

**APPENDIX 4. OUTCROP SECTION DESCRIPTIONS: PROHIBITION CREEK
AND FRANCIS CREEK SECTIONS MEASURED BY PAVEL KABANOV,
ASSISTED BY WING CHUEN CHAN, JULY 2015.**

Unit	Description	Thick ness	Height above datum
	<p align="center">Outcrop 15KOA004</p> <p align="center">VISITDATE 2015-07-16</p> <p align="center">VISITTIME 4:15:43 PM</p> <p align="center">LATITUDE 65.187679</p> <p align="center">LONGITUDE -126.213416</p> <p align="center">EASTING 630449.99</p> <p align="center">NORTHING 7232251.45</p> <p align="center">DATUMZONE NAD_1983_UTM_Zone_9N</p> <p align="center">ELEVATION 180 to 210 m at Zero datum (barometric altimeter)</p>		
1a	Shale: Hard, fissile, dark gray to black, with abundant <i>Tasmanites</i> and very poorly preserved collapsed small tentaculitids on fissility planes; possible admixture of allochthonous bioclasts of benthic fossils; 0.5 m uncovered	0.4	-0.7
1b	Siltstone: resistant, very dark gray, with <i>Tasmanites</i> ; top and base gradational;	0.7	0 (datum)
2	Shale: black, fissile, non-calcareous, very ferruginous and weathering yellow in lower half	0.5	0.5
3	Shale: dark gray, fissile, with a thin dark platy siltstone in base, weathering with yellow powder on fissility planes; the basal siltstone is weakly calcareous, preserves small tentaculitids,	0.55	1.05

	locally expands to 7 cm, and grades in base into very fine-grained sandstone; frequent <i>Tasmanites</i> and rare phosphatic lingulate brachiopods.		
4	Shale to siltstone: fissile dark-colored non-calcareous rock with yellow powder weathering; coarsening upward from shale in base to shaly siltstone and very fine-grained sandstone in uppermost 5 cm; top conformable.	1.55	2.6
5	Shale to sandstone: coarsening upward unit with fissile shale in base to siltstone and the hard rib-forming resistant sandstone in top. The upper sandstone is 25 cm thick, composed of alternating hard sandstones and fissile siltstones; shales and siltstones contain rare to common <i>Tasmanites</i> .	0.85	3.45
6	Shale: steel dark gray, prominently fissile, intensely rusty weathering in base, in the middle becomes very recessive, weathered, crumbly and sticky (indicating expanding clay minerals). Upward transition from the lower harder shale and into the upper harder shale is very gradational. Fissility planes preserve “micro-flakey” fabrics characteristic of terrigenous shales.	1.8	5.25
7	Shale to siltstone: dark brownish gray, generally harder than Unit 6, very fissile (weathering into papery flakes), with rusty weathered patches; several levels of poorly sorted fissile very fine-grained sandstone. Top marked by relatively thick (15 cm) and resistant very fine-grained sandstone.	2.55	7.8
8	Shale: dark brownish gray, fissile, silty, grading in top to argillaceous siltstone	1.7	9.5
9	Siltstone to sandstone: dark brownish gray alternation of very fine-grained sandstones and siltstones with sandstones forming three resistant ribs; weathers pale yellow with a “sulphate foam” (jarosite?) in basal fissile siltstone; locally the unit swells from the base with 1-2 additional resistant ribs bearing gently undulating lamination (relatively symmetrical hummocky cross-lamination)	0.6-0.7	10.2

10	Silty shale to siltstone: dark gray to black, hard mudrock, between resistant and recessive, weathers into thin and hard flakes, broken by numerous oblique fractures with yellow powder on fissility and fracture surfaces; fissility planes show black microscopic particles including conodonts.	1.8	12.0
11	Siltstone: black, moderately resistant, with distinct horizontal lamination and two 20-cm-thick calcareous intervals in base and top. The upper calcareous interval contains pre-compactional calcareous nodules 30 cm in diameter	0.6-0.7	12.7
12	Shale: dark steel gray, grading to siltstone, moderately recessive in base to semi-resistant in base; hard, fissile, weathering into flakes and cardboard-like flakes or thin plates; the fissility is cross-cut by curved upright fractures (former conchoid fracturing features). Abundant decomposed pyrite grains on freshly broken surfaces. Top is marked by calcareous siltstone with whitish weathering surface.	3.3	16.0
13	Silty shale: hard, distinctly laminated, platy (weathering into ca. 1 mm thick plates), slightly harder than Unit 12; rare mm-thick moderately calcareous laminae and barely formed small calcareous nodules; poorly preserved 0.7linids and “stellate aggregates” of weathered calcite.	2.0	18.0
14	Calcareous mudrock: black, with strong sulphur smell when crushed, very calcareous and grading to limestone, distinct by lack of fissility, extensive conchoid fracturing, and obscure lamination.	0.3	18.3
15	Silty shale: hard, platy, similar to Unit 13	0.8	19.1
16	Mudrock: dark steel gray, weathers crimson, with poorly defined pre-compactional calcareous nodules (swellings) in basal 0.25-0.4 m. These nodules show undulating lamination (wide-wavelength hummocky cross-lamination). The main upper part is composed of hard semi-resistant horizontally laminated dark non-calcareous silty subfissile shale weathering in thin flakes and plates.	4.9	24.0

17	Silty shale (mudrock): dark brownish gray to black, hard, weathers crimson, subfissile, non-calcareous, weathering in thin flakes and plates; distinct by presence of different-size (up to 50 cm) oblate pyritic-calcareous nodules. A poorly preserved collapsed tree trunk is found in the calcareous nodule at 29.3 m.	6.5	30.5
18	Siliceous shale: dark gray to black, less fissile and with more conchoid fractures than Unit 17, weathers yellow with minor crimson; no calcareous-pyritic nodules; poorly preserved small tentaculitids sighted in upper part; the unit is dissected by gypsum-aragonite veins (weathering material).	3.0	33.5
	<p style="text-align: center;">Outcrop 15KOA007</p> <p style="text-align: center;">VISITDATE 2015-07-19</p> <p style="text-align: center;">VISITTIME 10:05:22 AM</p> <p style="text-align: center;">LATITUDE 65.18845</p> <p style="text-align: center;">LONGITUDE -126.2211</p> <p style="text-align: center;">EASTING 630086.68</p> <p style="text-align: center;">NORTHING 7232321.45</p> <p style="text-align: center;">DATUMZONE NAD_1983_UTM_Zone_9N</p> <p style="text-align: center;">ELEVATION 158.2</p> <p style="text-align: center;">ELEVMETHOD GPS</p> <p>NOTES Canol fm: section starts from Unit 13 of Section 15KOA004. Zero datum: 0.5 m below the base of unit 14. Altimeter approximation of datum: 158.2 m (fluctuation 130-180 m).</p>		
13	Shale: fissile, hard, with rare pyritic-calcareous nodules	0	
14	Shale: hard, sub-fissile, calcareous in the base to weakly calcareous in the top, homogeneous, with extensive conchoidal fracturing.	0.4	0.9

15	Shale: hard, very fissile, resistant, platy, matching the description in 15KOA004.	0.85	1.75
16-17	<p>Shale: same as in unit 15; base is marked by a moderately calcareous 5-10cm thick interval. Hummocky cross-stratification is not observed here. Rare, small (5-15cm) calcareous-pyritic nodules with prevailing pyrite. A calcareous graded bed is also found at 5.0m (within unit 16).</p> <p>Small calcareous-pyritic nodules with mainly a calcite composition are detected starting from ~4.0m above the base (characteristic of unit 17). Swaley cross-stratification is found at a height of 11.0m, though this can be fake cross-stratification because hummock cores contain concretion swellings. The package shows very low contrast alternation of fissile black shales and harder, platy (0.2-2cm) muddy siltstones, some weakly calcareous and with black particles (conodonts and/or detrital grains). Occasional very fine-grained muddy sandstones in thin beds. Top of the unit is marked by the transition to recessive siltstone and disappearance of crimson weathering. A large limestone nodule was found 0.5m below the top of unit 17.</p>	11.5	13.15
18a	Siltstone: black, very fissile, recessive, producing 0.5-1.0m thick flakes that are generally smaller than in unit 17. No calcareous-pyritic nodules. Weathers yellow. Minor deviation into shale.	0.55	13.70
18b	Siliceous silty shale: hard, moderately resistant, fissile; non-calcareous; weathers crimson to yellow. In the upper 1.2m resistant shales are interbedded with weakly recessive flaky siltstones similar to unit 18a. At the top of the unit, a 0.6m thick relatively recessive flaky black silty-shale to siltstone is found. Rare calcareous-pyritic nodules found only in the base.	4.4	18.1
19	Sandstone: black, very fine grained, with fine laminae in the base; moderately calcareous in the base, grading to non-calcareous to the top. Even horizontal lamination and platy (thin-bedded) fissility, weathering into even plates 0.5-3cm in thickness. This bed forms the sub-resistant rib and grades upward into finely fissile shale.	0.5	18.6
20	Shale-siltstone to silty shale: black, recessive, weathering into small flakes; even horizontal lamination; non-calcareous black	3.2	21.8

	fragments on fissile planes, likely condonts or coal detritus. Several 10-15cm intervals of slightly more resistant hard shale with conchoidal fracturing and poorly preserved <i>Tasmanites</i> and black detritus. Rare presence of calcareous-pyritic nodules.		
21	Shale: silty, black, very homogenous, resistant in lower half and grading to recessive in the upper half. Poorly preserved <i>small tentaculitid</i> impressions and black detritus on fissility planes. Both resistant and recessive parts weather into small flake (similar to unit 20). This unit is distinct by its darkness and less rusty weathering. No calcareous-pyritic nodules present.	5.6	27.4
22	Sandstone: semi-resistant, dark crimson-gray, platy (0.5-2cm thick), forming a rib on the outcrop. Calcareous, with abundant non-collapsed small tentaculitids. Grades to calcareous black shale at the top of unit.	0.5	27.9
23	Shale: black, recessive, deeply weathered into shards (original conchoid fracturing) and celestine and rust. Different from the above unit by small shardy disintegration.	0.8	28.7
24	Shale: black, recessive, with several resistant to semi-resistant discontinuous ribs formed by calcareous mudrock. The shale weathers into small, sharp flakes. Calcareous mudrock weathers into lenticular pieces with conchoid surfaces. A conspicuous rib-forming calcareous siltstone and very fine grained sandstone is found. No nodules locally, though there are poorly preserved small tentaculitid impressions and black detritus. Top of unit marked by transition to more resistant shale, with small calcareous-pyritic nodules in the base.	2.5	32.2
25	Shale: silty, deviating to siltstones, on interbedding of thin-flaky and coarse-shardy weathered shales. Rare weakly calcareous seams. Moderately resistant, weathering yellow. More siltstone near the top of the unit. Abundant zeolites on weathered surfaces, and rare small calcareous-pyritic nodules.	4.1	36.3
26	Siltstone with shale interbeds: Platy (1-3mm thick) upper portion (40cm) and resistant unit forming the rib. A conchoid-fractured,	1.0	37.3

	black, homogeneous mudstone seam found in the middle of the unit.		
27	Alternating shales and thin-bedded siltstones, weathering crimson. Shales are flaky, while siltstones are thin and platy. A 40cm thick platy sandstone unit forms the top, and is moderately resistant.	3.2	40.5
28	Shales and siltstones: platy to flaky (alternation of platy and flaky beds), recessive, weathering crimson. Chain of calcareous-pyritic nodules in the lower 1m of unit.	4.6	45.1
29	Mudrock: resistant, prominent and rib-forming, black, weathering crimson; platy (0.5-1cm), evenly micro-laminated, very hard; some weakly calcareous laminae, black to crimson on fresh surfaces, weathering pale-yellow. Presences of ball-shaped forms, apparently enriched in calcite are seen on this level (though are not accessible). The rock is a non-sorted mudrock with fine sand grains. The bed is a coarsening upwards succession. Its lamination may contain hummocky cross-stratification.	1.0	46.1
30	Shale: silty, black, prominently recessive, weathering in small flakes; rare, thin (0.05-0.10m), more resistant interbeds weathering crimson. The main shale weathers with a minor yellow powder. Top is gradational, by transition to slightly more resistant crimson weathering shale. No nodules are spotted.	3.3	49.4
	<p style="text-align: center;">Outcrop 15KOA009</p> <p style="text-align: center;">VISITDATE 2015-07-20</p> <p style="text-align: center;">VISITTIME 9:32:56 AM</p> <p style="text-align: center;">LATITUDE 65.187605</p> <p style="text-align: center;">LONGITUDE -126.224778</p> <p style="text-align: center;">EASTING 629918.72</p> <p style="text-align: center;">NORTHING 7232219.77</p> <p style="text-align: center;">DATUMZONE NAD_1983_UTM_Zone_9N</p>		

	<p>ELEVATION 186.5</p> <p>ENTRYTYPE GPS</p> <p>OBSTYPE stratigraphic section</p> <p>OCQUALITY good outcrop</p> <p>PHYSENV open ground</p> <p>NOTES 'Main Canol-shale wall' on right bank of Prohibition Creek.</p>		
30	Shale: black, recessive. Top is marked by appearance of decomposed pyrite nodules (15-30cm across) preserved as "yellowish foam".	>2m	0
31	Low contrast alternation of moderately resistant siltstones and slightly recessive shales. "Sulfate foams" form nests indicative of former pyrite nodules. Resistant interbeds weather crimson on upright joints. Upwards the rock becomes slightly more resistant and platy, but lithologies stay the same (low-contrast shale-siltstone alternation). Top is in the base of the first horizon of calcareous nodules.	7.2	7.2
32	Shale-sandstone alternation: resistant, weathering crimson, with bending of fissility planes indicative of hummocky cross-stratification. The sandstone contains chains of calcareous nodules (used in conodont sampling). Sandstone beds are very fine grained, grading to siltstones.	0.9	8.1
33	Low-contrast shale-siltstone alternation: resistant, weathering crimson, black to dark red on fresh surfaces. Jointing platy to shardy due to conchoid surfaces. Some shale interbeds are black and fissile. Contains calcareous-pyritic nodules. Very rare carbonate nodules in rusty rinds (former pyrite). Top is in the base of the lower nodular horizon of the unit 34.	2.6	10.7
34	Siliceous shale: non-calcareous, black, silty, with large (<60cm) elliptical calcareous nodules. These are not pyritic-calcareous nodules like below, but purely calcareous sparitic in the core and a rusty (pyrite) outer layer. The parent shale is moderately resistant in the lower half and grades into more recessive beds in	6.6	17.3

	<p>the upper half. Jointing in shale is flaky to shardy, though more shardy. Abundance of conchoid fractures.</p> <p>Base contains the thickest carbonate nodules, while the upper 0.50m is separated into a rusty bed with constant thickness. This upper bed is separated from the base by a slim (0.5-1cm) cherry brown seam with silty-argillaceous texture. This seam also is destroyed into foam and crumbles by multiple swellings of possibly smectite.</p>		
35	<p>Calcareous mudrock to limestone: hard, massive, weathers pale-yellow, traced in adjacent outcrops as a contact between the “basal recessive” and the “middle resistant” units of the Canol Formation. Moderately to strongly calcareous rock. Upper part contains a sandstone subfacies.</p> <p>Top and base are conformable, with lenses/small clinoforms of similar rock above and below. Variable thickness due to swellings elsewhere.</p>	0.4	17.7
	<p style="text-align: center;">Outcrop 15KOA011</p> <p style="text-align: center;">VISITDATE 2015-07-20</p> <p style="text-align: center;">VISITTIME 4:23:38 PM</p> <p style="text-align: center;">LATITUDE 65.184815</p> <p style="text-align: center;">LONGITUDE -126.234357</p> <p style="text-align: center;">EASTING 629484.17</p> <p style="text-align: center;">NORTHING 7231889.37</p> <p style="text-align: center;">DATUMZONE NAD_1983_UTM_Zone_9N</p> <p style="text-align: center;">ELEVATION 155</p> <p style="text-align: center;">OBSTYPE stratigraphic section</p> <p style="text-align: center;">OCQUALITY good outcrop</p> <p style="text-align: center;">PHYSENV open ground</p>		
36	<p>Shale: shardy, black, with pronounced conchoid fracturing, with subordinate fissile siltstones. Weathers yellow. Slightly</p>	2.6	2.6

	<p>recessive, very siliceous and grading to chertstone unit.</p> <p>Flattened calcareous nodules with rusty rinds in the top. Top of unit is very gradational.</p>		
37	<p>Siliceous shale: hard, distinctly platy to sub-fissile (plates 0.5-3cm) with pronounced conchoid fracturing. Very fine texture, black, weathering to yellow. Lamination expressed by evenly distributed, decomposed pyrite streaks. Whitish spherical radiolaria on some fissility planes. Conodonts are also encountered on these planes. Shale/chertstone strongly dominates the unit. No carbonate nodules. A weak erosional surface in the base is possible.</p>	5.5	8.1
38	<p>Siltstone: Very dark brown in color, weathering crimson, with conchoid fracturing, undulating parallel jointing that may indicate hummocky cross-stratification. Brown color and weathering is only the property of the lower half of the unit. The upper half is very dark to black, grading to unit 39.</p> <p>The siltstone disappears laterally at a distance of 20m, with a silt enriched mudstone in a similar position as the siltstone.</p>	0.5	8.6
39	<p>Shale: thin-bedded alternation of shales, silty shales and muddy siltstones. Weathers yellow producing acidic substance. The rock is platy to fissile, jointed, overprinted by conchoid fractures.</p> <p>Conodonts and radiolaria are encountered on fissility planes.</p>	7.4	16.0
40	<p>Calcareous mudrock: nodular, hard and resistant, rusty weathering, concretionary bed with sparite to microsparite calcite matrix. Calcareous cores and rusty rinds.</p>	0.2-0.3	16.3
41	<p>Silty shale to siltstone: thin interbedded; platy, with conchoid fracturing. Identical to unit 39.</p>	7.5	23.5
	<p style="text-align: center;">Outcrop 15KOA012</p> <p style="text-align: center;">VISITDATE 2015-07-21</p> <p style="text-align: center;">VISITTIME 10:08:00 AM</p>		

	<p>LATITUDE 65.183745</p> <p>LONGITUDE -126.248532</p> <p>EASTING 628826.04</p> <p>NORTHING 7231741.2</p> <p>DATUMZONE NAD_1983_UTM_Zone_9N</p> <p>ELEVATION 150.7</p> <p>OBSTYPE stratigraphic section</p> <p>OCQUALITY good outcrop</p> <p>PHYSENV open ground</p> <p>OCSIZE</p> <p>NOTES Middle-Upper Canol</p>		
40	Mudrock: hard, resistant marker bed; dark brown, weathering pale-yellow; concretionary jointing; weakly calcareous, poorly preserves “shadowy” small tentaculitids (non-compacted). Cement is unclear though could be dolomite. The cementation is discontinuous and bed becomes unrecognizable at the distance 50-200m along the traverse.	0.2	0.2
41	Shale: hard, fissile, silty, weathering in hard sharp flakes. Beds are distributed evenly. The basal 1.0m is fissile.	6.2	6.4
42	Shale: alternation of hard and soft shales. The basal shale bed has a distinct gray color with a brown weathering color, and a high content of expandable clays. Interbedding of 15-20cm thick silty to pelitomorphic shales. Top of unit is non-calcareous.	1.0	7.5
43	<p>Shale: fissile, hard, black in color, weathering yellow; resistant and wall-forming; silty, homogeneous, and non-calcareous. Weathers in hard flakes with flattened conchoid surfaces. Top of unit is shielded by a hard, homogeneous, shale-siltstone of at least 1.5m thickness.</p> <p>Upper part of the unit weathers in plates and flakes, though with significantly less flakes than the lower part of the unit. Upper</p>	5.1	12.6

	1.1-1.2m of unit weathers dark crimson to yellow on different walls.		
44	Shale: silty (mudrock); hard, fissile, weathering in flakes and shards.	0.8	13.4
45	Sandstone: hard, very fine grained, non-compacted and laminated. Non-calcareous gray fresh surfaces with dark red ferruginous weathered surfaces. The lamination is expressed as whitish streaks, or certified <i>small tentaculitids</i> . Laterally at short distance, the hard bed grades into thinner beds. Top of unit very gradational. This unit forms a hard, resistant rib; one of the marker beds.	0.3	13.7
46	Shale: fissile, dark gray to black. Hard and flaky shards, which produce local upright surfaces weathering acidic yellow. Gradation into unit 47	2.4	16.1
47	Shale: silty with minor muddy siltstones. Dark gray to gray, fissile, and prominently recessive (more than unit 46). Shale is soft and moderately expandable. Presence of a very weak alternation of slightly more resistant and recessive beds. The resistant beds produce short upright surfaces with a bit of yellow weathered powder. Shale flake surfaces are full of tiny (<1mm) black grains and whitish flakes. Yellowish weathering present in more resistant interbeds.	4.15	20.25
48	Silty shale: grades to siltstones. Relatively hard, very dark gray, appearing as large flakes (in base) and in normal-sized flakes above. Weathers prominently rusty and locally yellow. Top is in the base of the lower rusty horizon.	0.35	20.60
49	Shale: gray, recessive, with two horizons of rusty material, possibly decomposed siderite. Color is paler than units above and below.	0.5	21.1
50	Shale: dark gray, very fissile, with whitish flakes on fissile planes and coaly detritus. Flakes are significantly harder and wider than those of unit 49. Weathers pale yellow, producing	2.9	24.0

	short upright surfaces. Overlying part of section is weathered into soil.		
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Francis Creek – Outcrop 15KOA006

Unit	Description	Thickness	Height above datum
	<p align="center">Outcrop 15KOA006</p> <p>VISITDATE 2015-07-18</p> <p>VISITTIME 11:47:17 AM</p> <p>LATITUDE 65.241696</p> <p>LONGITUDE -126.386253</p> <p>EASTING 622113.28</p> <p>NORTHING 7237921.45</p> <p>DATUMZONE NAD_1983_UTM_Zone_9N</p> <p>ELEVATION 265</p> <p>ELEVMETHOD altimeter</p> <p>OBSTYPE stratigraphic section</p> <p>OCQUALITY excellent outcrop</p> <p>PHYSENV open ground</p> <p>OCSIZE 200-300 m across</p> <p>NOTES Fransis Creek, top of Hume Limestone and Bluefish Shale.</p>		
1	Limestone: brownish gray, massive, fractured with crude and discontinuous undulating surfaces. Becomes slightly more bedded near the top of the unit. Wackestone and bafflestone with	>3.0	3.0

	diverse rugose colonial corals, , bryozoans, etc. Top of the unit is nodular and locally rugged.		
2	Argillaceous limestone: nodular, brownish gray to dark gray. Calcimudstones with nodules separated by fissile shale seams. Bioclastic material is relatively rare. Base is seemingly conformable.	0.2	3.2
3	Shale: brownish dark gray, calcareous, fissile, with lingulid brachiopods. Both top and base are conformable.	0.03-0.05	3.25
4	Limestone: massive, light gray, bioclastic calcimudstone. Weathers yellowish white, with conchoid fractures, a monolithic composition. The top is sharp, gently wavy and erosional. This is the top of the Hume limestone.	0.5	3.75
5	Argillaceous limestone: dark brownish gray, recrystallized, with disarticulated brachiopod valves, the admixture of small tentaculitids come in the top. Fissile in the top, while sub-fissile in the base. Top contact surface is even and conformable.	0.15	3.9
6	Shale: very fissile, black, with calcareous lenses, characterized by mass small tentaculitids dissolved or half-dissolved and collapsed in fissile planes. A large (>1.5m width by 0.2m height) pre-compaction calcareous nodule at 4.15m (0.2-0.3m from the base of the unit). Occasional thin (1-2cm) graded beds of small tentaculitid limestone.	2.1	6.0
7	Argillaceous limestone: grading from shale below and having sharp, wavy contacts. The lower half of the unit is evenly laminated, while the upper part has faint to no lamination. The upper 10cm is a distinct	0.5	6.5

	black limestone with a cone-in-cone structure. The cone-in-cone level continues along 20 of cliff and is locally overprinted by large (>1m) elliptical calcareous nodules. The limestone contains large (2-3cm) non-collapsed <i>tentaculites</i> and rare <i>goniatites</i> .		
8	<p>Shale: black fresh surfaces, very fissile black weathering in small flakes, semi-recessive, deeper weathered parts are ochreous. Abundant collapsed small tentaculitids on surfaces and non-compacted small tentaculitid limestone lenses in basal 20-30cm portion of unit.</p> <p>Middle of unit contains a relatively resistant and calcareous siltstone (or argillaceous calcisiltite) of 15cm thickness.</p> <p>This bed is traced laterally.</p>	2.4	8.9
9	Argillaceous limestone: black, sub-fissile, intercalated by fissile shales. Recrystallized texture, with preserved small tentaculitid cones. Admixture of siliceous silt and sand is possible. Both the top and the base are gradational through shale-limestone alternation (thin beds). The unit is resistant and traceable.	0.6	9.5
10	<p>Shale: fissile, black, weathers rusty, slightly harder than unit below (comes in hard, sharp flakes), locally stays soft. Minor siltstone lithologies. Rare weakly calcareous lithologies. Fewer small tentaculitids (collapsed) than previous unit, though still abundant.</p> <p>No calcareous nodules spotted. Common celestine rosettes. Top picked by appearance of acritarchs (<i>Tasmanites</i>).</p>	2.4	11.9
11	<p>Shale to silty shale: very dark gray, weathering crimson to rusty. Non-calcareous grading into silty shale to siltstone in the 0.5-1.0m above the base.</p> <p>Base is picked from the appearance of acritarchs. In silty lithologies, acritarchs become very abundant.</p>	3.0	14.9
12	Shale: gray, soft, flaky, prominently recessive.	0.6-0.8	15.7

LIST OF SAMPLES COLLECTED FOR CONODONTS:

How to read field sample codes: year (15) – officer (KOA) – station or outcrop number / unit (bed) number – meters above outcrop zero datum – purpose of sampling (here conodonts):

1. 15KOA004/6-6.25 CON (from soft non-calcareous shale)
2. 15KOA004/8-8.0 CON (calcareous material)
3. 15KOA004/11-12.7 CON (calcareous material)
4. 15KOA004/14-18.15 CON (calcareous material)
5. 15KOA004/16-19.1 CON (calcareous material)
6. 15KOA004/17-27.3 CON (calcareous material)
7. 15KOA004/17-29.3 CON (calcareous material)
8. 15KOA004/19-33.9 CON (calcareous material)
9. 15KOA007/17-12.3 CON (calcareous material)
10. 15KOA007/20-21.6 CON (calcareous material)
11. 15KOA007/28-41.8 CON (calcareous material)
12. 15KOA009/32-7.4 CON (calcareous material)
13. 15KOA004/34-10.8 CON (calcareous material)
14. 15KOA009/35-17.5 CON (calcareous material)
15. 15KOA011/36-2.5 CON (calcareous material)