



[LinkedFiles\GAB_BCH1\Samples\W13_007716_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007716_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			87.91	percent	Y
Inorg	Hydrogen			6.87119701789264	percent	Y
Inorg	Nitrogen			0.3	percent	Y
Inorg	Sulphur			1.03281660289736	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007716 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 18/11/2016

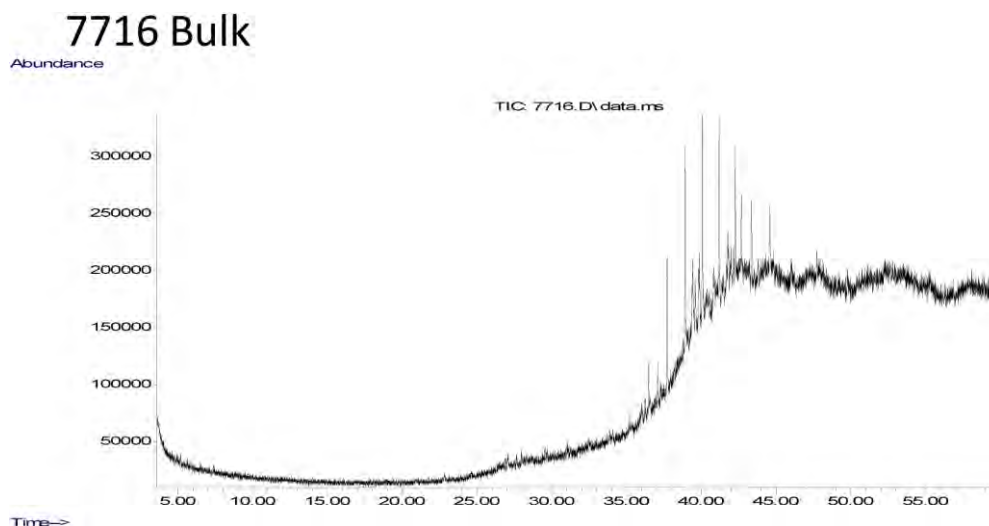
Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007716_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment: Bulk

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	436584		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120	61325		ug/L	Z
Aliph	nC26	36.4960	225477		ug/L	Z
Aliph	nC27	37.7300	689851		ug/L	Z
Aliph	nC28	38.9260	919099		ug/L	Z
Aliph	nC29	40.0740	938452		ug/L	Z
Aliph	nC30	41.1930	785691		ug/L	Z
Aliph	nC31	42.2750	571843		ug/L	Z
Aliph	nC32	43.3560	452871		ug/L	Z
Aliph	nC33	44.5840	387990		ug/L	Z
Aliph	nC34	46.0130	232361		ug/L	Z
Aliph	nC35	47.7140	230997		ug/L	Z
Aliph	nC36	49.7870			ug/L	U
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007717**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

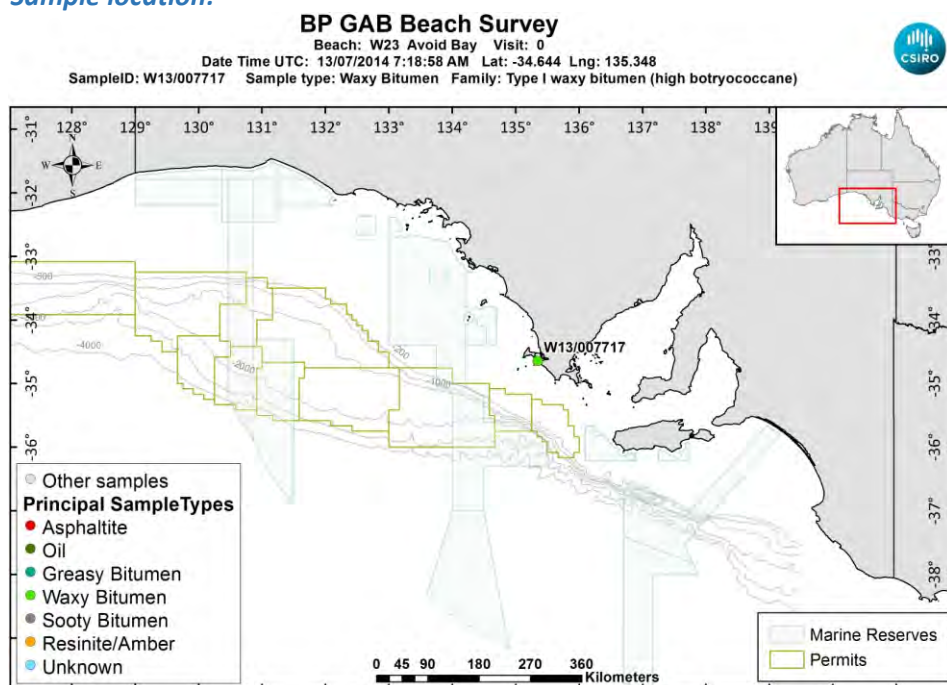
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 1.3

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007717_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007717_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007717_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007717_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			88.2	percent	Y
Inorg	Hydrogen			6.47034612326044	percent	Y
Inorg	Nitrogen			0.29	percent	Y
Inorg	Sulphur			0.830949713816403	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007717 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 18/11/2016

Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007717_bulk_WholeOil.jpg](#)

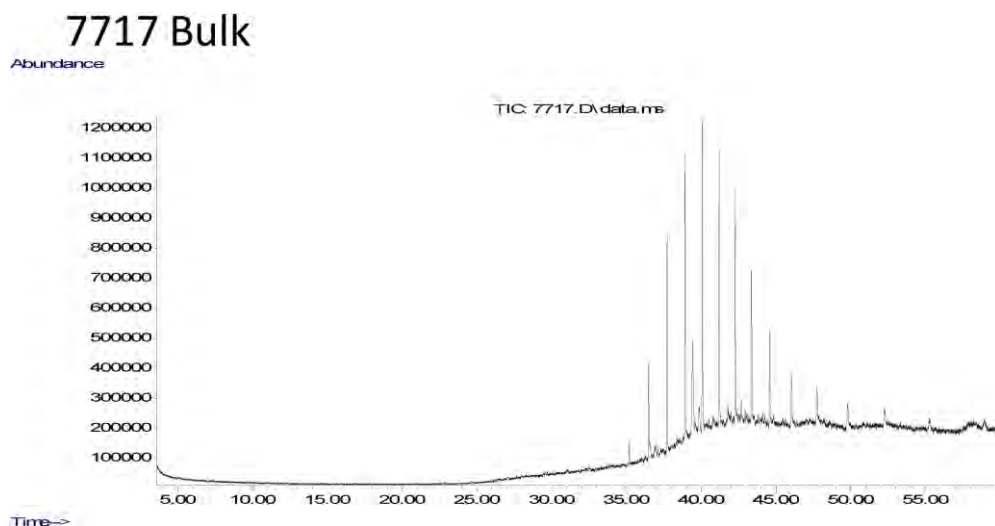
Preparation: Dissolved in solvent

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**

Comment: Bulk

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	2973054		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800	88880		ug/L	Z
Aliph	nC25	35.2120	398595		ug/L	Z
Aliph	nC26	36.4960	1535623		ug/L	Z
Aliph	nC27	37.7300	3857813		ug/L	Z
Aliph	nC28	38.9260	5035242		ug/L	Z
Aliph	nC29	40.0740	5635972		ug/L	Z
Aliph	nC30	41.1930	4872731		ug/L	Z
Aliph	nC31	42.2750	4101865		ug/L	Z
Aliph	nC32	43.3560	2989932		ug/L	Z
Aliph	nC33	44.5840	2320330		ug/L	Z
Aliph	nC34	46.0130	1648390		ug/L	Z
Aliph	nC35	47.7140	1201074		ug/L	Z
Aliph	nC36	49.7870	857063		ug/L	Z
Aliph	nC37	52.2630	774590		ug/L	Z
Aliph	nC38	55.2360	673638		ug/L	Z
Aliph	nC39	58.9110	453613		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007718**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

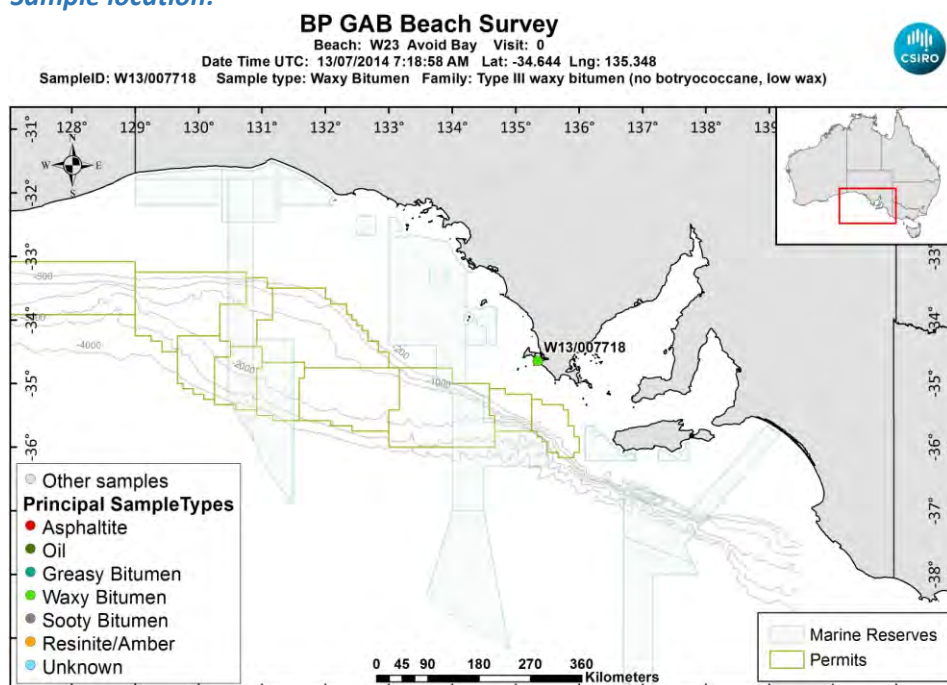
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 2.7

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007718_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007718_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007718_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007718_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			87.72	percent	Y
Inorg	Hydrogen		7.29207256461233		percent	Y
Inorg	Nitrogen		0.16		percent	Y
Inorg	Sulphur		0.805438473000953		percent	Y

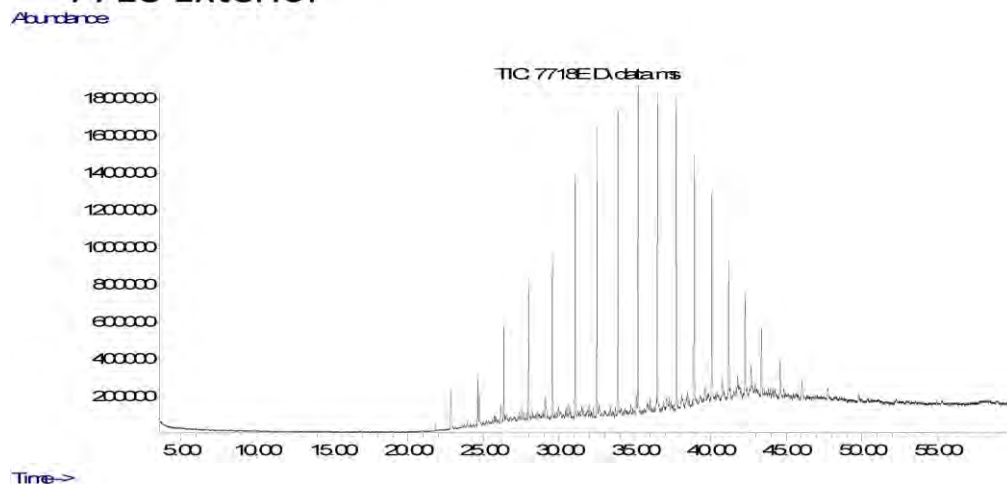
Results for: GCMS with Full Scan

Unique ID: W13/007718_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007718_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7718 Exterior



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retention Time:	Target Response:	Value:	units:	Qualifier:
Ratio	nC17/nC29			7.51992239312308E-02	ug/L	Y
Ratio	nC17/nC35			0.96821319930911	ug/L	Y
Ratio	nC17/Pristane			0.272238675049875	ug/L	Y
Ratio	nC18/Phytane			1.27230266354522	ug/L	Y
Ratio	Pristane/Phytane			1.32303922157151	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190	430807		ug/L	Z
Aliph	nC18	24.6230	1521775		ug/L	Z
Aliph	nC19	26.3410	2748912		ug/L	Z
Aliph	nC20	27.9810	3838653		ug/L	Z
Aliph	nC21	29.5510	4804542		ug/L	Z
Aliph	nC22	31.0540	6519970		ug/L	Z
Aliph	nC23	32.4960	7955341		ug/L	Z
Aliph	nC24	33.8800	8792439		ug/L	Z
Aliph	nC25	35.2120	9360113		ug/L	Z
Aliph	nC26	36.4960	8961899		ug/L	Z
Aliph	nC27	37.7300	9132119		ug/L	Z
Aliph	nC28	38.9260	7207221		ug/L	Z
Aliph	nC29	40.0740	5728874		ug/L	Z
Aliph	nC30	41.1930	3969035		ug/L	Z
Aliph	nC31	42.2750	3192394		ug/L	Z
Aliph	nC32	43.3560	2199501		ug/L	Z
Aliph	nC33	44.5840	1234259		ug/L	Z
Aliph	nC34	46.0130	867924		ug/L	Z
Aliph	nC35	47.7140	444950		ug/L	Z
Aliph	nC36	49.7870	387803		ug/L	Z
Aliph	nC37	52.2630	251890		ug/L	Z

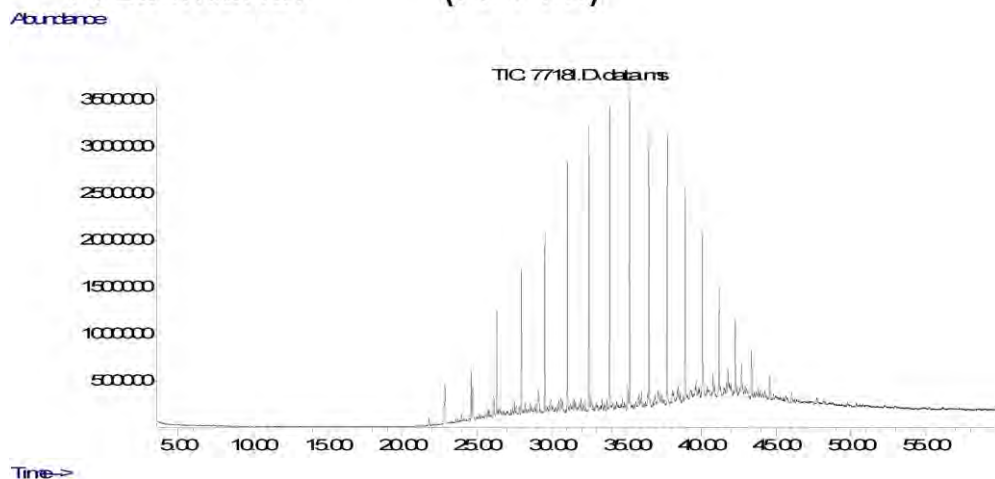
Results for: GCMS with Full Scan

Aliph	nC38	55.2360		ug/L	U
Aliph	nC39	58.9110		ug/L	U
Aliph	Norpristane	21.8010	324724	ug/L	Z
Aliph	Phytane	24.7190	1196080	ug/L	Z
Aliph	Pristane	22.8660	1582460	ug/L	Z

Results for: GCMS with Full Scan**Unique ID:** W13/007718 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007718_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7718 Interior – (Pr + Ph)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Ratio	nC17/nC29			0.111631110457865	ug/L	Y
Ratio	nC17/nC35			1.41533204589337	ug/L	Y
Ratio	nC17/Pristane			0.310796181229903	ug/L	Y
Ratio	nC18/Phytane			1.3563500193917	ug/L	Y
Ratio	Pristane/Phytane			1.32547302432026	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240	80096		ug/L	Z
Aliph	nC17	22.8190	987961		ug/L	Z
Aliph	nC18	24.6230	3252856		ug/L	Z
Aliph	nC19	26.3410	5689851		ug/L	Z
Aliph	nC20	27.9810	8160671		ug/L	Z
Aliph	nC21	29.5510	10365215		ug/L	Z
Aliph	nC22	31.0540	13544774		ug/L	Z
Aliph	nC23	32.4960	15990596		ug/L	Z
Aliph	nC24	33.8800	16901682		ug/L	Z
Aliph	nC25	35.2120	17698580		ug/L	Z
Aliph	nC26	36.4960	16223068		ug/L	Z
Aliph	nC27	37.7300	15303226		ug/L	Z
Aliph	nC28	38.9260	11117646		ug/L	Z
Aliph	nC29	40.0740	8850227		ug/L	Z
Aliph	nC30	41.1930	5885488		ug/L	Z
Aliph	nC31	42.2750	4508955		ug/L	Z
Aliph	nC32	43.3560	2860273		ug/L	Z
Aliph	nC33	44.5840	1758479		ug/L	Z
Aliph	nC34	46.0130	1094973		ug/L	Z
Aliph	nC35	47.7140	698042		ug/L	Z
Aliph	nC36	49.7870	425690		ug/L	Z
Aliph	nC37	52.2630	238258		ug/L	Z

Results for: GCMS with Full Scan

Aliph	nC38	55.2360		ug/L	U
Aliph	nC39	58.9110		ug/L	U
Aliph	Norpristane	21.8010	743732	ug/L	Z
Aliph	Phytane	24.7190	2398242	ug/L	Z
Aliph	Pristane	22.8660	3178806	ug/L	Z

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007719**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

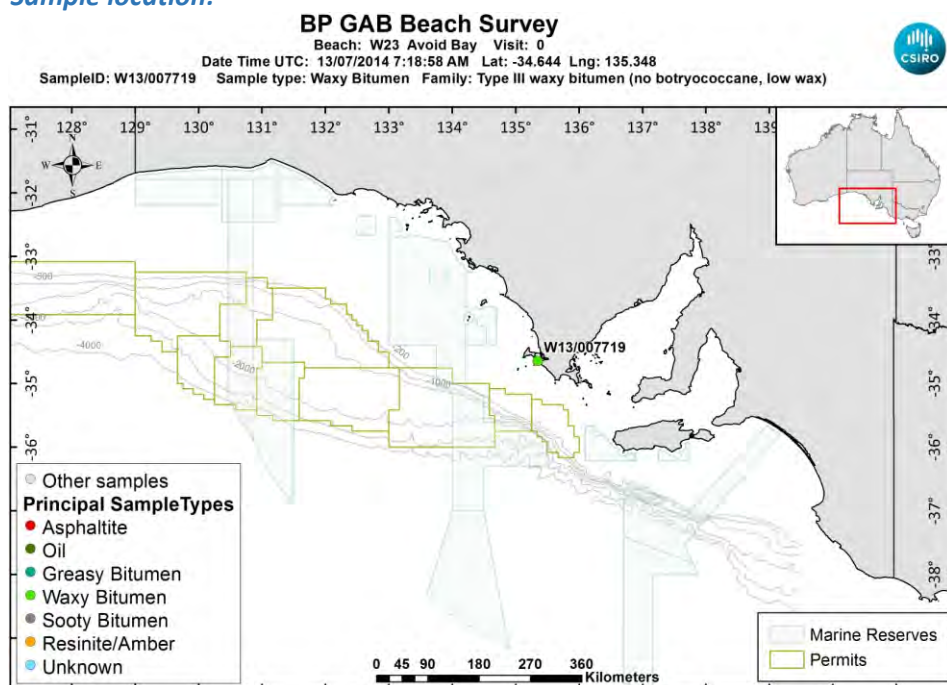
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 1.1

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007719_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007719_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007719_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007719_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			86.6	percent	Y
Inorg	Hydrogen			7.93448310139165	percent	Y
Inorg	Nitrogen			0.25	percent	Y
Inorg	Sulphur			1.12964004787878	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007719 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 18/11/2016

Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007719_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

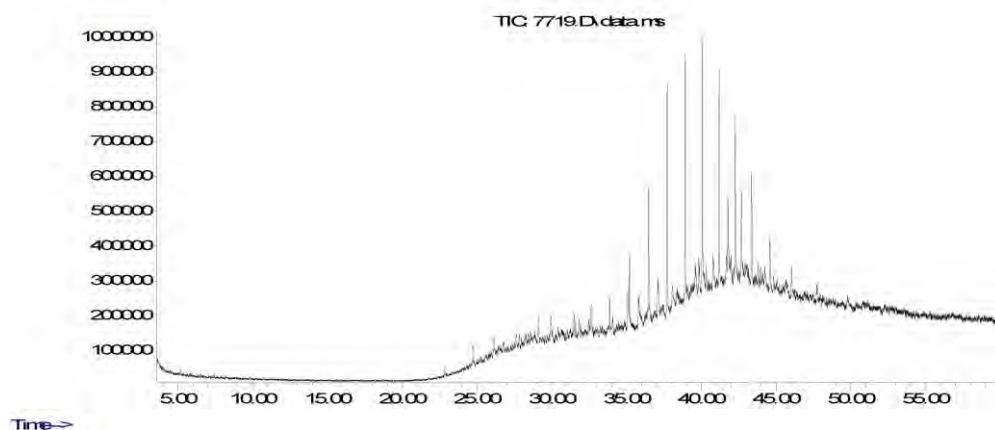
Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment: Bulk

Results for: GCMS with Full Scan

7719 Bulk

Abundance



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			0.606203505080571	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960	247133		ug/L	Z
Aliph	nC24	33.8800	598129		ug/L	Z
Aliph	nC25	35.2120	999101		ug/L	Z
Aliph	nC26	36.4960	1954039		ug/L	Z
Aliph	nC27	37.7300	3461527		ug/L	Z
Aliph	nC28	38.9260	3725409		ug/L	Z
Aliph	nC29	40.0740	3798156		ug/L	Z
Aliph	nC30	41.1930	3148218		ug/L	Z
Aliph	nC31	42.2750	2645965		ug/L	Z
Aliph	nC32	43.3560	1899289		ug/L	Z
Aliph	nC33	44.5840	1214011		ug/L	Z
Aliph	nC34	46.0130	860919		ug/L	Z
Aliph	nC35	47.7140	443386		ug/L	Z
Aliph	nC36	49.7870	322925		ug/L	Z
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190	389720		ug/L	Z

Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	236250	ug/L	Z
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Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007720**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

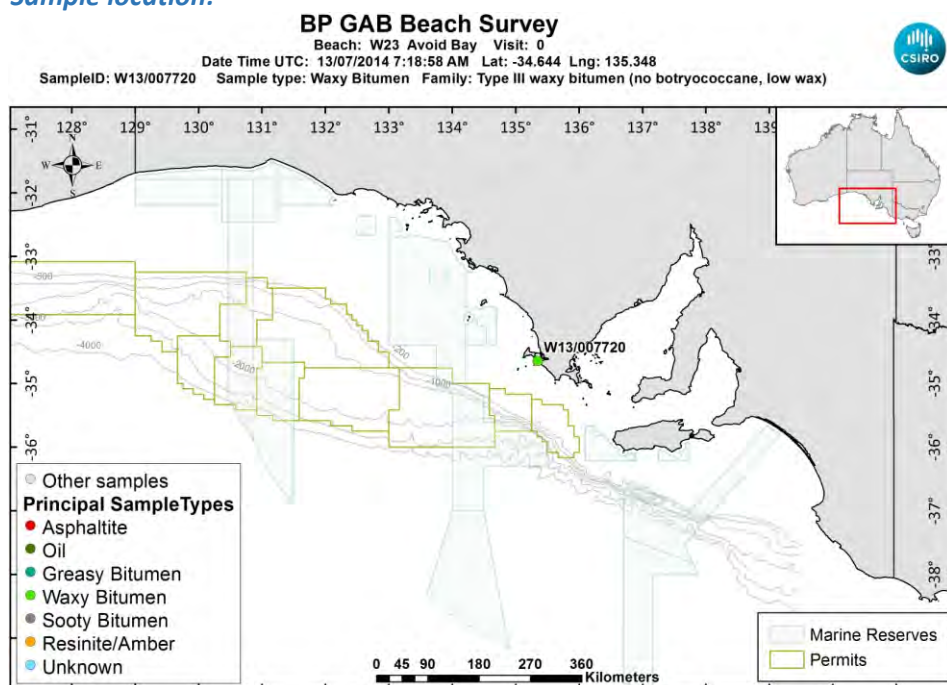
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 1.8

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007720_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007720_Photo01.JPG](#)

Sample - laboratory image:



LinkedFiles\GAB BCH1\Samples\W13_007720_Photo02.JPG

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007720_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.34	percent	Y
Inorg	Hydrogen			6.81408051689861	percent	Y
Inorg	Nitrogen			0.22	percent	Y
Inorg	Sulphur			0.887888853965946	percent	Y

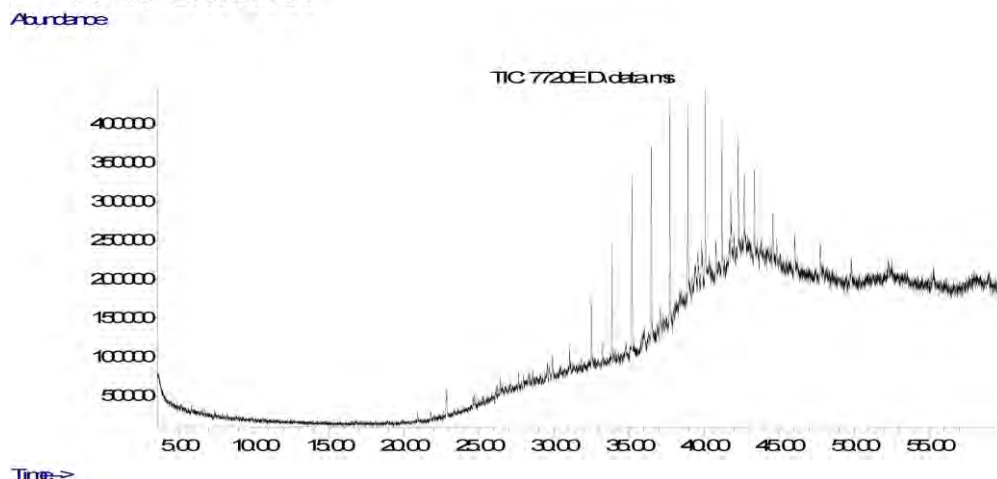
Results for: GCMS with Full Scan

Unique ID: W13/007720_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007720_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7720 Exterior



Data Sheet:

(default units ppb)

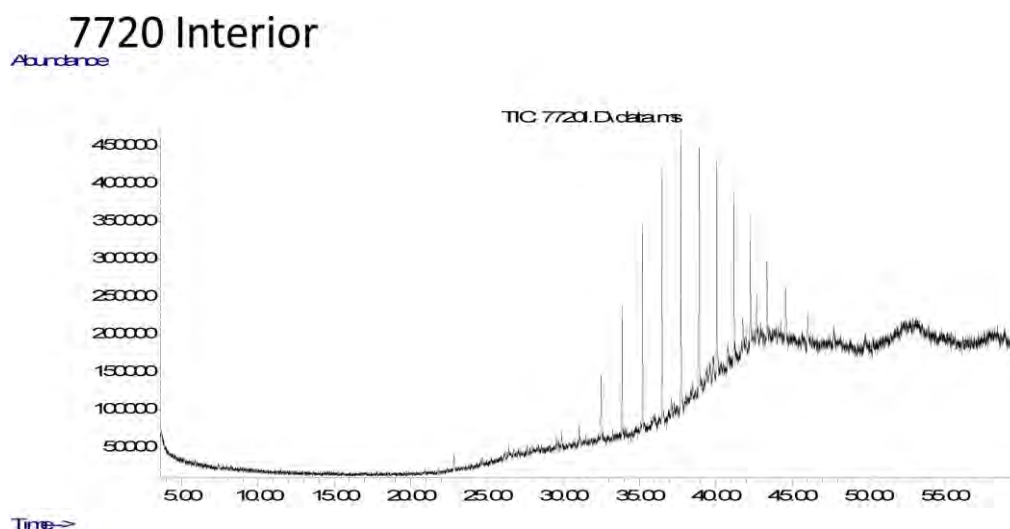
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			2.88533776514879	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540	175741		ug/L	Z
Aliph	nC23	32.4960	401083		ug/L	Z
Aliph	nC24	33.8800	790904		ug/L	Z
Aliph	nC25	35.2120	1128776		ug/L	Z
Aliph	nC26	36.4960	1230115		ug/L	Z
Aliph	nC27	37.7300	1495945		ug/L	Z
Aliph	nC28	38.9260	1327694		ug/L	Z
Aliph	nC29	40.0740	1210930		ug/L	Z
Aliph	nC30	41.1930	940482		ug/L	Z
Aliph	nC31	42.2750	819218		ug/L	Z
Aliph	nC32	43.3560	588981		ug/L	Z
Aliph	nC33	44.5840	511947		ug/L	Z
Aliph	nC34	46.0130	452500		ug/L	Z
Aliph	nC35	47.7140	305174		ug/L	Z
Aliph	nC36	49.7870	305806		ug/L	Z
Aliph	nC37	52.2630	308752		ug/L	Z
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010	83931		ug/L	Z
Aliph	Phytane	24.7190	57325		ug/L	Z

Results for: GCMS with Full Scan

<i>Aliph</i>	Pristane	22.8660	165402	ug/L	Z
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Results for: GCMS with Full Scan**Unique ID:** W13/007720 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007720_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			3.5023674881864	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540	131252		ug/L	Z
Aliph	nC23	32.4960	417103		ug/L	Z
Aliph	nC24	33.8800	847681		ug/L	Z
Aliph	nC25	35.2120	1438496		ug/L	Z
Aliph	nC26	36.4960	1757989		ug/L	Z
Aliph	nC27	37.7300	1914719		ug/L	Z
Aliph	nC28	38.9260	1718167		ug/L	Z
Aliph	nC29	40.0740	1635593		ug/L	Z
Aliph	nC30	41.1930	1200100		ug/L	Z
Aliph	nC31	42.2750	972350		ug/L	Z
Aliph	nC32	43.3560	677252		ug/L	Z
Aliph	nC33	44.5840	438086		ug/L	Z
Aliph	nC34	46.0130	363040		ug/L	Z
Aliph	nC35	47.7140	182728		ug/L	Z
Aliph	nC36	49.7870	192564		ug/L	Z
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010	67278		ug/L	Z
Aliph	Phytane	24.7190	46131		ug/L	Z

Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	161568	ug/L	Z
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Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007721**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

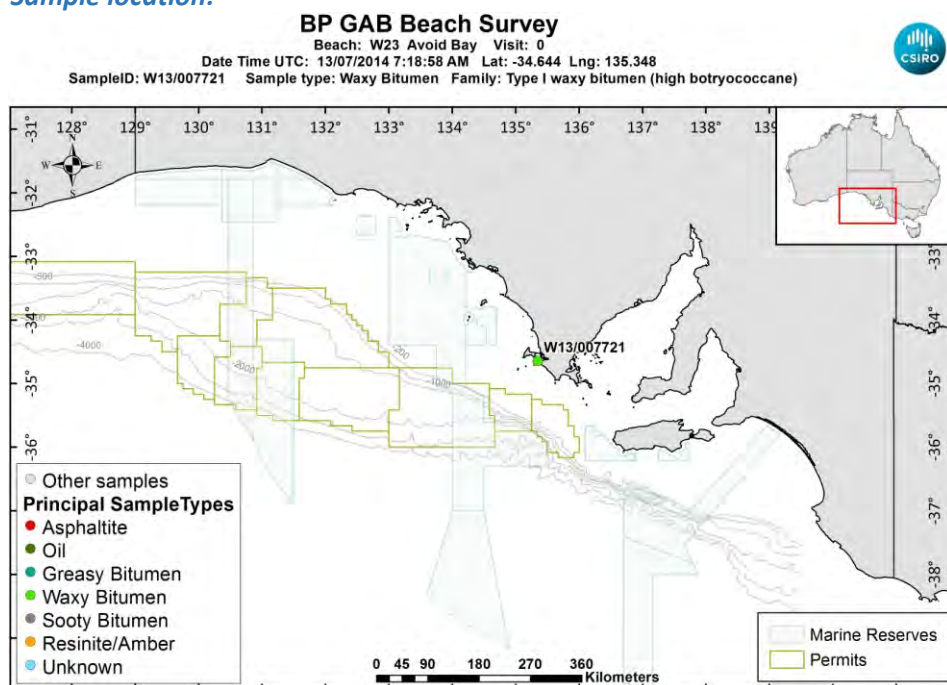
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 0.6

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007721_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007721_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007721_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007721 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			41.6729442333726	ratio	Y
BiomRatio	% C27 abb 20(R+S)			48.7315054152789	ratio	Y
BiomRatio	% C28 aaa 20R			15.7525983667409	ratio	Y
BiomRatio	% C28 abb 20(R+S)			21.3480477390628	ratio	Y
BiomRatio	% C29 aaa 20R			42.5744573998865	ratio	Y
BiomRatio	% C29 abb 20(R+S)			29.9204468456583	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			7.73076708909685E-02	ratio	Y
BiomRatio	25-Nor/C30H			7.63920448750638E-02	ratio	Y
BiomRatio	C19t/C23t			0.152769512020192	ratio	Y
BiomRatio	C22t/C21t			0.431531940749305	ratio	Y
BiomRatio	C22t/C24t			0.258034931648186	ratio	Y
BiomRatio	C23t/C30H			0.106935481896991	ratio	Y
BiomRatio	C24t/C23t			0.865223389092862	ratio	Y
BiomRatio	C24Tet/C23t			0.290035006119204	ratio	Y
BiomRatio	C24Tet/C26t			0.241544653557327	ratio	Y
BiomRatio	C24Tet/C30H			3.10150331463539E-02	ratio	Y
BiomRatio	C26t/C25t			1.9409742007257	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.688553619492846	ratio	Y
BiomRatio	C27 Dia/Ster			1.03250968320812	ratio	Y
BiomRatio	C28BNH/C30H			3.82580316165222E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.613985687301941	ratio	Y
BiomRatio	C29H/C30H			0.591078674145844	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.420312687043454	ratio	Y
BiomRatio	C30DiaH/C30H			0.184591698113208	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			4.77758763850587E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.471823410607657	ratio	Y
BiomRatio	Gam/C30H			3.01735033146354E-02	ratio	Y
BiomRatio	Gam/C31HR			0.17780955384858	ratio	Y
BiomRatio	Ole/C30H			0.157023722590515	ratio	Y
BiomRatio	Sterane/hopane			0.102332449273089	ratio	Y
BiomRatio	Steranes/Terpanes			8.48433191762992E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.206134440125429	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007721_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

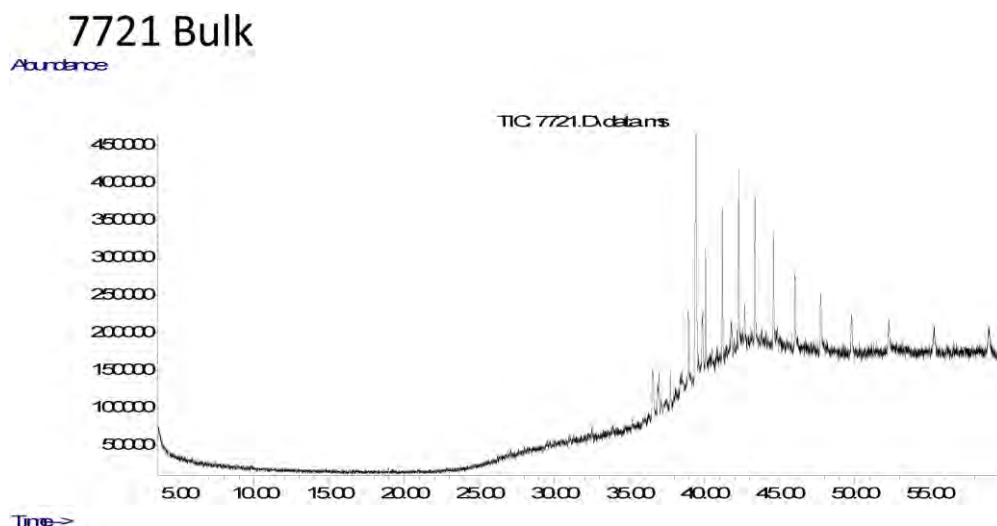
Results for: Elemental Analyser**Data Sheet:**

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			90.79	percent	Y
Inorg	Hydrogen			9.0605606361829	percent	Y
Inorg	Nitrogen			0.47	percent	Y
Inorg	Sulphur			1.83561876168778	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007721_DISS_GCMS-Scan/03**Instrument / Type:** GCMS with Full Scan Run: 3**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007721_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	3308753		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300	222520		ug/L	Z
Aliph	nC28	38.9260	456232		ug/L	Z
Aliph	nC29	40.0740	896890		ug/L	Z
Aliph	nC30	41.1930	1018606		ug/L	Z
Aliph	nC31	42.2750	1321812		ug/L	Z
Aliph	nC32	43.3560	1187123		ug/L	Z
Aliph	nC33	44.5840	1085207		ug/L	Z
Aliph	nC34	46.0130	957679		ug/L	Z
Aliph	nC35	47.7140	716269		ug/L	Z
Aliph	nC36	49.7870	593642		ug/L	Z
Aliph	nC37	52.2630	492680		ug/L	Z
Aliph	nC38	55.2360	468491		ug/L	Z
Aliph	nC39	58.9110	501614		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007722**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Unknown

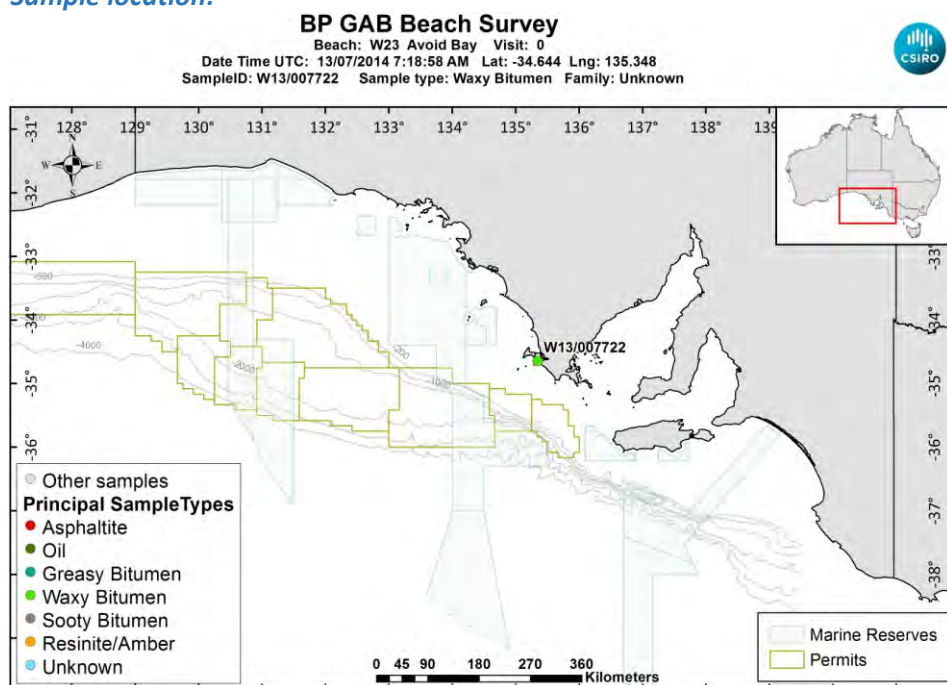
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 0.4

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007722_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007722_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007722_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007722_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:	Volume Units:	Extract Volume:	Dilution Factor:
Comment:			

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			87.89	percent	Y
Inorg	Hydrogen			9.81824095427435	percent	Y
Inorg	Nitrogen			0.43	percent	Y
Inorg	Sulphur			1.75287229879471	percent	Y

(default units ppb)

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007723**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

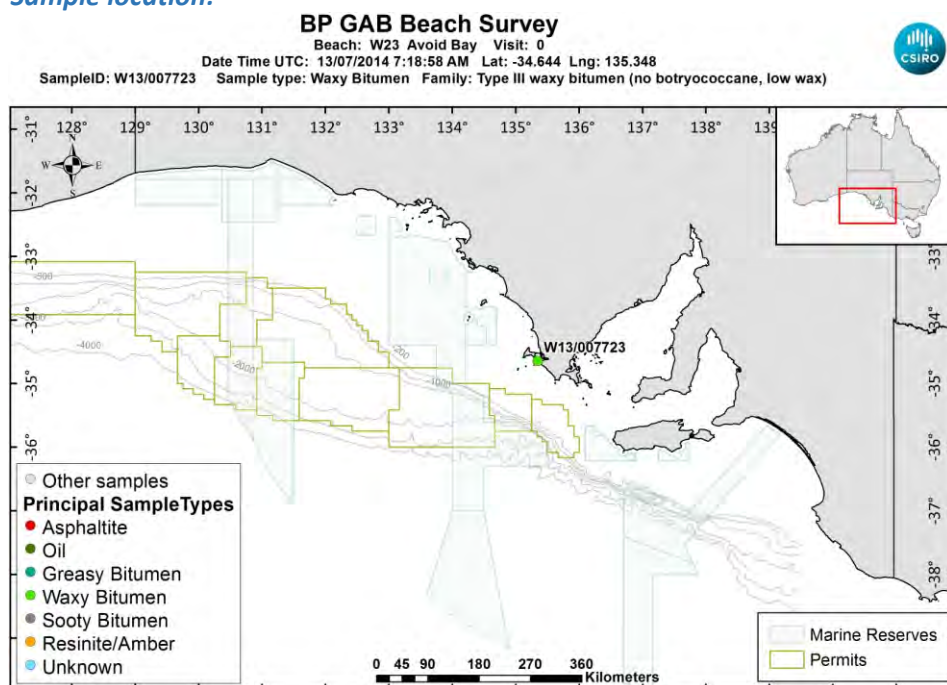
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 0.8

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007723_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007723_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007723_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007723_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**

Comment:

Data Sheet:

				(default units ppb)		
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.07	percent	Y
Inorg	Hydrogen			12.1045711729622	percent	Y
Inorg	Nitrogen			0.22	percent	Y
Inorg	Sulphur			2.40354895809361	percent	Y

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007724**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

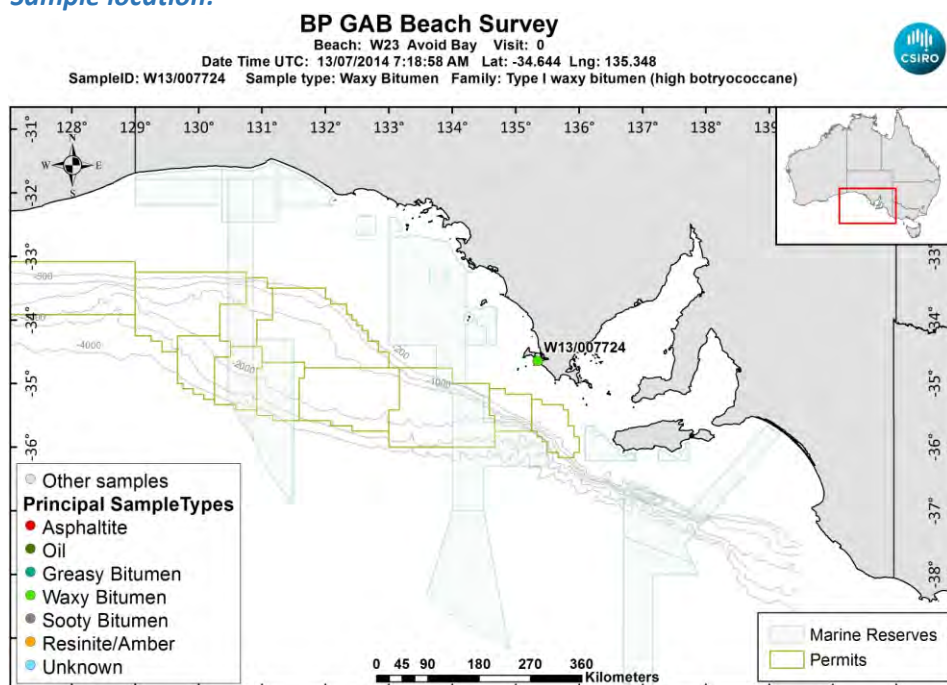
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 0.3

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007724_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007724_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007724_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007724_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			87.87	percent	Y
Inorg	Hydrogen			7.48858051689861	percent	Y
Inorg	Nitrogen			0.39	percent	Y
Inorg	Sulphur			1.16951021858636	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007724 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 18/11/2016

Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007724_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

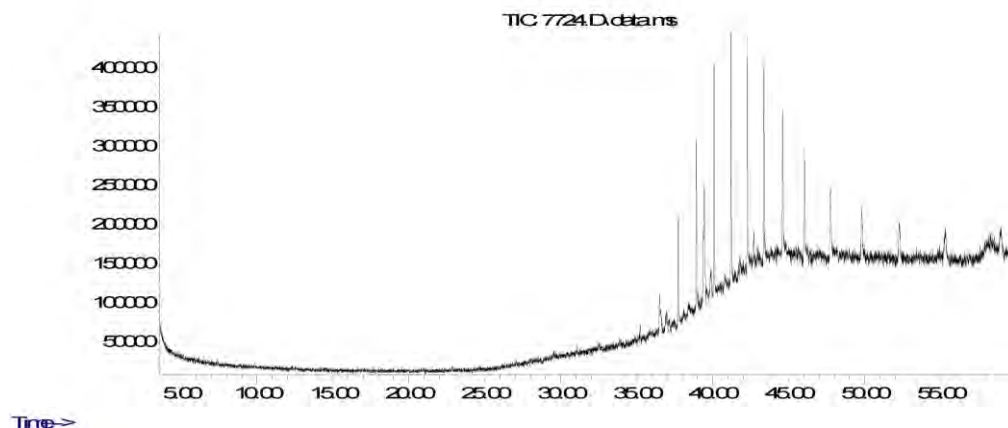
Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment: Bulk

Results for: GCMS with Full Scan

7724 Bulk

Abundance



Time-->

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	1476467		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120	89900		ug/L	Z
Aliph	nC26	36.4960	228049		ug/L	Z
Aliph	nC27	37.7300	798765		ug/L	Z
Aliph	nC28	38.9260	1081564		ug/L	Z
Aliph	nC29	40.0740	1611765		ug/L	Z
Aliph	nC30	41.1930	1649804		ug/L	Z
Aliph	nC31	42.2750	1671932		ug/L	Z
Aliph	nC32	43.3560	1538550		ug/L	Z
Aliph	nC33	44.5840	1570552		ug/L	Z
Aliph	nC34	46.0130	1270949		ug/L	Z
Aliph	nC35	47.7140	880622		ug/L	Z
Aliph	nC36	49.7870	634457		ug/L	Z
Aliph	nC37	52.2630	500795		ug/L	Z
Aliph	nC38	55.2360	530114		ug/L	Z
Aliph	nC39	58.9110	476619		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007725**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

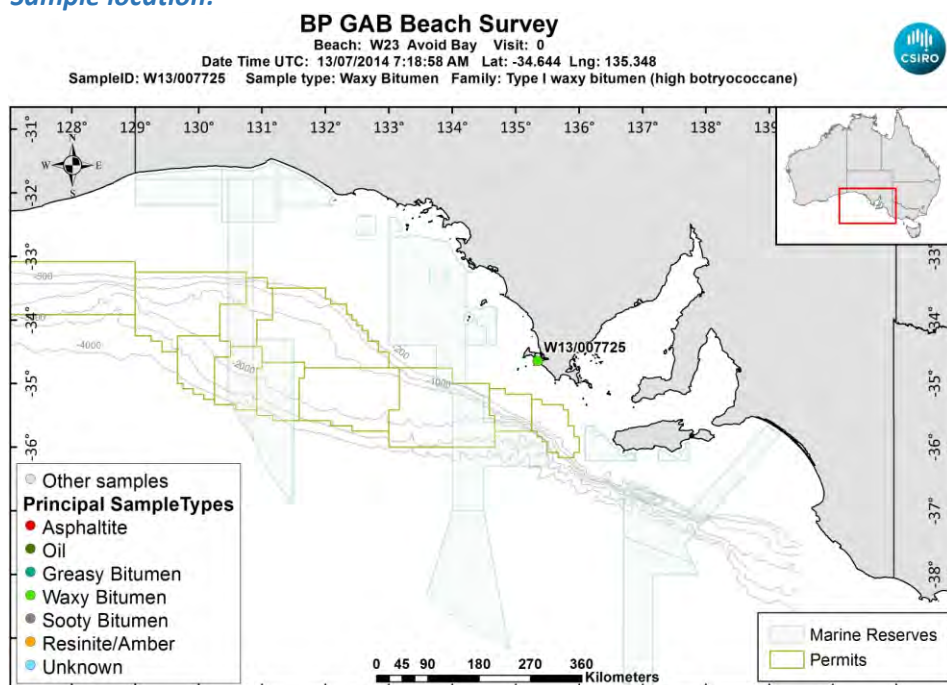
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 2.1

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007725_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007725_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007725_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007725_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			87.93	percent	Y
Inorg	Hydrogen			6.92821968190855	percent	Y
Inorg	Nitrogen			0.34	percent	Y
Inorg	Sulphur			1.31180251454105	percent	Y

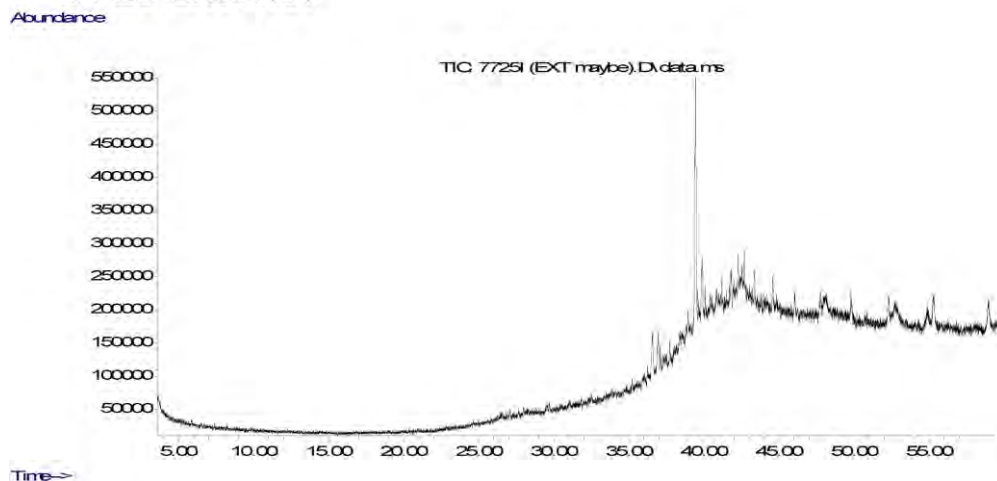
Results for: GCMS with Full Scan

Unique ID: W13/007725_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007725_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7725 Exterior



Data Sheet:

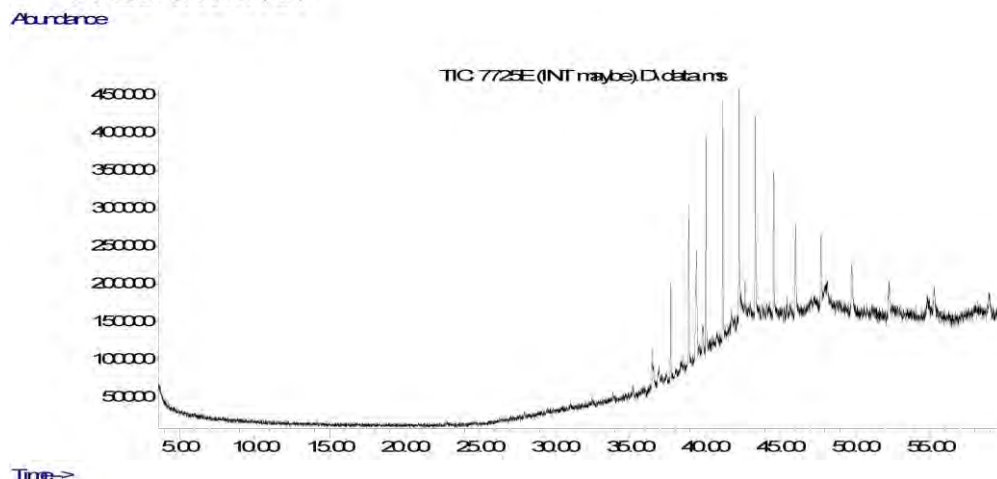
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	4056612		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300	147126		ug/L	Z
Aliph	nC28	38.9260	239500		ug/L	Z
Aliph	nC29	40.0740	259917		ug/L	Z
Aliph	nC30	41.1930	229773		ug/L	Z
Aliph	nC31	42.2750	341864		ug/L	Z
Aliph	nC32	43.3560	299004		ug/L	Z
Aliph	nC33	44.5840	358241		ug/L	Z
Aliph	nC34	46.0130	311378		ug/L	Z
Aliph	nC35	47.7140	425200		ug/L	Z
Aliph	nC36	49.7870	484339		ug/L	Z
Aliph	nC37	52.2630	665323		ug/L	Z
Aliph	nC38	55.2360	782100		ug/L	Z
Aliph	nC39	58.9110	710317		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007725 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007725_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7725 Interior



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	3122747		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300	750929		ug/L	Z
Aliph	nC28	38.9260	1447920		ug/L	Z
Aliph	nC29	40.0740	2262715		ug/L	Z
Aliph	nC30	41.1930	2446165		ug/L	Z
Aliph	nC31	42.2750	2884463		ug/L	Z
Aliph	nC32	43.3560	2625705		ug/L	Z
Aliph	nC33	44.5840	2019555		ug/L	Z
Aliph	nC34	46.0130	1749399		ug/L	Z
Aliph	nC35	47.7140	1533811		ug/L	Z
Aliph	nC36	49.7870	1371316		ug/L	Z
Aliph	nC37	52.2630	1243752		ug/L	Z
Aliph	nC38	55.2360	1295275		ug/L	Z
Aliph	nC39	58.9110	1213281		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007726**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

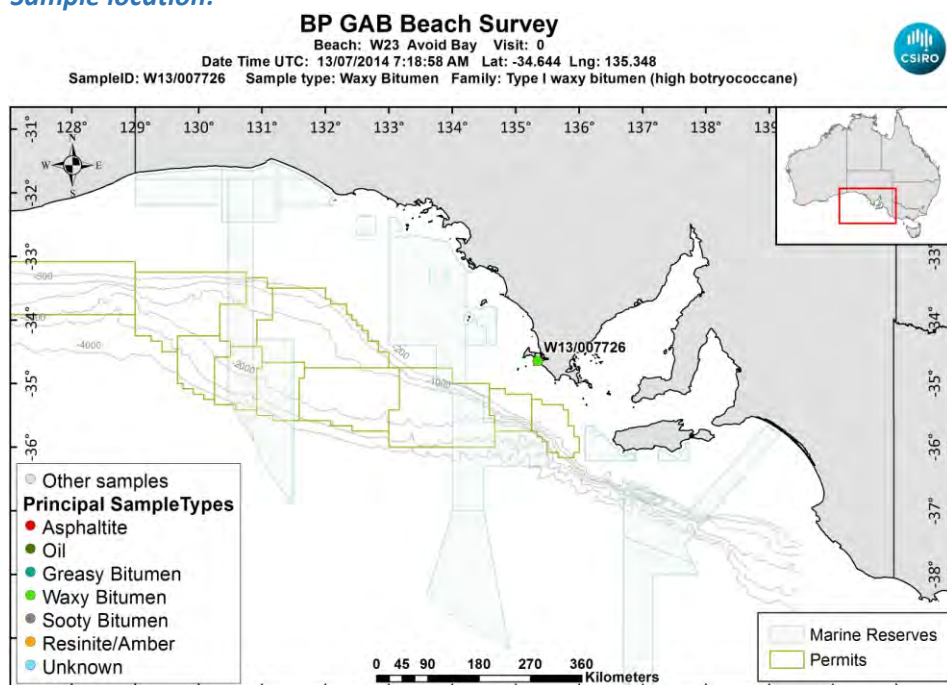
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 1.4

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007726_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007726_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007726_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007726_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: Volume Units: Extract Volume: Dilution Factor:

Comment:

Data Sheet:

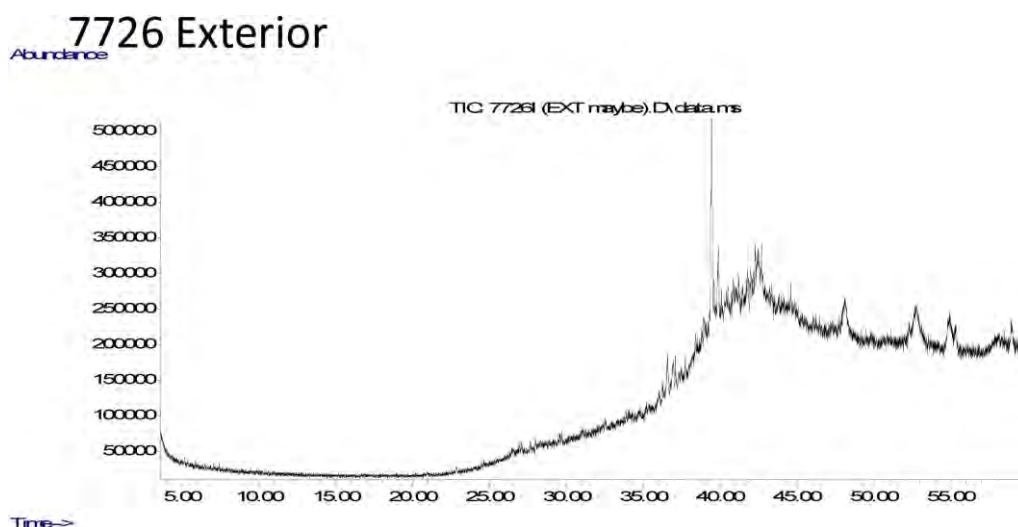
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			88.2	percent	Y
Inorg	Hydrogen			6.71693320079523	percent	Y
Inorg	Nitrogen			0.37	percent	Y
Inorg	Sulphur			1.2109522758294	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007726_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007726_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



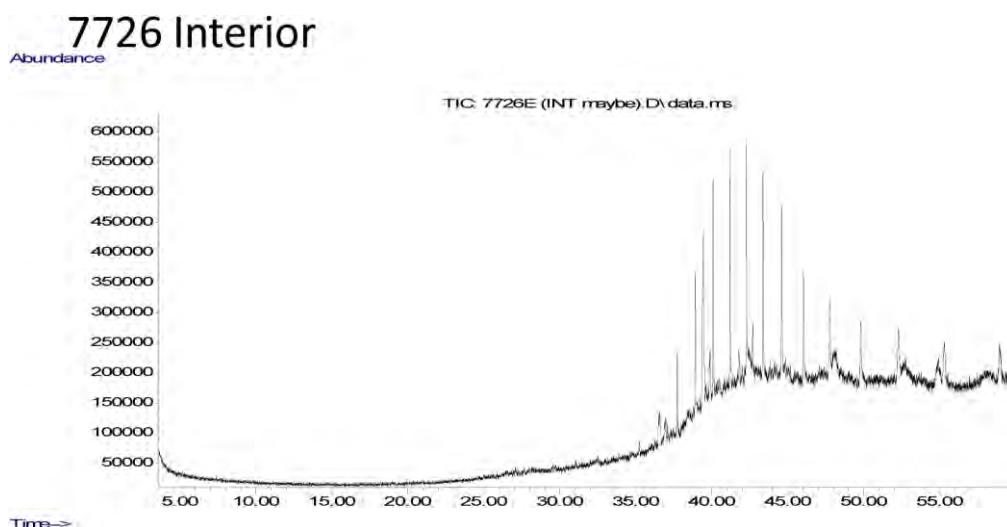
Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	3177857		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300			ug/L	U
Aliph	nC28	38.9260			ug/L	U
Aliph	nC29	40.0740			ug/L	U
Aliph	nC30	41.1930			ug/L	U
Aliph	nC31	42.2750			ug/L	U
Aliph	nC32	43.3560			ug/L	U
Aliph	nC33	44.5840			ug/L	U
Aliph	nC34	46.0130			ug/L	U
Aliph	nC35	47.7140			ug/L	U
Aliph	nC36	49.7870			ug/L	U
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007726 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007726_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	3908893		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300	331345		ug/L	Z
Aliph	nC28	38.9260	1091120		ug/L	Z
Aliph	nC29	40.0740	2078780		ug/L	Z
Aliph	nC30	41.1930	2457709		ug/L	Z
Aliph	nC31	42.2750	2932591		ug/L	Z
Aliph	nC32	43.3560	2498666		ug/L	Z
Aliph	nC33	44.5840	2223657		ug/L	Z
Aliph	nC34	46.0130	1633116		ug/L	Z
Aliph	nC35	47.7140	1181950		ug/L	Z
Aliph	nC36	49.7870	876622		ug/L	Z
Aliph	nC37	52.2630	697219		ug/L	Z
Aliph	nC38	55.2360	797375		ug/L	Z
Aliph	nC39	58.9110	1218310		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007727**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

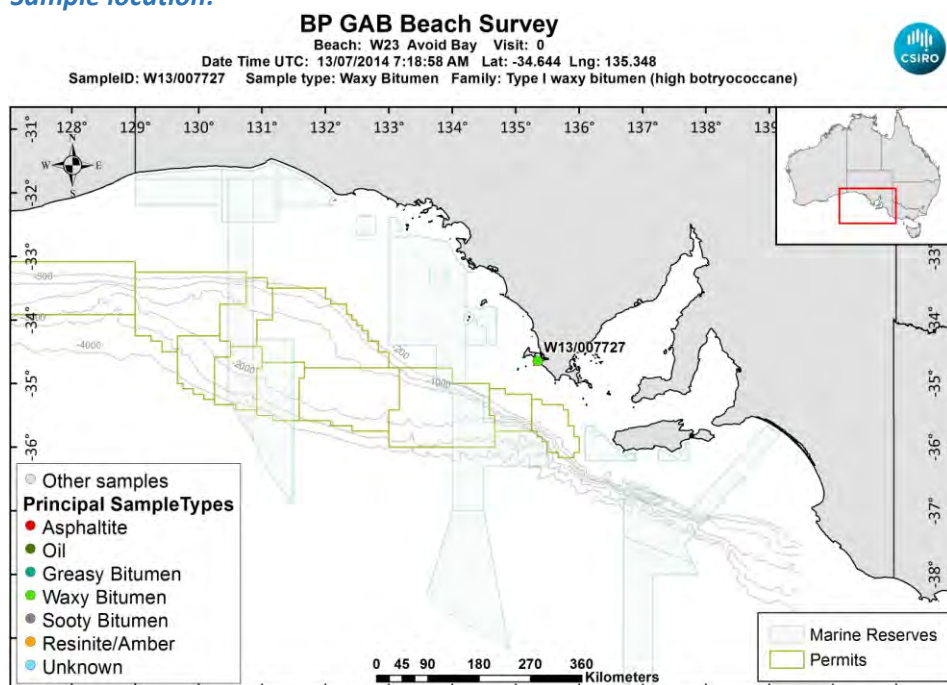
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 2

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007727_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007727_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007727_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007727_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: Volume Units: Extract Volume: Dilution Factor:

Comment:

Data Sheet:

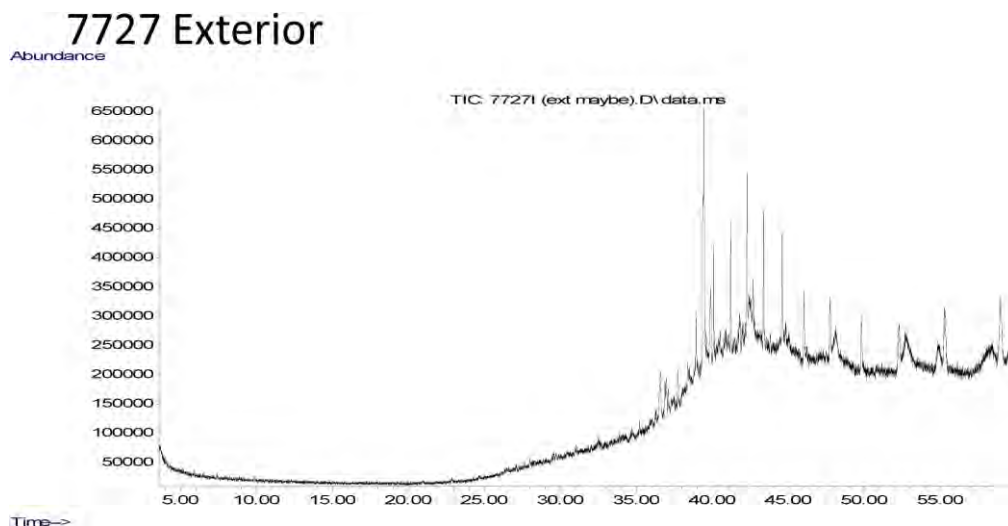
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			88.83	percent	Y
Inorg	Hydrogen			5.90220636182903	percent	Y
Inorg	Nitrogen			0.32	percent	Y
Inorg	Sulphur			0.656225509177353	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007727_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007727_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

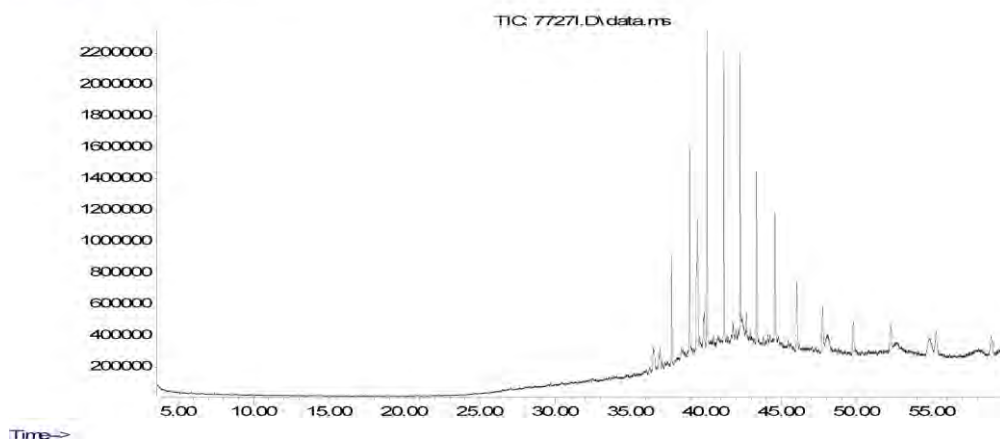
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	5091399		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300	361573		ug/L	Z
Aliph	nC28	38.9260	706917		ug/L	Z
Aliph	nC29	40.0740	1144008		ug/L	Z
Aliph	nC30	41.1930	1450356		ug/L	Z
Aliph	nC31	42.2750	1618327		ug/L	Z
Aliph	nC32	43.3560	1638115		ug/L	Z
Aliph	nC33	44.5840	1626802		ug/L	Z
Aliph	nC34	46.0130	1240300		ug/L	Z
Aliph	nC35	47.7140	880796		ug/L	Z
Aliph	nC36	49.7870	1041657		ug/L	Z
Aliph	nC37	52.2630	1279080		ug/L	Z
Aliph	nC38	55.2360	1428251		ug/L	Z
Aliph	nC39	58.9110	2058469		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007727 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007727_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7727 Interior

Abundance



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	8008396		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300	3534969		ug/L	Z
Aliph	nC28	38.9260	7070066		ug/L	Z
Aliph	nC29	40.0740	9944666		ug/L	Z
Aliph	nC30	41.1930	9661309		ug/L	Z
Aliph	nC31	42.2750	8576021		ug/L	Z
Aliph	nC32	43.3560	6982983		ug/L	Z
Aliph	nC33	44.5840	5784129		ug/L	Z
Aliph	nC34	46.0130	3825289		ug/L	Z
Aliph	nC35	47.7140	2589563		ug/L	Z
Aliph	nC36	49.7870	2321212		ug/L	Z
Aliph	nC37	52.2630	2223360		ug/L	Z
Aliph	nC38	55.2360	2100064		ug/L	Z
Aliph	nC39	58.9110	2206152		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007728**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Unclassified high wax bitumen

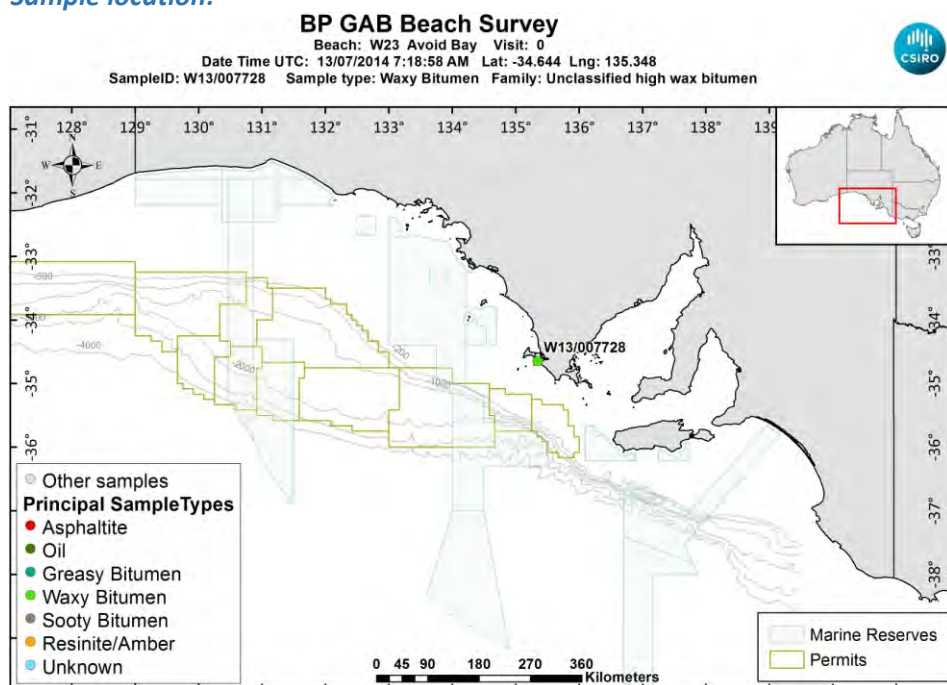
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 1

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007728_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007728_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB BCH1\Samples\W13_007728_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007728_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.4	percent	Y
Inorg	Hydrogen		7.73099920477137		percent	Y
Inorg	Nitrogen		0.31		percent	Y
Inorg	Sulphur		4.21920847241166		percent	Y

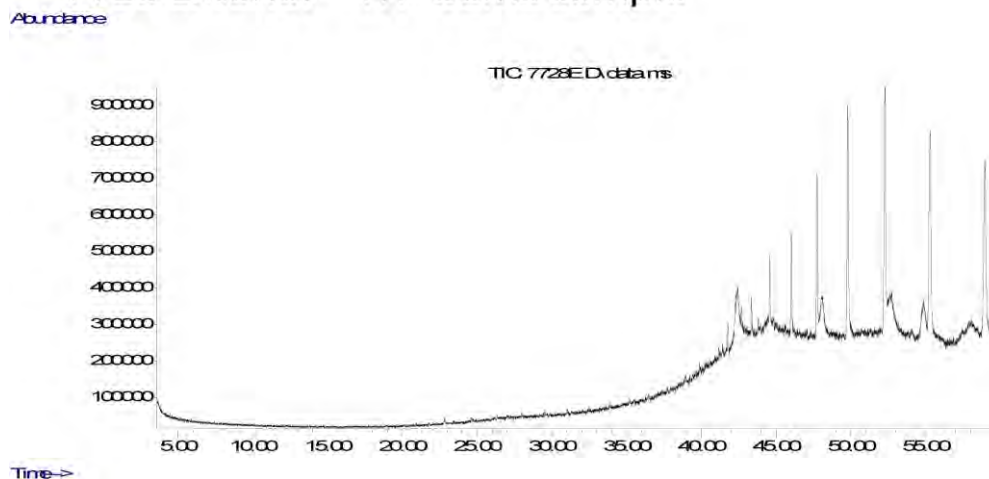
Results for: GCMS with Full Scan

Unique ID: W13/007728_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007728_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7728 Exterior – HT-GCMS sample



Data Sheet:

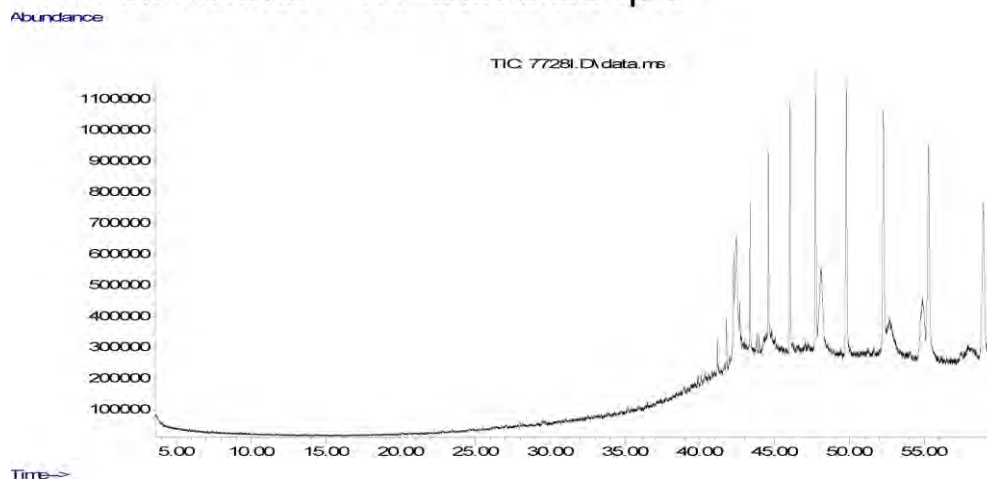
(default units ppb)

Type:	Compound / Variable:	Retention Time:	Target Response:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300			ug/L	U
Aliph	nC28	38.9260			ug/L	U
Aliph	nC29	40.0740			ug/L	U
Aliph	nC30	41.1930			ug/L	U
Aliph	nC31	42.2750			ug/L	U
Aliph	nC32	43.3560	711629		ug/L	Z
Aliph	nC33	44.5840	1259871		ug/L	Z
Aliph	nC34	46.0130	2233435		ug/L	Z
Aliph	nC35	47.7140	4249930		ug/L	Z
Aliph	nC36	49.7870	7338076		ug/L	Z
Aliph	nC37	52.2630	8931734		ug/L	Z
Aliph	nC38	55.2360	9029576		ug/L	Z
Aliph	nC39	58.9110	9617652		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007728 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007728_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7728 Interior - HT-GCMS sample



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300			ug/L	U
Aliph	nC28	38.9260			ug/L	U
Aliph	nC29	40.0740			ug/L	U
Aliph	nC30	41.1930	514860		ug/L	Z
Aliph	nC31	42.2750	2485347		ug/L	Z
Aliph	nC32	43.3560	2708801		ug/L	Z
Aliph	nC33	44.5840	4486330		ug/L	Z
Aliph	nC34	46.0130	6459783		ug/L	Z
Aliph	nC35	47.7140	7669095		ug/L	Z
Aliph	nC36	49.7870	10091105		ug/L	Z
Aliph	nC37	52.2630	10400277		ug/L	Z
Aliph	nC38	55.2360	10049696		ug/L	Z
Aliph	nC39	58.9110	9891626		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007729**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Unknown

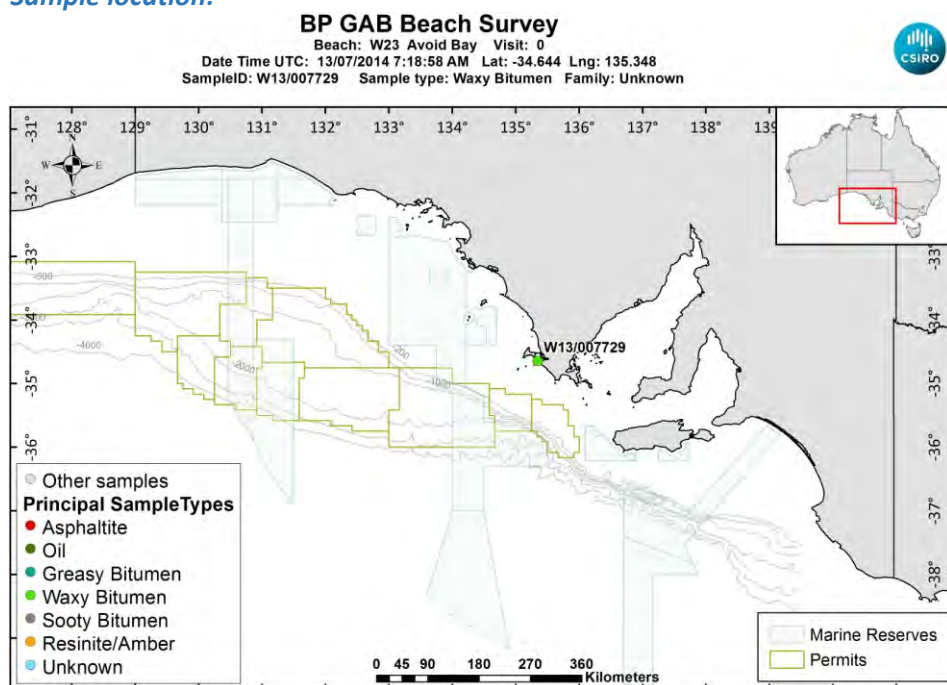
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 1.7

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007729_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007729_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB BCH1\Samples\W13_007729_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007729_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**

Comment:

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.82	percent	Y
Inorg	Hydrogen			9.10882445328032	percent	Y
Inorg	Nitrogen			0.19	percent	Y
Inorg	Sulphur			1.72302860815044	percent	Y

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007730**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

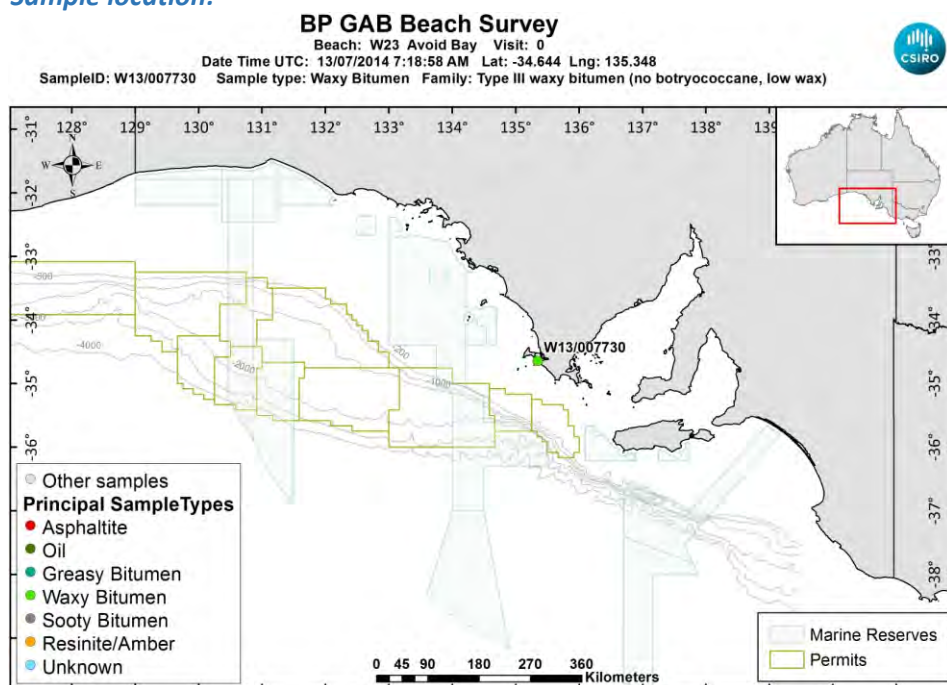
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 0.7

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007730_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007730_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007730_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007730_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			85	percent	Y
Inorg	Hydrogen			5.60328429423459	percent	Y
Inorg	Nitrogen			0.17	percent	Y
Inorg	Sulphur			0.520983094547481	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007730 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 18/11/2016

Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007730_bulk_WholeOil.jpg](#)

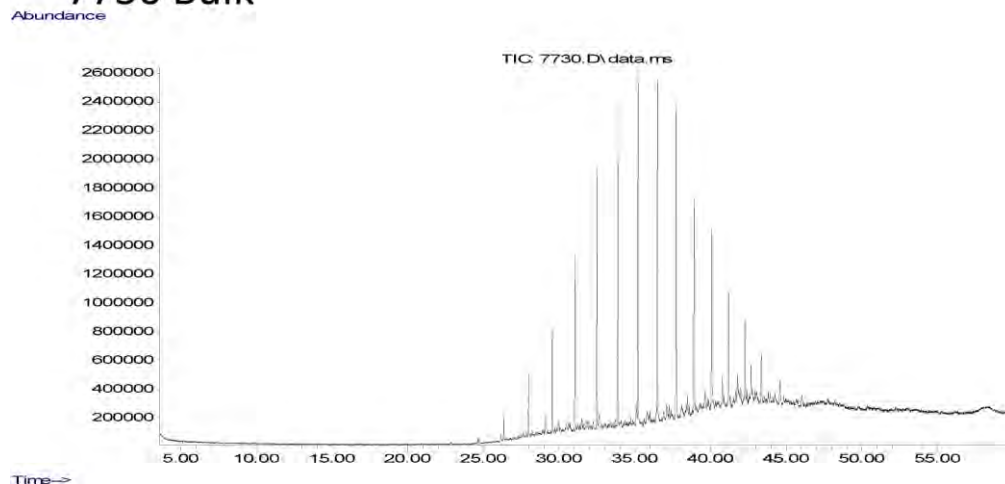
Preparation: Dissolved in solvent

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment: Bulk

Results for: GCMS with Full Scan

7730 Bulk



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Ratio	nC18/Phytane			0.816642993158709	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230	202687		ug/L	Z
Aliph	nC19	26.3410	903146		ug/L	Z
Aliph	nC20	27.9810	2189889		ug/L	Z
Aliph	nC21	29.5510	3786960		ug/L	Z
Aliph	nC22	31.0540	6297855		ug/L	Z
Aliph	nC23	32.4960	9354542		ug/L	Z
Aliph	nC24	33.8800	11228560		ug/L	Z
Aliph	nC25	35.2120	12514993		ug/L	Z
Aliph	nC26	36.4960	12155835		ug/L	Z
Aliph	nC27	37.7300	11321943		ug/L	Z
Aliph	nC28	38.9260	7821318		ug/L	Z
Aliph	nC29	40.0740	6071679		ug/L	Z
Aliph	nC30	41.1930	3918608		ug/L	Z
Aliph	nC31	42.2750	3034086		ug/L	Z
Aliph	nC32	43.3560	2024093		ug/L	Z
Aliph	nC33	44.5840	1209422		ug/L	Z
Aliph	nC34	46.0130	699342		ug/L	Z
Aliph	nC35	47.7140	452538		ug/L	Z
Aliph	nC36	49.7870			ug/L	U
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190	248196		ug/L	Z

Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	ug/L	U
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Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007731**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

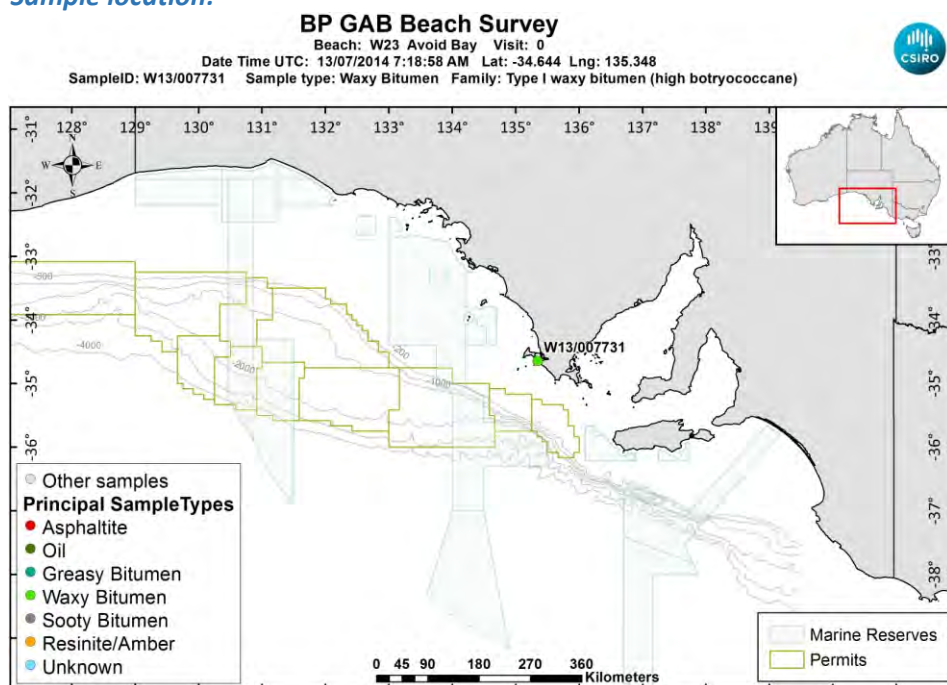
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 1

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007731_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007731_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007731_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007731_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			88.32	percent	Y
Inorg	Hydrogen			8.2749491053678	percent	Y
Inorg	Nitrogen			0.33	percent	Y
Inorg	Sulphur			1.61061245041417	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007731 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 18/11/2016

Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007731_bulk_WholeOil.jpg](#)

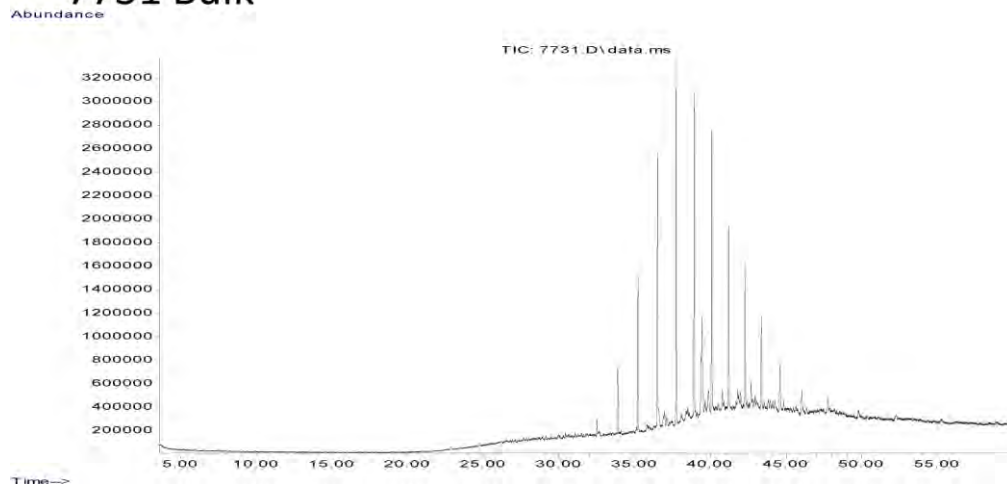
Preparation: Dissolved in solvent

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment: Bulk

Results for: GCMS with Full Scan

7731 Bulk



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			0.771179239774493	ug/L	Y
Aliph	Botryococcane	39.4290	7425638		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960	733689		ug/L	Z
Aliph	nC24	33.8800	2804199		ug/L	Z
Aliph	nC25	35.2120	6954516		ug/L	Z
Aliph	nC26	36.4960	11648549		ug/L	Z
Aliph	nC27	37.7300	15575078		ug/L	Z
Aliph	nC28	38.9260	14208068		ug/L	Z
Aliph	nC29	40.0740	12325098		ug/L	Z
Aliph	nC30	41.1930	8437089		ug/L	Z
Aliph	nC31	42.2750	6334647		ug/L	Z
Aliph	nC32	43.3560	4005326		ug/L	Z
Aliph	nC33	44.5840	2917036		ug/L	Z
Aliph	nC34	46.0130	1864382		ug/L	Z
Aliph	nC35	47.7140	1090694		ug/L	Z
Aliph	nC36	49.7870	764690		ug/L	Z
Aliph	nC37	52.2630	582541		ug/L	Z
Aliph	nC38	55.2360	397205		ug/L	Z
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190	238824		ug/L	Z

Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	184176	ug/L	Z
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Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007732**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

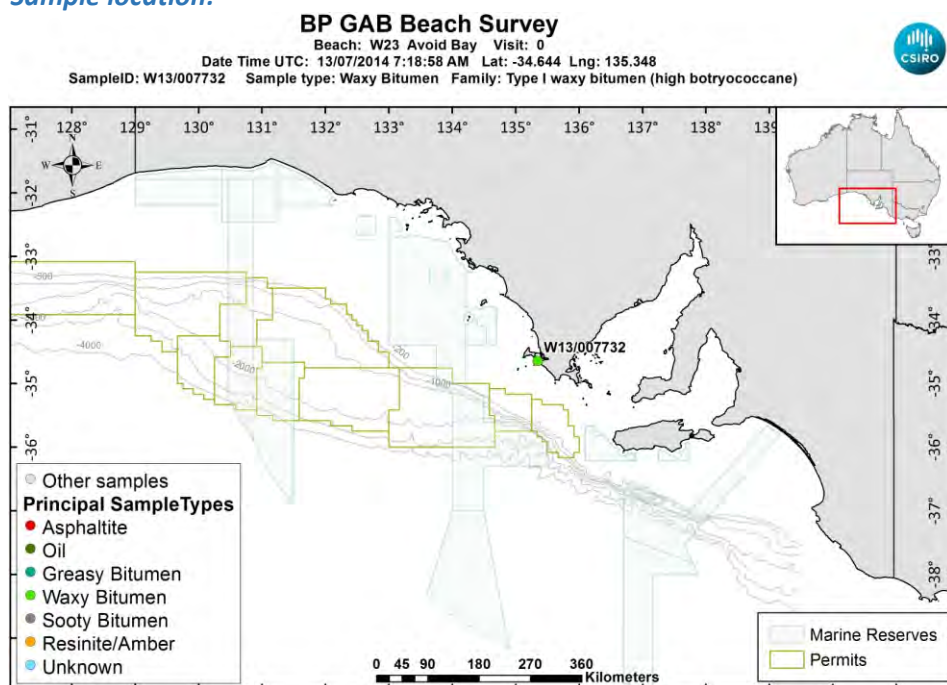
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 0.7

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007732_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007732_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007732_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007732_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:	Volume Units:	Extract Volume:	Dilution Factor:
Comment:			

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.97	percent	Y
Inorg	Hydrogen			7.30236461232605	percent	Y
Inorg	Nitrogen			0.5	percent	Y
Inorg	Sulphur			1.18105052680966	percent	Y

(default units ppb)

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007733**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

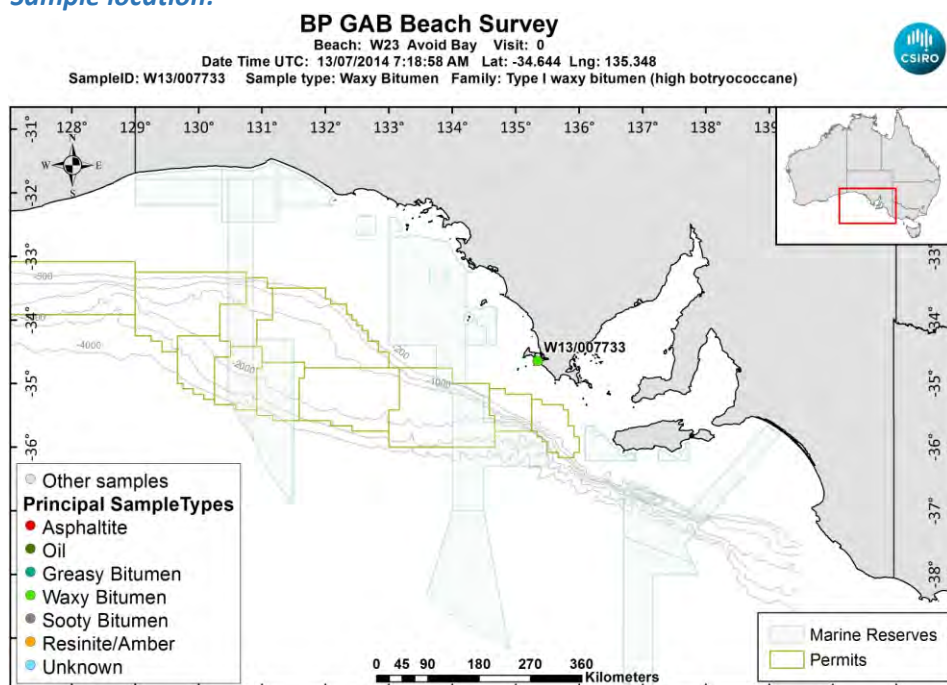
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 1.3

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007733_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007733_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007733_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007733_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: Volume Units: Extract Volume: Dilution Factor:

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			87.77	percent	Y
Inorg	Hydrogen			6.53980119284294	percent	Y
Inorg	Nitrogen			0.32	percent	Y
Inorg	Sulphur			0.819833673464671	percent	Y

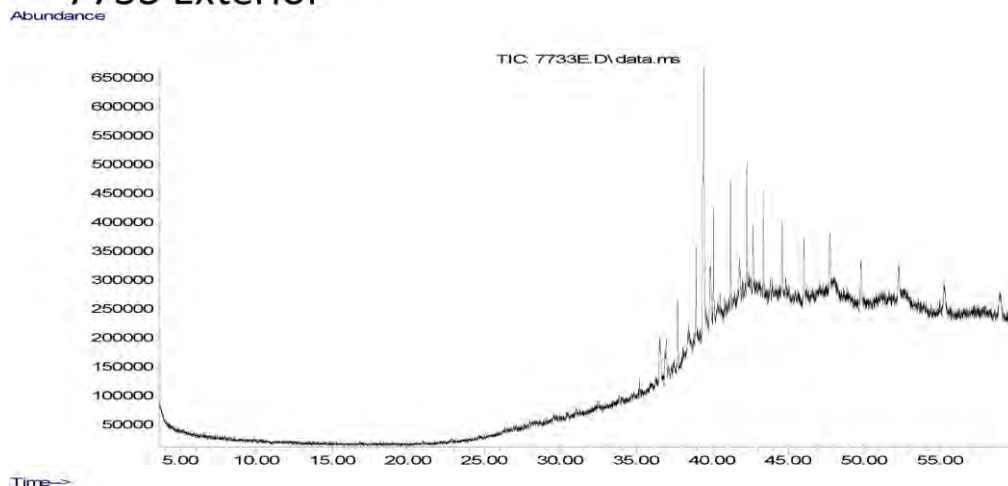
Results for: GCMS with Full Scan

Unique ID: W13/007733_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007733_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7733 Exterior



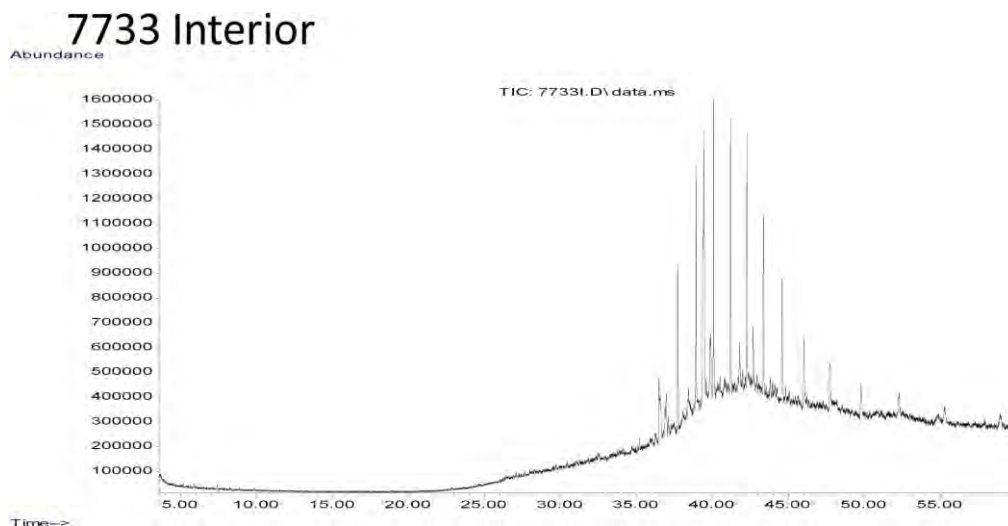
Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	4310011		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300	521317		ug/L	Z
Aliph	nC28	38.9260	886811		ug/L	Z
Aliph	nC29	40.0740	1007394		ug/L	Z
Aliph	nC30	41.1930	1102525		ug/L	Z
Aliph	nC31	42.2750	1154661		ug/L	Z
Aliph	nC32	43.3560	1142985		ug/L	Z
Aliph	nC33	44.5840	978924		ug/L	Z
Aliph	nC34	46.0130	918641		ug/L	Z
Aliph	nC35	47.7140	779644		ug/L	Z
Aliph	nC36	49.7870	879419		ug/L	Z
Aliph	nC37	52.2630	797209		ug/L	Z
Aliph	nC38	55.2360	730026		ug/L	Z
Aliph	nC39	58.9110	708568		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007733 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007733_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	10087319		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120	218118		ug/L	Z
Aliph	nC26	36.4960	1465622		ug/L	Z
Aliph	nC27	37.7300	3466440		ug/L	Z
Aliph	nC28	38.9260	5051757		ug/L	Z
Aliph	nC29	40.0740	6361451		ug/L	Z
Aliph	nC30	41.1930	5749642		ug/L	Z
Aliph	nC31	42.2750	5327309		ug/L	Z
Aliph	nC32	43.3560	4294265		ug/L	Z
Aliph	nC33	44.5840	3351620		ug/L	Z
Aliph	nC34	46.0130	2670782		ug/L	Z
Aliph	nC35	47.7140	1787509		ug/L	Z
Aliph	nC36	49.7870	1430022		ug/L	Z
Aliph	nC37	52.2630	1166847		ug/L	Z
Aliph	nC38	55.2360	806399		ug/L	Z
Aliph	nC39	58.9110	923941		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007734**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

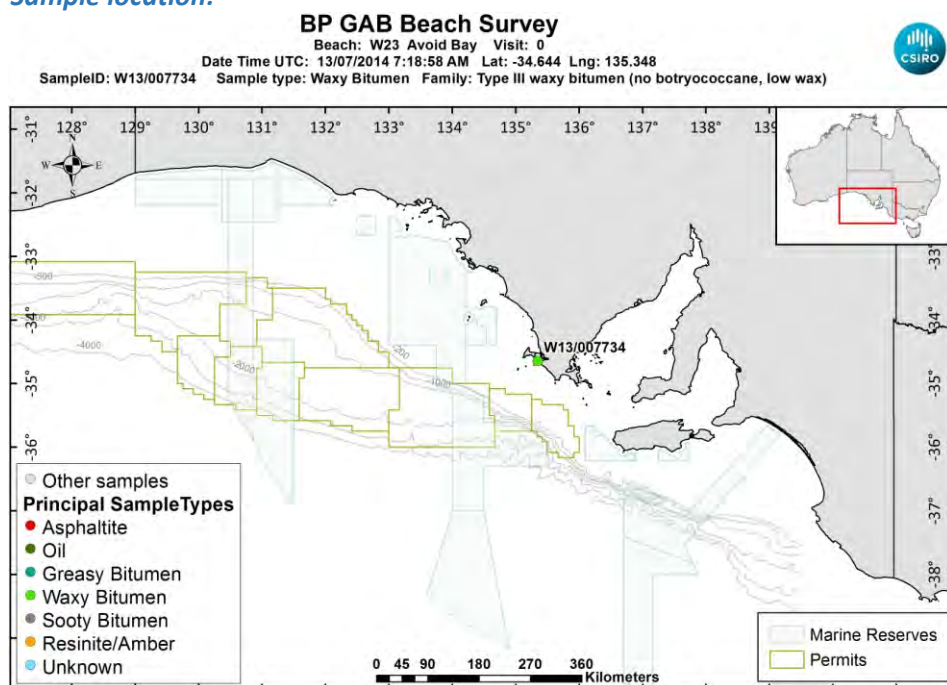
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 0.6

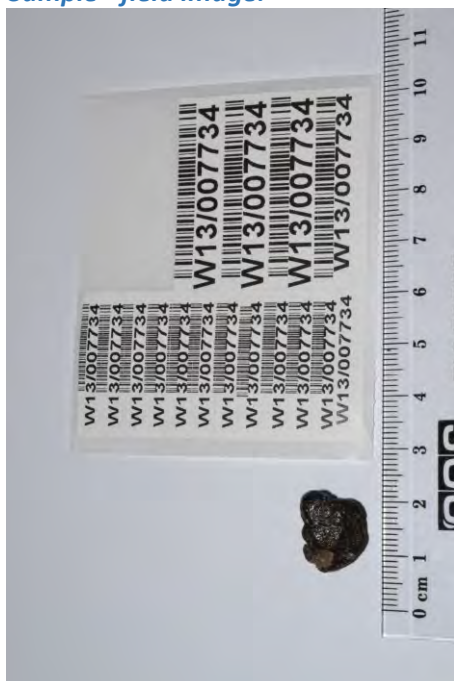
Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007734_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007734_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007734_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007734_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			88.55	percent	Y
Inorg	Hydrogen			7.29614811133201	percent	Y
Inorg	Nitrogen			0.21	percent	Y
Inorg	Sulphur			0.999548524839701	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007734 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 18/11/2016

Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007734_bulk_WholeOil.jpg](#)

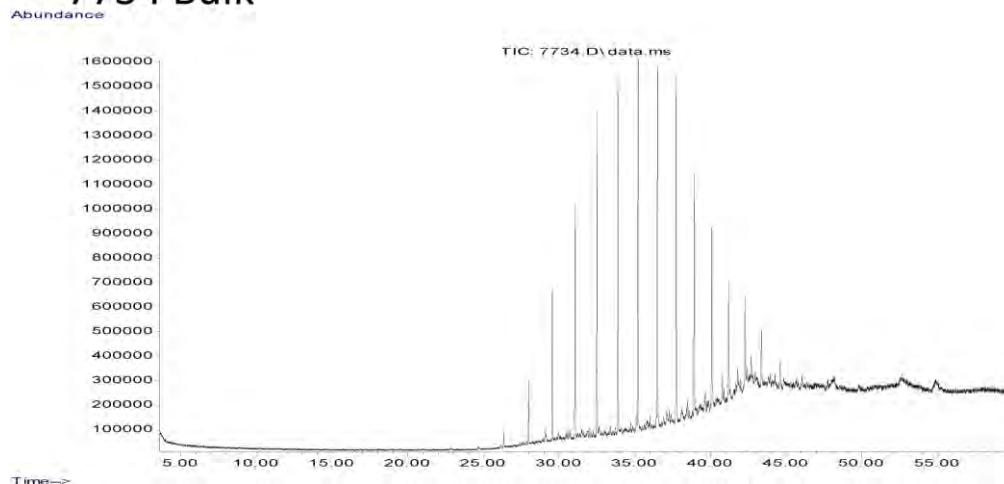
Preparation: Dissolved in solvent

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment: Bulk

Results for: GCMS with Full Scan

7734 Bulk



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410	331883		ug/L	Z
Aliph	nC20	27.9810	1388104		ug/L	Z
Aliph	nC21	29.5510	3356501		ug/L	Z
Aliph	nC22	31.0540	5058938		ug/L	Z
Aliph	nC23	32.4960	6804290		ug/L	Z
Aliph	nC24	33.8800	7732184		ug/L	Z
Aliph	nC25	35.2120	8011267		ug/L	Z
Aliph	nC26	36.4960	7721988		ug/L	Z
Aliph	nC27	37.7300	7220900		ug/L	Z
Aliph	nC28	38.9260	4827616		ug/L	Z
Aliph	nC29	40.0740	3910065		ug/L	Z
Aliph	nC30	41.1930	2364361		ug/L	Z
Aliph	nC31	42.2750	1892781		ug/L	Z
Aliph	nC32	43.3560	1203239		ug/L	Z
Aliph	nC33	44.5840	677711		ug/L	Z
Aliph	nC34	46.0130	459894		ug/L	Z
Aliph	nC35	47.7140			ug/L	U
Aliph	nC36	49.7870			ug/L	U
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007735**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

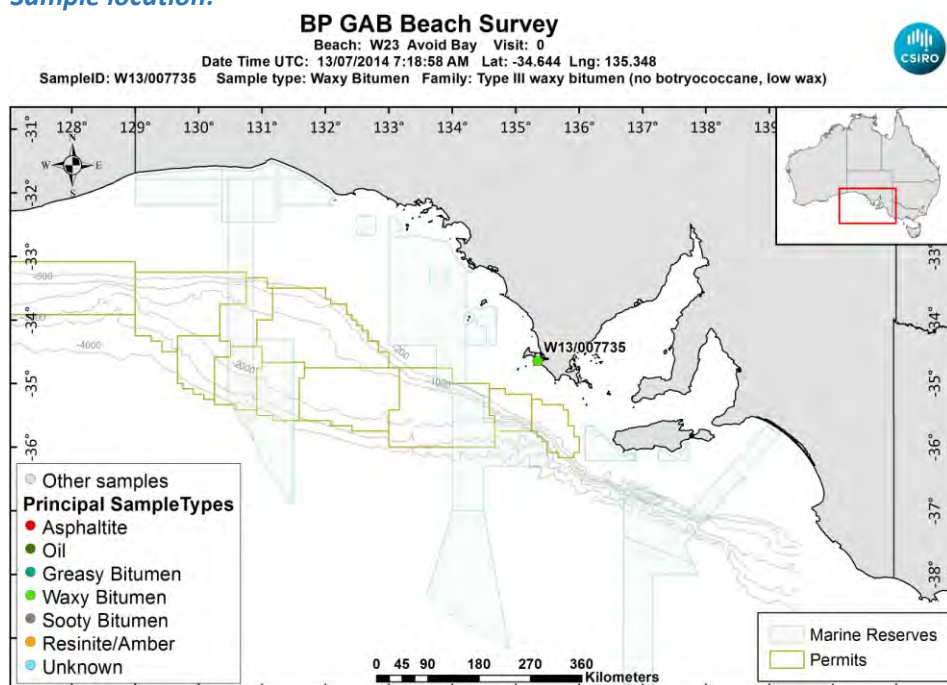
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 1.9

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007735_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007735_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007735_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007735_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

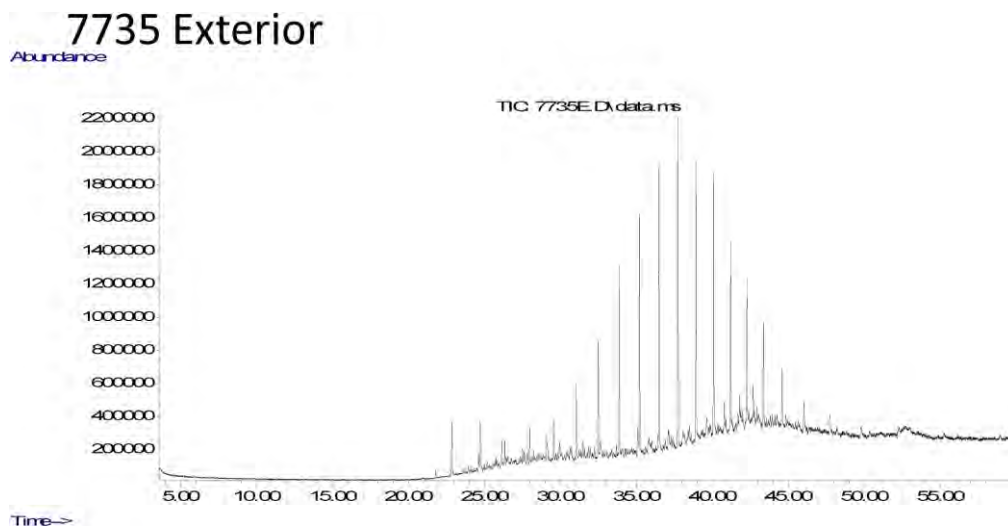
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			87.91	percent	Y
Inorg	Hydrogen			8.98867495029821	percent	Y
Inorg	Nitrogen			0.2	percent	Y
Inorg	Sulphur			1.41472196128599	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007735_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007735_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Ratio	nC18/Phytane			0.3113848731936	ug/L	Y
Ratio	Pristane/Phytane			1.35036609456729	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230	609785		ug/L	Z
Aliph	nC19	26.3410	805966		ug/L	Z
Aliph	nC20	27.9810	1075666		ug/L	Z
Aliph	nC21	29.5510	1361781		ug/L	Z
Aliph	nC22	31.0540	2373868		ug/L	Z
Aliph	nC23	32.4960	3877543		ug/L	Z
Aliph	nC24	33.8800	5760053		ug/L	Z
Aliph	nC25	35.2120	7347420		ug/L	Z
Aliph	nC26	36.4960	9149224		ug/L	Z
Aliph	nC27	37.7300	10135320		ug/L	Z
Aliph	nC28	38.9260	8788049		ug/L	Z
Aliph	nC29	40.0740	7909943		ug/L	Z
Aliph	nC30	41.1930	5913226		ug/L	Z
Aliph	nC31	42.2750	4967591		ug/L	Z
Aliph	nC32	43.3560	3594633		ug/L	Z
Aliph	nC33	44.5840	2907160		ug/L	Z
Aliph	nC34	46.0130	1599510		ug/L	Z
Aliph	nC35	47.7140	991766		ug/L	Z
Aliph	nC36	49.7870	700987		ug/L	Z
Aliph	nC37	52.2630	786038		ug/L	Z
Aliph	nC38	55.2360	498026		ug/L	Z
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010	497543		ug/L	Z

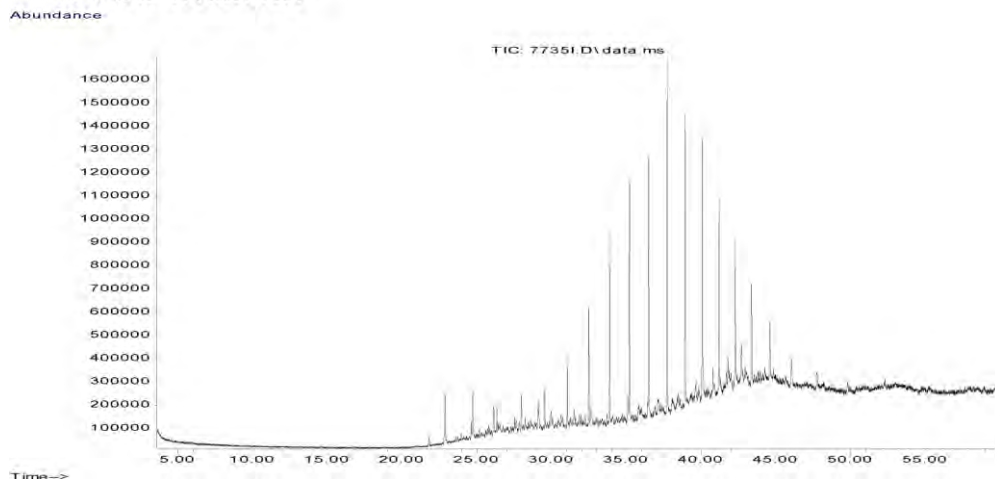
Results for: GCMS with Full Scan

Aliph	Phytane	24.7190	1958301	ug/L	Z
Aliph	Pristane	22.8660	2644424	ug/L	Z

Results for: GCMS with Full Scan**Unique ID:** W13/007735 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007735_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7735 Interior



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Ratio	nC18/Phytane			0.333899490452639	ug/L	Y
Ratio	Pristane/Phytane			1.45049047608238	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230	448642		ug/L	Z
Aliph	nC19	26.3410	566792		ug/L	Z
Aliph	nC20	27.9810	677212		ug/L	Z
Aliph	nC21	29.5510	968348		ug/L	Z
Aliph	nC22	31.0540	1499183		ug/L	Z
Aliph	nC23	32.4960	2576516		ug/L	Z
Aliph	nC24	33.8800	3892691		ug/L	Z
Aliph	nC25	35.2120	5408719		ug/L	Z
Aliph	nC26	36.4960	6256469		ug/L	Z
Aliph	nC27	37.7300	7344859		ug/L	Z
Aliph	nC28	38.9260	6332153		ug/L	Z
Aliph	nC29	40.0740	5846770		ug/L	Z
Aliph	nC30	41.1930	4017659		ug/L	Z
Aliph	nC31	42.2750	3306074		ug/L	Z
Aliph	nC32	43.3560	2427271		ug/L	Z
Aliph	nC33	44.5840	1611813		ug/L	Z
Aliph	nC34	46.0130	1056962		ug/L	Z
Aliph	nC35	47.7140	669713		ug/L	Z
Aliph	nC36	49.7870	474485		ug/L	Z
Aliph	nC37	52.2630	355135		ug/L	Z
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010	326368		ug/L	Z

Results for: GCMS with Full Scan

Aliph	Phytane	24.7190	1343644	ug/L	Z
Aliph	Pristane	22.8660	1948942	ug/L	Z

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007736**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Unclassified high wax bitumen

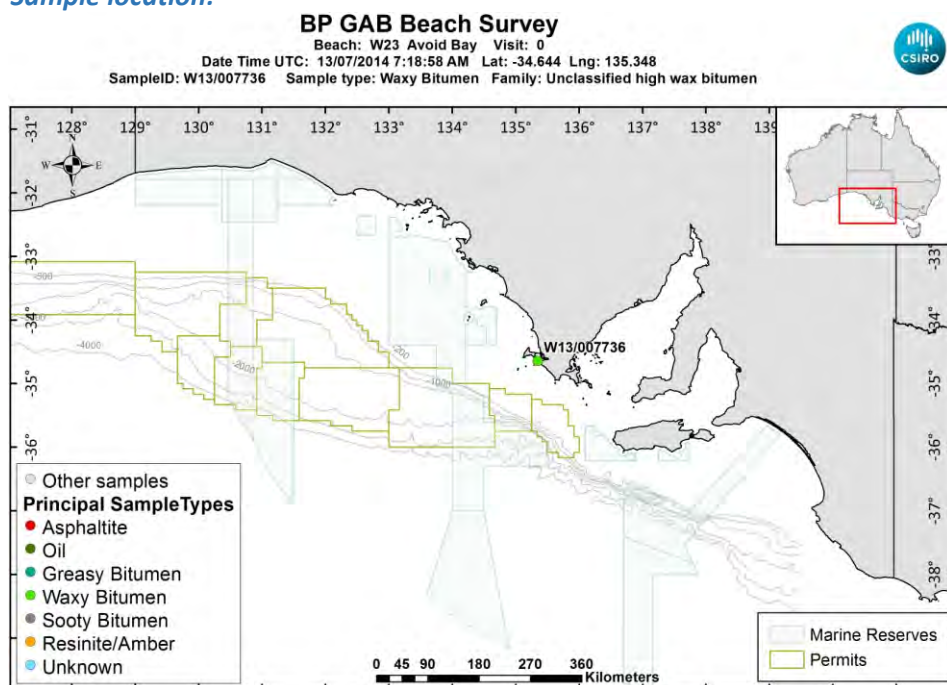
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 2.4

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007736_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007736_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007736_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007736_DISS_GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Analysis Date: 18/07/2017

Linked Image: [None available](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			35.4010771492957	ratio	Y
BiomRatio	% C27 abb 20(R+S)			21.4592360964979	ratio	Y
BiomRatio	% C28 aaa 20R			28.3593397892685	ratio	Y
BiomRatio	% C28 abb 20(R+S)			34.2651479917275	ratio	Y
BiomRatio	% C29 aaa 20R			36.2395830614358	ratio	Y
BiomRatio	% C29 abb 20(R+S)			44.2756159117746	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.262586002382327	ratio	Y
BiomRatio	25-Nor/C30H			0.026700028265663	ratio	Y
BiomRatio	C19t/C23t			0.136281343607425	ratio	Y
BiomRatio	C22t/C21t			0.419873188370158	ratio	Y
BiomRatio	C22t/C24t			0.25964228884531	ratio	Y
BiomRatio	C23t/C30H			0.319612750545159	ratio	Y
BiomRatio	C24t/C23t			0.423141724505192	ratio	Y
BiomRatio	C24Tet/C23t			0.936530594490639	ratio	Y
BiomRatio	C24Tet/C26t			4.3987949593323	ratio	Y
BiomRatio	C24Tet/C30H			0.299327119274846	ratio	Y
BiomRatio	C26t/C25t			0.574690315902096	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.202435964765428	ratio	Y
BiomRatio	C27 Dia/Ster			0.170172929718842	ratio	Y
BiomRatio	C28BNH/C30H			2.76911362632004E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			2.06324287186534	ratio	Y
BiomRatio	C29H/C30H			1.43135211546606	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			4.08580679359642E-02	ratio	Y
BiomRatio	C30DiaH/C30H			1.00644187293087E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.154674051496155	ratio	Y
BiomRatio	C35 Homohopane Index			0.085664502298422	ratio	Y
BiomRatio	C35HS/C34HS			0.957832624453364	ratio	Y
BiomRatio	Gam/C30H			0.103668349992744	ratio	Y
BiomRatio	Gam/C31HR			0.312996305248653	ratio	Y
BiomRatio	Ole/C30H			7.80922026585518E-02	ratio	Y
BiomRatio	Sterane/hopane			0.390854990485435	ratio	Y
BiomRatio	Steranes/Terpanes			0.314191698974037	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.244001645370437	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007736_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Results for: Elemental Analyser**Data Sheet:**

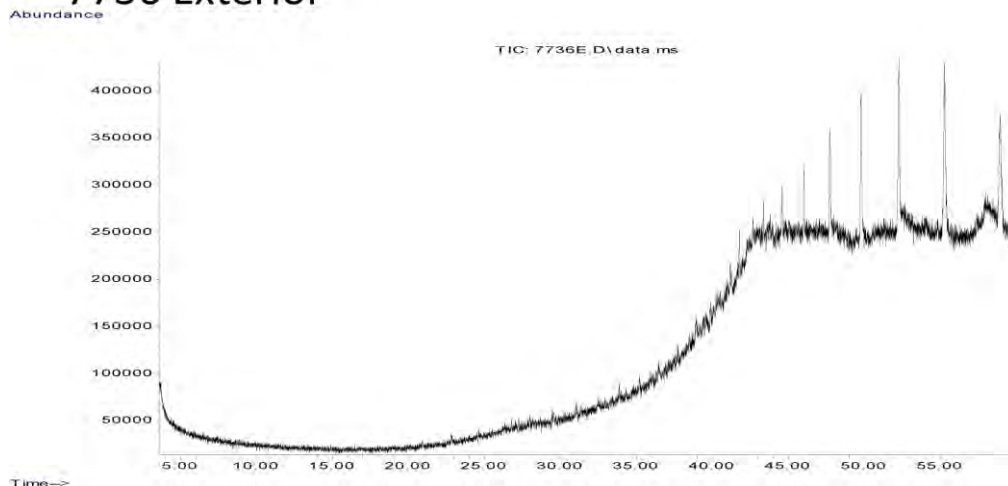
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			83.8269171057019	percent	Y
Inorg	Hydrogen			8.03529662027833	percent	Y
Inorg	Nitrogen			0.31	percent	Y
Inorg	Sulphur			3.75572875348335	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007736_DISS_GCMS-Scan/01**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007736_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7736 Exterior



Data Sheet:

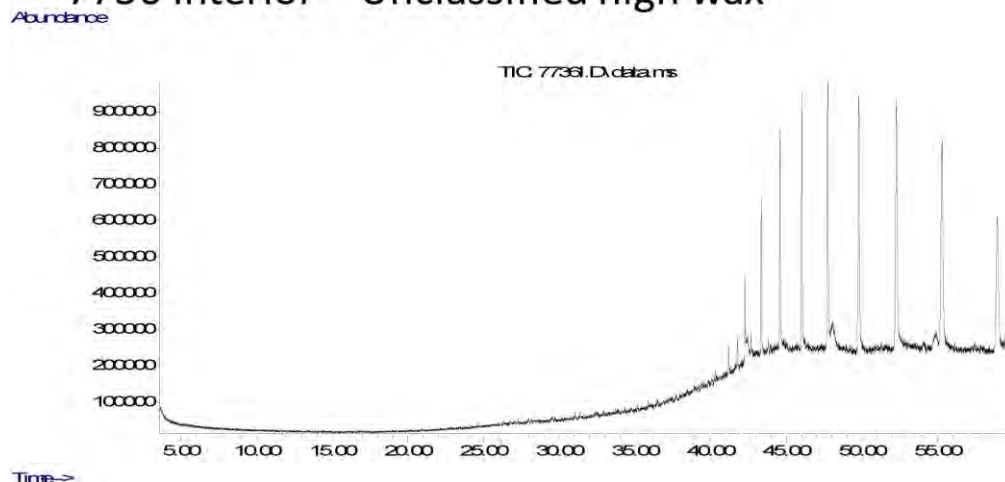
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300			ug/L	U
Aliph	nC28	38.9260			ug/L	U
Aliph	nC29	40.0740			ug/L	U
Aliph	nC30	41.1930			ug/L	U
Aliph	nC31	42.2750			ug/L	U
Aliph	nC32	43.3560	202059		ug/L	Z
Aliph	nC33	44.5840	369560		ug/L	Z
Aliph	nC34	46.0130	661435		ug/L	Z
Aliph	nC35	47.7140	1209415		ug/L	Z
Aliph	nC36	49.7870	1730081		ug/L	Z
Aliph	nC37	52.2630	2272572		ug/L	Z
Aliph	nC38	55.2360	2575057		ug/L	Z
Aliph	nC39	58.9110	2138362		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007736 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007736_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7736 Interior – Unclassified high wax



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retention Time:	Target Response:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300			ug/L	U
Aliph	nC28	38.9260			ug/L	U
Aliph	nC29	40.0740			ug/L	U
Aliph	nC30	41.1930	381746		ug/L	Z
Aliph	nC31	42.2750	1333174		ug/L	Z
Aliph	nC32	43.3560	2681444		ug/L	Z
Aliph	nC33	44.5840	4118210		ug/L	Z
Aliph	nC34	46.0130	5599810		ug/L	Z
Aliph	nC35	47.7140	6937143		ug/L	Z
Aliph	nC36	49.7870	8211607		ug/L	Z
Aliph	nC37	52.2630	8935140		ug/L	Z
Aliph	nC38	55.2360	9019324		ug/L	Z
Aliph	nC39	58.9110	7213427		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007737**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

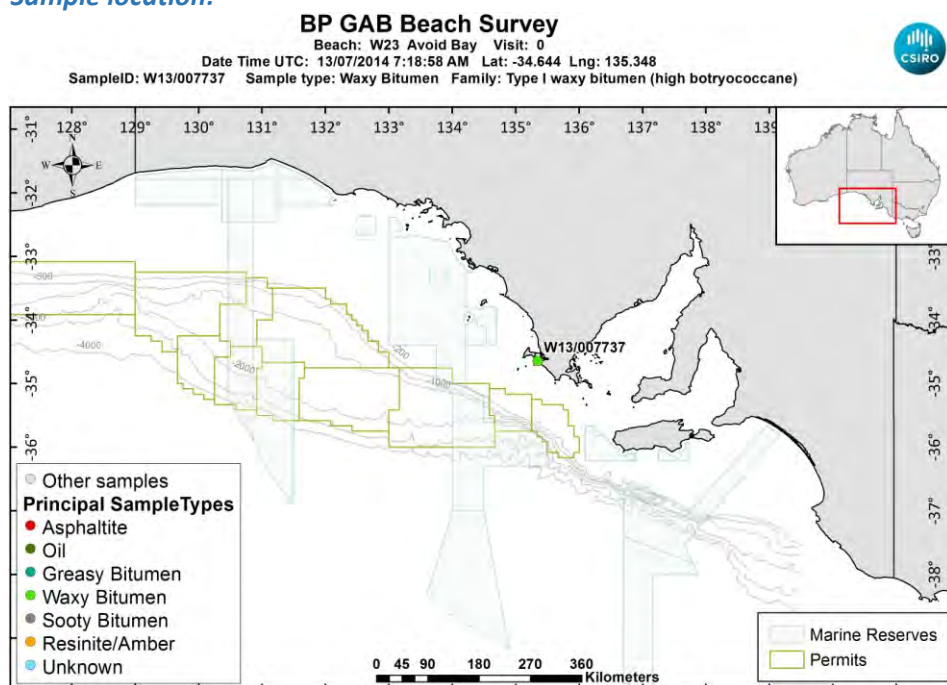
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 2.8

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007737_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007737_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007737_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007737_DISS_GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Analysis Date: 18/07/2017

Linked Image: [None available](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: External Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			0	ratio	U
BiomRatio	% C27 abb 20(R+S)			42.471497837767	ratio	Y
BiomRatio	% C28 aaa 20R			17.1960918851532	ratio	Y
BiomRatio	% C28 abb 20(R+S)			23.7414821124361	ratio	Y
BiomRatio	% C29 aaa 20R			82.8039081148468	ratio	Y
BiomRatio	% C29 abb 20(R+S)			33.7870200497969	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.07403612050901	ratio	Y
BiomRatio	25-Nor/C30H			0.1169805411516	ratio	Y
BiomRatio	C19t/C23t			0.262166599236986	ratio	Y
BiomRatio	C22t/C21t			0.408450704225352	ratio	Y
BiomRatio	C22t/C24t			0.275076717675548	ratio	Y
BiomRatio	C23t/C30H			9.67642785200754E-02	ratio	Y
BiomRatio	C24t/C23t			0.981717082891697	ratio	Y
BiomRatio	C24Tet/C23t			0.376214152208294	ratio	Y
BiomRatio	C24Tet/C26t			0.282158019725508	ratio	Y
BiomRatio	C24Tet/C30H			3.64040910074774E-02	ratio	Y
BiomRatio	C26t/C25t			1.83609825724613	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.764895164358119	ratio	Y
BiomRatio	C27 Dia/Ster			0.821697048252201	ratio	Y
BiomRatio	C28BNH/C30H			5.04730360857247E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.795522215365628	ratio	Y
BiomRatio	C29H/C30H			0.542840494257273	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.436897856936212	ratio	Y
BiomRatio	C30DiaH/C30H			0.327783384059488	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			5.03068042844528E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.44950178176081	ratio	Y
BiomRatio	Gam/C30H			3.85239449342706E-02	ratio	Y
BiomRatio	Gam/C31HR			0.228311911934177	ratio	Y
BiomRatio	Ole/C30H			0.199941503420335	ratio	Y
BiomRatio	Sterane/hopane			7.55088617955187E-02	ratio	Y
BiomRatio	Steranes/Terpanes			6.33648322379516E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.191652516524673	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007737_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Results for: Elemental Analyser**Data Sheet:**

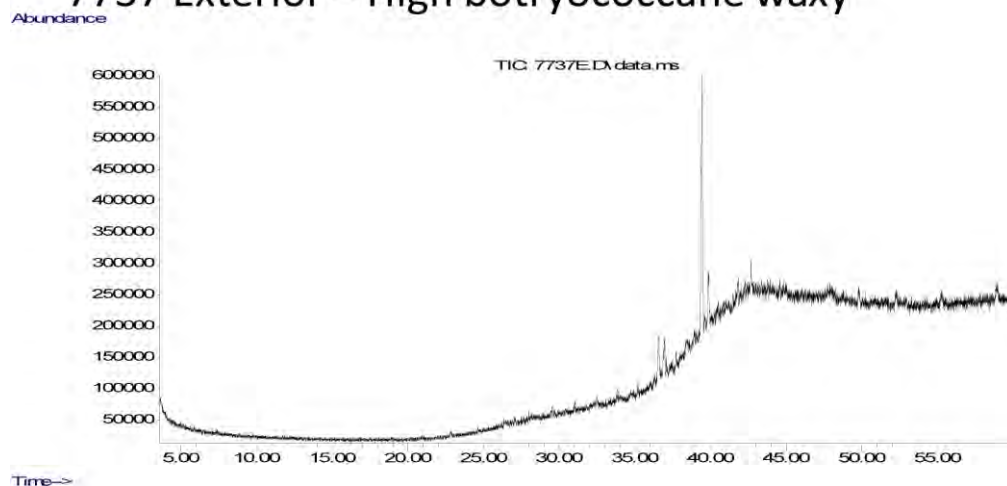
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			85.6685037345782	percent	Y
Inorg	Hydrogen			7.17118190854871	percent	Y
Inorg	Nitrogen			0.38	percent	Y
Inorg	Sulphur			1.05769320351617	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007737_DISS_GCMS-Scan/01**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007737_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7737 Exterior – High botryococcane waxy



Data Sheet:

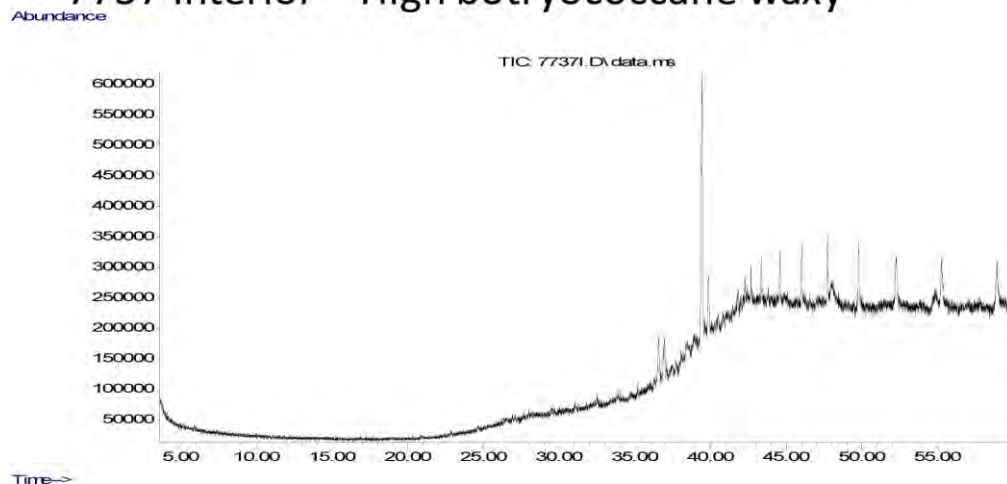
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	3987494		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300			ug/L	U
Aliph	nC28	38.9260			ug/L	U
Aliph	nC29	40.0740			ug/L	U
Aliph	nC30	41.1930			ug/L	U
Aliph	nC31	42.2750			ug/L	U
Aliph	nC32	43.3560			ug/L	U
Aliph	nC33	44.5840			ug/L	U
Aliph	nC34	46.0130			ug/L	U
Aliph	nC35	47.7140			ug/L	U
Aliph	nC36	49.7870			ug/L	U
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007737 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007737_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7737 Interior – High botryococcane waxy



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	4416103		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300			ug/L	U
Aliph	nC28	38.9260			ug/L	U
Aliph	nC29	40.0740			ug/L	U
Aliph	nC30	41.1930			ug/L	U
Aliph	nC31	42.2750	283408		ug/L	Z
Aliph	nC32	43.3560	399793		ug/L	Z
Aliph	nC33	44.5840	615819		ug/L	Z
Aliph	nC34	46.0130	693318		ug/L	Z
Aliph	nC35	47.7140	1054018		ug/L	Z
Aliph	nC36	49.7870	1162354		ug/L	Z
Aliph	nC37	52.2630	1012928		ug/L	Z
Aliph	nC38	55.2360	1278224		ug/L	Z
Aliph	nC39	58.9110	1084138		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007738**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Unknown

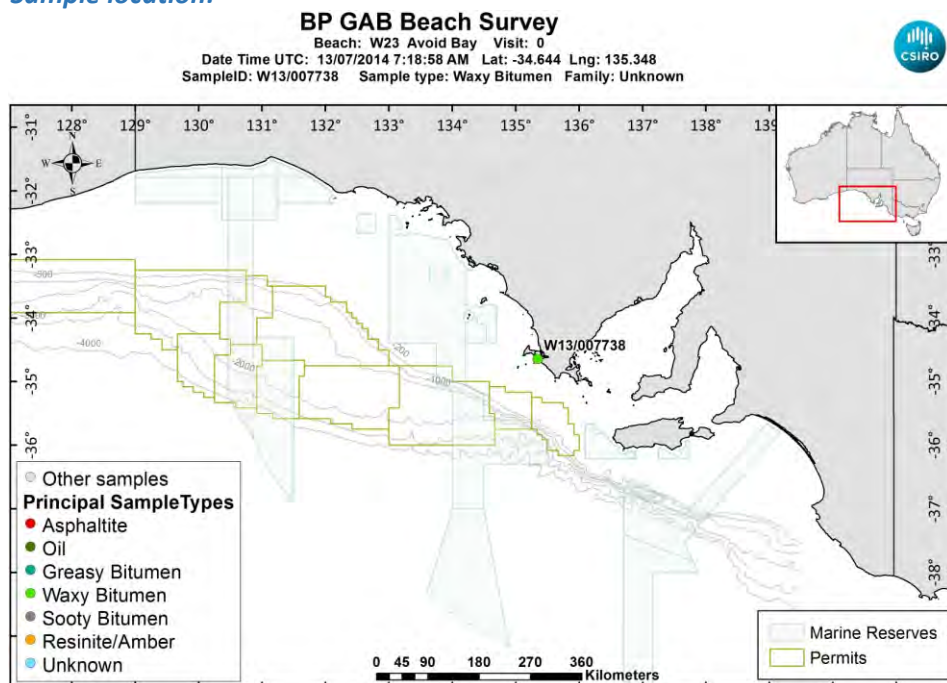
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 0.8

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007738_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007738_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007738_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007738_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			82.3950756918973	percent	Y
Inorg	Hydrogen			7.1300111332008	percent	Y
Inorg	Nitrogen			0.22	percent	Y
Inorg	Sulphur			1.13945555355461	percent	Y

(default units ppb)

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007739**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

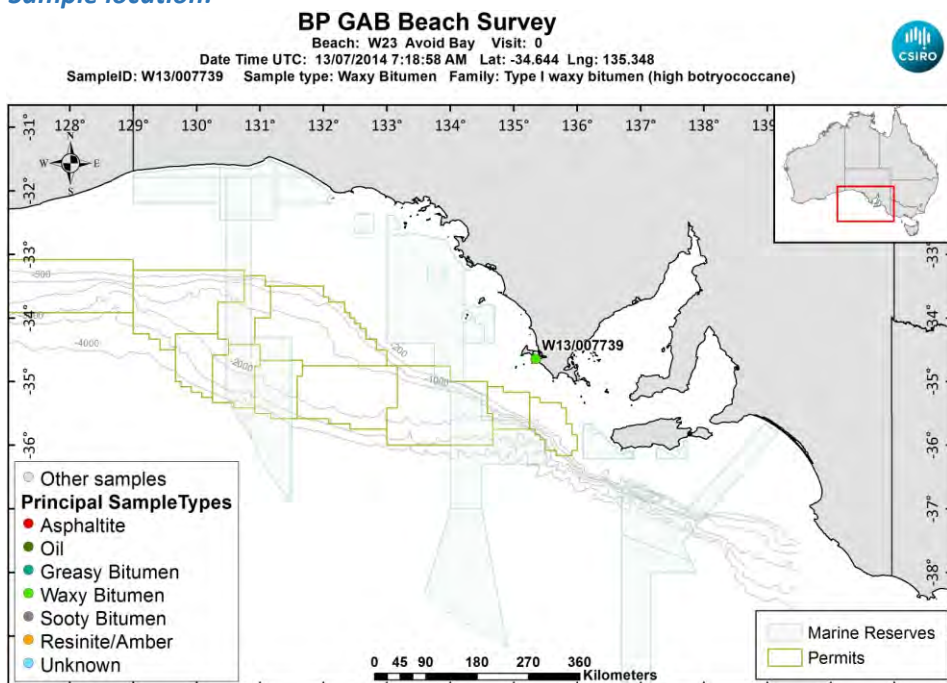
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 2

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007739_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007739_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007739_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007739_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			83.4677713404468	percent	Y
Inorg	Hydrogen			5.31646103379722	percent	Y
Inorg	Nitrogen			0.29	percent	Y
Inorg	Sulphur			0.636777660136978	percent	Y

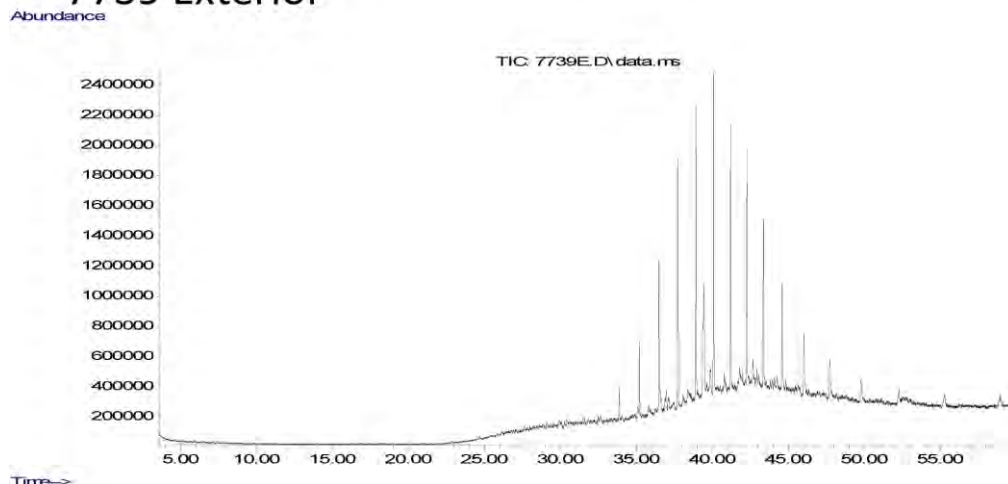
Results for: GCMS with Full Scan

Unique ID: W13/007739_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB BCH1\GCMS\W13 007739_ext WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7739 Exterior



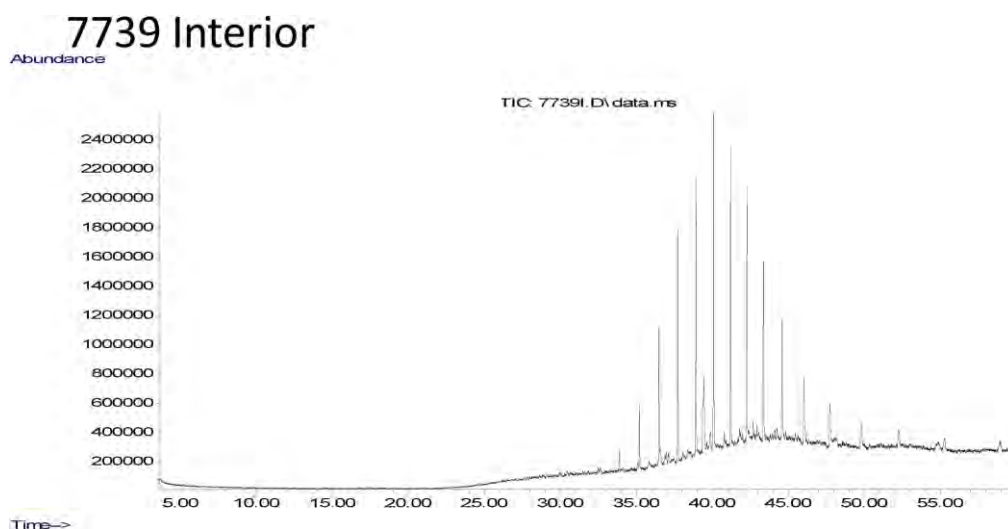
Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	7155701		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960	231810		ug/L	Z
Aliph	nC24	33.8800	1002902		ug/L	Z
Aliph	nC25	35.2120	2564519		ug/L	Z
Aliph	nC26	36.4960	4852164		ug/L	Z
Aliph	nC27	37.7300	8785676		ug/L	Z
Aliph	nC28	38.9260	9809272		ug/L	Z
Aliph	nC29	40.0740	10785658		ug/L	Z
Aliph	nC30	41.1930	9389022		ug/L	Z
Aliph	nC31	42.2750	8272247		ug/L	Z
Aliph	nC32	43.3560	6458717		ug/L	Z
Aliph	nC33	44.5840	5056753		ug/L	Z
Aliph	nC34	46.0130	3468166		ug/L	Z
Aliph	nC35	47.7140	1940172		ug/L	Z
Aliph	nC36	49.7870	1873409		ug/L	Z
Aliph	nC37	52.2630	1253582		ug/L	Z
Aliph	nC38	55.2360	1156756		ug/L	Z
Aliph	nC39	58.9110	1025014		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007739 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007739_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	4877396		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800	799841		ug/L	Z
Aliph	nC25	35.2120	2143126		ug/L	Z
Aliph	nC26	36.4960	4397594		ug/L	Z
Aliph	nC27	37.7300	8563063		ug/L	Z
Aliph	nC28	38.9260	10119799		ug/L	Z
Aliph	nC29	40.0740	11834269		ug/L	Z
Aliph	nC30	41.1930	10147353		ug/L	Z
Aliph	nC31	42.2750	9581631		ug/L	Z
Aliph	nC32	43.3560	7408550		ug/L	Z
Aliph	nC33	44.5840	5855887		ug/L	Z
Aliph	nC34	46.0130	3983256		ug/L	Z
Aliph	nC35	47.7140	2686464		ug/L	Z
Aliph	nC36	49.7870	2096793		ug/L	Z
Aliph	nC37	52.2630	1464939		ug/L	Z
Aliph	nC38	55.2360	1149276		ug/L	Z
Aliph	nC39	58.9110	1275193		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007740**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

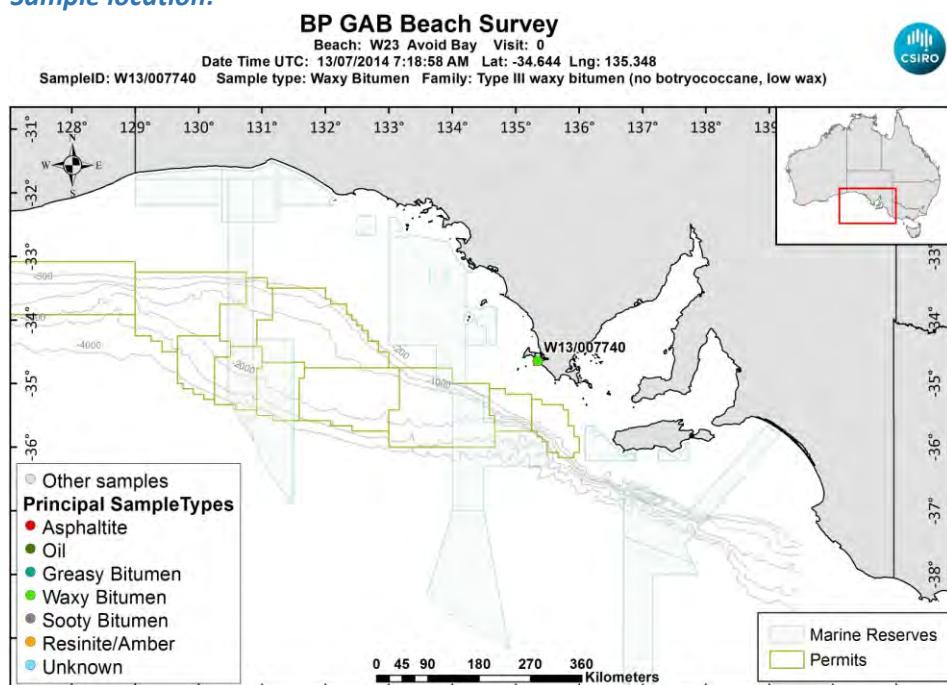
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 2.7

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007740_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007740_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007740_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007740_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: Volume Units: Extract Volume: Dilution Factor:

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			82.076285561854	percent	Y
Inorg	Hydrogen			5.4623153081511	percent	Y
Inorg	Nitrogen			0.28	percent	Y
Inorg	Sulphur			0.607372856651457	percent	Y

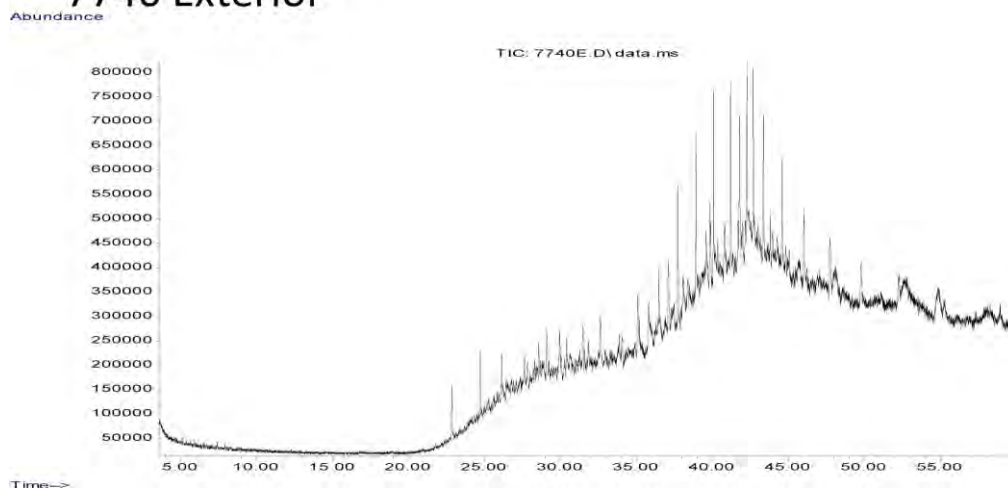
Results for: GCMS with Full Scan

Unique ID: W13/007740_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB BCH1\GCMS\W13 007740_ext WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7740 Exterior



Data Sheet:

(default units ppb)

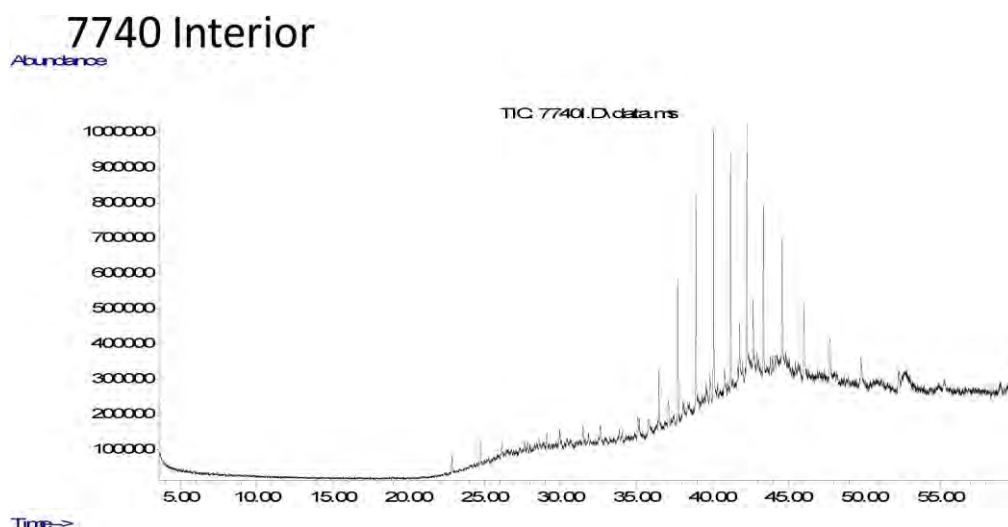
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			0.796179793950063	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800	254625		ug/L	Z
Aliph	nC25	35.2120	302275		ug/L	Z
Aliph	nC26	36.4960	974278		ug/L	Z
Aliph	nC27	37.7300	1411546		ug/L	Z
Aliph	nC28	38.9260	1672342		ug/L	Z
Aliph	nC29	40.0740	1863778		ug/L	Z
Aliph	nC30	41.1930	1810022		ug/L	Z
Aliph	nC31	42.2750	1943157		ug/L	Z
Aliph	nC32	43.3560	1681076		ug/L	Z
Aliph	nC33	44.5840	1426708		ug/L	Z
Aliph	nC34	46.0130	1297650		ug/L	Z
Aliph	nC35	47.7140	1045089		ug/L	Z
Aliph	nC36	49.7870	897545		ug/L	Z
Aliph	nC37	52.2630	753679		ug/L	Z
Aliph	nC38	55.2360	339405		ug/L	Z
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010	74320		ug/L	Z
Aliph	Phytane	24.7190	915528		ug/L	Z

Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	728925	ug/L	Z
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Results for: GCMS with Full Scan**Unique ID:** W13/007740 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007740_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			0.732856974030918	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120	286223		ug/L	Z
Aliph	nC26	36.4960	858903		ug/L	Z
Aliph	nC27	37.7300	2050438		ug/L	Z
Aliph	nC28	38.9260	2997163		ug/L	Z
Aliph	nC29	40.0740	3795835		ug/L	Z
Aliph	nC30	41.1930	3513518		ug/L	Z
Aliph	nC31	42.2750	3695916		ug/L	Z
Aliph	nC32	43.3560	3087031		ug/L	Z
Aliph	nC33	44.5840	2767891		ug/L	Z
Aliph	nC34	46.0130	1769991		ug/L	Z
Aliph	nC35	47.7140	1049833		ug/L	Z
Aliph	nC36	49.7870	735417		ug/L	Z
Aliph	nC37	52.2630	717759		ug/L	Z
Aliph	nC38	55.2360	620393		ug/L	Z
Aliph	nC39	58.9110	539635		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190	453298		ug/L	Z

Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	332203	ug/L	Z
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Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007741**

Beach W23: Avoid Bav Visit: 0

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 13/07/2014 4:48:58 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

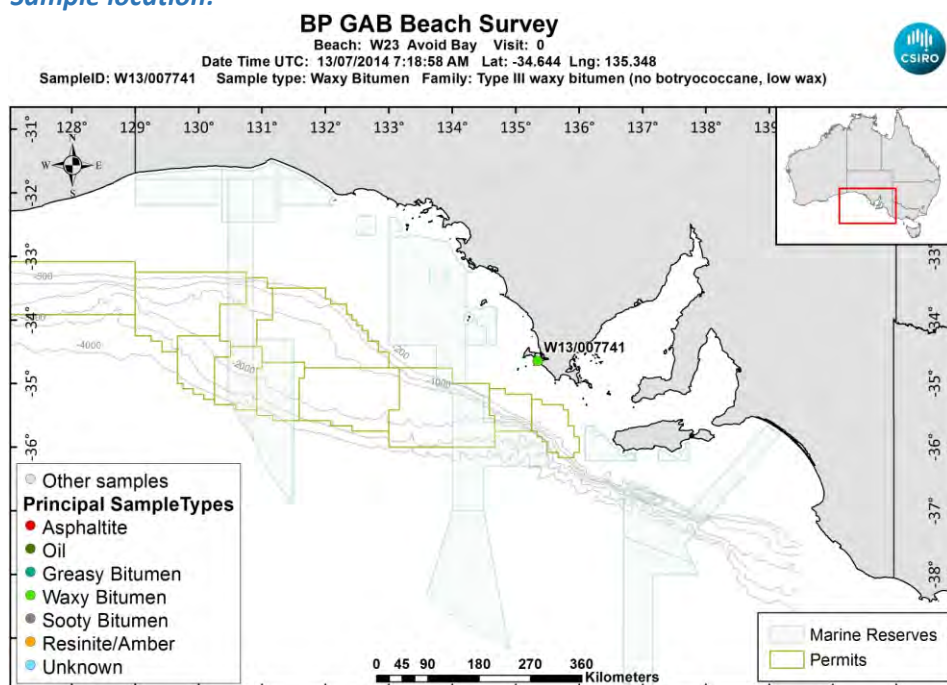
Size (cm): 0

Latitude (Y): -34.644000

Weight (gm): 0.8

Longitude (X): 135.348000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007741_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007741_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007741_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007741_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			81.7898262754251	percent	Y
Inorg	Hydrogen			8.19226043737575	percent	Y
Inorg	Nitrogen			0.12	percent	Y
Inorg	Sulphur			1.64540880162998	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007741 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 18/11/2016

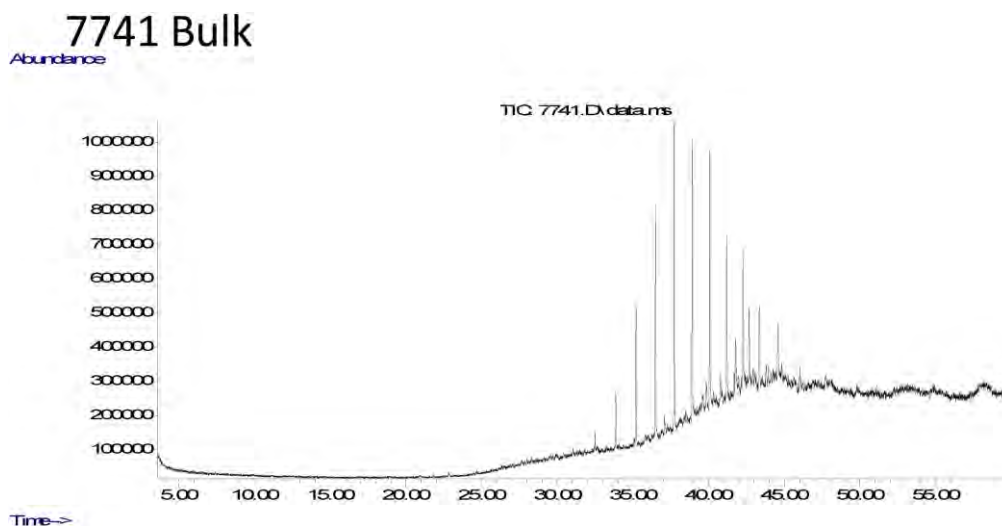
Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007741_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment: Bulk

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540	103199		ug/L	Z
Aliph	nC23	32.4960	264301		ug/L	Z
Aliph	nC24	33.8800	864310		ug/L	Z
Aliph	nC25	35.2120	2120263		ug/L	Z
Aliph	nC26	36.4960	3404713		ug/L	Z
Aliph	nC27	37.7300	4510910		ug/L	Z
Aliph	nC28	38.9260	4093451		ug/L	Z
Aliph	nC29	40.0740	3743223		ug/L	Z
Aliph	nC30	41.1930	2653734		ug/L	Z
Aliph	nC31	42.2750	2220495		ug/L	Z
Aliph	nC32	43.3560	1497785		ug/L	Z
Aliph	nC33	44.5840	1029724		ug/L	Z
Aliph	nC34	46.0130	794773		ug/L	Z
Aliph	nC35	47.7140	607536		ug/L	Z
Aliph	nC36	49.7870	350730		ug/L	Z
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007672**

Beach W23: Avoid Bav Visit: 2

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.

Location: Upper Intertidal

Local Date Time: 31/05/2015 4:37:13 PM

Type: Asphaltite

Family: Asphaltite

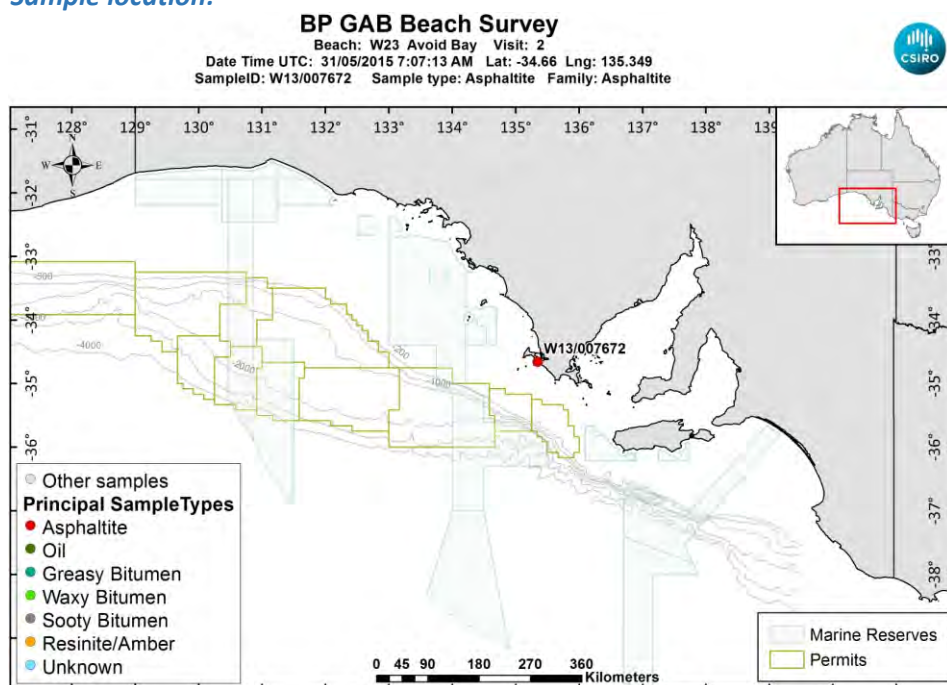
Size (cm): 0

Latitude (Y): -34.660000

Weight (gm): 1357.1

Longitude (X): 135.349000

Sample location:



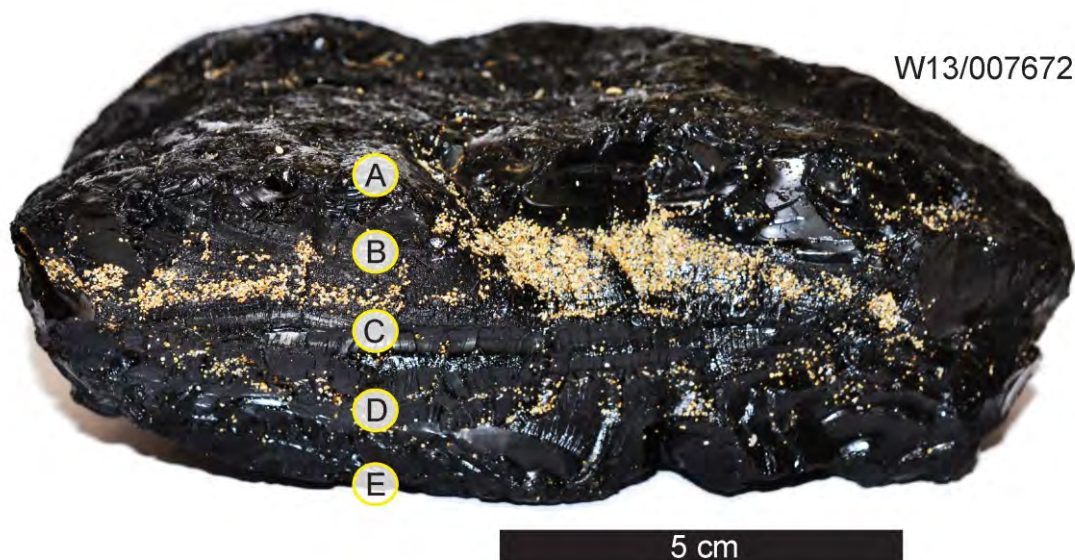
[LinkedFiles\GAB_BCH1\SampleLocations\W13_007672_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007672_Photo01.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007672_CSIA sampling-01.jpg](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
4	Biomarkers	YES
5	CSIA	YES
6	CSIA	YES
7	CSIA	YES
8	CSIA	YES
9	CSIA	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 2
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
CSIA	Compound Specific Isotope Analysis d13C Run: 15
CSIA	Compound Specific Isotope Analysis d13C Run: 14
CSIA	Compound Specific Isotope Analysis d13C Run: 13
CSIA	Compound Specific Isotope Analysis d13C Run: 12
CSIA	Compound Specific Isotope Analysis d13C Run: 11
CSIA	Compound Specific Isotope Analysis d2H Run: 5
CSIA	Compound Specific Isotope Analysis d2H Run: 4
CSIA	Compound Specific Isotope Analysis d2H Run: 3
CSIA	Compound Specific Isotope Analysis d2H Run: 2
CSIA	Compound Specific Isotope Analysis d2H Run: 1
Elemental CHNS	Elemental Analyser Run: 1

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007672 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Analysis Date: 18/07/2017

Linked Image: [None available](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: External Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			35.8274536580431	ratio	Y
BiomRatio	% C27 abb 20(R+S)			35.577224529412	ratio	Y
BiomRatio	% C28 aaa 20R			25.4008294767721	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.7703427572612	ratio	Y
BiomRatio	% C29 aaa 20R			38.7717168651847	ratio	Y
BiomRatio	% C29 abb 20(R+S)			39.6524327133268	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			6.52863416581644E-02	ratio	Y
BiomRatio	25-Nor/C30H			2.52033207129856E-02	ratio	Y
BiomRatio	C19t/C23t			4.18752693876198E-02	ratio	Y
BiomRatio	C22t/C21t			0.454734083215027	ratio	Y
BiomRatio	C22t/C24t			0.216367887763055	ratio	Y
BiomRatio	C23t/C30H			4.63256356892169E-02	ratio	Y
BiomRatio	C24t/C23t			0.638075660621332	ratio	Y
BiomRatio	C24Tet/C23t			1.29243062232685	ratio	Y
BiomRatio	C24Tet/C26t			2.03960862285475	ratio	Y
BiomRatio	C24Tet/C30H			5.98726701635013E-02	ratio	Y
BiomRatio	C26t/C25t			0.812550486799031	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.450486057049324	ratio	Y
BiomRatio	C27 Dia/Ster			0.441806811318852	ratio	Y
BiomRatio	C28BNH/C30H			3.98239807085314E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.11454542162348	ratio	Y
BiomRatio	C29H/C30H			0.637258952639137	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.195753688336309	ratio	Y
BiomRatio	C30DiaH/C30H			7.20865044196816E-02	ratio	Y
BiomRatio	C30Ts/C30H			3.85030680500411E-02	ratio	Y
BiomRatio	C35 Homohopane Index			7.87673442789074E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.886864018834198	ratio	Y
BiomRatio	Gam/C30H			5.90079331556757E-02	ratio	Y
BiomRatio	Gam/C31HR			0.184873464320259	ratio	Y
BiomRatio	Ole/C30H			6.93786334697764E-03	ratio	Y
BiomRatio	Sterane/hopane			0.301266243526419	ratio	Y
BiomRatio	Steranes/Terpanes			0.281065827923162	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.071870763345799	ratio	Y

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007672 DISS GC-MS/02

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 2

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			43.0731411727038	ratio	Y
BiomRatio	% C27 abb 20(R+S)			38.7354395140743	ratio	Y
BiomRatio	% C28 aaa 20R			19.5642912522194	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.8121002983783	ratio	Y
BiomRatio	% C29 aaa 20R			37.3625675750768	ratio	Y
BiomRatio	% C29 abb 20(R+S)			36.4524601875474	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.103381134077851	ratio	Y
BiomRatio	25-Nor/C30H			3.05054121867345E-02	ratio	Y
BiomRatio	C19t/C23t			0.344793085239432	ratio	Y
BiomRatio	C22t/C21t			0.341471177428716	ratio	Y
BiomRatio	C22t/C24t			0.302375702514962	ratio	Y
BiomRatio	C23t/C30H			7.11797347154769E-02	ratio	Y
BiomRatio	C24t/C23t			0.55880418368954	ratio	Y
BiomRatio	C24Tet/C23t			1.06886041707197	ratio	Y
BiomRatio	C24Tet/C26t			2.41291617868496	ratio	Y
BiomRatio	C24Tet/C30H			7.60812009350571E-02	ratio	Y
BiomRatio	C26t/C25t			0.76581568916365	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.431666546593826	ratio	Y
BiomRatio	C27 Dia/Ster			0.425173064428532	ratio	Y
BiomRatio	C28BNH/C30H			4.28293059278529E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.941062258356528	ratio	Y
BiomRatio	C29H/C30H			0.65038559563728	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.182306041218806	ratio	Y
BiomRatio	C30DiaH/C30H			7.99045160354372E-02	ratio	Y
BiomRatio	C30Ts/C30H			4.50805645950999E-02	ratio	Y
BiomRatio	C35 Homohopane Index			0.083820096716424	ratio	Y
BiomRatio	C35HS/C34HS			0.939491721559551	ratio	Y
BiomRatio	Gam/C30H			8.17568258175979E-02	ratio	Y
BiomRatio	Gam/C31HR			0.24853564369535	ratio	Y
BiomRatio	Ole/C30H			8.2757165418715E-03	ratio	Y
BiomRatio	Sterane/hopane			0.319082177451051	ratio	Y
BiomRatio	Steranes/Terpanes			0.290856469397804	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			9.70434252732483E-02	ratio	Y

Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007672_PTE_CSIA-C13/11

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 11

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d13C

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Part A Final d13C

Results for: Compound Specific Isotope Analysis d13C

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	nC13			-29.882	value	Y
Aliph	nC14			-31.6	value	Y
Aliph	nC15			-31.877	value	Y
Aliph	nC16			-32.103	value	Y
Aliph	nC17			-32.32	value	Y
Aliph	nC18			-32.908	value	Y
Aliph	nC19			-32.258	value	Y
Aliph	nC20			-32.327	value	Y
Aliph	nC21			-32.449	value	Y
Aliph	nC22			-32.309	value	Y
Aliph	nC23			-32.742	value	Y
Aliph	nC24			-32.644	value	Y
Aliph	nC25			-32.608	value	Y
Aliph	nC26			-32.492	value	Y
Aliph	nC27			-32.498	value	Y
Aliph	nC28			-32.05	value	Y
Aliph	nC29			-31.842	value	Y
Aliph	nC30			-31.612	value	Y
Aliph	nC31			-31.939	value	Y
Aliph	nC32			-31.856	value	Y
Aliph	nC33			-31.991	value	Y
Aliph	nC34			-31.88	value	Y
Aliph	nC35			-31.843	value	Y
Aliph	nC36			-31.956	value	Y
Aliph	nC37			-33.339	value	Y
Aliph	nC38			-31.881	value	Y
Aliph	nC39				value	U

Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007672_PTE_CSIA-C13/12

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 12

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d13C

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Part B Final d13C

Results for: Compound Specific Isotope Analysis d13C

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	nC13			-29.728	value	Y
Aliph	nC14			-31.08	value	Y
Aliph	nC15			-31.776	value	Y
Aliph	nC16			-31.93	value	Y
Aliph	nC17			-32.616	value	Y
Aliph	nC18			-32.795	value	Y
Aliph	nC19			-32.548	value	Y
Aliph	nC20			-32.66	value	Y
Aliph	nC21			-32.831	value	Y
Aliph	nC22			-32.942	value	Y
Aliph	nC23			-33.303	value	Y
Aliph	nC24			-32.636	value	Y
Aliph	nC25			-32.785	value	Y
Aliph	nC26			-32.379	value	Y
Aliph	nC27			-32.297	value	Y
Aliph	nC28			-32.537	value	Y
Aliph	nC29			-32.126	value	Y
Aliph	nC30			-32.156	value	Y
Aliph	nC31			-32	value	Y
Aliph	nC32			-32.196	value	Y
Aliph	nC33			-32.285	value	Y
Aliph	nC34			-31.465	value	Y
Aliph	nC35			-32.02	value	Y
Aliph	nC36			-32.526	value	Y
Aliph	nC37			-29.993	value	Y
Aliph	nC38				value	U
Aliph	nC39				value	U

Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007672_PTE_CSIA-C13/13

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 13

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d13C

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Part C Final d13C

Results for: Compound Specific Isotope Analysis d13C

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	nC13			-30.572	value	Y
Aliph	nC14			-31.369	value	Y
Aliph	nC15			-31.769	value	Y
Aliph	nC16			-32.07	value	Y
Aliph	nC17			-32.488	value	Y
Aliph	nC18			-33.264	value	Y
Aliph	nC19			-33.142	value	Y
Aliph	nC20			-33.092	value	Y
Aliph	nC21			-33.205	value	Y
Aliph	nC22			-33.193	value	Y
Aliph	nC23			-33.579	value	Y
Aliph	nC24			-32.938	value	Y
Aliph	nC25			-33.166	value	Y
Aliph	nC26			-32.766	value	Y
Aliph	nC27			-33.051	value	Y
Aliph	nC28			-32.981	value	Y
Aliph	nC29			-32.732	value	Y
Aliph	nC30			-32.388	value	Y
Aliph	nC31			-32.476	value	Y
Aliph	nC32			-32.615	value	Y
Aliph	nC33			-32.354	value	Y
Aliph	nC34			-32.034	value	Y
Aliph	nC35			-32.485	value	Y
Aliph	nC36			-32.039	value	Y
Aliph	nC37			-32.5	value	Y
Aliph	nC38			-33.109	value	Y
Aliph	nC39				value	U

Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007672_PTE_CSIA-C13/14

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 14

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d13C

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Part D Final d13C

Results for: Compound Specific Isotope Analysis d13C

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	nC13			-29.515	value	Y
Aliph	nC14			-31.06	value	Y
Aliph	nC15			-31.804	value	Y
Aliph	nC16			-32.064	value	Y
Aliph	nC17			-32.731	value	Y
Aliph	nC18			-33.131	value	Y
Aliph	nC19			-33.027	value	Y
Aliph	nC20			-33.163	value	Y
Aliph	nC21			-33.43	value	Y
Aliph	nC22			-33.423	value	Y
Aliph	nC23			-34.144	value	Y
Aliph	nC24			-33.236	value	Y
Aliph	nC25			-33.21	value	Y
Aliph	nC26			-32.916	value	Y
Aliph	nC27			-33.151	value	Y
Aliph	nC28			-32.876	value	Y
Aliph	nC29			-32.472	value	Y
Aliph	nC30			-32.355	value	Y
Aliph	nC31			-32.26	value	Y
Aliph	nC32			-32.227	value	Y
Aliph	nC33			-31.764	value	Y
Aliph	nC34			-31.885	value	Y
Aliph	nC35			-32.024	value	Y
Aliph	nC36			-32.694	value	Y
Aliph	nC37			-32.121	value	Y
Aliph	nC38				value	U
Aliph	nC39				value	U

Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007672_PTE_CSIA-C13/15

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 15

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d13C

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Part E Final d13C

Results for: Compound Specific Isotope Analysis d13C

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	nC13			-30.062	value	Y
Aliph	nC14			-30.919	value	Y
Aliph	nC15			-31.846	value	Y
Aliph	nC16			-31.91	value	Y
Aliph	nC17			-32.141	value	Y
Aliph	nC18			-32.358	value	Y
Aliph	nC19			-32.221	value	Y
Aliph	nC20			-32.178	value	Y
Aliph	nC21			-32.397	value	Y
Aliph	nC22			-32.231	value	Y
Aliph	nC23			-32.557	value	Y
Aliph	nC24			-32.337	value	Y
Aliph	nC25			-32.416	value	Y
Aliph	nC26			-32.265	value	Y
Aliph	nC27			-32.259	value	Y
Aliph	nC28			-31.901	value	Y
Aliph	nC29			-31.891	value	Y
Aliph	nC30			-31.556	value	Y
Aliph	nC31			-31.481	value	Y
Aliph	nC32			-31.454	value	Y
Aliph	nC33			-31.837	value	Y
Aliph	nC34			-31.799	value	Y
Aliph	nC35			-31.828	value	Y
Aliph	nC36			-31.338	value	Y
Aliph	nC37			-31.3	value	Y
Aliph	nC38			-30.082	value	Y
Aliph	nC39				value	U

Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007672_PTE_CSIA/01

Instrument / Type: Compound Specific Isotope Analysis d2H Run: 1

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d 2H/1H

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Part A 2H analysis

Results for: Compound Specific Isotope Analysis d2H

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	nC13			-103.1395	value	Y
Aliph	nC14			-110.186	value	Y
Aliph	nC15			-112.413	value	Y
Aliph	nC16			-111.759	value	Y
Aliph	nC17			-114.3325	value	Y
Aliph	nC18			-104.971	value	Y
Aliph	nC19			-108.2565	value	Y
Aliph	nC20			-106.8895	value	Y
Aliph	nC21			-109.534	value	Y
Aliph	nC22			-108.3575	value	Y
Aliph	nC23			-108.053	value	Y
Aliph	nC24			-104.6005	value	Y
Aliph	nC25			-109.7955	value	Y
Aliph	nC26			-106.553	value	Y
Aliph	nC27			-109.3075	value	Y
Aliph	nC28			-107.9105	value	Y
Aliph	nC29			-107.128	value	Y
Aliph	nC30			-111.2085	value	Y
Aliph	nC31			-111.6085	value	Y
Aliph	nC32			-99.479	value	Y
Aliph	nC33				value	U
Aliph	nC34				value	U
Aliph	nC35				value	U
Aliph	nC36				value	U
Aliph	nC37				value	U
Aliph	nC38				value	U
Aliph	nC39				value	U

Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007672_PTE_CSIA/02

Instrument / Type: Compound Specific Isotope Analysis d2H Run: 2

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d 2H/1H

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Part B 2H analysis

Results for: Compound Specific Isotope Analysis d2H

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	nC13			-100.39	value	Y
Aliph	nC14			-111.9235	value	Y
Aliph	nC15			-113.0625	value	Y
Aliph	nC16			-113.2525	value	Y
Aliph	nC17			-108.288	value	Y
Aliph	nC18			-102.6595	value	Y
Aliph	nC19			-105.7595	value	Y
Aliph	nC20			-106.9275	value	Y
Aliph	nC21			-109.2135	value	Y
Aliph	nC22			-107.5975	value	Y
Aliph	nC23			-106.7785	value	Y
Aliph	nC24			-106.455	value	Y
Aliph	nC25			-109.3625	value	Y
Aliph	nC26			-106.977	value	Y
Aliph	nC27			-109.069	value	Y
Aliph	nC28			-107.438	value	Y
Aliph	nC29			-110.4015	value	Y
Aliph	nC30			-106.3405	value	Y
Aliph	nC31			-109.758	value	Y
Aliph	nC32			-107.3285	value	Y
Aliph	nC33				value	U
Aliph	nC34				value	U
Aliph	nC35				value	U
Aliph	nC36				value	U
Aliph	nC37				value	U
Aliph	nC38				value	U
Aliph	nC39				value	U

Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007672_PTE_CSIA/03

Instrument / Type: Compound Specific Isotope Analysis d2H Run: 3

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d 2H/1H

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Part C 2H analysis

Results for: Compound Specific Isotope Analysis d2H

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	nC13			-101.8865	value	Y
Aliph	nC14			-120.9345	value	Y
Aliph	nC15			-120.908	value	Y
Aliph	nC16			-119.1265	value	Y
Aliph	nC17			-121.761	value	Y
Aliph	nC18			-113.85	value	Y
Aliph	nC19			-117.0245	value	Y
Aliph	nC20			-113.068	value	Y
Aliph	nC21			-112.823	value	Y
Aliph	nC22			-111.554	value	Y
Aliph	nC23			-110.5695	value	Y
Aliph	nC24			-109.2275	value	Y
Aliph	nC25			-115.873	value	Y
Aliph	nC26			-112.3605	value	Y
Aliph	nC27			-115.155	value	Y
Aliph	nC28			-120.0225	value	Y
Aliph	nC29			-118.073	value	Y
Aliph	nC30			-113.943	value	Y
Aliph	nC31			-116.779	value	Y
Aliph	nC32				value	U
Aliph	nC33				value	U
Aliph	nC34				value	U
Aliph	nC35				value	U
Aliph	nC36				value	U
Aliph	nC37				value	U
Aliph	nC38				value	U
Aliph	nC39				value	U

Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007672_PTE_CSIA/04

Instrument / Type: Compound Specific Isotope Analysis d2H Run: 4

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d 2H/1H

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Part D 2H analysis

Results for: Compound Specific Isotope Analysis d2H

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	nC13			-93.748	value	Y
Aliph	nC14			-103.478	value	Y
Aliph	nC15			-113.805	value	Y
Aliph	nC16			-111.7355	value	Y
Aliph	nC17			-112.9885	value	Y
Aliph	nC18			-104.974	value	Y
Aliph	nC19			-107.224	value	Y
Aliph	nC20			-107.7165	value	Y
Aliph	nC21			-106.8305	value	Y
Aliph	nC22			-105.874	value	Y
Aliph	nC23			-107.575	value	Y
Aliph	nC24			-105.9815	value	Y
Aliph	nC25			-110.781	value	Y
Aliph	nC26			-107.468	value	Y
Aliph	nC27			-109.122	value	Y
Aliph	nC28			-100.03	value	Y
Aliph	nC29			-105.5685	value	Y
Aliph	nC30			-113.289	value	Y
Aliph	nC31			-118.862	value	Y
Aliph	nC32				value	U
Aliph	nC33				value	U
Aliph	nC34				value	U
Aliph	nC35				value	U
Aliph	nC36				value	U
Aliph	nC37				value	U
Aliph	nC38				value	U
Aliph	nC39				value	U

Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007672_PTE_CSIA/05

Instrument / Type: Compound Specific Isotope Analysis d2H Run: 5

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d 2H/1H

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Part E 2H analysis

Results for: Compound Specific Isotope Analysis d2H

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	nC13			-101.291	value	Y
Aliph	nC14			-111.827	value	Y
Aliph	nC15			-110.034	value	Y
Aliph	nC16			-110.509	value	Y
Aliph	nC17			-116.8075	value	Y
Aliph	nC18			-106.4555	value	Y
Aliph	nC19			-109.4615	value	Y
Aliph	nC20			-107.045	value	Y
Aliph	nC21			-107.6465	value	Y
Aliph	nC22			-107.6905	value	Y
Aliph	nC23			-107.869	value	Y
Aliph	nC24			-106.208	value	Y
Aliph	nC25			-112.677	value	Y
Aliph	nC26			-108.0845	value	Y
Aliph	nC27			-111.1735	value	Y
Aliph	nC28			-111.176	value	Y
Aliph	nC29			-109.7975	value	Y
Aliph	nC30			-110.2055	value	Y
Aliph	nC31			-111.0785	value	Y
Aliph	nC32			-113.1665	value	Y
Aliph	nC33			-104.113	value	Y
Aliph	nC34				value	U
Aliph	nC35				value	U
Aliph	nC36				value	U
Aliph	nC37				value	U
Aliph	nC38				value	U
Aliph	nC39				value	U

Results for: Elemental Analyser

Unique ID: W13/007672_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.02	percent	Y
Inorg	Hydrogen			8.90986580516899	percent	Y
Inorg	Nitrogen			0.69776087403599	percent	Y
Inorg	Sulphur			5.4834326351221	percent	Y

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007768A**

Beach W23: Avoid Bav Visit: 2

Comments:

gifted to CSIRO from Stuart Valladares Coffin Bay.
Part A.

Location: Upper Intertidal

Local Date Time: 31/05/2015 4:37:13 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

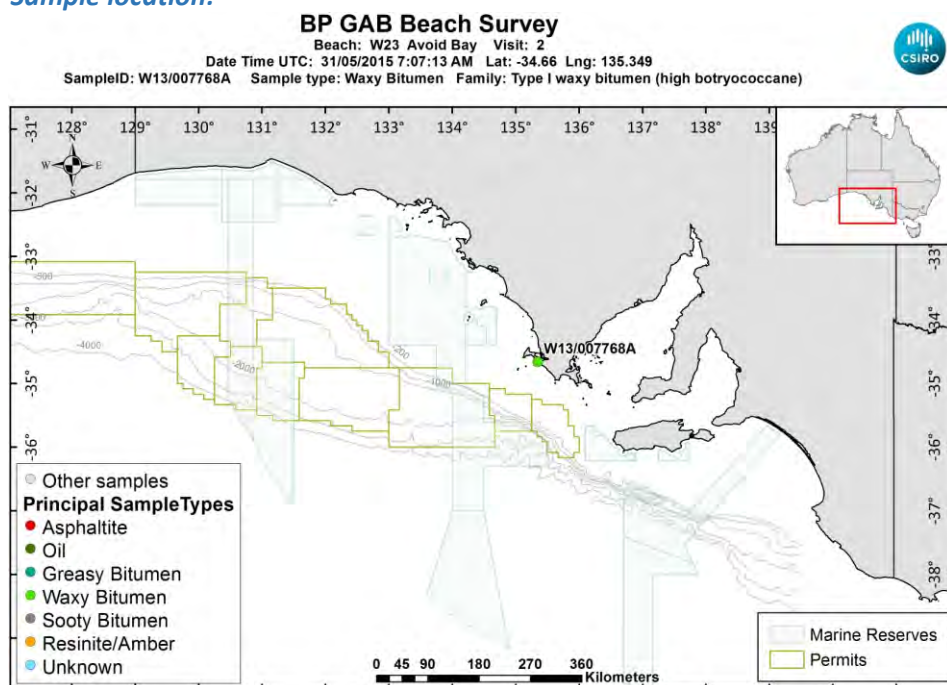
Size (cm): 0

Latitude (Y): -34.660000

Weight (gm): 269.2

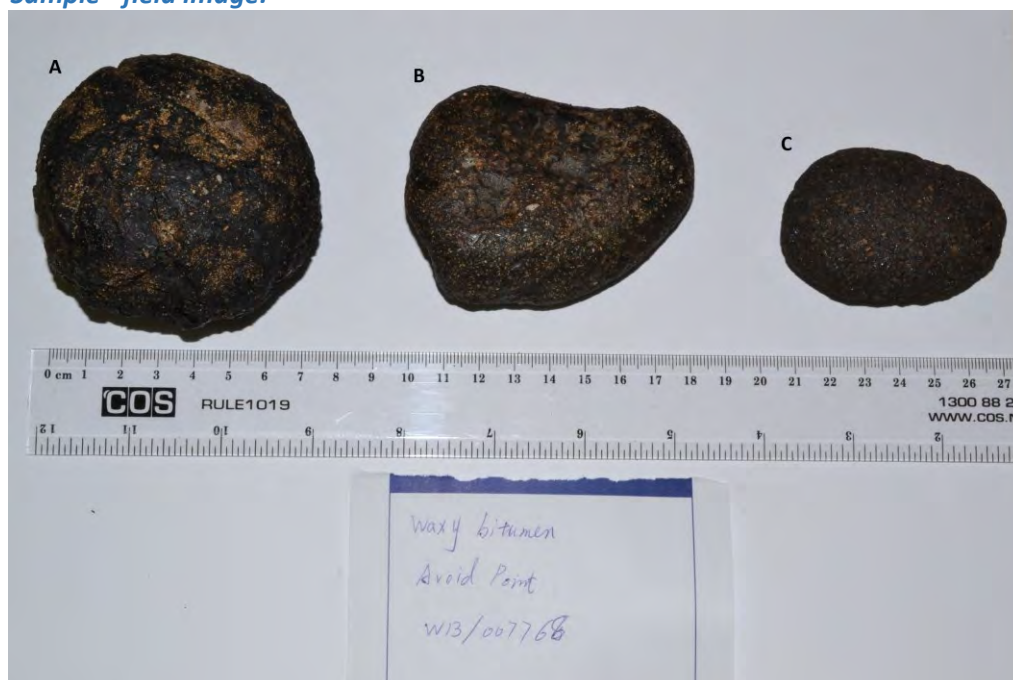
Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007768A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007768_Photo01\(annotated\).jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007768A_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007768A_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

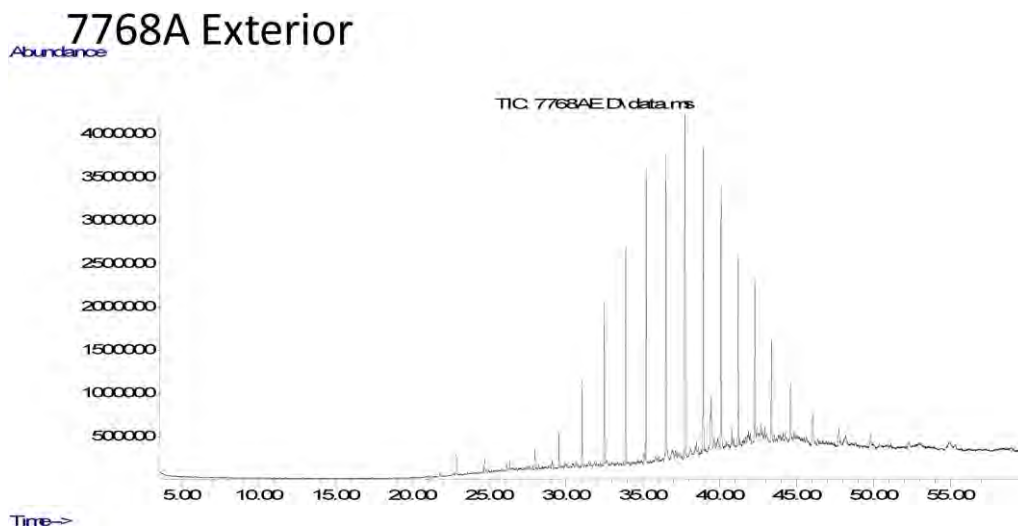
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			81.99	percent	Y
Inorg	Hydrogen			6.00285089463221	percent	Y
Inorg	Nitrogen			0.260236503856041	percent	Y
Inorg	Sulphur			0.717299675015071	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007768A DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB BCH1\GCMS\W13_007768A_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

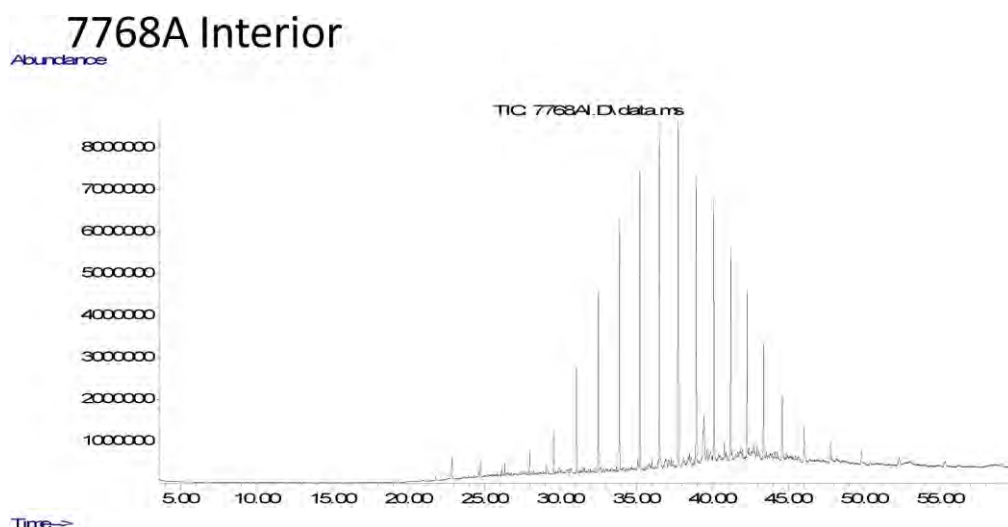
Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Ratio	nC18/Phytane			0.275499937658535	ug/L	Y
Ratio	Pristane/Phytane			1.56364144398219	ug/L	Y
Aliph	Botryococcane	39.4290	5402838		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230	318006		ug/L	Z
Aliph	nC19	26.3410	679635		ug/L	Z
Aliph	nC20	27.9810	1152568		ug/L	Z
Aliph	nC21	29.5510	2228219		ug/L	Z
Aliph	nC22	31.0540	5062187		ug/L	Z
Aliph	nC23	32.4960	9350132		ug/L	Z
Aliph	nC24	33.8800	12952457		ug/L	Z
Aliph	nC25	35.2120	16337279		ug/L	Z
Aliph	nC26	36.4960	18319802		ug/L	Z
Aliph	nC27	37.7300	20957783		ug/L	Z
Aliph	nC28	38.9260	18143527		ug/L	Z
Aliph	nC29	40.0740	15978085		ug/L	Z
Aliph	nC30	41.1930	11358336		ug/L	Z
Aliph	nC31	42.2750	9401426		ug/L	Z
Aliph	nC32	43.3560	6660432		ug/L	Z
Aliph	nC33	44.5840	4561127		ug/L	Z
Aliph	nC34	46.0130	2935653		ug/L	Z
Aliph	nC35	47.7140	1651713		ug/L	Z
Aliph	nC36	49.7870	1345369		ug/L	Z
Aliph	nC37	52.2630	966994		ug/L	Z
Aliph	nC38	55.2360	698774		ug/L	Z
Aliph	nC39	58.9110	560314		ug/L	Z
Aliph	Norpristane	21.8010	428753		ug/L	Z

Results for: GCMS with Full Scan

Aliph	Phytane	24.7190	1154288	ug/L	Z
Aliph	Pristane	22.8660	1804892	ug/L	Z

Results for: GCMS with Full Scan**Unique ID:** W13/007768A DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007768A_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	nC18/Phytane		0.305042788763612		ug/L	Y
Ratio	Pristane/Phytane		1.59628945818126		ug/L	Y
Aliph	Botryococcane	39.4290	10903492		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230	827638		ug/L	Z
Aliph	nC19	26.3410	1578851		ug/L	Z
Aliph	nC20	27.9810	2893924		ug/L	Z
Aliph	nC21	29.5510	5721360		ug/L	Z
Aliph	nC22	31.0540	12716859		ug/L	Z
Aliph	nC23	32.4960	22985519		ug/L	Z
Aliph	nC24	33.8800	31749650		ug/L	Z
Aliph	nC25	35.2120	37969028		ug/L	Z
Aliph	nC26	36.4960	38945361		ug/L	Z
Aliph	nC27	37.7300	42945951		ug/L	Z
Aliph	nC28	38.9260	35741181		ug/L	Z
Aliph	nC29	40.0740	32342338		ug/L	Z
Aliph	nC30	41.1930	24307345		ug/L	Z
Aliph	nC31	42.2750	19930100		ug/L	Z
Aliph	nC32	43.3560	14511066		ug/L	Z
Aliph	nC33	44.5840	10518431		ug/L	Z
Aliph	nC34	46.0130	6764420		ug/L	Z
Aliph	nC35	47.7140	5100846		ug/L	Z
Aliph	nC36	49.7870	3474315		ug/L	Z
Aliph	nC37	52.2630	2271193		ug/L	Z
Aliph	nC38	55.2360	1710432		ug/L	Z
Aliph	nC39	58.9110	1186791		ug/L	Z
Aliph	Norpristane	21.8010	992292		ug/L	Z

Results for: GCMS with Full Scan

Aliph	Phytane	24.7190	2713185	ug/L	Z
Aliph	Pristane	22.8660	4331029	ug/L	Z

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007768B**

Beach W23: Avoid Bav Visit: 2

Comments:

gifted to CSIRO from Stuart Valladares. Part B subsample

Location: Upper Intertidal

Local Date Time: 31/05/2015 4:37:13 PM

Type: Waxy Bitumen

Family: Type IV waxy bitumen (no botryococcane, hig

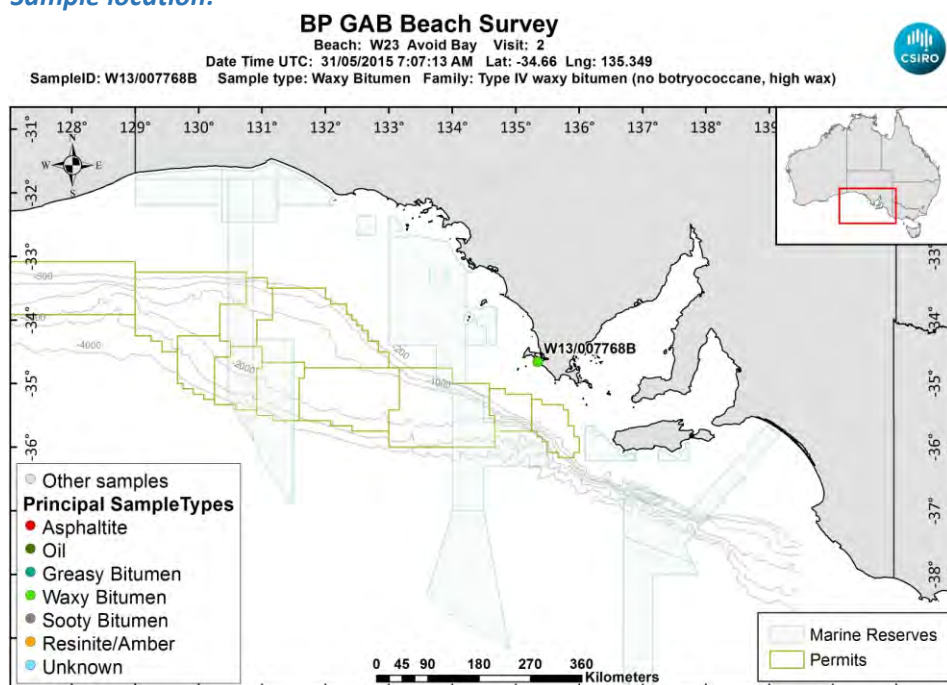
Size (cm):

Latitude (Y): -34.660000

Weight (gm):

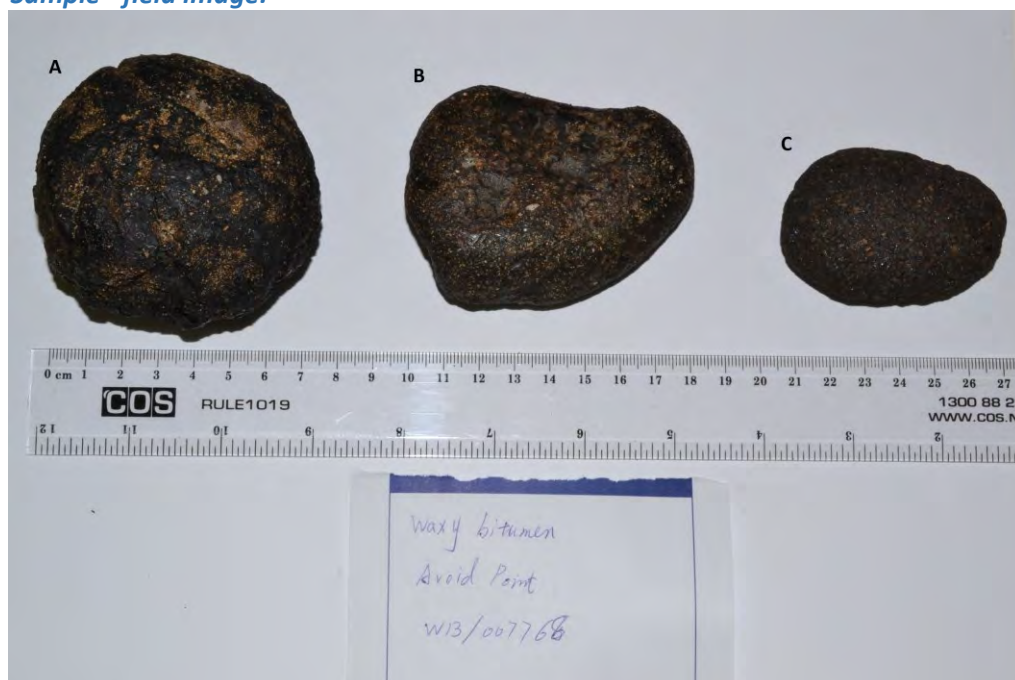
Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007768B_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007768B_Photo01\(annotated\).jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007768B_Photo04.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007768B_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: Volume Units: Extract Volume: Dilution Factor:

Comment:

Data Sheet:

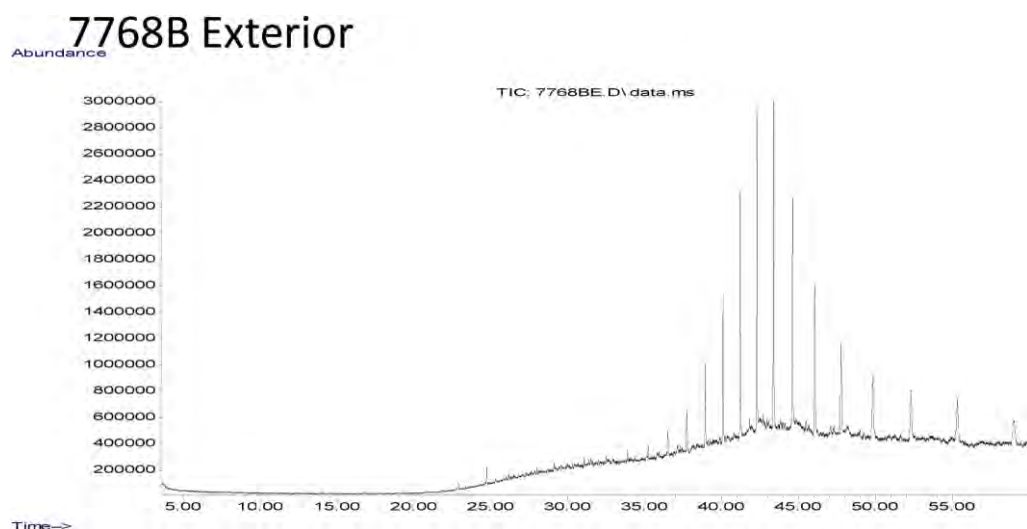
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			88.56	percent	Y
Inorg	Hydrogen			11.4337013916501	percent	Y
Inorg	Nitrogen			0.25344764353042	percent	Y
Inorg	Sulphur			3.08373653849937	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007768B_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007768B_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			0.454872799256856	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810	189402		ug/L	Z
Aliph	nC21	29.5510	278522		ug/L	Z
Aliph	nC22	31.0540	278323		ug/L	Z
Aliph	nC23	32.4960	344635		ug/L	Z
Aliph	nC24	33.8800	392843		ug/L	Z
Aliph	nC25	35.2120	492648		ug/L	Z
Aliph	nC26	36.4960	934562		ug/L	Z
Aliph	nC27	37.7300	1608303		ug/L	Z
Aliph	nC28	38.9260	3238843		ug/L	Z
Aliph	nC29	40.0740	5545053		ug/L	Z
Aliph	nC30	41.1930	9464763		ug/L	Z
Aliph	nC31	42.2750	12810774		ug/L	Z
Aliph	nC32	43.3560	14512746		ug/L	Z
Aliph	nC33	44.5840	11808651		ug/L	Z
Aliph	nC34	46.0130	9257720		ug/L	Z
Aliph	nC35	47.7140	6840885		ug/L	Z
Aliph	nC36	49.7870	5563176		ug/L	Z
Aliph	nC37	52.2630	4854062		ug/L	Z
Aliph	nC38	55.2360	4642008		ug/L	Z
Aliph	nC39	58.9110	3544094		ug/L	Z
Aliph	Norpristane	21.8010	93895		ug/L	Z
Aliph	Phytane	24.7190	937530		ug/L	Z

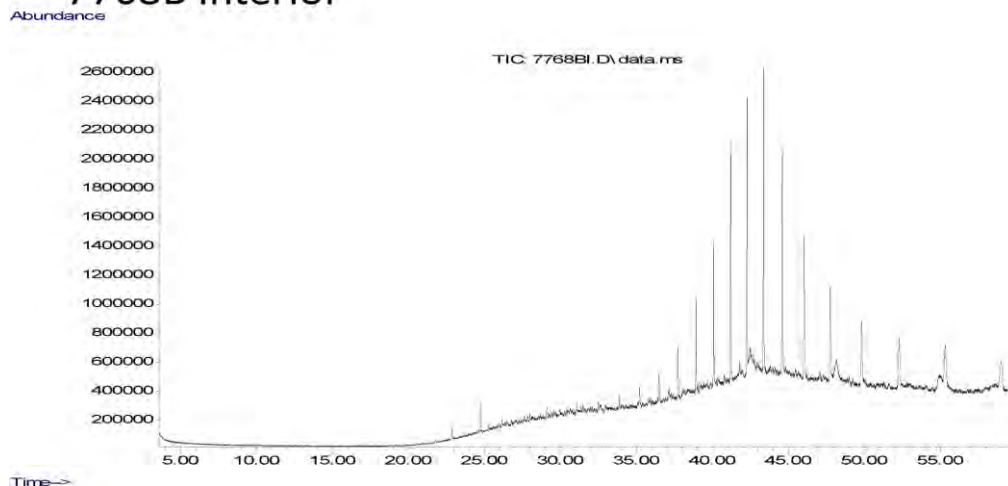
Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	426457	ug/L	Z
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Results for: GCMS with Full Scan**Unique ID:** W13/007768B DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007768B_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7768B Interior



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			0.468742417298637	ug/L	Y
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810	247342		ug/L	Z
Aliph	nC21	29.5510	288812		ug/L	Z
Aliph	nC22	31.0540	367528		ug/L	Z
Aliph	nC23	32.4960	325695		ug/L	Z
Aliph	nC24	33.8800	542172		ug/L	Z
Aliph	nC25	35.2120	524961		ug/L	Z
Aliph	nC26	36.4960	956575		ug/L	Z
Aliph	nC27	37.7300	1773586		ug/L	Z
Aliph	nC28	38.9260	3163516		ug/L	Z
Aliph	nC29	40.0740	5041936		ug/L	Z
Aliph	nC30	41.1930	8403414		ug/L	Z
Aliph	nC31	42.2750	10171652		ug/L	Z
Aliph	nC32	43.3560	11685880		ug/L	Z
Aliph	nC33	44.5840	10874485		ug/L	Z
Aliph	nC34	46.0130	8609397		ug/L	Z
Aliph	nC35	47.7140	6217125		ug/L	Z
Aliph	nC36	49.7870	4944533		ug/L	Z
Aliph	nC37	52.2630	4646806		ug/L	Z
Aliph	nC38	55.2360	3862083		ug/L	Z
Aliph	nC39	58.9110	3617210		ug/L	Z
Aliph	Norpristane	21.8010	191782		ug/L	Z
Aliph	Phytane	24.7190	1316525		ug/L	Z

Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	617111	ug/L	Z
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Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007768C**

Beach W23: Avoid Bav Visit: 2

Comments:

gifted to CSIRO from Stuart Valladares. Part C subsample

Location: Upper Intertidal

Local Date Time: 31/05/2015 4:37:13 PM

Type: Unknown

Family: Polycyclic aromatic hydrocarbons (PAH)

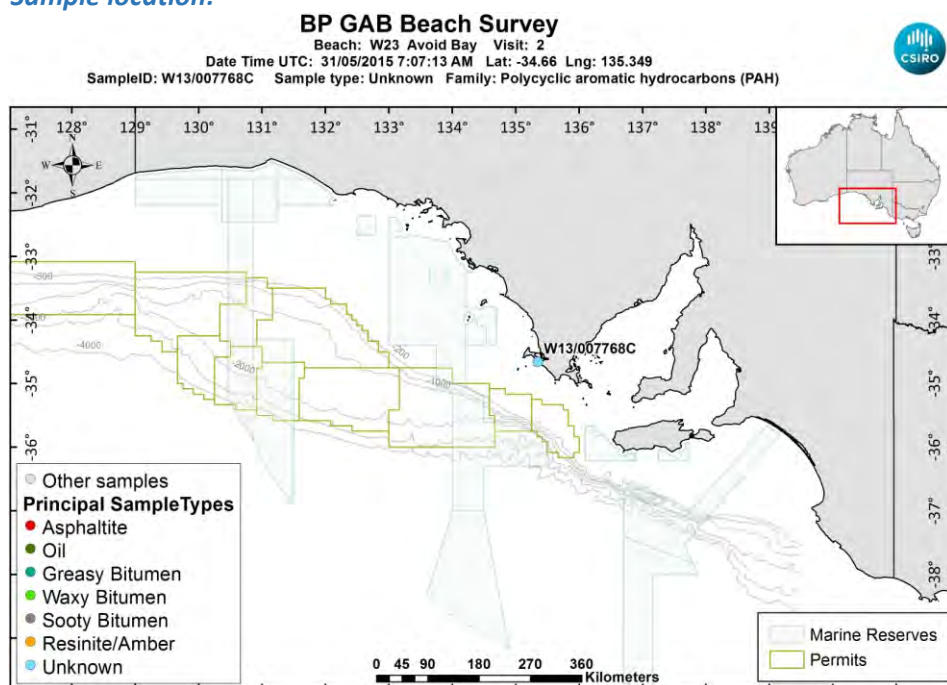
Size (cm):

Latitude (Y): -34.660000

Weight (gm):

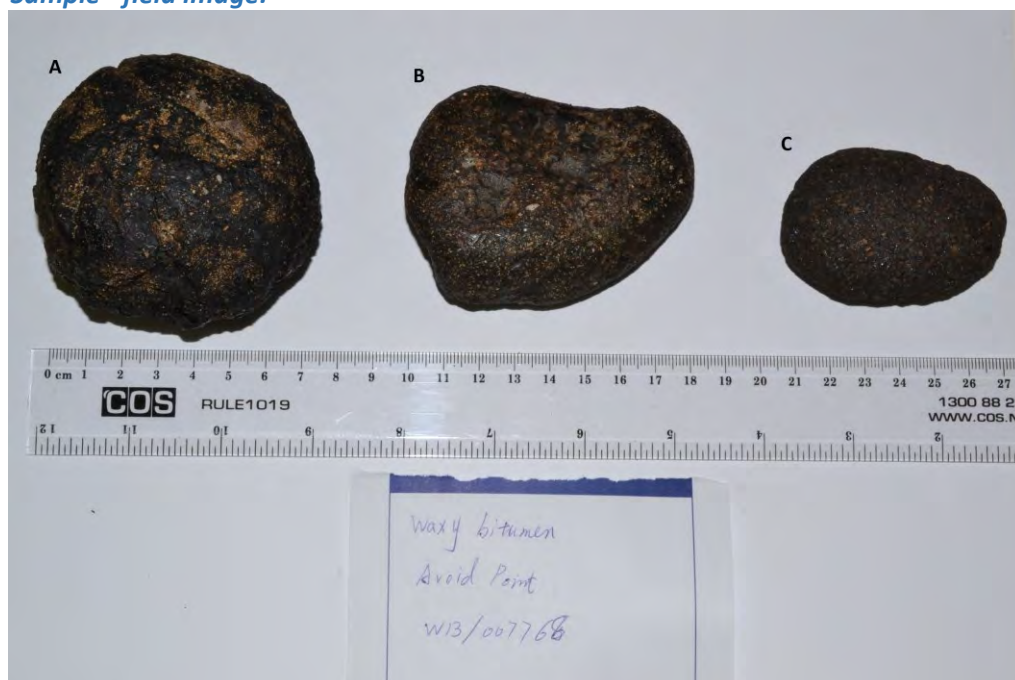
Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007768C_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007768C_Photo01\(annotated\).jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007768C_Photo05.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES

Analyses Completed:

Sample Analyses Completed:

No results to date

Qualifier codes:

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007861**

Beach W23: Avoid Bav Visit: 3

Comments:

Very small piece

Location: Shore Upper

Local Date Time: 12/10/2016 9:21:30 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

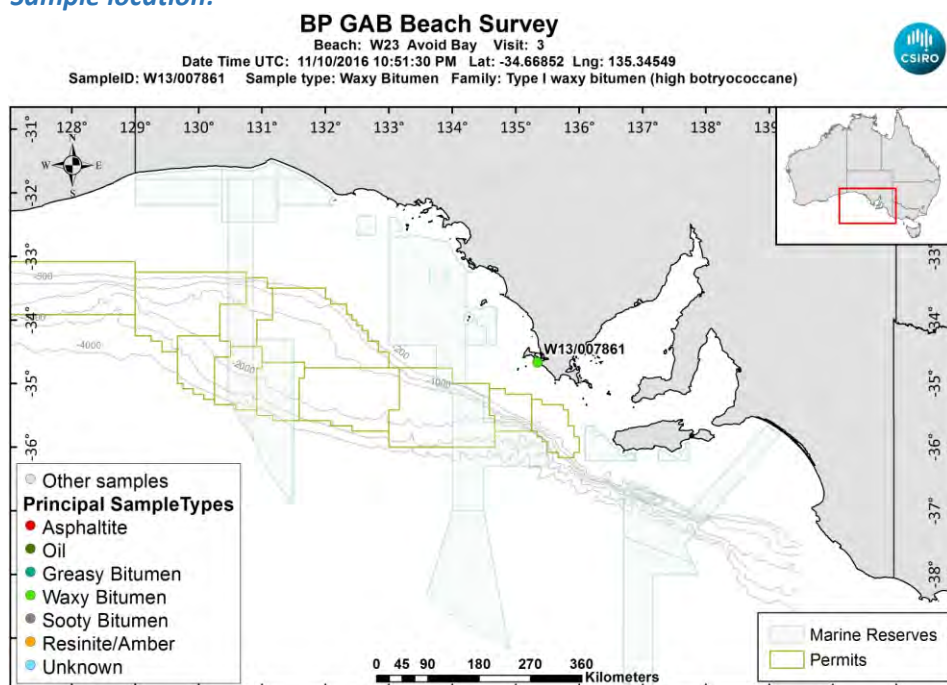
Size (cm): 1.6

Latitude (Y): -34.668518

Weight (gm): 0.313

Longitude (X): 135.345487

Sample location:



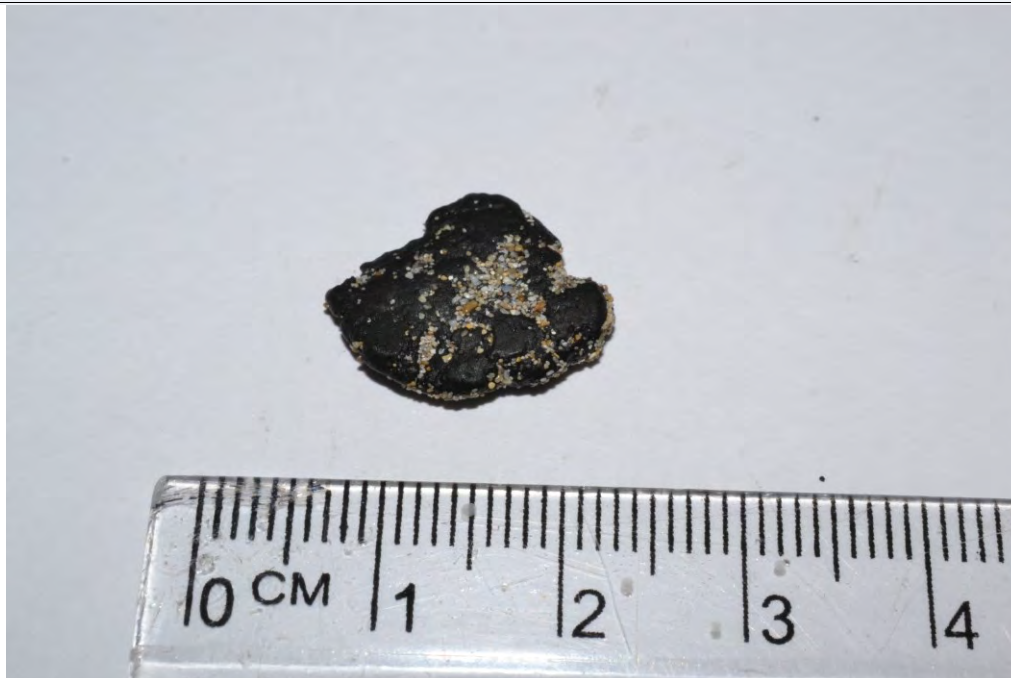
[LinkedFiles\GAB_BCH1\SampleLocations\W13_007861_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007861_146A6671.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007861_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

Analyses Completed:

Analysis:	Instrument/Type:
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: GCMS with Full Scan

Unique ID: W13/007861 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 30/10/2017

Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007861_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

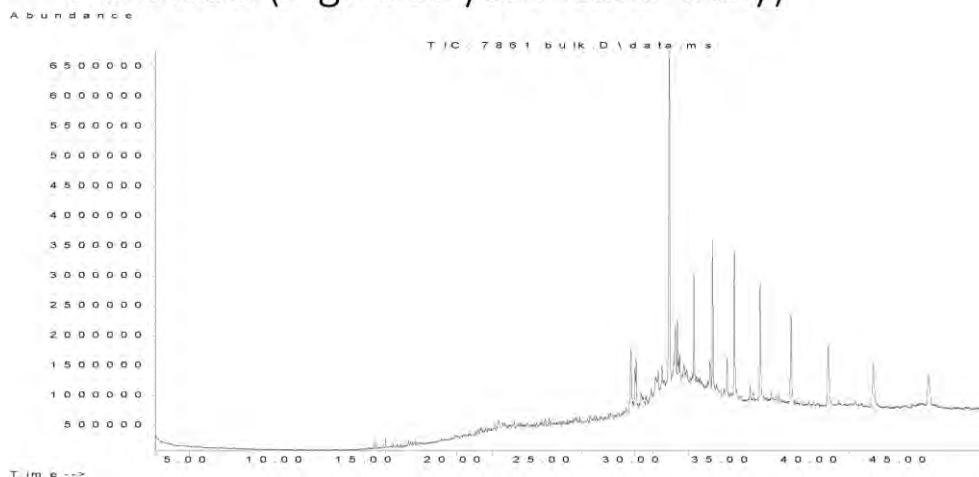
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7861 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	44658625			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100				U
Aliph	nC26	29.6680				U
Aliph	nC27	30.6080				U
Aliph	nC28	31.5080	1703915			Z
Aliph	nC29	32.3700	4468886			Z
Aliph	nC30	33.2910	10389277			Z
Aliph	nC31	34.3470	16058371			Z
Aliph	nC32	35.5720	18798623			Z
Aliph	nC33	37.0130	17606285			Z
Aliph	nC34	38.7280	15340951			Z
Aliph	nC35	40.8080	12837173			Z
Aliph	nC36	43.3510	11250901			Z
Aliph	nC37	46.4710	9442748			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007862**

Beach W23: Avoid Bav Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 12/10/2016 9:24:33 AM

Type: Asphaltite

Family: Unknown

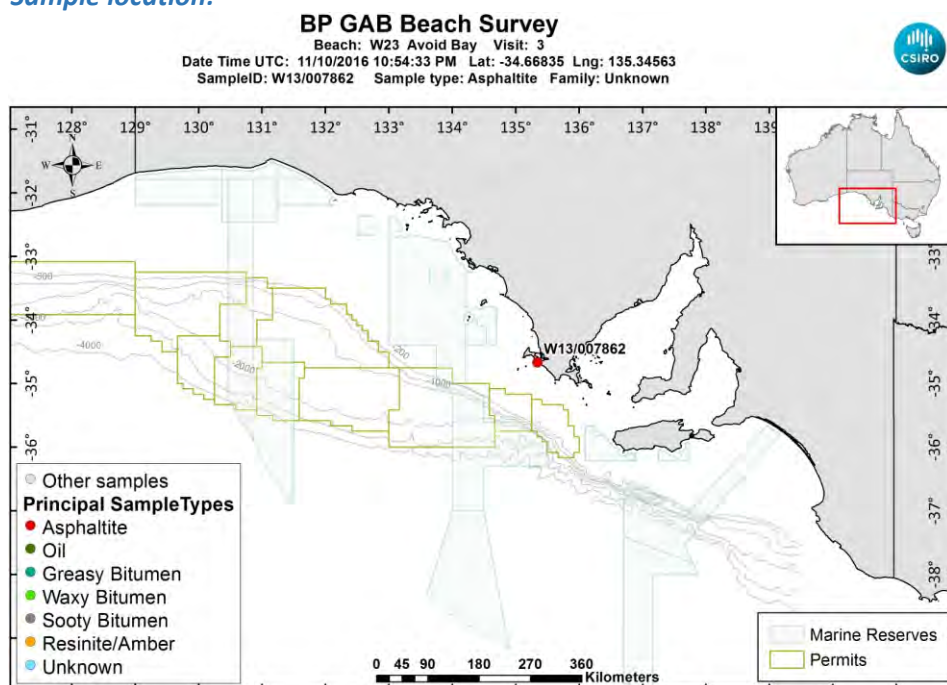
Size (cm): 2

Latitude (Y): -34.668350

Weight (gm): 1.38163

Longitude (X): 135.345635

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007862_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007862_146A6673.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007862_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007862 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Analysis Date: 18/07/2017

Linked Image: [None available](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			21.8829566568033	ratio	Y
BiomRatio	% C27 abb 20(R+S)			29.2361033637177	ratio	Y
BiomRatio	% C28 aaa 20R			26.3053305826327	ratio	Y
BiomRatio	% C28 abb 20(R+S)			19.3081595912001	ratio	Y
BiomRatio	% C29 aaa 20R			51.8117127605641	ratio	Y
BiomRatio	% C29 abb 20(R+S)			51.4557370450822	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			3.46144487595651E-02	ratio	Y
BiomRatio	25-Nor/C30H			8.17243185750413E-02	ratio	Y
BiomRatio	C19t/C23t			2.20748267643478E-02	ratio	Y
BiomRatio	C22t/C21t			6.47329160989354E-02	ratio	Y
BiomRatio	C22t/C24t			1.95704235021958E-02	ratio	Y
BiomRatio	C23t/C30H			0.070299130714367	ratio	Y
BiomRatio	C24t/C23t			0.741022616349858	ratio	Y
BiomRatio	C24Tet/C23t			0.333526488067521	ratio	Y
BiomRatio	C24Tet/C26t			0.274801849499402	ratio	Y
BiomRatio	C24Tet/C30H			2.34466221813625E-02	ratio	Y
BiomRatio	C26t/C25t			1.42001497178162	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.535693106396948	ratio	Y
BiomRatio	C27 Dia/Ster			0.507243633845881	ratio	Y
BiomRatio	C28BNH/C30H			5.94504275867888E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.76000667410895	ratio	Y
BiomRatio	C29H/C30H			0.636424596827431	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.163427832702141	ratio	Y
BiomRatio	C30DiaH/C30H			0.051860105886485	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			0.124554765682693	ratio	Y
BiomRatio	C35HS/C34HS			1.07022377917446	ratio	Y
BiomRatio	Gam/C30H			9.21392336111331E-02	ratio	Y
BiomRatio	Gam/C31HR			0.409558258080405	ratio	Y
BiomRatio	Ole/C30H			0.320877464320687	ratio	Y
BiomRatio	Sterane/hopane			0.214703733160257	ratio	Y
BiomRatio	Steranes/Terpanes			0.187511436066985	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.145016739584661	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007862_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Results for: Elemental Analyser**Data Sheet:**

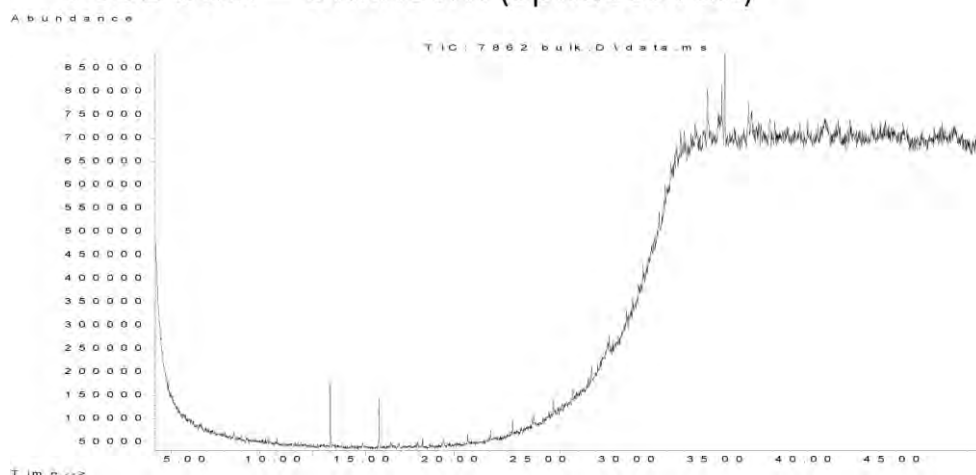
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			86.5675919306435	percent	Y
Inorg	Hydrogen			8.29102504970179	percent	Y
Inorg	Nitrogen			0.48	percent	Y
Inorg	Sulphur			3.06873000419618	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007862_DISS_GCMS-Scan/03**Instrument / Type:** GCMS with Full Scan Run: 3**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007862_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk (splitless)

Results for: GCMS with Full Scan

7862 bulk – Unknown (splitless run)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane					U
Aliph	nC10					U
Aliph	nC11					U
Aliph	nC12					U
Aliph	nC13					U
Aliph	nC14					U
Aliph	nC15					U
Aliph	nC16	17.9470				U
Aliph	nC17	19.3870				U
Aliph	nC18	20.7560				U
Aliph	nC19	22.0580				U
Aliph	nC20	23.3040				U
Aliph	nC21	24.4890				U
Aliph	nC22	25.6290				U
Aliph	nC23	26.7230				U
Aliph	nC24	27.7690				U
Aliph	nC25	28.7780				U
Aliph	nC26	29.7510				U
Aliph	nC27	30.6850				U
Aliph	nC28	31.5900				U
Aliph	nC29	32.4650				U
Aliph	nC30	33.4020				U
Aliph	nC31	34.4700				U
Aliph	nC32	35.7230				U
Aliph	nC33	37.1970				U
Aliph	nC34	38.9660				U
Aliph	nC35	41.0780				U
Aliph	nC36	43.6950				U
Aliph	nC37	46.8640				U
Aliph	nC8					U
Aliph	nC9					U
Aliph	Norpristane	18.6080				U
Aliph	Phytane	20.7570				U
Aliph	Pristane	19.4110				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007863**

Beach W23: Avoid Bav Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 9:31:29 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

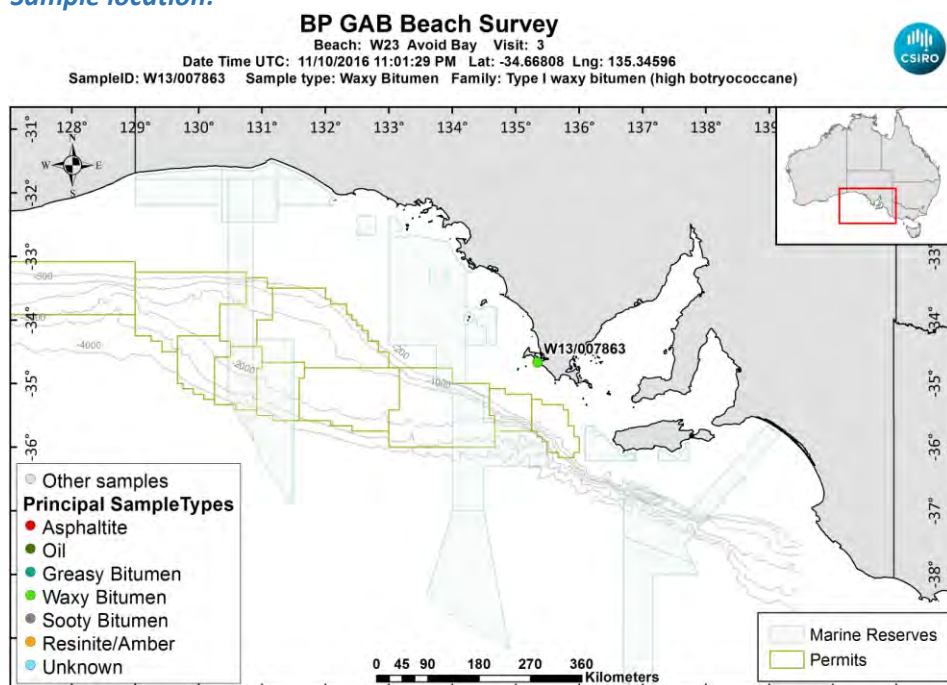
Size (cm): 3.7

Latitude (Y): -34.668085

Weight (gm): 3.9728

Longitude (X): 135.345958

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007863_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007863_146A6675.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007863_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007863_DISS_GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Analysis Date: 18/07/2017

Linked Image: [None available](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			57.4270617107623	ratio	Y
BiomRatio	% C27 abb 20(R+S)			24.8427925494376	ratio	Y
BiomRatio	% C28 aaa 20R			13.9689247847624	ratio	Y
BiomRatio	% C28 abb 20(R+S)			30.5229459605473	ratio	Y
BiomRatio	% C29 aaa 20R			28.6040135044753	ratio	Y
BiomRatio	% C29 abb 20(R+S)			44.6342614900151	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.149304163701436	ratio	Y
BiomRatio	25-Nor/C30H			4.97989007220438E-02	ratio	Y
BiomRatio	C19t/C23t			0.271045004122201	ratio	Y
BiomRatio	C22t/C21t			0.157134281482835	ratio	Y
BiomRatio	C22t/C24t			0.118301286787847	ratio	Y
BiomRatio	C23t/C30H			0.131504337706752	ratio	Y
BiomRatio	C24t/C23t			0.891288182628494	ratio	Y
BiomRatio	C24Tet/C23t			0.38118687335051	ratio	Y
BiomRatio	C24Tet/C26t			0.666908083564386	ratio	Y
BiomRatio	C24Tet/C30H			5.01277273224662E-02	ratio	Y
BiomRatio	C26t/C25t			1.0606360003621	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.309313850132274	ratio	Y
BiomRatio	C27 Dia/Ster			0.281485270572852	ratio	Y
BiomRatio	C28BNH/C30H			2.14014978289929E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.79666844623817	ratio	Y
BiomRatio	C29H/C30H			0.561326069332557	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.316861669296271	ratio	Y
BiomRatio	C30DiaH/C30H			0.192064977895851	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			0.024116748335963	ratio	Y
BiomRatio	C35HS/C34HS			0.322005468365094	ratio	Y
BiomRatio	Gam/C30H			2.65399175147454E-02	ratio	Y
BiomRatio	Gam/C31HR			0.160407478677218	ratio	Y
BiomRatio	Ole/C30H			8.47872240784653E-02	ratio	Y
BiomRatio	Sterane/hopane			4.95510587664825E-02	ratio	Y
BiomRatio	Steranes/Terpanes			4.16404096172248E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.189975296160041	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007863_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Results for: Elemental Analyser**Data Sheet:**

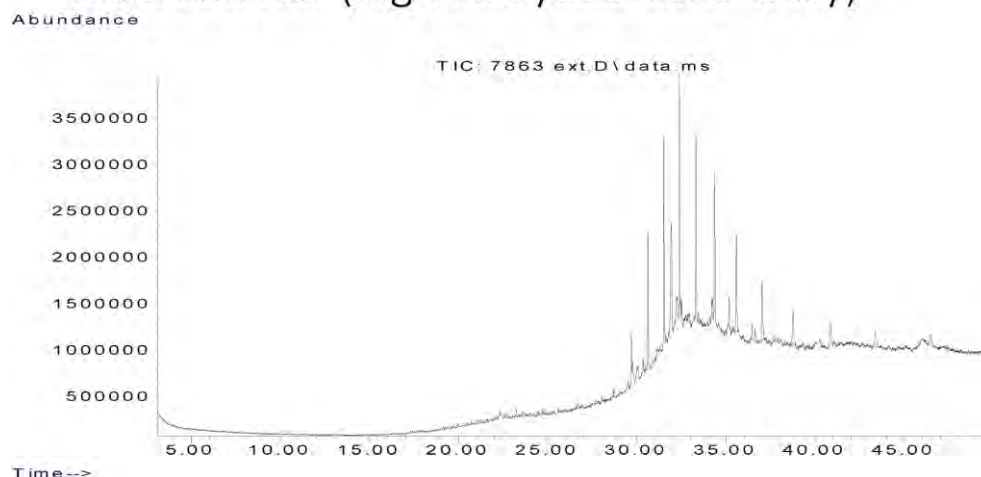
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			86.3	percent	Y
Inorg	Hydrogen			10.0072103379722	percent	Y
Inorg	Nitrogen			0.28	percent	Y
Inorg	Sulphur			2.63218279230051	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007863_DISS_GCMS-Scan/01**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007863_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7863 exterior (high botryococcane waxy)



Data Sheet:

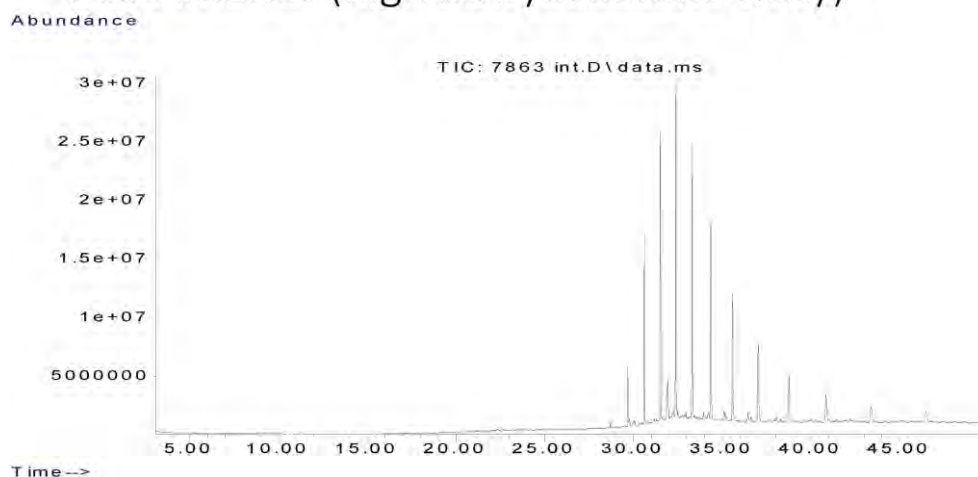
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	11044239			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100	635329			Z
Aliph	nC26	29.6680	2423041			Z
Aliph	nC27	30.6080	8139605			Z
Aliph	nC28	31.5080	11636463			Z
Aliph	nC29	32.3700	13236239			Z
Aliph	nC30	33.2910	11862274			Z
Aliph	nC31	34.3470	11036472			Z
Aliph	nC32	35.5720	8585820			Z
Aliph	nC33	37.0130	6247980			Z
Aliph	nC34	38.7280	3965334			Z
Aliph	nC35	40.8080	3185173			Z
Aliph	nC36	43.3510	2508512			Z
Aliph	nC37	46.4710	1902507			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007863 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007863_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7863 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	27841476			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100	2816113			Z
Aliph	nC26	29.6680	22765722			Z
Aliph	nC27	30.6080	74489289			Z
Aliph	nC28	31.5080	108759451			Z
Aliph	nC29	32.3700	126994805			Z
Aliph	nC30	33.2910	116792243			Z
Aliph	nC31	34.3470	104276339			Z
Aliph	nC32	35.5720	79686260			Z
Aliph	nC33	37.0130	59289180			Z
Aliph	nC34	38.7280	40735745			Z
Aliph	nC35	40.8080	27870761			Z
Aliph	nC36	43.3510	20350116			Z
Aliph	nC37	46.4710	17441819			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007864**

Beach W23: Avoid Bav Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 12/10/2016 9:41:17 AM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

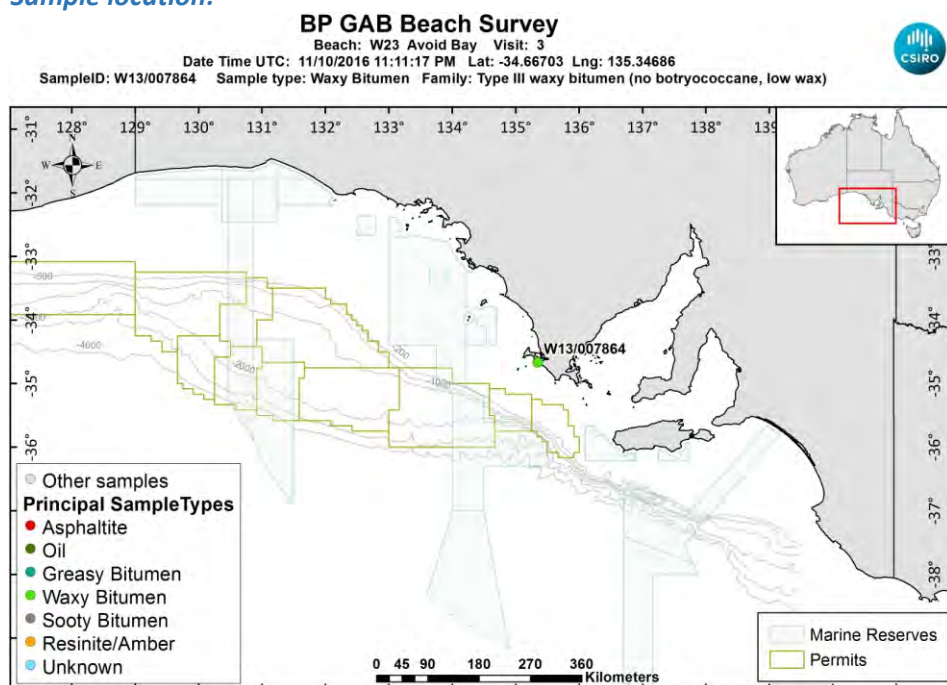
Size (cm): 4.2

Latitude (Y): -34.667028

Weight (gm): 11.044

Longitude (X): 135.346857

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007864_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007864_146A6677.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007864_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007864_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			83.07	percent	Y
Inorg	Hydrogen			10.8057852882704	percent	Y
Inorg	Nitrogen			0.16	percent	Y
Inorg	Sulphur			2.73355390826449	percent	Y

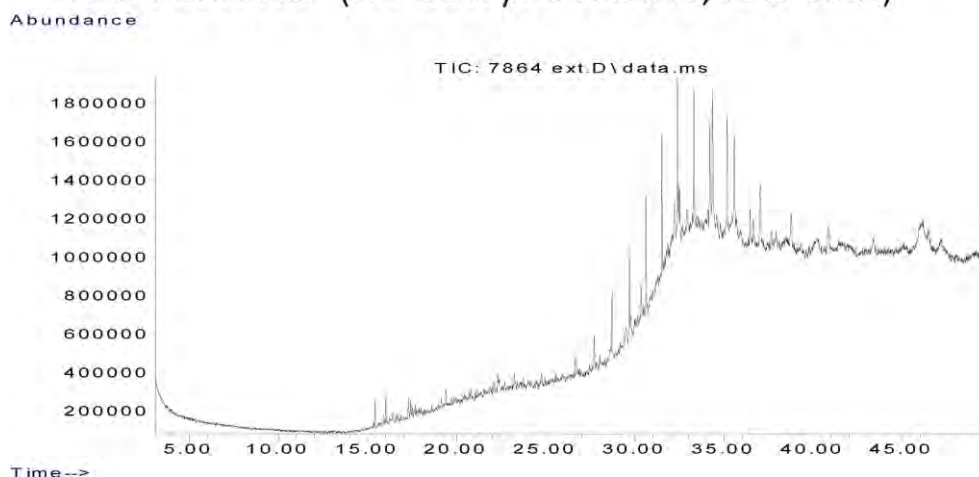
Results for: GCMS with Full Scan

Unique ID: W13/007864_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007864_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7864 exterior (no botryococcane, low wax)



Data Sheet:

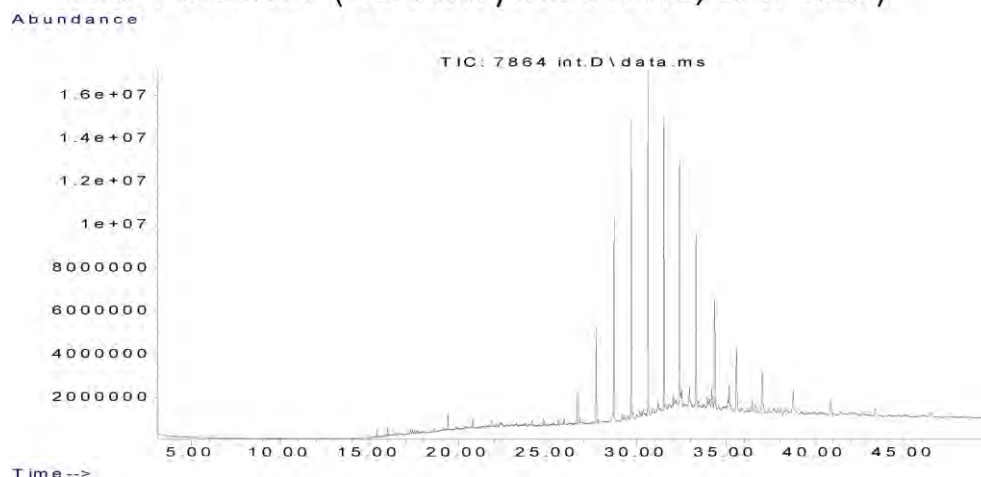
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760	306310			Z
Aliph	nC23	26.6620	508426			Z
Aliph	nC24	27.7060	935315			Z
Aliph	nC25	28.7100	1574299			Z
Aliph	nC26	29.6680	2206002			Z
Aliph	nC27	30.6080	3410537			Z
Aliph	nC28	31.5080	3481300			Z
Aliph	nC29	32.3700	4324391			Z
Aliph	nC30	33.2910	4022907			Z
Aliph	nC31	34.3470	5338567			Z
Aliph	nC32	35.5720	3938424			Z
Aliph	nC33	37.0130	3101741			Z
Aliph	nC34	38.7280	2157866			Z
Aliph	nC35	40.8080	1777765			Z
Aliph	nC36	43.3510	1552955			Z
Aliph	nC37	46.4710	4715579			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870	315204			Z
Aliph	Pristane	19.3870	562940			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007864 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007864_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7864 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760	1413855			Z
Aliph	nC23	26.6620	6644917			Z
Aliph	nC24	27.7060	20511535			Z
Aliph	nC25	28.7100	42803561			Z
Aliph	nC26	29.6680	61282277			Z
Aliph	nC27	30.6080	72386195			Z
Aliph	nC28	31.5080	62071549			Z
Aliph	nC29	32.3700	57975980			Z
Aliph	nC30	33.2910	41044457			Z
Aliph	nC31	34.3470	34447822			Z
Aliph	nC32	35.5720	23832553			Z
Aliph	nC33	37.0130	17063607			Z
Aliph	nC34	38.7280	10720558			Z
Aliph	nC35	40.8080	7065167			Z
Aliph	nC36	43.3510	4642470			Z
Aliph	nC37	46.4710	3024078			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	916201			Z
Aliph	Phytane	20.7870	2944937			Z
Aliph	Pristane	19.3870	4657571			Z

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007865**

Beach W23: Avoid Bav Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 9:44:48 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

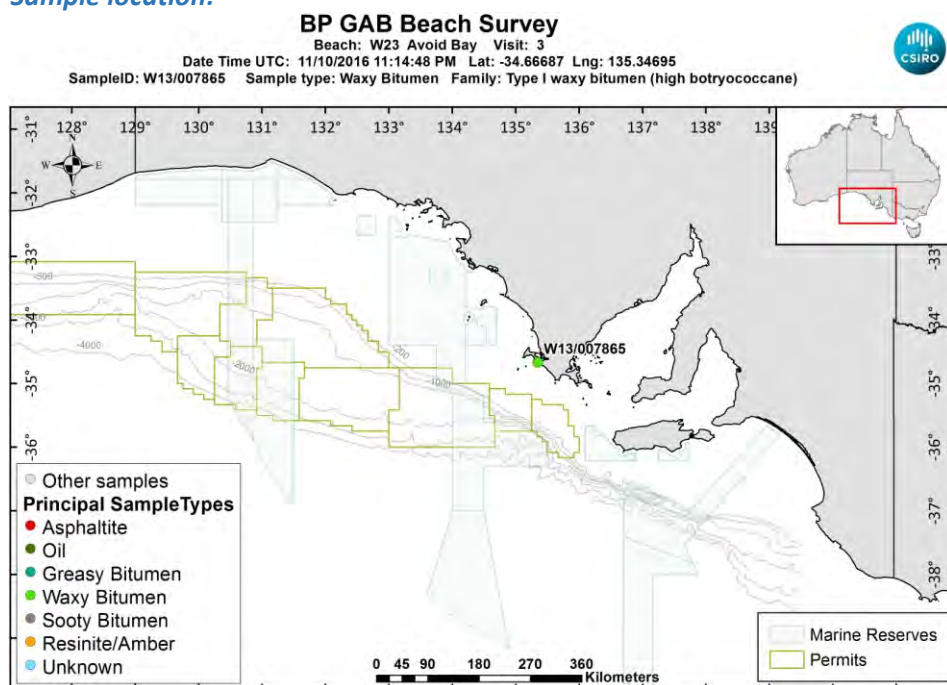
Size (cm): 1.7

Latitude (Y): -34.666868

Weight (gm): 0.91299

Longitude (X): 135.346952

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007865_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007865_146A6679.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007865_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007865 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			30.7064194825651	ratio	Y
BiomRatio	% C27 abb 20(R+S)			16.0085067045381	ratio	Y
BiomRatio	% C28 aaa 20R			6.84607161767497	ratio	Y
BiomRatio	% C28 abb 20(R+S)			26.5670465785182	ratio	Y
BiomRatio	% C29 aaa 20R			62.4475088997599	ratio	Y
BiomRatio	% C29 abb 20(R+S)			57.4244467169437	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.103068512929421	ratio	Y
BiomRatio	25-Nor/C30H			4.41335801034813E-02	ratio	Y
BiomRatio	C19t/C23t			0.671765121818412	ratio	Y
BiomRatio	C22t/C21t			0.127801313758408	ratio	Y
BiomRatio	C22t/C24t			9.05093005881878E-02	ratio	Y
BiomRatio	C23t/C30H			3.48993330901657E-02	ratio	Y
BiomRatio	C24t/C23t			2.58725996960024	ratio	Y
BiomRatio	C24Tet/C23t			1.62710998366464	ratio	Y
BiomRatio	C24Tet/C26t			2.53401066638802	ratio	Y
BiomRatio	C24Tet/C30H			5.67850532942464E-02	ratio	Y
BiomRatio	C26t/C25t			0.57364875457639	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.435687746767168	ratio	Y
BiomRatio	C27 Dia/Ster			0.358705140891923	ratio	Y
BiomRatio	C28BNH/C30H			1.59698111848119E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			3.58712075878164	ratio	Y
BiomRatio	C29H/C30H			0.611370880221913	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.30653331115872	ratio	Y
BiomRatio	C30DiaH/C30H			0.186657570394787	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			1.75930178970807E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.354661042276853	ratio	Y
BiomRatio	Gam/C30H			3.88636865118499E-02	ratio	Y
BiomRatio	Gam/C31HR			0.233123793244655	ratio	Y
BiomRatio	Ole/C30H			9.18981938046283E-02	ratio	Y
BiomRatio	Sterane/hopane			4.12616939222389E-02	ratio	Y
BiomRatio	Steranes/Terpanes			3.69663060104922E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.116197380136593	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007865_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Results for: Elemental Analyser**Data Sheet:**

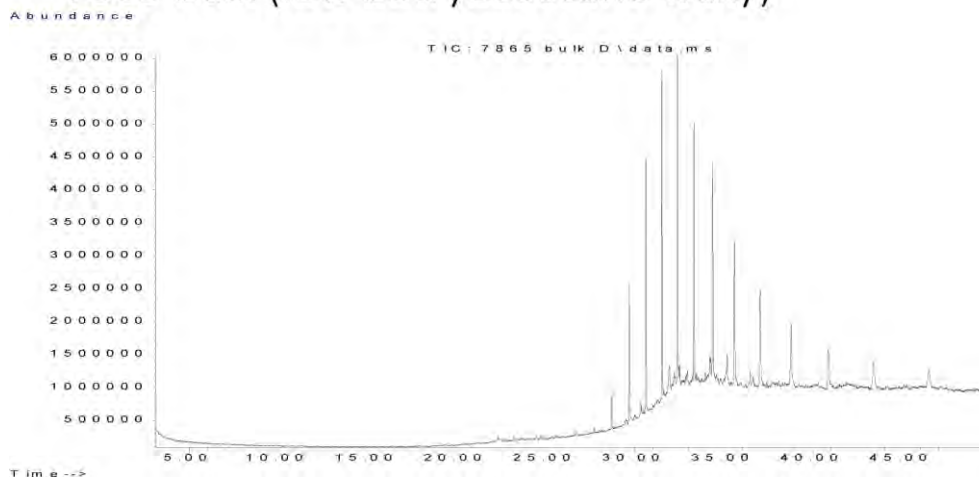
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			86.54	percent	Y
Inorg	Hydrogen			10.9689662027833	percent	Y
Inorg	Nitrogen			0.19	percent	Y
Inorg	Sulphur			2.75284468959355	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007865_DISS_GCMS-Scan/03**Instrument / Type:** GCMS with Full Scan Run: 3**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007865_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7865 bulk (low botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	3690533			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060	493657			Z
Aliph	nC25	28.7100	2743649			Z
Aliph	nC26	29.6680	10006837			Z
Aliph	nC27	30.6080	19845875			Z
Aliph	nC28	31.5080	23767049			Z
Aliph	nC29	32.3700	26021661			Z
Aliph	nC30	33.2910	22377944			Z
Aliph	nC31	34.3470	2142480			Z
Aliph	nC32	35.5720	16977532			Z
Aliph	nC33	37.0130	13347710			Z
Aliph	nC34	38.7280	10049871			Z
Aliph	nC35	40.8080	7561553			Z
Aliph	nC36	43.3510	5446648			Z
Aliph	nC37	46.4710	5214774			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007866**

Beach W23: Avoid Bav Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 9:48:00 AM

Type: Asphaltite

Family: Unknown

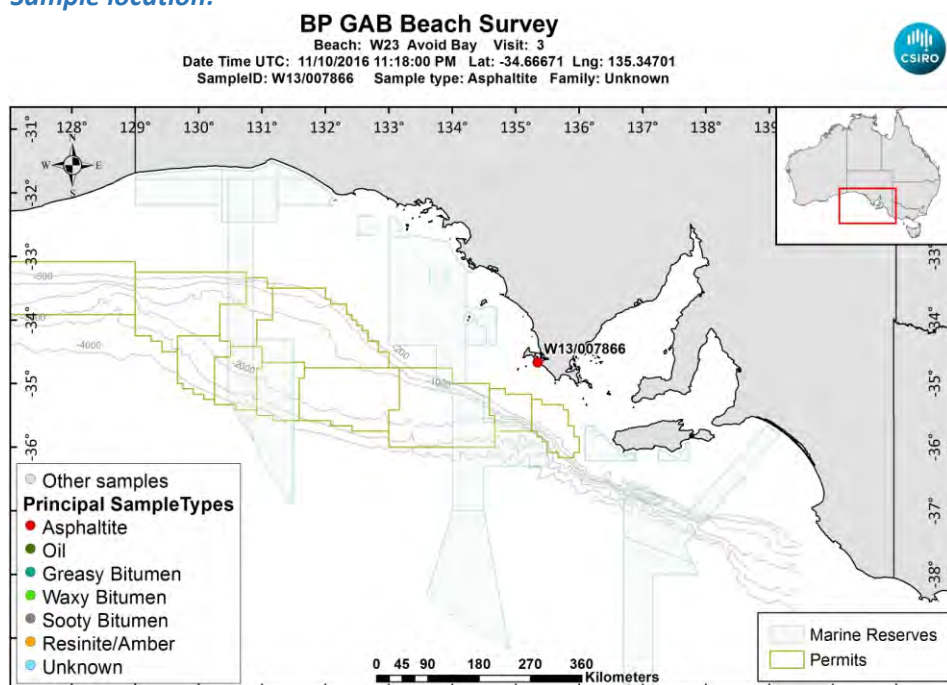
Size (cm): 1.3

Latitude (Y): -34.666713

Weight (gm): 0.56475

Longitude (X): 135.347012

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007866_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007866_146A6681.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007866_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007866 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			30.4337666609264	ratio	Y
BiomRatio	% C27 abb 20(R+S)			24.563274747806	ratio	Y
BiomRatio	% C28 aaa 20R			28.2191184730433	ratio	Y
BiomRatio	% C28 abb 20(R+S)			28.7375530267659	ratio	Y
BiomRatio	% C29 aaa 20R			41.3471148660303	ratio	Y
BiomRatio	% C29 abb 20(R+S)			46.6991722254281	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			6.65521564441569E-03	ratio	Y
BiomRatio	25-Nor/C30H			1.40954430297608E-02	ratio	Y
BiomRatio	C19t/C23t			0.141482671406111	ratio	Y
BiomRatio	C22t/C21t			8.47843835477428E-02	ratio	Y
BiomRatio	C22t/C24t			8.15657282828641E-02	ratio	Y
BiomRatio	C23t/C30H			1.08075754979776E-02	ratio	Y
BiomRatio	C24t/C23t			0.6418529405063	ratio	Y
BiomRatio	C24Tet/C23t			0.8007980723221	ratio	Y
BiomRatio	C24Tet/C26t			0.944376706738278	ratio	Y
BiomRatio	C24Tet/C30H			8.65468562525599E-03	ratio	Y
BiomRatio	C26t/C25t			1.46481111559391	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			5.11116369152383E-02	ratio	Y
BiomRatio	C27 Dia/Ster			4.56369553696819E-02	ratio	Y
BiomRatio	C28BNH/C30H			3.98838247814404E-03	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.90117859710865	ratio	Y
BiomRatio	C29H/C30H			0.4678364920482	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.108391327576803	ratio	Y
BiomRatio	C30DiaH/C30H			2.83132152943434E-02	ratio	Y
BiomRatio	C30Ts/C30H			1.08419902147694E-02	ratio	Y
BiomRatio	C35 Homohopane Index			8.80433431030632E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.693403118431074	ratio	Y
BiomRatio	Gam/C30H			0.27907669562818	ratio	Y
BiomRatio	Gam/C31HR			1.14079564021726	ratio	Y
BiomRatio	Ole/C30H			4.95996411019087E-02	ratio	Y
BiomRatio	Sterane/hopane			0.345323726960844	ratio	Y
BiomRatio	Steranes/Terpanes			0.336814124679541	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			2.52649804677863E-02	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007866_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Results for: Elemental Analyser**Data Sheet:**

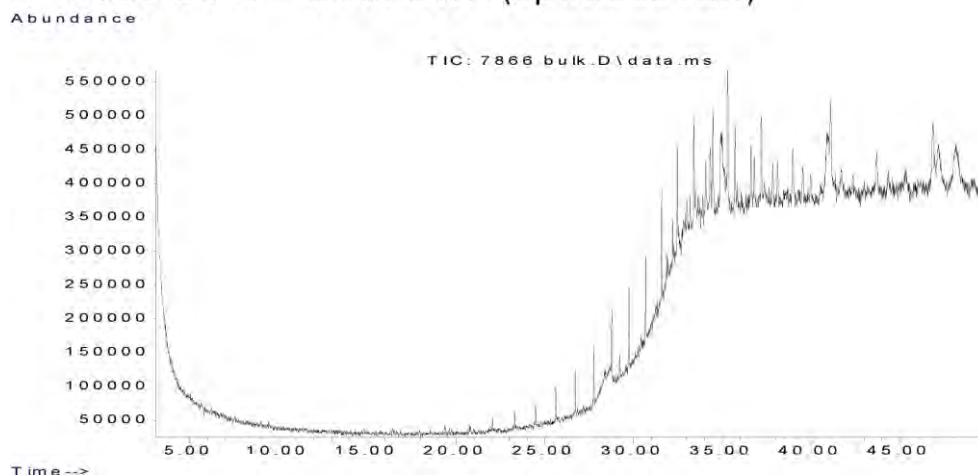
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			86.62	percent	Y
Inorg	Hydrogen			9.16512922465209	percent	Y
Inorg	Nitrogen			0.93	percent	Y
Inorg	Sulphur			3.21649912376209	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007866_DISS_GCMS-Scan/03**Instrument / Type:** GCMS with Full Scan Run: 3**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007866_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk (splitless)

Results for: GCMS with Full Scan

7866 bulk – Unknown (splitless run)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane					U
Aliph	nC10					U
Aliph	nC11					U
Aliph	nC12					U
Aliph	nC13					U
Aliph	nC14					U
Aliph	nC15					U
Aliph	nC16	17.9470	99180			Z
Aliph	nC17	19.3870	45177			Z
Aliph	nC18	20.7560	61704			Z
Aliph	nC19	22.0580	98131			Z
Aliph	nC20	23.3040	139881			Z
Aliph	nC21	24.4890	202843			Z
Aliph	nC22	25.6290	208013			Z
Aliph	nC23	26.7230	285364			Z
Aliph	nC24	27.7690	319800			Z
Aliph	nC25	28.7780	489632			Z
Aliph	nC26	29.7510	483648			Z
Aliph	nC27	30.6850	548336			Z
Aliph	nC28	31.5900	618817			Z
Aliph	nC29	32.4650	677383			Z
Aliph	nC30	33.4020	746327			Z
Aliph	nC31	34.4700	760553			Z
Aliph	nC32	35.7230	771832			Z
Aliph	nC33	37.1970	713563			Z
Aliph	nC34	38.9660	793645			Z
Aliph	nC35	41.0780	1841916			Z
Aliph	nC36	43.6950	822426			Z
Aliph	nC37	46.8640	1363956			Z
Aliph	nC8					U
Aliph	nC9					U
Aliph	Norpristane	18.6080	46547			Z
Aliph	Phytane	20.7570	48699			Z
Aliph	Pristane	19.4110	31274			Z

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007867**

Beach W23: Avoid Bav Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 12/10/2016 9:53:11 AM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

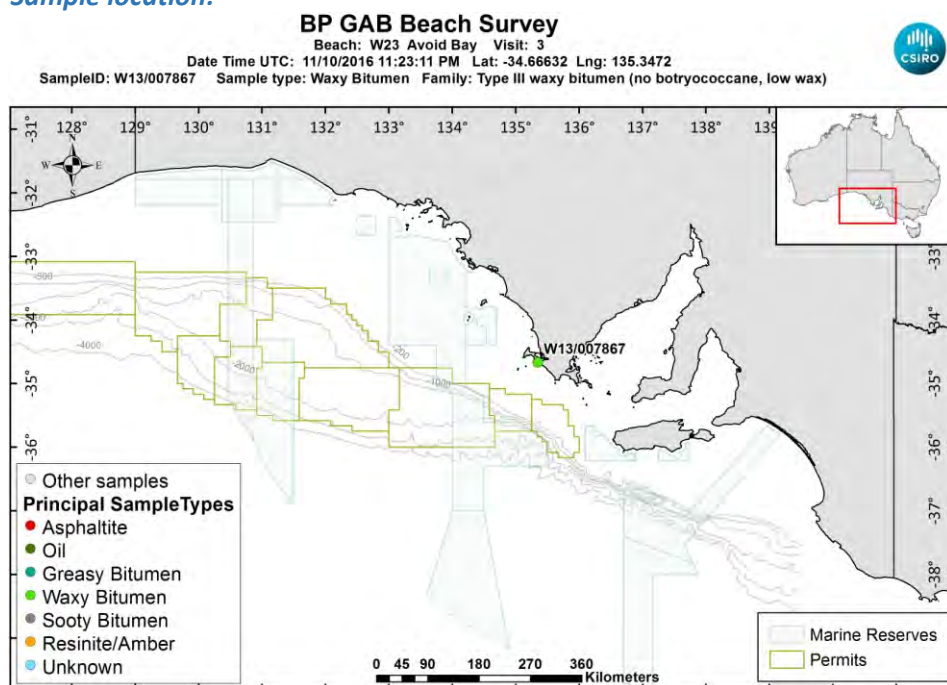
Size (cm): 2

Latitude (Y): -34.666323

Weight (gm): 0.70962

Longitude (X): 135.347197

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007867_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007867_146A6684.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007867_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007867_DISS_GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			24.723868232906	ratio	Y
BiomRatio	% C27 abb 20(R+S)			25.2915742465915	ratio	Y
BiomRatio	% C28 aaa 20R			22.1509918354553	ratio	Y
BiomRatio	% C28 abb 20(R+S)			28.136633839056	ratio	Y
BiomRatio	% C29 aaa 20R			53.1251399316387	ratio	Y
BiomRatio	% C29 abb 20(R+S)			46.5717919143525	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.284321106103985	ratio	Y
BiomRatio	25-Nor/C30H			0.169562924788571	ratio	Y
BiomRatio	C19t/C23t			8.72341468413994E-02	ratio	Y
BiomRatio	C22t/C21t			3.95842892442338E-02	ratio	Y
BiomRatio	C22t/C24t			2.97380734275544E-02	ratio	Y
BiomRatio	C23t/C30H			0.757018982597305	ratio	Y
BiomRatio	C24t/C23t			0.893713423227413	ratio	Y
BiomRatio	C24Tet/C23t			0.04948900372639	ratio	Y
BiomRatio	C24Tet/C26t			9.14361285310449E-02	ratio	Y
BiomRatio	C24Tet/C30H			0.037464115250706	ratio	Y
BiomRatio	C26t/C25t			0.916179416094732	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.586166213552392	ratio	Y
BiomRatio	C27 Dia/Ster			0.618404471623283	ratio	Y
BiomRatio	C28BNH/C30H			0.123340807102693	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.84139553593145	ratio	Y
BiomRatio	C29H/C30H			0.742268420607977	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.208868487935489	ratio	Y
BiomRatio	C30DiaH/C30H			0.158335557882409	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			4.36199751709763E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.344138726765878	ratio	Y
BiomRatio	Gam/C30H			7.42969747716969E-02	ratio	Y
BiomRatio	Gam/C31HR			0.477690762220789	ratio	Y
BiomRatio	Ole/C30H			0.114665142371396	ratio	Y
BiomRatio	Sterane/hopane			6.25276733803166E-02	ratio	Y
BiomRatio	Steranes/Terpanes			3.25095273909373E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.923364576433291	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007867_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Results for: Elemental Analyser**Data Sheet:**

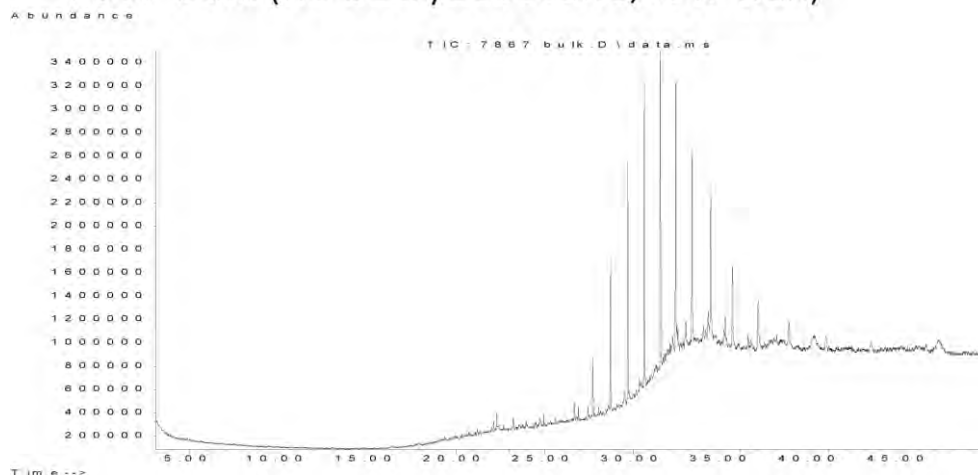
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			84.25	percent	Y
Inorg	Hydrogen			9.87728389662028	percent	Y
Inorg	Nitrogen			0.06	percent	Y
Inorg	Sulphur			2.42412173247105	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007867_DISS_GCMS-Scan/03**Instrument / Type:** GCMS with Full Scan Run: 3**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007867_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7867 bulk (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410	238114			Z
Aliph	nC22	25.5760	288847			Z
Aliph	nC23	26.6620	731241			Z
Aliph	nC24	27.7060	2653045			Z
Aliph	nC25	28.7100	6077730			Z
Aliph	nC26	29.6680	10240497			Z
Aliph	nC27	30.6080	13570273			Z
Aliph	nC28	31.5080	12858349			Z
Aliph	nC29	32.3700	12422487			Z
Aliph	nC30	33.2910	9306147			Z
Aliph	nC31	34.3470	8734314			Z
Aliph	nC32	35.5720	5276383			Z
Aliph	nC33	37.0130	3475992			Z
Aliph	nC34	38.7280	2339429			Z
Aliph	nC35	40.8080	1723957			Z
Aliph	nC36	43.3510	903715			Z
Aliph	nC37	46.4710	770334			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007894**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:01:42 PM

Type: Unknown

Family: Polycyclic aromatic hydrocarbons (PAH)

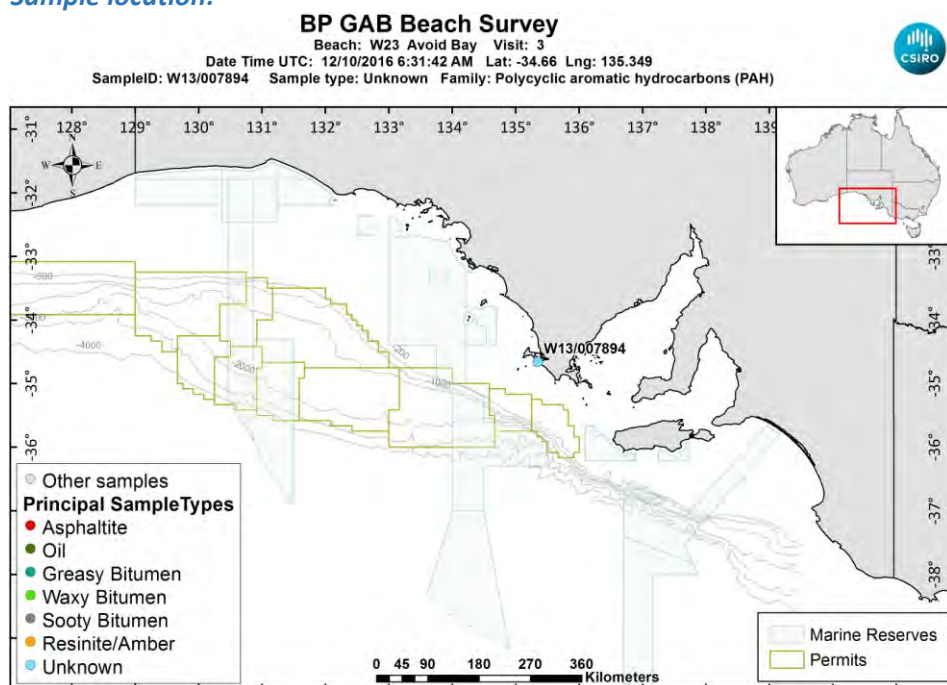
Size (cm): 8

Latitude (Y): -34.660000

Weight (gm): 100.8504

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007894_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007894_Photo02.JPG](#)

Sample ID : W13/007894

Beach W23: Avoid Bay Visit: 3

Analyses Requested

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

Analysis: Instrument/Type:
Whole Oils GCMS with Full Scan Run: 3

Sample Analyses Completed:

Results for: GCMS with Full Scan

Unique ID: W13/007894_DISS_GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Preparation: Dissolved in solvent

Analysis Date: 30/10/2017

Method ID/s:

Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007894_bulk_WholeOil.jpg](#)

Sample Volume:

Volume Units:

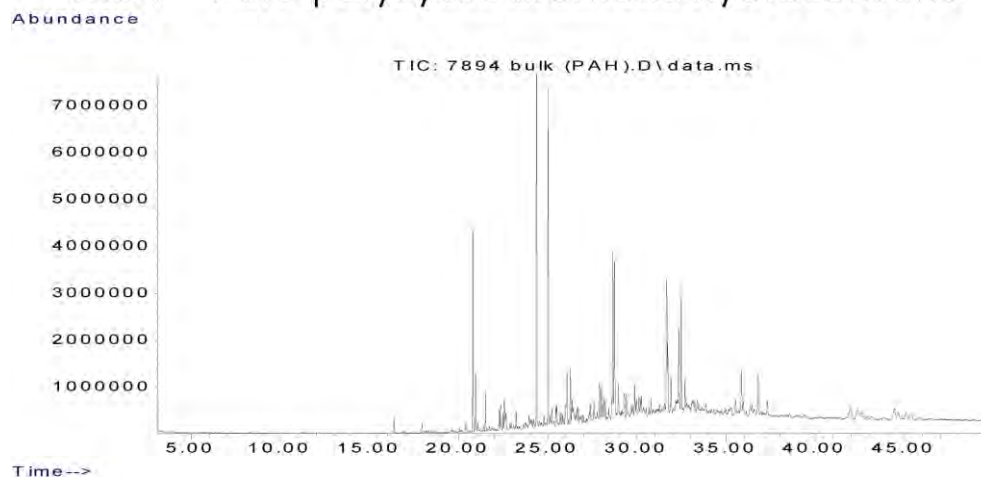
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7894 – Pure polycyclic aromatic hydrocarbons



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100				U
Aliph	nC26	29.6680				U
Aliph	nC27	30.6080				U
Aliph	nC28	31.5080				U
Aliph	nC29	32.3700				U
Aliph	nC30	33.2910				U
Aliph	nC31	34.3470				U
Aliph	nC32	35.5720				U
Aliph	nC33	37.0130				U
Aliph	nC34	38.7280				U
Aliph	nC35	40.8080				U
Aliph	nC36	43.3510				U
Aliph	nC37	46.4710				U
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007895**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:02:23 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

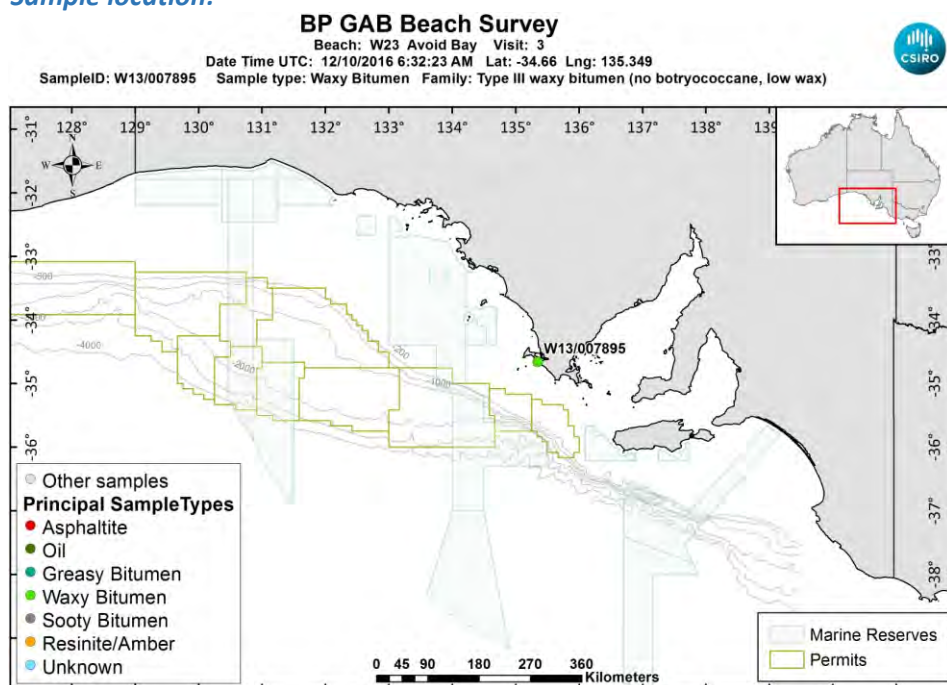
Size (cm): 8

Latitude (Y): -34.660000

Weight (gm): 120.2403

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007895_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007895_Photo02.JPG](#)

Sample ID : W13/007895**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 2
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:**Results for: Gas Chromatography Mass Spectrometry****Unique ID:** W13/007895_DISS_GC-MS/01**Instrument / Type:** Gas Chromatography Mass Spectrometry Run: 1**for Analysis:** Biomarkers**Analysis Date:** 18/07/2017**Linked Image:** [None available](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			30.8912691996766	ratio	Y
BiomRatio	% C27 abb 20(R+S)			34.4249761070405	ratio	Y
BiomRatio	% C28 aaa 20R			15.6325788197251	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.1188276521185	ratio	Y
BiomRatio	% C29 aaa 20R			53.4761519805982	ratio	Y
BiomRatio	% C29 abb 20(R+S)			40.456196240841	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.127342328101101	ratio	Y
BiomRatio	25-Nor/C30H			5.62174795390103E-02	ratio	Y
BiomRatio	C19t/C23t			0.698266202147383	ratio	Y
BiomRatio	C22t/C21t			0.196133437717467	ratio	Y
BiomRatio	C22t/C24t			0.256607960850144	ratio	Y
BiomRatio	C23t/C30H			0.107510960168835	ratio	Y
BiomRatio	C24t/C23t			0.716072774687774	ratio	Y
BiomRatio	C24Tet/C23t			0.651335492940529	ratio	Y
BiomRatio	C24Tet/C26t			0.819888440084632	ratio	Y
BiomRatio	C24Tet/C30H			0.070025704238078	ratio	Y
BiomRatio	C26t/C25t			1.68992567230806	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.594351982143724	ratio	Y
BiomRatio	C27 Dia/Ster			0.76349628817014	ratio	Y
BiomRatio	C28BNH/C30H			5.64934688017138E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.17519896353877	ratio	Y
BiomRatio	C29H/C30H			0.534872667096713	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.349168972116056	ratio	Y
BiomRatio	C30DiaH/C30H			0.319607613360947	ratio	Y
BiomRatio	C30Ts/C30H			1.47632351636605E-03	ratio	Y
BiomRatio	C35 Homohopane Index			3.64415727343964E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.455671027745823	ratio	Y
BiomRatio	Gam/C30H			0.119736627389306	ratio	Y
BiomRatio	Gam/C31HR			0.739143956244549	ratio	Y
BiomRatio	Ole/C30H			0.216627476921493	ratio	Y
BiomRatio	Sterane/hopane			4.74151293233986E-02	ratio	Y
BiomRatio	Steranes/Terpanes			3.94735582329078E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.201187109700948	ratio	Y

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007895 DISS GC-MS/02

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 2

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal duplicate Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			32.8352365415987	ratio	Y
BiomRatio	% C27 abb 20(R+S)			39.4090661907219	ratio	Y
BiomRatio	% C28 aaa 20R			14.5823817292007	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.4799499620532	ratio	Y
BiomRatio	% C29 aaa 20R			52.5823817292007	ratio	Y
BiomRatio	% C29 abb 20(R+S)			36.1109838472249	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.18076908248321	ratio	Y
BiomRatio	25-Nor/C30H			9.81510080717469E-02	ratio	Y
BiomRatio	C19t/C23t			0.355322640592389	ratio	Y
BiomRatio	C22t/C21t			0.311425110337408	ratio	Y
BiomRatio	C22t/C24t			0.359431523537256	ratio	Y
BiomRatio	C23t/C30H			0.15838915014623	ratio	Y
BiomRatio	C24t/C23t			0.584843754467221	ratio	Y
BiomRatio	C24Tet/C23t			0.482121394058953	ratio	Y
BiomRatio	C24Tet/C26t			0.556791317003849	ratio	Y
BiomRatio	C24Tet/C30H			7.63627978723135E-02	ratio	Y
BiomRatio	C26t/C25t			2.00634902128088	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.642446955603177	ratio	Y
BiomRatio	C27 Dia/Ster			0.921581061086451	ratio	Y
BiomRatio	C28BNH/C30H			5.16843943690137E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.916311583544361	ratio	Y
BiomRatio	C29H/C30H			0.493872196072337	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.338472702957263	ratio	Y
BiomRatio	C30DiaH/C30H			0.303635854481774	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			4.95492371327669E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.497952540518361	ratio	Y
BiomRatio	Gam/C30H			0.131553788642026	ratio	Y
BiomRatio	Gam/C31HR			0.858460625588787	ratio	Y
BiomRatio	Ole/C30H			0.294259390682912	ratio	Y
BiomRatio	Sterane/hopane			4.94703876323337E-02	ratio	Y
BiomRatio	Steranes/Terpanes			4.00443138736478E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.235391066717439	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007895_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Results for: Elemental Analyser**Data Sheet:**

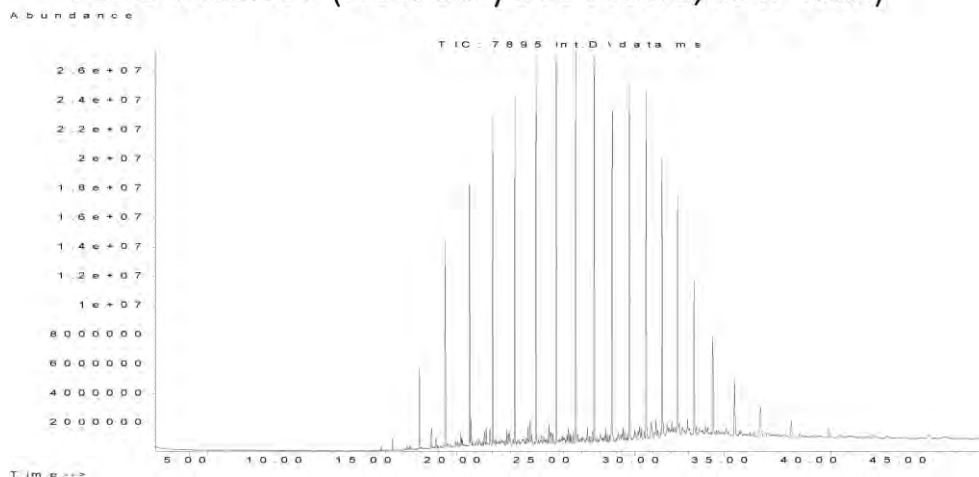
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			87.1	percent	Y
Inorg	Hydrogen			6.74151292246521	percent	Y
Inorg	Nitrogen			0.05	percent	Y
Inorg	Sulphur			1.51262592333169	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007895_DISS_GCMS-Scan/01**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007895_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7895 interior (no botryococcane, low wax)



Data Sheet:

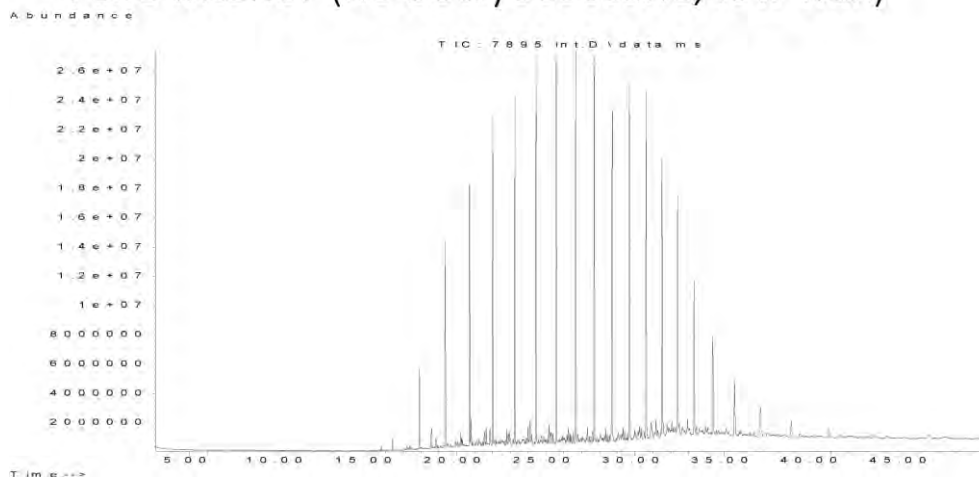
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030	155808			Z
Aliph	nC15	16.4030	2318821			Z
Aliph	nC16	17.9160	15172891			Z
Aliph	nC17	19.3500	48404107			Z
Aliph	nC18	20.7170	60831064			Z
Aliph	nC19	22.0170	76048669			Z
Aliph	nC20	23.2570	83077739			Z
Aliph	nC21	24.4410	95139226			Z
Aliph	nC22	25.5760	95096678			Z
Aliph	nC23	26.6620	103766741			Z
Aliph	nC24	27.7060	102024836			Z
Aliph	nC25	28.7100	106724911			Z
Aliph	nC26	29.6680	100925082			Z
Aliph	nC27	30.6080	96000233			Z
Aliph	nC28	31.5080	78906237			Z
Aliph	nC29	32.3700	66752161			Z
Aliph	nC30	33.2910	48110103			Z
Aliph	nC31	34.3470	38753776			Z
Aliph	nC32	35.5720	26935263			Z
Aliph	nC33	37.0130	18495150			Z
Aliph	nC34	38.7280	11695928			Z
Aliph	nC35	40.8080	8175433			Z
Aliph	nC36	43.3510	5448491			Z
Aliph	nC37	46.4710	4340364			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	6744785			Z
Aliph	Phytane	20.7870	7800555			Z
Aliph	Pristane	19.3870	11781610			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007895 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007895_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7895 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030	160373			Z
Aliph	nC15	16.4030	4003398			Z
Aliph	nC16	17.9160	24371153			Z
Aliph	nC17	19.3500	57679337			Z
Aliph	nC18	20.7170	85276808			Z
Aliph	nC19	22.0170	103094137			Z
Aliph	nC20	23.2570	107023727			Z
Aliph	nC21	24.4410	116920152			Z
Aliph	nC22	25.5760	111519801			Z
Aliph	nC23	26.6620	116145757			Z
Aliph	nC24	27.7060	112454133			Z
Aliph	nC25	28.7100	109268360			Z
Aliph	nC26	29.6680	107551910			Z
Aliph	nC27	30.6080	103378165			Z
Aliph	nC28	31.5080	86141310			Z
Aliph	nC29	32.3700	70678734			Z
Aliph	nC30	33.2910	52790145			Z
Aliph	nC31	34.3470	43443622			Z
Aliph	nC32	35.5720	28929026			Z
Aliph	nC33	37.0130	19719302			Z
Aliph	nC34	38.7280	11437687			Z
Aliph	nC35	40.8080	7406888			Z
Aliph	nC36	43.3510	6245051			Z
Aliph	nC37	46.4710	4785258			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	10557405			Z
Aliph	Phytane	20.7870	11482811			Z
Aliph	Pristane	19.3870	15091645			Z

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007896**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:02:50 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

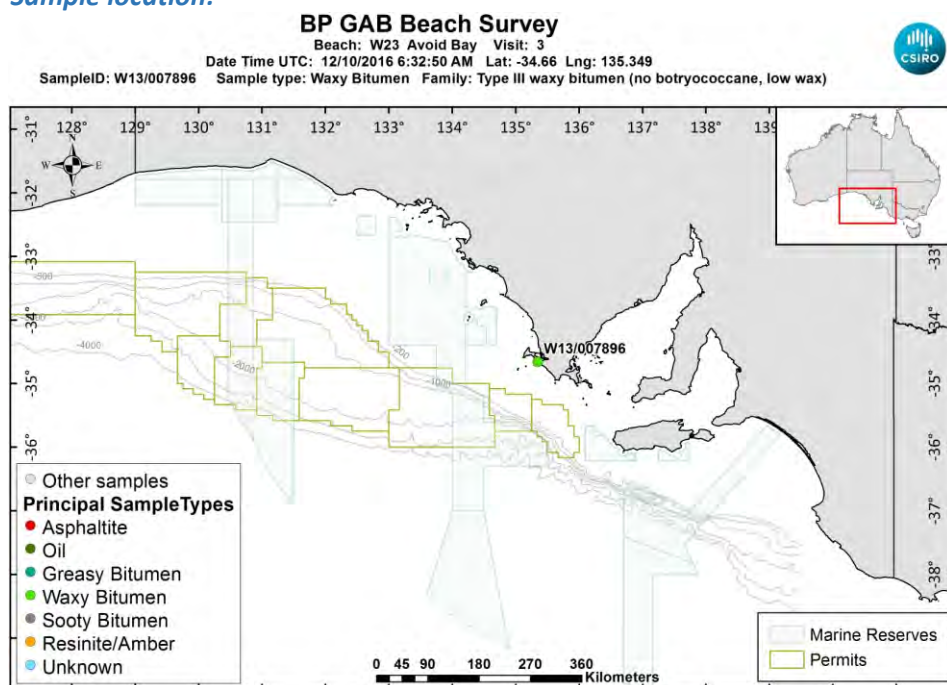
Size (cm): 4.7

Latitude (Y): -34.660000

Weight (gm): 19.86261

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007896_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007896_Photo02.JPG](#)

Sample ID : W13/007896**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

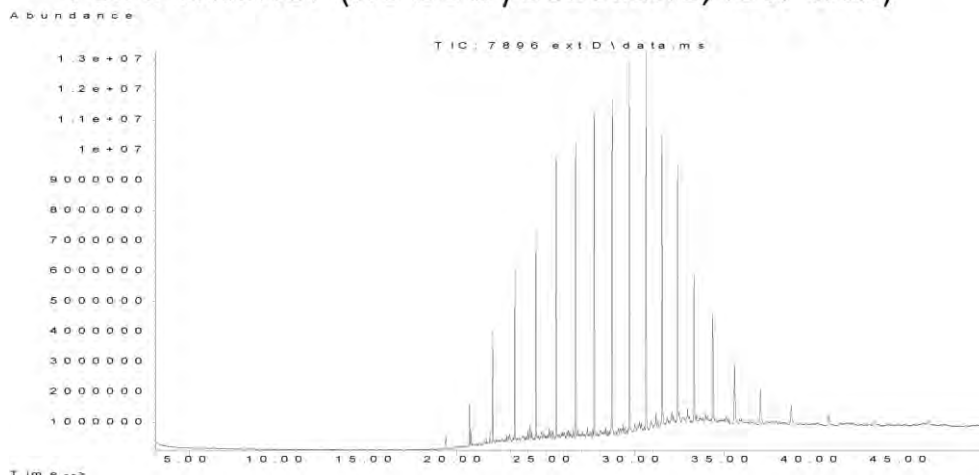
Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007896_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			87.37	percent	Y
Inorg	Hydrogen			7.15334314115308	percent	Y
Inorg	Nitrogen			4.95801199657241E-02	percent	Y
Inorg	Sulphur			1.65473144477235	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007896_DISS_GCMS-Scan/01****Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007896_ext_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7896 exterior (no botryococcane, low wax)



Data Sheet:

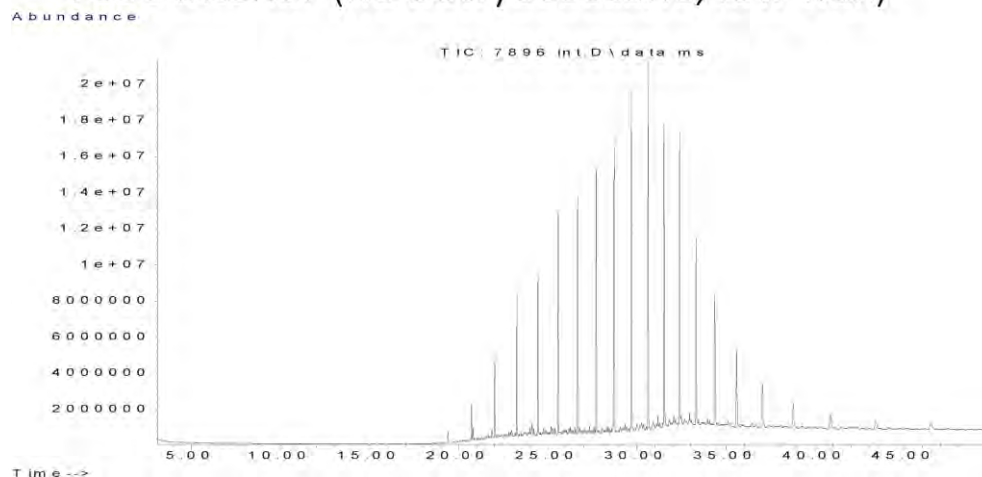
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160	184228			Z
Aliph	nC17	19.3500	1404736			Z
Aliph	nC18	20.7170	6569045			Z
Aliph	nC19	22.0170	16222836			Z
Aliph	nC20	23.2570	24577321			Z
Aliph	nC21	24.4410	33546413			Z
Aliph	nC22	25.5760	39967829			Z
Aliph	nC23	26.6620	47159795			Z
Aliph	nC24	27.7060	50387663			Z
Aliph	nC25	28.7100	55240114			Z
Aliph	nC26	29.6680	53410819			Z
Aliph	nC27	30.6080	54311708			Z
Aliph	nC28	31.5080	44539582			Z
Aliph	nC29	32.3700	39745568			Z
Aliph	nC30	33.2910	27618250			Z
Aliph	nC31	34.3470	23473377			Z
Aliph	nC32	35.5720	15922371			Z
Aliph	nC33	37.0130	11038734			Z
Aliph	nC34	38.7280	7475205			Z
Aliph	nC35	40.8080	4767610			Z
Aliph	nC36	43.3510	3469362			Z
Aliph	nC37	46.4710	2857193			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	264738			Z
Aliph	Phytane	20.7870	2597011			Z
Aliph	Pristane	19.3870	2523519			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007896 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007896_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7896 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500	648783			Z
Aliph	nC18	20.7170	9453033			Z
Aliph	nC19	22.0170	22361167			Z
Aliph	nC20	23.2570	33961560			Z
Aliph	nC21	24.4410	45147039			Z
Aliph	nC22	25.5760	54089899			Z
Aliph	nC23	26.6620	64470274			Z
Aliph	nC24	27.7060	71957370			Z
Aliph	nC25	28.7100	79877572			Z
Aliph	nC26	29.6680	81150299			Z
Aliph	nC27	30.6080	88784641			Z
Aliph	nC28	31.5080	75647321			Z
Aliph	nC29	32.3700	72646085			Z
Aliph	nC30	33.2910	54127970			Z
Aliph	nC31	34.3470	46240536			Z
Aliph	nC32	35.5720	32649262			Z
Aliph	nC33	37.0130	23355652			Z
Aliph	nC34	38.7280	15801651			Z
Aliph	nC35	40.8080	10020958			Z
Aliph	nC36	43.3510	7388154			Z
Aliph	nC37	46.4710	5511104			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	419778			Z
Aliph	Phytane	20.7870	4003189			Z
Aliph	Pristane	19.3870	3708617			Z

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007897**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:04:08 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

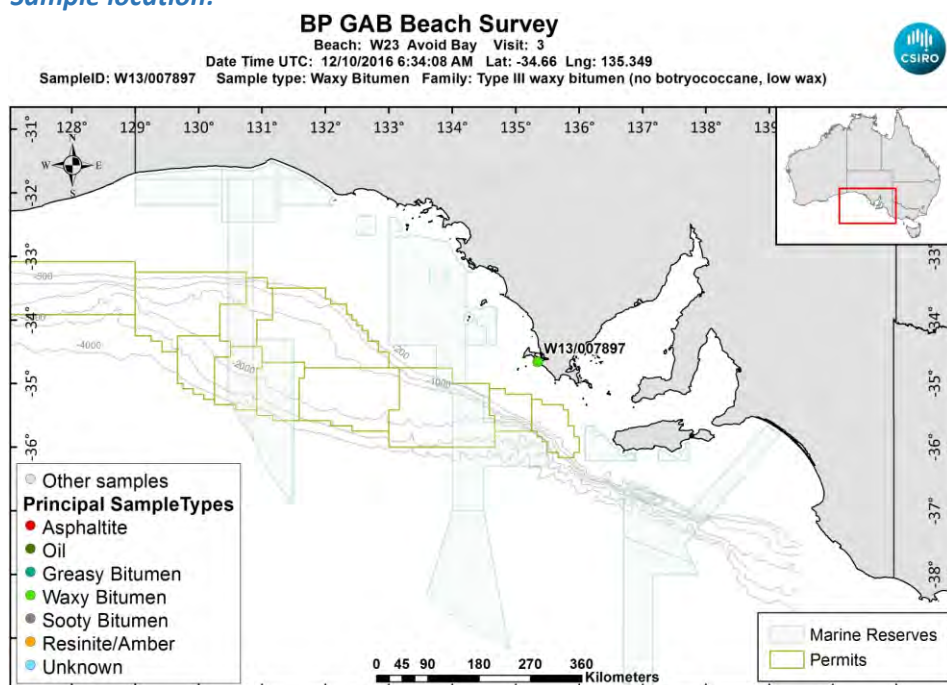
Size (cm): 3.5

Latitude (Y): -34.660000

Weight (gm): 6.6111

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007897_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007897_Photo02.JPG](#)

Sample ID : W13/007897**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

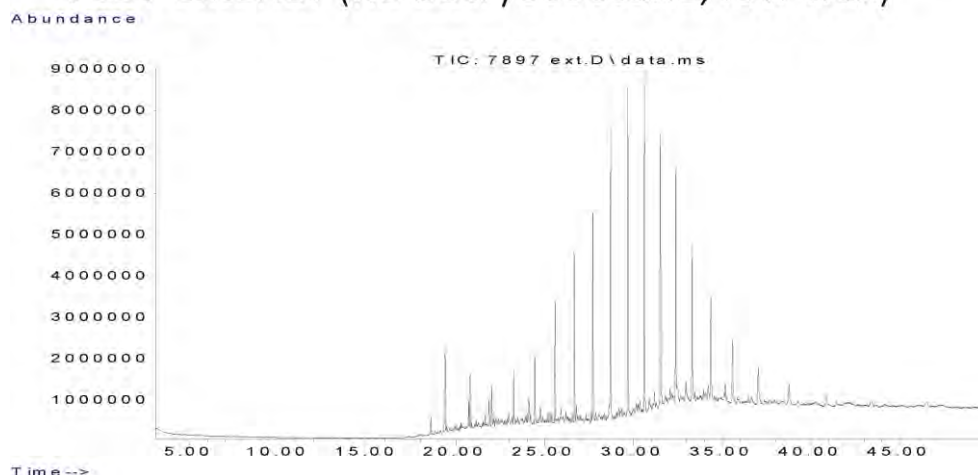
Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007897_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.84	percent	Y
Inorg	Hydrogen			7.96463976143141	percent	Y
Inorg	Nitrogen			0.107926306769494	percent	Y
Inorg	Sulphur			1.8890020649782	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007897_DISS_GCMS-Scan/01****Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007897_ext_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7897 exterior (no botryococcane, low wax)



Data Sheet:

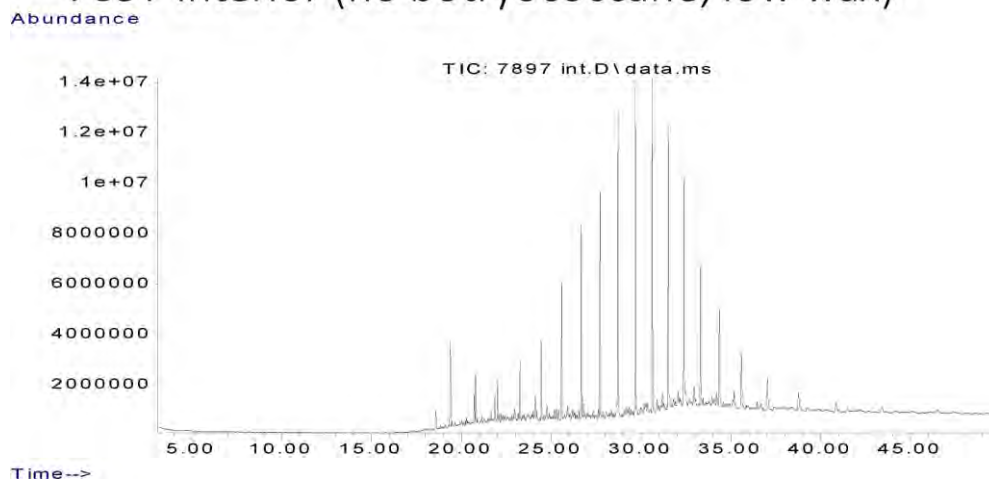
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160	273130			Z
Aliph	nC17	19.3500	2868474			Z
Aliph	nC18	20.7170	3007534			Z
Aliph	nC19	22.0170	4339649			Z
Aliph	nC20	23.2570	5890399			Z
Aliph	nC21	24.4410	8089049			Z
Aliph	nC22	25.5760	13068459			Z
Aliph	nC23	26.6620	19592669			Z
Aliph	nC24	27.7060	25688284			Z
Aliph	nC25	28.7100	32136775			Z
Aliph	nC26	29.6680	35202893			Z
Aliph	nC27	30.6080	37347022			Z
Aliph	nC28	31.5080	31517069			Z
Aliph	nC29	32.3700	28258161			Z
Aliph	nC30	33.2910	20155294			Z
Aliph	nC31	34.3470	17790815			Z
Aliph	nC32	35.5720	12031280			Z
Aliph	nC33	37.0130	8385795			Z
Aliph	nC34	38.7280	5194222			Z
Aliph	nC35	40.8080	3668777			Z
Aliph	nC36	43.3510	2938025			Z
Aliph	nC37	46.4710	2492107			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	3155714			Z
Aliph	Phytane	20.7870	7560021			Z
Aliph	Pristane	19.3870	10641932			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007897 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007897_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7897 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160	464908			Z
Aliph	nC17	19.3500	970827			Z
Aliph	nC18	20.7170	5137292			Z
Aliph	nC19	22.0170	7557851			Z
Aliph	nC20	23.2570	10136574			Z
Aliph	nC21	24.4410	15257705			Z
Aliph	nC22	25.5760	23425219			Z
Aliph	nC23	26.6620	35524844			Z
Aliph	nC24	27.7060	46081013			Z
Aliph	nC25	28.7100	55968400			Z
Aliph	nC26	29.6680	59904658			Z
Aliph	nC27	30.6080	62051127			Z
Aliph	nC28	31.5080	51470278			Z
Aliph	nC29	32.3700	46272042			Z
Aliph	nC30	33.2910	31850628			Z
Aliph	nC31	34.3470	26637123			Z
Aliph	nC32	35.5720	18214617			Z
Aliph	nC33	37.0130	12572333			Z
Aliph	nC34	38.7280	7388202			Z
Aliph	nC35	40.8080	4905827			Z
Aliph	nC36	43.3510	3817147			Z
Aliph	nC37	46.4710	2474988			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	5317834			Z
Aliph	Phytane	20.7870	11685520			Z
Aliph	Pristane	19.3870	17032151			Z

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007898**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:04:26 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

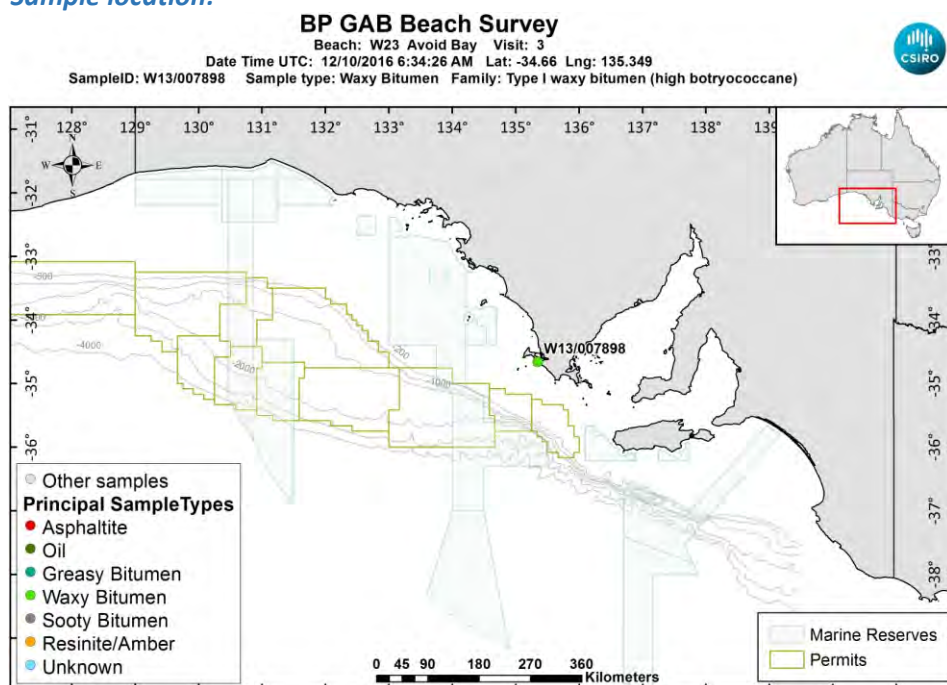
Size (cm): 3.5

Latitude (Y): -34.660000

Weight (gm): 9.12093

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007898_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007898_Photo02.JPG](#)

Sample ID : W13/007898

Beach W23: Avoid Bay Visit: 3

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007898 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retention Time:	Target Response:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			44.3608380959049	ratio	Y
BiomRatio	% C27 abb 20(R+S)			50.4669513161208	ratio	Y
BiomRatio	% C28 aaa 20R			15.9105628440648	ratio	Y
BiomRatio	% C28 abb 20(R+S)			20.7012939112832	ratio	Y
BiomRatio	% C29 aaa 20R			39.7285990600303	ratio	Y
BiomRatio	% C29 abb 20(R+S)			28.831754772596	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			5.63034303069025E-02	ratio	Y
BiomRatio	25-Nor/C30H			6.47790493133944E-02	ratio	Y
BiomRatio	C19t/C23t			0.146004834494661	ratio	Y
BiomRatio	C22t/C21t			0.462286122580328	ratio	Y
BiomRatio	C22t/C24t			0.240464041467535	ratio	Y
BiomRatio	C23t/C30H			8.34285532265393E-02	ratio	Y
BiomRatio	C24t/C23t			0.909288730777466	ratio	Y
BiomRatio	C24Tet/C23t			0.340471995273856	ratio	Y
BiomRatio	C24Tet/C26t			0.221090614862335	ratio	Y
BiomRatio	C24Tet/C30H			2.84050859798509E-02	ratio	Y
BiomRatio	C26t/C25t			2.54463589201448	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.704592943713316	ratio	Y
BiomRatio	C27 Dia/Ster			1.04881588246813	ratio	Y
BiomRatio	C28BNH/C30H			0.038401614372669	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.571299712399829	ratio	Y
BiomRatio	C29H/C30H			0.580733053639021	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.323614980929784	ratio	Y
BiomRatio	C30DiaH/C30H			0.184700263415997	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			4.69011568423335E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.440555627641688	ratio	Y
BiomRatio	Gam/C30H			4.91343258011869E-02	ratio	Y
BiomRatio	Gam/C31HR			0.284721880111524	ratio	Y
BiomRatio	Ole/C30H			1.0015889113466	ratio	Y
BiomRatio	Sterane/hopane			8.20548356311121E-02	ratio	Y
BiomRatio	Steranes/Terpanes			7.13194998796486E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.150524551764655	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007898_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Results for: Elemental Analyser**Data Sheet:**

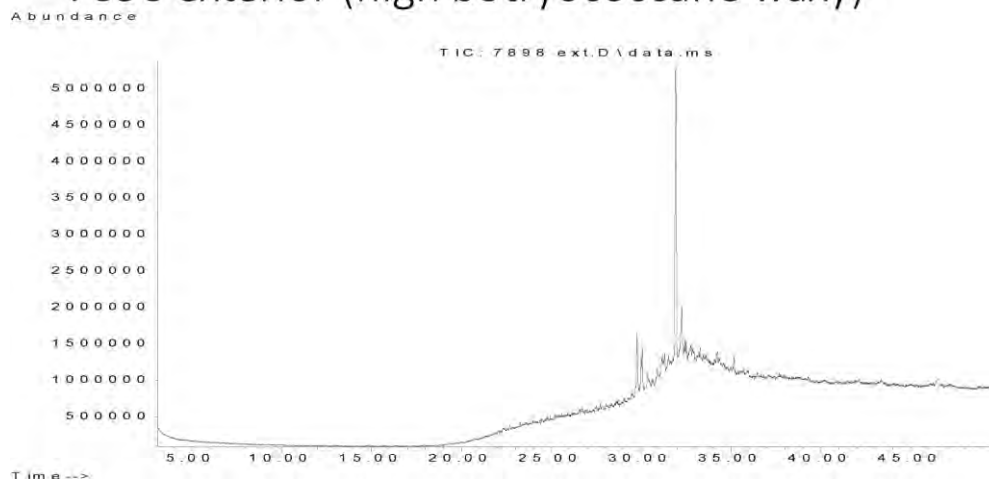
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			88.59	percent	Y
Inorg	Hydrogen			8.9799407554672	percent	Y
Inorg	Nitrogen			0.244035989717224	percent	Y
Inorg	Sulphur			2.26348806350784	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007898_DISS_GCMS-Scan/01**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007898_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7898 exterior (high botryococcane waxy)



Data Sheet:

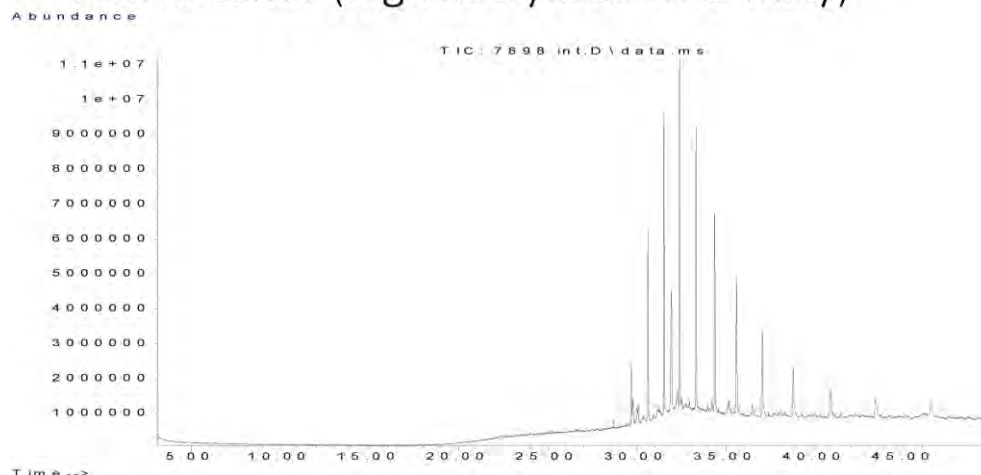
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	34008596			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100				U
Aliph	nC26	29.6680				U
Aliph	nC27	30.6080				U
Aliph	nC28	31.5080				U
Aliph	nC29	32.3700				U
Aliph	nC30	33.2910				U
Aliph	nC31	34.3470				U
Aliph	nC32	35.5720				U
Aliph	nC33	37.0130				U
Aliph	nC34	38.7280				U
Aliph	nC35	40.8080				U
Aliph	nC36	43.3510				U
Aliph	nC37	46.4710				U
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007898 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007898_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7898 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	28154106			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100	1594631			Z
Aliph	nC26	29.6680	8208144			Z
Aliph	nC27	30.6080	27043962			Z
Aliph	nC28	31.5080	41019887			Z
Aliph	nC29	32.3700	48318508			Z
Aliph	nC30	33.2910	43726711			Z
Aliph	nC31	34.3470	38986608			Z
Aliph	nC32	35.5720	30083938			Z
Aliph	nC33	37.0130	22134401			Z
Aliph	nC34	38.7280	15415201			Z
Aliph	nC35	40.8080	10997855			Z
Aliph	nC36	43.3510	8880042			Z
Aliph	nC37	46.4710	6456717			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007899**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:05:27 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

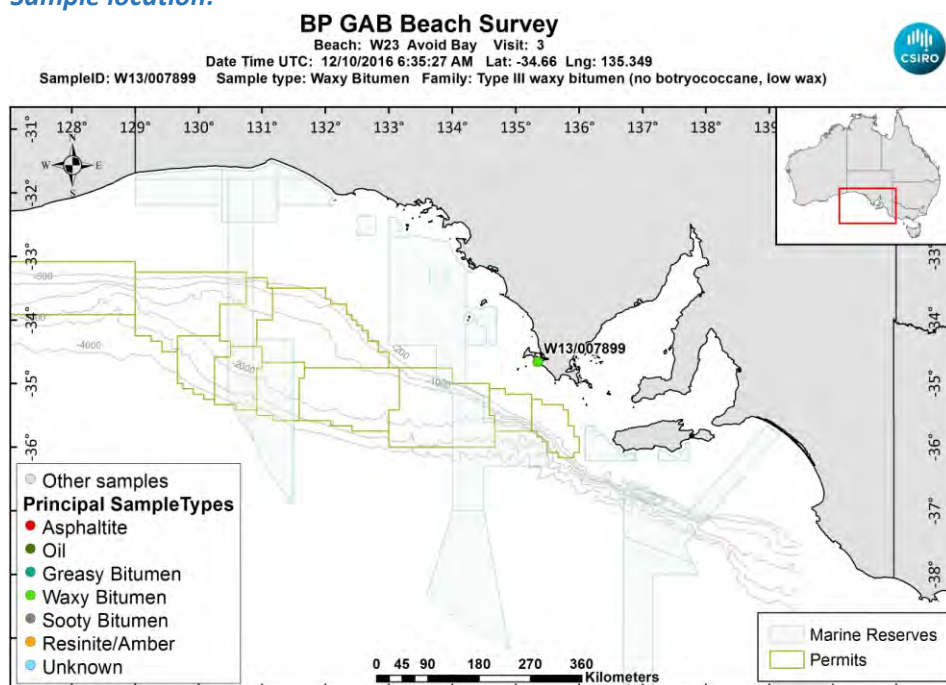
Size (cm): 2.5

Latitude (Y): -34.660000

Weight (gm): 5.47266

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007899_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007899_Photo02.JPG](#)

Sample ID : **W13/007899**

Beach W23: Avoid Bay Visit: 3

Analyses Requested

Split: Analysis: Sent:
 1 Bitumen Determination YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID:** W13/007899_SPE_ELEM-AN/01**Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:**

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**

Comment:**Data Sheet:**

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.21	percent	Y
Inorg	Hydrogen			7.8450477137177	percent	Y
Inorg	Nitrogen			0.126546700942588	percent	Y
Inorg	Sulphur			1.72777860389835	percent	Y

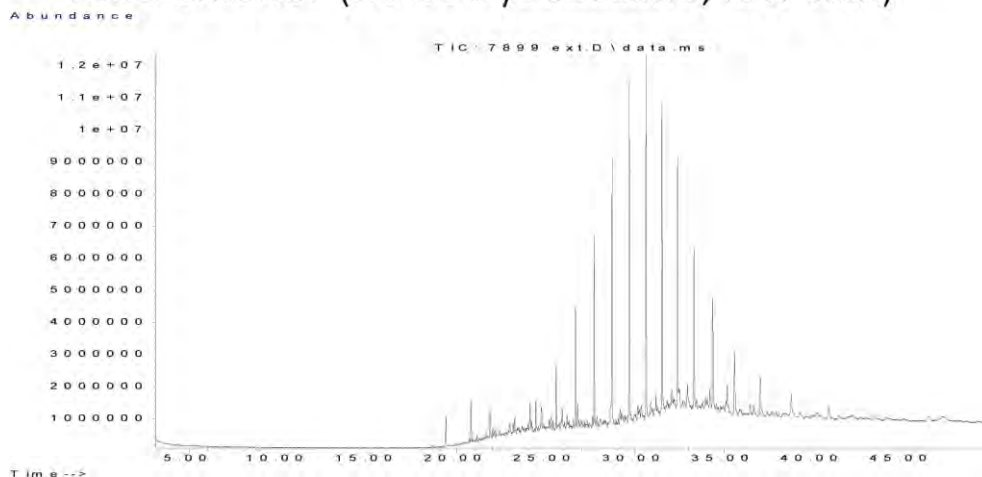
Results for: GCMS with Full Scan**Unique ID:** W13/007899_DISS_GCMS-Scan/01**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007899_ext_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:**

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**

Comment: Exterior

Results for: GCMS with Full Scan

7899 exterior (no botryococcane, low wax)



Data Sheet:

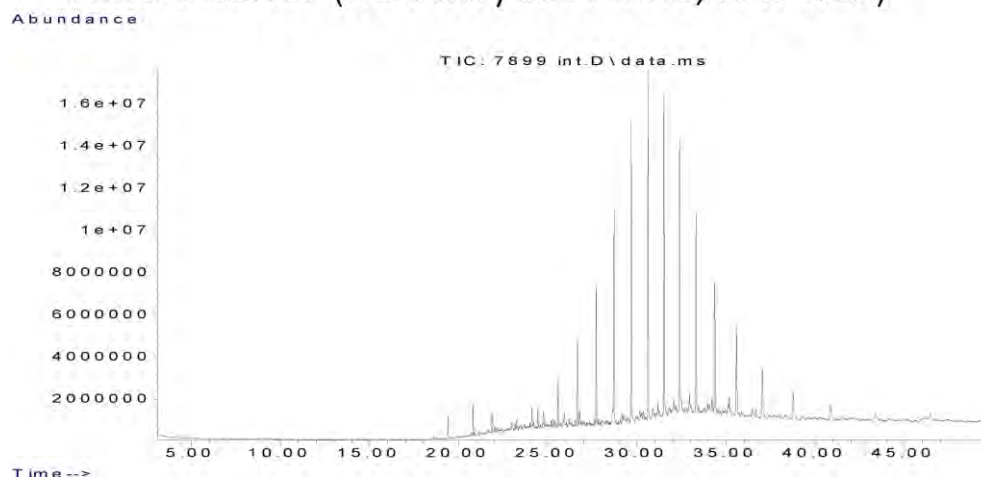
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170	701387			Z
Aliph	nC19	22.0170	1219424			Z
Aliph	nC20	23.2570	1252131			Z
Aliph	nC21	24.4410	4386241			Z
Aliph	nC22	25.5760	9287958			Z
Aliph	nC23	26.6620	17573272			Z
Aliph	nC24	27.7060	27896703			Z
Aliph	nC25	28.7100	38984731			Z
Aliph	nC26	29.6680	46448252			Z
Aliph	nC27	30.6080	51670907			Z
Aliph	nC28	31.5080	43163559			Z
Aliph	nC29	32.3700	39538920			Z
Aliph	nC30	33.2910	27574619			Z
Aliph	nC31	34.3470	24151327			Z
Aliph	nC32	35.5720	15684128			Z
Aliph	nC33	37.0130	11277476			Z
Aliph	nC34	38.7280	7434756			Z
Aliph	nC35	40.8080	4612039			Z
Aliph	nC36	43.3510	3863737			Z
Aliph	nC37	46.4710	2942135			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	778545			Z
Aliph	Phytane	20.7870	7510724			Z
Aliph	Pristane	19.3870	5774487			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007899 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007899_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7899 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170	731970			Z
Aliph	nC19	22.0170	1323309			Z
Aliph	nC20	23.2570	2343938			Z
Aliph	nC21	24.4410	4490809			Z
Aliph	nC22	25.5760	9803816			Z
Aliph	nC23	26.6620	19780005			Z
Aliph	nC24	27.7060	33151374			Z
Aliph	nC25	28.7100	49457115			Z
Aliph	nC26	29.6680	62359591			Z
Aliph	nC27	30.6080	73547644			Z
Aliph	nC28	31.5080	66107258			Z
Aliph	nC29	32.3700	64676417			Z
Aliph	nC30	33.2910	48213284			Z
Aliph	nC31	34.3470	42051411			Z
Aliph	nC32	35.5720	30445101			Z
Aliph	nC33	37.0130	21232297			Z
Aliph	nC34	38.7280	13070169			Z
Aliph	nC35	40.8080	8461131			Z
Aliph	nC36	43.3510	6496150			Z
Aliph	nC37	46.4710	4256300			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	911672			Z
Aliph	Phytane	20.7870	8287575			Z
Aliph	Pristane	19.3870	6672473			Z

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007900**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:06:16 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

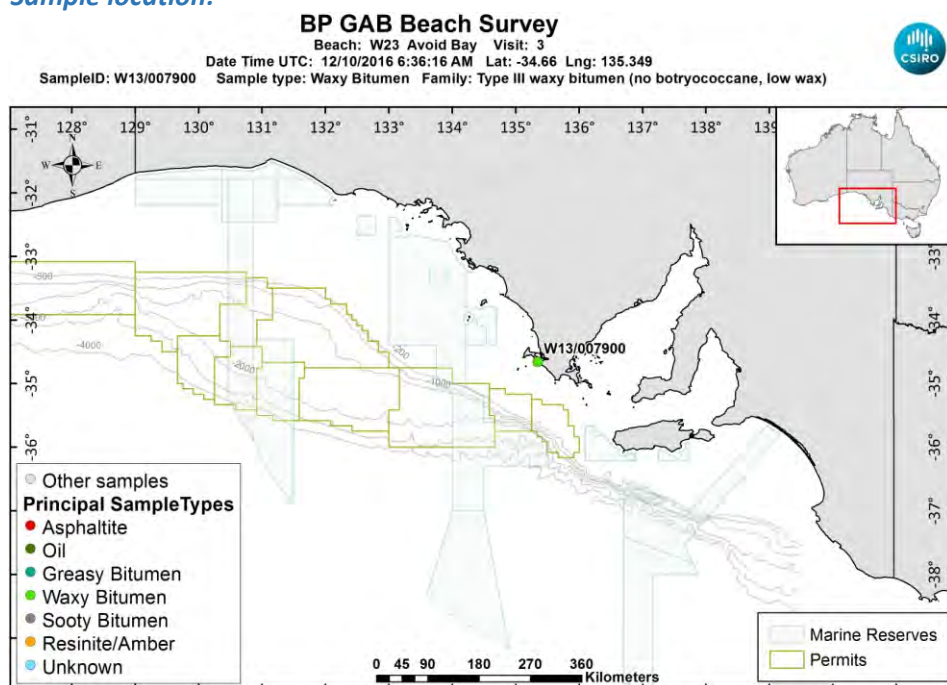
Size (cm): 3.1

Latitude (Y): -34.660000

Weight (gm): 5.56357

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007900_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007900_Photo02.JPG](#)

Sample ID : W13/007900

Beach W23: Avoid Bay Visit: 3

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007900 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retention Time:	Target Response:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			34.7629931307355	ratio	Y
BiomRatio	% C27 abb 20(R+S)			40.2111173586811	ratio	Y
BiomRatio	% C28 aaa 20R			11.9727737594723	ratio	Y
BiomRatio	% C28 abb 20(R+S)			20.7473894435392	ratio	Y
BiomRatio	% C29 aaa 20R			53.2642331097922	ratio	Y
BiomRatio	% C29 abb 20(R+S)			39.0414931977797	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			7.55055014393578E-02	ratio	Y
BiomRatio	25-Nor/C30H			0.061816635320106	ratio	Y
BiomRatio	C19t/C23t			0.064526168074697	ratio	Y
BiomRatio	C22t/C21t			7.40993163441409E-02	ratio	Y
BiomRatio	C22t/C24t			0.044275611918017	ratio	Y
BiomRatio	C23t/C30H			9.44409498403102E-02	ratio	Y
BiomRatio	C24t/C23t			0.836039292130604	ratio	Y
BiomRatio	C24Tet/C23t			0.18081481848638	ratio	Y
BiomRatio	C24Tet/C26t			0.171153460103419	ratio	Y
BiomRatio	C24Tet/C30H			0.017076323203057	ratio	Y
BiomRatio	C26t/C25t			1.88210267575377	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.637758757558511	ratio	Y
BiomRatio	C27 Dia/Ster			0.771416299107029	ratio	Y
BiomRatio	C28BNH/C30H			0.035647443393744	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.970912915687759	ratio	Y
BiomRatio	C29H/C30H			0.721203824574573	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.216849512709615	ratio	Y
BiomRatio	C30DiaH/C30H			8.15268677077424E-02	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			3.88432121180698E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.445208072359432	ratio	Y
BiomRatio	Gam/C30H			7.31049271667285E-02	ratio	Y
BiomRatio	Gam/C31HR			0.432774953117504	ratio	Y
BiomRatio	Ole/C30H			4.98731467652137E-02	ratio	Y
BiomRatio	Sterane/hopane			4.18875423659644E-02	ratio	Y
BiomRatio	Steranes/Terpanes			3.56113823448121E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.1762402807165	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007900_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Results for: Elemental Analyser**Data Sheet:**

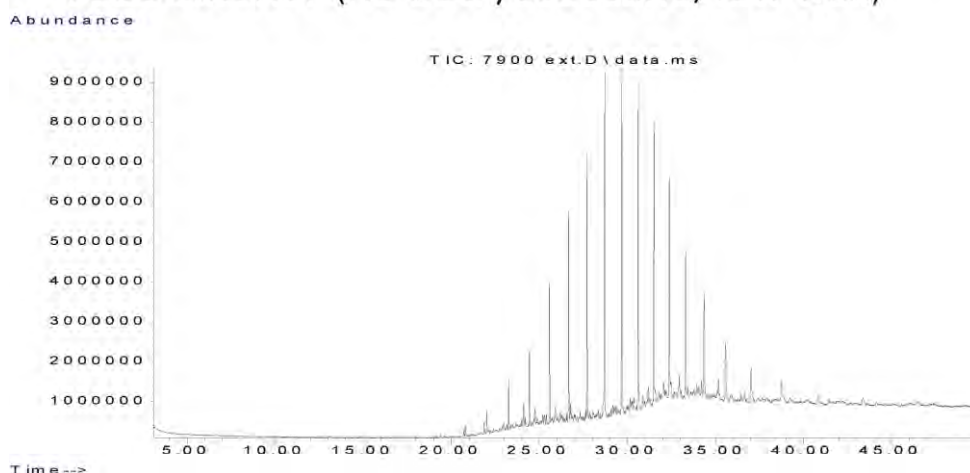
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			84.64	percent	Y
Inorg	Hydrogen			7.02468608349901	percent	Y
Inorg	Nitrogen			0.106908311910883	percent	Y
Inorg	Sulphur			1.40723413990708	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007900_DISS_GCMS-Scan/01**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007900_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7900 exterior (no botryococcane, low wax)



Data Sheet:

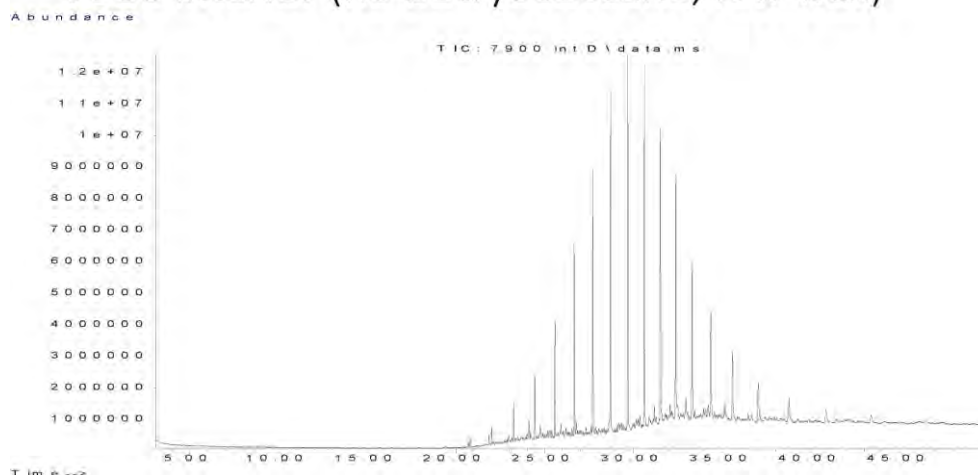
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500	249758			Z
Aliph	nC18	20.7170	644082			Z
Aliph	nC19	22.0170	2507678			Z
Aliph	nC20	23.2570	5246491			Z
Aliph	nC21	24.4410	8681790			Z
Aliph	nC22	25.5760	16419397			Z
Aliph	nC23	26.6620	24907140			Z
Aliph	nC24	27.7060	32573203			Z
Aliph	nC25	28.7100	36414878			Z
Aliph	nC26	29.6680	40070525			Z
Aliph	nC27	30.6080	41791442			Z
Aliph	nC28	31.5080	33449929			Z
Aliph	nC29	32.3700	27506228			Z
Aliph	nC30	33.2910	20038560			Z
Aliph	nC31	34.3470	17726638			Z
Aliph	nC32	35.5720	12197310			Z
Aliph	nC33	37.0130	8332417			Z
Aliph	nC34	38.7280	5949741			Z
Aliph	nC35	40.8080	3642618			Z
Aliph	nC36	43.3510	2926057			Z
Aliph	nC37	46.4710	2047923			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870	1496038			Z
Aliph	Pristane	19.3870	550694			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007900 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007900_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7900 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500	72951			Z
Aliph	nC18	20.7170	646428			Z
Aliph	nC19	22.0170	2531159			Z
Aliph	nC20	23.2570	5411653			Z
Aliph	nC21	24.4410	9416030			Z
Aliph	nC22	25.5760	17472728			Z
Aliph	nC23	26.6620	27719578			Z
Aliph	nC24	27.7060	37419942			Z
Aliph	nC25	28.7100	44396711			Z
Aliph	nC26	29.6680	49696747			Z
Aliph	nC27	30.6080	53015496			Z
Aliph	nC28	31.5080	40372459			Z
Aliph	nC29	32.3700	36206191			Z
Aliph	nC30	33.2910	27889646			Z
Aliph	nC31	34.3470	23684030			Z
Aliph	nC32	35.5720	16388593			Z
Aliph	nC33	37.0130	11292693			Z
Aliph	nC34	38.7280	7184093			Z
Aliph	nC35	40.8080	5207023			Z
Aliph	nC36	43.3510	3585331			Z
Aliph	nC37	46.4710	2892671			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870	1679337			Z
Aliph	Pristane	19.3870	485255			Z

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007901**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:07:59 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

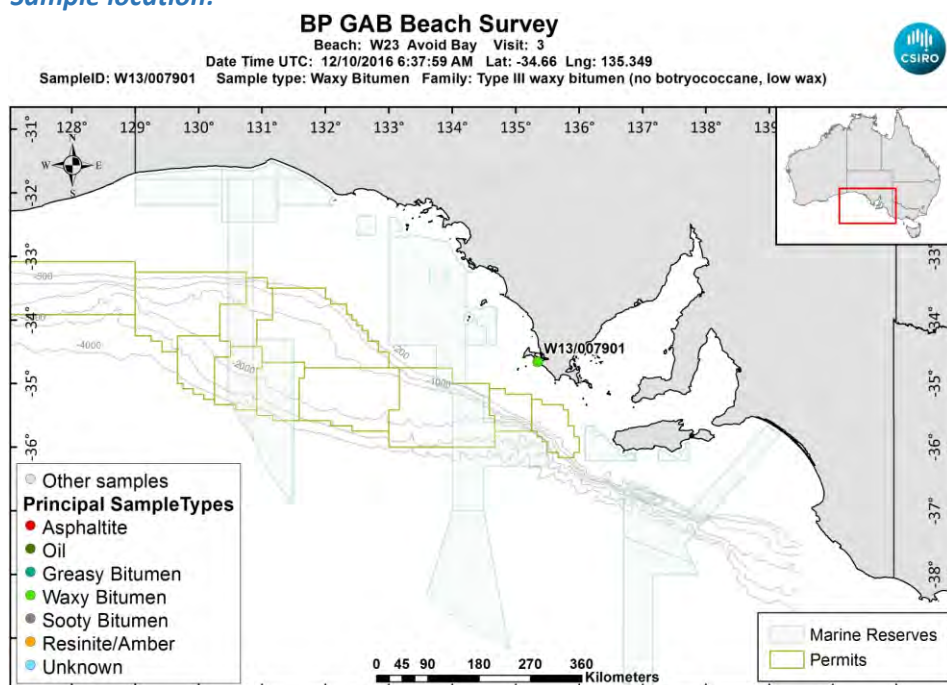
Size (cm): 3.7

Latitude (Y): -34.660000

Weight (gm): 13.31812

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007901_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007901_Photo02.JPG](#)

Sample ID : W13/007901**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

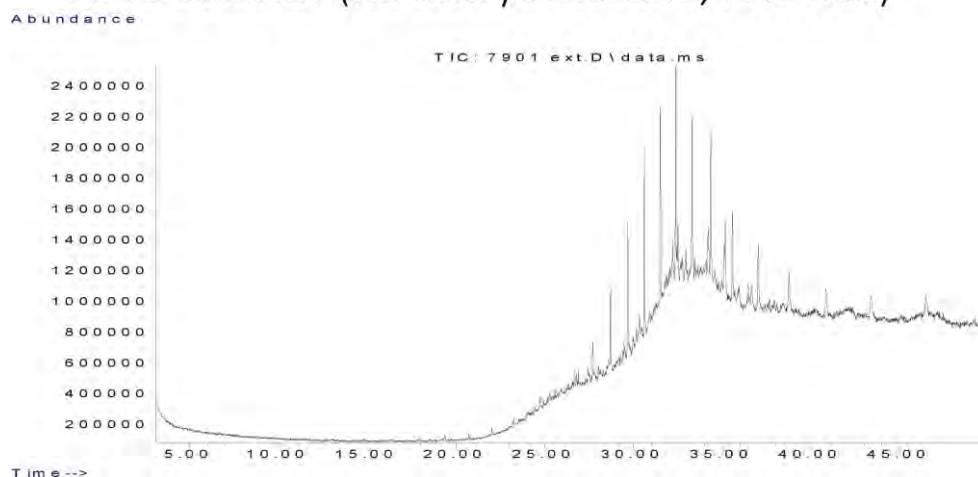
Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007901_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			87.8	percent	Y
Inorg	Hydrogen			9.42821868787276	percent	Y
Inorg	Nitrogen			0.203233933161954	percent	Y
Inorg	Sulphur			2.48209360148508	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007901_DISS_GCMS-Scan/01****Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007901_ext_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7901 exterior (no botryococcane, low wax)



Data Sheet:

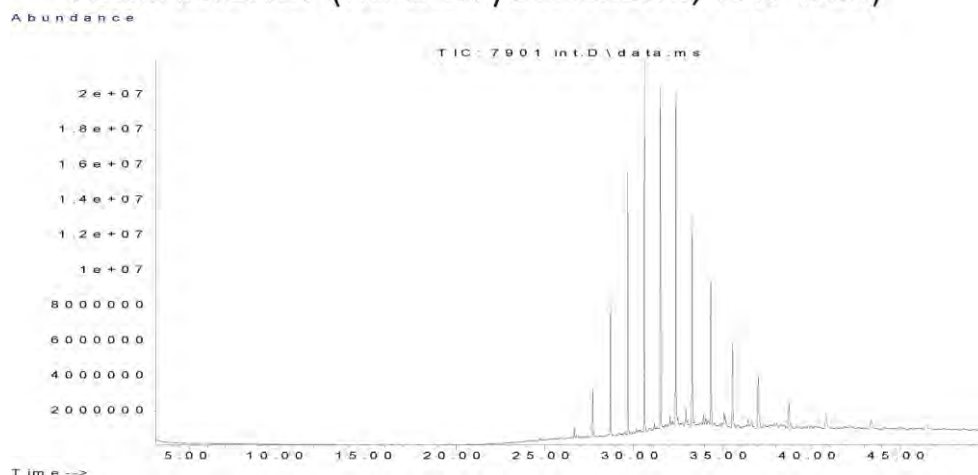
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060	1262115			Z
Aliph	nC25	28.7100	2598596			Z
Aliph	nC26	29.6680	4171104			Z
Aliph	nC27	30.6080	5872569			Z
Aliph	nC28	31.5080	6527658			Z
Aliph	nC29	32.3700	6630290			Z
Aliph	nC30	33.2910	5950735			Z
Aliph	nC31	34.3470	6428972			Z
Aliph	nC32	35.5720	4507587			Z
Aliph	nC33	37.0130	3765253			Z
Aliph	nC34	38.7280	2990292			Z
Aliph	nC35	40.8080	2380610			Z
Aliph	nC36	43.3510	2154435			Z
Aliph	nC37	46.4710	2072758			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007901 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007901_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7901 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760	598160			Z
Aliph	nC23	26.6620	3000382			Z
Aliph	nC24	27.7060	13829015			Z
Aliph	nC25	28.7100	37907792			Z
Aliph	nC26	29.6680	63554135			Z
Aliph	nC27	30.6080	90360672			Z
Aliph	nC28	31.5080	86585671			Z
Aliph	nC29	32.3700	86590698			Z
Aliph	nC30	33.2910	64368058			Z
Aliph	nC31	34.3470	54810017			Z
Aliph	nC32	35.5720	36530898			Z
Aliph	nC33	37.0130	26174910			Z
Aliph	nC34	38.7280	16353094			Z
Aliph	nC35	40.8080	11355407			Z
Aliph	nC36	43.3510	7195619			Z
Aliph	nC37	46.4710	6424159			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007902**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:08:46 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

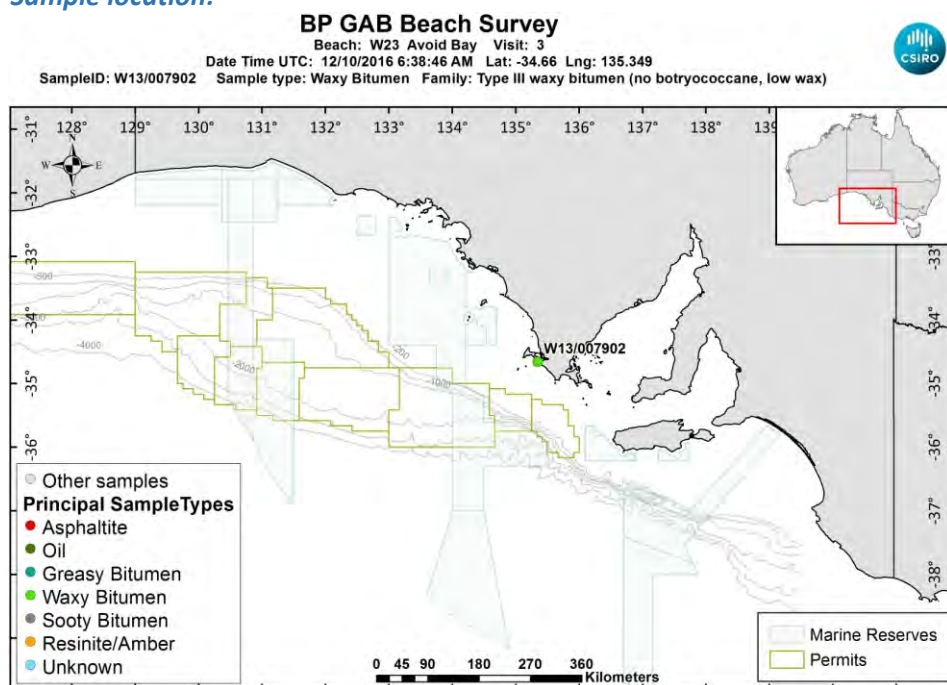
Size (cm): 3.9

Latitude (Y): -34.660000

Weight (gm): 9.45986

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007902_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007902_Photo02.JPG](#)

Sample ID : W13/007902

Beach W23: Avoid Bay Visit: 3

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
4	Biomarkers	YES

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007902 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			35.9926385784292	ratio	Y
BiomRatio	% C27 abb 20(R+S)			39.4004335646338	ratio	Y
BiomRatio	% C28 aaa 20R			17.8869600282774	ratio	Y
BiomRatio	% C28 abb 20(R+S)			22.153865951318	ratio	Y
BiomRatio	% C29 aaa 20R			46.1204013932934	ratio	Y
BiomRatio	% C29 abb 20(R+S)			38.4457004840482	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.102398045915947	ratio	Y
BiomRatio	25-Nor/C30H			6.08948963553559E-02	ratio	Y
BiomRatio	C19t/C23t			0.120833322564221	ratio	Y
BiomRatio	C22t/C21t			0.081088904219767	ratio	Y
BiomRatio	C22t/C24t			5.43925958044427E-02	ratio	Y
BiomRatio	C23t/C30H			9.17439372219543E-02	ratio	Y
BiomRatio	C24t/C23t			0.84195831577968	ratio	Y
BiomRatio	C24Tet/C23t			0.358765239371532	ratio	Y
BiomRatio	C24Tet/C26t			0.3277211774726	ratio	Y
BiomRatio	C24Tet/C30H			3.29145355983212E-02	ratio	Y
BiomRatio	C26t/C25t			2.26127977854863	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.562777104639396	ratio	Y
BiomRatio	C27 Dia/Ster			0.63098245234837	ratio	Y
BiomRatio	C28BNH/C30H			4.24902789612381E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.975768462572387	ratio	Y
BiomRatio	C29H/C30H			0.714965402385263	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.185629555205341	ratio	Y
BiomRatio	C30DiaH/C30H			0.092619918499418	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			4.30801839613382E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.44532771572797	ratio	Y
BiomRatio	Gam/C30H			7.60397631596076E-02	ratio	Y
BiomRatio	Gam/C31HR			0.441904938423017	ratio	Y
BiomRatio	Ole/C30H			6.54771848284335E-02	ratio	Y
BiomRatio	Sterane/hopane			5.04730297574407E-02	ratio	Y
BiomRatio	Steranes/Terpanes			4.31994533101785E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.168371955891127	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007902_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Results for: Elemental Analyser**Data Sheet:**

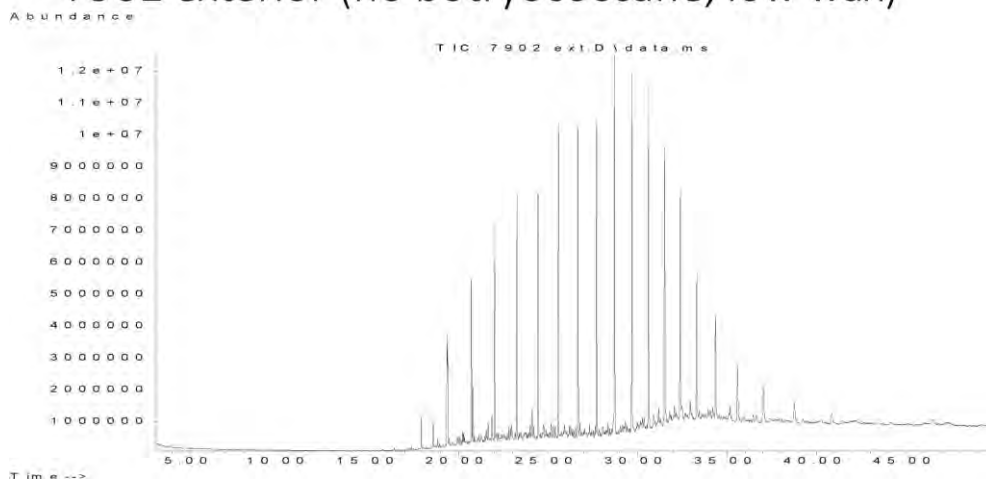
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			85.92	percent	Y
Inorg	Hydrogen			6.43253916500994	percent	Y
Inorg	Nitrogen			0.163701113967438	percent	Y
Inorg	Sulphur			1.1494807072364	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007902_DISS_GCMS-Scan/01**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007902_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7902 exterior (no botryococcane, low wax)



Data Sheet:

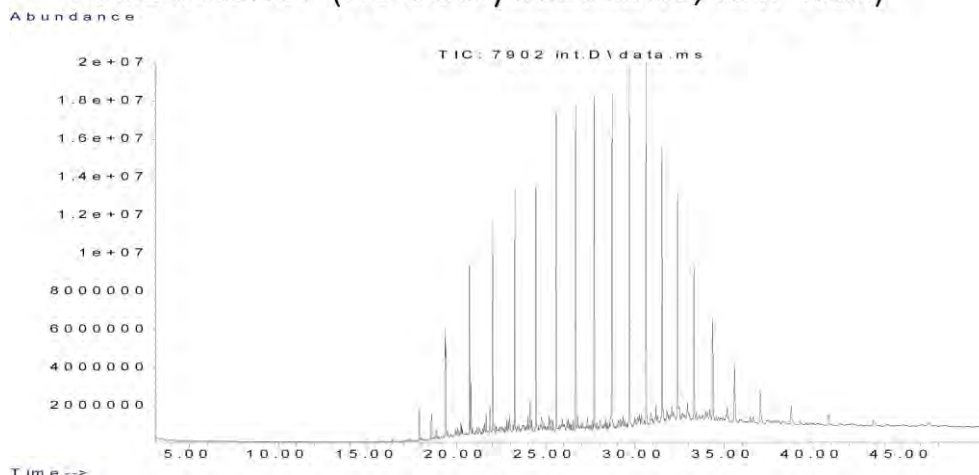
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030	454281			Z
Aliph	nC16	17.9160	4747253			Z
Aliph	nC17	19.3500	17474843			Z
Aliph	nC18	20.7170	24525654			Z
Aliph	nC19	22.0170	29795670			Z
Aliph	nC20	23.2570	34239347			Z
Aliph	nC21	24.4410	39062555			Z
Aliph	nC22	25.5760	43326714			Z
Aliph	nC23	26.6620	47727452			Z
Aliph	nC24	27.7060	49414631			Z
Aliph	nC25	28.7100	52695867			Z
Aliph	nC26	29.6680	51454804			Z
Aliph	nC27	30.6080	50485577			Z
Aliph	nC28	31.5080	41118656			Z
Aliph	nC29	32.3700	36152519			Z
Aliph	nC30	33.2910	25025752			Z
Aliph	nC31	34.3470	20277301			Z
Aliph	nC32	35.5720	14230939			Z
Aliph	nC33	37.0130	10057954			Z
Aliph	nC34	38.7280	6693674			Z
Aliph	nC35	40.8080	3726941			Z
Aliph	nC36	43.3510	3219461			Z
Aliph	nC37	46.4710	3143569			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	5845714			Z
Aliph	Phytane	20.7870	10073653			Z
Aliph	Pristane	19.3870	15947751			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007902 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007902_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7902 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030	764802			Z
Aliph	nC16	17.9160	7631291			Z
Aliph	nC17	19.3500	26681512			Z
Aliph	nC18	20.7170	40354419			Z
Aliph	nC19	22.0170	49849252			Z
Aliph	nC20	23.2570	56363142			Z
Aliph	nC21	24.4410	65013968			Z
Aliph	nC22	25.5760	71804786			Z
Aliph	nC23	26.6620	80056846			Z
Aliph	nC24	27.7060	80575423			Z
Aliph	nC25	28.7100	85426179			Z
Aliph	nC26	29.6680	83139177			Z
Aliph	nC27	30.6080	81783419			Z
Aliph	nC28	31.5080	65757181			Z
Aliph	nC29	32.3700	57664482			Z
Aliph	nC30	33.2910	41707780			Z
Aliph	nC31	34.3470	34860168			Z
Aliph	nC32	35.5720	24418326			Z
Aliph	nC33	37.0130	16716182			Z
Aliph	nC34	38.7280	11064910			Z
Aliph	nC35	40.8080	7065683			Z
Aliph	nC36	43.3510	5111330			Z
Aliph	nC37	46.4710	3470693			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	10191278			Z
Aliph	Phytane	20.7870	16039320			Z
Aliph	Pristane	19.3870	24091147			Z

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007903**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:09:38 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

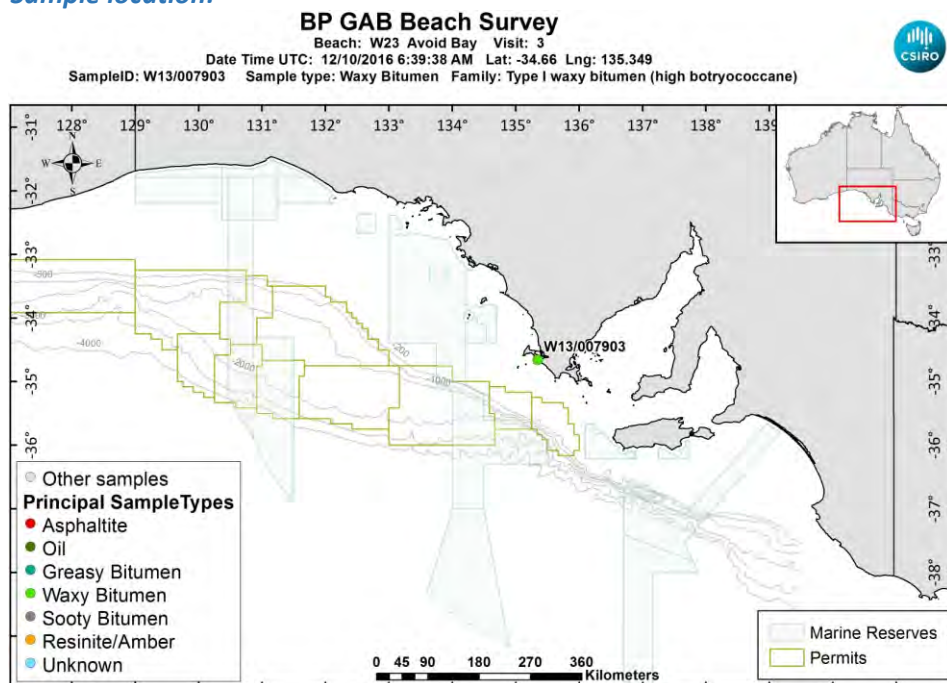
Size (cm): 2.7

Latitude (Y): -34.660000

Weight (gm): 4.39969

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007903_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007903_Photo02.JPG](#)

Sample ID : W13/007903**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

Analysis: Instrument/Type:
Elemental CHNS Elemental Analyser Run: 1
Whole Oils GCMS with Full Scan Run: 3

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID:** W13/007903_SPE_ELEM-AN/01**Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:**

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment:

Data Sheet:*(default units ppb)*

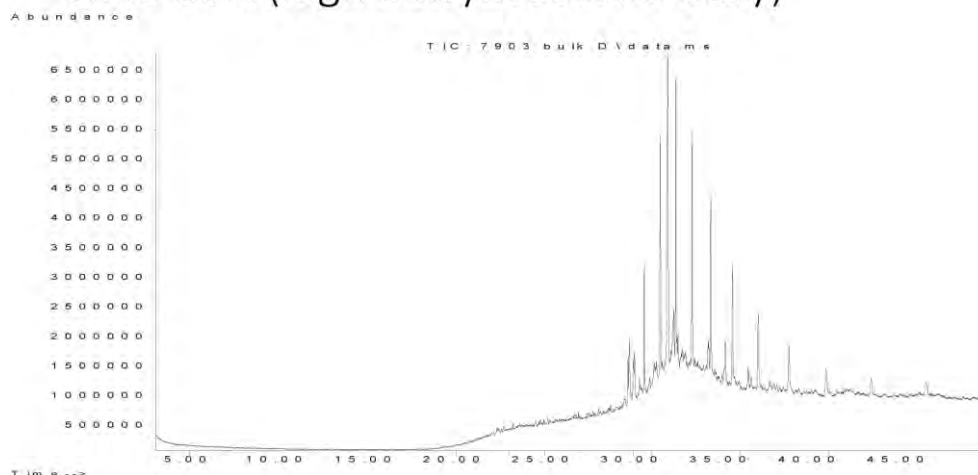
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			87.5	percent	Y
Inorg	Hydrogen			6.50468489065606	percent	Y
Inorg	Nitrogen			0.334164524421594	percent	Y
Inorg	Sulphur			1.24565939412134	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007903_DISS_GCMS-Scan/03**Instrument / Type:** GCMS with Full Scan Run: 3**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007903_bulk_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:**

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment: Bulk

Results for: GCMS with Full Scan

7903 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	44031971			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100				U
Aliph	nC26	29.6680	2371133			Z
Aliph	nC27	30.6080	11150576			Z
Aliph	nC28	31.5080	20081380			Z
Aliph	nC29	32.3700	23516414			Z
Aliph	nC30	33.2910	21600031			Z
Aliph	nC31	34.3470	20717654			Z
Aliph	nC32	35.5720	15585280			Z
Aliph	nC33	37.0130	11882521			Z
Aliph	nC34	38.7280	7553038			Z
Aliph	nC35	40.8080	6373743			Z
Aliph	nC36	43.3510	3945235			Z
Aliph	nC37	46.4710	3633940			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007904**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:10:23 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

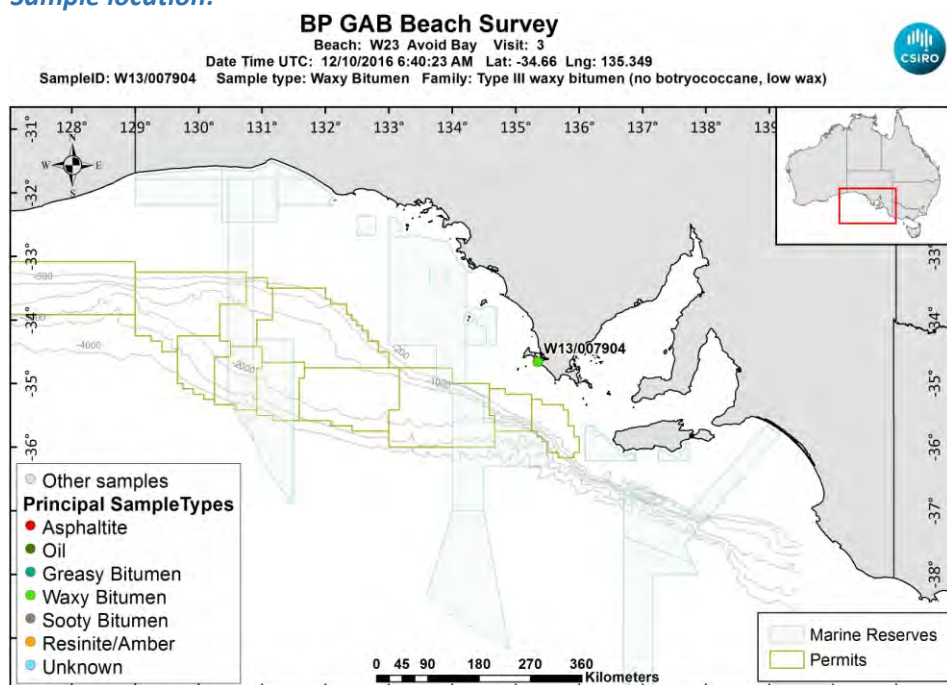
Size (cm): 2.9

Latitude (Y): -34.660000

Weight (gm): 6.37354

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007904_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007904_Photo02.JPG](#)

Sample ID : W13/007904**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

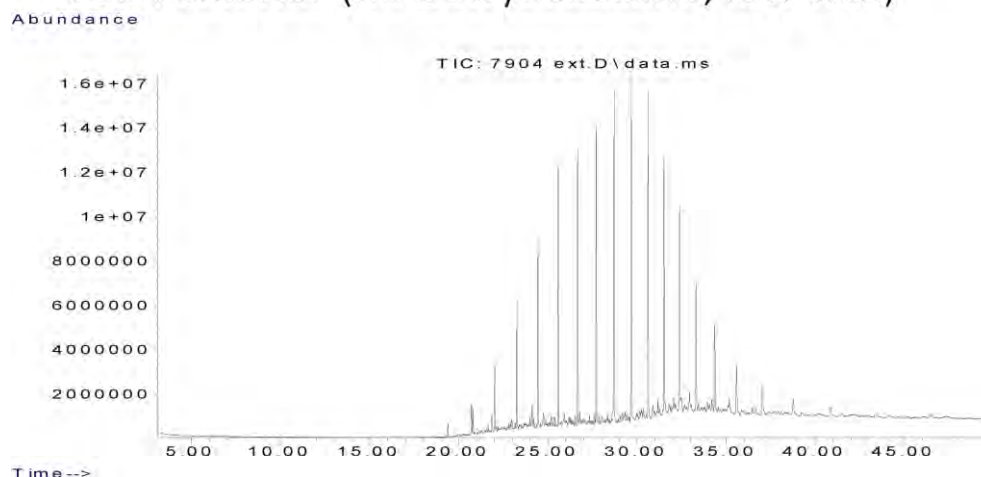
Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007904_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			84.8	percent	Y
Inorg	Hydrogen			7.13154274353877	percent	Y
Inorg	Nitrogen			0.216676949443016	percent	Y
Inorg	Sulphur			1.34875678213546	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007904 DISS GCMS-Scan/01****Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007904_ext_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7904 exterior (no botryococcane, low wax)



Data Sheet:

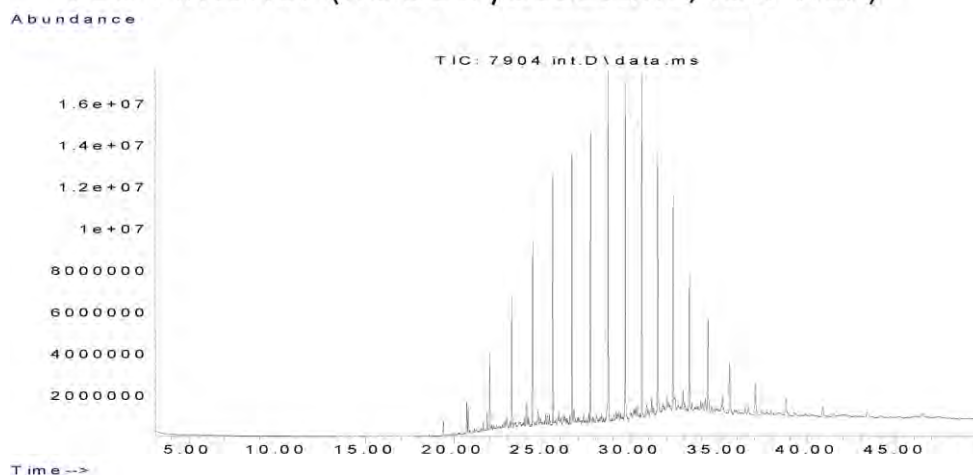
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160	166474			Z
Aliph	nC17	19.3500	433406			Z
Aliph	nC18	20.7170	6555482			Z
Aliph	nC19	22.0170	14959428			Z
Aliph	nC20	23.2570	26693445			Z
Aliph	nC21	24.4410	41288857			Z
Aliph	nC22	25.5760	50393382			Z
Aliph	nC23	26.6620	60190440			Z
Aliph	nC24	27.7060	63744768			Z
Aliph	nC25	28.7100	69610421			Z
Aliph	nC26	29.6680	68477351			Z
Aliph	nC27	30.6080	66896825			Z
Aliph	nC28	31.5080	52479039			Z
Aliph	nC29	32.3700	42959785			Z
Aliph	nC30	33.2910	32039882			Z
Aliph	nC31	34.3470	26904652			Z
Aliph	nC32	35.5720	17314631			Z
Aliph	nC33	37.0130	13323255			Z
Aliph	nC34	38.7280	7774294			Z
Aliph	nC35	40.8080	5707173			Z
Aliph	nC36	43.3510	4204353			Z
Aliph	nC37	46.4710	3358450			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	462944			Z
Aliph	Phytane	20.7870	6344097			Z
Aliph	Pristane	19.3870	3363487			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007904 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007904_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7904 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160	126683			Z
Aliph	nC17	19.3500	731119			Z
Aliph	nC18	20.7170	7114422			Z
Aliph	nC19	22.0170	16442035			Z
Aliph	nC20	23.2570	27834239			Z
Aliph	nC21	24.4410	42579293			Z
Aliph	nC22	25.5760	52775688			Z
Aliph	nC23	26.6620	63985186			Z
Aliph	nC24	27.7060	67668703			Z
Aliph	nC25	28.7100	70314247			Z
Aliph	nC26	29.6680	74223956			Z
Aliph	nC27	30.6080	72576219			Z
Aliph	nC28	31.5080	52785467			Z
Aliph	nC29	32.3700	51713108			Z
Aliph	nC30	33.2910	35269438			Z
Aliph	nC31	34.3470	28652752			Z
Aliph	nC32	35.5720	19565921			Z
Aliph	nC33	37.0130	13528777			Z
Aliph	nC34	38.7280	8423301			Z
Aliph	nC35	40.8080	5830965			Z
Aliph	nC36	43.3510	4423310			Z
Aliph	nC37	46.4710	3176449			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	532869			Z
Aliph	Phytane	20.7870	7228669			Z
Aliph	Pristane	19.3870	4015693			Z

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007905**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:11:08 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

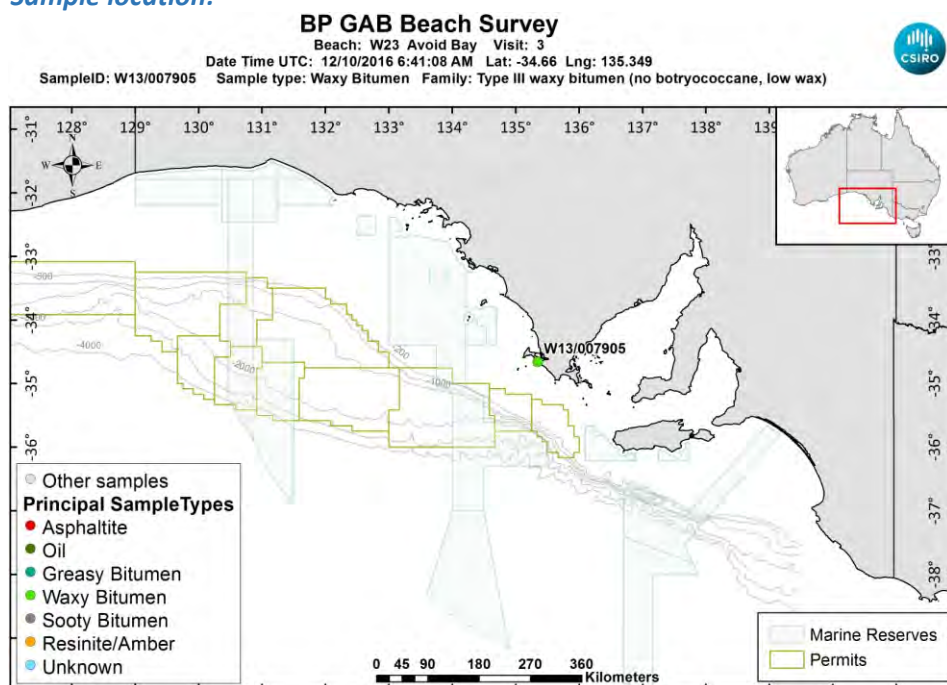
Size (cm): 2.7

Latitude (Y): -34.660000

Weight (gm): 2.63177

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007905_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007905_Photo02.JPG](#)

Sample ID : **W13/007905**

Beach W23: Avoid Bay Visit: 3

Analyses Requested

Split: Analysis: Sent:
 1 Bitumen Determination YES

Analyses Completed:

Analysis: Instrument/Type:
 Elemental CHNS Elemental Analyser Run: 1
 Whole Oils GCMS with Full Scan Run: 3

Sample Analyses Completed:**Results for: Elemental Analyser**Unique ID: **W13/007905_SPE_ELEM-AN/01**

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume: Volume Units: Extract Volume: Dilution Factor:
 Comment:

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			84.8	percent	Y
Inorg	Hydrogen			8.14749900596422	percent	Y
Inorg	Nitrogen			0.295606512425021	percent	Y
Inorg	Sulphur			1.68055678175916	percent	Y

Results for: GCMS with Full ScanUnique ID: **W13/007905_DISS_GCMS-Scan/03**

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 30/10/2017

Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007905_bulk_WholeOil.jpg](#)

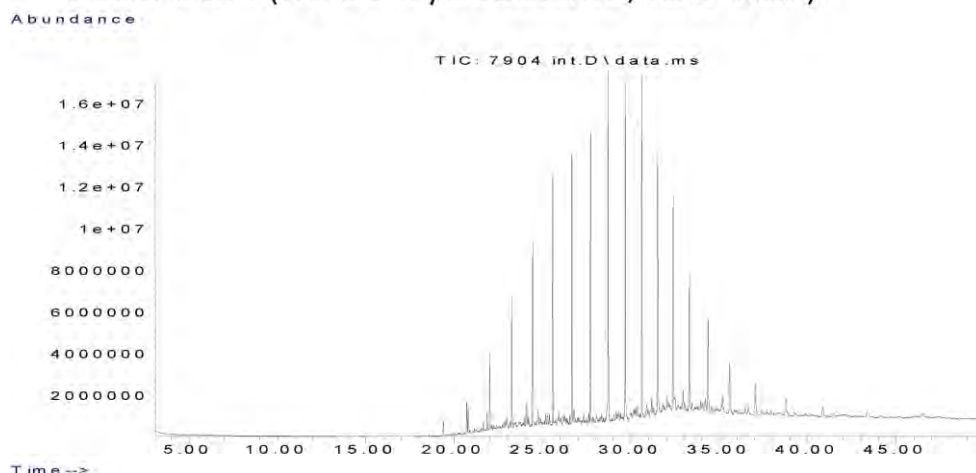
Preparation: Dissolved in solvent

Method ID/s:

Sample Volume: Volume Units: Extract Volume: Dilution Factor:
 Comment: Bulk

Results for: GCMS with Full Scan

7905 bulk (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060	500508			Z
Aliph	nC25	28.7100	1331139			Z
Aliph	nC26	29.6680	3096577			Z
Aliph	nC27	30.6080	6287385			Z
Aliph	nC28	31.5080	7280372			Z
Aliph	nC29	32.3700	7644384			Z
Aliph	nC30	33.2910	6472274			Z
Aliph	nC31	34.3470	6275473			Z
Aliph	nC32	35.5720	4933576			Z
Aliph	nC33	37.0130	4453834			Z
Aliph	nC34	38.7280	3492558			Z
Aliph	nC35	40.8080	2693389			Z
Aliph	nC36	43.3510	2759187			Z
Aliph	nC37	46.4710	2769874			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns > 25%
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007906**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:11:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

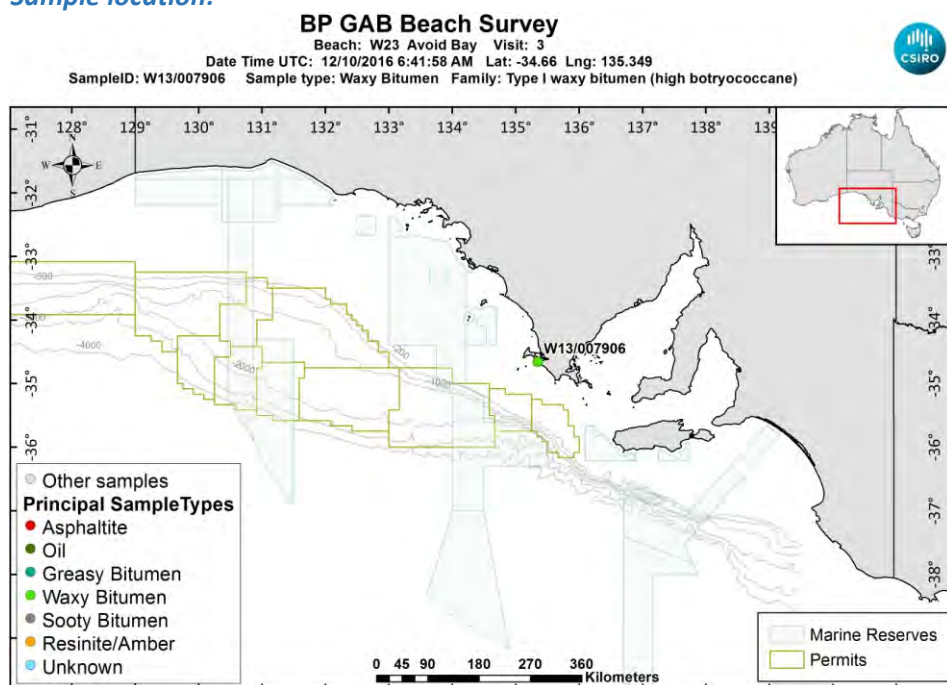
Size (cm): 3.5

Latitude (Y): -34.660000

Weight (gm): 7.04158

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007906_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007906_Photo02.JPG](#)

Sample ID : W13/007906**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

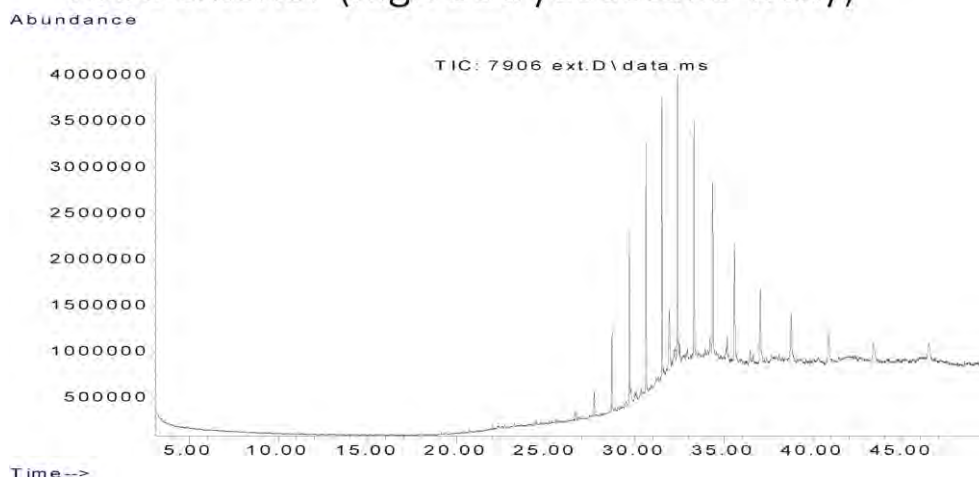
Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007906_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			83.17	percent	Y
Inorg	Hydrogen			6.59553876739563	percent	Y
Inorg	Nitrogen			0.372283461868038	percent	Y
Inorg	Sulphur			1.38131579065228	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007906_DISS_GCMS-Scan/01****Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007906_ext_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7906 exterior (high botryococcane waxy)



Data Sheet:

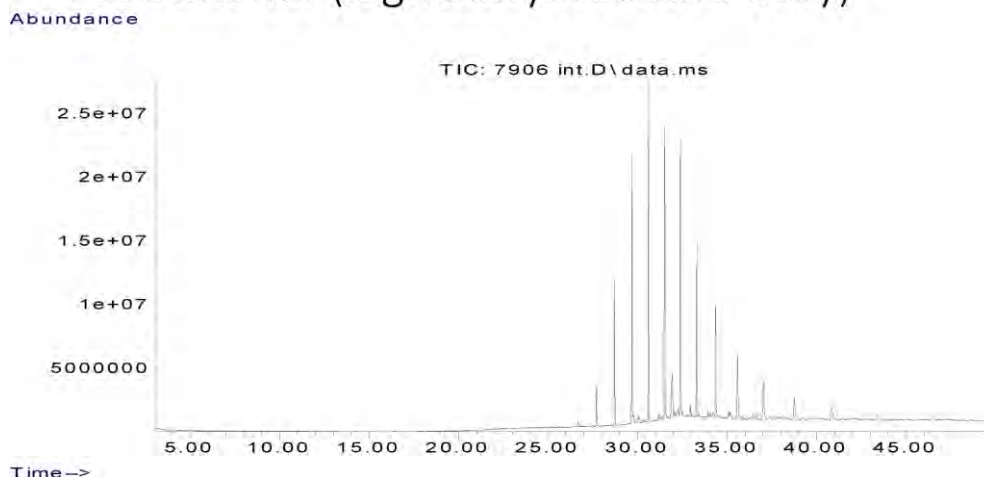
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	5292323			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760	212259			Z
Aliph	nC23	26.6620	551402			Z
Aliph	nC24	27.7060	1523892			Z
Aliph	nC25	28.7100	4538359			Z
Aliph	nC26	29.6680	7594786			Z
Aliph	nC27	30.6080	13112576			Z
Aliph	nC28	31.5080	15196078			Z
Aliph	nC29	32.3700	16192105			Z
Aliph	nC30	33.2910	14445511			Z
Aliph	nC31	34.3470	13545084			Z
Aliph	nC32	35.5720	10020335			Z
Aliph	nC33	37.0130	7682302			Z
Aliph	nC34	38.7280	5077090			Z
Aliph	nC35	40.8080	3743573			Z
Aliph	nC36	43.3510	3190403			Z
Aliph	nC37	46.4710	2404085			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007906 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007906_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7906 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	28981035			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760	335589			Z
Aliph	nC23	26.6620	2219699			Z
Aliph	nC24	27.7060	15598187			Z
Aliph	nC25	28.7100	52487378			Z
Aliph	nC26	29.6680	86374599			Z
Aliph	nC27	30.6080	115753347			Z
Aliph	nC28	31.5080	105387192			Z
Aliph	nC29	32.3700	94924996			Z
Aliph	nC30	33.2910	71949986			Z
Aliph	nC31	34.3470	58247573			Z
Aliph	nC32	35.5720	40968914			Z
Aliph	nC33	37.0130	28152003			Z
Aliph	nC34	38.7280	17819991			Z
Aliph	nC35	40.8080	12631319			Z
Aliph	nC36	43.3510	9956207			Z
Aliph	nC37	46.4710	7996102			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007907**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:12:42 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

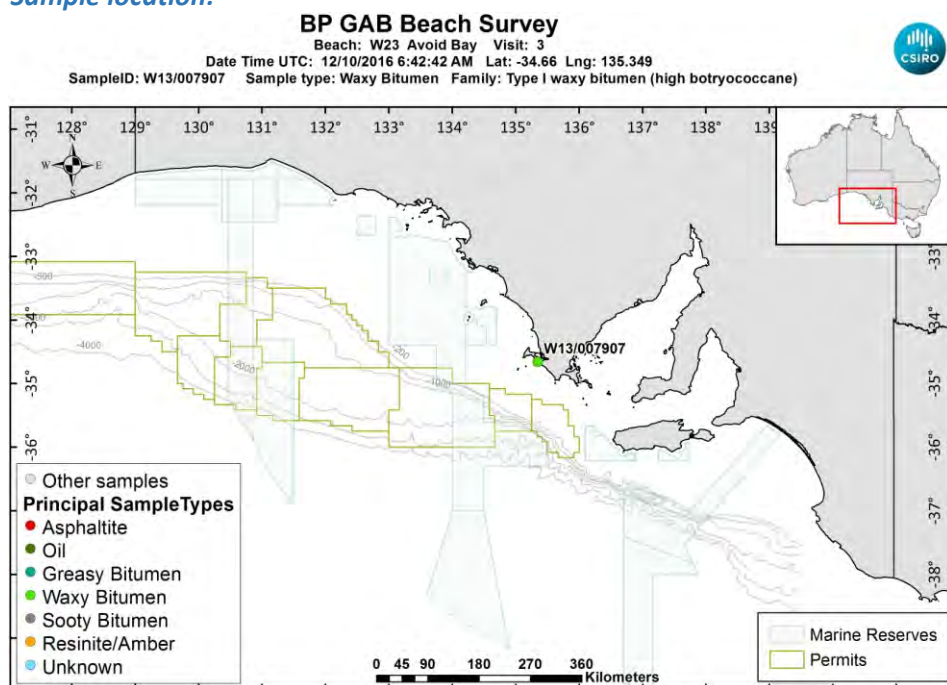
Size (cm): 2.9

Latitude (Y): -34.660000

Weight (gm): 5.30119

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007907_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007907_Photo02.JPG](#)

Sample ID : W13/007907**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

Analysis:	Instrument/Type:
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

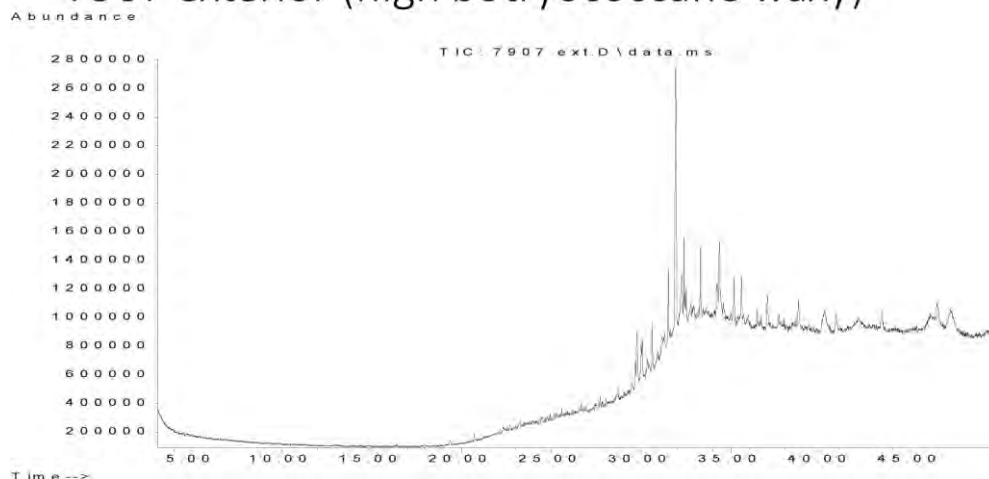
Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007907_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample Volume: Volume Units: Extract Volume: Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			87.16	percent	Y
Inorg	Hydrogen			8.41142664015905	percent	Y
Inorg	Nitrogen			0.535484147386461	percent	Y
Inorg	Sulphur			1.90910009978873	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007907_DISS_GCMS-Scan/01****Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007907_ext_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume: Volume Units: Extract Volume: Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7907 exterior (high botryococcane waxy)



Data Sheet:

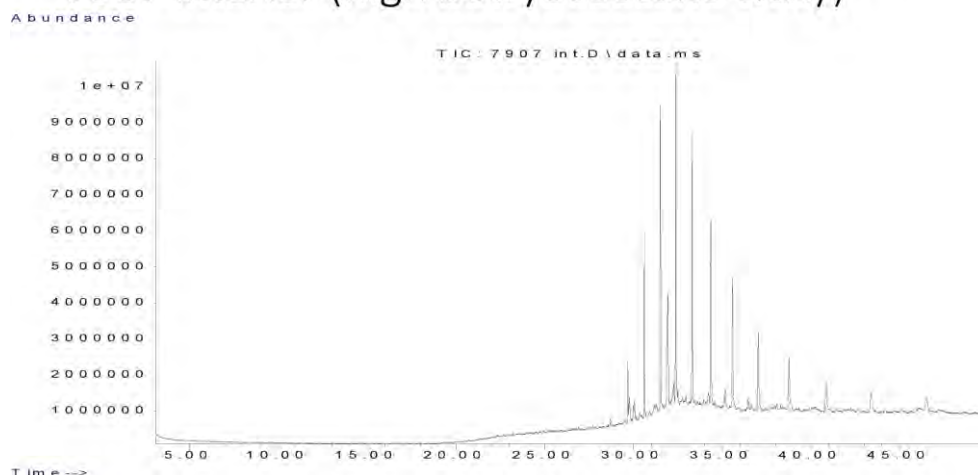
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	15525678			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060	277903			Z
Aliph	nC25	28.7100	420041			Z
Aliph	nC26	29.6680	689541			Z
Aliph	nC27	30.6080	1836913			Z
Aliph	nC28	31.5080	2588080			Z
Aliph	nC29	32.3700	2626308			Z
Aliph	nC30	33.2910	2695312			Z
Aliph	nC31	34.3470	3614917			Z
Aliph	nC32	35.5720	2704913			Z
Aliph	nC33	37.0130	2540050			Z
Aliph	nC34	38.7280	2345925			Z
Aliph	nC35	40.8080	1836007			Z
Aliph	nC36	43.3510	2191793			Z
Aliph	nC37	46.4710	3071337			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007907 DISS GCMS-Scan/02**Instrument / Type:** GCMS with Full Scan Run: 2**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007907_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7907 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	26582794			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060	277200			Z
Aliph	nC25	28.7100	1183891			Z
Aliph	nC26	29.6680	6897921			Z
Aliph	nC27	30.6080	24810427			Z
Aliph	nC28	31.5080	39079851			Z
Aliph	nC29	32.3700	45311514			Z
Aliph	nC30	33.2910	40283015			Z
Aliph	nC31	34.3470	35956177			Z
Aliph	nC32	35.5720	27338472			Z
Aliph	nC33	37.0130	20329139			Z
Aliph	nC34	38.7280	14358353			Z
Aliph	nC35	40.8080	11288602			Z
Aliph	nC36	43.3510	9464059			Z
Aliph	nC37	46.4710	7283678			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ)
M	Duplicate injection precision not met
N	Spike sample not within control limits
O	Presumptive evidence of a compound
P	Concentration difference between primary and confirmation columns $> 25\%$
R	Spike/Surrogate failed recovery limits
S	Method of standard additions (MSA) used for calculation
T	Detected but Quantitated amount exceeded maximum
U	Compound Not Detected
V	overloaded and possibly not a water extract
X	Duplicate analysis not within control limits
Y	Detected
Z	Detected but not Quantified (too small)

Sample ID : **W13/007908**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:13:24 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

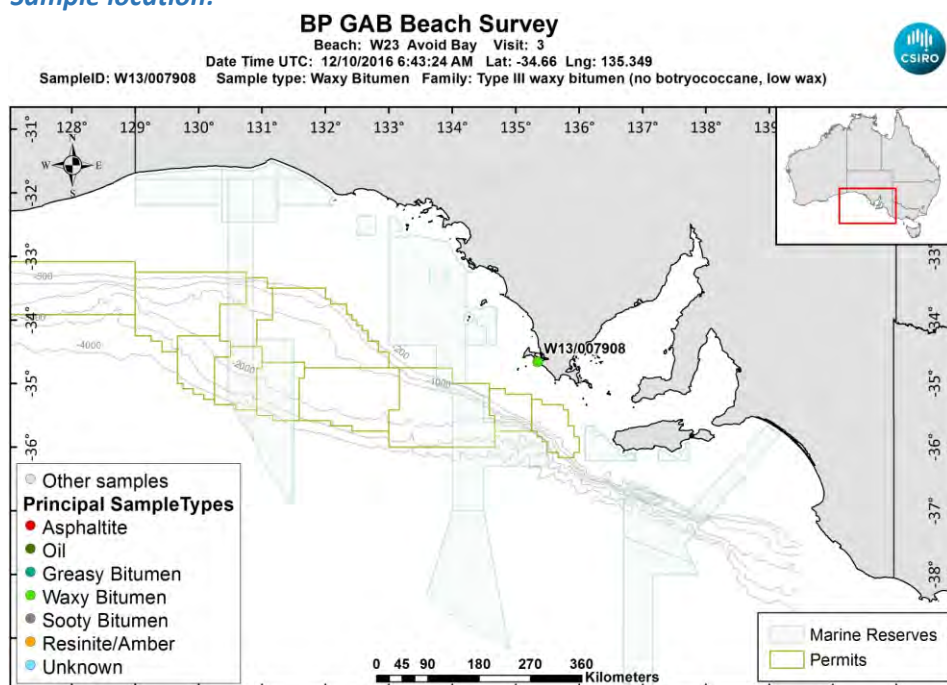
Size (cm): 2.8

Latitude (Y): -34.660000

Weight (gm): 3.73999

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007908_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007908_Photo02.JPG](#)