

Intertek Westport Technology Center

Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94756

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV003

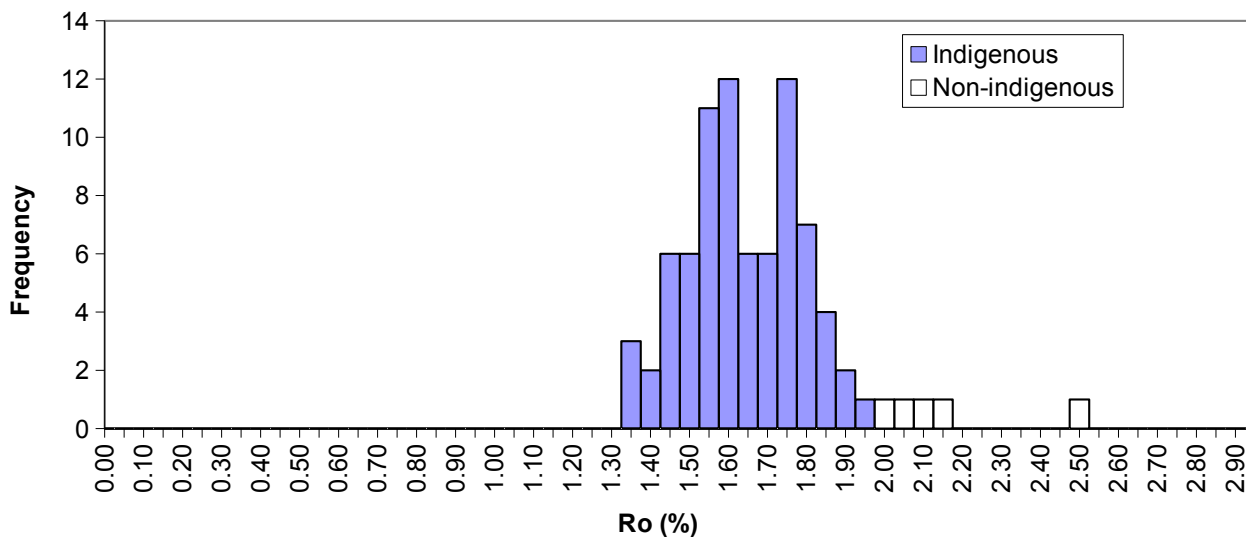
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Flour.	Non-flour.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	1.36	1.95	1.59	1.66	1.64	0.1425
Total	1.36	2.51	1.59	1.69	1.65	0.1911



Ordered Readings								Point Count	83
Bold = Indigenous									
1.36	1.49	1.56	1.60	1.65	1.73	1.78	1.84	2.11	
1.37	1.51	1.56	1.60	1.65	1.74	1.79	1.85	2.18	
1.38	1.52	1.57	1.61	1.66	1.75	1.79	1.86	2.51	
1.42	1.53	1.57	1.61	1.66	1.76	1.79	1.87		
1.44	1.53	1.59	1.62	1.68	1.76	1.81	1.88		
1.45	1.54	1.59	1.62	1.69	1.77	1.81	1.91		
1.45	1.54	1.59	1.63	1.70	1.77	1.81	1.94		
1.46	1.55	1.59	1.63	1.71	1.78	1.82	1.95		
1.48	1.55	1.60	1.64	1.72	1.78	1.83	2.03		
1.48	1.56	1.60	1.64	1.73	1.78	1.83	2.07		

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Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94757

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV017

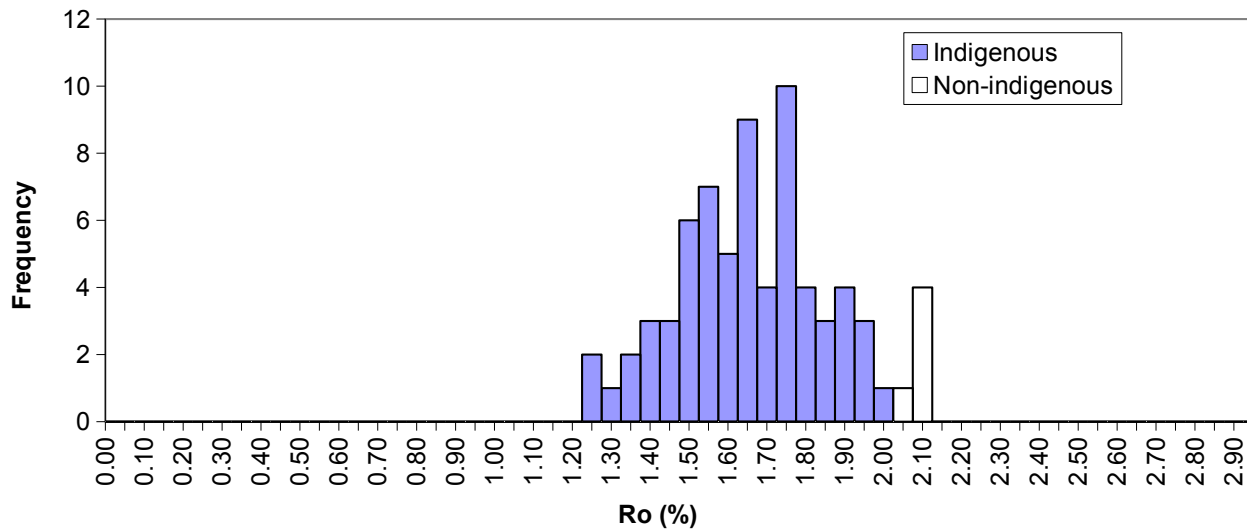
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Flour.	Non-flour.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	1.27	2.00	1.59	1.67	1.67	0.1766
Total	1.27	2.13	1.59	1.70	1.68	0.2047



Ordered Readings

Bold = Indigenous

Point Count

72

1.27	1.49	1.59	1.66	1.72	1.79	1.90	2.12
1.28	1.50	1.59	1.66	1.72	1.79	1.91	2.13
1.33	1.50	1.59	1.66	1.76	1.83	1.93	
1.36	1.51	1.59	1.67	1.76	1.83	1.95	
1.38	1.52	1.60	1.67	1.76	1.84	1.96	
1.40	1.52	1.61	1.67	1.77	1.84	1.98	
1.41	1.54	1.62	1.68	1.77	1.85	2.00	
1.43	1.56	1.62	1.69	1.77	1.86	2.08	
1.49	1.58	1.63	1.70	1.79	1.89	2.10	
1.49	1.59	1.65	1.70	1.79	1.90	2.12	

Intertek Westport Technology Center

Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94758

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV029

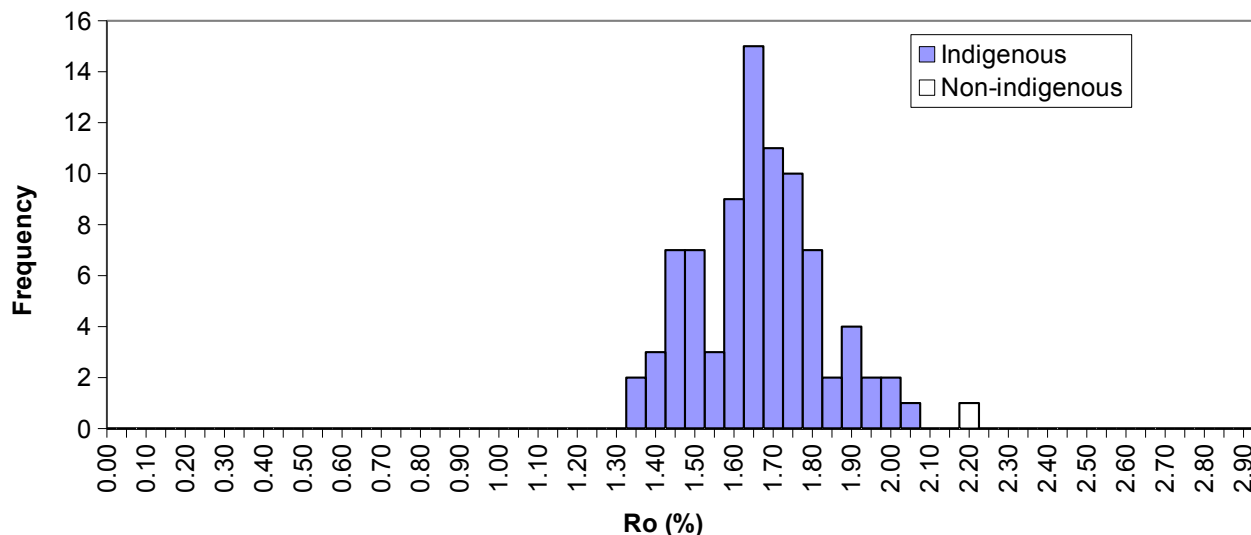
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Flour.	Non-flour.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	1.36	2.06	1.66	1.69	1.69	0.1556
Total	1.36	2.21	1.66	1.69	1.69	0.1646



Ordered Readings									Point Count	86
Bold = Indigenous										
1.36	1.49	1.52	1.66	1.69	1.71	1.77	1.82	1.95		
1.39	1.50	1.58	1.66	1.61	1.74	1.77	1.82	1.97		
1.41	1.51	1.61	1.66	1.69	1.74	1.77	1.83	2.01		
1.44	1.52	1.61	1.66	1.70	1.75	1.78	1.85	2.04		
1.44	1.52	1.62	1.66	1.70	1.75	1.79	1.86	2.06		
1.46	1.54	1.62	1.66	1.70	1.75	1.79	1.90	2.21		
1.47	1.54	1.62	1.67	1.71	1.75	1.80	1.91			
1.47	1.55	1.63	1.67	1.71	1.76	1.82	1.92			
1.48	1.56	1.64	1.68	1.72	1.77	1.82	1.93			
1.48	1.57	1.65	1.67	1.72	1.77	1.82	1.93			

Intertek Westport Technology Center

Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94759

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV046

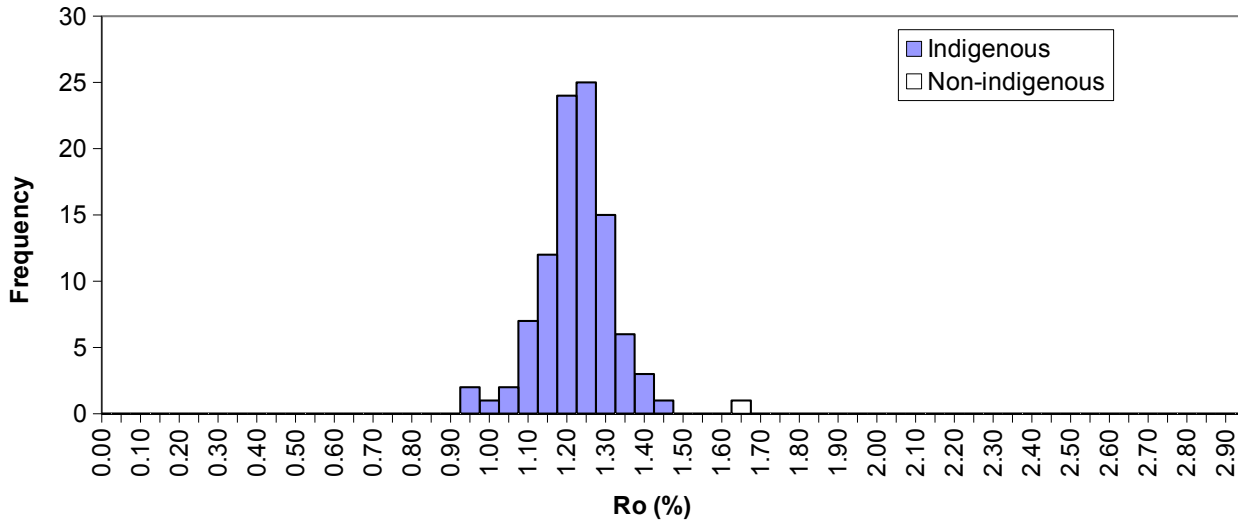
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Fluor.	Non-fluor.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	0.98	1.50	1.24	1.25	1.26	0.0900
Total	0.98	1.66	1.24	1.25	1.26	0.0987



Ordered Readings	Bold = Indigenous							Point Count	99
0.98	1.15	1.20	1.23	1.24	1.26	1.28	1.21	1.32	1.38
0.98	1.15	1.20	1.23	1.24	1.27	1.28	1.30	1.33	1.38
1.02	1.16	1.20	1.23	1.24	1.27	1.28	1.30	1.33	1.40
1.07	1.16	1.20	1.23	1.24	1.27	1.22	1.31	1.33	1.40
1.08	1.17	1.21	1.23	1.25	1.27	1.28	1.31	1.33	1.42
1.11	1.18	1.21	1.24	1.25	1.27	1.28	1.31	1.33	1.43
1.12	1.18	1.21	1.24	1.26	1.27	1.28	1.31	1.33	1.45
1.14	1.19	1.21	1.24	1.26	1.27	1.28	1.31	1.34	1.50
1.15	1.19	1.22	1.24	1.26	1.27	1.29	1.31	1.36	1.66
1.15	1.19	1.23	1.24	1.26	1.27	1.29	1.32	1.36	

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Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94760

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV076

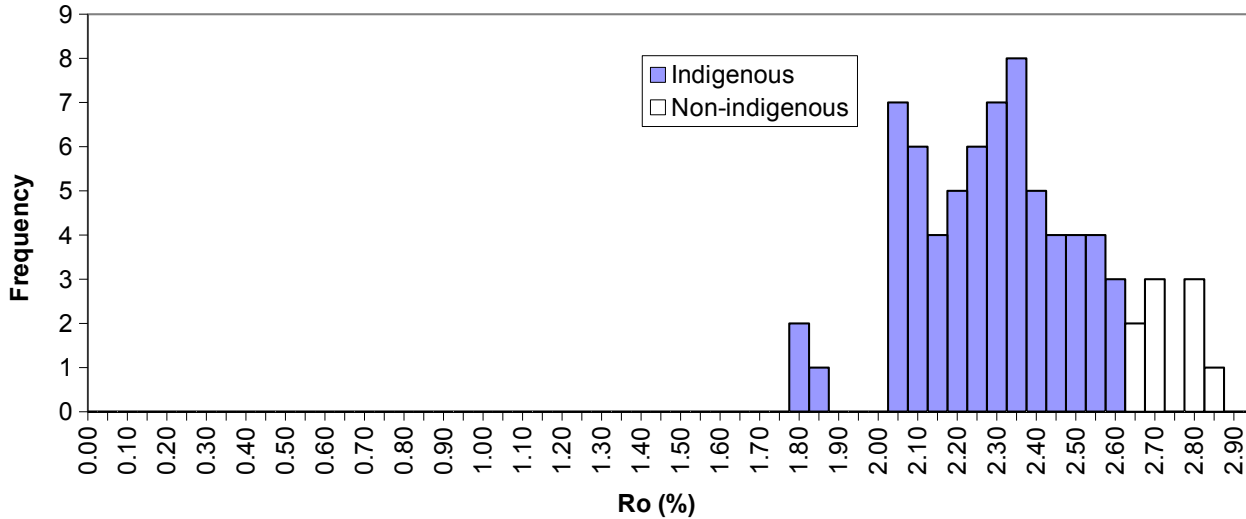
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Flour.	Non-flour.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	1.81	2.63	2.30	2.30	2.30	0.1888
Total	1.81	2.85	2.30	2.35	2.34	0.2340



Ordered Readings	Bold = Indigenous							Point Count	75
1.81	2.10	2.21	2.29	2.35	2.43	2.57	2.74		
1.83	2.10	2.22	2.30	2.36	2.45	2.57	2.80		
1.90	2.12	2.22	2.30	2.37	2.49	2.59	2.83		
2.06	2.13	2.24	2.30	2.38	2.49	2.61	2.83		
2.06	2.14	2.24	2.30	2.39	2.49	2.61	2.85		
2.06	2.14	2.25	2.32	2.39	2.50	2.63			
2.08	2.16	2.25	2.33	2.40	2.51	2.67			
2.08	2.17	2.26	2.34	2.41	2.52	2.68			
2.09	2.19	2.27	2.35	2.42	2.53	2.70			
2.09	2.19	2.28	2.35	2.43	2.56	2.71			

Intertek Westport Technology Center

Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94761

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV077

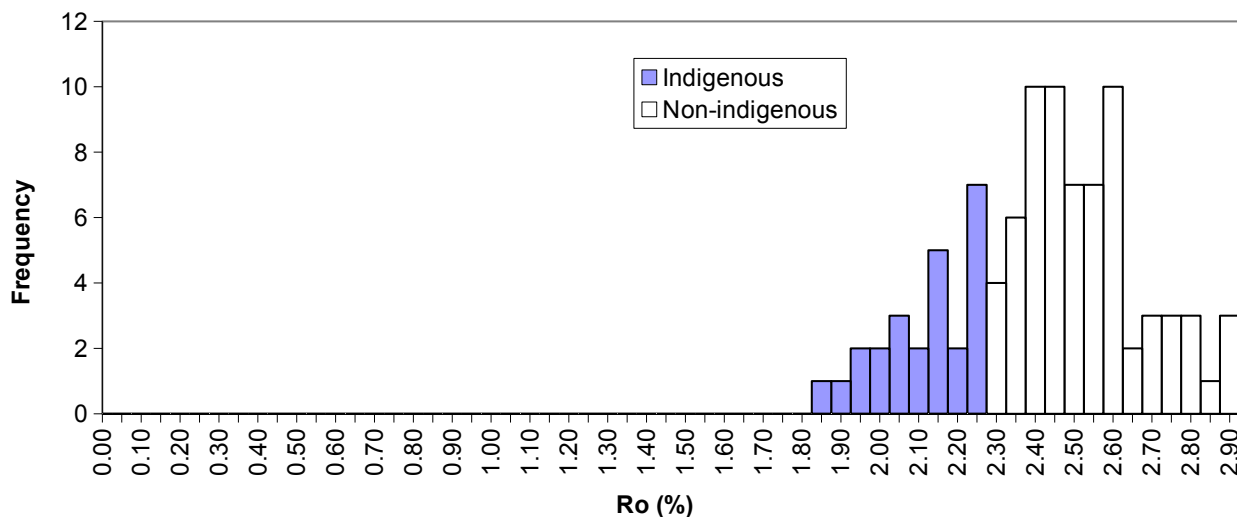
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Fluor.	Non-flour.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	1.86	2.29	2.25	2.13	2.15	0.1244
Total	1.86	3.29	2.60	2.47	2.46	0.2682



Ordered Readings	Bold = Indigenous							Point Count	98
1.86	2.15	2.25	2.36	2.43	2.47	2.52	2.60	2.68	2.84
1.91	2.15	2.26	2.37	2.43	2.47	2.54	2.60	2.71	2.87
1.95	2.16	2.26	2.38	2.44	2.48	2.56	2.60	2.71	2.91
1.97	2.18	2.27	2.38	2.44	2.49	2.57	2.61	2.73	2.94
2.00	2.10	2.29	2.38	2.44	2.49	2.57	2.61	2.75	2.95
2.00	2.19	2.30	2.40	2.45	2.50	2.58	2.62	2.75	3.01
2.05	2.21	2.33	2.40	2.45	2.51	2.59	2.63	2.77	3.03
2.08	2.21	2.34	2.40	2.45	2.51	2.59	2.64	2.80	3.29
2.08	2.25	2.34	2.41	2.46	2.51	2.59	2.64	2.92	
2.12	2.25	2.35	2.43	2.46	2.52	2.60	2.66	2.84	

Intertek Westport Technology Center

Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94762

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV083

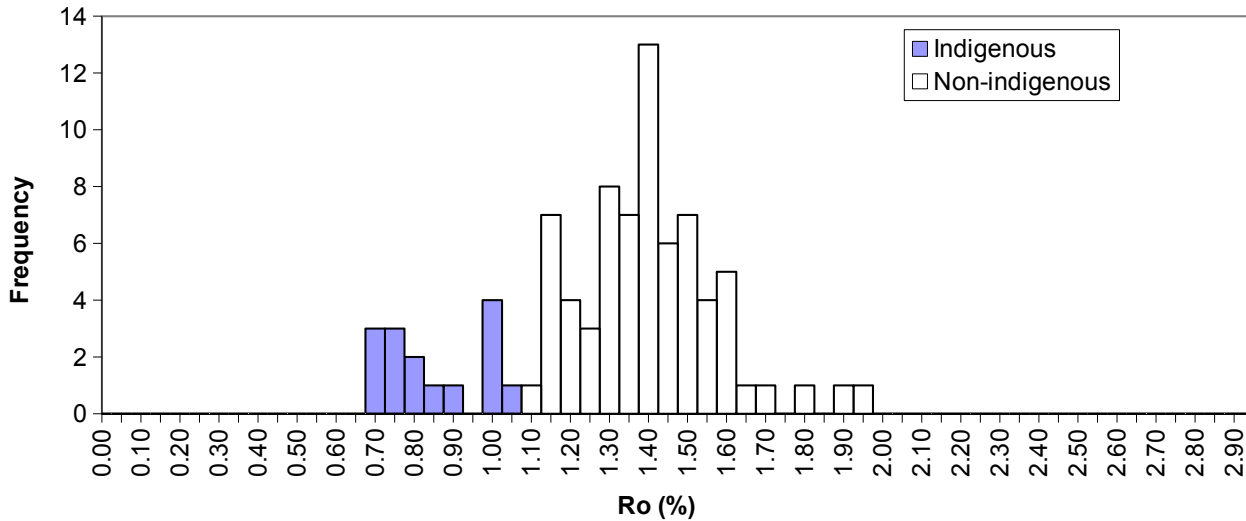
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Flour.	Non-flour.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	0.73	1.10	0.73	0.87	0.83	0.1287
Total	0.73	1.98	1.37	1.33	1.37	0.2690



Ordered Readings	Bold = Indigenous							Point Count	85
0.73	1.01	1.19	1.31	1.37	1.43	1.46	1.55	1.67	
0.73	1.01	1.20	1.31	1.37	1.44	1.46	1.56	1.72	
0.74	1.03	1.20	1.31	1.37	1.44	1.48	1.59	1.83	
0.75	1.05	1.24	1.32	1.38	1.44	1.50	1.60	1.92	
0.77	1.10	1.25	1.33	1.38	1.44	1.51	1.60	1.98	
0.77	1.13	1.25	1.34	1.41	1.45	1.52	1.61		
0.82	1.16	1.27	1.35	1.42	1.45	1.52	1.61		
0.83	1.17	1.22	1.35	1.42	1.45	1.54	1.61		
0.85	1.17	1.29	1.36	1.42	1.46	1.54	1.62		
0.91	1.19	1.30	1.37	1.43	1.46	1.55	1.62		

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Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94763

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV091

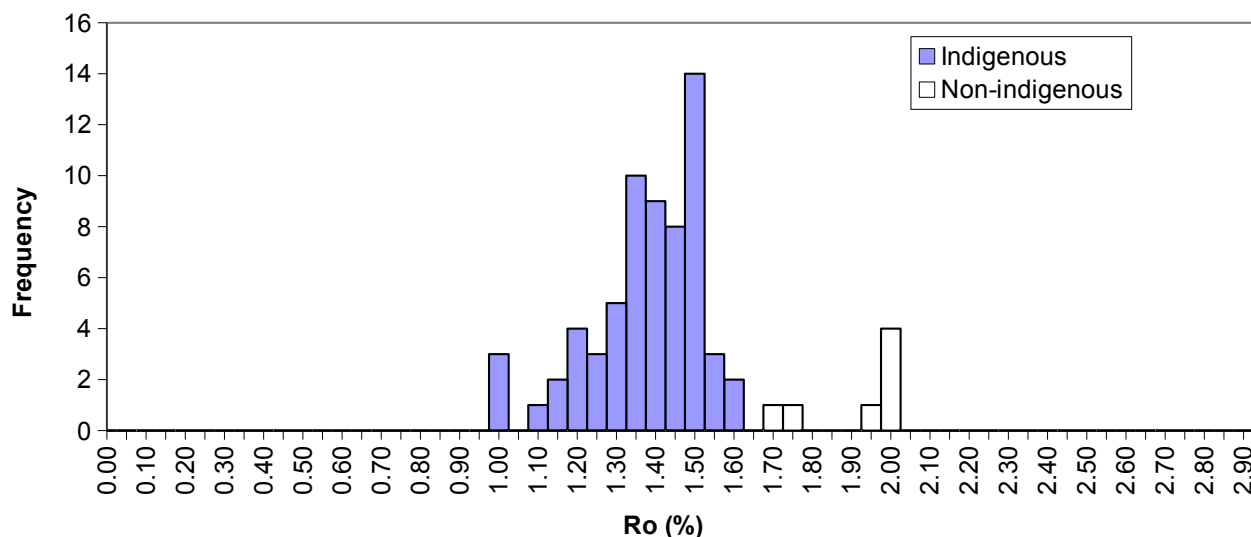
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Fluor.	Non-fluor.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	1.01	1.63	1.54	1.40	1.43	0.1419
Total	1.01	2.03	1.54	1.46	1.45	0.2126



Ordered Readings							Point Count	71
Bold = Indigenous								
1.01	1.28	1.38	1.41	1.47	1.53	1.58	2.03	
1.04	1.22	1.38	1.43	1.49	1.53	1.60		
1.05	1.30	1.38	1.44	1.49	1.54	1.61		
1.15	1.31	1.39	1.45	1.50	1.54	1.63		
1.16	1.34	1.39	1.45	1.50	1.54	1.71		
1.20	1.34	1.39	1.45	1.51	1.54	1.78		
1.22	1.35	1.40	1.45	1.52	1.54	1.99		
1.24	1.35	1.40	1.46	1.52	1.54	2.00		
1.24	1.36	1.41	1.47	1.52	1.55	2.02		
1.27	1.36	1.41	1.47	1.52	1.58	2.03		

Intertek Westport Technology Center

Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94764

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV110

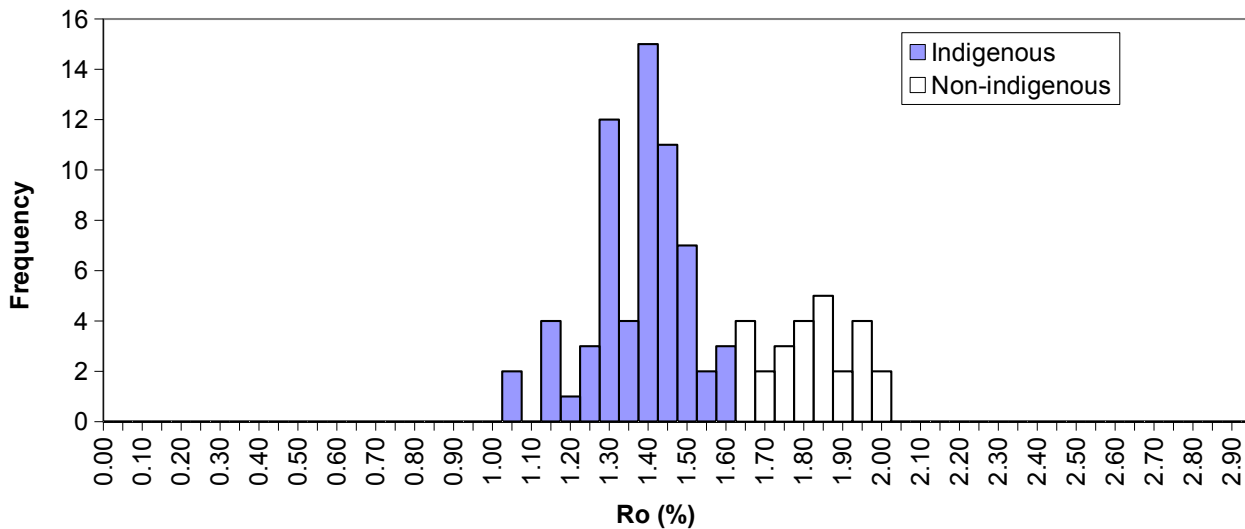
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Flour.	Non-flour.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	1.07	1.62	1.44	1.40	1.42	0.1199
Total	1.07	2.03	1.44	1.53	1.47	0.2324



Ordered Readings

Bold = Indigenous

Point Count

90

1.07	1.31	1.35	1.42	1.45	1.49	1.60	1.77	1.89
1.10	1.32	1.35	1.42	1.46	1.50	1.61	1.78	1.89
1.17	1.33	1.36	1.43	1.46	1.51	1.62	1.80	1.91
1.19	1.33	1.38	1.44	1.47	1.51	1.62	1.81	1.92
1.20	1.33	1.39	1.44	1.47	1.51	1.67	1.83	1.95
1.20	1.33	1.40	1.44	1.47	1.51	1.67	1.85	1.95
1.22	1.33	1.41	1.44	1.47	1.52	1.68	1.85	1.96
1.26	1.34	1.42	1.44	1.48	1.53	1.69	1.86	1.98
1.29	1.34	1.42	1.44	1.48	1.54	1.75	1.86	2.00
1.29	1.34	1.42	1.45	1.49	1.56	1.75	1.87	2.03

Intertek Westport Technology Center

Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94765

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV136

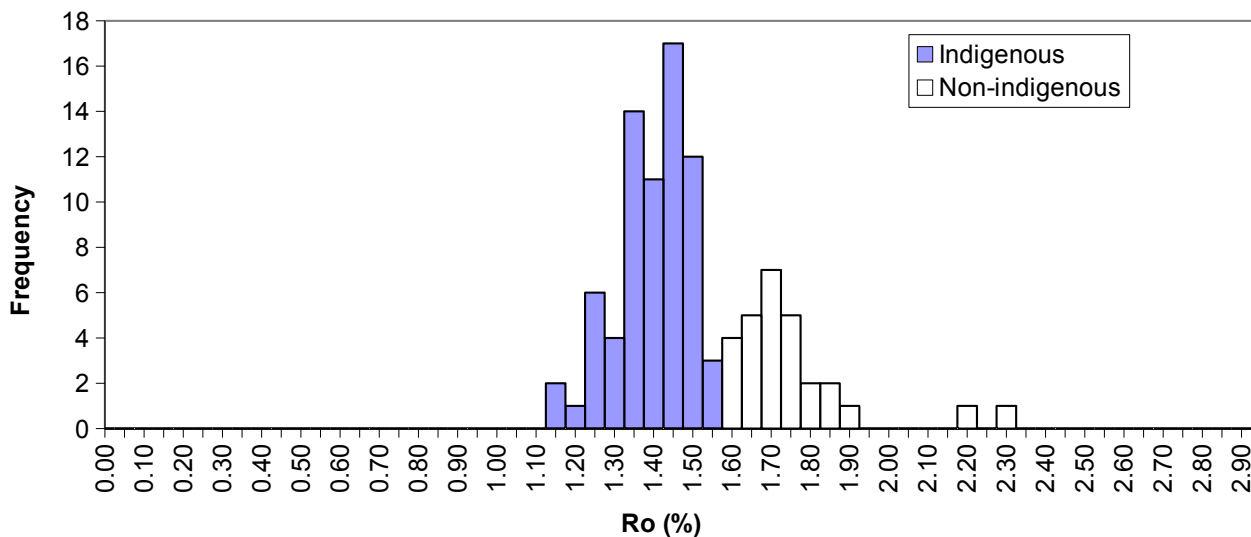
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Fluor.	Non-fluor.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	1.19	1.60	1.47	1.42	1.45	0.0910
Total	1.19	2.30	1.47	1.53	1.48	0.1950



Ordered Readings								Point Count	98
Bold = Indigenous									
1.19	1.32	1.39	1.44	1.47	1.49	1.52	1.63	1.72	1.80
1.20	1.33	1.39	1.44	1.47	1.50	1.52	1.65	1.72	1.81
1.24	1.34	1.39	1.45	1.47	1.50	1.52	1.65	1.72	1.85
1.27	1.36	1.39	1.45	1.47	1.50	1.52	1.65	1.74	1.86
1.27	1.36	1.39	1.45	1.47	1.50	1.53	1.66	1.74	1.87
1.28	1.36	1.40	1.45	1.47	1.51	1.54	1.66	1.74	1.92
1.30	1.37	1.40	1.45	1.47	1.51	1.55	1.67	1.76	2.20
1.30	1.37	1.42	1.45	1.48	1.51	1.56	1.68	1.77	2.30
1.30	1.38	1.42	1.46	1.48	1.51	1.57	1.70	1.79	
1.31	1.38	1.42	1.47	1.49	1.51	1.60	1.72	1.80	

Intertek Westport Technology Center

Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94766

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV149

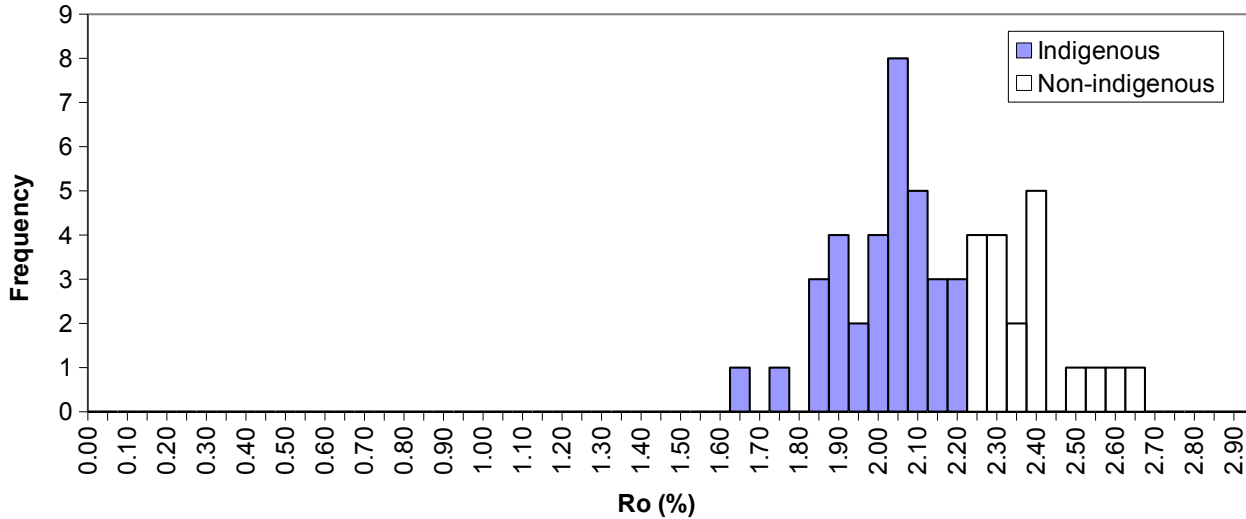
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Flour.	Non-flour.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	1.70	2.23	2.05	2.03	2.05	0.1255
Total	1.70	3.29	2.05	2.19	2.14	0.2622



Ordered Readings	Bold = Indigenous					Point Count	54
1.70	1.96	2.07	2.19	2.32	2.57		
1.80	2.00	2.08	2.20	2.34	2.64		
1.87	2.03	2.09	2.21	2.36	2.65		
1.87	2.03	2.10	2.23	2.38	3.29		
1.89	2.04	2.11	2.25	2.40			
1.91	2.05	2.14	2.25	2.41			
1.92	2.05	2.14	2.29	2.41			
1.94	2.05	2.14	2.29	2.42			
1.94	2.05	2.17	2.30	2.43			
1.95	2.06	2.18	2.32	2.52			

Intertek Westport Technology Center

Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94767

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV164

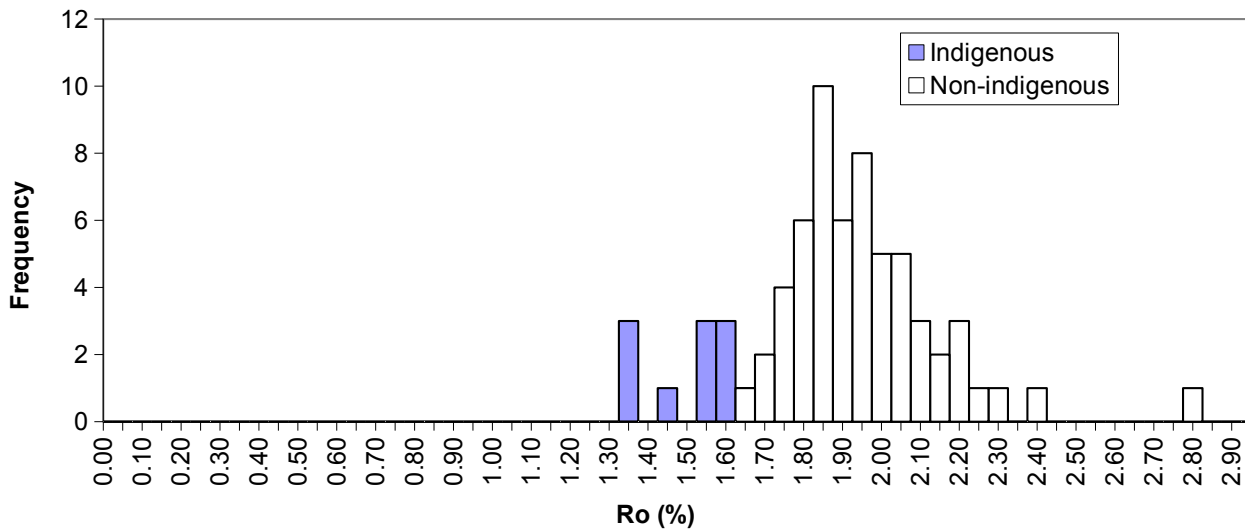
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Fluor.	Non-fluor.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	1.36	1.66	1.64	1.54	1.58	0.1139
Total	1.36	2.82	1.90	1.91	1.91	0.2443



Ordered Readings

Bold = Indigenous

Point Count

70

1.36	1.66	1.84	1.90	1.95	2.03	2.13
1.37	1.70	1.84	1.90	1.95	2.03	2.15
1.40	1.72	1.85	1.90	1.95	2.04	2.18
1.49	1.73	1.85	1.90	1.95	2.06	2.22
1.57	1.76	1.86	1.91	1.96	2.06	2.23
1.58	1.78	1.86	1.91	1.97	2.08	2.24
1.60	1.79	1.87	1.92	1.97	2.09	2.28
1.61	1.79	1.89	1.92	1.98	2.09	2.34
1.64	1.81	1.89	1.94	2.01	2.10	2.42
1.64	1.83	1.90	1.94	2.02	2.13	2.82

Intertek Westport Technology Center

Vitrinite Reflectance - Visual Kerogen Assessment Summary

Sample Information

Westport Project	WTC-06-000220
Westport Sample	94768

Client	Alaska Geological Survey
Client Project	North Slope
Client Sample	06DAV180

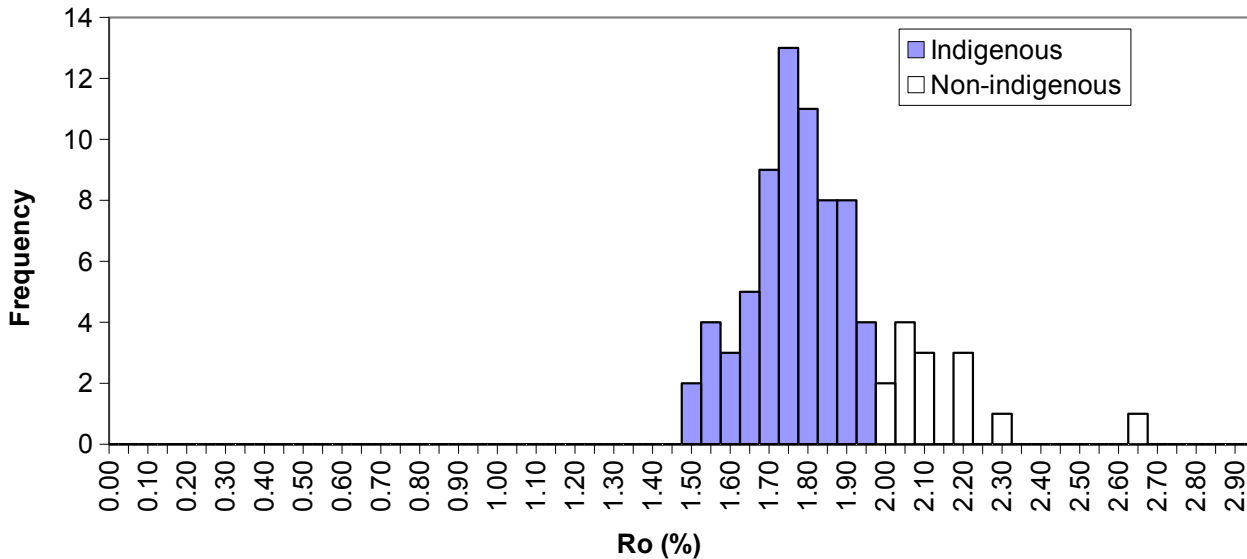
Visual Kerogen Assessment

Thermal Alteration Index	Kerogen Types (vol%)					
	Amorphous Kerogen					
	Flour.	Non-flour.	Alginite	Exinite	Vitrinite	Inertinite

Comments:

Vitrinite Reflectance

	Min	Max	Mode	Mean	Median	StDev
Indigenous	1.51	1.97	1.78	1.79	1.80	0.1117
Total	1.51	2.68	1.78	1.85	1.82	0.1902



Ordered Readings	Bold = Indigenous							Point Count	81
1.51	1.67	1.75	1.79	1.82	1.88	1.93	2.06	2.68	
1.54	1.68	1.75	1.79	1.83	1.88	1.93	2.08		
1.56	1.69	1.75	1.79	1.84	1.89	1.94	2.09		
1.60	1.69	1.76	1.80	1.84	1.89	1.95	2.11		
1.60	1.71	1.77	1.80	1.84	1.90	1.95	2.13		
1.60	1.71	1.78	1.80	1.85	1.91	1.96	2.13		
1.61	1.71	1.78	1.81	1.85	1.91	1.97	2.21		
1.63	1.73	1.78	1.81	1.86	1.91	2.01	2.22		
1.63	1.74	1.78	1.82	1.87	1.91	2.04	2.24		

1.67

1.74

1.78

1.82

1.87

1.92

2.05

2.31