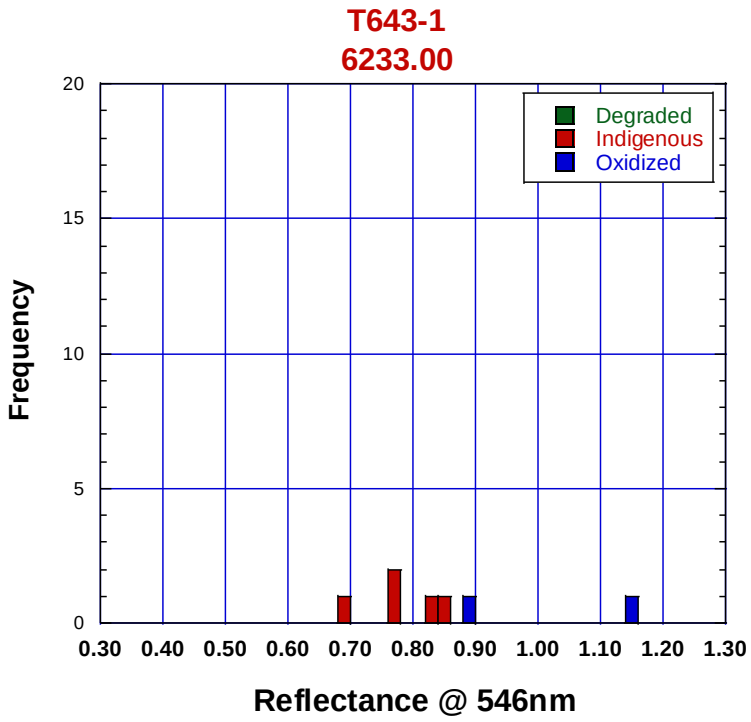
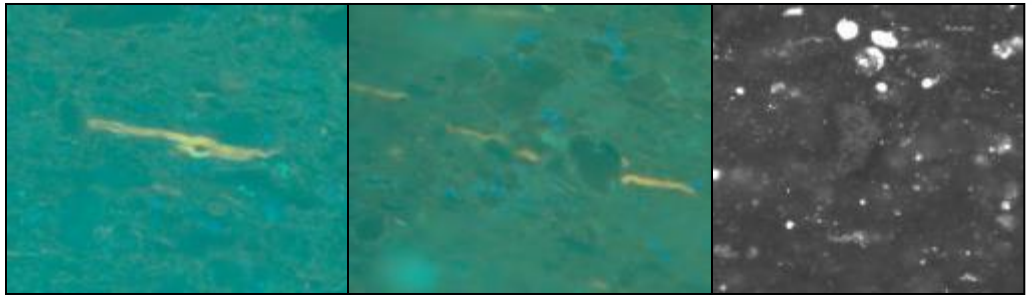




Comments: Sample preparation consists of core mounted in an epoxy and polished. There is no transmitted light slide, thus no TAI estimate. Polish on the reflected light preparation is good. Polish on the particles is also good. Organic matter consists of fine amorphous material, and rare humic debris. There appears to be a minor amount of lower reflecting homogenous solid hydrocarbon present. Vitrinite particles large enough to measure are rare and most are somewhat degraded and oxidized. Based on only 5 of 7 measurements of the better preserved, lower reflecting material that appears to be vitrinite, the average Ro is 0.78%. Due to the lack of particles, this value may not necessary represent the maturity of this sample. These data may be parsed differently if other independent maturity data are available. Fluorescence is fairly common and is generally yellow-orange to orange in color. Fluorescence photomicrographs (left and center) show the color of fluorescence. Reflected light photomicrograph (right) shows a small degraded humic particle embedded in the surrounding matrix.

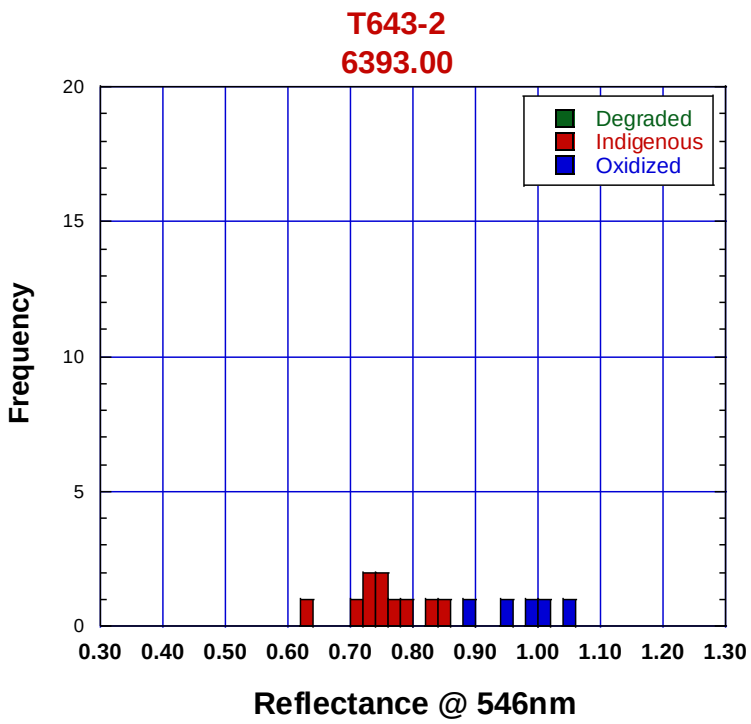
Ordered Ro Values

0.68 0.77 0.77 0.82 0.85 0.89 1.15

T643-1	6233.00
Minimum	0.68
Maximum	0.85
Points	5
Std Deviation	0.06
Mean	**0.78**

Visual Kerogen Analysis

Well	Sample ID	Depth	% Alg.	% Lipt.	% Vit.	% SHC.	% Inert.	Liptinite Fluores.	% Oil Prone	% Gas Prone	TAI	Spore Color
T643	T643-1	6,233.00	0	94	1	3	2	Common, yellow-orange - orange	94	1	NA	NA



Comments: Sample preparation consists of core mounted in an epoxy and polished. There is no transmitted light slide, thus no TAI estimate. Polish on the reflected light preparation is only fair as there are some mild to moderate undulations on most of the surface which occasionally interferes with the collection of data. Polish on the particles is generally good however some particles are nonplanar. Organic matter consists of sparse small humic debris, sparse liptinitic material, sparse fine amorphous material, and rare possible torn palynomorphs. There appears to be a minor amount of lower reflecting homogenous solid hydrocarbon present. Vitrinite particles large enough to measure are sparse however many appear to be reworked. Based on 10 of 15 measurements of the better preserved, lower reflecting material that appears to be vitrinite, the average Ro is 0.75%. There appears to be multiple populations of vitrinite in this sample. These data may be parsed differently if other independent maturity data are available. Fluorescence is somewhat sparse to somewhat common in parts and is yellow to yellow-orange in color. Fluorescence photomicrographs show the color of what appears to be a fluorescing torn partial palynomorph? (left) and liptinitic material (center). Reflected light photomicrograph (right) shows very small humic particles embedded in the surrounding matrix.

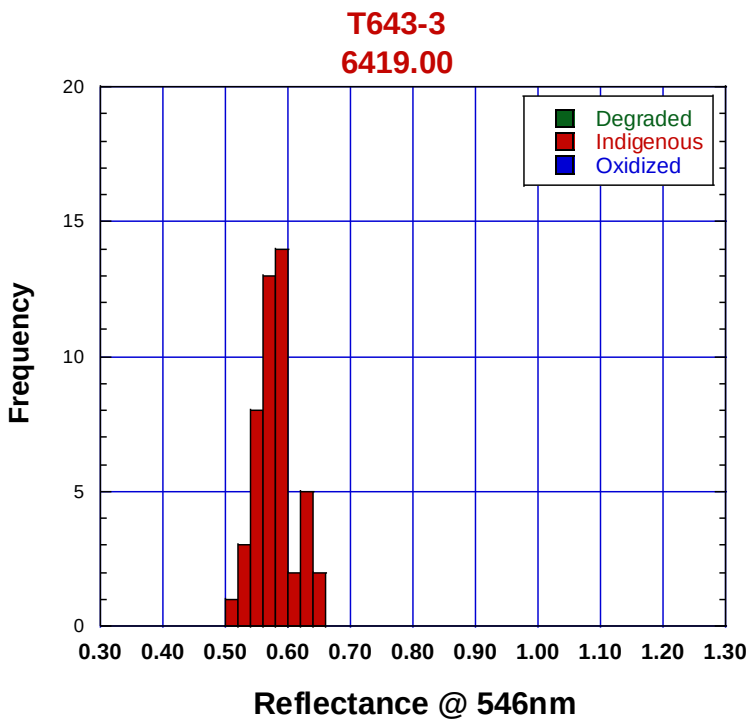
Ordered Ro Values

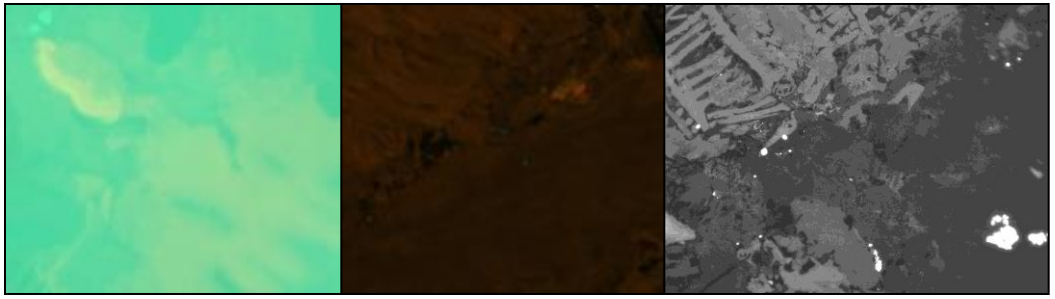
0.63 0.70 0.73 0.73 0.75 0.75 0.76 0.78 0.83 0.84 0.88 0.95
0.98 1.00 1.05

T643-2	6393.00
Minimum	0.63
Maximum	0.84
Points	10
Std Deviation	0.06
Mean	**0.75**

Visual Kerogen Analysis

Well	Sample ID	Depth	% Alg.	% Lipt.	% Vit.	% SHC.	% Inert.	Liptinite Fluores.	% Oil Prone	% Gas Prone	TAI	Spore Color
T643	T643-2	6,393.00	0	29	63	2	6	Sparse yellow-orange - orange	29	63	NA	NA





Comments: Sample preparation consists of core mounted in an epoxy and polished. There is no transmitted light slide, thus no TAI estimate. Polish on the reflected light preparation is good. Polish on the particles is also good. Organic matter is dominated by vitrinite which has occasional liptinitic material. There appears to be a minor amount of lower reflecting homogenous solid hydrocarbon present. Vitrinite particles large enough to measure are abundant. The vitrinite in this sample fluoresces very brightly, which is uncommon. Based on 48 measurements the average Ro is 0.57%. Fluorescence is common and so intense that it is difficult to obtain good photomicrographs. The fluorescence color is generally light orange to dark orange in color. Reflected fluorescence photomicrograph of sample under oil immersion (left) shows the fluorescence of a spore and resinous material, however the color is actually more orange than in the photograph. Reflected fluorescence photomicrograph of sample under 20X air lens (center) shows medium-dark orange color. Reflected light photomicrograph (right) shows vitrinite, sporinite, resinite, semi-fusinite, and fusinite macerals.

Ordered Ro Values

0.50	0.52	0.52	0.53	0.54	0.54	0.54	0.54	0.54	0.55	0.55	0.55
0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.57	0.57	0.57	0.57
0.57	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.59	0.59	0.59
0.59	0.59	0.59	0.61	0.61	0.62	0.62	0.62	0.62	0.62	0.64	0.65

T643-3	6419.00
Minimum	0.50
Maximum	0.65
Points	48
Std Deviation	0.03
Mean	**0.57**

Visual Kerogen Analysis

Well	Sample ID	Depth	% Alg.	% Lipt.	% Vit.	% SHC.	% Inert.	Liptinite Fluores.	% Oil Prone	% Gas Prone	TAI	Spore Color
T643	T643-3	6,419.00	0	26	65	1	8	Common, lgt orange - dark orange	26	65	NA	NA