine-grained sandstone to coarse siltstone, orange-weathering, generally 20-40cm thick-bedded with thinner-bedded intervals with mudstone interbeds upwards, heavily bioturbated, sole casts? [IMG_5536](#), [IMG_5537 & IMG_5538](#), [IMG_2404](#).

79.5m-82.0m 2.5m Organic-rich, laminated, recessive mudstone and siltstone, [IMG_5539 \(center\)](#).

82.0m-85.0m 3.0m Layers of nodular, interbedded dolo-siltstone and dark green to grey siltstone, very argillaceous. Interpreted by Dennis Meloche as a series of siltstone loadcasts interbedded with mudstone, formed as silty dilute gravity flows

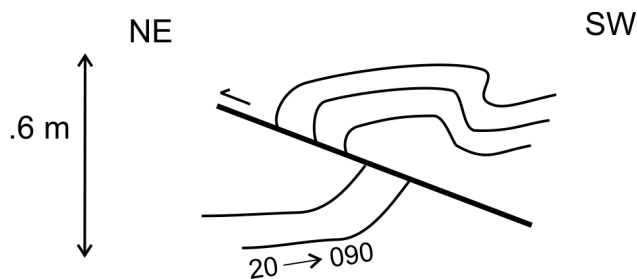
onto mud, [IMG_5539](#) (upper), [IMG_5540](#), [IMG_5541](#) and [IMG_5542](#), [IMG_5543](#), [IMG_2406](#), [IMG_2407](#), [IMG_2410](#), [IMG_2411](#).

85.0m-85.8m 0.8m More massive dolo-siltstones, up to 12cm thickness with less interbedding upwards, average 2-3cm thick beds, [CRW_2413](#), [CRW_2414](#) (central left), [IMG_5545](#).

85.8m-86.6m 0.8m Recessive greenish to black-colored shale, Samples: [06-JT-01-02](#), [06-JT-01-03a](#). Full of fossils including trilobites and brachiopods, Sample A. Section appears to vary in thickness as is part of small channel deposit downcutting into underlying nodular siltstones and shales, [IMG_5545](#) (center), [CRW_2412](#) (upper left), [CRW_2414](#) (upper left), [IMG_2408](#), [IMG_2409](#).

86.6m-88.2m 1.6m Flaggy dark grey-colored dolomitic siltstone to dolomite, wavy-laminated with stomatolitic fine laminations, [CRW_2415](#), intense orange-colored weathering and cliff-forming massive, [CRW_2414](#) (upper left & basal right across ~10m fault), [IMG_5544](#) (base), [CRW_2413](#) (upper), [IMG_5545](#) (upper), [IMG_5546](#), [IMG_5547](#), [IMG_5548](#) and [IMG_5549](#).

Below 1st waterfalls at confluence of two creeks, viewed towards 140d, [CRW_2396](#), [CRW_2397](#), [CRW_2399](#), [DSCN_11990016](#):



NOTE: Some confusion in notes relative to exact relationships between the three sets of outcrops where tributary with waterfall in fault zone, [IMG_5530](#) joins “measured section” (west-directed) creek, [CRW_2350](#), [CRW_2398](#). Clearly-defined section continues on easternmost Sheep Mtn section of creek continuing downstream, [CRW_2417](#).

88.2m-89.25m 1.05m Silty laminated shale and dark grey to olive green-colored siltstones, wavy-laminated in upper part, generally 20-25 thick beds, weathers buff to orange-colored, [IMG_5544](#) (lower) and [IMG_5550](#) (middle), Sample: [06-JT-01-03b](#).

89.25m-93.75m 4.5m Same as below, becoming more massive in upper part, [IMG_5544](#) (upper) and [IMG_5550](#) (upper middle).

93.75m-94.55m 0.8m Grey-colored dolomitic siltstone, irregular cm-scale bedding, very recessive, [IMG_5550](#) (upper).

94.55m-94.85m	0.3m	Recessive black shale.
94.85m-96.80m	1.95m	Laminated grey-colored dolomitic siltstone, mm-scale laminae which weather orange, laminae look like upper shelf deposits in Dodo Canyon upper side canyon, Sample: 06-JT-01-04, 06-JT-01-05, IMG_5551, IMG_5552, IMG_5553 (lower).
96.8m-98.55m	1.75m	Recessive black shale, IMG_5553 (lower right).
98.55m-98.80m	0.25m	Massic, cliff-forming dolomitic siltstone, as underlying but more cemented and “sparkley”, IMG_5553 (center), IMG_5554.
98.80m-99.80m	1.0m	Recessive black shale.
99.80m-109.8m	10.0m	Interbedded pale greenish-colored shale and laminated siltstones, IMG_5554 (center), CRW_2418, CRW_2419, CRW_2420, CRW_2421, CRW_2422. This section believed to be uppermost Mt Cap or basal Saline River. More consolidated clastics in upper part of IMG_5554 likely lower Saline River clastic section, making this section Mt Cap.

End of Section.