



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000990\\_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: COA/000990\_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:

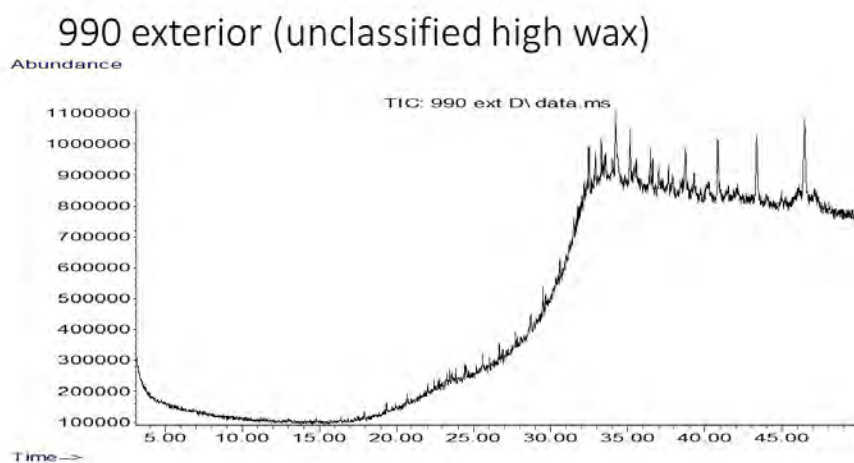
(default units ppb)					
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units: Qualifier:
Inorg	Carbon			83.99	percent Y
Inorg	Hydrogen			8.31483101391651	percent Y
Inorg	Nitrogen			0.15	percent Y
Inorg	Sulphur			2.99908711933805	percent Y

### Results for: GCMS with Full Scan

Unique ID: COA/000990\_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\COA\\_000990\\_ext\\_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan



## Data Sheet:

(default units ppb)

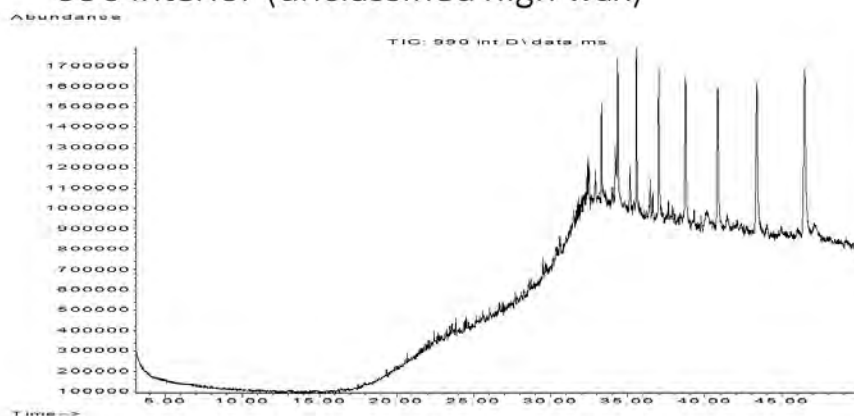
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				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	330443			Z
Aliph	nC31	34.3470	1222682			Z
Aliph	nC32	35.5720	680019			Z
Aliph	nC33	37.0130	814396			Z
Aliph	nC34	38.7280	1141618			Z
Aliph	nC35	40.8080	2633578			Z
Aliph	nC36	43.3510	3822480			Z
Aliph	nC37	46.4710	5032093			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:** COA/000990 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\COA\\_000990\\_int\\_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior



## Results for: GCMS with Full Scan

990 interior (unclassified high 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				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	1082410			Z
Aliph	nC30	33.2910	2549726			Z
Aliph	nC31	34.3470	4661605			Z
Aliph	nC32	35.5720	6481979			Z
Aliph	nC33	37.0130	6860956			Z
Aliph	nC34	38.7280	7874322			Z
Aliph	nC35	40.8080	8825484			Z
Aliph	nC36	43.3510	12272138			Z
Aliph	nC37	46.4710	15554546			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:**

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

Sample ID : **COA/000991**

Beach E6: Eves Cove Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 10:13:33 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

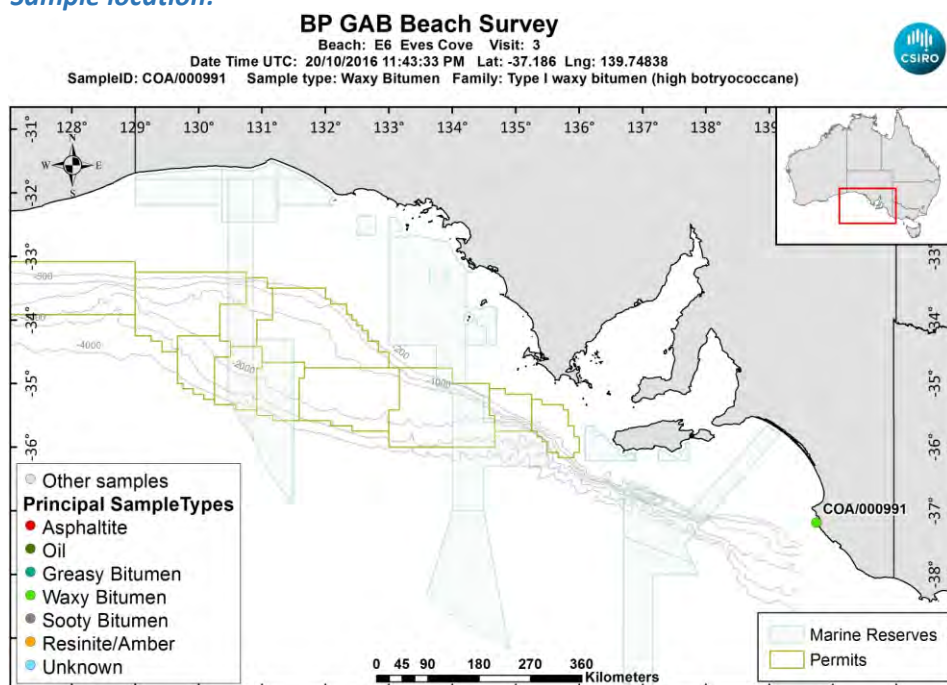
**Size (cm):** 2.7

**Latitude (Y):** -37.186002

**Weight (gm):** 4.35418

**Longitude (X):** 139.748383

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\COA\\_000991\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000991\\_146A7000.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000991\\_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: COA/000991\_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			84.33	percent	Y
Inorg	Hydrogen			9.46384433399603	percent	Y
Inorg	Nitrogen			0.23	percent	Y
Inorg	Sulphur			2.1435579553003	percent	Y

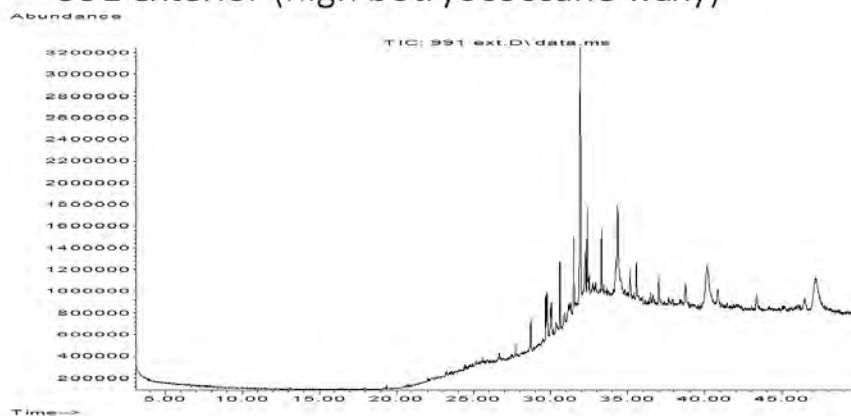
### Results for: GCMS with Full Scan

Unique ID: COA/000991\_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\COA\\_000991\\_ext\\_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

991 exterior (high botryococcane waxy)



## Data Sheet:

(default units ppb)

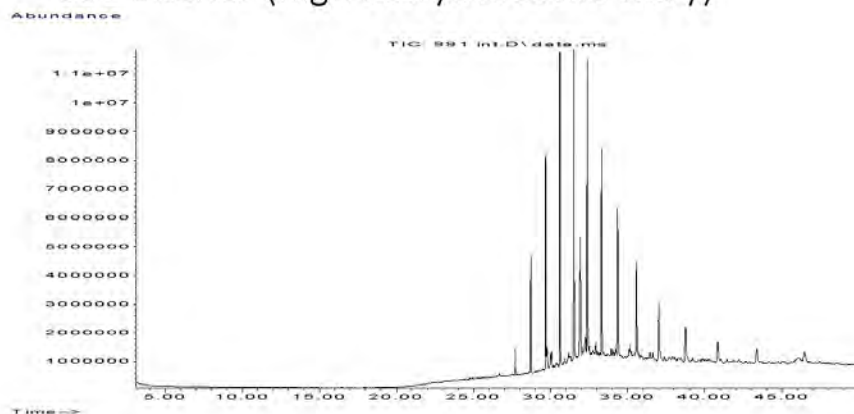
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	19865969			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				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	189331			Z
Aliph	nC24	27.7060	517608			Z
Aliph	nC25	28.7100	1539332			Z
Aliph	nC26	29.6680	1864223			Z
Aliph	nC27	30.6080	3135502			Z
Aliph	nC28	31.5080	3900551			Z
Aliph	nC29	32.3700	3971796			Z
Aliph	nC30	33.2910	3448170			Z
Aliph	nC31	34.3470	5213485			Z
Aliph	nC32	35.5720	2988216			Z
Aliph	nC33	37.0130	2261102			Z
Aliph	nC34	38.7280	2466236			Z
Aliph	nC35	40.8080	2061007			Z
Aliph	nC36	43.3510	1727215			Z
Aliph	nC37	46.4710	1523669			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:** COA/000991 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\COA\\_000991\\_int\\_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

## Results for: GCMS with Full Scan

991 interior (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retention Time:	Target Response:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	32452652			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	406907			Z
Aliph	nC24	27.7060	4384272			Z
Aliph	nC25	28.7100	18644165			Z
Aliph	nC26	29.6680	36134633			Z
Aliph	nC27	30.6080	53294076			Z
Aliph	nC28	31.5080	53503536			Z
Aliph	nC29	32.3700	50359521			Z
Aliph	nC30	33.2910	40107581			Z
Aliph	nC31	34.3470	33003337			Z
Aliph	nC32	35.5720	25984808			Z
Aliph	nC33	37.0130	18572466			Z
Aliph	nC34	38.7280	12750902			Z
Aliph	nC35	40.8080	10056814			Z
Aliph	nC36	43.3510	7852666			Z
Aliph	nC37	46.4710	6587367			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:**

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

Sample ID : COA/000992

Beach E6: Eves Cove Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 10:14:57 AM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

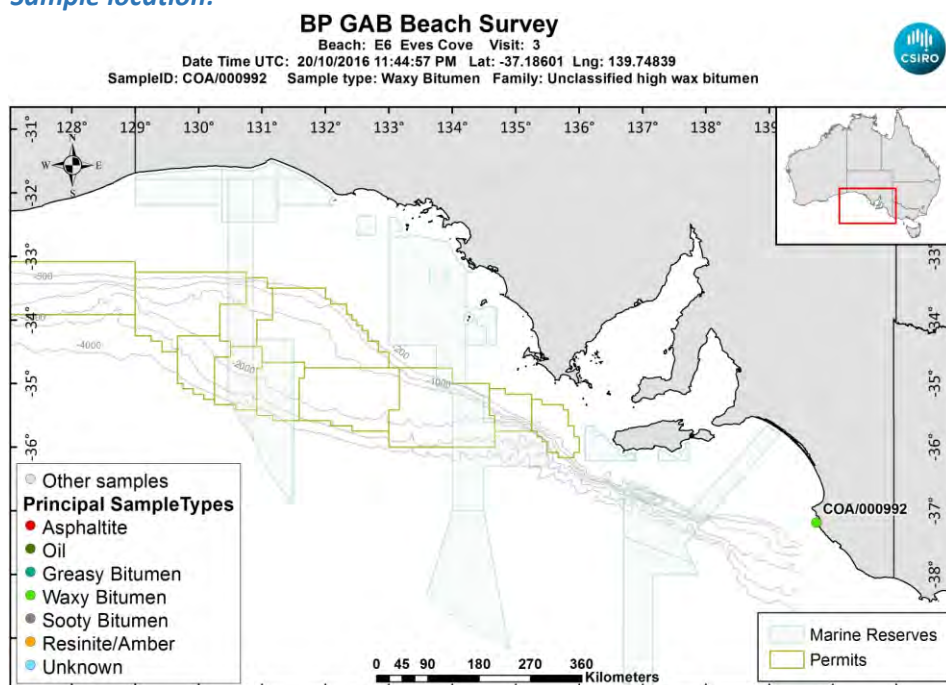
**Size (cm):** 3.3

**Latitude (Y):** -37.186010

**Weight (gm):** 6.00122

**Longitude (X):** 139.748388

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\COA\\_000992\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000992\\_146A7002.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000992\\_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: COA/000992\_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			84.46	percent Y
Inorg	Hydrogen			5.13438886679921	percent Y
Inorg	Nitrogen			0.15	percent Y
Inorg	Sulphur			1.95661898614275	percent Y

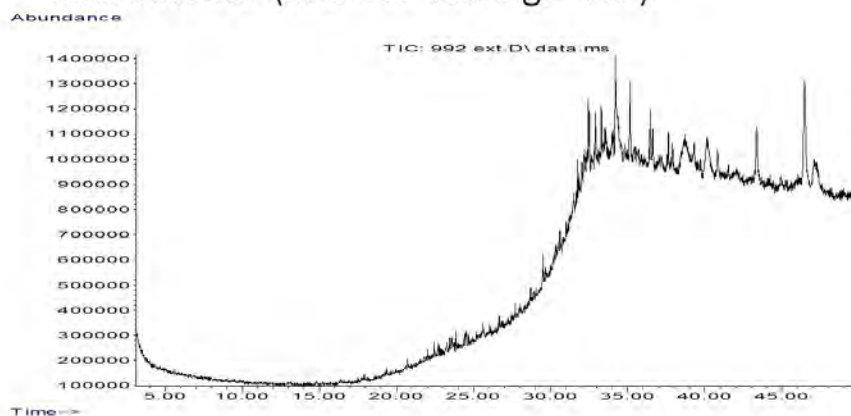
### Results for: GCMS with Full Scan

Unique ID: COA/000992\_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\COA\\_000992\\_ext\\_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

## 992 exterior (unclassified high wax)



## Data Sheet:

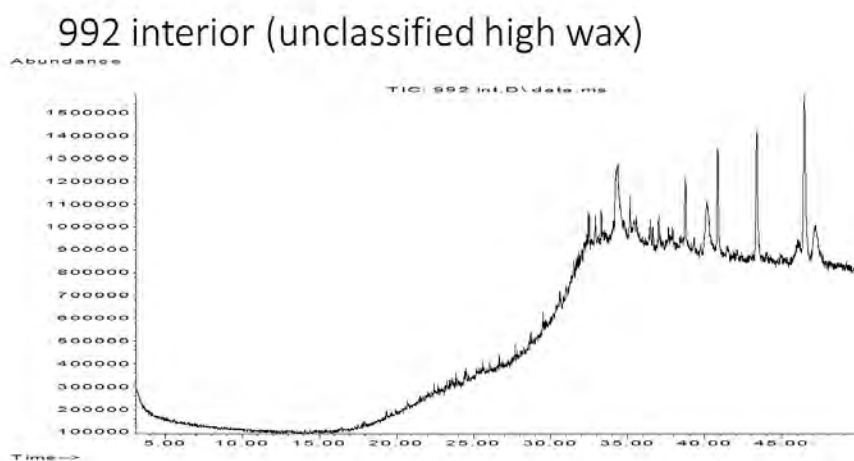
(default units ppb)

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				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	466978			Z
Aliph	nC35	40.8080	1186409			Z
Aliph	nC36	43.3510	3185530			Z
Aliph	nC37	46.4710	6713001			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:** COA/000992 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\COA\\_000992\\_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	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	884144			Z
Aliph	nC34	38.7280	3281249			Z
Aliph	nC35	40.8080	5573191			Z
Aliph	nC36	43.3510	8376469			Z
Aliph	nC37	46.4710	13169838			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:**

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



Sample ID : **COA/000993**

Beach E6: Eves Cove Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 10:16:39 AM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

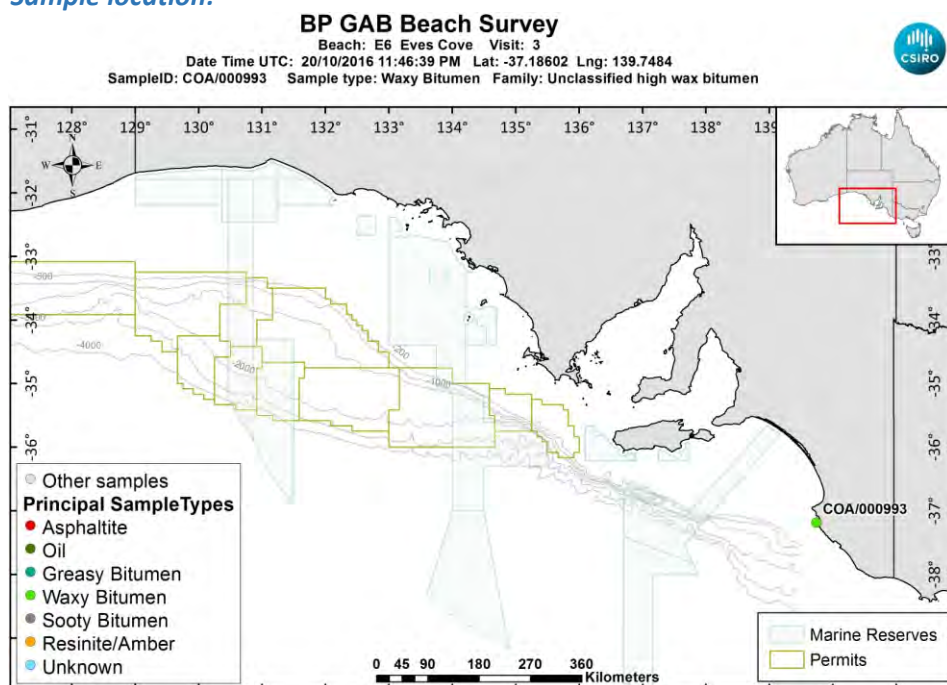
**Size (cm):** 1.6

**Latitude (Y):** -37.186025

**Weight (gm):** 0.67024

**Longitude (X):** 139.748403

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\COA\\_000993\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000993\\_146A7004.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000993\\_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: 3

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: **COA/000993\_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			82.65	percent	Y
Inorg	Hydrogen			5.25013817097416	percent	Y
Inorg	Nitrogen			0.08	percent	Y
Inorg	Sulphur			1.42152641416054	percent	Y

### Results for: GCMS with Full Scan

Unique ID: **COA/000993\_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\COA\\_000993\\_bulk\\_WholeOil.JPG](#)

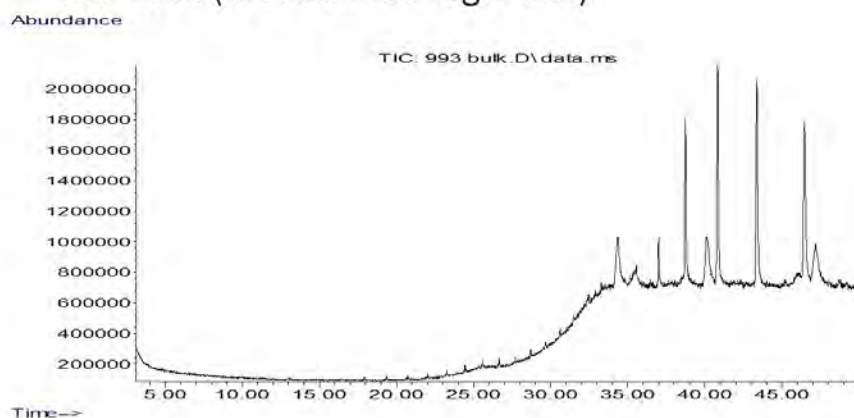
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

993 bulk (unclassified high 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				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	590126			Z
Aliph	nC33	37.0130	3130278			Z
Aliph	nC34	38.7280	11499991			Z
Aliph	nC35	40.8080	18505368			Z
Aliph	nC36	43.3510	21509516			Z
Aliph	nC37	46.4710	21576153			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:**

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



Sample ID : COA/000994

Beach E6: Eves Cove Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 10:18:36 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

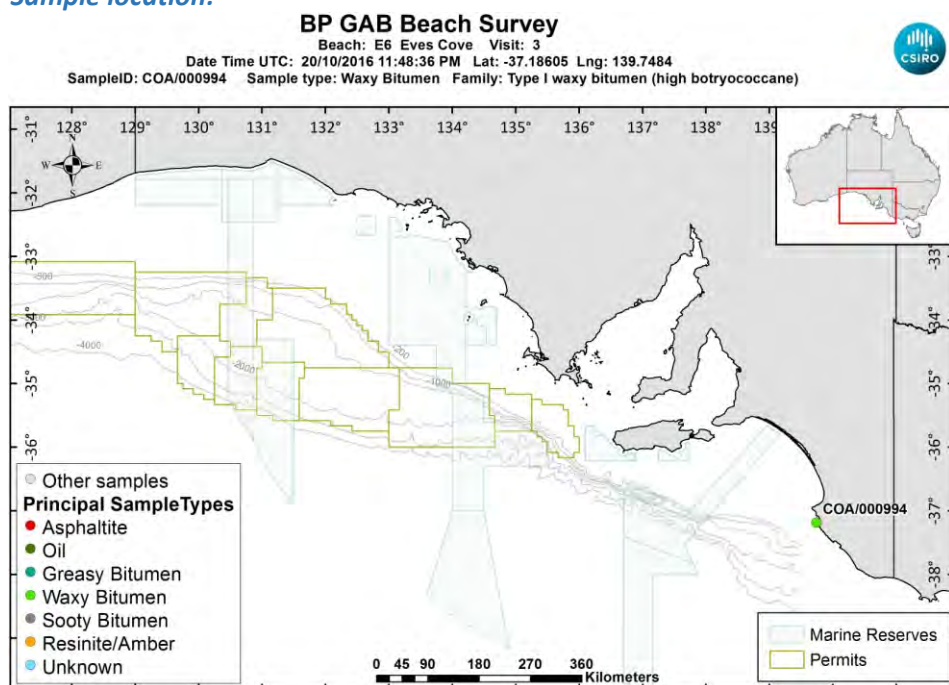
**Size (cm):** 2.3

**Latitude (Y):** -37.186053

**Weight (gm):** 2.62647

**Longitude (X):** 139.748402

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\COA\\_000994\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000994\\_146A7006.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000994\\_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: 3

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: COA/000994\_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			87.35	percent	Y
Inorg	Hydrogen			6.54163200795229	percent	Y
Inorg	Nitrogen			0.26	percent	Y
Inorg	Sulphur			1.42076015950153	percent	Y

### Results for: GCMS with Full Scan

Unique ID: COA/000994\_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\COA\\_000994\\_bulk\\_WholeOil.JPG](#)

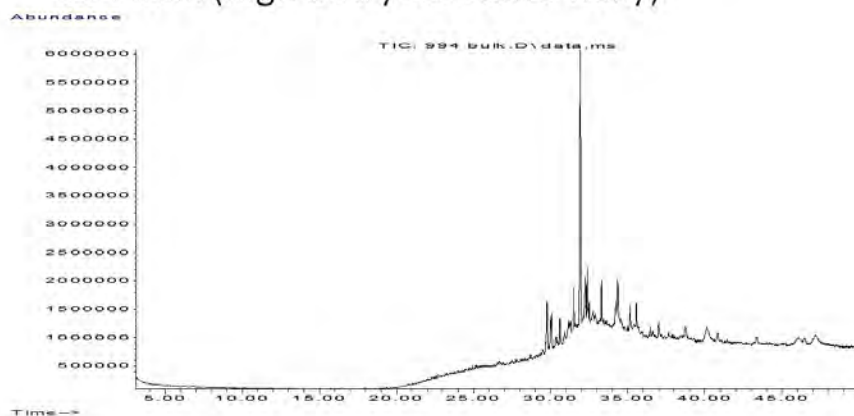
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

994 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	40631884			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	652814			Z
Aliph	nC27	30.6080	2218282			Z
Aliph	nC28	31.5080	4223821			Z
Aliph	nC29	32.3700	4170443			Z
Aliph	nC30	33.2910	4132494			Z
Aliph	nC31	34.3470	5466850			Z
Aliph	nC32	35.5720	3262390			Z
Aliph	nC33	37.0130	2990905			Z
Aliph	nC34	38.7280	2682035			Z
Aliph	nC35	40.8080	2220184			Z
Aliph	nC36	43.3510	1822687			Z
Aliph	nC37	46.4710	1912523			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:**

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



Sample ID : COA/000995

Beach E6: Eves Cove Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 10:20:20 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

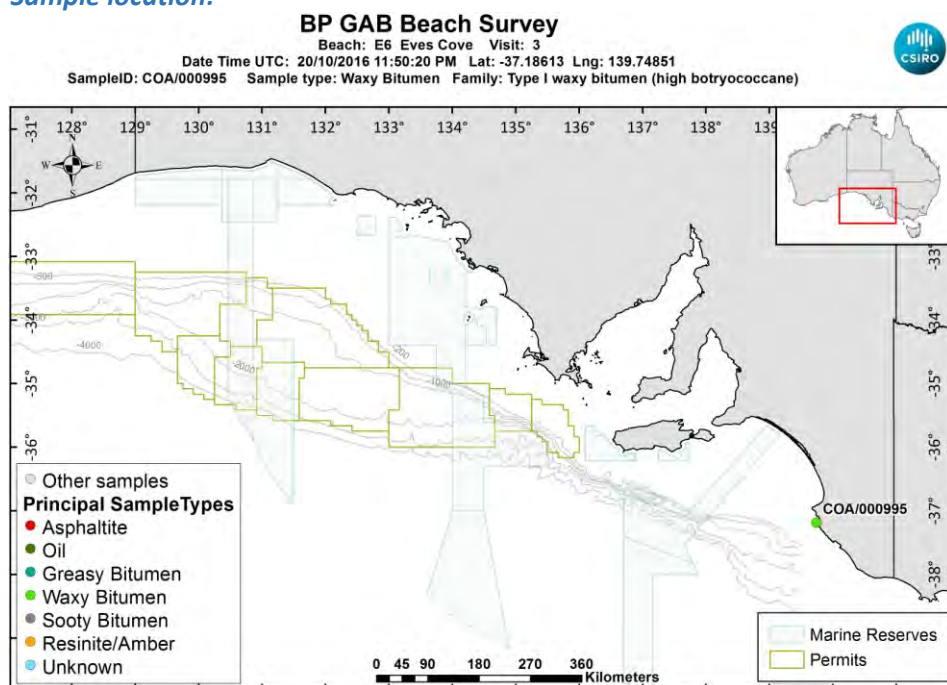
**Size (cm):** 4.5

**Latitude (Y):** -37.186132

**Weight (gm):** 4.89581

**Longitude (X):** 139.748507

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\COA\\_000995\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000995\\_146A7008.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000995\\_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: 3

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: COA/000995\_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			85.62	percent	Y
Inorg	Hydrogen			6.46373558648111	percent	Y
Inorg	Nitrogen			0.3	percent	Y
Inorg	Sulphur			2.04139184305061	percent	Y

### Results for: GCMS with Full Scan

Unique ID: COA/000995 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\COA\\_000995\\_bulk\\_WholeOil.JPG](#)

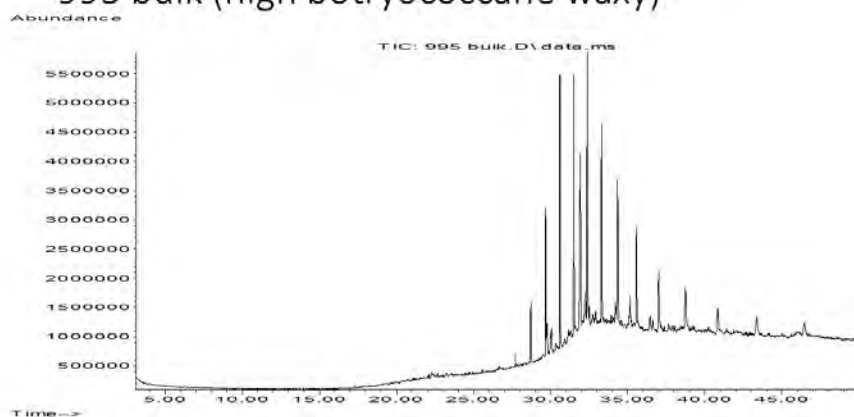
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

995 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	25167548			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	954688			Z
Aliph	nC25	28.7100	5005022			Z
Aliph	nC26	29.6680	12097184			Z
Aliph	nC27	30.6080	21650242			Z
Aliph	nC28	31.5080	24155873			Z
Aliph	nC29	32.3700	23054961			Z
Aliph	nC30	33.2910	18886884			Z
Aliph	nC31	34.3470	16878976			Z
Aliph	nC32	35.5720	12941191			Z
Aliph	nC33	37.0130	9631310			Z
Aliph	nC34	38.7280	7783029			Z
Aliph	nC35	40.8080	5485456			Z
Aliph	nC36	43.3510	4673783			Z
Aliph	nC37	46.4710	3612938			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:**

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



Sample ID : COA/000996

Beach E6: Eves Cove Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 10:25:09 AM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

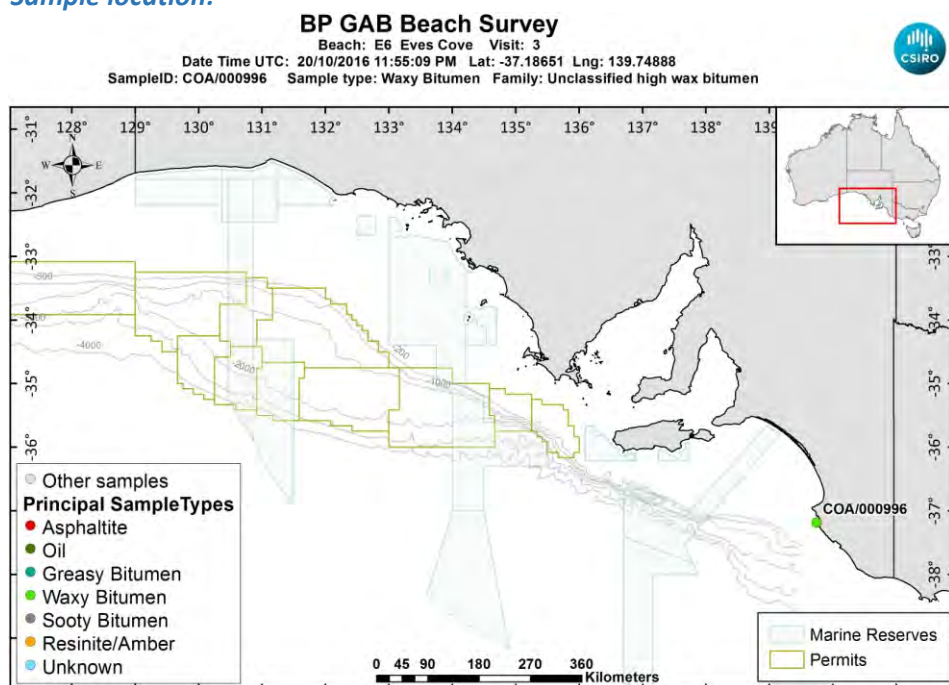
**Size (cm):** 3.1

**Latitude (Y):** -37.186508

**Weight (gm):** 4.11145

**Longitude (X):** 139.748882

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\COA\\_000996\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000996\\_146A7010.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB BCH1\Samples\COA\\_000996\\_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:** COA/000996\_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			84.26	percent	Y	
Inorg	Hydrogen			6.58198270377734	percent	Y	
Inorg	Nitrogen			0.13	percent	Y	
Inorg	Sulphur			2.57812112224778	percent	Y	

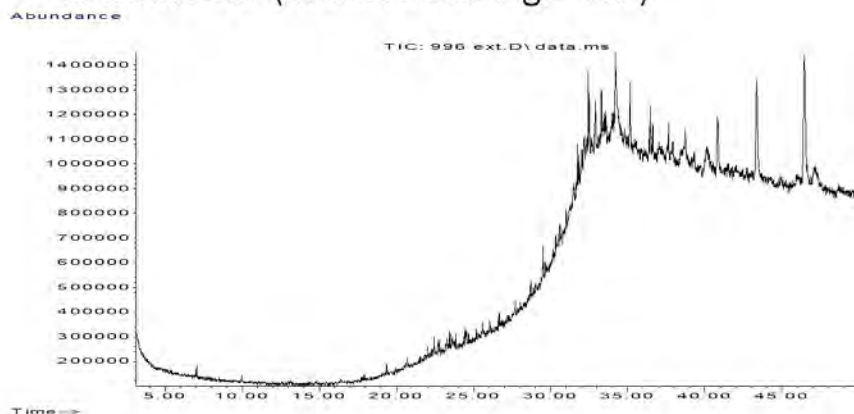
### Results for: GCMS with Full Scan

**Unique ID:** COA/000996\_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\COA\\_000996\\_ext\\_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

996 exterior (unclassified high wax)



## Data Sheet:

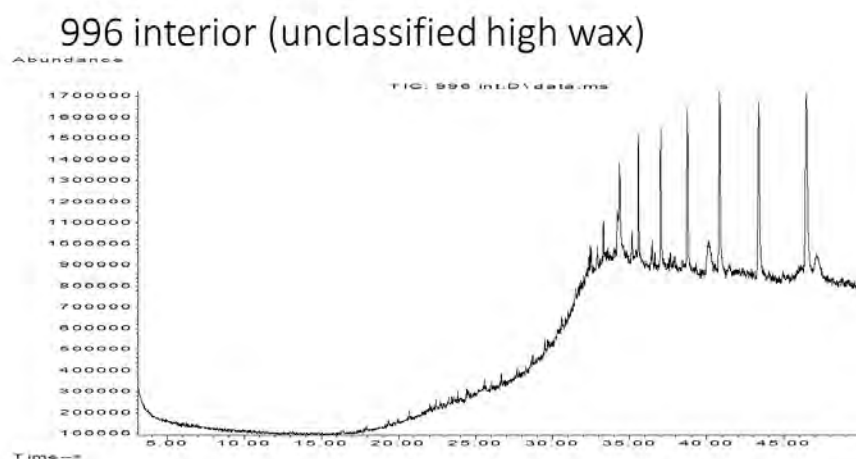
(default units ppb)

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				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	671518			Z
Aliph	nC33	37.0130	653211			Z
Aliph	nC34	38.7280	1183295			Z
Aliph	nC35	40.8080	2678818			Z
Aliph	nC36	43.3510	5502462			Z
Aliph	nC37	46.4710	8132262			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:** COA/000996 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\COA\\_000996\\_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	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	316032			Z
Aliph	nC30	33.2910	997446			Z
Aliph	nC31	34.3470	3201188			Z
Aliph	nC32	35.5720	4173293			Z
Aliph	nC33	37.0130	6685937			Z
Aliph	nC34	38.7280	8866029			Z
Aliph	nC35	40.8080	11319613			Z
Aliph	nC36	43.3510	13288255			Z
Aliph	nC37	46.4710	16648670			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:**

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

Sample ID : COA/000997

Beach E6: Eves Cove Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 10:27:49 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

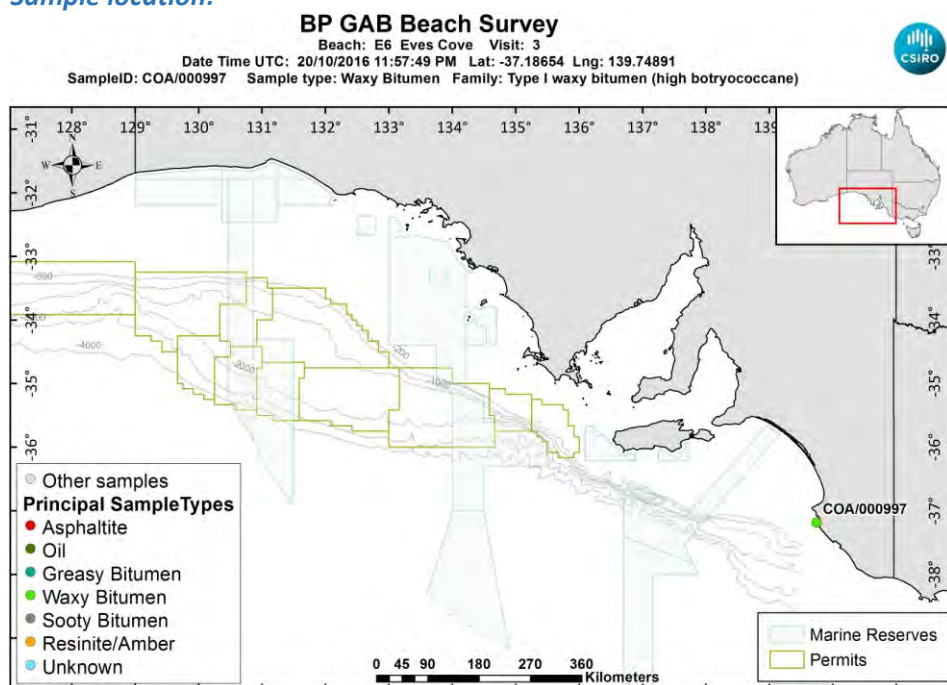
**Size (cm):** 2.3

**Latitude (Y):** -37.186535

**Weight (gm):** 1.62574

**Longitude (X):** 139.748913

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\COA\\_000997\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000997\\_146A7012.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000997\\_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: 3

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: COA/000997\_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			85.15	percent	Y
Inorg	Hydrogen			6.45076799204772	percent	Y
Inorg	Nitrogen			0.26	percent	Y
Inorg	Sulphur			1.28293740499171	percent	Y

### Results for: GCMS with Full Scan

Unique ID: COA/000997 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\COA\\_000997\\_bulk\\_WholeOil.JPG](#)

Preparation: Dissolved in solvent

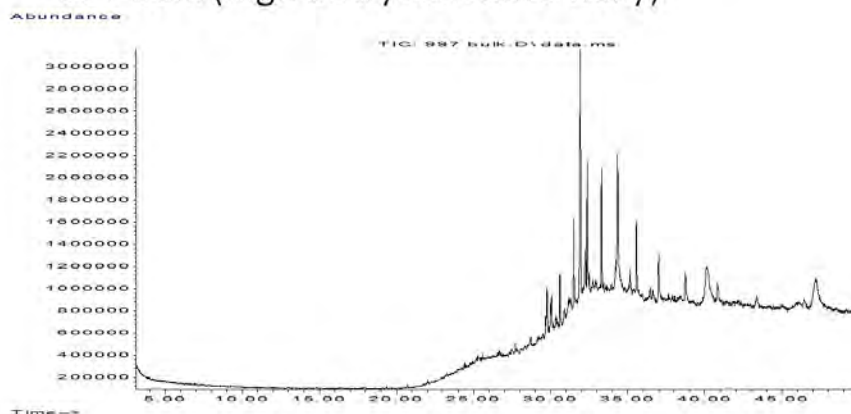
Method ID/s:

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



## Results for: GCMS with Full Scan

997 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	17882384			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	691061			Z
Aliph	nC27	30.6080	2135131			Z
Aliph	nC28	31.5080	4382638			Z
Aliph	nC29	32.3700	6121457			Z
Aliph	nC30	33.2910	6171695			Z
Aliph	nC31	34.3470	7528490			Z
Aliph	nC32	35.5720	4667399			Z
Aliph	nC33	37.0130	3541181			Z
Aliph	nC34	38.7280	3200407			Z
Aliph	nC35	40.8080	2205910			Z
Aliph	nC36	43.3510	1216058			Z
Aliph	nC37	46.4710	1209203			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:**

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



Sample ID : COA/000998

Beach E6: Eves Cove Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 10:29:04 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

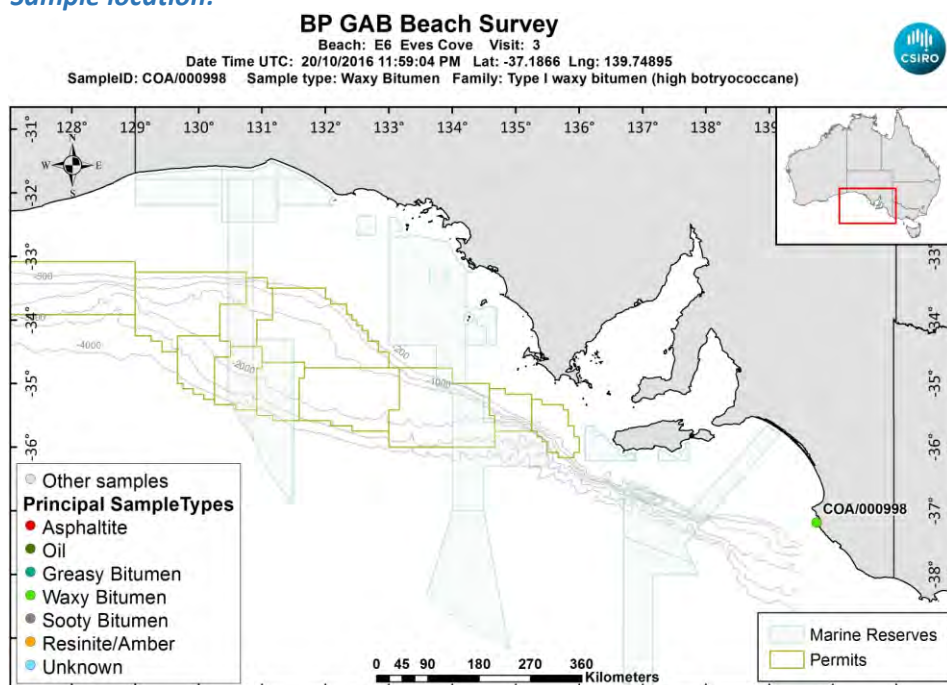
**Size (cm):** 2.1

**Latitude (Y):** -37.186597

**Weight (gm):** 1.7491

**Longitude (X):** 139.748953

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\COA\\_000998\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000998\\_146A7014.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000998\\_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: 3

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: **COA/000998\_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			85.87	percent	Y
Inorg	Hydrogen			5.83981431411531	percent	Y
Inorg	Nitrogen			0.24	percent	Y
Inorg	Sulphur			1.10001373843274	percent	Y

### Results for: GCMS with Full Scan

Unique ID: **COA/000998\_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\COA\\_000998\\_bulk\\_WholeOil.JPG](#)

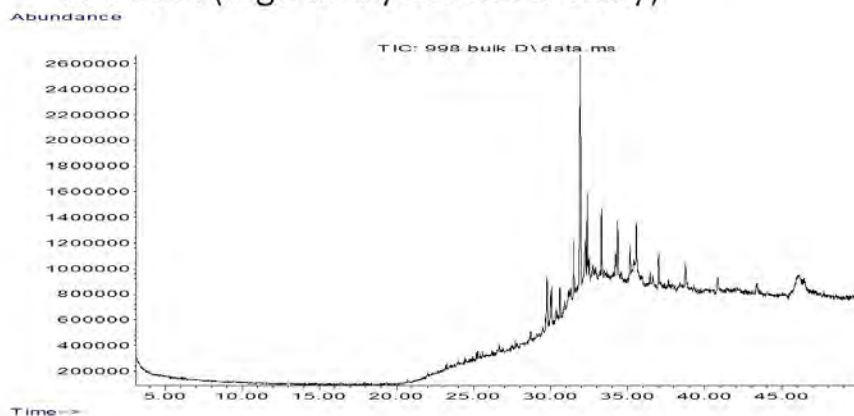
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

998 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	15170820			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	520416			Z
Aliph	nC26	29.6680	326823			Z
Aliph	nC27	30.6080	1197920			Z
Aliph	nC28	31.5080	2703336			Z
Aliph	nC29	32.3700	2997811			Z
Aliph	nC30	33.2910	3179262			Z
Aliph	nC31	34.3470	3214376			Z
Aliph	nC32	35.5720	3023160			Z
Aliph	nC33	37.0130	2124518			Z
Aliph	nC34	38.7280	1962055			Z
Aliph	nC35	40.8080	1634895			Z
Aliph	nC36	43.3510	1086106			Z
Aliph	nC37	46.4710	1451873			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:**

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



Sample ID : COA/000999

Beach E6: Eves Cove Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 10:32:28 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

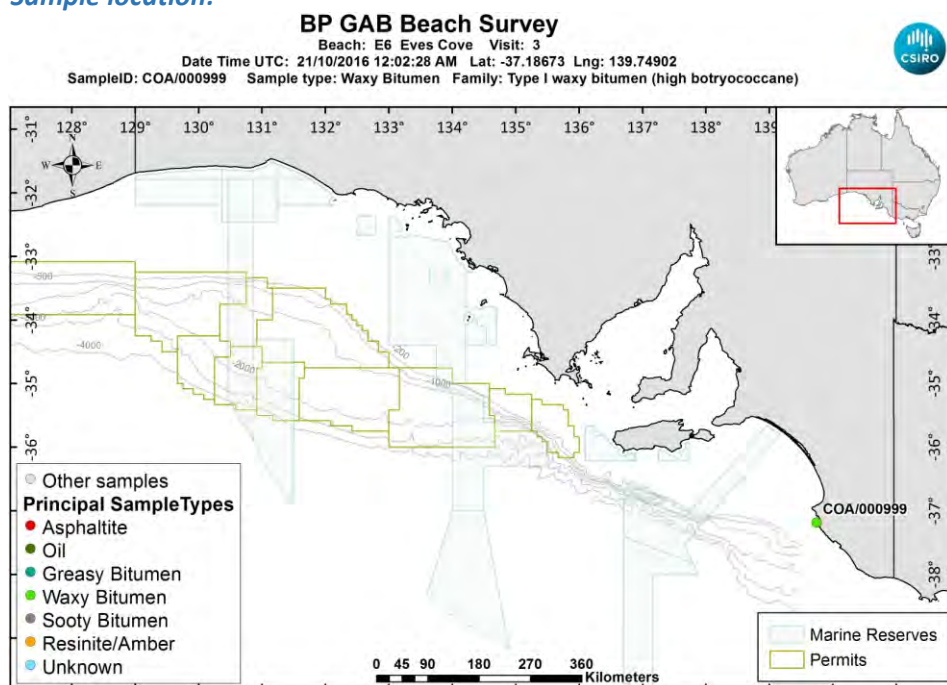
**Size (cm):** 3.2

**Latitude (Y):** -37.186730

**Weight (gm):** 6.14072

**Longitude (X):** 139.749020

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\COA\\_000999\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_000999\\_146A7016.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB BCH1\Samples\COA\\_000999 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:** COA/000999\_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			84.89	percent	Y
Inorg	Hydrogen			6.42001749502982	percent	Y
Inorg	Nitrogen			0.32	percent	Y
Inorg	Sulphur			1.35788791047742	percent	Y

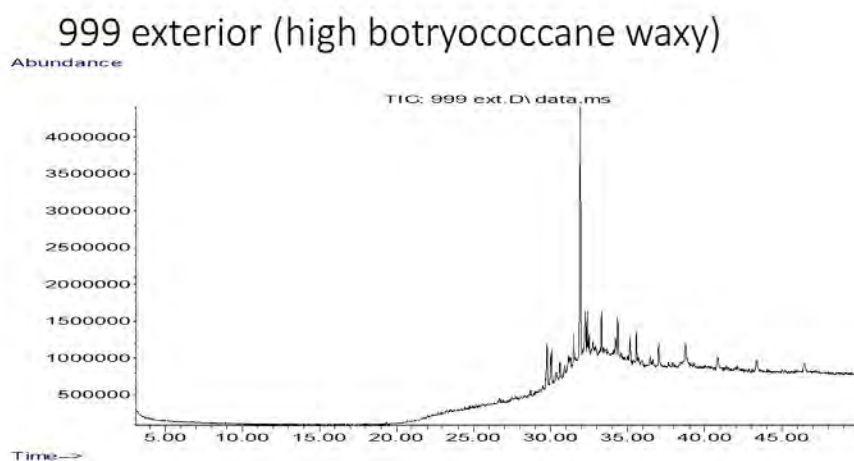
### Results for: GCMS with Full Scan

**Unique ID:** COA/000999\_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\COA\\_000999\\_ext\\_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior



## Results for: GCMS with Full Scan



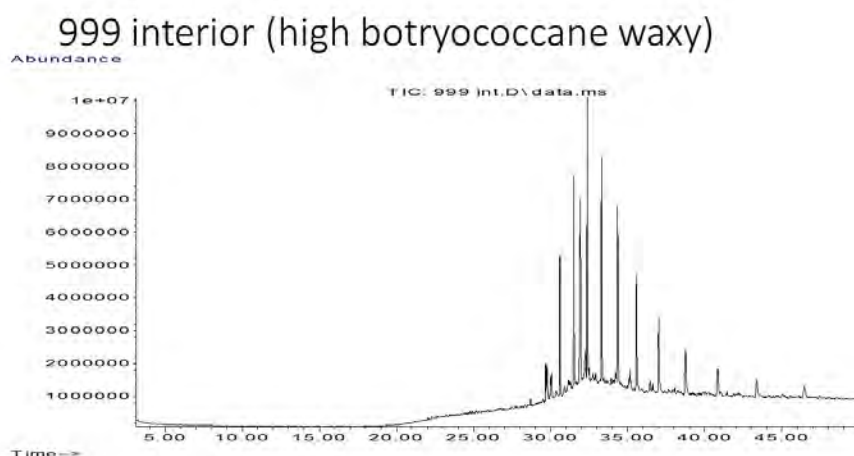
## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	27701722			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	530485			Z
Aliph	nC26	29.6680	261077			Z
Aliph	nC27	30.6080	1229443			Z
Aliph	nC28	31.5080	2187308			Z
Aliph	nC29	32.3700	2425425			Z
Aliph	nC30	33.2910	3366903			Z
Aliph	nC31	34.3470	3740590			Z
Aliph	nC32	35.5720	3276572			Z
Aliph	nC33	37.0130	2958657			Z
Aliph	nC34	38.7280	3000897			Z
Aliph	nC35	40.8080	2198433			Z
Aliph	nC36	43.3510	2302621			Z
Aliph	nC37	46.4710	2128376			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:** COA/000999 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\COA\\_000999\\_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	31.9240	46573652			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	1161427			Z
Aliph	nC26	29.6680	5124736			Z
Aliph	nC27	30.6080	19672892			Z
Aliph	nC28	31.5080	33148871			Z
Aliph	nC29	32.3700	39785190			Z
Aliph	nC30	33.2910	37330663			Z
Aliph	nC31	34.3470	34453897			Z
Aliph	nC32	35.5720	27145978			Z
Aliph	nC33	37.0130	20501017			Z
Aliph	nC34	38.7280	14558283			Z
Aliph	nC35	40.8080	10218175			Z
Aliph	nC36	43.3510	7251404			Z
Aliph	nC37	46.4710	5728090			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:**

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

Sample ID : COA/001000

Beach E6: Eves Cove Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 10:33:33 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

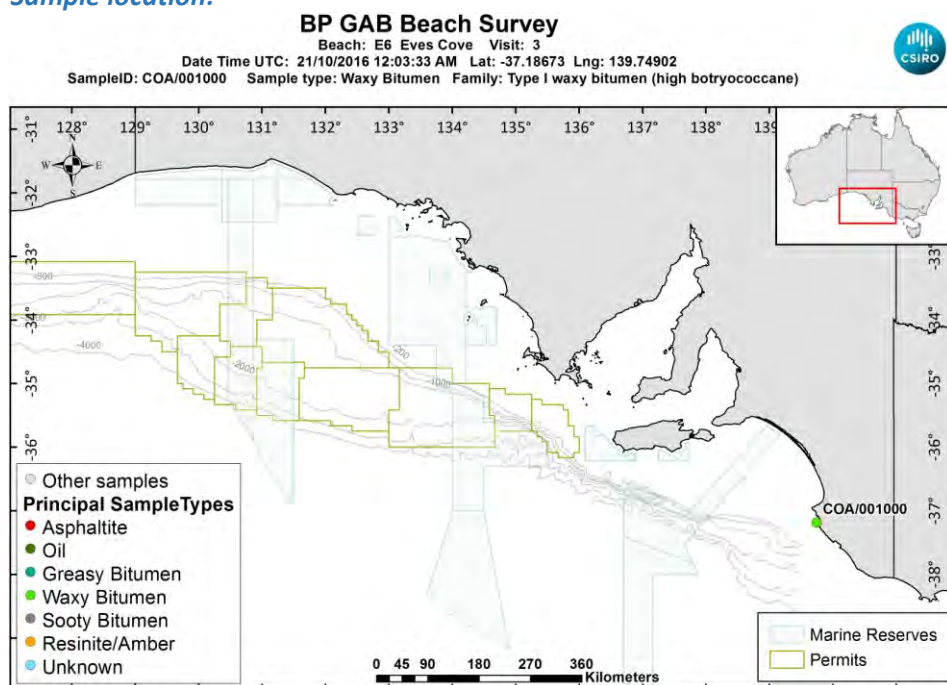
**Size (cm):** 3.5

**Latitude (Y):** -37.186728

**Weight (gm):** 4.22086

**Longitude (X):** 139.749017

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\COA\\_001000\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_001000\\_146A7018.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\COA\\_001000\\_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: 3

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: COA/001000\_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			84.61	percent	Y
Inorg	Hydrogen			7.96228508946322	percent	Y
Inorg	Nitrogen			0.22	percent	Y
Inorg	Sulphur			1.68294297099824	percent	Y

### Results for: GCMS with Full Scan

Unique ID: COA/001000\_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\COA\\_001000\\_bulk\\_WholeOil.JPG](#)

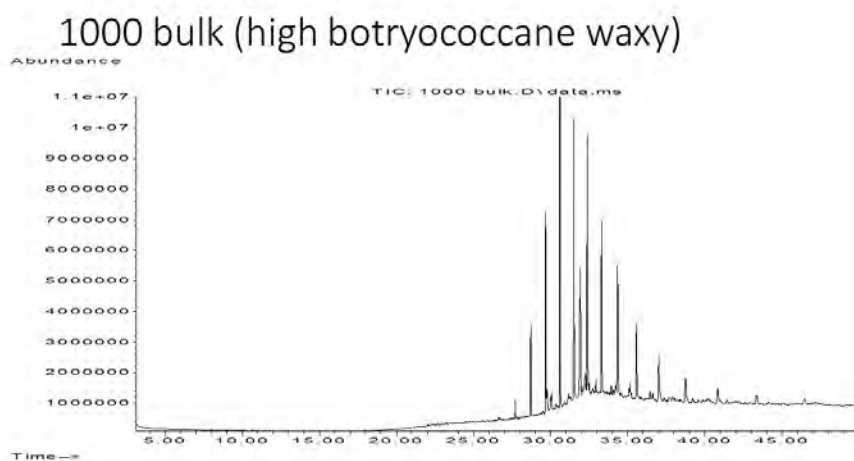
Preparation: Dissolved in solvent

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	31.9240	33841345			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	342977			Z
Aliph	nC24	27.7060	2743351			Z
Aliph	nC25	28.7100	13935441			Z
Aliph	nC26	29.6680	30722430			Z
Aliph	nC27	30.6080	47928960			Z
Aliph	nC28	31.5080	46796402			Z
Aliph	nC29	32.3700	42786022			Z
Aliph	nC30	33.2910	32564478			Z
Aliph	nC31	34.3470	27016183			Z
Aliph	nC32	35.5720	18344804			Z
Aliph	nC33	37.0130	13566175			Z
Aliph	nC34	38.7280	8788517			Z
Aliph	nC35	40.8080	6679431			Z
Aliph	nC36	43.3510	4990882			Z
Aliph	nC37	46.4710	3687360			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:**

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

Sample ID : **W13/007472**

Beach W3: Evre Well Visit: 1

**Comments:**

**Location:** Mid Intertidal

**Local Date Time:** 8/11/2014 12:50:24 PM

**Type:** Asphaltite

**Family:** Asphaltite

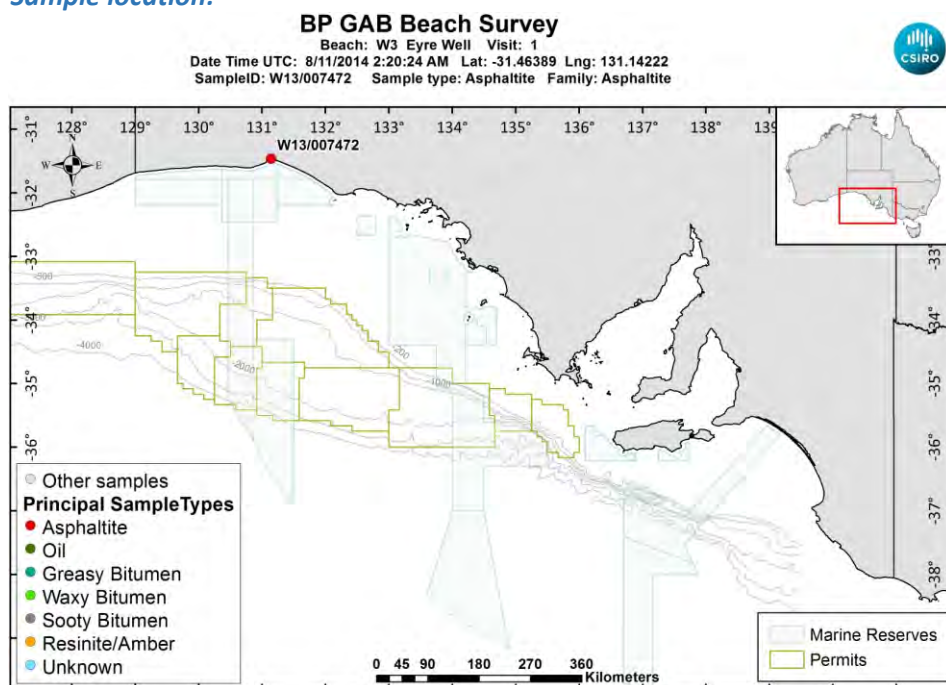
**Size (cm):** 5

**Latitude (Y):** -31.463889

**Weight (gm):** 17.6045

**Longitude (X):** 131.142222

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007472\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007472\\_146A0057.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007472\\_Photo01.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
3	Elemental CHNS	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: 1

## Sample Analyses Completed:

### Results for: Gas Chromatography Mass Spectrometry

**Unique ID:** W13/007472\_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 Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			41.7914037072485	ratio	Y
BiomRatio	% C27 abb 20(R+S)			36.1178070013286	ratio	Y
BiomRatio	% C28 aaa 20R			23.9936253164727	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.1429298302991	ratio	Y
BiomRatio	% C29 aaa 20R			34.2149709762788	ratio	Y
BiomRatio	% C29 abb 20(R+S)			39.7392631683723	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			9.13182978977924E-02	ratio	Y
BiomRatio	25-Nor/C30H			1.79507213934222E-02	ratio	Y
BiomRatio	C19t/C23t			0.243249045545461	ratio	Y
BiomRatio	C22t/C21t			0.315796945910957	ratio	Y
BiomRatio	C22t/C24t			0.279055476408174	ratio	Y
BiomRatio	C23t/C30H			8.21245136438314E-02	ratio	Y
BiomRatio	C24t/C23t			0.560912745978529	ratio	Y
BiomRatio	C24Tet/C23t			0.71570553303349	ratio	Y
BiomRatio	C24Tet/C26t			1.40482873737859	ratio	Y
BiomRatio	C24Tet/C30H			5.87769688125745E-02	ratio	Y
BiomRatio	C26t/C25t			0.891727816456687	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.413660189698141	ratio	Y
BiomRatio	C27 Dia/Ster			0.397009830400025	ratio	Y
BiomRatio	C28BNH/C30H			2.70318186123509E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.10026788633403	ratio	Y
BiomRatio	C29H/C30H			0.632322229676182	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.199018412946249	ratio	Y
BiomRatio	C30DiaH/C30H			0.082677928512316	ratio	Y
BiomRatio	C30Ts/C30H			4.09423176172326E-02	ratio	Y
BiomRatio	C35 Homohopane Index			7.98616040767608E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.922309397752422	ratio	Y
BiomRatio	Gam/C30H			6.61380722101597E-02	ratio	Y
BiomRatio	Gam/C31HR			0.234724546472767	ratio	Y
BiomRatio	Ole/C30H			1.02106512478428E-02	ratio	Y
BiomRatio	Sterane/hopane			0.327092361481665	ratio	Y
BiomRatio	Steranes/Terpanes			0.289394295526867	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.130265407914019	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007472 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 Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			40.3409354823726	ratio	Y
BiomRatio	% C27 abb 20(R+S)			37.3768422363554	ratio	Y
BiomRatio	% C28 aaa 20R			23.3839627169554	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.2651376847897	ratio	Y
BiomRatio	% C29 aaa 20R			36.275101800672	ratio	Y
BiomRatio	% C29 abb 20(R+S)			37.3580200788549	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.105139438612593	ratio	Y
BiomRatio	25-Nor/C30H			2.47709040307142E-02	ratio	Y
BiomRatio	C19t/C23t			0.286165844943396	ratio	Y
BiomRatio	C22t/C21t			0.367333836858006	ratio	Y
BiomRatio	C22t/C24t			0.309068378240976	ratio	Y
BiomRatio	C23t/C30H			6.06315320213566E-02	ratio	Y
BiomRatio	C24t/C23t			0.540653828314236	ratio	Y
BiomRatio	C24Tet/C23t			0.715689474497947	ratio	Y
BiomRatio	C24Tet/C26t			1.39073975163573	ratio	Y
BiomRatio	C24Tet/C30H			4.33933492903702E-02	ratio	Y
BiomRatio	C26t/C25t			0.94923632676342	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.436763834295018	ratio	Y
BiomRatio	C27 Dia/Ster			0.434752831084288	ratio	Y
BiomRatio	C28BNH/C30H			4.75075983409681E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.999496421945402	ratio	Y
BiomRatio	C29H/C30H			0.642767566801864	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.183108230643882	ratio	Y
BiomRatio	C30DiaH/C30H			8.23131037269888E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.038030243376059	ratio	Y
BiomRatio	C35 Homohopane Index			0.093065967104049	ratio	Y
BiomRatio	C35HS/C34HS			0.948758650349924	ratio	Y
BiomRatio	Gam/C30H			5.83983801316143E-02	ratio	Y
BiomRatio	Gam/C31HR			0.173053773928503	ratio	Y
BiomRatio	Ole/C30H			2.10712046312904E-03	ratio	Y
BiomRatio	Sterane/hopane			0.269731020475992	ratio	Y
BiomRatio	Steranes/Terpanes			0.250942836692778	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			7.48703729934163E-02	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007472\_UNK\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:



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

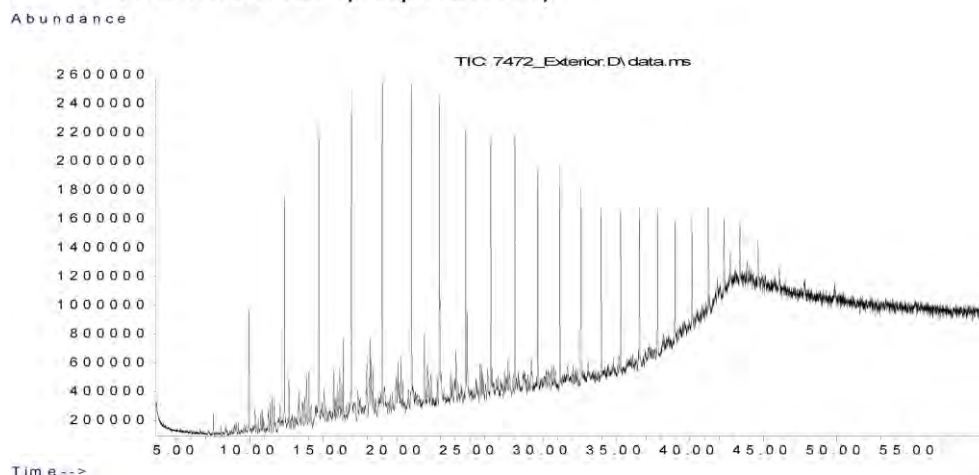
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			83.615	percent	Y
Inorg	delta13 Carbon			-29.66	per mille	Y
Inorg	delta34 Sulphur			-5.79	per mille	Y
Inorg	Hydrogen			8.315	percent	Y
Inorg	Nitrogen			0.655	percent	Y
Inorg	Sulphur			4.025	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007472\_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\\_007472\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

## 7472 Exterior (Asphaltite)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Ratio	nC17/nC29			3.48533292801556	ug/L	Y
Ratio	nC17/nC35			12.9885436963595	ug/L	Y
Ratio	nC17/Pristane			4.22456129284049	ug/L	Y
Ratio	nC18/Phytane			2.81078879754214	ug/L	Y
Ratio	Pristane/Phytane			0.824324120740992	ug/L	Y
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100	983785		ug/L	Z
Aliph	nC11	9.9450	6112023		ug/L	Z
Aliph	nC12	12.3690	11788434		ug/L	Z
Aliph	nC13	14.7030	15002729		ug/L	Z
Aliph	nC14	16.9230	16854381		ug/L	Z
Aliph	nC15	19.0270	15341787		ug/L	Z
Aliph	nC16	21.0200	13902944		ug/L	Z
Aliph	nC17	22.9150	14331689		ug/L	Z
Aliph	nC18	24.7150	11567672		ug/L	Z
Aliph	nC19	26.4300	10141561		ug/L	Z
Aliph	nC20	28.0680	9843680		ug/L	Z
Aliph	nC21	29.6330	8808740		ug/L	Z
Aliph	nC22	31.1340	7870129		ug/L	Z
Aliph	nC23	32.5720	7331460		ug/L	Z
Aliph	nC24	33.9520	6799859		ug/L	Z
Aliph	nC25	35.2810	6066022		ug/L	Z
Aliph	nC26	36.5600	6390298		ug/L	Z
Aliph	nC27	37.7930	5202831		ug/L	Z
Aliph	nC28	38.9870	4372739		ug/L	Z
Aliph	nC29	40.1370	4112000		ug/L	Z
Aliph	nC30	41.2480	3871663		ug/L	Z
Aliph	nC31	42.3270	2865475		ug/L	Z
Aliph	nC32	43.4130	2315439		ug/L	Z
Aliph	nC33	44.6430	1657869		ug/L	Z
Aliph	nC34	46.0860	1253698		ug/L	Z
Aliph	nC35	47.8060	1103410		ug/L	Z
Aliph	nC36	49.8090	710955		ug/L	Z
Aliph	nC37	52.2960			ug/L	U

## Results for: GCMS with Full Scan

Aliph	nC38	55.2370		ug/L	U
Aliph	nC39	58.8850		ug/L	U
Aliph	Norpristane	21.9070	5244753	ug/L	Z
Aliph	Phytane	24.8210	4115454	ug/L	Z
Aliph	Pristane	22.9640	3392468	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 : **W13/007761**

Beach W3: Evre Well Visit: 2

**Comments:**

**Location:** Mid Intertidal

**Local Date Time:** 26/09/2015 10:10:19 AM

**Type:** Resinite/Amber

**Family:** Resin/Amber

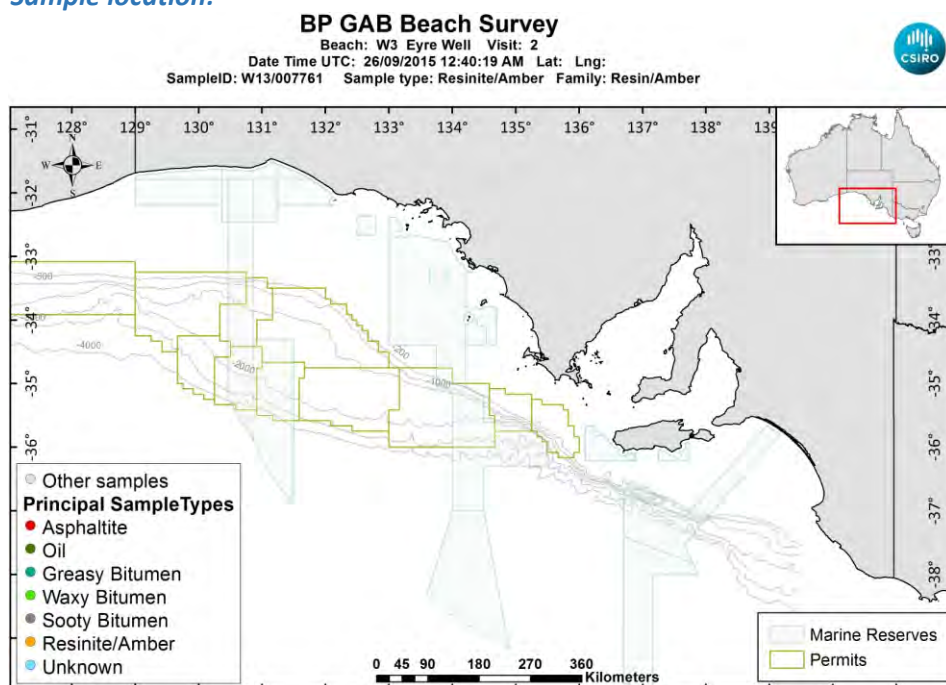
**Size (cm):** 3.2

**Latitude (Y):**

**Weight (gm):** 7.5

**Longitude (X):**

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007761\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007761\\_146A1870.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007761\\_Photo02.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 : **W13/007762**

Beach W3: Evre Well Visit: 2

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 26/09/2015 11:25:10 AM

**Type:** Resinite/Amber

**Family:** Resin/Amber

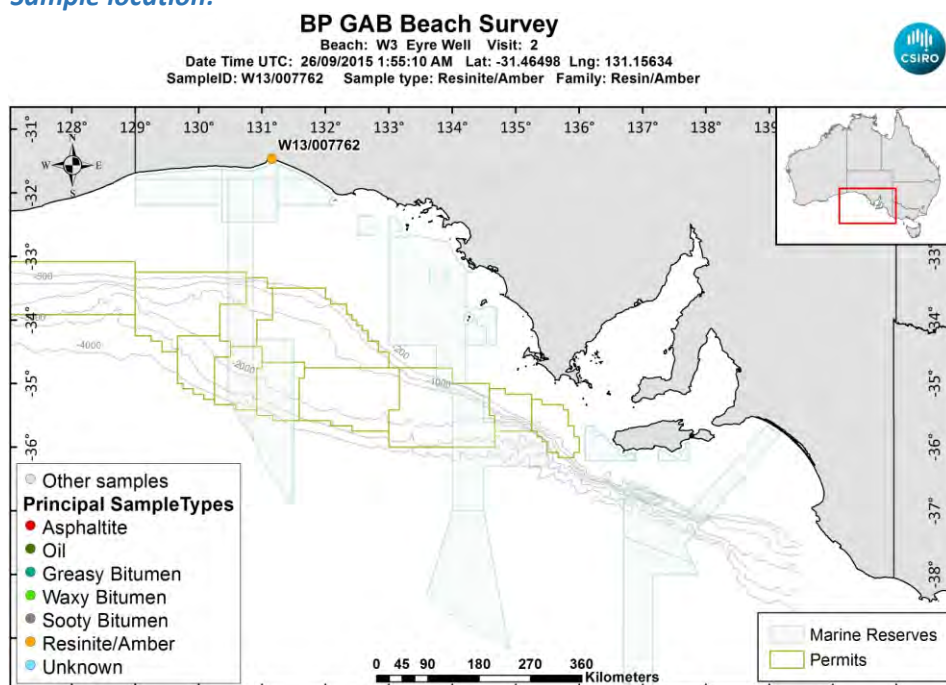
**Size (cm):** 2.2

**Latitude (Y):** -31.464980

**Weight (gm):** 9.6

**Longitude (X):** 131.156342

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007762\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007762\\_146A1875.JPG](#)

**Sample - laboratory image:**





LinkedFiles\GAB\_BCH1\Samples\W13\_007762\_Photo02.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 : **W13/007763**

Beach W3: Evre Well Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 26/09/2015 11:28:36 AM

**Type:** Resinite/Amber

**Family:** Resin/Amber

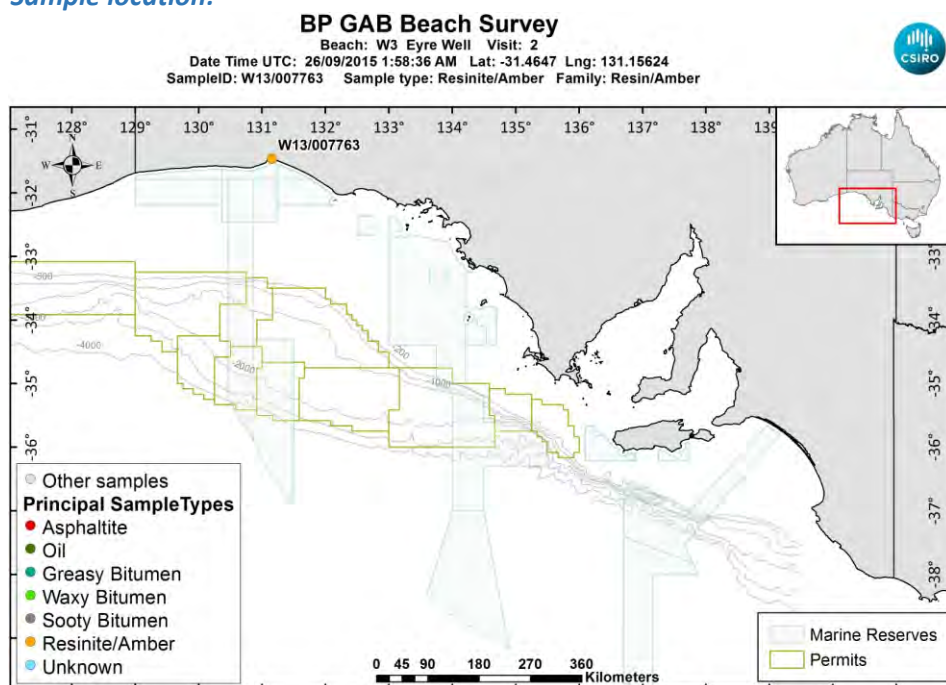
**Size (cm):** 7.1

**Latitude (Y):** -31.464705

**Weight (gm):** 65.4

**Longitude (X):** 131.156235

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007763\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007763\\_146A1877.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007763\\_Photo02.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 : **W13/007764**

Beach W3: Evre Well Visit: 2

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 26/09/2015 12:14:03 PM

**Type:** Asphaltite

**Family:** Asphaltite

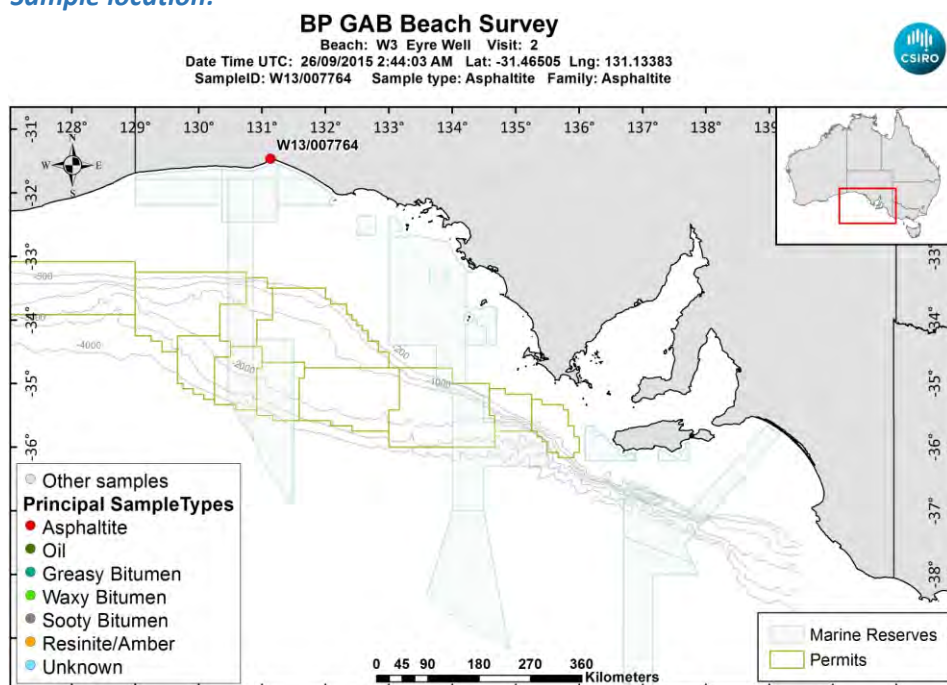
**Size (cm):** 14

**Latitude (Y):** -31.465050

**Weight (gm):** 429

**Longitude (X):** 131.133830

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007764\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007764\\_146A1880.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007764\\_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:** W13/007764\_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			87.05	percent	Y
Inorg	Hydrogen			6.48187813121272	percent	Y
Inorg	Nitrogen			0.754818937446444	percent	Y
Inorg	Sulphur			4.60120457165946	percent	Y



**Qualifier codes:**

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

Sample ID : **W13/007765**

Beach W3: Evre Well Visit: 2

**Comments:**

picked up by hand. Coords to be sent. This was the larger

**Location:** Upper Intertidal

**Local Date Time:** 26/09/2015 12:04:03 PM

**Type:** Resinite/Amber

**Family:** Resin/Amber

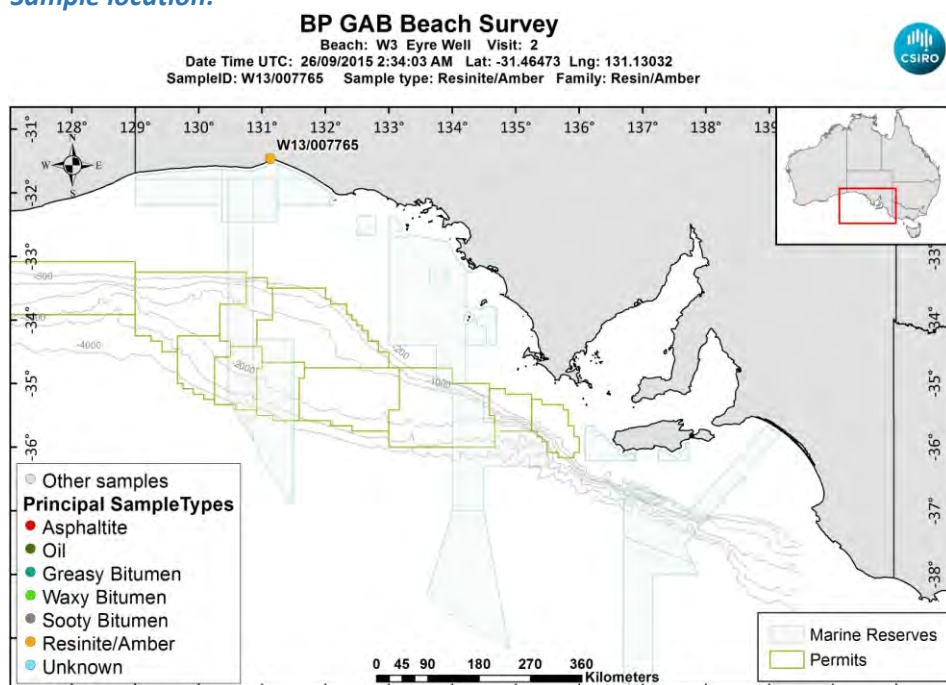
**Size (cm):** 4

**Latitude (Y):** -31.464726

**Weight (gm):** 7.6

**Longitude (X):** 131.130323

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007765\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007765\\_Photo03.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 : **W13/007766**

Beach W3: Evre Well Visit: 2

**Comments:**

picked up by hand. Coords to be sent. This was the smaller

**Location:** Upper Intertidal

**Local Date Time:** 26/09/2015 12:04:03 PM

**Type:** Resinite/Amber

**Family:** Resin/Amber

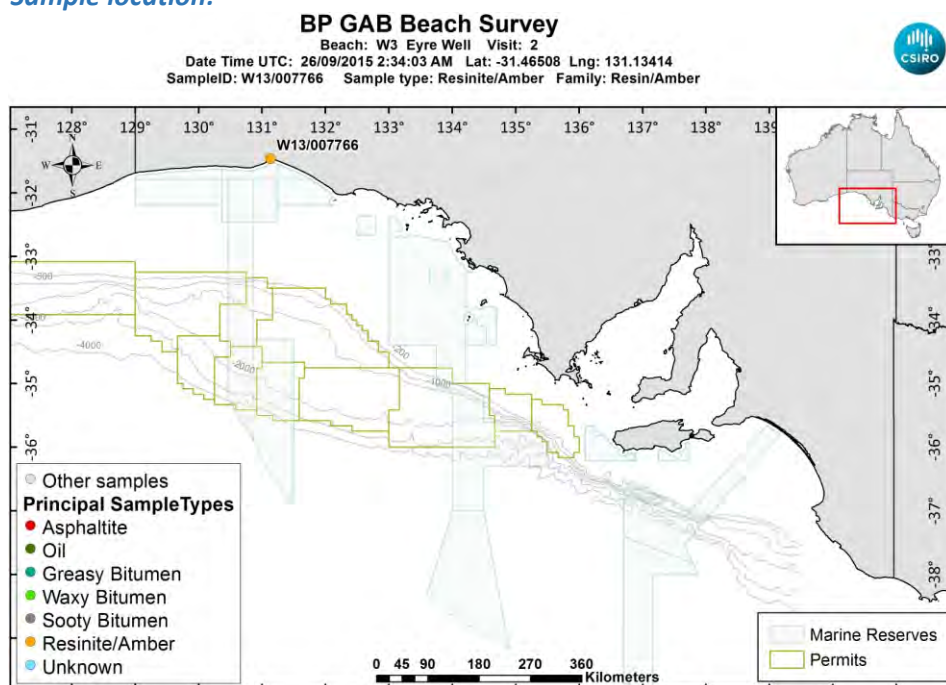
**Size (cm):** 3

**Latitude (Y):** -31.465085

**Weight (gm):** 6.8

**Longitude (X):** 131.134140

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007766\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007766\\_Photo02.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 : **W13/007769**

Beach W3: Evre Well Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 6/10/2016 9:16:43 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

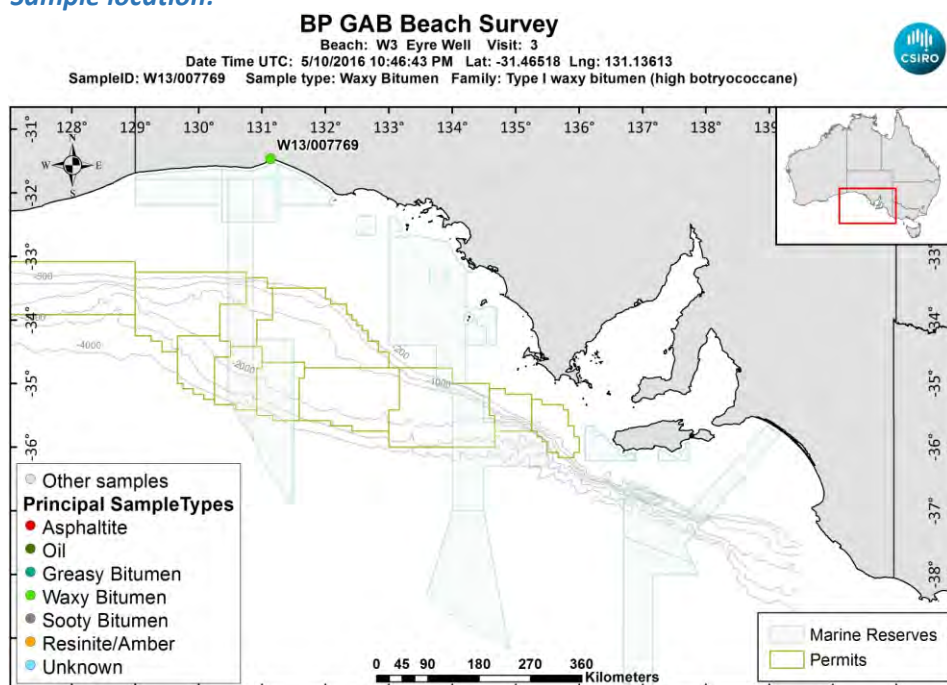
**Size (cm):** 5.4

**Latitude (Y):** -31.465177

**Weight (gm):** 41.75677

**Longitude (X):** 131.136132

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007769\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007769\\_146A6400.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007769\\_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: W13/007769\_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			90.66	percent	Y
Inorg	Hydrogen			10.3405887077535	percent	Y
Inorg	Nitrogen			0.24	percent	Y
Inorg	Sulphur			1.66368033902877	percent	Y

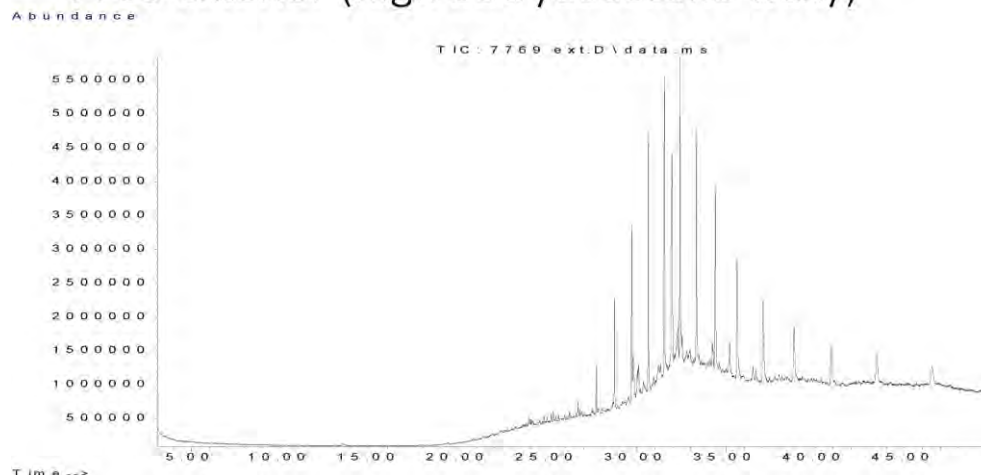
### Results for: GCMS with Full Scan

Unique ID: W13/007769\_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\\_007769\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

7769 exterior (high botryococcane waxy)



## Data Sheet:

(default units ppb)

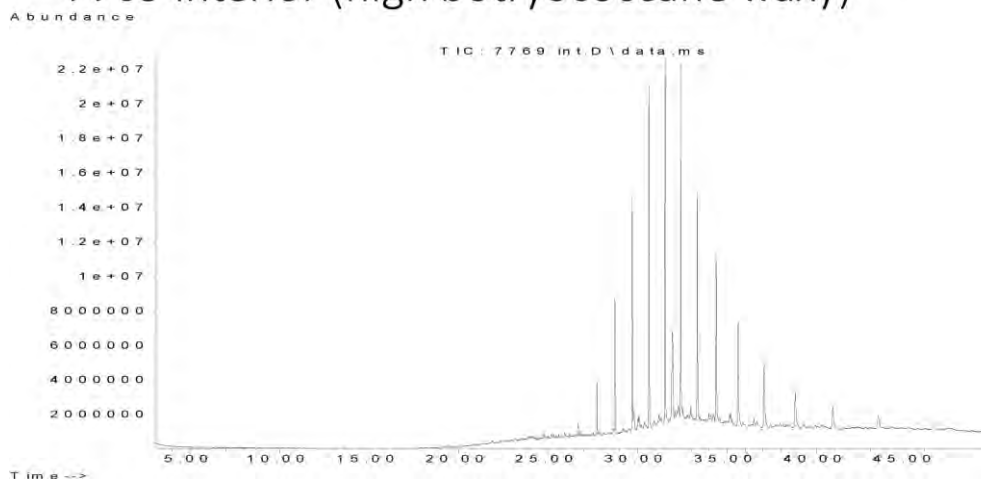
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	23185041			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				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	862254			Z
Aliph	nC24	27.7060	2871158			Z
Aliph	nC25	28.7100	6726640			Z
Aliph	nC26	29.6680	10828724			Z
Aliph	nC27	30.6080	18594793			Z
Aliph	nC28	31.5080	19927974			Z
Aliph	nC29	32.3700	21077153			Z
Aliph	nC30	33.2910	17933254			Z
Aliph	nC31	34.3470	15357478			Z
Aliph	nC32	35.5720	13076191			Z
Aliph	nC33	37.0130	10485683			Z
Aliph	nC34	38.7280	7823027			Z
Aliph	nC35	40.8080	6110868			Z
Aliph	nC36	43.3510	5645579			Z
Aliph	nC37	46.4710	4659486			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:** W13/007769 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\\_007769\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior



## Results for: GCMS with Full Scan

7769 interior (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	38359582			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	711947			Z
Aliph	nC23	26.6620	3295627			Z
Aliph	nC24	27.7060	12560700			Z
Aliph	nC25	28.7100	33524636			Z
Aliph	nC26	29.6680	55896704			Z
Aliph	nC27	30.6080	86599185			Z
Aliph	nC28	31.5080	88629714			Z
Aliph	nC29	32.3700	85933340			Z
Aliph	nC30	33.2910	69641907			Z
Aliph	nC31	34.3470	57477347			Z
Aliph	nC32	35.5720	40362521			Z
Aliph	nC33	37.0130	25683767			Z
Aliph	nC34	38.7280	16292972			Z
Aliph	nC35	40.8080	9275107			Z
Aliph	nC36	43.3510	5691546			Z
Aliph	nC37	46.4710	4649826			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:**

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

Sample ID : **W13/007770**

Beach W3: Evre Well Visit: 3

**Comments:**

**Location:** Mid Intertidal

**Local Date Time:** 6/10/2016 11:03:12 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

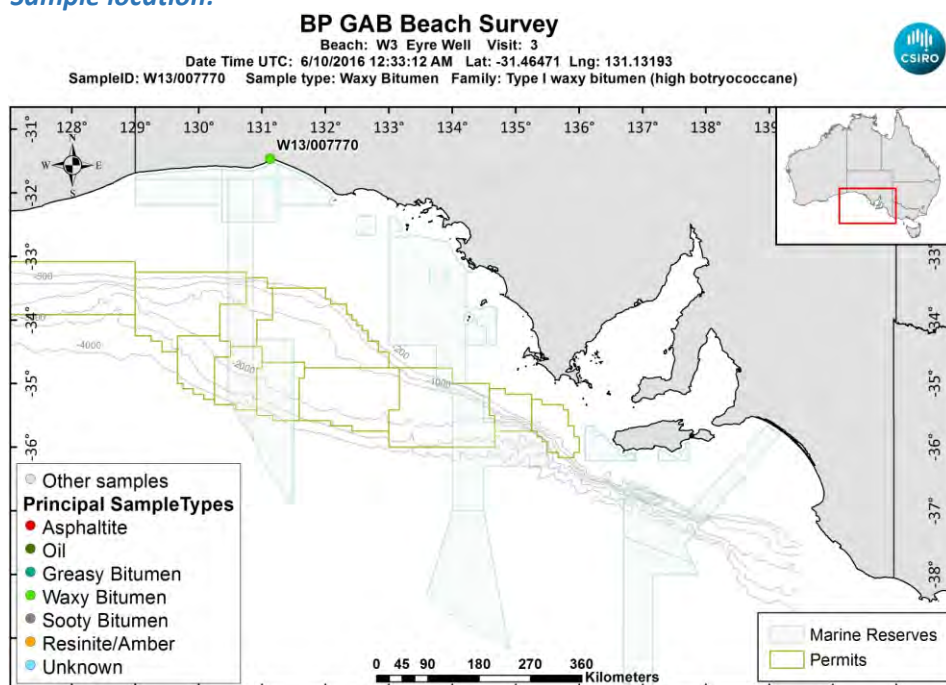
**Size (cm):** 1.8

**Latitude (Y):** -31.464712

**Weight (gm):** 1.18293

**Longitude (X):** 131.131932

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007770\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007770\\_146A6416.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007770\\_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: 3

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: W13/007770\_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			86.99	percent	Y
Inorg	Hydrogen			9.92495952286282	percent	Y
Inorg	Nitrogen			0.22	percent	Y
Inorg	Sulphur			1.62062955669305	percent	Y

### Results for: GCMS with Full Scan

Unique ID: W13/007770 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 30/10/2017

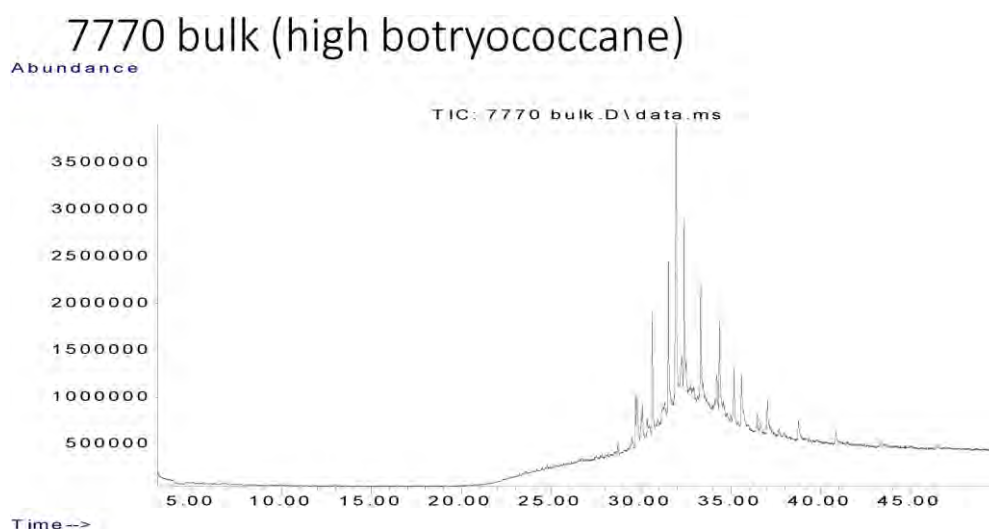
Linked Image: [LinkedFiles\GAB\\_BCH1\GCMS\W13\\_007770\\_bulk\\_WholeOil.jpg](#)

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	31.9240	24071118			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	692350			Z
Aliph	nC26	29.6680	2226963			Z
Aliph	nC27	30.6080	7181415			Z
Aliph	nC28	31.5080	9907195			Z
Aliph	nC29	32.3700	11052960			Z
Aliph	nC30	33.2910	9150232			Z
Aliph	nC31	34.3470	7164773			Z
Aliph	nC32	35.5720	4458579			Z
Aliph	nC33	37.0130	3105588			Z
Aliph	nC34	38.7280	1914484			Z
Aliph	nC35	40.8080	1405003			Z
Aliph	nC36	43.3510	1088580			Z
Aliph	nC37	46.4710	972396			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 : **W13/007475**

Beach W8: Fowlers Bay West Visit: 1

**Comments:**

**Location:** Mid Intertidal

**Local Date Time:** 10/11/2014 9:33:30 AM

**Type:** Asphaltite

**Family:** Asphaltite

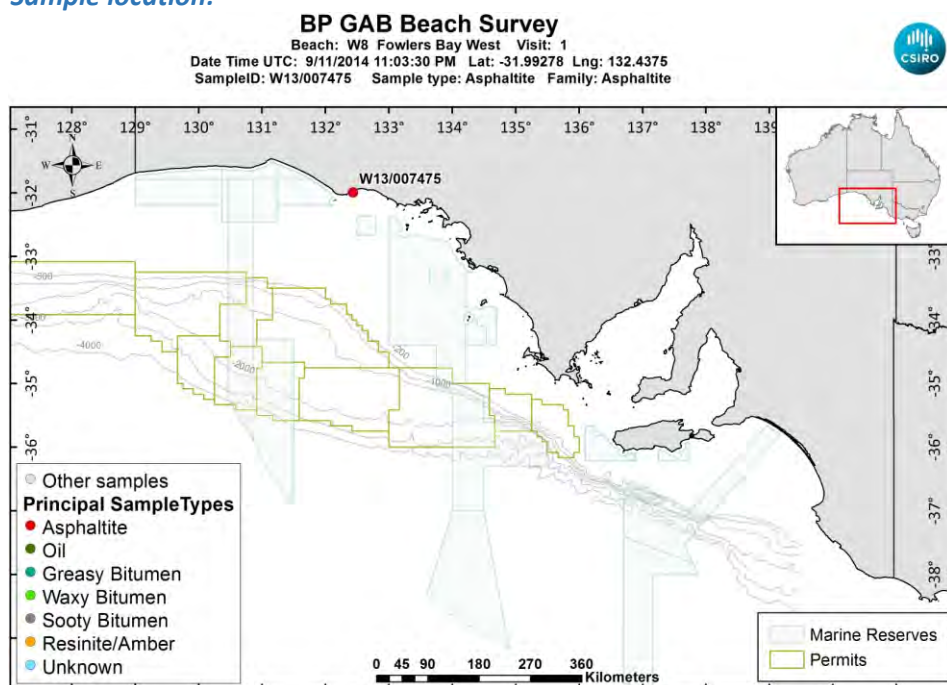
**Size (cm):** 5

**Latitude (Y):** -31.992778

**Weight (gm):** 60.15323

**Longitude (X):** 132.437500

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007475\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007475\\_146A0174.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB BCH1\Samples\W13\\_007475\\_Photo01.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
3	Elemental CHNS	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: W13/007475\_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 Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			37.9208983745947	ratio	Y
BiomRatio	% C27 abb 20(R+S)			37.9167882800728	ratio	Y
BiomRatio	% C28 aaa 20R			23.2645524230777	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.5781513675767	ratio	Y
BiomRatio	% C29 aaa 20R			38.8145492023275	ratio	Y
BiomRatio	% C29 abb 20(R+S)			36.5050603523505	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			9.47060529961155E-02	ratio	Y
BiomRatio	25-Nor/C30H			0.029597531732414	ratio	Y
BiomRatio	C19t/C23t			0.29889797312866	ratio	Y
BiomRatio	C22t/C21t			0.347836892946498	ratio	Y
BiomRatio	C22t/C24t			0.301022383458323	ratio	Y
BiomRatio	C23t/C30H			6.65496336991495E-02	ratio	Y
BiomRatio	C24t/C23t			0.554104195965326	ratio	Y
BiomRatio	C24Tet/C23t			1.05534765094272	ratio	Y
BiomRatio	C24Tet/C26t			1.56038908403134	ratio	Y
BiomRatio	C24Tet/C30H			0.070232999595496	ratio	Y
BiomRatio	C26t/C25t			1.19133124335218	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.433143716655142	ratio	Y
BiomRatio	C27 Dia/Ster			0.418894494209655	ratio	Y
BiomRatio	C28BNH/C30H			4.52383533249965E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.962767734511303	ratio	Y
BiomRatio	C29H/C30H			0.651878564195843	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.170486658736011	ratio	Y
BiomRatio	C30DiaH/C30H			0.088848115355025	ratio	Y
BiomRatio	C30Ts/C30H			2.98846502626632E-02	ratio	Y
BiomRatio	C35 Homohopane Index			7.84494642118711E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.89684249348298	ratio	Y
BiomRatio	Gam/C30H			6.78065043186751E-02	ratio	Y
BiomRatio	Gam/C31HR			0.203840082911965	ratio	Y
BiomRatio	Ole/C30H			8.79174917579004E-03	ratio	Y
BiomRatio	Sterane/hopane			0.276255914920524	ratio	Y
BiomRatio	Steranes/Terpanes			0.251781878294902	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			9.72033284975215E-02	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007475\_UNK\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

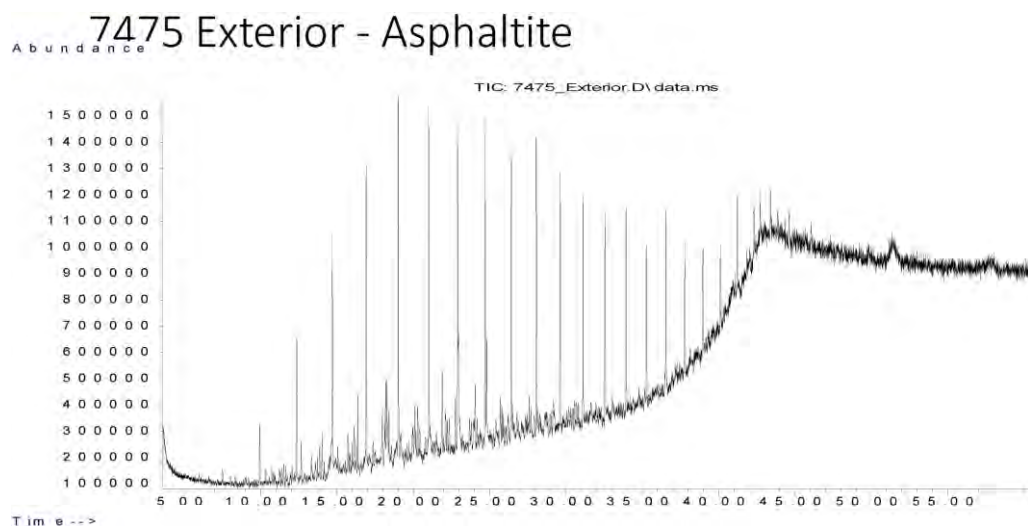
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			84.96	percent	Y
Inorg	delta13 Carbon			-29.8	per mille	Y
Inorg	delta34 Sulphur			-6.58	per mille	Y
Inorg	Hydrogen			7.74	percent	Y
Inorg	Nitrogen			0.675	percent	Y
Inorg	Sulphur			4.11	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007475\_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\\_007475\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior



## Results for: GCMS with Full Scan



## Data Sheet:

(default units ppb)

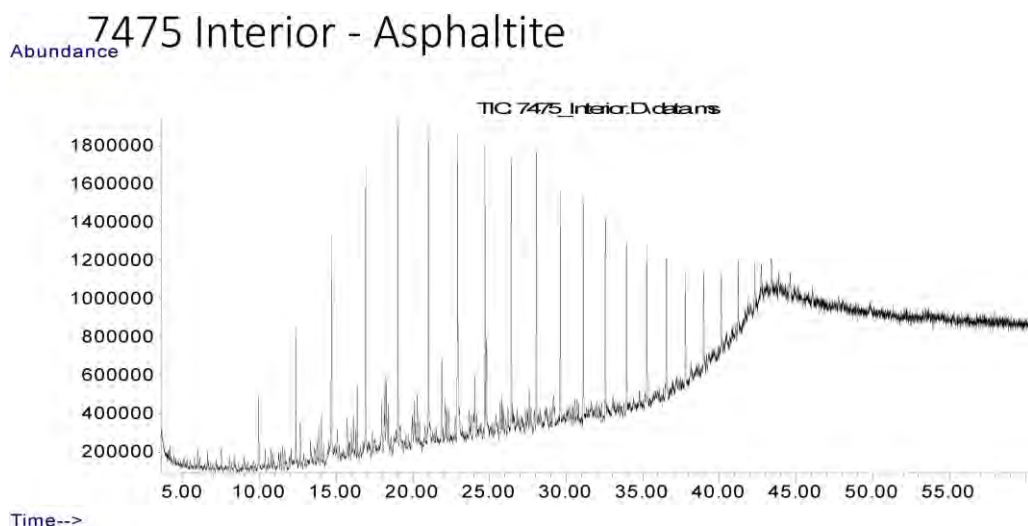
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	nC17/nC29		4.82362934724644		ug/L	Y
Ratio	nC17/Pristane		3.25005705212865		ug/L	Y
Ratio	nC18/Phytane		5.6175769465899		ug/L	Y
Ratio	Pristane/Phytane		1.9749983018408		ug/L	Y
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100	438707		ug/L	Z
Aliph	nC11	9.9450	1578543		ug/L	Z
Aliph	nC12	12.3690	3779220		ug/L	Z
Aliph	nC13	14.7030	5757689		ug/L	Z
Aliph	nC14	16.9230	7696098		ug/L	Z
Aliph	nC15	19.0270	8019829		ug/L	Z
Aliph	nC16	21.0200	7652969		ug/L	Z
Aliph	nC17	22.9150	8032269		ug/L	Z
Aliph	nC18	24.7150	7029583		ug/L	Z
Aliph	nC19	26.4300	6011626		ug/L	Z
Aliph	nC20	28.0680	5914914		ug/L	Z
Aliph	nC21	29.6330	4934298		ug/L	Z
Aliph	nC22	31.1340	4692857		ug/L	Z
Aliph	nC23	32.5720	4026575		ug/L	Z
Aliph	nC24	33.9520	3854236		ug/L	Z
Aliph	nC25	35.2810	3082026		ug/L	Z
Aliph	nC26	36.5600	3411449		ug/L	Z
Aliph	nC27	37.7930	2490299		ug/L	Z
Aliph	nC28	38.9870	2389006		ug/L	Z
Aliph	nC29	40.1370	1665192		ug/L	Z
Aliph	nC30	41.2480	1743879		ug/L	Z
Aliph	nC31	42.3270	1206455		ug/L	Z
Aliph	nC32	43.4130	1110971		ug/L	Z
Aliph	nC33	44.6430	708598		ug/L	Z
Aliph	nC34	46.0860	205667		ug/L	Z
Aliph	nC35	47.8060			ug/L	U
Aliph	nC36	49.8090			ug/L	U
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U

**Results for: GCMS with Full Scan**

Aliph	nC39	58.8850		ug/L	U
Aliph	Norpristane	21.9070	2909655	ug/L	Z
Aliph	Phytane	24.8210	1251355	ug/L	Z
Aliph	Pristane	22.9640	2471424	ug/L	Z

**Results for: GCMS with Full Scan****Unique ID:** W13/007475 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\\_007475\\_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 Rspnse:	Value:	units:	Qualifier:
Ratio	nC17/nC29		6.13328622694007		ug/L	Y
Ratio	nC17/nC35		36.0222848730097		ug/L	Y
Ratio	nC17/Pristane		7.94666214415215		ug/L	Y
Ratio	nC18/Phytane		2.85239498913395		ug/L	Y
Ratio	Pristane/Phytane		0.530480985052496		ug/L	Y
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100	856732		ug/L	Z
Aliph	nC11	9.9450	2460946		ug/L	Z
Aliph	nC12	12.3690	4993053		ug/L	Z
Aliph	nC13	14.7030	7382975		ug/L	Z
Aliph	nC14	16.9230	9842640		ug/L	Z
Aliph	nC15	19.0270	10178033		ug/L	Z
Aliph	nC16	21.0200	9862065		ug/L	Z
Aliph	nC17	22.9150	13237073		ug/L	Z
Aliph	nC18	24.7150	8956680		ug/L	Z
Aliph	nC19	26.4300	7972360		ug/L	Z
Aliph	nC20	28.0680	7427588		ug/L	Z
Aliph	nC21	29.6330	6665645		ug/L	Z
Aliph	nC22	31.1340	6173370		ug/L	Z
Aliph	nC23	32.5720	5506608		ug/L	Z
Aliph	nC24	33.9520	4887581		ug/L	Z
Aliph	nC25	35.2810	4418481		ug/L	Z
Aliph	nC26	36.5600	4251483		ug/L	Z
Aliph	nC27	37.7930	3146348		ug/L	Z
Aliph	nC28	38.9870	2554515		ug/L	Z
Aliph	nC29	40.1370	2158235		ug/L	Z
Aliph	nC30	41.2480	1907212		ug/L	Z
Aliph	nC31	42.3270	1256515		ug/L	Z
Aliph	nC32	43.4130	1247894		ug/L	Z
Aliph	nC33	44.6430	945203		ug/L	Z
Aliph	nC34	46.0860	598134		ug/L	Z
Aliph	nC35	47.8060	367469		ug/L	Z
Aliph	nC36	49.8090	319324		ug/L	Z
Aliph	nC37	52.2960			ug/L	U

**Results for: GCMS with Full Scan**

Aliph	nC38	55.2370		ug/L	U
Aliph	nC39	58.8850		ug/L	U
Aliph	Norpristane	21.9070	3919493	ug/L	Z
Aliph	Phytane	24.8210	3140056	ug/L	Z
Aliph	Pristane	22.9640	1665740	ug/L	Z

**Qualifier codes:**

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

Sample ID : **W13/007524**

Beach E9: Geltwood Beach Visit: 1

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 25/11/2014 10:21:07 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

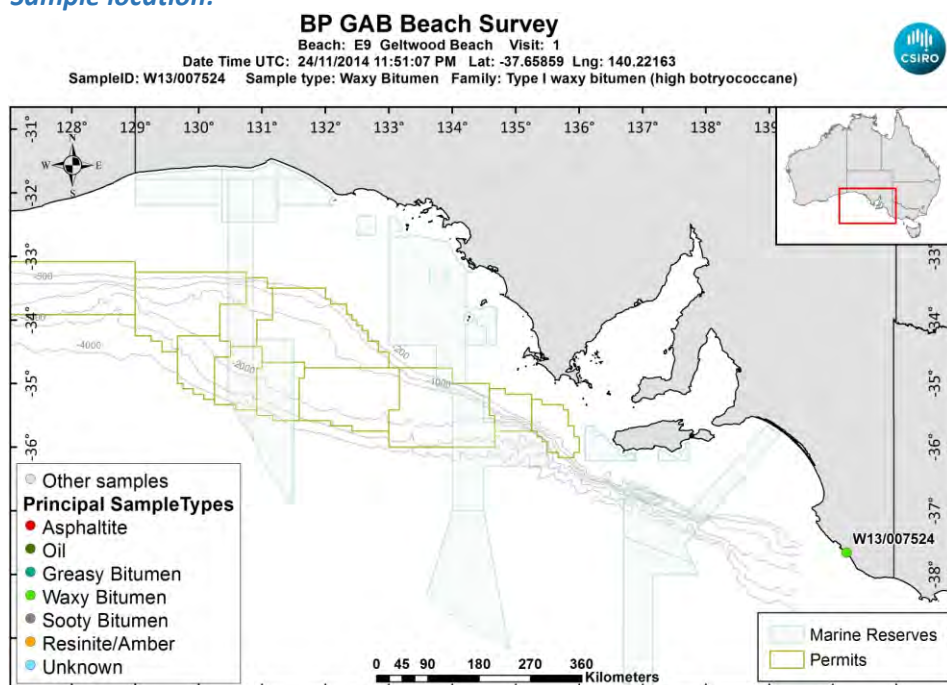
**Size (cm):** 1.5

**Latitude (Y):** -37.658593

**Weight (gm):** 0.58619

**Longitude (X):** 140.221628

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007524\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007524\\_146A0661.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007524\\_Photo01.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
3	Elemental CHNS	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: W13/007524\_UNK\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

### Data Sheet:

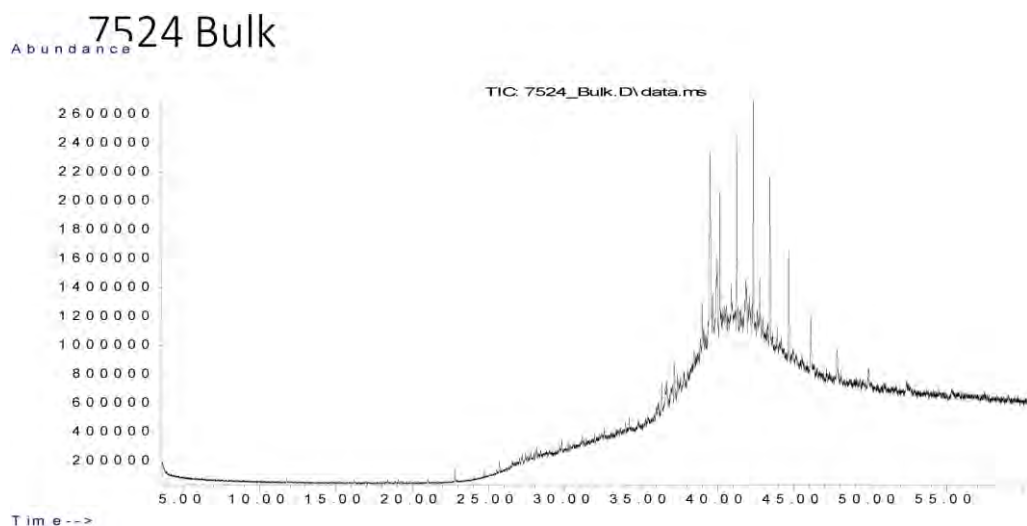
Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			86.15	percent	Y
Inorg	delta13 Carbon				per mille	U
Inorg	delta34 Sulphur				per mille	U
Inorg	Hydrogen			8.21	percent	Y
Inorg	Nitrogen			0.27	percent	Y
Inorg	Sulphur			1.07	percent	Y

### Results for: GCMS with Full Scan

Unique ID: W13/007524\_DISS\_GCMS-Scan/03

**Results for: GCMS with Full Scan****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\\_007524\\_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	39.4780	10162785		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720			ug/L	U
Aliph	nC24	33.9520			ug/L	U
Aliph	nC25	35.2810			ug/L	U
Aliph	nC26	36.5600			ug/L	U
Aliph	nC27	37.7930			ug/L	U
Aliph	nC28	38.9870	2163000		ug/L	Z
Aliph	nC29	40.1370	4556273		ug/L	Z
Aliph	nC30	41.2480	6804333		ug/L	Z
Aliph	nC31	42.3270	8111765		ug/L	Z
Aliph	nC32	43.4130	6374561		ug/L	Z
Aliph	nC33	44.6430	5127820		ug/L	Z
Aliph	nC34	46.0860	3116136		ug/L	Z
Aliph	nC35	47.8060	837451		ug/L	Z
Aliph	nC36	49.8090	1519273		ug/L	Z
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

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

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

Sample ID : **W13/007525**

Beach E9: Geltwood Beach Visit: 1

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 25/11/2014 10:37:44 AM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

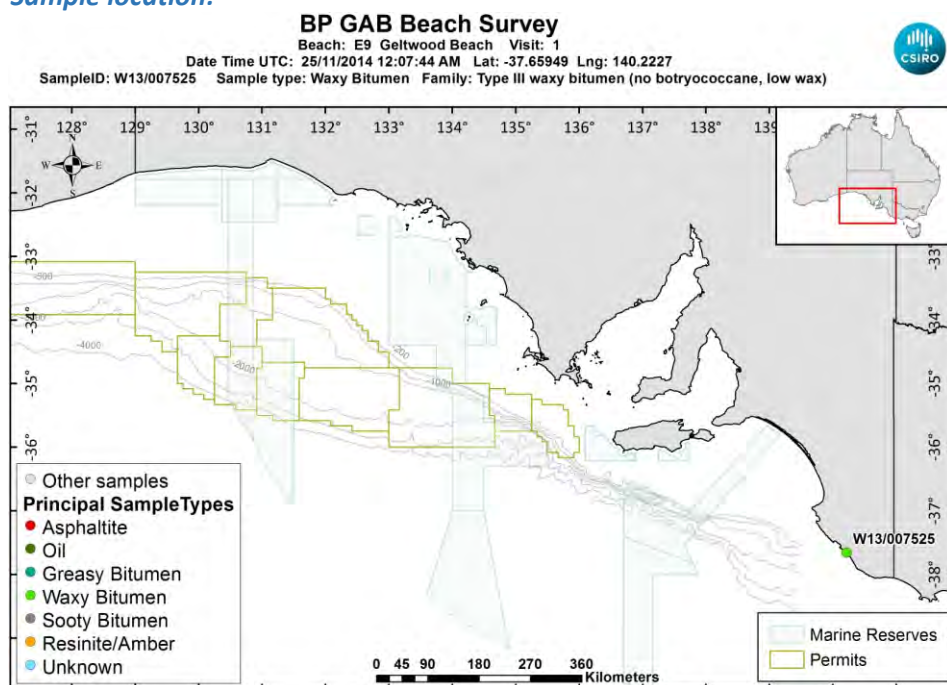
**Size (cm):** 3

**Latitude (Y):** -37.659486

**Weight (gm):** 4.20671

**Longitude (X):** 140.222697

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007525\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007525\\_146A0666.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007525\\_Photo01.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
3	Elemental CHNS	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: W13/007525\_UNK\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

**Comment:** Sulphur isotope response peak was small. This may be an inaccurate value. Sulphur isotope response peak was small. This may be an inaccurate value.

### Data Sheet:

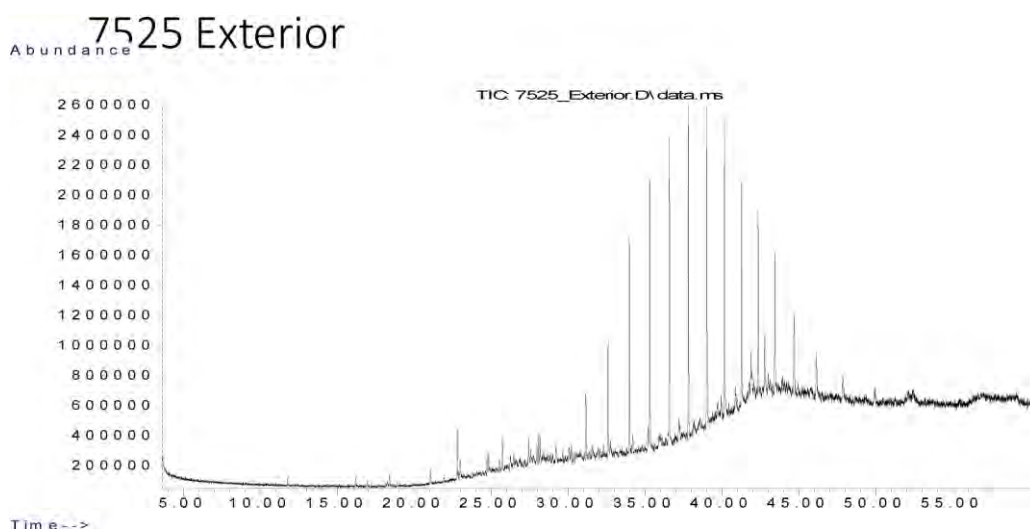
Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			83.2	percent	Y
Inorg	delta13 Carbon			-26.2105810542253	per mille	Y
Inorg	delta34 Sulphur			1.40549925117674	per mille	Y
Inorg	Hydrogen			7.13	percent	Y
Inorg	Nitrogen			0.12	percent	Y
Inorg	Sulphur			0.86	percent	Y

### Results for: GCMS with Full Scan

Unique ID: W13/007525\_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\\_007525\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan



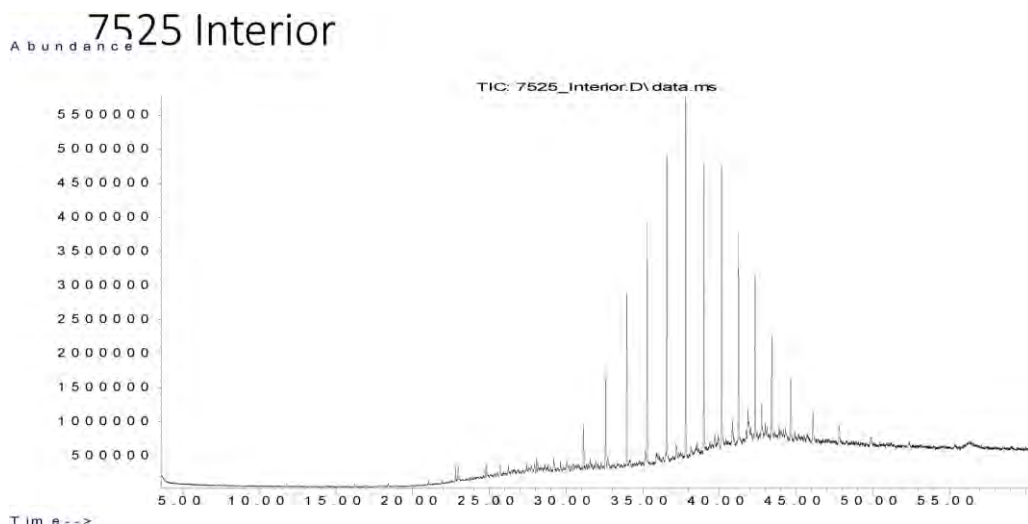
## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retention Time:	Target Response:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340	2581445		ug/L	Z
Aliph	nC23	32.5720	4048765		ug/L	Z
Aliph	nC24	33.9520	7411998		ug/L	Z
Aliph	nC25	35.2810	9640051		ug/L	Z
Aliph	nC26	36.5600	10746761		ug/L	Z
Aliph	nC27	37.7930	12002068		ug/L	Z
Aliph	nC28	38.9870	11426701		ug/L	Z
Aliph	nC29	40.1370	10177903		ug/L	Z
Aliph	nC30	41.2480	8126071		ug/L	Z
Aliph	nC31	42.3270	6714318		ug/L	Z
Aliph	nC32	43.4130	5341104		ug/L	Z
Aliph	nC33	44.6430	3900437		ug/L	Z
Aliph	nC34	46.0860	2747534		ug/L	Z
Aliph	nC35	47.8060	1605431		ug/L	Z
Aliph	nC36	49.8090	1366695		ug/L	Z
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007525 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\\_007525\\_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:	Retention Time:	Target Response:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340	3300728		ug/L	Z
Aliph	nC23	32.5720	7140460		ug/L	Z
Aliph	nC24	33.9520	13088165		ug/L	Z
Aliph	nC25	35.2810	18121190		ug/L	Z
Aliph	nC26	36.5600	22810194		ug/L	Z
Aliph	nC27	37.7930	26596353		ug/L	Z
Aliph	nC28	38.9870	22547951		ug/L	Z
Aliph	nC29	40.1370	21219085		ug/L	Z
Aliph	nC30	41.2480	15131820		ug/L	Z
Aliph	nC31	42.3270	12338133		ug/L	Z
Aliph	nC32	43.4130	8786215		ug/L	Z
Aliph	nC33	44.6430	6175823		ug/L	Z
Aliph	nC34	46.0860	3645254		ug/L	Z
Aliph	nC35	47.8060	2825733		ug/L	Z
Aliph	nC36	49.8090	1605947		ug/L	Z
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U



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

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

Sample ID : **W13/007526**

Beach E9: Geltwood Beach Visit: 1

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 25/11/2014 10:40:45 AM

**Type:** Waxy Bitumen

**Family:** Type II waxy bitumen (low botryococcane)

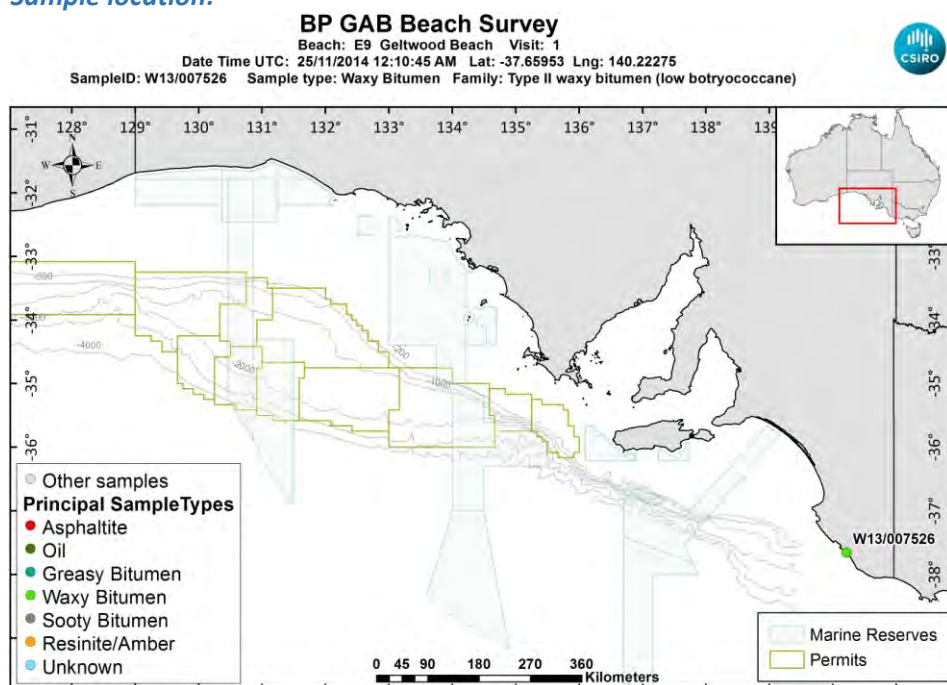
**Size (cm):** 3.5

**Latitude (Y):** -37.659533

**Weight (gm):** 9.6143

**Longitude (X):** 140.222749

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007526\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007526\\_146A0668.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007526\\_Photo01.JPG](#)

### Analyses Requested

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

### Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 3
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:** W13/007526 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 Respnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			27.9105454205549	ratio	Y
BiomRatio	% C27 abb 20(R+S)			6.17432742786939	ratio	Y
BiomRatio	% C28 aaa 20R			17.8371683621804	ratio	Y
BiomRatio	% C28 abb 20(R+S)			39.5229326742092	ratio	Y
BiomRatio	% C29 aaa 20R			54.2522862172646	ratio	Y
BiomRatio	% C29 abb 20(R+S)			54.3027398979214	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.150223422457101	ratio	Y
BiomRatio	25-Nor/C30H			2.15224741058607E-02	ratio	Y
BiomRatio	C19t/C23t			0.372318560358084	ratio	Y
BiomRatio	C22t/C21t			0.54422916473533	ratio	Y
BiomRatio	C22t/C24t			0.414397244222326	ratio	Y
BiomRatio	C23t/C30H			4.08136001009109E-02	ratio	Y
BiomRatio	C24t/C23t			1.07840689371679	ratio	Y
BiomRatio	C24Tet/C23t			2.85836517820441	ratio	Y
BiomRatio	C24Tet/C26t			7.4718828351972	ratio	Y
BiomRatio	C24Tet/C30H			0.116660173325603	ratio	Y
BiomRatio	C26t/C25t			0.333253756681123	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.128805338653641	ratio	Y
BiomRatio	C27 Dia/Ster			6.72818975848952E-02	ratio	Y
BiomRatio	C28BNH/C30H			2.46001313581149E-03	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			8.79492390585122	ratio	Y
BiomRatio	C29H/C30H			1.17870358115527	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.135854851516451	ratio	Y
BiomRatio	C30DiaH/C30H			6.71815357963291E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.096296558653511	ratio	Y
BiomRatio	C35 Homohopane Index			1.32621271182532E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.908079493966175	ratio	Y
BiomRatio	Gam/C30H			0.120974361555444	ratio	Y
BiomRatio	Gam/C31HR			0.386655942167143	ratio	Y
BiomRatio	Ole/C30H			6.41858996943469E-02	ratio	Y
BiomRatio	Sterane/hopane			0.195639469468008	ratio	Y
BiomRatio	Steranes/Terpanes			0.180564031608077	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			8.34908133456683E-02	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007526 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 Respse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			33.6656425721361	ratio	Y
BiomRatio	% C27 abb 20(R+S)			28.167663456665	ratio	Y
BiomRatio	% C28 aaa 20R			23.2194313742435	ratio	Y
BiomRatio	% C28 abb 20(R+S)			28.0782226727488	ratio	Y
BiomRatio	% C29 aaa 20R			43.1149260536204	ratio	Y
BiomRatio	% C29 abb 20(R+S)			43.7541138705862	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.12610892833538	ratio	Y
BiomRatio	25-Nor/C30H			4.16552130355167E-02	ratio	Y
BiomRatio	C19t/C23t			0.198286315963822	ratio	Y
BiomRatio	C22t/C21t			0.529341758996966	ratio	Y
BiomRatio	C22t/C24t			0.38218102165047	ratio	Y
BiomRatio	C23t/C30H			0.136776886501544	ratio	Y
BiomRatio	C24t/C23t			0.488793322725095	ratio	Y
BiomRatio	C24Tet/C23t			0.818466025045696	ratio	Y
BiomRatio	C24Tet/C26t			1.51263375104199	ratio	Y
BiomRatio	C24Tet/C30H			0.111947234613045	ratio	Y
BiomRatio	C26t/C25t			1.16707867498126	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.349897924370488	ratio	Y
BiomRatio	C27 Dia/Ster			0.279526478222443	ratio	Y
BiomRatio	C28BNH/C30H			2.27151042497877E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.55334552111149	ratio	Y
BiomRatio	C29H/C30H			1.10534306583517	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.133158473308598	ratio	Y
BiomRatio	C30DiaH/C30H			5.93843215617312E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.140344351271388	ratio	Y
BiomRatio	C35 Homohopane Index			8.07647134047102E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.977620480808531	ratio	Y
BiomRatio	Gam/C30H			0.08989760403184	ratio	Y
BiomRatio	Gam/C31HR			0.258923432209413	ratio	Y
BiomRatio	Ole/C30H			5.22795304951792E-02	ratio	Y
BiomRatio	Sterane/hopane			0.156790211797818	ratio	Y
BiomRatio	Steranes/Terpanes			0.137385227003792	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.141245061184706	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007526 DISS GC-MS/03

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 3

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 Respse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			38.9913394938648	ratio	Y
BiomRatio	% C27 abb 20(R+S)			28.402313740556	ratio	Y
BiomRatio	% C28 aaa 20R			21.3773139947976	ratio	Y
BiomRatio	% C28 abb 20(R+S)			26.4051170729828	ratio	Y
BiomRatio	% C29 aaa 20R			39.6313465113376	ratio	Y
BiomRatio	% C29 abb 20(R+S)			45.1925691864613	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.135372078273309	ratio	Y
BiomRatio	25-Nor/C30H			4.16037728828299E-02	ratio	Y
BiomRatio	C19t/C23t			0.226285183231778	ratio	Y
BiomRatio	C22t/C21t			0.525528890949921	ratio	Y
BiomRatio	C22t/C24t			0.395701316504151	ratio	Y
BiomRatio	C23t/C30H			0.125379249782321	ratio	Y
BiomRatio	C24t/C23t			0.524543680034189	ratio	Y
BiomRatio	C24Tet/C23t			0.995204040273851	ratio	Y
BiomRatio	C24Tet/C26t			1.87527961346235	ratio	Y
BiomRatio	C24Tet/C30H			0.124777935949871	ratio	Y
BiomRatio	C26t/C25t			1.07185745650841	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.338901630198971	ratio	Y
BiomRatio	C27 Dia/Ster			0.271141248018408	ratio	Y
BiomRatio	C28BNH/C30H			2.26555830437154E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.59115801618409	ratio	Y
BiomRatio	C29H/C30H			1.12728248886092	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.140884221866187	ratio	Y
BiomRatio	C30DiaH/C30H			5.95774856023823E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.139573488183694	ratio	Y
BiomRatio	C35 Homohopane Index			8.07201117184228E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.939309571820641	ratio	Y
BiomRatio	Gam/C30H			9.20949982298665E-02	ratio	Y
BiomRatio	Gam/C31HR			0.260493072779717	ratio	Y
BiomRatio	Ole/C30H			0.052554573801811	ratio	Y
BiomRatio	Sterane/hopane			0.146573349972684	ratio	Y
BiomRatio	Steranes/Terpanes			0.129298398201499	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.13360530378933	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007526\_UNK\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

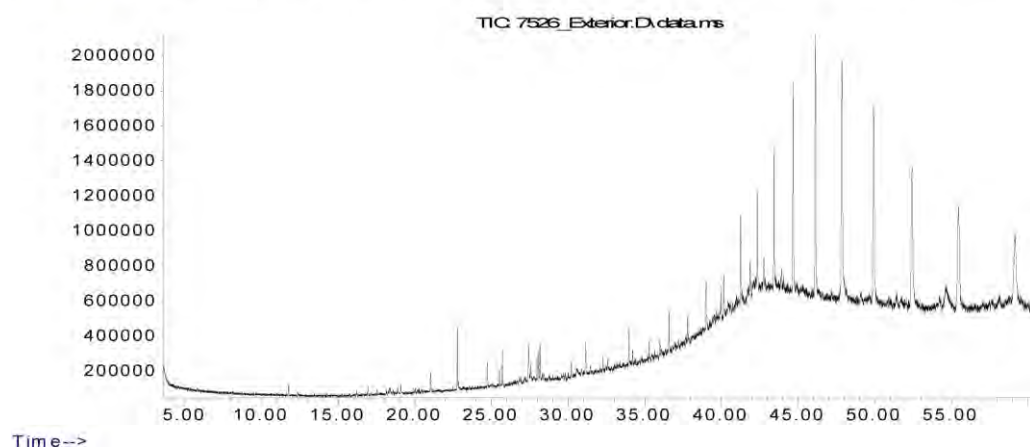
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			82.03	percent	Y
Inorg	delta13 Carbon			-26.9734206672143	per mille	Y
Inorg	delta34 Sulphur			-4.58363718458434	per mille	Y
Inorg	Hydrogen			6.2	percent	Y
Inorg	Nitrogen			0.27	percent	Y
Inorg	Sulphur			2.29	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007526\_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\\_007526\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

7526 Exterior – HT-GCMS sample (low botry)



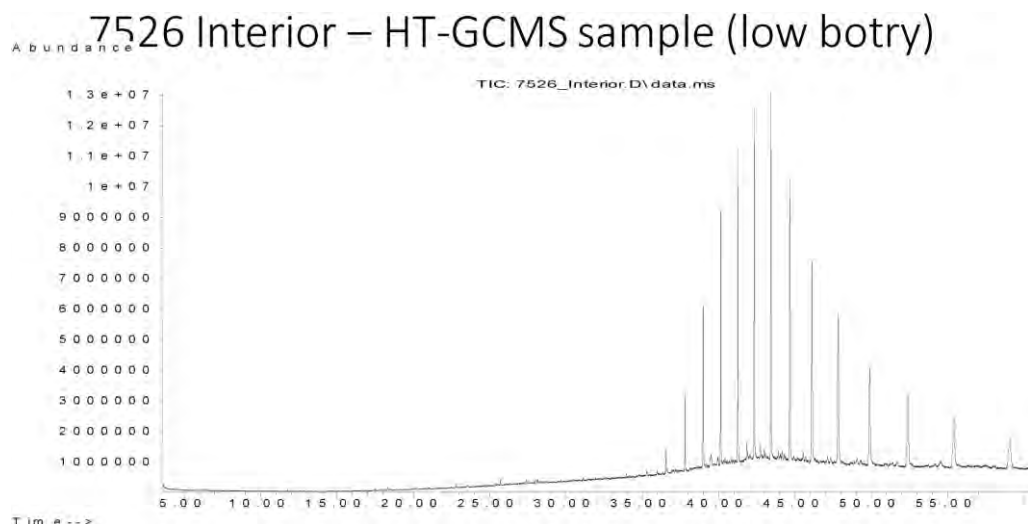
## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340	847396		ug/L	Z
Aliph	nC23	32.5720	337566		ug/L	Z
Aliph	nC24	33.9520	1064246		ug/L	Z
Aliph	nC25	35.2810	587986		ug/L	Z
Aliph	nC26	36.5600	1468652		ug/L	Z
Aliph	nC27	37.7930	835689		ug/L	Z
Aliph	nC28	38.9870	1524519		ug/L	Z
Aliph	nC29	40.1370	1359624		ug/L	Z
Aliph	nC30	41.2480	2267473		ug/L	Z
Aliph	nC31	42.3270	3154024		ug/L	Z
Aliph	nC32	43.4130	5197285		ug/L	Z
Aliph	nC33	44.6430	8289379		ug/L	Z
Aliph	nC34	46.0860	12321963		ug/L	Z
Aliph	nC35	47.8060	13628343		ug/L	Z
Aliph	nC36	49.8090	13391637		ug/L	Z
Aliph	nC37	52.2960	5397495		ug/L	Z
Aliph	nC38	55.2370	10659077		ug/L	Z
Aliph	nC39	58.8850	9636100		ug/L	Z
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007526 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\\_007526\\_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	39.4780	2464590		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720			ug/L	U
Aliph	nC24	33.9520	865176		ug/L	Z
Aliph	nC25	35.2810	946109		ug/L	Z
Aliph	nC26	36.5600	3937600		ug/L	Z
Aliph	nC27	37.7930	12975387		ug/L	Z
Aliph	nC28	38.9870	25847065		ug/L	Z
Aliph	nC29	40.1370	39435054		ug/L	Z
Aliph	nC30	41.2480	51126195		ug/L	Z
Aliph	nC31	42.3270	61386548		ug/L	Z
Aliph	nC32	43.4130	67320660		ug/L	Z
Aliph	nC33	44.6430	61354785		ug/L	Z
Aliph	nC34	46.0860	54573321		ug/L	Z
Aliph	nC35	47.8060	46712434		ug/L	Z
Aliph	nC36	49.8090	39964257		ug/L	Z
Aliph	nC37	52.2960	30070823		ug/L	Z
Aliph	nC38	55.2370	32367215		ug/L	Z
Aliph	nC39	58.8850	16059845		ug/L	Z
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U



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

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

Sample ID : **W13/007527**

Beach E9: Geltwood Beach Visit: 1

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 25/11/2014 10:52:19 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

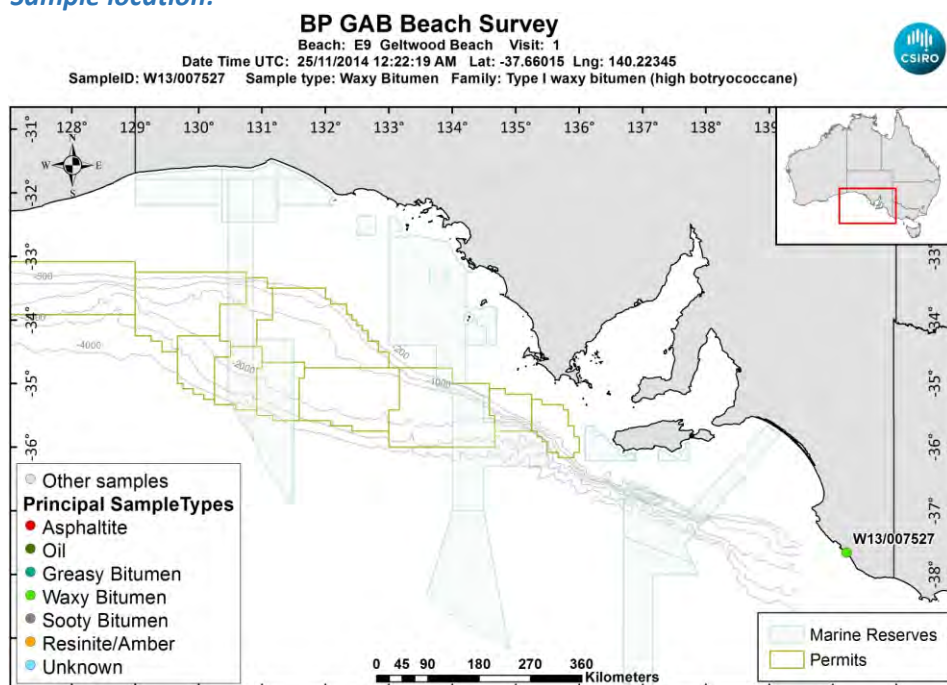
**Size (cm):** 3

**Latitude (Y):** -37.660148

**Weight (gm):** 5.43086

**Longitude (X):** 140.223455

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007527\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007527\\_146A0670.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007527\\_Photo01.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
3	Elemental CHNS	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: W13/007527\_UNK\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

### Data Sheet:

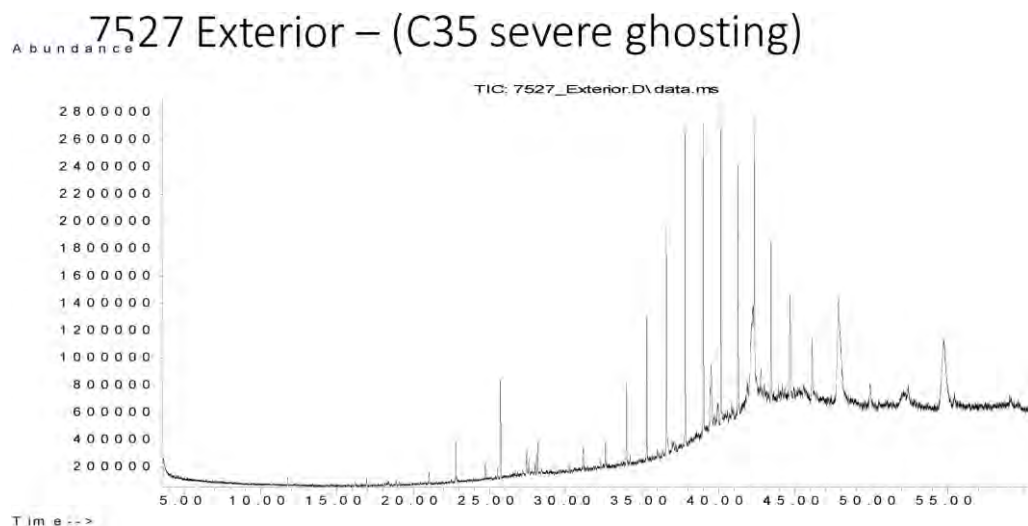
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.01	percent	Y
Inorg	delta13 Carbon			-25.9155376618068	per mille	Y
Inorg	delta34 Sulphur			-2.06304333752586	per mille	Y
Inorg	Hydrogen			6.79	percent	Y
Inorg	Nitrogen			0.19	percent	Y
Inorg	Sulphur			0.85	percent	Y

### Results for: GCMS with Full Scan

Unique ID: W13/007527\_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\\_007527\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior - Rerun (C35 severe ghosting)

## Results for: GCMS with Full Scan



## Data Sheet:

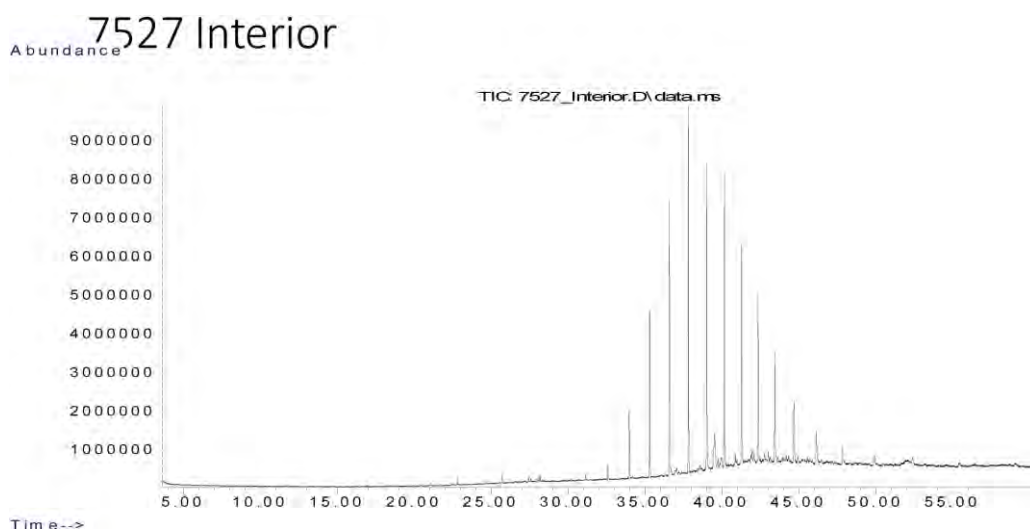
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780	2954347		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340	954190		ug/L	Z
Aliph	nC23	32.5720	938726		ug/L	Z
Aliph	nC24	33.9520	3115923		ug/L	Z
Aliph	nC25	35.2810	5473326		ug/L	Z
Aliph	nC26	36.5600	8921492		ug/L	Z
Aliph	nC27	37.7930	11915373		ug/L	Z
Aliph	nC28	38.9870	12624681		ug/L	Z
Aliph	nC29	40.1370	12445082		ug/L	Z
Aliph	nC30	41.2480	10543437		ug/L	Z
Aliph	nC31	42.3270	11387517		ug/L	Z
Aliph	nC32	43.4130	7064003		ug/L	Z
Aliph	nC33	44.6430	5441657		ug/L	Z
Aliph	nC34	46.0860	3776618		ug/L	Z
Aliph	nC35	47.8060	9065185		ug/L	Z
Aliph	nC36	49.8090	1496804		ug/L	Z
Aliph	nC37	52.2960	1383406		ug/L	Z
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U



**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007527 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\\_007527\\_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	39.4780	8659892		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340	820233		ug/L	Z
Aliph	nC23	32.5720	1876849		ug/L	Z
Aliph	nC24	33.9520	9289537		ug/L	Z
Aliph	nC25	35.2810	22372014		ug/L	Z
Aliph	nC26	36.5600	36703920		ug/L	Z
Aliph	nC27	37.7930	45655288		ug/L	Z
Aliph	nC28	38.9870	41287217		ug/L	Z
Aliph	nC29	40.1370	37771779		ug/L	Z
Aliph	nC30	41.2480	28805402		ug/L	Z
Aliph	nC31	42.3270	23043924		ug/L	Z
Aliph	nC32	43.4130	16041824		ug/L	Z
Aliph	nC33	44.6430	11620954		ug/L	Z
Aliph	nC34	46.0860	7833166		ug/L	Z
Aliph	nC35	47.8060	4664377		ug/L	Z
Aliph	nC36	49.8090	3485642		ug/L	Z
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			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 : **W13/007528**

Beach E9: Geltwood Beach Visit: 1

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 25/11/2014 11:47:11 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

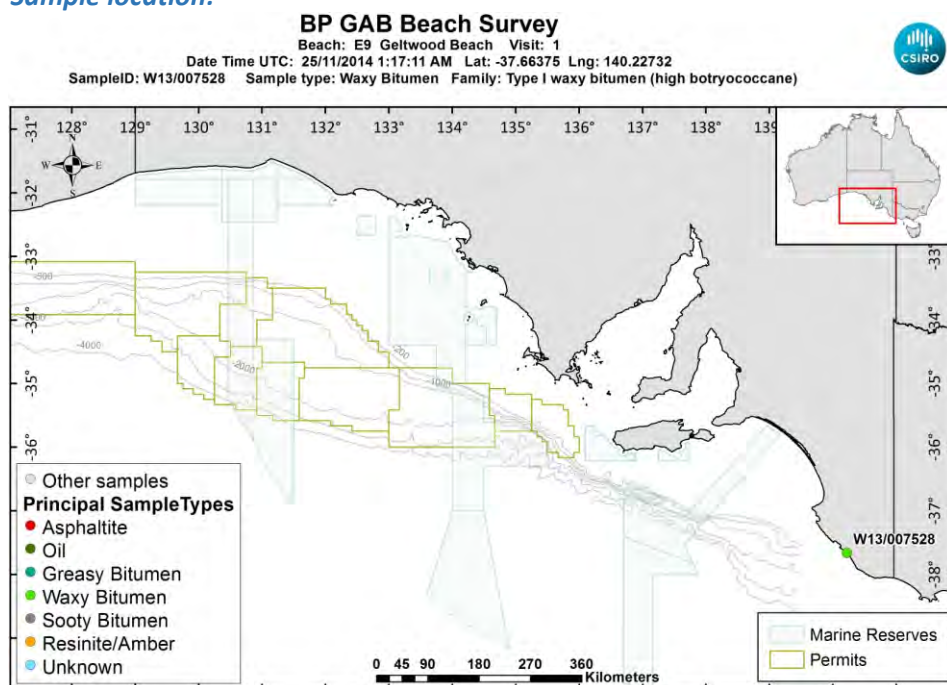
**Size (cm):** 3

**Latitude (Y):** -37.663754

**Weight (gm):** 6.0089

**Longitude (X):** 140.227321

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007528\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007528\\_146A0675.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007528\\_Photo01.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
3	Elemental CHNS	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:** W13/007528 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 Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			18.6939938097958	ratio	Y
BiomRatio	% C27 abb 20(R+S)			29.4889658156642	ratio	Y
BiomRatio	% C28 aaa 20R			23.9443868666145	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.3247511899611	ratio	Y
BiomRatio	% C29 aaa 20R			57.3616193235898	ratio	Y
BiomRatio	% C29 abb 20(R+S)			46.1862829943747	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			4.41775021070806E-02	ratio	Y
BiomRatio	25-Nor/C30H			3.87786373018187E-02	ratio	Y
BiomRatio	C19t/C23t			0.35883294200452	ratio	Y
BiomRatio	C22t/C21t			0.430254777070064	ratio	Y
BiomRatio	C22t/C24t			0.250019401710932	ratio	Y
BiomRatio	C23t/C30H			0.034659020523757	ratio	Y
BiomRatio	C24t/C23t			0.921103712216607	ratio	Y
BiomRatio	C24Tet/C23t			0.535772219136804	ratio	Y
BiomRatio	C24Tet/C26t			0.401732519162025	ratio	Y
BiomRatio	C24Tet/C30H			1.85693403391213E-02	ratio	Y
BiomRatio	C26t/C25t			1.7774268251572	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.664927615983745	ratio	Y
BiomRatio	C27 Dia/Ster			0.812868137426761	ratio	Y
BiomRatio	C28BNH/C30H			1.71883844187921E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.56622254178345	ratio	Y
BiomRatio	C29H/C30H			0.421710891179682	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.301268875802501	ratio	Y
BiomRatio	C30DiaH/C30H			0.162727149715366	ratio	Y
BiomRatio	C30Ts/C30H			4.22925850328468E-02	ratio	Y
BiomRatio	C35 Homohopane Index			3.81666184510629E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.535765814063102	ratio	Y
BiomRatio	Gam/C30H			4.06259469534542E-02	ratio	Y
BiomRatio	Gam/C31HR			0.207018515011581	ratio	Y
BiomRatio	Ole/C30H			0.102058093152586	ratio	Y
BiomRatio	Sterane/hopane			4.69028108491236E-02	ratio	Y
BiomRatio	Steranes/Terpanes			0.043405439971895	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			8.05744828181255E-02	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007528 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 Respnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			29.7450098073151	ratio	Y
BiomRatio	% C27 abb 20(R+S)			32.6401252606785	ratio	Y
BiomRatio	% C28 aaa 20R			11.8180769271112	ratio	Y
BiomRatio	% C28 abb 20(R+S)			22.9636028642582	ratio	Y
BiomRatio	% C29 aaa 20R			58.4369132655737	ratio	Y
BiomRatio	% C29 abb 20(R+S)			44.3962718750633	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			7.86160995340824E-02	ratio	Y
BiomRatio	25-Nor/C30H			5.18552445761861E-02	ratio	Y
BiomRatio	C19t/C23t			0.293568639963963	ratio	Y
BiomRatio	C22t/C21t			0.418825078163568	ratio	Y
BiomRatio	C22t/C24t			0.297117390086229	ratio	Y
BiomRatio	C23t/C30H			0.059572222290553	ratio	Y
BiomRatio	C24t/C23t			0.904416457074214	ratio	Y
BiomRatio	C24Tet/C23t			0.538998273208454	ratio	Y
BiomRatio	C24Tet/C26t			0.480280474063048	ratio	Y
BiomRatio	C24Tet/C30H			3.21093249457982E-02	ratio	Y
BiomRatio	C26t/C25t			1.68371384119341	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.706214060471156	ratio	Y
BiomRatio	C27 Dia/Ster			1.18953026732562	ratio	Y
BiomRatio	C28BNH/C30H			3.10933556812096E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.36017467826777	ratio	Y
BiomRatio	C29H/C30H			0.662901845265183	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.27362769508889	ratio	Y
BiomRatio	C30DiaH/C30H			0.185867726364493	ratio	Y
BiomRatio	C30Ts/C30H			5.14773135139426E-02	ratio	Y
BiomRatio	C35 Homohopane Index			4.88731976446277E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.546618227287027	ratio	Y
BiomRatio	Gam/C30H			5.47183798609706E-02	ratio	Y
BiomRatio	Gam/C31HR			0.311877930607049	ratio	Y
BiomRatio	Ole/C30H			0.114698024136154	ratio	Y
BiomRatio	Sterane/hopane			5.25828756087234E-02	ratio	Y
BiomRatio	Steranes/Terpanes			4.74183027712728E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.108915176959463	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007528 UNK ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

**Comment:** Hydrogen is averaged from values of 8.52% and 4.5%. It may not be representative. Hydrogen is averaged from values of 8.52% and 4.5%. It may not be representative.

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

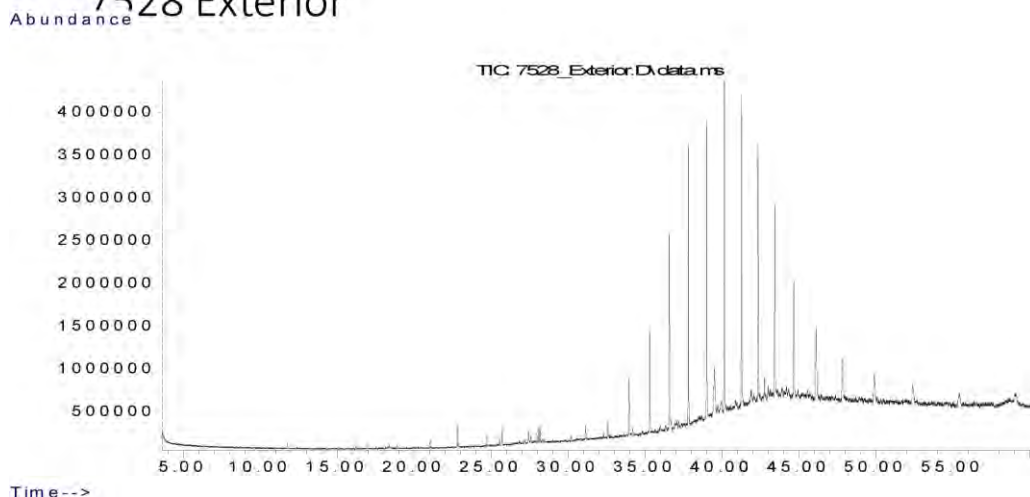
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			83.16	percent	Y
Inorg	delta13 Carbon			-26.1689283124234	per mille	Y
Inorg	delta34 Sulphur			-2.40359538192018	per mille	Y
Inorg	Hydrogen			6.51	percent	Y
Inorg	Nitrogen			0.25	percent	Y
Inorg	Sulphur			1.23	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007528\_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\\_007528\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

7528 Exterior



## Data Sheet:

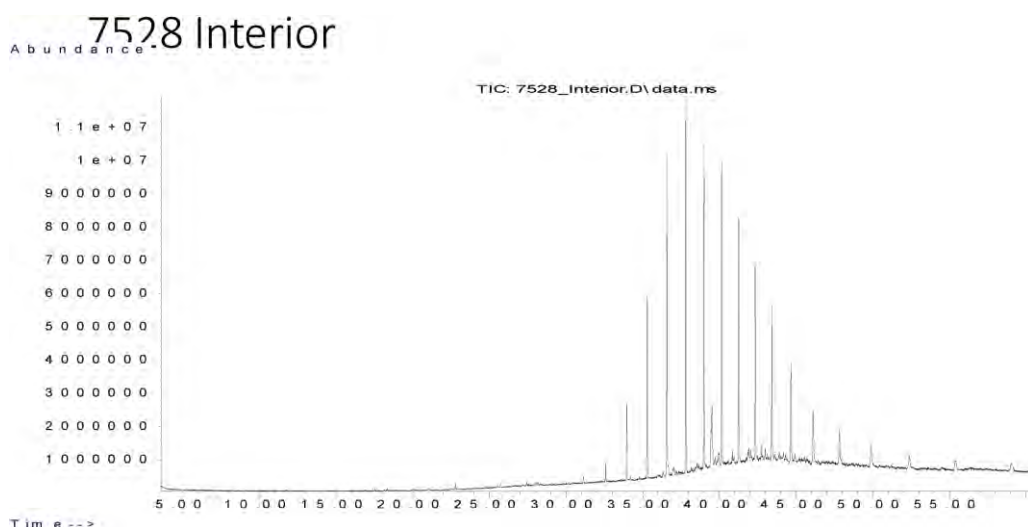
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780	3969289		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340	943527		ug/L	Z
Aliph	nC23	32.5720	816256		ug/L	Z
Aliph	nC24	33.9520	3410994		ug/L	Z
Aliph	nC25	35.2810	6623970		ug/L	Z
Aliph	nC26	36.5600	11648859		ug/L	Z
Aliph	nC27	37.7930	16792023		ug/L	Z
Aliph	nC28	38.9870	18531775		ug/L	Z
Aliph	nC29	40.1370	20442264		ug/L	Z
Aliph	nC30	41.2480	18999885		ug/L	Z
Aliph	nC31	42.3270	15765441		ug/L	Z
Aliph	nC32	43.4130	13176871		ug/L	Z
Aliph	nC33	44.6430	10260365		ug/L	Z
Aliph	nC34	46.0860	7440751		ug/L	Z
Aliph	nC35	47.8060	5214818		ug/L	Z
Aliph	nC36	49.8090	4458261		ug/L	Z
Aliph	nC37	52.2960	2930090		ug/L	Z
Aliph	nC38	55.2370	2952256		ug/L	Z
Aliph	nC39	58.8850	360059		ug/L	Z
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007528 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\\_007528\\_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:	Retention Time:	Target Response:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780	17481070		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340	1026358		ug/L	Z
Aliph	nC23	32.5720	2916487		ug/L	Z
Aliph	nC24	33.9520	12028170		ug/L	Z
Aliph	nC25	35.2810	28455933		ug/L	Z
Aliph	nC26	36.5600	46640477		ug/L	Z
Aliph	nC27	37.7930	55094360		ug/L	Z
Aliph	nC28	38.9870	51916767		ug/L	Z
Aliph	nC29	40.1370	48147039		ug/L	Z
Aliph	nC30	41.2480	40376488		ug/L	Z
Aliph	nC31	42.3270	33810644		ug/L	Z
Aliph	nC32	43.4130	26038705		ug/L	Z
Aliph	nC33	44.6430	19593824		ug/L	Z
Aliph	nC34	46.0860	14592955		ug/L	Z
Aliph	nC35	47.8060	10478181		ug/L	Z
Aliph	nC36	49.8090	7951854		ug/L	Z
Aliph	nC37	52.2960	2417666		ug/L	Z
Aliph	nC38	55.2370	5540767		ug/L	Z
Aliph	nC39	58.8850	189502		ug/L	Z
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

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

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

Sample ID : **W13/007616**

Beach E9: Geltwood Beach Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 10/09/2015 9:36:33 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

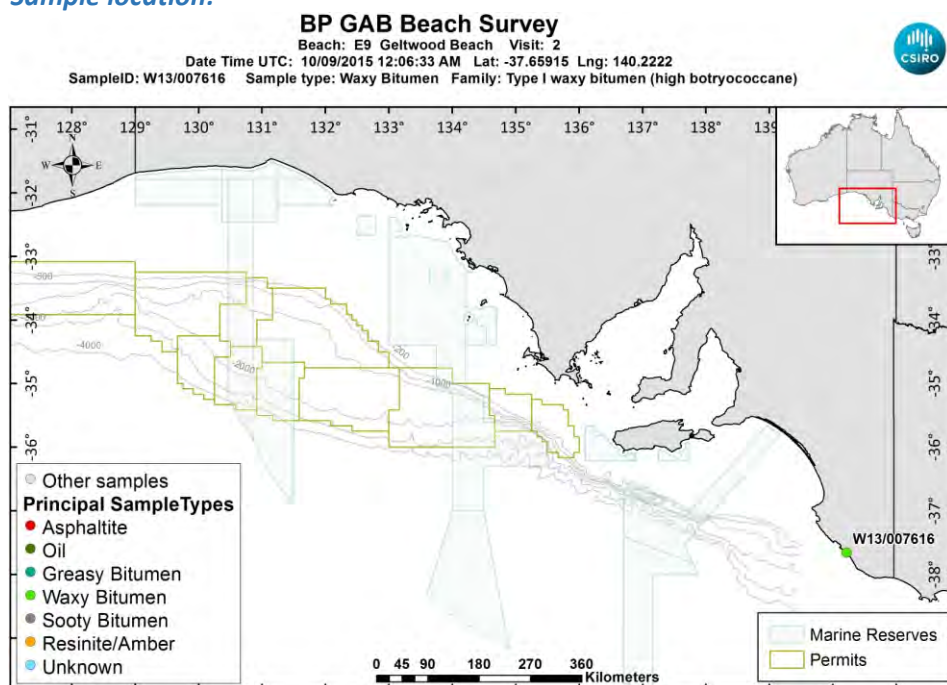
**Size (cm):** 8.5

**Latitude (Y):** -37.659152

**Weight (gm):** 71.4

**Longitude (X):** 140.222195

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007616\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007616\\_146A1569.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007616\\_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: W13/007616\_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			87.2126687895965	percent	Y
Inorg	Hydrogen			8.771	percent	Y
Inorg	Nitrogen			0.265204455869752	percent	Y
Inorg	Sulphur			1.61968401709408	percent	Y

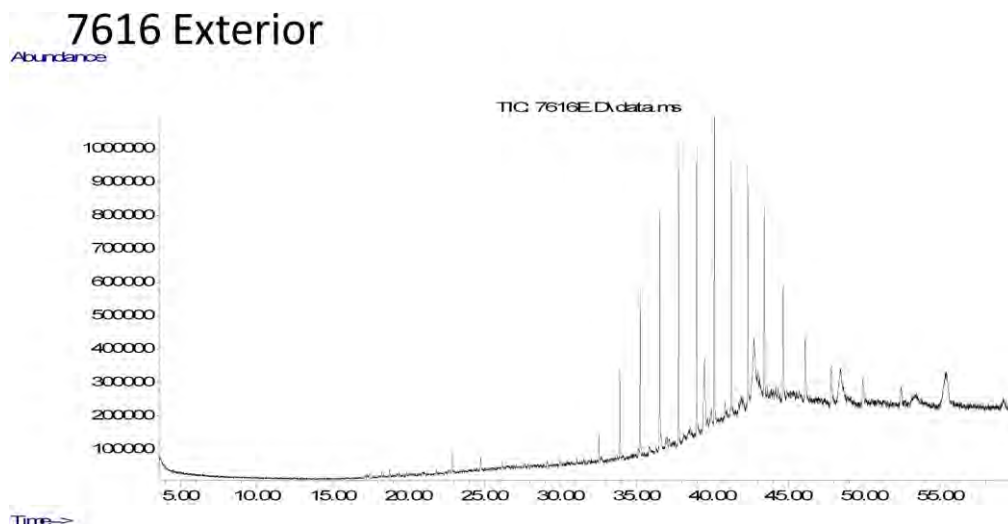
### Results for: GCMS with Full Scan

Unique ID: W13/007616\_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\\_007616\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior



## Results for: GCMS with Full Scan



## Data Sheet:

(default units ppb)

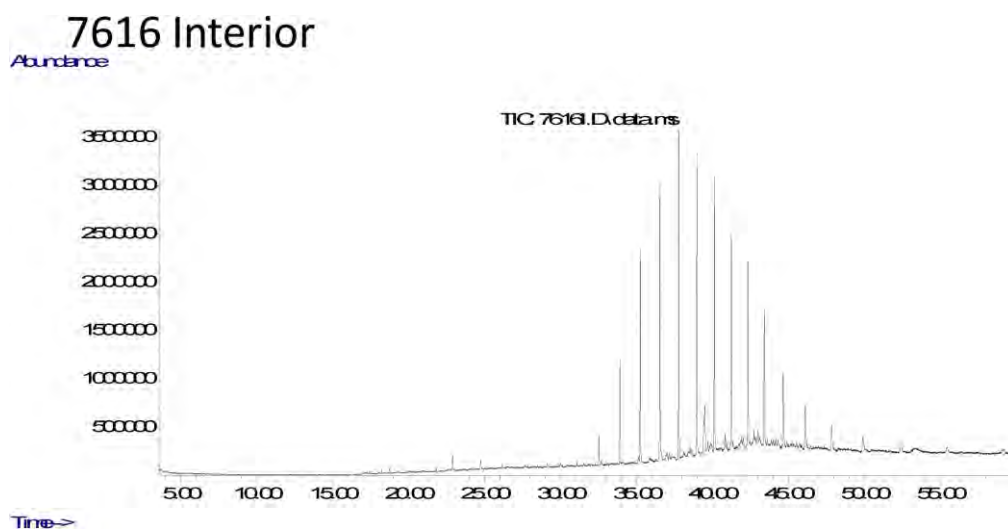
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			1.96063003471288	ug/L	Y
Aliph	Botryococcane	39.4290	2016412		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			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	85540		ug/L	Z
Aliph	nC23	32.4960	400359		ug/L	Z
Aliph	nC24	33.8800	1276112		ug/L	Z
Aliph	nC25	35.2120	2451335		ug/L	Z
Aliph	nC26	36.4960	3363771		ug/L	Z
Aliph	nC27	37.7300	4357802		ug/L	Z
Aliph	nC28	38.9260	4290790		ug/L	Z
Aliph	nC29	40.0740	4578894		ug/L	Z
Aliph	nC30	41.1930	3828106		ug/L	Z
Aliph	nC31	42.2750	3674086		ug/L	Z
Aliph	nC32	43.3560	3011552		ug/L	Z
Aliph	nC33	44.5840	2203845		ug/L	Z
Aliph	nC34	46.0130	1576303		ug/L	Z
Aliph	nC35	47.7140	1090677		ug/L	Z
Aliph	nC36	49.7870	900127		ug/L	Z
Aliph	nC37	52.2630	667432		ug/L	Z
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110	442419		ug/L	Z
Aliph	Norpristane	21.8010	74644		ug/L	Z
Aliph	Phytane	24.7190	239441		ug/L	Z

**Results for: GCMS with Full Scan**

Aliph	Pristane	22.8660	469456	ug/L	Z
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**Results for: GCMS with Full Scan****Unique ID:** W13/007616 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\\_007616\\_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			1.70704301770554	ug/L	Y
Aliph	Botryococcane	39.4290	4181371		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	202703		ug/L	Z
Aliph	nC23	32.4960	1520128		ug/L	Z
Aliph	nC24	33.8800	5310928		ug/L	Z
Aliph	nC25	35.2120	10370027		ug/L	Z
Aliph	nC26	36.4960	13778573		ug/L	Z
Aliph	nC27	37.7300	16514860		ug/L	Z
Aliph	nC28	38.9260	15215534		ug/L	Z
Aliph	nC29	40.0740	14382836		ug/L	Z
Aliph	nC30	41.1930	11270207		ug/L	Z
Aliph	nC31	42.2750	9959404		ug/L	Z
Aliph	nC32	43.3560	7438460		ug/L	Z
Aliph	nC33	44.5840	5370882		ug/L	Z
Aliph	nC34	46.0130	3768459		ug/L	Z
Aliph	nC35	47.7140	2545608		ug/L	Z
Aliph	nC36	49.7870	1714593		ug/L	Z
Aliph	nC37	52.2630	1271298		ug/L	Z
Aliph	nC38	55.2360	911038		ug/L	Z
Aliph	nC39	58.9110	920041		ug/L	Z
Aliph	Norpristane	21.8010	258813		ug/L	Z
Aliph	Phytane	24.7190	706525		ug/L	Z

## Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	1206069	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 : **W13/007617**

Beach E9: Geltwood Beach Visit: 2

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 10/09/2015 11:35:14 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

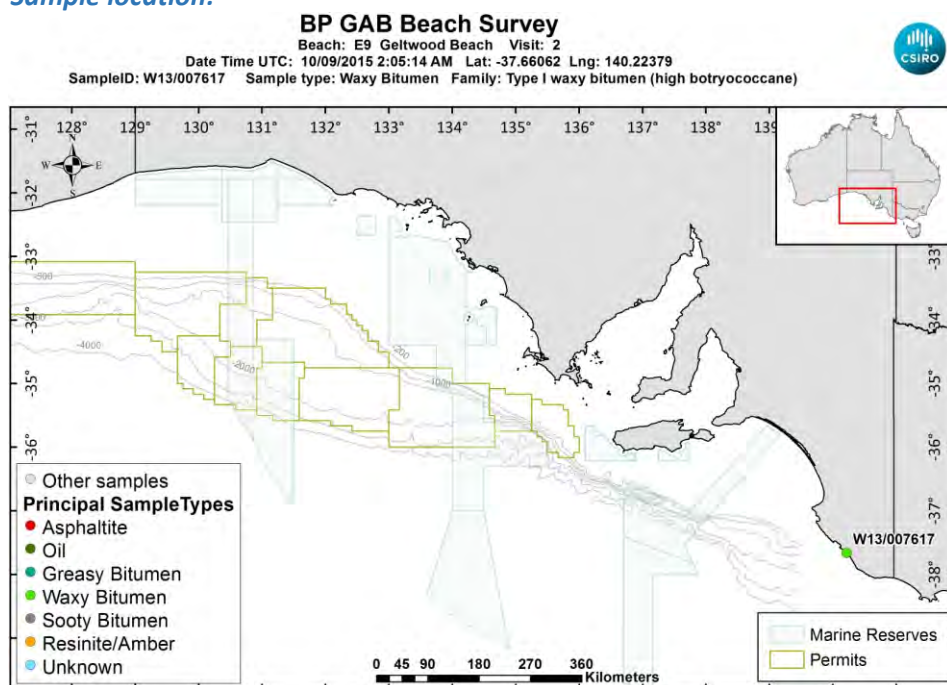
**Size (cm):** 3

**Latitude (Y):** -37.660618

**Weight (gm):** 4.6

**Longitude (X):** 140.223793

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007617\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007617\\_146A1572.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007617\\_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: W13/007617\_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			85.7006460820273	percent	Y
Inorg	Hydrogen			8.9792337972167	percent	Y
Inorg	Nitrogen			0.257017994858612	percent	Y
Inorg	Sulphur			1.82302136377928	percent	Y

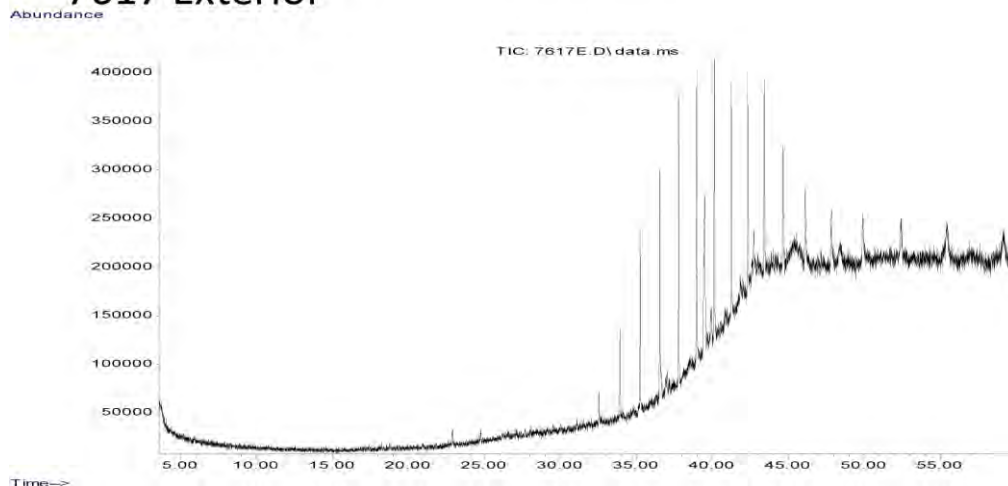
### Results for: GCMS with Full Scan

Unique ID: W13/007617\_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\\_007617\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

## 7617 Exterior



## Data Sheet:

(default units ppb)

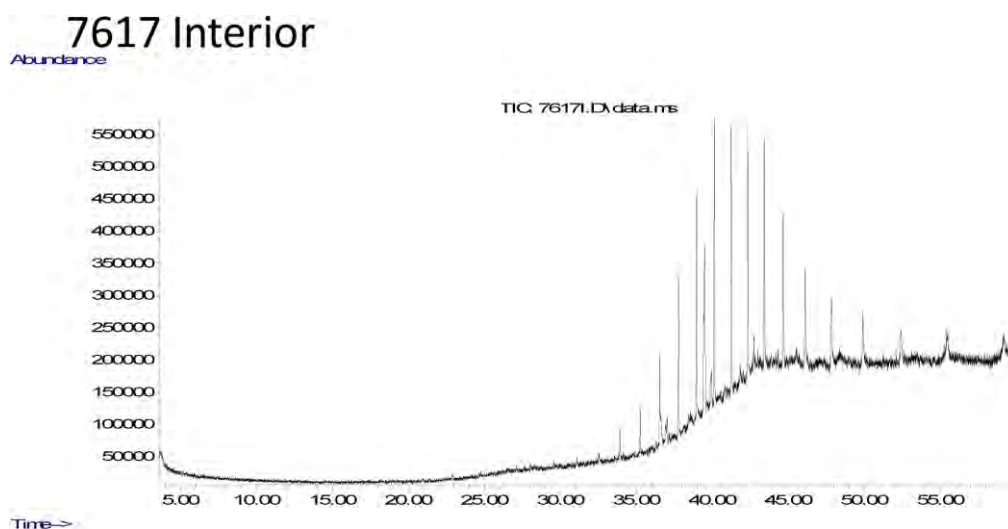
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			2.43386566559834	ug/L	Y
Aliph	Botryococcane	39.4290	1358846		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			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	45870		ug/L	Z
Aliph	nC23	32.4960	168473		ug/L	Z
Aliph	nC24	33.8800	454094		ug/L	Z
Aliph	nC25	35.2120	881134		ug/L	Z
Aliph	nC26	36.4960	1186742		ug/L	Z
Aliph	nC27	37.7300	1537461		ug/L	Z
Aliph	nC28	38.9260	1510485		ug/L	Z
Aliph	nC29	40.0740	1483727		ug/L	Z
Aliph	nC30	41.1930	1310392		ug/L	Z
Aliph	nC31	42.2750	1131223		ug/L	Z
Aliph	nC32	43.3560	1034914		ug/L	Z
Aliph	nC33	44.5840	808218		ug/L	Z
Aliph	nC34	46.0130	577219		ug/L	Z
Aliph	nC35	47.7140	489701		ug/L	Z
Aliph	nC36	49.7870	483103		ug/L	Z
Aliph	nC37	52.2630	412640		ug/L	Z
Aliph	nC38	55.2360	517563		ug/L	Z
Aliph	nC39	58.9110	352063		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190	48085		ug/L	Z

**Results for: GCMS with Full Scan**

Aliph	Pristane	22.8660	117032	ug/L	Z
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**Results for: GCMS with Full Scan****Unique ID:** W13/007617 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\\_007617\\_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			1.75960535924543	ug/L	Y
Aliph	Botryococcane	39.4290	2164102		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	52201		ug/L	Z
Aliph	nC23	32.4960	73900		ug/L	Z
Aliph	nC24	33.8800	201369		ug/L	Z
Aliph	nC25	35.2120	347233		ug/L	Z
Aliph	nC26	36.4960	705468		ug/L	Z
Aliph	nC27	37.7300	1310650		ug/L	Z
Aliph	nC28	38.9260	1789586		ug/L	Z
Aliph	nC29	40.0740	2219746		ug/L	Z
Aliph	nC30	41.1930	2100299		ug/L	Z
Aliph	nC31	42.2750	1967646		ug/L	Z
Aliph	nC32	43.3560	1976072		ug/L	Z
Aliph	nC33	44.5840	1382601		ug/L	Z
Aliph	nC34	46.0130	1170494		ug/L	Z
Aliph	nC35	47.7140	969258		ug/L	Z
Aliph	nC36	49.7870	696087		ug/L	Z
Aliph	nC37	52.2630	628692		ug/L	Z
Aliph	nC38	55.2360	657760		ug/L	Z
Aliph	nC39	58.9110	570040		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190	43025		ug/L	Z



## Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	75708	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 : **W13/007618**

Beach E9: Geltwood Beach Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 10/09/2015 11:44:32 AM

**Type:** Sooty Bitumen

**Family:** Sooty Bitumen

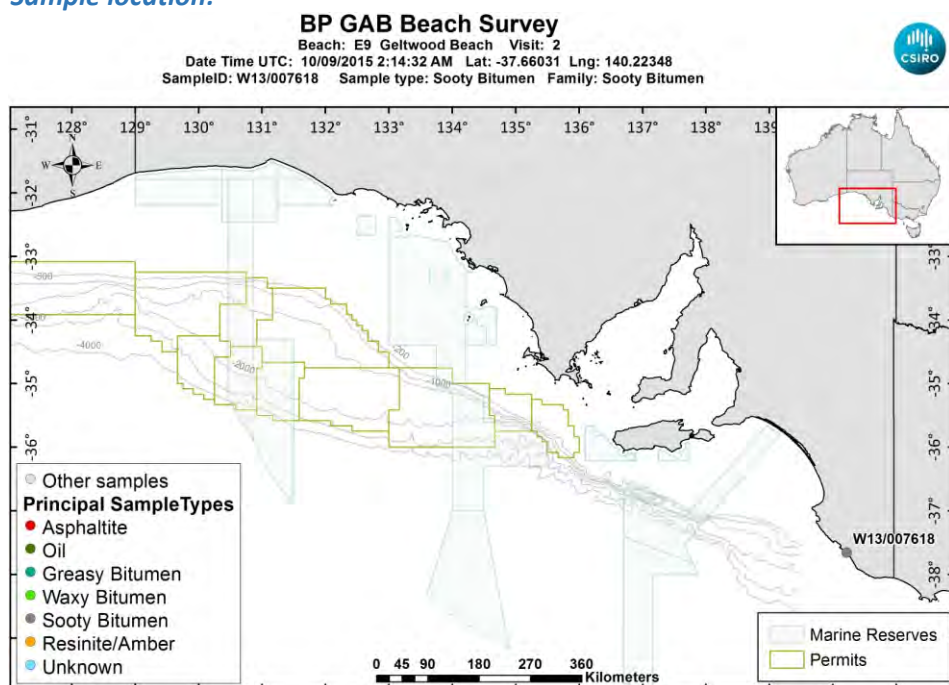
**Size (cm):** 4

**Latitude (Y):** -37.660310

**Weight (gm):** 14.8

**Longitude (X):** 140.223482

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007618\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007618\\_146A1575.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007618\\_Photo03.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:** W13/007618\_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			72.8047424972212	ratio	Y
BiomRatio	% C27 abb 20(R+S)			40.2931954919075	ratio	Y
BiomRatio	% C28 aaa 20R			7.1754970976905	ratio	Y
BiomRatio	% C28 abb 20(R+S)			13.2870095754597	ratio	Y
BiomRatio	% C29 aaa 20R			20.0197604050883	ratio	Y
BiomRatio	% C29 abb 20(R+S)			46.4197949326328	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			9.93258126960817E-02	ratio	Y
BiomRatio	25-Nor/C30H			0	ratio	U
BiomRatio	C19t/C23t			0.251964967437682	ratio	Y
BiomRatio	C22t/C21t			0.557348451809856	ratio	Y
BiomRatio	C22t/C24t			0.359392575928009	ratio	Y
BiomRatio	C23t/C30H			0.190608680763633	ratio	Y
BiomRatio	C24t/C23t			0.798562766674152	ratio	Y
BiomRatio	C24Tet/C23t			0.327868852459016	ratio	Y
BiomRatio	C24Tet/C26t			0.619957537154989	ratio	Y
BiomRatio	C24Tet/C30H			6.24946494306994E-02	ratio	Y
BiomRatio	C26t/C25t			0.749522597071929	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.429349098571763	ratio	Y
BiomRatio	C27 Dia/Ster			0.514354234744681	ratio	Y
BiomRatio	C28BNH/C30H			0	ratio	U
BiomRatio	C29/C27 abb Sterane Ratio			1.15205047318612	ratio	Y
BiomRatio	C29H/C30H			0.432026367605513	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.463908216922505	ratio	Y
BiomRatio	C30DiaH/C30H			0.198484718774078	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			0.022418908980244	ratio	Y
BiomRatio	C35HS/C34HS			0.258756254467477	ratio	Y
BiomRatio	Gam/C30H			0	ratio	U
BiomRatio	Gam/C31HR			0	ratio	U
BiomRatio	Ole/C30H			0	ratio	U
BiomRatio	Sterane/hopane			0.432675413811173	ratio	Y
BiomRatio	Steranes/Terpanes			0.315776449680182	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.370195320928417	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007618\_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)

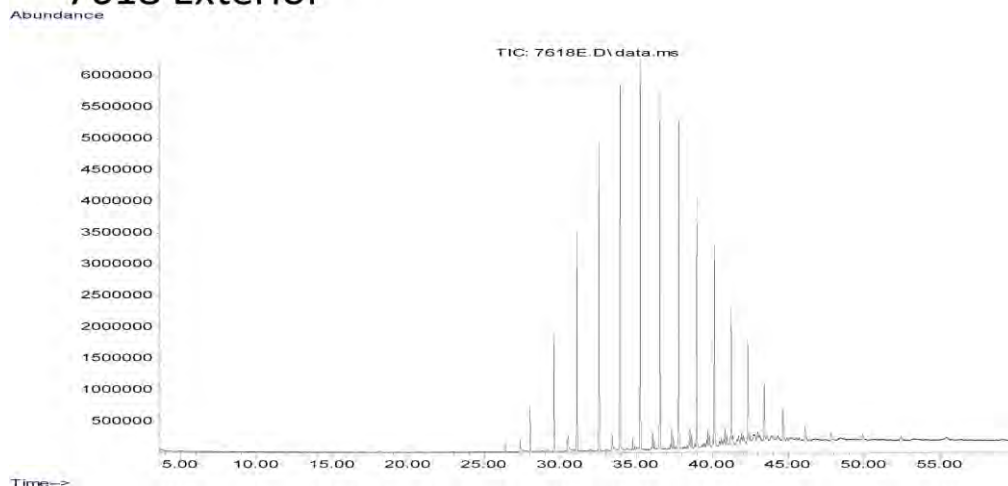
Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			85.3740827275759	percent	Y
Inorg	Hydrogen			9.96564453280318	percent	Y
Inorg	Nitrogen			0.176351328191945	percent	Y
Inorg	Sulphur			1.95340611424311	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007618\_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\\_007618\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior



## Results for: GCMS with Full Scan

## 7618 Exterior



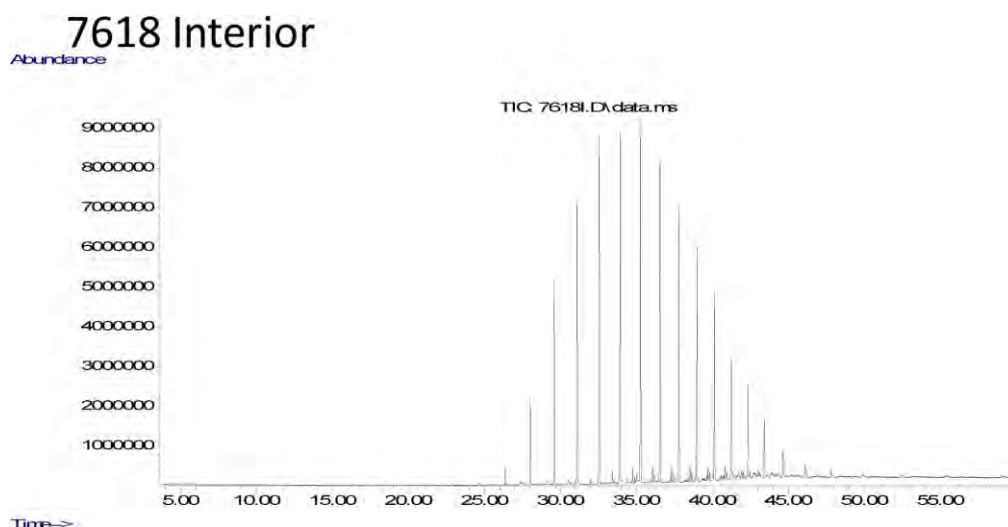
## Data Sheet:

(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	98464		ug/L	Z
Aliph	nC19	26.3410	742286		ug/L	Z
Aliph	nC20	27.9810	3453043		ug/L	Z
Aliph	nC21	29.5510	9060325		ug/L	Z
Aliph	nC22	31.0540	16842301		ug/L	Z
Aliph	nC23	32.4960	24100709		ug/L	Z
Aliph	nC24	33.8800	29026876		ug/L	Z
Aliph	nC25	35.2120	30615770		ug/L	Z
Aliph	nC26	36.4960	27990882		ug/L	Z
Aliph	nC27	37.7300	24857125		ug/L	Z
Aliph	nC28	38.9260	19343130		ug/L	Z
Aliph	nC29	40.0740	15419929		ug/L	Z
Aliph	nC30	41.1930	10680603		ug/L	Z
Aliph	nC31	42.2750	8583036		ug/L	Z
Aliph	nC32	43.3560	5239914		ug/L	Z
Aliph	nC33	44.5840	3320614		ug/L	Z
Aliph	nC34	46.0130	1894527		ug/L	Z
Aliph	nC35	47.7140	1202396		ug/L	Z
Aliph	nC36	49.7870	853832		ug/L	Z
Aliph	nC37	52.2630	657792		ug/L	Z
Aliph	nC38	55.2360	456485		ug/L	Z
Aliph	nC39	58.9110	310886		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:** W13/007618 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\\_007618\\_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 Respnse:	Value:	units:	Qualifier:
Ratio	nC17/nC29		1.31268295755687E-03		ug/L	Y
Ratio	nC17/nC35		1.48828481663728E-02		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	30952		ug/L	Z
Aliph	nC18	24.6230	243369		ug/L	Z
Aliph	nC19	26.3410	2106164		ug/L	Z
Aliph	nC20	27.9810	10676557		ug/L	Z
Aliph	nC21	29.5510	25470568		ug/L	Z
Aliph	nC22	31.0540	36546412		ug/L	Z
Aliph	nC23	32.4960	43652443		ug/L	Z
Aliph	nC24	33.8800	44376831		ug/L	Z
Aliph	nC25	35.2120	45726656		ug/L	Z
Aliph	nC26	36.4960	40910332		ug/L	Z
Aliph	nC27	37.7300	35891506		ug/L	Z
Aliph	nC28	38.9260	28009066		ug/L	Z
Aliph	nC29	40.0740	23579342		ug/L	Z
Aliph	nC30	41.1930	15562146		ug/L	Z
Aliph	nC31	42.2750	12624965		ug/L	Z
Aliph	nC32	43.3560	8092805		ug/L	Z
Aliph	nC33	44.5840	5328463		ug/L	Z
Aliph	nC34	46.0130	2977594		ug/L	Z
Aliph	nC35	47.7140	2079723		ug/L	Z
Aliph	nC36	49.7870	1350696		ug/L	Z
Aliph	nC37	52.2630	971396		ug/L	Z
Aliph	nC38	55.2360	782881		ug/L	Z
Aliph	nC39	58.9110	677935		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U

## Results for: GCMS with Full Scan

Aliph	Phytane	24.7190	ug/L	U
Aliph	Pristane	22.8660	ug/L	U

## 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 : **W13/007619**

Beach E9: Geltwood Beach Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 10/09/2015 11:49:38 AM

**Type:** Waxy Bitumen

**Family:** Type II waxy bitumen (low botryococcane)

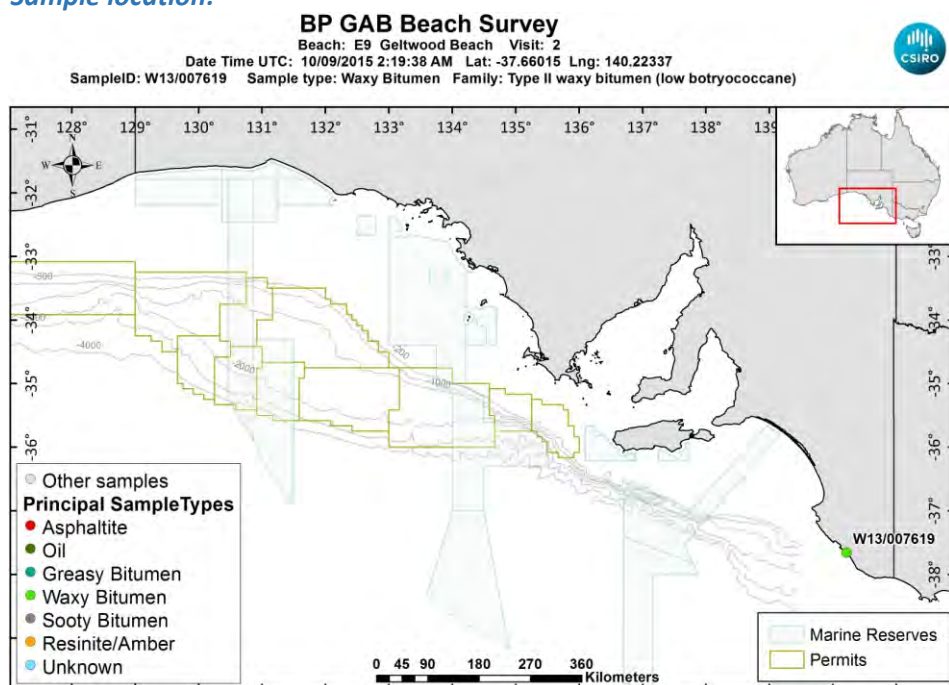
**Size (cm):** 0.17

**Latitude (Y):** -37.660147

**Weight (gm):** 1.2

**Longitude (X):** 140.223373

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007619\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007619\\_146A1581.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007619\\_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: W13/007619\_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 Respnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			29.2125548437911	ratio	Y
BiomRatio	% C27 abb 20(R+S)			19.6474345937207	ratio	Y
BiomRatio	% C28 aaa 20R			23.8997377903884	ratio	Y
BiomRatio	% C28 abb 20(R+S)			28.7760182701994	ratio	Y
BiomRatio	% C29 aaa 20R			46.8877073658205	ratio	Y
BiomRatio	% C29 abb 20(R+S)			51.5765471360799	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.138452933276384	ratio	Y
BiomRatio	25-Nor/C30H			3.46547209302068E-02	ratio	Y
BiomRatio	C19t/C23t			0.177201972148837	ratio	Y
BiomRatio	C22t/C21t			0.541658419879289	ratio	Y
BiomRatio	C22t/C24t			0.397730593862542	ratio	Y
BiomRatio	C23t/C30H			0.12689829198688	ratio	Y
BiomRatio	C24t/C23t			0.497210039886067	ratio	Y
BiomRatio	C24Tet/C23t			1.01403198667235	ratio	Y
BiomRatio	C24Tet/C26t			1.88007908944085	ratio	Y
BiomRatio	C24Tet/C30H			0.128678927128784	ratio	Y
BiomRatio	C26t/C25t			1.22119262211818	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.341119611731127	ratio	Y
BiomRatio	C27 Dia/Ster			0.273996750172229	ratio	Y
BiomRatio	C28BNH/C30H			1.74615303305012E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			2.62510338894645	ratio	Y
BiomRatio	C29H/C30H			1.16330200754999	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.104793481891921	ratio	Y
BiomRatio	C30DiaH/C30H			4.98114316352893E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.104938368016806	ratio	Y
BiomRatio	C35 Homohopane Index			7.04119031937055E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.913460767508836	ratio	Y
BiomRatio	Gam/C30H			8.28037158855609E-02	ratio	Y
BiomRatio	Gam/C31HR			0.266400679761124	ratio	Y
BiomRatio	Ole/C30H			0.04405084367805	ratio	Y
BiomRatio	Sterane/hopane			0.144269176278155	ratio	Y
BiomRatio	Steranes/Terpanes			0.127113931745071	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.134959593315775	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007619\_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:**

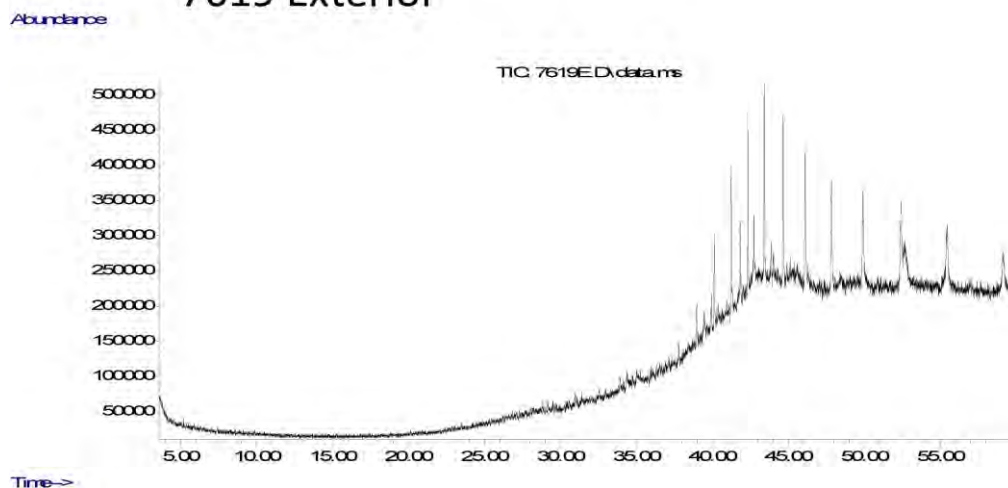
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			89.2879910636879	percent	Y
Inorg	Hydrogen			7.76628111332008	percent	Y
Inorg	Nitrogen			0.324843873179092	percent	Y
Inorg	Sulphur			3.57174108122909	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007619\_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\\_007619\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

## 7619 Exterior



## Data Sheet:

(default units ppb)

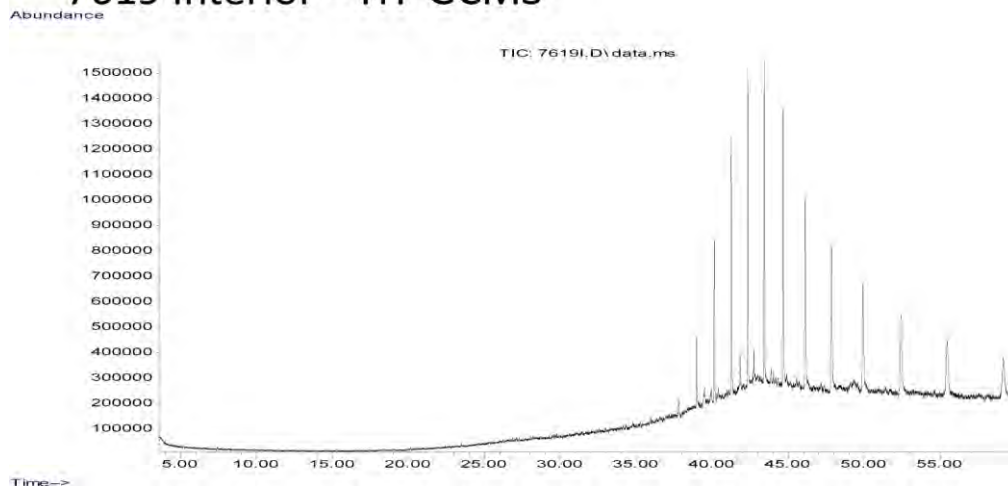
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			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	127198		ug/L	Z
Aliph	nC28	38.9260	365260		ug/L	Z
Aliph	nC29	40.0740	631270		ug/L	Z
Aliph	nC30	41.1930	953762		ug/L	Z
Aliph	nC31	42.2750	1251748		ug/L	Z
Aliph	nC32	43.3560	1628994		ug/L	Z
Aliph	nC33	44.5840	1604668		ug/L	Z
Aliph	nC34	46.0130	1544456		ug/L	Z
Aliph	nC35	47.7140	1376875		ug/L	Z
Aliph	nC36	49.7870	1484883		ug/L	Z
Aliph	nC37	52.2630	1446396		ug/L	Z
Aliph	nC38	55.2360	1243931		ug/L	Z
Aliph	nC39	58.9110	779424		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:** W13/007619 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\\_007619\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior



## Results for: GCMS with Full Scan

## 7619 Interior – HT-GCMS



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	628048		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	306268		ug/L	Z
Aliph	nC28	38.9260	1348098		ug/L	Z
Aliph	nC29	40.0740	3069386		ug/L	Z
Aliph	nC30	41.1930	4892735		ug/L	Z
Aliph	nC31	42.2750	6393607		ug/L	Z
Aliph	nC32	43.3560	6987876		ug/L	Z
Aliph	nC33	44.5840	6805550		ug/L	Z
Aliph	nC34	46.0130	6309647		ug/L	Z
Aliph	nC35	47.7140	5324019		ug/L	Z
Aliph	nC36	49.7870	4782750		ug/L	Z
Aliph	nC37	52.2630	4034650		ug/L	Z
Aliph	nC38	55.2360	3425790		ug/L	Z
Aliph	nC39	58.9110	2659802		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:**

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

Sample ID : /001052

Beach E9: Geltwood Beach Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 22/10/2016 8:47:56 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

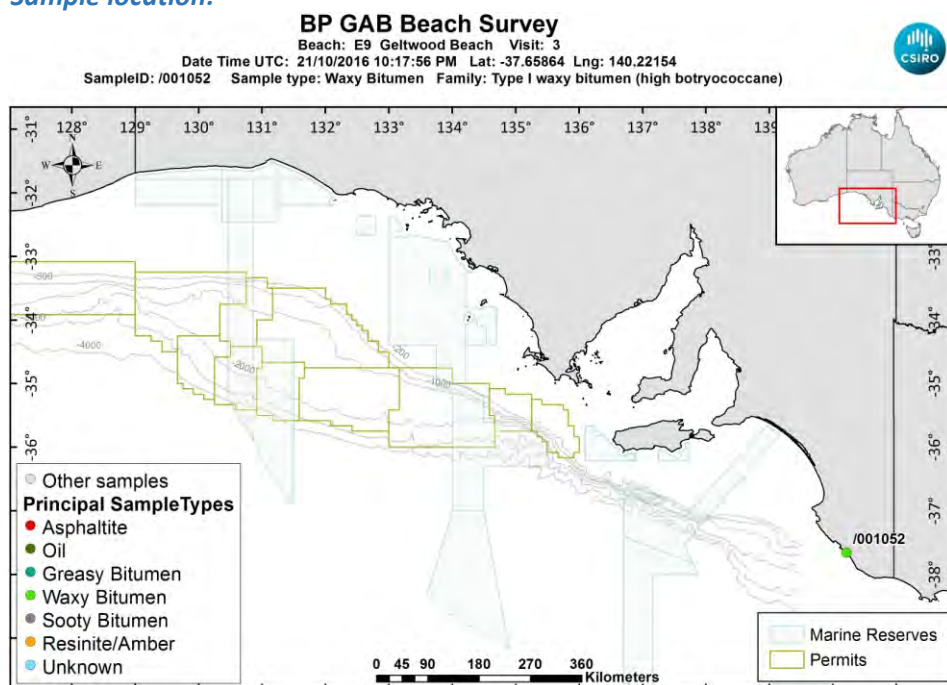
**Size (cm):** 4.5

**Latitude (Y):** -37.658645

**Weight (gm):** 14.66864

**Longitude (X):** 140.221545

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001052 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001052\\_146A7133.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001052\\_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: /001052\_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			86.57	percent	Y
Inorg	Hydrogen			7.46164811133201	percent	Y
Inorg	Nitrogen			0.2	percent	Y
Inorg	Sulphur			1.63956853213004	percent	Y

### Results for: GCMS with Full Scan

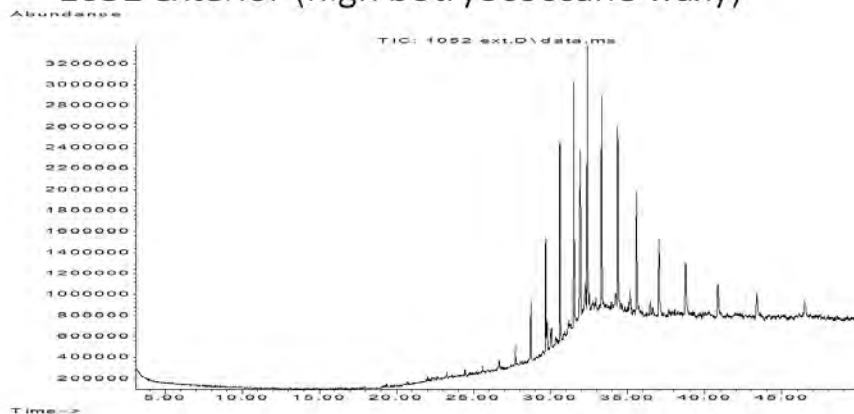
Unique ID: /001052\_DISS\_GCMS-Scan/01

**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\ 001052\\_ext\\_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior



## Results for: GCMS with Full Scan

1052 exterior (high botryococcane waxy)



## Data Sheet:

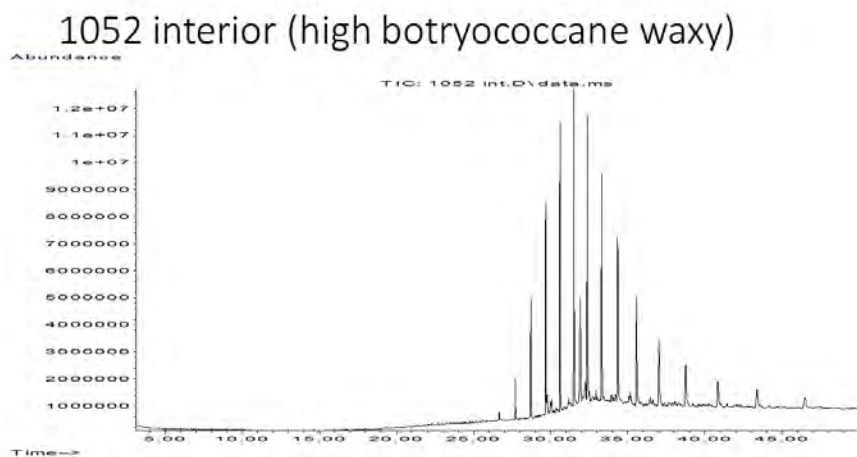
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	12607710			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	477606			Z
Aliph	nC24	27.7060	1021691			Z
Aliph	nC25	28.7100	2502599			Z
Aliph	nC26	29.6680	5105639			Z
Aliph	nC27	30.6080	9732748			Z
Aliph	nC28	31.5080	12274321			Z
Aliph	nC29	32.3700	13605389			Z
Aliph	nC30	33.2910	12397397			Z
Aliph	nC31	34.3470	11494873			Z
Aliph	nC32	35.5720	9384907			Z
Aliph	nC33	37.0130	7011724			Z
Aliph	nC34	38.7280	5383868			Z
Aliph	nC35	40.8080	3669894			Z
Aliph	nC36	43.3510	3450391			Z
Aliph	nC37	46.4710	2967127			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:** /001052 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\\\_001052\\_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	31.9240	30197054			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	399956			Z
Aliph	nC23	26.6620	1619087			Z
Aliph	nC24	27.7060	7202400			Z
Aliph	nC25	28.7100	19878404			Z
Aliph	nC26	29.6680	33243631			Z
Aliph	nC27	30.6080	49326921			Z
Aliph	nC28	31.5080	51796265			Z
Aliph	nC29	32.3700	51979976			Z
Aliph	nC30	33.2910	43922031			Z
Aliph	nC31	34.3470	38913061			Z
Aliph	nC32	35.5720	29359008			Z
Aliph	nC33	37.0130	22696063			Z
Aliph	nC34	38.7280	15657949			Z
Aliph	nC35	40.8080	11131195			Z
Aliph	nC36	43.3510	9568587			Z
Aliph	nC37	46.4710	7787871			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:**

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

Sample ID : /001053

Beach E9: Geltwood Beach Visit: 3

**Comments:**

**Location:** Mid Intertidal

**Local Date Time:** 22/10/2016 9:01:38 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

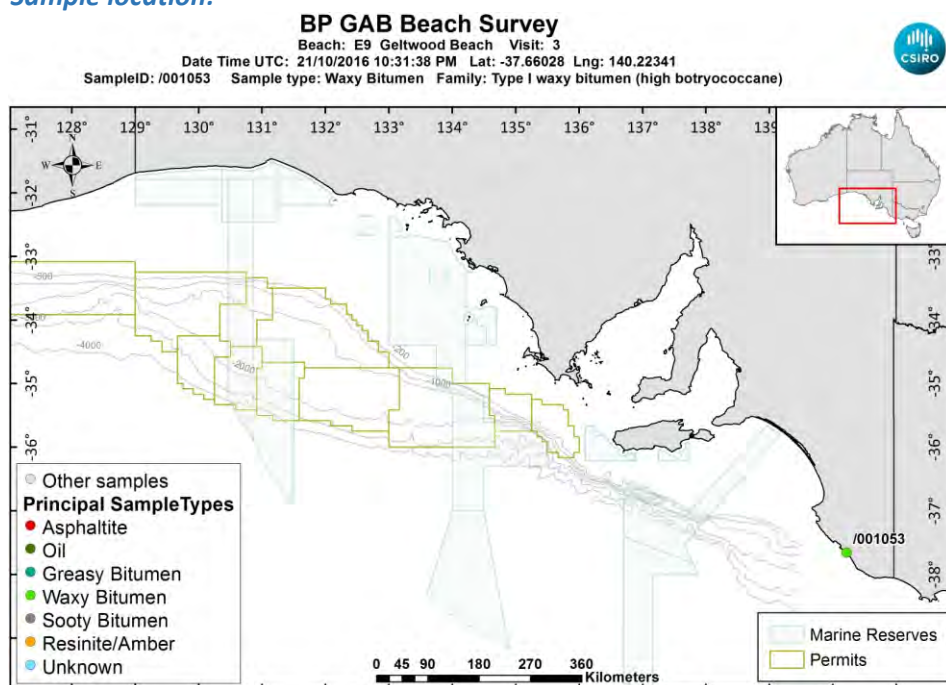
**Size (cm):** 3.3

**Latitude (Y):** -37.660283

**Weight (gm):** 3.80836

**Longitude (X):** 140.223407

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001053 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001053\\_146A7138.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001053\\_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: 3

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: /001053\_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			86.47	percent	Y
Inorg	Hydrogen			7.99083896620279	percent	Y
Inorg	Nitrogen			0.2	percent	Y
Inorg	Sulphur			1.68252144706227	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001053\_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\ 001053\\_bulk\\_WholeOil.JPG](#)

Preparation: Dissolved in solvent

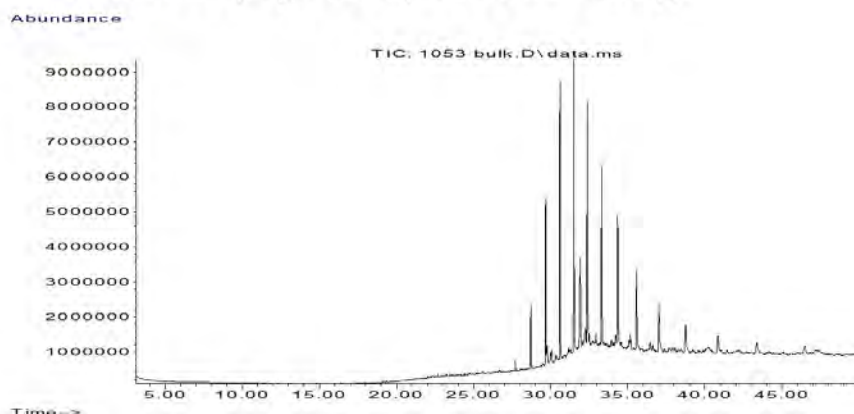
Method ID/s:

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



## Results for: GCMS with Full Scan

1053 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	21259586			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	1412832			Z
Aliph	nC25	28.7100	8531008			Z
Aliph	nC26	29.6680	21933327			Z
Aliph	nC27	30.6080	37757188			Z
Aliph	nC28	31.5080	38604174			Z
Aliph	nC29	32.3700	37056684			Z
Aliph	nC30	33.2910	28297108			Z
Aliph	nC31	34.3470	25173628			Z
Aliph	nC32	35.5720	16881642			Z
Aliph	nC33	37.0130	12425716			Z
Aliph	nC34	38.7280	8286625			Z
Aliph	nC35	40.8080	6378204			Z
Aliph	nC36	43.3510	5012115			Z
Aliph	nC37	46.4710	4076346			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:**

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

Sample ID : /001054

Beach E9: Geltwood Beach Visit: 3

**Comments:**

**Location:** Mid Intertidal

**Local Date Time:** 22/10/2016 9:03:25 AM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

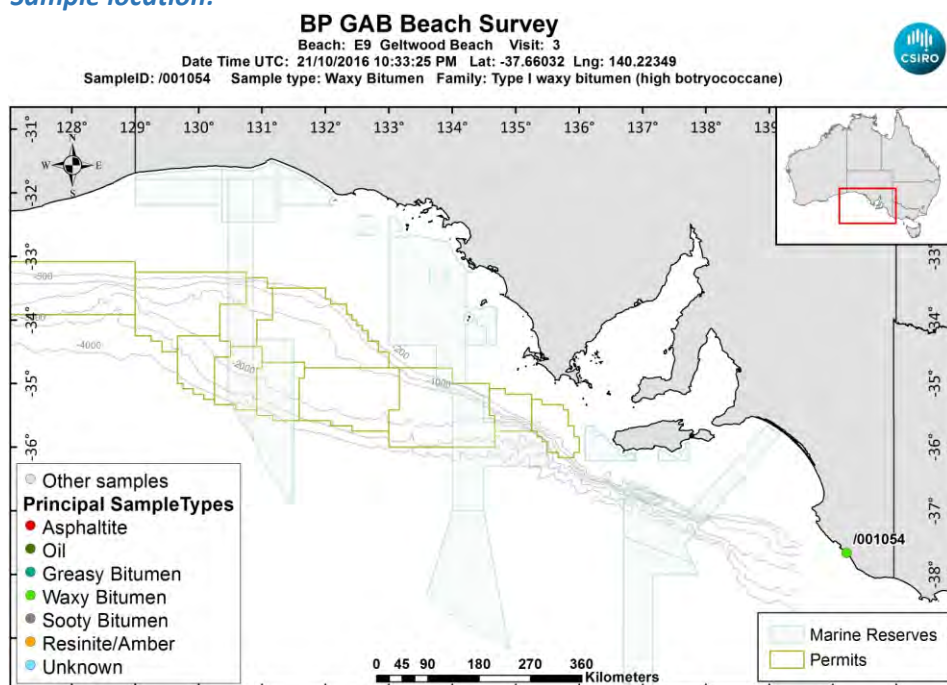
**Size (cm):** 1.7

**Latitude (Y):** -37.660325

**Weight (gm):** 0.65994

**Longitude (X):** 140.223492

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001054 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001054\\_146A7140.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001054\\_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: 3

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: /001054\_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			86.45	percent	Y
Inorg	Hydrogen			9.37655308151094	percent	Y
Inorg	Nitrogen			0.25	percent	Y
Inorg	Sulphur			2.18704129400247	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001054\_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\ 001054\\_bulk\\_WholeOil.JPG](#)

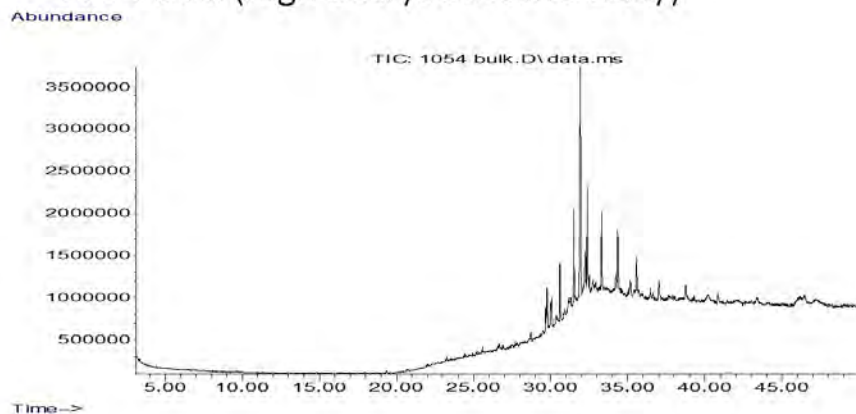
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

1054 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	22526551			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	464336			Z
Aliph	nC26	29.6680	1358211			Z
Aliph	nC27	30.6080	3515063			Z
Aliph	nC28	31.5080	5705536			Z
Aliph	nC29	32.3700	6130088			Z
Aliph	nC30	33.2910	5280534			Z
Aliph	nC31	34.3470	5168759			Z
Aliph	nC32	35.5720	3702583			Z
Aliph	nC33	37.0130	2636725			Z
Aliph	nC34	38.7280	1999737			Z
Aliph	nC35	40.8080	1197910			Z
Aliph	nC36	43.3510	1203648			Z
Aliph	nC37	46.4710	1145188			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:**

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



Sample ID : **W13/007742**

Beach W25: Greenly Beach Visit: 0

**Comments:**

gifted to CSIRO from Stuart Valladares Coffin Bay.  
Found at Greenly Beach

**Location:** Upper Intertidal

**Local Date Time:** 22/08/2015 5:16:14 PM

**Type:** Asphaltite

**Family:** Asphaltite

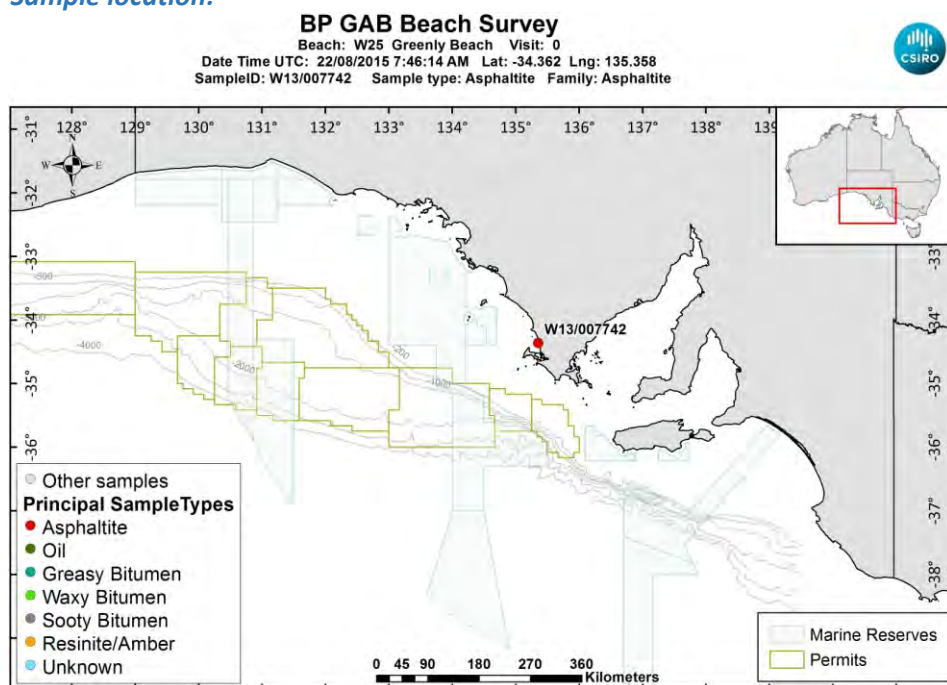
**Size (cm):** 0

**Latitude (Y):** -34.362000

**Weight (gm):** 392

**Longitude (X):** 135.358000

**Sample location:**



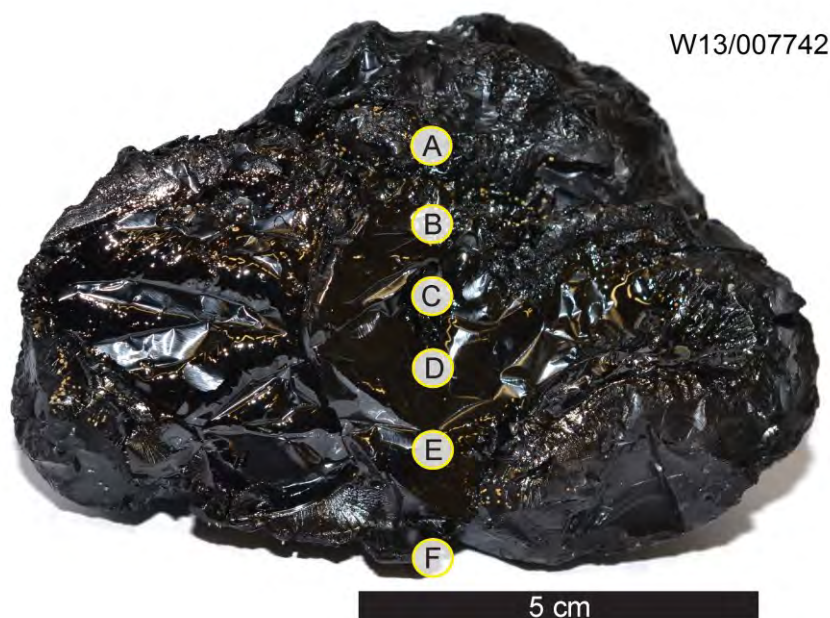
[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007742\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007742\\_Photo01.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB BCH1\Samples\W13 007742 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
10	CSIA	YES

### Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 2
Biomarkers	Gas Chromatography Mass Spectrometry Run: 3
Biomarkers	Gas Chromatography Mass Spectrometry Run: 4
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
CSIA	Compound Specific Isotope Analysis d2H Run: 6
CSIA	Compound Specific Isotope Analysis d2H Run: 1
CSIA	Compound Specific Isotope Analysis d2H Run: 2
CSIA	Compound Specific Isotope Analysis d2H Run: 3
CSIA	Compound Specific Isotope Analysis d2H Run: 5
CSIA	Compound Specific Isotope Analysis d13C Run: 11
CSIA	Compound Specific Isotope Analysis d13C Run: 12
CSIA	Compound Specific Isotope Analysis d13C Run: 13
CSIA	Compound Specific Isotope Analysis d13C Run: 14
CSIA	Compound Specific Isotope Analysis d13C Run: 15
CSIA	Compound Specific Isotope Analysis d13C Run: 16
CSIA	Compound Specific Isotope Analysis d2H Run: 4
Elemental CHNS	Elemental Analyser Run: 1

### Sample Analyses Completed:

#### Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007742 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 Respnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			40.1168752892246	ratio	Y
BiomRatio	% C27 abb 20(R+S)			38.4531242814467	ratio	Y
BiomRatio	% C28 aaa 20R			26.3314327827831	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.4638862740718	ratio	Y
BiomRatio	% C29 aaa 20R			33.5516919279924	ratio	Y
BiomRatio	% C29 abb 20(R+S)			36.0829894444815	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.103766947437659	ratio	Y
BiomRatio	25-Nor/C30H			3.26920986366118E-02	ratio	Y
BiomRatio	C19t/C23t			0.293999333168884	ratio	Y
BiomRatio	C22t/C21t			0.35478020645515	ratio	Y
BiomRatio	C22t/C24t			0.306798028658311	ratio	Y
BiomRatio	C23t/C30H			7.45422200956396E-02	ratio	Y
BiomRatio	C24t/C23t			0.594572103147389	ratio	Y
BiomRatio	C24Tet/C23t			0.862578576288461	ratio	Y
BiomRatio	C24Tet/C26t			1.59494070591537	ratio	Y
BiomRatio	C24Tet/C30H			0.064298522083478	ratio	Y
BiomRatio	C26t/C25t			0.882091050167342	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.437108538908149	ratio	Y
BiomRatio	C27 Dia/Ster			0.422164172517591	ratio	Y
BiomRatio	C28BNH/C30H			0.041038441347878	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.938363009995814	ratio	Y
BiomRatio	C29H/C30H			0.669323502917967	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.165458494479644	ratio	Y
BiomRatio	C30DiaH/C30H			8.03573413101733E-02	ratio	Y
BiomRatio	C30Ts/C30H			3.93477947235337E-02	ratio	Y
BiomRatio	C35 Homohopane Index			0.076738403945213	ratio	Y
BiomRatio	C35HS/C34HS			0.890365762431592	ratio	Y
BiomRatio	Gam/C30H			5.31172597905756E-02	ratio	Y
BiomRatio	Gam/C31HR			0.167508317206566	ratio	Y
BiomRatio	Ole/C30H			6.76561741638806E-03	ratio	Y
BiomRatio	Sterane/hopane			0.374801801808271	ratio	Y
BiomRatio	Steranes/Terpanes			0.338038563124895	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.108754570317451	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007742 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 Respnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			39.295022981644	ratio	Y
BiomRatio	% C27 abb 20(R+S)			38.7407161606924	ratio	Y
BiomRatio	% C28 aaa 20R			22.8831279828021	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.4013397325391	ratio	Y
BiomRatio	% C29 aaa 20R			37.8218490355539	ratio	Y
BiomRatio	% C29 abb 20(R+S)			35.8579441067685	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			9.67696319216628E-02	ratio	Y
BiomRatio	25-Nor/C30H			0.031541968330214	ratio	Y
BiomRatio	C19t/C23t			0.299294862916775	ratio	Y
BiomRatio	C22t/C21t			0.370886886032745	ratio	Y
BiomRatio	C22t/C24t			0.307126690587911	ratio	Y
BiomRatio	C23t/C30H			7.29425861594136E-02	ratio	Y
BiomRatio	C24t/C23t			0.545412393792867	ratio	Y
BiomRatio	C24Tet/C23t			1.07424111954813	ratio	Y
BiomRatio	C24Tet/C26t			2.02867962291186	ratio	Y
BiomRatio	C24Tet/C30H			7.83579254186247E-02	ratio	Y
BiomRatio	C26t/C25t			0.957762892773512	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.445306844735642	ratio	Y
BiomRatio	C27 Dia/Ster			0.435664664899718	ratio	Y
BiomRatio	C28BNH/C30H			4.38133405602278E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.925588054646011	ratio	Y
BiomRatio	C29H/C30H			0.635378869503457	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.175088447229338	ratio	Y
BiomRatio	C30DiaH/C30H			9.00692718918461E-02	ratio	Y
BiomRatio	C30Ts/C30H			4.27486327684906E-02	ratio	Y
BiomRatio	C35 Homohopane Index			8.25058926037819E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.943057005312602	ratio	Y
BiomRatio	Gam/C30H			8.68215617383375E-02	ratio	Y
BiomRatio	Gam/C31HR			0.261389032147155	ratio	Y
BiomRatio	Ole/C30H			8.40126482366216E-03	ratio	Y
BiomRatio	Sterane/hopane			0.319162964833407	ratio	Y
BiomRatio	Steranes/Terpanes			0.289890530115237	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.100977547305644	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007742 DISS GC-MS/03

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 3

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: Sample Part D 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			39.1260954645106	ratio	Y
BiomRatio	% C27 abb 20(R+S)			38.4697340950512	ratio	Y
BiomRatio	% C28 aaa 20R			26.5928039966582	ratio	Y
BiomRatio	% C28 abb 20(R+S)			26.2432346703183	ratio	Y
BiomRatio	% C29 aaa 20R			34.2811005388312	ratio	Y
BiomRatio	% C29 abb 20(R+S)			35.2870312346305	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.133600817484444	ratio	Y
BiomRatio	25-Nor/C30H			2.17132185420694E-02	ratio	Y
BiomRatio	C19t/C23t			0.246007319913492	ratio	Y
BiomRatio	C22t/C21t			0.413944603629417	ratio	Y
BiomRatio	C22t/C24t			0.312653296782571	ratio	Y
BiomRatio	C23t/C30H			8.06165266561945E-02	ratio	Y
BiomRatio	C24t/C23t			0.504460572284146	ratio	Y
BiomRatio	C24Tet/C23t			0.808725669605723	ratio	Y
BiomRatio	C24Tet/C26t			1.98966540468638	ratio	Y
BiomRatio	C24Tet/C30H			6.51966545013185E-02	ratio	Y
BiomRatio	C26t/C25t			0.783548134934156	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.448222504276806	ratio	Y
BiomRatio	C27 Dia/Ster			0.460688682571395	ratio	Y
BiomRatio	C28BNH/C30H			4.89477840010863E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.917267354836485	ratio	Y
BiomRatio	C29H/C30H			0.64570337450105	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.182008450396132	ratio	Y
BiomRatio	C30DiaH/C30H			8.99601510805478E-02	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			7.01133210464819E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.838979126594002	ratio	Y
BiomRatio	Gam/C30H			7.51999570831999E-02	ratio	Y
BiomRatio	Gam/C31HR			0.257095531763681	ratio	Y
BiomRatio	Ole/C30H			0	ratio	U
BiomRatio	Sterane/hopane			0.357350375996447	ratio	Y
BiomRatio	Steranes/Terpanes			0.323771281360432	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.10371239380751	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007742 DISS GC-MS/04

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 4

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: Sample Part D duplicate 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			39.8113864182247	ratio	Y
BiomRatio	% C27 abb 20(R+S)			37.8395121905199	ratio	Y
BiomRatio	% C28 aaa 20R			26.1060937134511	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.0351422830062	ratio	Y
BiomRatio	% C29 aaa 20R			34.0825198683242	ratio	Y
BiomRatio	% C29 abb 20(R+S)			37.1253455264739	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.108015530988622	ratio	Y
BiomRatio	25-Nor/C30H			2.53197460323573E-02	ratio	Y
BiomRatio	C19t/C23t			0.252128437410928	ratio	Y
BiomRatio	C22t/C21t			0.403853685282369	ratio	Y
BiomRatio	C22t/C24t			0.312434354043791	ratio	Y
BiomRatio	C23t/C30H			7.76854093760079E-02	ratio	Y
BiomRatio	C24t/C23t			0.613535250889172	ratio	Y
BiomRatio	C24Tet/C23t			1.07393454202967	ratio	Y
BiomRatio	C24Tet/C26t			2.10720972644377	ratio	Y
BiomRatio	C24Tet/C30H			8.34290445406103E-02	ratio	Y
BiomRatio	C26t/C25t			0.831446362864421	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.458791268438628	ratio	Y
BiomRatio	C27 Dia/Ster			0.464356709352444	ratio	Y
BiomRatio	C28BNH/C30H			4.45637157449348E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.98112643047695	ratio	Y
BiomRatio	C29H/C30H			0.670541004991745	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.15861096715507	ratio	Y
BiomRatio	C30DiaH/C30H			7.60940200151148E-02	ratio	Y
BiomRatio	C30Ts/C30H			1.2178509023168E-03	ratio	Y
BiomRatio	C35 Homohopane Index			7.96976565213803E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.825082614913507	ratio	Y
BiomRatio	Gam/C30H			0.065149728270026	ratio	Y
BiomRatio	Gam/C31HR			0.24270333469619	ratio	Y
BiomRatio	Ole/C30H			0	ratio	U
BiomRatio	Sterane/hopane			0.395653656997902	ratio	Y
BiomRatio	Steranes/Terpanes			0.355013765567149	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.114474128533661	ratio	Y

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007742\_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			-30.721	value	Y
Aliph	nC14			-31.446	value	Y
Aliph	nC15			-31.544	value	Y
Aliph	nC16			-32.063	value	Y
Aliph	nC17			-32.292	value	Y
Aliph	nC18			-33.002	value	Y
Aliph	nC19			-32.208	value	Y
Aliph	nC20			-32.27	value	Y
Aliph	nC21			-32.473	value	Y
Aliph	nC22			-32.428	value	Y
Aliph	nC23			-33.864	value	Y
Aliph	nC24			-33.236	value	Y
Aliph	nC25			-33.122	value	Y
Aliph	nC26			-33.057	value	Y
Aliph	nC27			-32.94	value	Y
Aliph	nC28			-32.812	value	Y
Aliph	nC29			-32.757	value	Y
Aliph	nC30			-32.377	value	Y
Aliph	nC31			-32.429	value	Y
Aliph	nC32			-31.959	value	Y
Aliph	nC33			-32.491	value	Y
Aliph	nC34			-32.204	value	Y
Aliph	nC35			-31.459	value	Y
Aliph	nC36			-32.768	value	Y
Aliph	nC37			-32.443	value	Y
Aliph	nC38			-34.183	value	Y
Aliph	nC39				value	U

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007742\_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 Respns:	Value:	units:	Qualifier:
Aliph	nC13			-29.986	value	Y
Aliph	nC14			-30.635	value	Y
Aliph	nC15			-31.707	value	Y
Aliph	nC16			-32.112	value	Y
Aliph	nC17			-32.125	value	Y
Aliph	nC18			-32.285	value	Y
Aliph	nC19			-32.436	value	Y
Aliph	nC20			-32.276	value	Y
Aliph	nC21			-32.673	value	Y
Aliph	nC22			-32.521	value	Y
Aliph	nC23			-32.787	value	Y
Aliph	nC24			-32.132	value	Y
Aliph	nC25			-32.359	value	Y
Aliph	nC26			-32.269	value	Y
Aliph	nC27			-32.433	value	Y
Aliph	nC28			-31.716	value	Y
Aliph	nC29			-31.657	value	Y
Aliph	nC30			-31.689	value	Y
Aliph	nC31			-31.719	value	Y
Aliph	nC32			-31.817	value	Y
Aliph	nC33			-31.847	value	Y
Aliph	nC34			-31.29	value	Y
Aliph	nC35			-31.467	value	Y
Aliph	nC36			-31.033	value	Y
Aliph	nC37			-31.581	value	Y
Aliph	nC38			-33.622	value	Y
Aliph	nC39				value	U

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007742\_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 Respns:	Value:	units:	Qualifier:
Aliph	nC13			-29.298	value	Y
Aliph	nC14			-31.39	value	Y
Aliph	nC15			-31.612	value	Y
Aliph	nC16			-31.649	value	Y
Aliph	nC17			-31.927	value	Y
Aliph	nC18			-32.449	value	Y
Aliph	nC19			-31.966	value	Y
Aliph	nC20			-31.974	value	Y
Aliph	nC21			-32.543	value	Y
Aliph	nC22			-32.345	value	Y
Aliph	nC23			-32.698	value	Y
Aliph	nC24			-31.89	value	Y
Aliph	nC25			-32.258	value	Y
Aliph	nC26			-32.095	value	Y
Aliph	nC27			-32.117	value	Y
Aliph	nC28			-31.958	value	Y
Aliph	nC29			-31.668	value	Y
Aliph	nC30			-31.335	value	Y
Aliph	nC31			-31.426	value	Y
Aliph	nC32			-31.648	value	Y
Aliph	nC33			-31.382	value	Y
Aliph	nC34			-30.65	value	Y
Aliph	nC35			-31.337	value	Y
Aliph	nC36			-31.734	value	Y
Aliph	nC37			-35.085	value	Y
Aliph	nC38				value	U
Aliph	nC39				value	U

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007742\_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			-30.5	value	Y
Aliph	nC14			-31.412	value	Y
Aliph	nC15			-31.947	value	Y
Aliph	nC16			-32.209	value	Y
Aliph	nC17			-32.354	value	Y
Aliph	nC18			-33.13	value	Y
Aliph	nC19			-32.404	value	Y
Aliph	nC20			-32.466	value	Y
Aliph	nC21			-33.548	value	Y
Aliph	nC22			-33.553	value	Y
Aliph	nC23			-33.855	value	Y
Aliph	nC24			-33.514	value	Y
Aliph	nC25			-33.359	value	Y
Aliph	nC26			-33.213	value	Y
Aliph	nC27			-32.925	value	Y
Aliph	nC28			-32.892	value	Y
Aliph	nC29			-32.488	value	Y
Aliph	nC30			-32.431	value	Y
Aliph	nC31			-32.397	value	Y
Aliph	nC32			-32.477	value	Y
Aliph	nC33			-32.493	value	Y
Aliph	nC34			-31.904	value	Y
Aliph	nC35			-31.478	value	Y
Aliph	nC36			-32.839	value	Y
Aliph	nC37			-32.982	value	Y
Aliph	nC38				value	U
Aliph	nC39				value	U

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007742\_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			-31.248	value	Y
Aliph	nC14			-31.622	value	Y
Aliph	nC15			-31.817	value	Y
Aliph	nC16			-32.357	value	Y
Aliph	nC17			-32.403	value	Y
Aliph	nC18			-32.635	value	Y
Aliph	nC19			-32.447	value	Y
Aliph	nC20			-32.506	value	Y
Aliph	nC21			-32.604	value	Y
Aliph	nC22			-32.551	value	Y
Aliph	nC23			-32.88	value	Y
Aliph	nC24			-32.479	value	Y
Aliph	nC25			-32.541	value	Y
Aliph	nC26			-32.331	value	Y
Aliph	nC27			-32.193	value	Y
Aliph	nC28			-31.832	value	Y
Aliph	nC29			-31.777	value	Y
Aliph	nC30			-31.66	value	Y
Aliph	nC31			-32.693	value	Y
Aliph	nC32			-32.192	value	Y
Aliph	nC33			-32.872	value	Y
Aliph	nC34			-31.712	value	Y
Aliph	nC35			-31.65	value	Y
Aliph	nC36			-31.667	value	Y
Aliph	nC37			-32.527	value	Y
Aliph	nC38				value	U
Aliph	nC39				value	U

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007742\_PTE\_CSIA-C13/16

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 16

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 F 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			-29.716	value	Y
Aliph	nC14			-31.222	value	Y
Aliph	nC15			-31.698	value	Y
Aliph	nC16			-31.604	value	Y
Aliph	nC17			-32.059	value	Y
Aliph	nC18			-31.962	value	Y
Aliph	nC19			-32.055	value	Y
Aliph	nC20			-31.908	value	Y
Aliph	nC21			-32.124	value	Y
Aliph	nC22			-32.125	value	Y
Aliph	nC23			-32.466	value	Y
Aliph	nC24			-32.182	value	Y
Aliph	nC25			-32.191	value	Y
Aliph	nC26			-32.086	value	Y
Aliph	nC27			-31.934	value	Y
Aliph	nC28			-31.778	value	Y
Aliph	nC29			-31.545	value	Y
Aliph	nC30			-31.09	value	Y
Aliph	nC31			-31.808	value	Y
Aliph	nC32			-31.23	value	Y
Aliph	nC33			-31.388	value	Y
Aliph	nC34			-30.488	value	Y
Aliph	nC35			-31.532	value	Y
Aliph	nC36			-31.613	value	Y
Aliph	nC37			-31.125	value	Y
Aliph	nC38				value	U
Aliph	nC39				value	U

## Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007742\_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			-108.4535	value	Y
Aliph	nC14			-111.3645	value	Y
Aliph	nC15			-115.0835	value	Y
Aliph	nC16			-114.2865	value	Y
Aliph	nC17			-115.526	value	Y
Aliph	nC18			-106.394	value	Y
Aliph	nC19			-109.344	value	Y
Aliph	nC20			-109.152	value	Y
Aliph	nC21			-109.1665	value	Y
Aliph	nC22			-108.1885	value	Y
Aliph	nC23			-109.0705	value	Y
Aliph	nC24			-108.031	value	Y
Aliph	nC25			-110.7265	value	Y
Aliph	nC26			-106.09	value	Y
Aliph	nC27			-107.9015	value	Y
Aliph	nC28			-109.307	value	Y
Aliph	nC29			-112.985	value	Y
Aliph	nC30			-110.6815	value	Y
Aliph	nC31			-109.324	value	Y
Aliph	nC32			-110.7445	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: W13/007742\_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			-104.023	value	Y
Aliph	nC14			-112.65	value	Y
Aliph	nC15			-112.311	value	Y
Aliph	nC16			-111.488	value	Y
Aliph	nC17			-113.0695	value	Y
Aliph	nC18			-107.355	value	Y
Aliph	nC19			-109.4865	value	Y
Aliph	nC20			-107.0435	value	Y
Aliph	nC21			-107.7885	value	Y
Aliph	nC22			-107.681	value	Y
Aliph	nC23			-107.147	value	Y
Aliph	nC24			-106.01	value	Y
Aliph	nC25			-110.3685	value	Y
Aliph	nC26			-107.554	value	Y
Aliph	nC27			-107.7965	value	Y
Aliph	nC28			-104.1155	value	Y
Aliph	nC29			-106.4435	value	Y
Aliph	nC30			-111.225	value	Y
Aliph	nC31			-110.7865	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: W13/007742\_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			-109.8355	value	Y
Aliph	nC14			-111.454	value	Y
Aliph	nC15			-110.999	value	Y
Aliph	nC16			-109.446	value	Y
Aliph	nC17			-108.1125	value	Y
Aliph	nC18			-102.6205	value	Y
Aliph	nC19			-105.2505	value	Y
Aliph	nC20			-100.9935	value	Y
Aliph	nC21			-104.464	value	Y
Aliph	nC22			-103.3755	value	Y
Aliph	nC23			-104.8015	value	Y
Aliph	nC24			-103.6965	value	Y
Aliph	nC25			-110.6965	value	Y
Aliph	nC26			-108.0665	value	Y
Aliph	nC27			-110.778	value	Y
Aliph	nC28			-109.022	value	Y
Aliph	nC29			-106.9775	value	Y
Aliph	nC30			-112.457	value	Y
Aliph	nC31			-115.478	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: W13/007742\_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			-96.581	value	Y
Aliph	nC14			-114.1665	value	Y
Aliph	nC15			-113.302	value	Y
Aliph	nC16			-113.285	value	Y
Aliph	nC17			-113.099	value	Y
Aliph	nC18			-104.852	value	Y
Aliph	nC19			-110.482	value	Y
Aliph	nC20			-105.3245	value	Y
Aliph	nC21			-107.737	value	Y
Aliph	nC22			-106.615	value	Y
Aliph	nC23			-106.234	value	Y
Aliph	nC24			-105.7235	value	Y
Aliph	nC25			-107.6325	value	Y
Aliph	nC26			-105.509	value	Y
Aliph	nC27			-108.1915	value	Y
Aliph	nC28			-108.6905	value	Y
Aliph	nC29			-110.5	value	Y
Aliph	nC30			-108.4475	value	Y
Aliph	nC31			-107.5555	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: W13/007742\_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 Respns:	Value:	units:	Qualifier:
Aliph	nC13			-102.5715	value	Y
Aliph	nC14			-108.761	value	Y
Aliph	nC15			-110.255	value	Y
Aliph	nC16			-111.2395	value	Y
Aliph	nC17			-111.5495	value	Y
Aliph	nC18			-102.5165	value	Y
Aliph	nC19			-108.4865	value	Y
Aliph	nC20			-105.9535	value	Y
Aliph	nC21			-108.052	value	Y
Aliph	nC22			-105.999	value	Y
Aliph	nC23			-104.8275	value	Y
Aliph	nC24			-105.115	value	Y
Aliph	nC25			-109.863	value	Y
Aliph	nC26			-105.849	value	Y
Aliph	nC27			-109.62	value	Y
Aliph	nC28			-108.467	value	Y
Aliph	nC29			-109.44	value	Y
Aliph	nC30			-112.365	value	Y
Aliph	nC31			-110.5775	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: W13/007742\_PTE\_CSIA/06

Instrument / Type: Compound Specific Isotope Analysis d2H Run: 6

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 F 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			-110.3895	value	Y
Aliph	nC14			-116.3205	value	Y
Aliph	nC15			-114.0485	value	Y
Aliph	nC16			-113.7775	value	Y
Aliph	nC17			-116.143	value	Y
Aliph	nC18			-100.268	value	Y
Aliph	nC19			-108.932	value	Y
Aliph	nC20			-107.8605	value	Y
Aliph	nC21			-109.5045	value	Y
Aliph	nC22			-108.6275	value	Y
Aliph	nC23			-108.324	value	Y
Aliph	nC24			-107.5485	value	Y
Aliph	nC25			-113.139	value	Y
Aliph	nC26			-108.6825	value	Y
Aliph	nC27			-114.068	value	Y
Aliph	nC28			-110.8465	value	Y
Aliph	nC29			-109.3	value	Y
Aliph	nC30			-112.1235	value	Y
Aliph	nC31			-114.685	value	Y
Aliph	nC32			-104.948	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: Elemental Analyser

Unique ID: W13/007742\_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			81.0116882294098	percent	Y
Inorg	Hydrogen			7.50524612326045	percent	Y
Inorg	Nitrogen			0.71	percent	Y
Inorg	Sulphur			5.06804684266572	percent	Y

**Qualifier codes:**

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

Sample ID : **W13/007743**

Beach W25: Greenly Beach Visit: 0

**Comments:**

gifted to CSIRO from Stuart Valladares Coffin Bay.  
collected between Coles Point and Frenchman  
Lookout.

**Location:** Upper Intertidal

**Local Date Time:** 22/08/2015 5:16:14 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

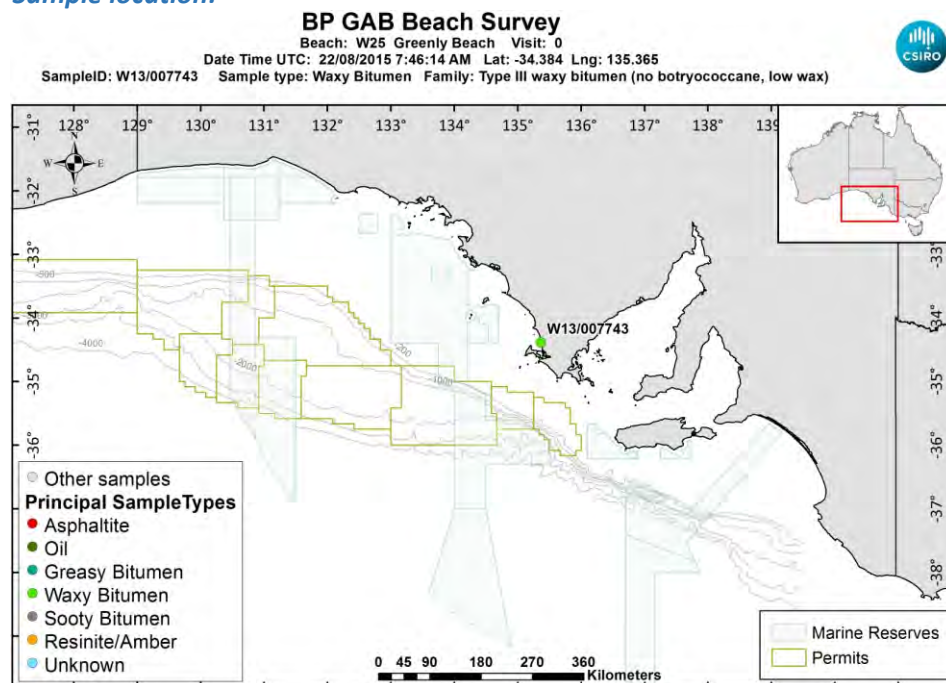
**Size (cm):** 0

**Latitude (Y):** -34.384000

**Weight (gm):** 1.1

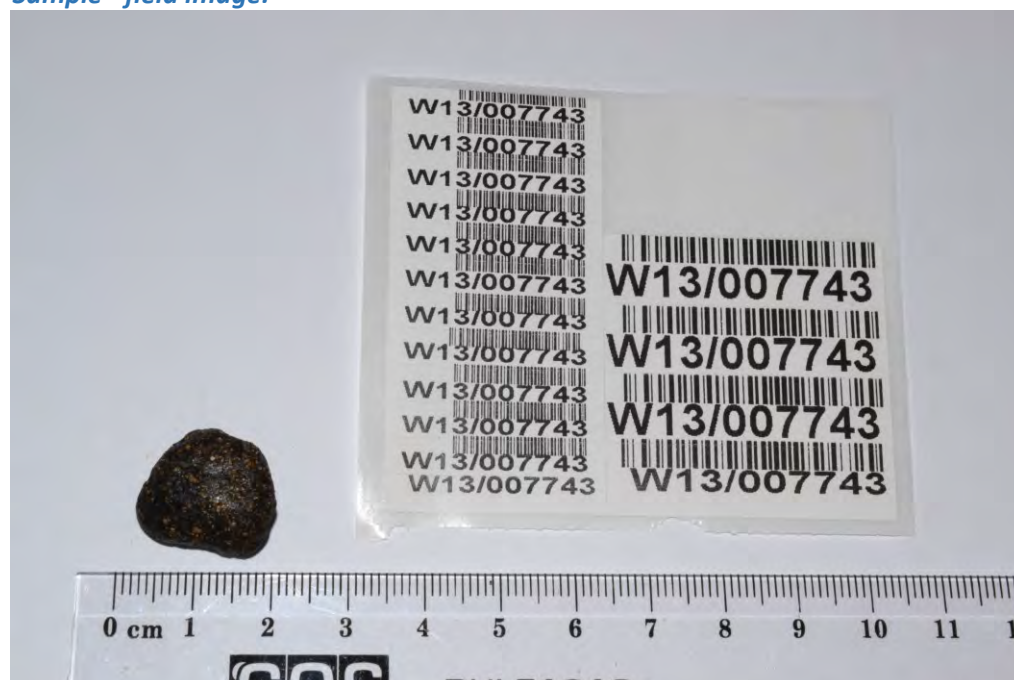
**Longitude (X):** 135.365000

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007743\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007743\\_Photo01.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007743\\_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:** W13/007743\_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			80.3240773591197	percent	Y
Inorg	Hydrogen			5.46827833001988	percent	Y
Inorg	Nitrogen			0.2	percent	Y
Inorg	Sulphur			0.634552028503022	percent	Y

### Results for: GCMS with Full Scan

**Unique ID:** W13/007743 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\\_007743\\_bulk\\_WholeOil.jpg](#)

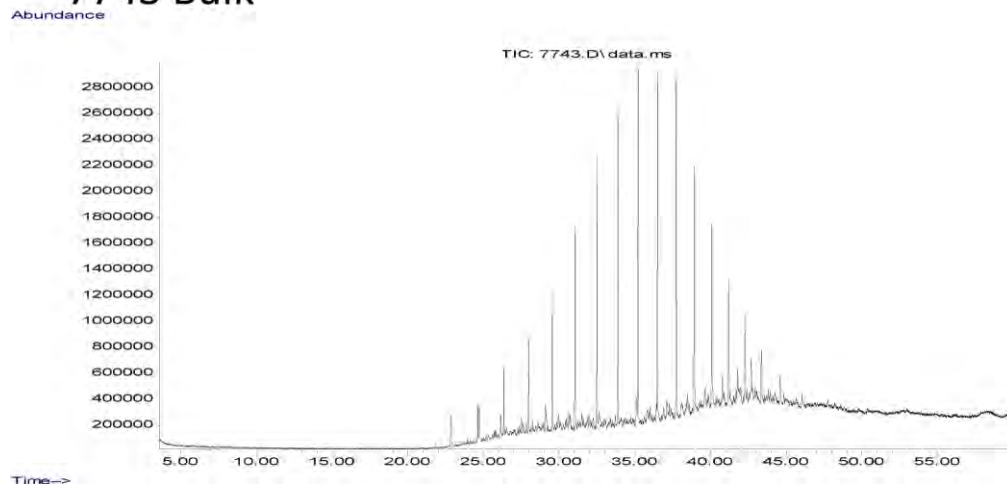
**Preparation:** Dissolved in solvent

**Method ID/s:**

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

## Results for: GCMS with Full Scan

7743 Bulk



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	nC17/nC29		7.02042876742346E-02		ug/L	Y
Ratio	nC17/nC35		0.825196982928246		ug/L	Y
Ratio	nC17/Pristane		0.265034384899084		ug/L	Y
Ratio	nC18/Phytane		0.913393459319776		ug/L	Y
Ratio	Pristane/Phytane		1.11616181590981		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	524772		ug/L	Z
Aliph	nC18	24.6230	1620315		ug/L	Z
Aliph	nC19	26.3410	2759832		ug/L	Z
Aliph	nC20	27.9810	3633973		ug/L	Z
Aliph	nC21	29.5510	5278542		ug/L	Z
Aliph	nC22	31.0540	7860734		ug/L	Z
Aliph	nC23	32.4960	10626496		ug/L	Z
Aliph	nC24	33.8800	12684057		ug/L	Z
Aliph	nC25	35.2120	14066073		ug/L	Z
Aliph	nC26	36.4960	14659757		ug/L	Z
Aliph	nC27	37.7300	13619462		ug/L	Z
Aliph	nC28	38.9260	9894957		ug/L	Z
Aliph	nC29	40.0740	7474933		ug/L	Z
Aliph	nC30	41.1930	4937902		ug/L	Z
Aliph	nC31	42.2750	3501861		ug/L	Z
Aliph	nC32	43.3560	2370207		ug/L	Z
Aliph	nC33	44.5840	1894924		ug/L	Z
Aliph	nC34	46.0130	800582		ug/L	Z
Aliph	nC35	47.7140	635936		ug/L	Z
Aliph	nC36	49.7870			ug/L	U
Aliph	nC37	52.2630			ug/L	U



## Results for: GCMS with Full Scan

Aliph	nC38	55.2360		ug/L	U
Aliph	nC39	58.9110		ug/L	U
Aliph	Norpristane	21.8010	280324	ug/L	Z
Aliph	Phytane	24.7190	1773951	ug/L	Z
Aliph	Pristane	22.8660	1980016	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 : **W13/007744**

Beach W25: Greenly Beach Visit: 0

**Comments:**

gifted to CSIRO from Stuart Valladares Coffin Bay.  
collected between Coles Point and Frenchman  
Lookout.

**Location:** Upper Intertidal

**Local Date Time:** 22/08/2015 5:16:14 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

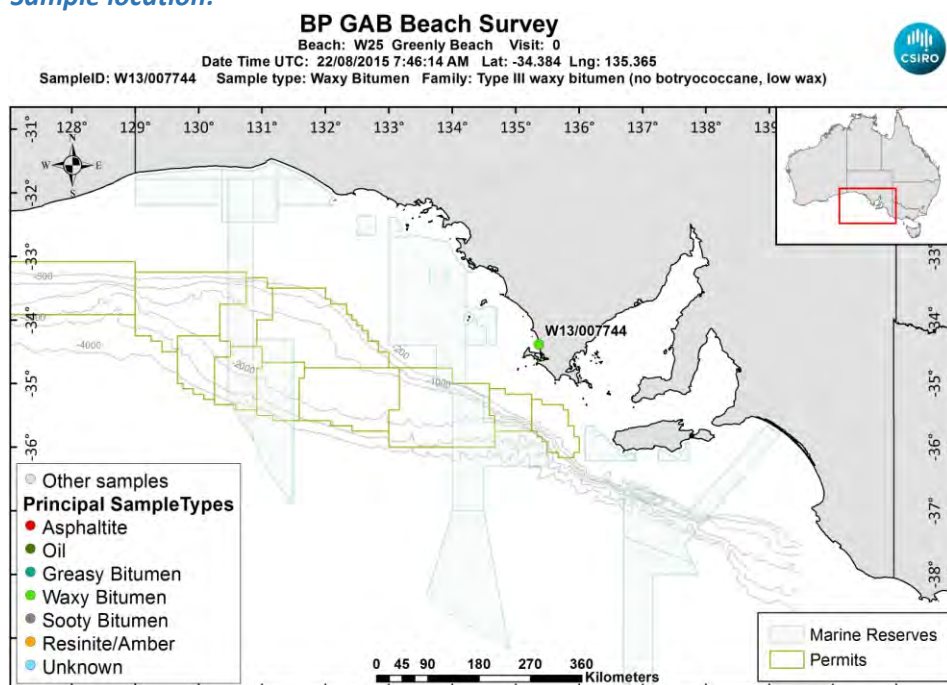
**Size (cm):** 0

**Latitude (Y):** -34.384000

**Weight (gm):** 1.7

**Longitude (X):** 135.365000

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007744\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007744\\_Photo01.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007744\\_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:** W13/007744\_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			86.228441513838	percent	Y
Inorg	Hydrogen			9.36310258449306	percent	Y
Inorg	Nitrogen			0.4	percent	Y
Inorg	Sulphur			1.87442797791168	percent	Y

### Results for: GCMS with Full Scan

**Unique ID:** W13/007744 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\\_007744\\_bulk\\_WholeOil.jpg](#)

**Preparation:** Dissolved in solvent

**Method ID/s:**

**Sample Volume:**

**Volume Units:**

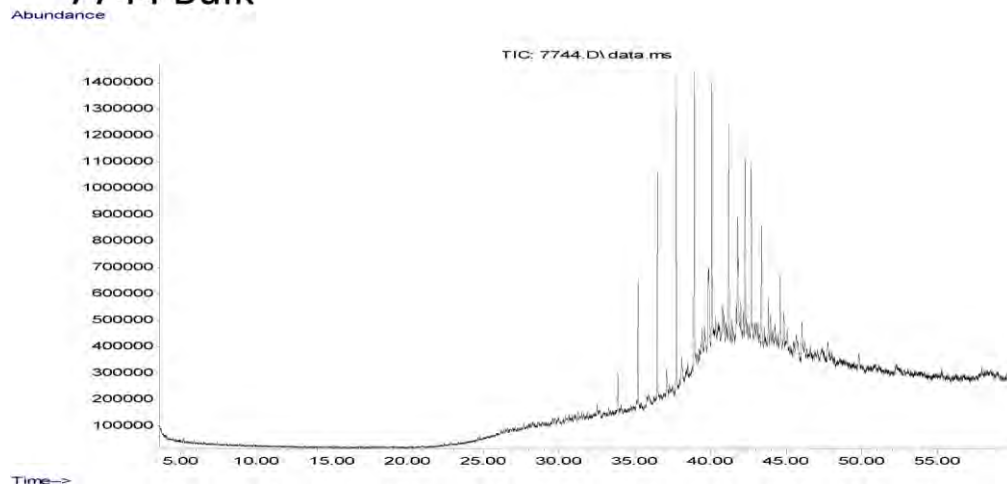
**Extract Volume:**

**Dilution Factor:**

**Comment:** Bulk

## Results for: GCMS with Full Scan

7744 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			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	191351		ug/L	Z
Aliph	nC24	33.8800	755661		ug/L	Z
Aliph	nC25	35.2120	2481772		ug/L	Z
Aliph	nC26	36.4960	4540780		ug/L	Z
Aliph	nC27	37.7300	6174905		ug/L	Z
Aliph	nC28	38.9260	6063886		ug/L	Z
Aliph	nC29	40.0740	5516288		ug/L	Z
Aliph	nC30	41.1930	4197792		ug/L	Z
Aliph	nC31	42.2750	3536199		ug/L	Z
Aliph	nC32	43.3560	2445269		ug/L	Z
Aliph	nC33	44.5840	2009877		ug/L	Z
Aliph	nC34	46.0130	1308283		ug/L	Z
Aliph	nC35	47.7140	813123		ug/L	Z
Aliph	nC36	49.7870	493660		ug/L	Z
Aliph	nC37	52.2630	464779		ug/L	Z
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:**

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



Sample ID : **W13/007745**

Beach W25: Greenly Beach Visit: 0

**Comments:**

gifted to CSIRO from Stuart Valladares Coffin Bay..  
collected between Coles Point and Frenchman  
Lookout.

**Location:** Upper Intertidal

**Local Date Time:** 22/08/2015 5:16:14 PM

**Type:** Unknown

**Family:** Polycyclic aromatic hydrocarbons (PAH)

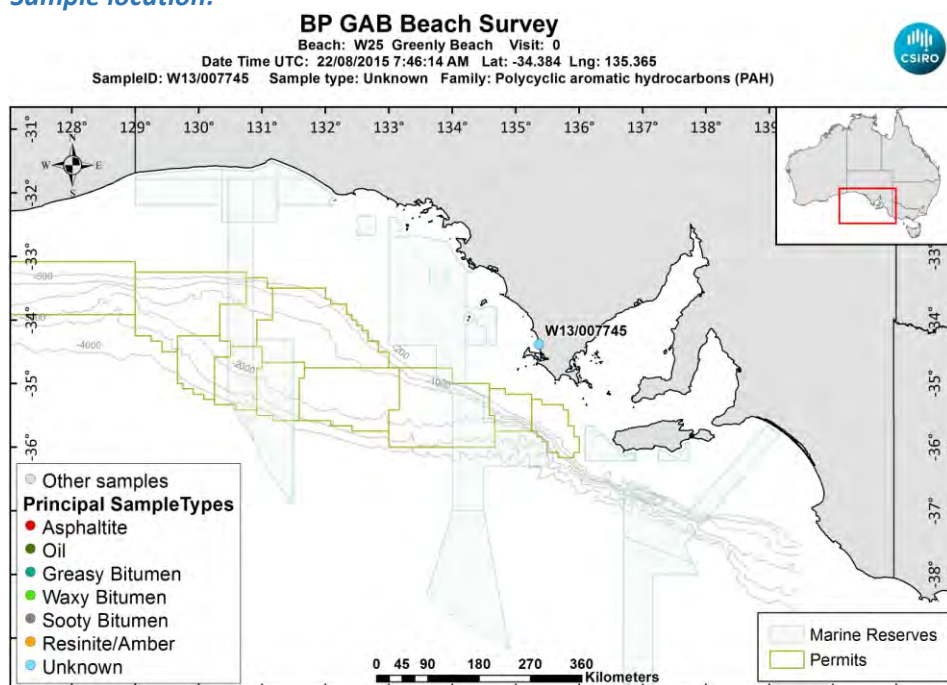
**Size (cm):** 0

**Latitude (Y):** -34.384000

**Weight (gm):** 28

**Longitude (X):** 135.365000

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007745\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007745\\_Photo01.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007745\\_Photo02.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 : **W13/007876**

Beach W25: Greenly Beach Visit: 1

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 12/10/2016 4:38:03 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

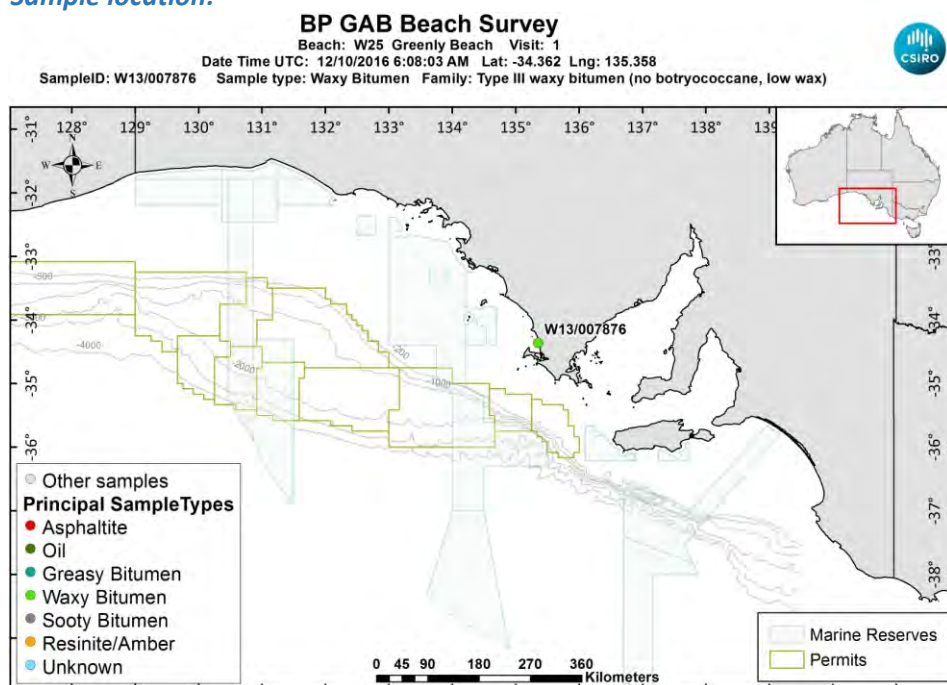
**Size (cm):** 4.3

**Latitude (Y):** -34.362000

**Weight (gm):** 13.6576

**Longitude (X):** 135.358000

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007876\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007876\\_Photo02.JPG](#)

**Sample ID : W13/007876****Beach W25: Greenly Beach Visit: 1****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

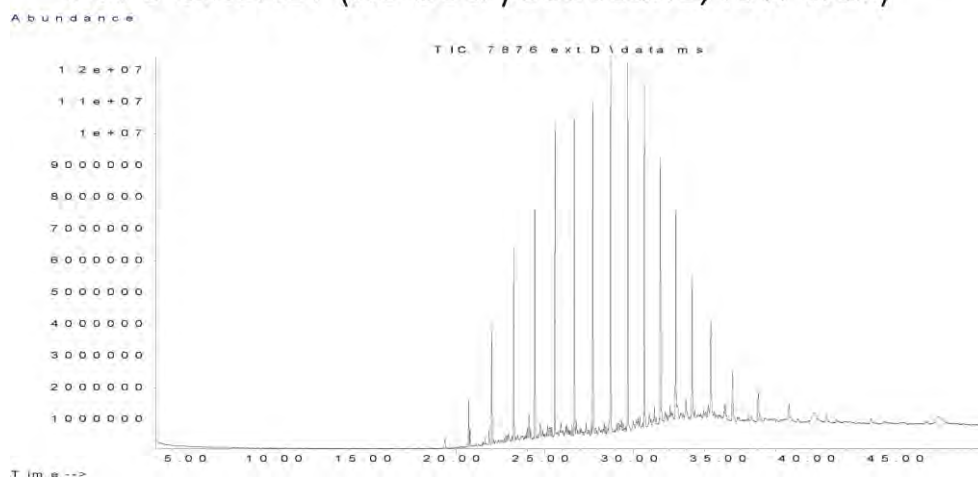
**Sample Analyses Completed:****Results for: Elemental Analyser****Unique ID: W13/007876\_SPE\_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample 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			85.3	percent	Y
Inorg	Hydrogen			6.6303	percent	Y
Inorg	Nitrogen			0.11	percent	Y
Inorg	Sulphur			0.96516924947746	percent	Y

**Results for: GCMS with Full Scan****Unique ID: W13/007876 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\\_007876\\_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

7876 exterior (no botryococcane, low wax)



## Data Sheet:

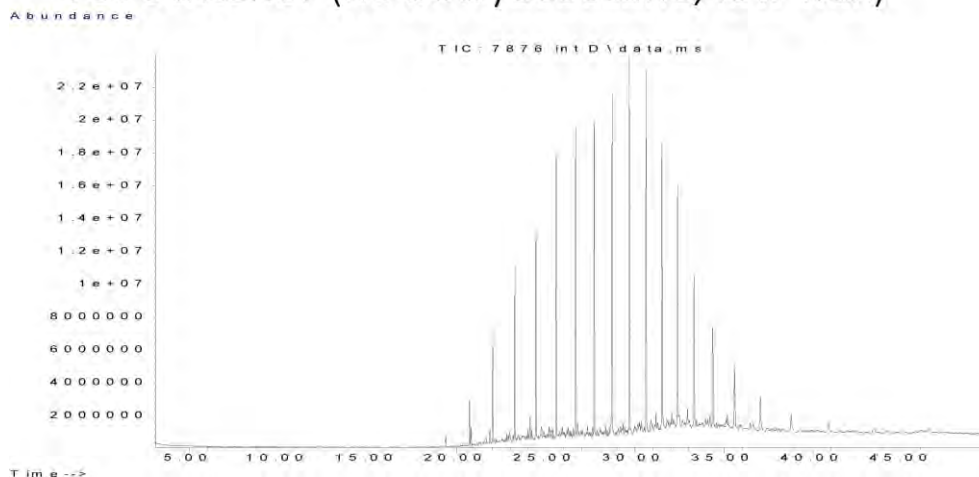
(default units ppb)

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	161644			Z
Aliph	nC17	19.3500	1432477			Z
Aliph	nC18	20.7170	6803092			Z
Aliph	nC19	22.0170	17432291			Z
Aliph	nC20	23.2570	26198632			Z
Aliph	nC21	24.4410	36583351			Z
Aliph	nC22	25.5760	42448217			Z
Aliph	nC23	26.6620	50286755			Z
Aliph	nC24	27.7060	51469823			Z
Aliph	nC25	28.7100	54075648			Z
Aliph	nC26	29.6680	52941627			Z
Aliph	nC27	30.6080	51718134			Z
Aliph	nC28	31.5080	40646510			Z
Aliph	nC29	32.3700	34283764			Z
Aliph	nC30	33.2910	23100478			Z
Aliph	nC31	34.3470	23004733			Z
Aliph	nC32	35.5720	12764113			Z
Aliph	nC33	37.0130	8252472			Z
Aliph	nC34	38.7280	5655934			Z
Aliph	nC35	40.8080	3299578			Z
Aliph	nC36	43.3510	2007408			Z
Aliph	nC37	46.4710	1395914			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	208835			Z
Aliph	Phytane	20.7870	3052910			Z
Aliph	Pristane	19.3870	1793822			Z

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007876 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\\_007876\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

## Results for: GCMS with Full Scan

7876 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	202118			Z
Aliph	nC17	19.3500	2827660			Z
Aliph	nC18	20.7170	12733269			Z
Aliph	nC19	22.0170	30973334			Z
Aliph	nC20	23.2570	47771131			Z
Aliph	nC21	24.4410	62943971			Z
Aliph	nC22	25.5760	73600611			Z
Aliph	nC23	26.6620	87810391			Z
Aliph	nC24	27.7060	90231831			Z
Aliph	nC25	28.7100	97559944			Z
Aliph	nC26	29.6680	95919691			Z
Aliph	nC27	30.6080	96721874			Z
Aliph	nC28	31.5080	78363705			Z
Aliph	nC29	32.3700	64144275			Z
Aliph	nC30	33.2910	49875266			Z
Aliph	nC31	34.3470	40372926			Z
Aliph	nC32	35.5720	28944299			Z
Aliph	nC33	37.0130	19434182			Z
Aliph	nC34	38.7280	11599827			Z
Aliph	nC35	40.8080	7272731			Z
Aliph	nC36	43.3510	4703234			Z
Aliph	nC37	46.4710	3728141			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	450648			Z
Aliph	Phytane	20.7870	5998045			Z
Aliph	Pristane	19.3870	3688243			Z



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

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

Sample ID : **W13/007877**

Beach W25: Greenly Beach Visit: 1

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 12/10/2016 4:39:30 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

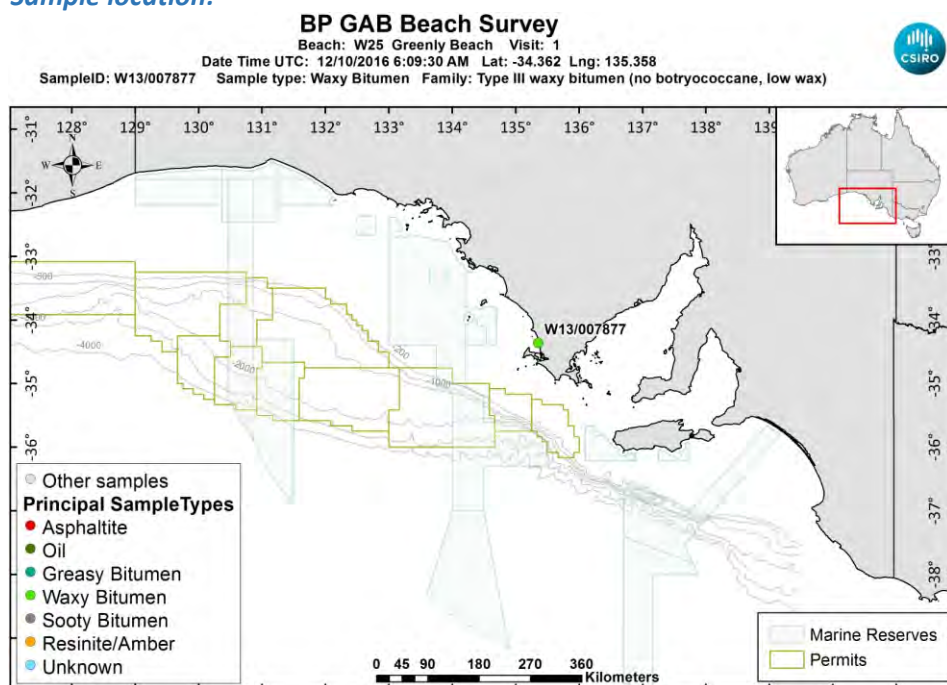
**Size (cm):** 5.8

**Latitude (Y):** -34.362000

**Weight (gm):** 23.93225

**Longitude (X):** 135.358000

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007877\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007877\\_Photo02.JPG](#)

**Sample ID : W13/007877**

**Beach W25: Greenly Beach Visit: 1**

**Analyses Requested**

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

**Analyses Completed:**

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 2
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:** W13/007877 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 Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			42.6387737808115	ratio	Y
BiomRatio	% C27 abb 20(R+S)			37.7228979175676	ratio	Y
BiomRatio	% C28 aaa 20R			13.9118329034241	ratio	Y
BiomRatio	% C28 abb 20(R+S)			16.9475019965719	ratio	Y
BiomRatio	% C29 aaa 20R			43.4493933157645	ratio	Y
BiomRatio	% C29 abb 20(R+S)			45.3296000858605	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			7.76184588878136E-02	ratio	Y
BiomRatio	25-Nor/C30H			3.29243798210418E-02	ratio	Y
BiomRatio	C19t/C23t			0.173938223291968	ratio	Y
BiomRatio	C22t/C21t			0.165297861863653	ratio	Y
BiomRatio	C22t/C24t			0.141184755032942	ratio	Y
BiomRatio	C23t/C30H			6.80498006602212E-02	ratio	Y
BiomRatio	C24t/C23t			0.867590494140017	ratio	Y
BiomRatio	C24Tet/C23t			0.315511798634847	ratio	Y
BiomRatio	C24Tet/C26t			0.270219903093552	ratio	Y
BiomRatio	C24Tet/C30H			2.14705150030492E-02	ratio	Y
BiomRatio	C26t/C25t			1.99031065257584	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.528703551848554	ratio	Y
BiomRatio	C27 Dia/Ster			0.612558658762932	ratio	Y
BiomRatio	C28BNH/C30H			3.09989814888851E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.20164681369165	ratio	Y
BiomRatio	C29H/C30H			0.748724127459912	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.196771498982861	ratio	Y
BiomRatio	C30DiaH/C30H			7.33623008737873E-02	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			3.63883771915681E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.448332145902195	ratio	Y
BiomRatio	Gam/C30H			6.63422967323129E-02	ratio	Y
BiomRatio	Gam/C31HR			0.403462798639541	ratio	Y
BiomRatio	Ole/C30H			7.02085840599707E-02	ratio	Y
BiomRatio	Sterane/hopane			4.14676145793793E-02	ratio	Y
BiomRatio	Steranes/Terpanes			3.62425612773508E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.144168985796647	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007877\_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:**

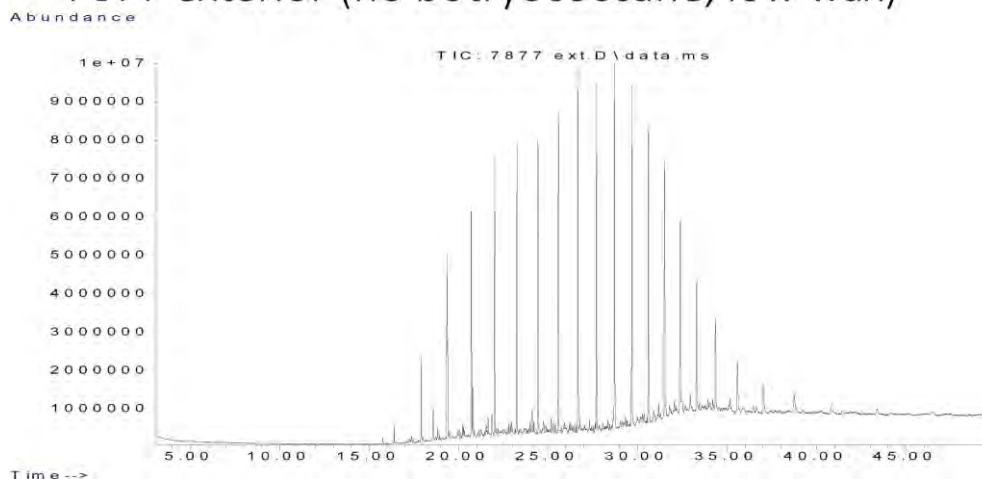
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			80.39	percent	Y
Inorg	Hydrogen			7.2968	percent	Y
Inorg	Nitrogen			0	percent	U
Inorg	Sulphur			1.0618962243267	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007877\_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\\_007877\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

7877 exterior (no botryococcane, low wax)



## Data Sheet:

(default units ppb)

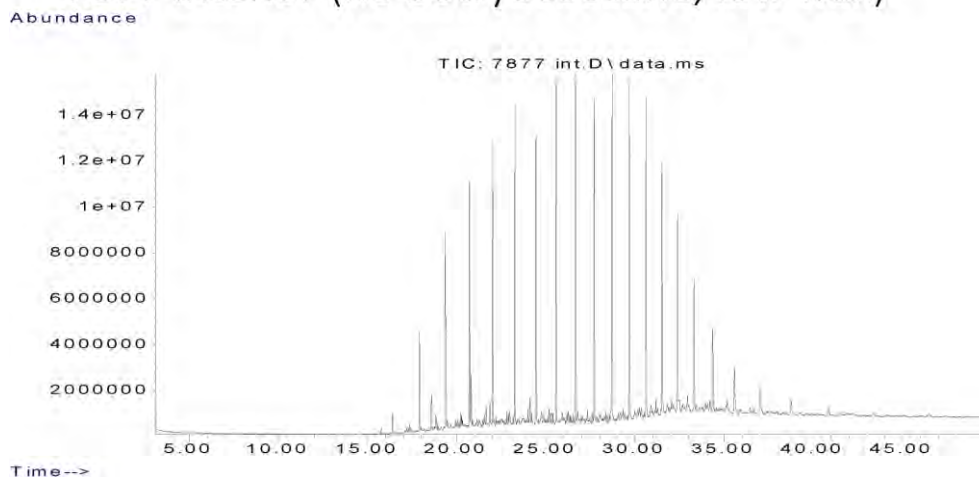
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030	111327			Z
Aliph	nC15	16.4030	2119375			Z
Aliph	nC16	17.9160	10100169			Z
Aliph	nC17	19.3500	28470439			Z
Aliph	nC18	20.7170	27257873			Z
Aliph	nC19	22.0170	32162695			Z
Aliph	nC20	23.2570	33771942			Z
Aliph	nC21	24.4410	36598831			Z
Aliph	nC22	25.5760	38284824			Z
Aliph	nC23	26.6620	41895205			Z
Aliph	nC24	27.7060	41103361			Z
Aliph	nC25	28.7100	42732887			Z
Aliph	nC26	29.6680	41433873			Z
Aliph	nC27	30.6080	39920156			Z
Aliph	nC28	31.5080	31666650			Z
Aliph	nC29	32.3700	28106316			Z
Aliph	nC30	33.2910	19229409			Z
Aliph	nC31	34.3470	16406804			Z
Aliph	nC32	35.5720	10768821			Z
Aliph	nC33	37.0130	7469330			Z
Aliph	nC34	38.7280	4729664			Z
Aliph	nC35	40.8080	2914315			Z
Aliph	nC36	43.3510	1713829			Z
Aliph	nC37	46.4710	1342406			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	6237594			Z
Aliph	Phytane	20.7870	7871382			Z
Aliph	Pristane	19.3870	12294256			Z



**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007877 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\\_007877\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

## Results for: GCMS with Full Scan

7877 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	295063			Z
Aliph	nC15	16.4030	4552226			Z
Aliph	nC16	17.9160	18944182			Z
Aliph	nC17	19.3500	51675410			Z
Aliph	nC18	20.7170	48732997			Z
Aliph	nC19	22.0170	56375821			Z
Aliph	nC20	23.2570	58686654			Z
Aliph	nC21	24.4410	63465203			Z
Aliph	nC22	25.5760	65606982			Z
Aliph	nC23	26.6620	70339149			Z
Aliph	nC24	27.7060	68432736			Z
Aliph	nC25	28.7100	70852162			Z
Aliph	nC26	29.6680	66768465			Z
Aliph	nC27	30.6080	64254655			Z
Aliph	nC28	31.5080	50303351			Z
Aliph	nC29	32.3700	41541225			Z
Aliph	nC30	33.2910	31336389			Z
Aliph	nC31	34.3470	24821715			Z
Aliph	nC32	35.5720	16637069			Z
Aliph	nC33	37.0130	11354782			Z
Aliph	nC34	38.7280	6493071			Z
Aliph	nC35	40.8080	4016912			Z
Aliph	nC36	43.3510	2268883			Z
Aliph	nC37	46.4710	1495233			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	11927839			Z
Aliph	Phytane	20.7870	12602815			Z
Aliph	Pristane	19.3870	22866952			Z

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

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

Sample ID : **W13/007878**

Beach W25: Greenly Beach Visit: 1

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 12/10/2016 4:40:03 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

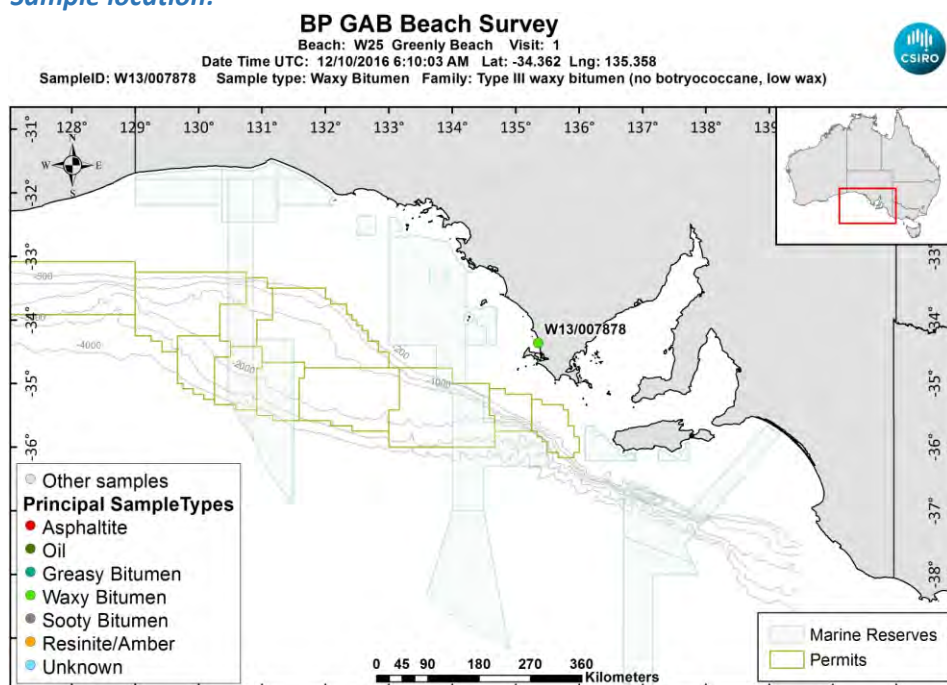
**Size (cm):** 3

**Latitude (Y):** -34.362000

**Weight (gm):** 4.65619

**Longitude (X):** 135.358000

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007878\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007878\\_Photo02.JPG](#)

**Sample ID : W13/007878****Beach W25: Greenly Beach Visit: 1****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:** W13/007878 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			32.2831591357519	ratio	Y
BiomRatio	% C27 abb 20(R+S)			40.5023309352518	ratio	Y
BiomRatio	% C28 aaa 20R			18.9013029694019	ratio	Y
BiomRatio	% C28 abb 20(R+S)			21.0312517985612	ratio	Y
BiomRatio	% C29 aaa 20R			48.8155378948462	ratio	Y
BiomRatio	% C29 abb 20(R+S)			38.4664172661871	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.137290898258908	ratio	Y
BiomRatio	25-Nor/C30H			0.061973611512044	ratio	Y
BiomRatio	C19t/C23t			0.147270602087195	ratio	Y
BiomRatio	C22t/C21t			0.244304452882292	ratio	Y
BiomRatio	C22t/C24t			0.193613262640055	ratio	Y
BiomRatio	C23t/C30H			9.35943288259431E-02	ratio	Y
BiomRatio	C24t/C23t			0.820473266194878	ratio	Y
BiomRatio	C24Tet/C23t			0.192709368601153	ratio	Y
BiomRatio	C24Tet/C26t			0.174089882775046	ratio	Y
BiomRatio	C24Tet/C30H			1.80365040126962E-02	ratio	Y
BiomRatio	C26t/C25t			2.14370095055318	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.608507355427798	ratio	Y
BiomRatio	C27 Dia/Ster			0.730662618159706	ratio	Y
BiomRatio	C28BNH/C30H			3.86905469246321E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.94973341973035	ratio	Y
BiomRatio	C29H/C30H			0.685830530067205	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.193130290692298	ratio	Y
BiomRatio	C30DiaH/C30H			8.92210823415642E-02	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			3.74393404967156E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.406169789270906	ratio	Y
BiomRatio	Gam/C30H			7.50418119927717E-02	ratio	Y
BiomRatio	Gam/C31HR			0.454540111856305	ratio	Y
BiomRatio	Ole/C30H			5.73452515649288E-02	ratio	Y
BiomRatio	Sterane/hopane			0.046026796774901	ratio	Y
BiomRatio	Steranes/Terpanes			3.87222967792898E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.188638087178701	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007878\_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:**

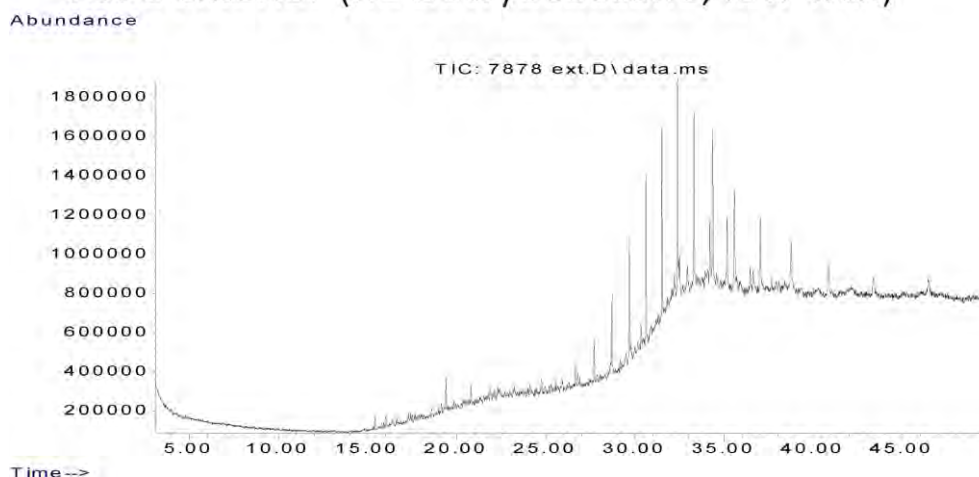
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			85.45	percent	Y
Inorg	Hydrogen			10.2325	percent	Y
Inorg	Nitrogen			0.13	percent	Y
Inorg	Sulphur			1.98837246271508	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007878\_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\\_007878\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

7878 exterior (no botryococcane, low wax)



## Data Sheet:

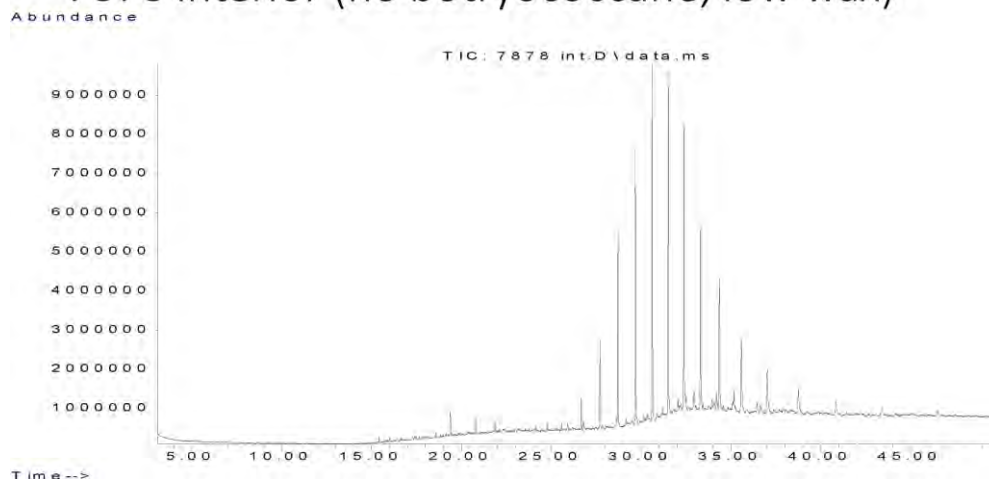
(default units ppb)

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	294734			Z
Aliph	nC23	26.6620	641255			Z
Aliph	nC24	27.7060	1218544			Z
Aliph	nC25	28.7100	1757890			Z
Aliph	nC26	29.6680	2714273			Z
Aliph	nC27	30.6080	4736918			Z
Aliph	nC28	31.5080	5215130			Z
Aliph	nC29	32.3700	5594908			Z
Aliph	nC30	33.2910	5328925			Z
Aliph	nC31	34.3470	5835443			Z
Aliph	nC32	35.5720	4450041			Z
Aliph	nC33	37.0130	3296971			Z
Aliph	nC34	38.7280	2383609			Z
Aliph	nC35	40.8080	2137449			Z
Aliph	nC36	43.3510	1789075			Z
Aliph	nC37	46.4710	1280792			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	255700			Z
Aliph	Phytane	20.7870	546205			Z
Aliph	Pristane	19.3870	1155243			Z

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007878 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\\_007878\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

## Results for: GCMS with Full Scan

7878 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	902961			Z
Aliph	nC23	26.6620	3686322			Z
Aliph	nC24	27.7060	10917910			Z
Aliph	nC25	28.7100	23233155			Z
Aliph	nC26	29.6680	35130938			Z
Aliph	nC27	30.6080	44310462			Z
Aliph	nC28	31.5080	39705791			Z
Aliph	nC29	32.3700	37130227			Z
Aliph	nC30	33.2910	26110988			Z
Aliph	nC31	34.3470	21875473			Z
Aliph	nC32	35.5720	14923424			Z
Aliph	nC33	37.0130	10204620			Z
Aliph	nC34	38.7280	6318053			Z
Aliph	nC35	40.8080	4596568			Z
Aliph	nC36	43.3510	3438345			Z
Aliph	nC37	46.4710	2244866			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	818810			Z
Aliph	Phytane	20.7870	2378338			Z
Aliph	Pristane	19.3870	3705975			Z

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

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

Sample ID : **W13/007879**

Beach W25: Greenly Beach Visit: 1

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 12/10/2016 4:41:37 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

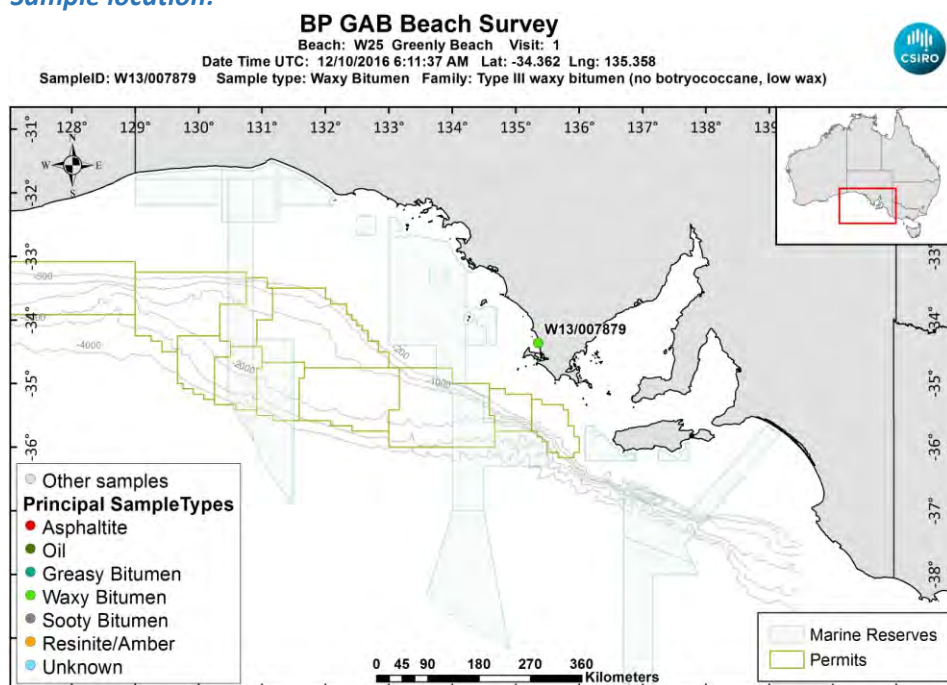
**Size (cm):** 2.8

**Latitude (Y):** -34.362000

**Weight (gm):** 5.71246

**Longitude (X):** 135.358000

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007879\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007879\\_Photo02.JPG](#)



**Sample ID : W13/007879****Beach W25: Greenly Beach Visit: 1****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

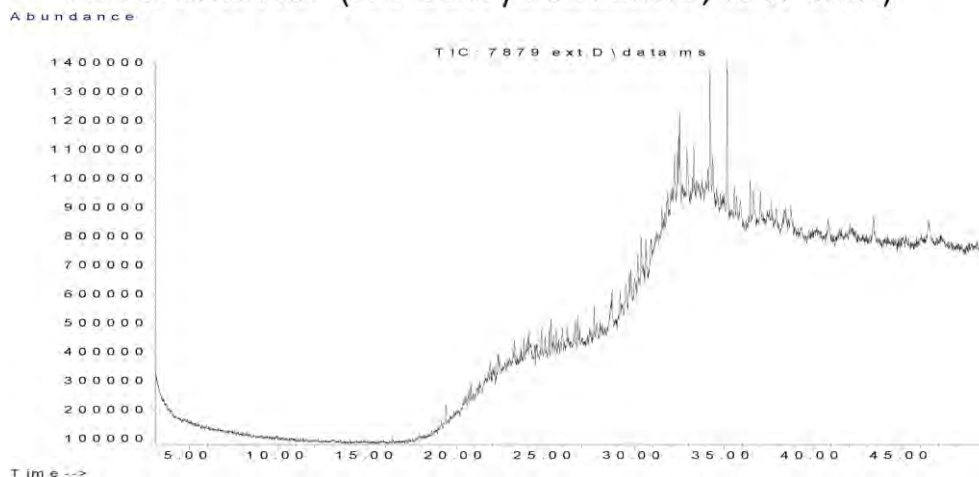
**Sample Analyses Completed:****Results for: Elemental Analyser****Unique ID: W13/007879\_SPE\_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample 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			87.13	percent	Y
Inorg	Hydrogen			6.9474	percent	Y
Inorg	Nitrogen			0.12	percent	Y
Inorg	Sulphur			1.03288808706176	percent	Y

**Results for: GCMS with Full Scan****Unique ID: W13/007879 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\\_007879\\_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

7879 exterior (no botryococcane, low wax)



## Data Sheet:

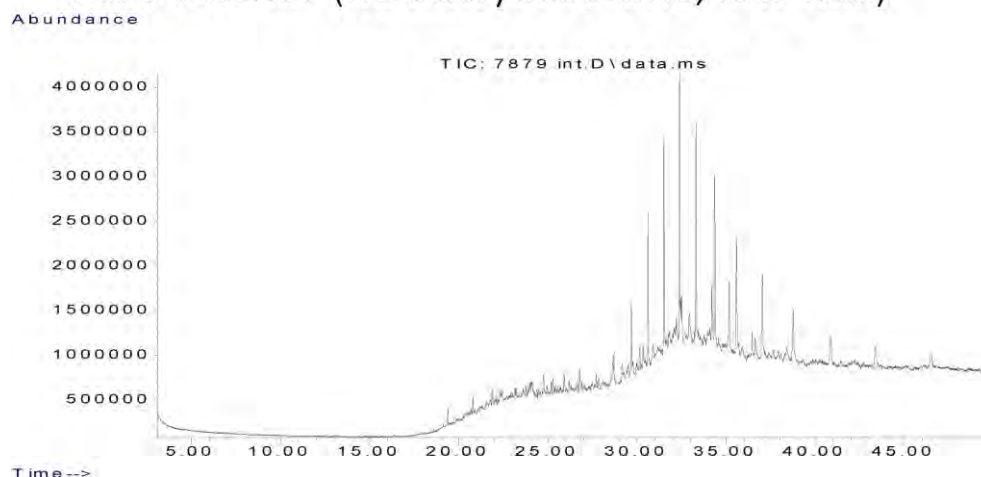
(default units ppb)

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	590976			Z
Aliph	nC25	28.7100	610207			Z
Aliph	nC26	29.6680	564503			Z
Aliph	nC27	30.6080	651412			Z
Aliph	nC28	31.5080	586742			Z
Aliph	nC29	32.3700	550690			Z
Aliph	nC30	33.2910	769376			Z
Aliph	nC31	34.3470	1055308			Z
Aliph	nC32	35.5720	712686			Z
Aliph	nC33	37.0130	975516			Z
Aliph	nC34	38.7280	778180			Z
Aliph	nC35	40.8080	915016			Z
Aliph	nC36	43.3510	953583			Z
Aliph	nC37	46.4710	1179616			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	84049			Z
Aliph	Phytane	20.7870	415826			Z
Aliph	Pristane	19.3870	510880			Z

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007879 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\\_007879\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

## Results for: GCMS with Full Scan

7879 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				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060	774829			Z
Aliph	nC25	28.7100	1399924			Z
Aliph	nC26	29.6680	3667227			Z
Aliph	nC27	30.6080	8619270			Z
Aliph	nC28	31.5080	11764721			Z
Aliph	nC29	32.3700	15485532			Z
Aliph	nC30	33.2910	13486367			Z
Aliph	nC31	34.3470	13664628			Z
Aliph	nC32	35.5720	10222081			Z
Aliph	nC33	37.0130	8880485			Z
Aliph	nC34	38.7280	5718990			Z
Aliph	nC35	40.8080	4563141			Z
Aliph	nC36	43.3510	3445003			Z
Aliph	nC37	46.4710	2335375			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	174688			Z
Aliph	Phytane	20.7870	1384129			Z
Aliph	Pristane	19.3870	1290079			Z

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

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

Sample ID : **W13/007880**

Beach W25: Greenly Beach Visit: 1

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 12/10/2016 4:44:21 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

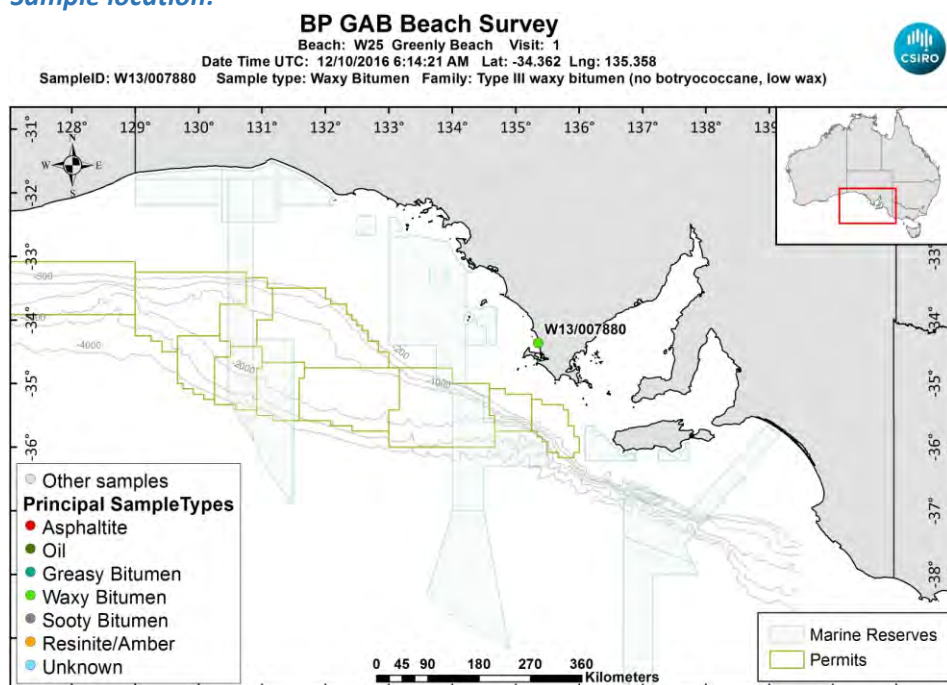
**Size (cm):** 2

**Latitude (Y):** -34.362000

**Weight (gm):** 1.33622

**Longitude (X):** 135.358000

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007880\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007880\\_Photo02.JPG](#)



**Sample ID : W13/007880****Beach W25: Greenly Beach Visit: 1****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: W13/007880\_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)*

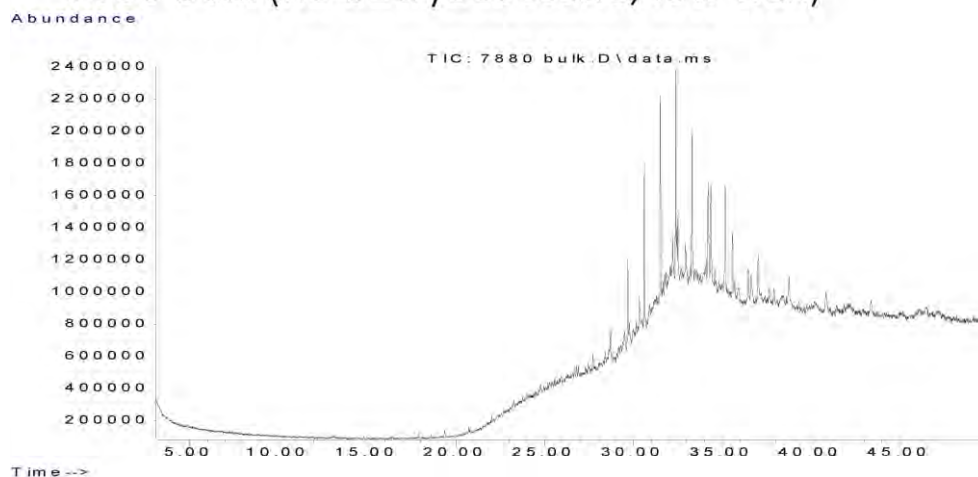
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
<a href="#">Inorg</a>	Carbon			85.4031855951984	percent	Y
<a href="#">Inorg</a>	Hydrogen			5.8766337972167	percent	Y
<a href="#">Inorg</a>	Nitrogen			0.16	percent	Y
<a href="#">Inorg</a>	Sulphur			1.07527213093137	percent	Y

**Results for: GCMS with Full Scan****Unique ID: W13/007880\_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\\_007880\\_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

7880 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	397663			Z
Aliph	nC25	28.7100	965917			Z
Aliph	nC26	29.6680	2351570			Z
Aliph	nC27	30.6080	5316940			Z
Aliph	nC28	31.5080	6508835			Z
Aliph	nC29	32.3700	7256108			Z
Aliph	nC30	33.2910	5134600			Z
Aliph	nC31	34.3470	4444695			Z
Aliph	nC32	35.5720	2986799			Z
Aliph	nC33	37.0130	2393215			Z
Aliph	nC34	38.7280	1825725			Z
Aliph	nC35	40.8080	2017343			Z
Aliph	nC36	43.3510	1434346			Z
Aliph	nC37	46.4710	927408			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:**

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

Sample ID : **W13/007881**

Beach W25: Greenly Beach Visit: 1

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 12/10/2016 4:45:22 PM

**Type:** Waxy Bitumen

**Family:** Type IV waxy bitumen (no botryococcane, hig

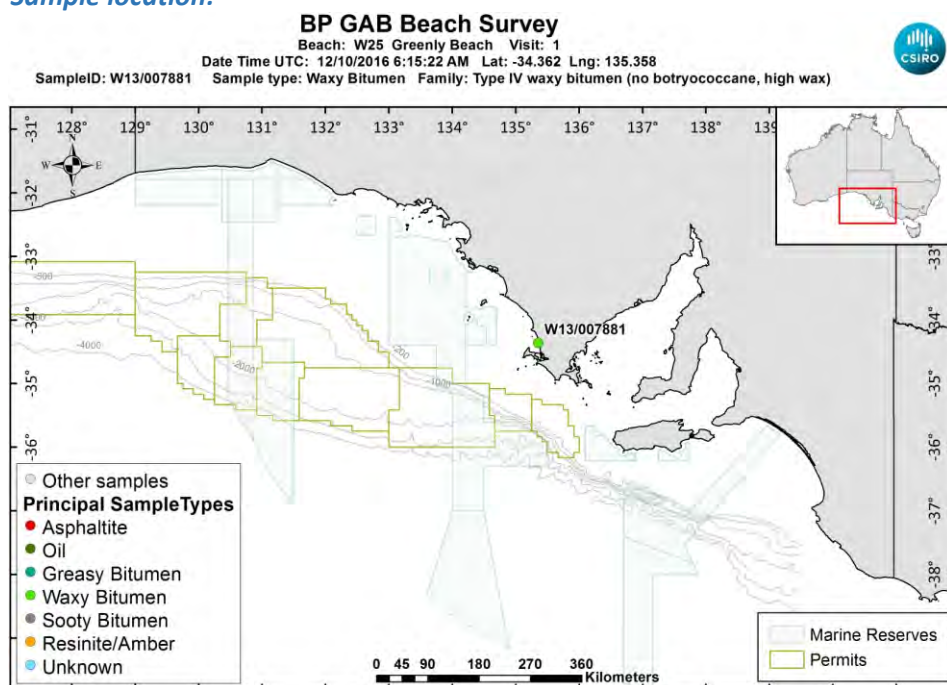
**Size (cm):** 3.1

**Latitude (Y):** -34.362000

**Weight (gm):** 4.6015

**Longitude (X):** 135.358000

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007881\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007881\\_Photo02.JPG](#)

**Sample ID : W13/007881****Beach W25: Greenly Beach Visit: 1****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: W13/007881\_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			40.4646927761361	ratio	Y
BiomRatio	% C27 abb 20(R+S)			32.42415755885	ratio	Y
BiomRatio	% C28 aaa 20R			26.0633813081741	ratio	Y
BiomRatio	% C28 abb 20(R+S)			30.5402581170191	ratio	Y
BiomRatio	% C29 aaa 20R			33.4719259156897	ratio	Y
BiomRatio	% C29 abb 20(R+S)			37.0355843241309	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.222227053323456	ratio	Y
BiomRatio	25-Nor/C30H			6.04504126120264E-02	ratio	Y
BiomRatio	C19t/C23t			0.15205878363363	ratio	Y
BiomRatio	C22t/C21t			0.417887550112259	ratio	Y
BiomRatio	C22t/C24t			0.256458625557575	ratio	Y
BiomRatio	C23t/C30H			0.409939365257772	ratio	Y
BiomRatio	C24t/C23t			0.511918635693279	ratio	Y
BiomRatio	C24Tet/C23t			0.994066223942325	ratio	Y
BiomRatio	C24Tet/C26t			3.53310875822411	ratio	Y
BiomRatio	C24Tet/C30H			0.407506876867106	ratio	Y
BiomRatio	C26t/C25t			0.576632517863058	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.328996273227996	ratio	Y
BiomRatio	C27 Dia/Ster			0.289957886615135	ratio	Y
BiomRatio	C28BNH/C30H			5.52061285456535E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.14222194537857	ratio	Y
BiomRatio	C29H/C30H			1.10450542754888	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.123603340679544	ratio	Y
BiomRatio	C30DiaH/C30H			3.42349078647697E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.116058091040847	ratio	Y
BiomRatio	C35 Homohopane Index			9.74065236223919E-02	ratio	Y
BiomRatio	C35HS/C34HS			1.06369547821029	ratio	Y
BiomRatio	Gam/C30H			9.65028246916502E-02	ratio	Y
BiomRatio	Gam/C31HR			0.288493792367771	ratio	Y
BiomRatio	Ole/C30H			0.180165991304091	ratio	Y
BiomRatio	Sterane/hopane			0.593155536122727	ratio	Y
BiomRatio	Steranes/Terpanes			0.43376159854647	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.367468992438208	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007881\_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:**

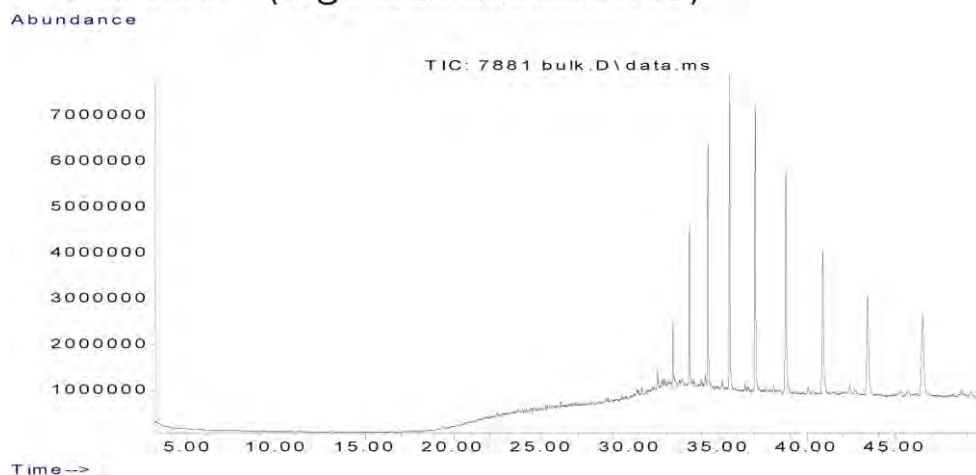
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			85.9946111703901	percent	Y
Inorg	Hydrogen			7.72225347912525	percent	Y
Inorg	Nitrogen			0.14	percent	Y
Inorg	Sulphur			2.96952476342754	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007881\_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\\_007881\\_bulk\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

## Results for: GCMS with Full Scan

7881 bulk (high wax unclassified)



## 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	475100			Z
Aliph	nC28	31.5080	2107026			Z
Aliph	nC29	32.3700	6888465			Z
Aliph	nC30	33.2910	19167122			Z
Aliph	nC31	34.3470	34453270			Z
Aliph	nC32	35.5720	50160782			Z
Aliph	nC33	37.0130	52598295			Z
Aliph	nC34	38.7280	49206637			Z
Aliph	nC35	40.8080	36025855			Z
Aliph	nC36	43.3510	33937033			Z
Aliph	nC37	46.4710	33122094			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:**

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

Sample ID : **W13/007495**

Beach K5: Hanson Bay Visit: 1

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 20/11/2014 1:47:21 PM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

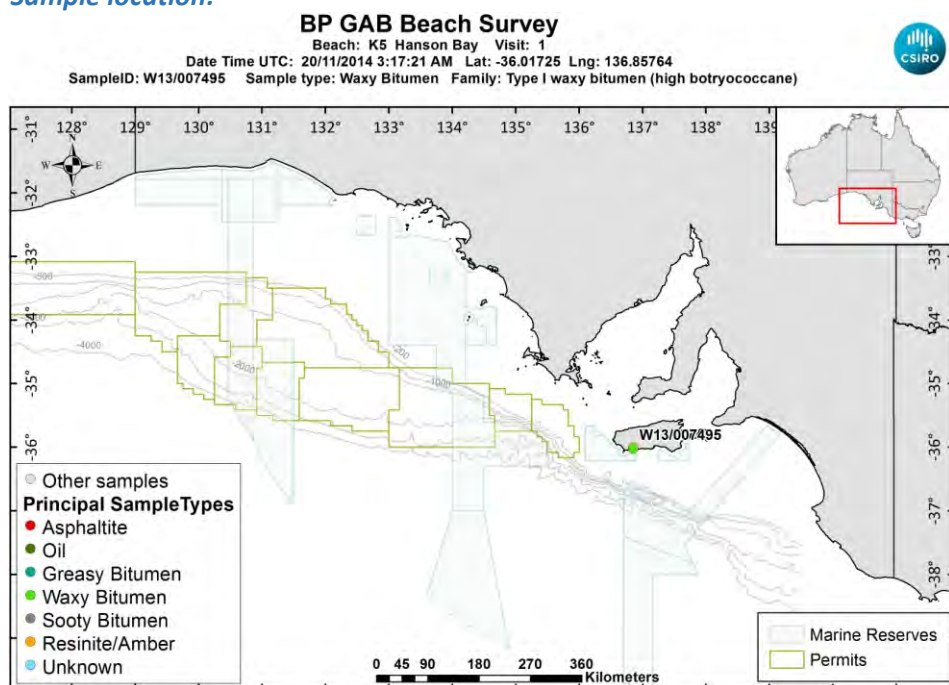
**Size (cm):** 2

**Latitude (Y):** -36.017247

**Weight (gm):** 2.82689

**Longitude (X):** 136.857639

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007495\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007495\\_146A0463.JPG](#)

**Sample - laboratory image:**



LinkedFiles\GAB\_BCH1\Samples\W13\_007495\_Photo01.JPG

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
3	Elemental CHNS	YES

### Analyses Completed:

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

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: W13/007495 UNK ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

### Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.72	percent	Y
Inorg	delta13 Carbon				per mille	U
Inorg	delta34 Sulphur				per mille	U
Inorg	Hydrogen			7.28	percent	Y
Inorg	Nitrogen			0.31	percent	Y
Inorg	Sulphur			0.93	percent	Y

**Qualifier codes:**

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



Sample ID : **W13/007496**

Beach K5: Hanson Bav Visit: 1

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 20/11/2014 2:13:12 PM

**Type:** Resinite/Amber

**Family:** Resin/Amber

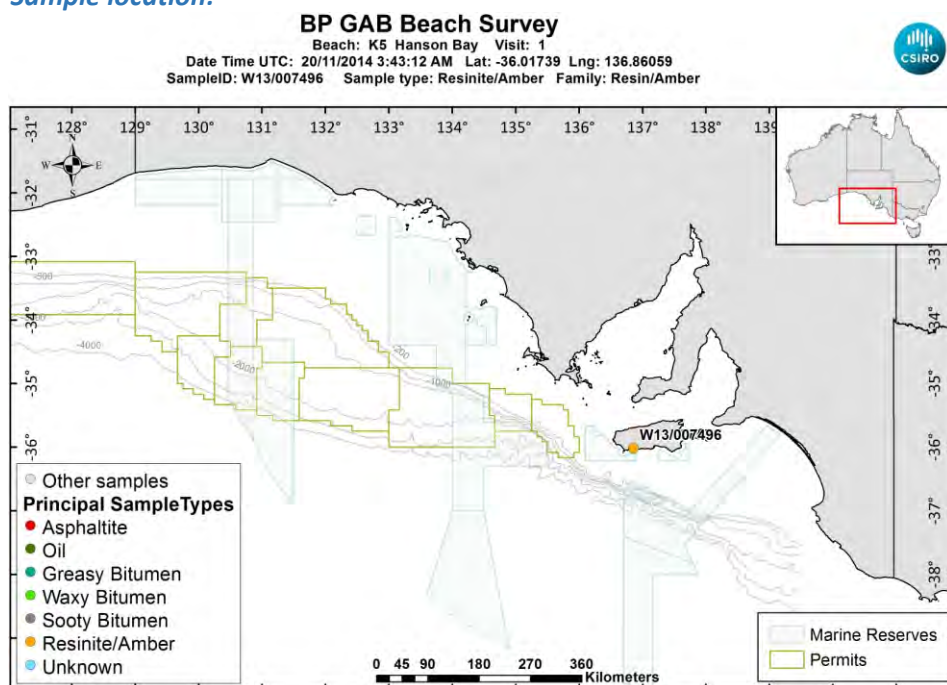
**Size (cm):** 3

**Latitude (Y):** -36.017390

**Weight (gm):** 4.70312

**Longitude (X):** 136.860591

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007496\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007496\\_146A0465.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB BCH1\Samples\W13 007496 Photo01.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	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 : **W13/007497**

Beach K5: Hanson Bav Visit: 1

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 20/11/2014 2:20:16 PM

**Type:** Waxy Bitumen

**Family:** Type I waxy bitumen (high botryococcane)

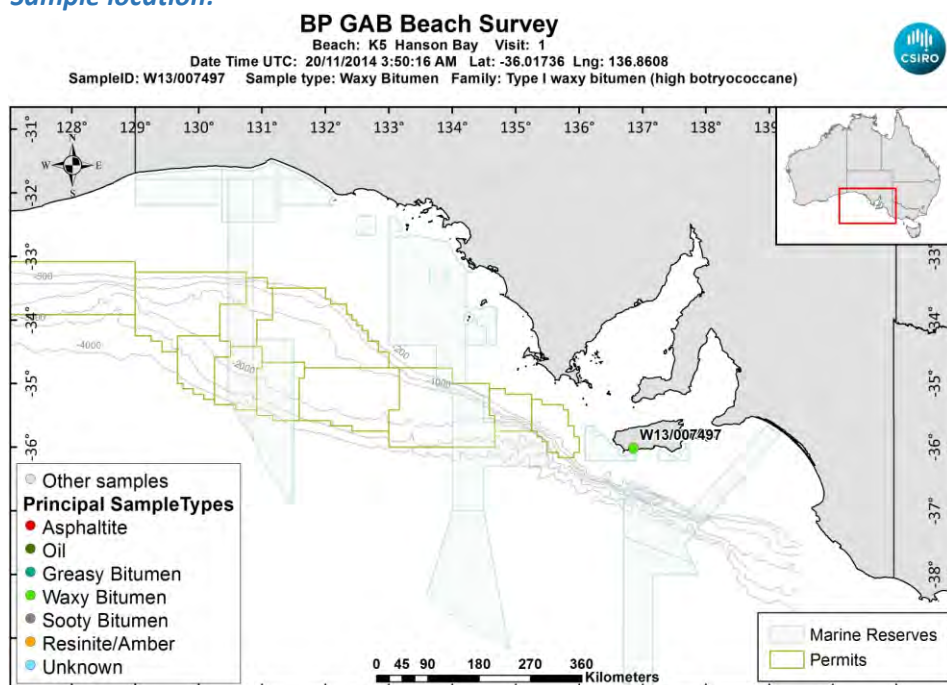
**Size (cm):** 3

**Latitude (Y):** -36.017358

**Weight (gm):** 4.26113

**Longitude (X):** 136.860802

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007497\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007497\\_146A0467.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007497\\_Photo01.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
3	Elemental CHNS	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: W13/007497\_UNK\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

### Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.37	percent	Y
Inorg	delta13 Carbon				per mille	U
Inorg	delta34 Sulphur				per mille	U
Inorg	Hydrogen			10.11	percent	Y
Inorg	Nitrogen			0.31	percent	Y
Inorg	Sulphur			1.27	percent	Y

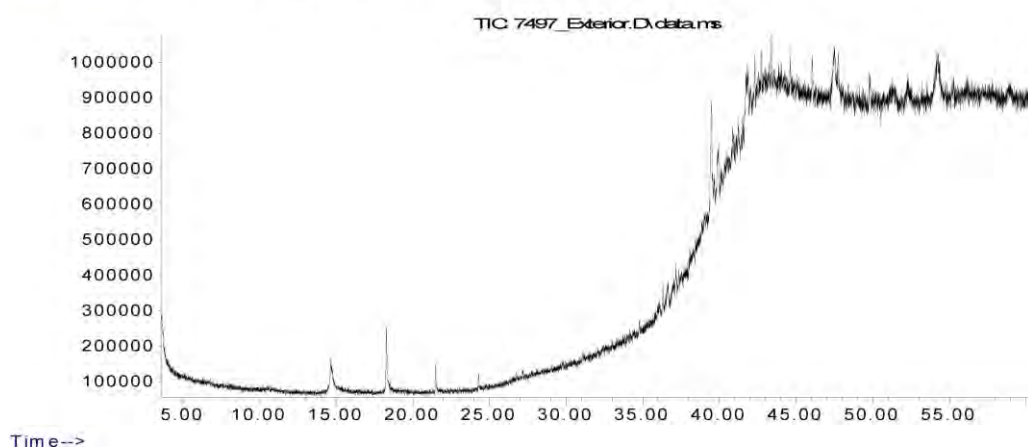
### Results for: GCMS with Full Scan

Unique ID: W13/007497\_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\\_007497\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

7497 Exterior – Waxy (high botryococcane)



## Data Sheet:

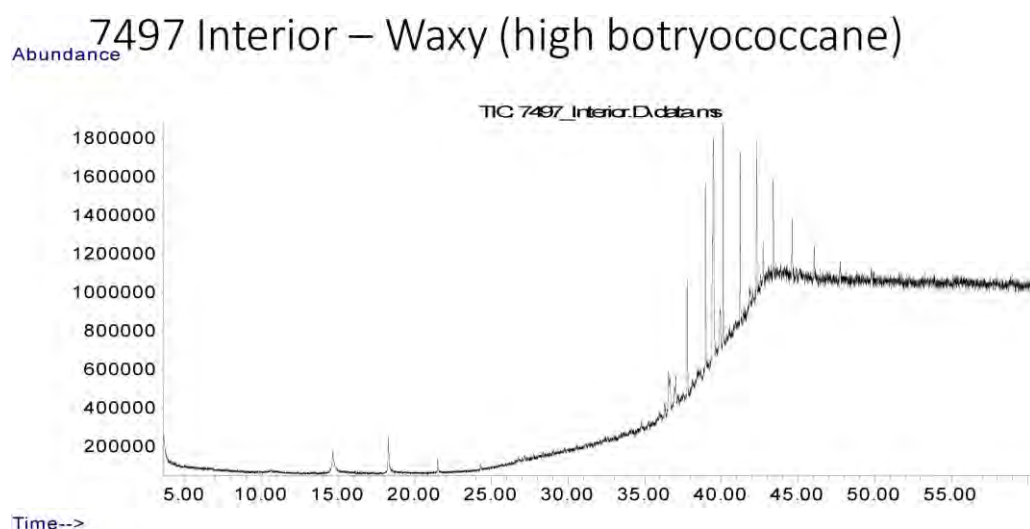
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780	852174		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720			ug/L	U
Aliph	nC24	33.9520			ug/L	U
Aliph	nC25	35.2810			ug/L	U
Aliph	nC26	36.5600			ug/L	U
Aliph	nC27	37.7930			ug/L	U
Aliph	nC28	38.9870			ug/L	U
Aliph	nC29	40.1370			ug/L	U
Aliph	nC30	41.2480			ug/L	U
Aliph	nC31	42.3270	386854		ug/L	Z
Aliph	nC32	43.4130	582585		ug/L	Z
Aliph	nC33	44.6430	794878		ug/L	Z
Aliph	nC34	46.0860	895067		ug/L	Z
Aliph	nC35	47.8060	595010		ug/L	Z
Aliph	nC36	49.8090	416390		ug/L	Z
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U



**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007497 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\\_007497\\_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	39.4780	10160072		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720			ug/L	U
Aliph	nC24	33.9520			ug/L	U
Aliph	nC25	35.2810			ug/L	U
Aliph	nC26	36.5600	1233725		ug/L	Z
Aliph	nC27	37.7930	2865272		ug/L	Z
Aliph	nC28	38.9870	4570835		ug/L	Z
Aliph	nC29	40.1370	4977775		ug/L	Z
Aliph	nC30	41.2480	4341140		ug/L	Z
Aliph	nC31	42.3270	3675543		ug/L	Z
Aliph	nC32	43.4130	2676523		ug/L	Z
Aliph	nC33	44.6430	1611006		ug/L	Z
Aliph	nC34	46.0860	487301		ug/L	Z
Aliph	nC35	47.8060	266108		ug/L	Z
Aliph	nC36	49.8090			ug/L	U
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

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

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

Sample ID : **W13/007498A**

Beach K5: Hanson Bay Visit: 1

**Comments:**

2 PIECES. Part A.

**Location:** Shore Upper

**Local Date Time:** 20/11/2014 2:22:30 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

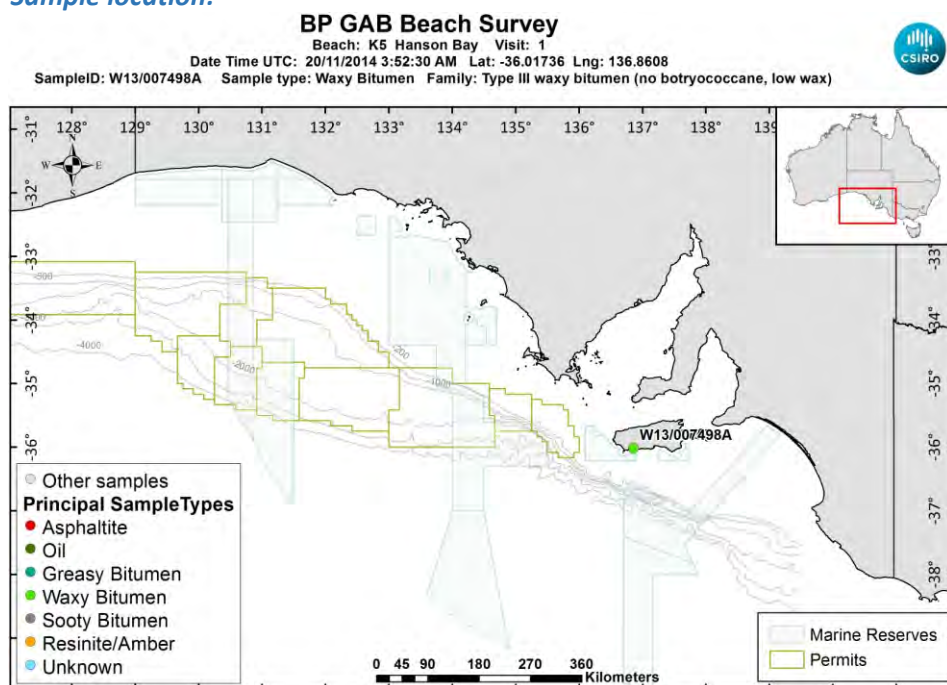
**Size (cm):** 1

**Latitude (Y):** -36.017359

**Weight (gm):** 0.40062

**Longitude (X):** 136.860799

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007498A\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007498\\_146A0469.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007498\\_Photo01.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
3	Elemental CHNS	YES

### Analyses Completed:

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

## Sample Analyses Completed:

### Results for: Elemental Analyser

**Unique ID:** W13/007498A UNK\_ELEM-AN/01

**Instrument / Type:** Elemental Analyser Run: 1

**for Analysis:** Elemental CHNS

**Preparation:** Unknown

**Analysis Date:**

**Method ID/s:**

**Linked Image:** [None available](#)

**Sample Volume:**

**Volume Units:**

**Extract Volume:**

**Dilution Factor:**

**Comment:**

### Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			84.18	percent	Y
Inorg	delta13 Carbon				per mille	U
Inorg	delta34 Sulphur				per mille	U
Inorg	Hydrogen			12.86	percent	Y
Inorg	Nitrogen			0.27	percent	Y
Inorg	Sulphur			1.59	percent	Y

(default units ppb)

**Qualifier codes:**

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



Sample ID : **W13/007498B**

Beach K5: Hanson Bav Visit: 1

**Comments:**

Part B subsample

**Location:** Shore Upper

**Local Date Time:** 20/11/2014 2:22:30 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

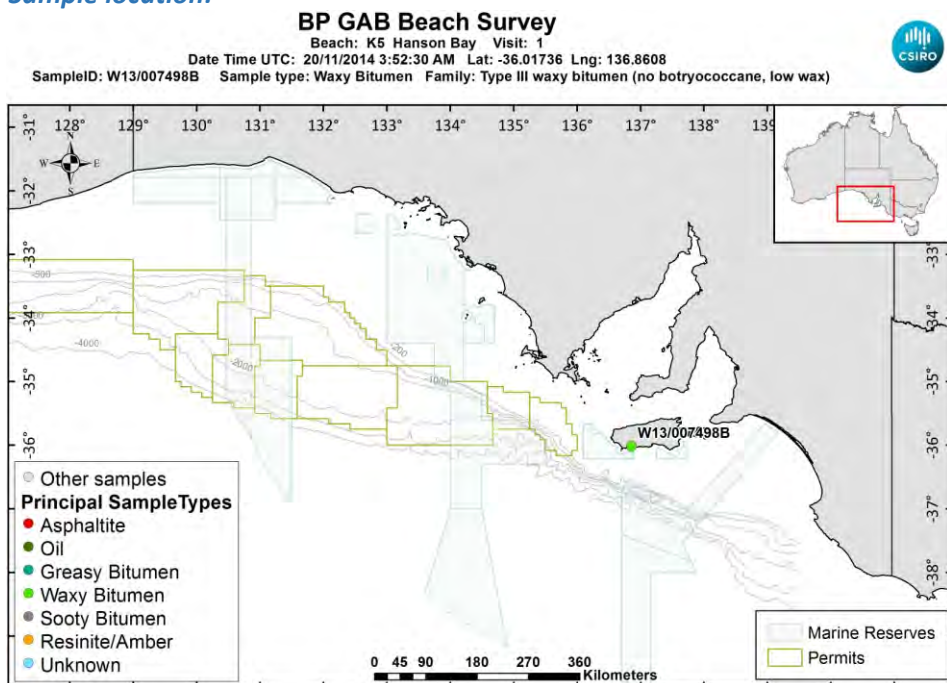
**Size (cm):**

**Latitude (Y):** -36.017359

**Weight (gm):**

**Longitude (X):** 136.860799

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007498B\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007498\\_Photo01.JPG](#)

Sample ID : **W13/007498B**

Beach K5: Hanson Bay Visit: 1

**Analyses Requested**

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
3	Elemental CHNS	YES

**Analyses Completed:**

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

**Sample Analyses Completed:****Results for: Elemental Analyser****Unique ID:** W13/007498B\_UNK\_ELEM-AN/01**Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Preparation:** Unknown**Analysis Date:****Method ID/s:****Linked Image:** [None available](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
<a href="#">Inorg</a>	Carbon			85.25	percent	Y
<a href="#">Inorg</a>	delta13 Carbon				per mille	U
<a href="#">Inorg</a>	delta34 Sulphur				per mille	U
<a href="#">Inorg</a>	Hydrogen			10.31	percent	Y
<a href="#">Inorg</a>	Nitrogen			0.29	percent	Y
<a href="#">Inorg</a>	Sulphur			1.3	percent	Y

**Qualifier codes:**

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

Sample ID : **W13/007499**

Beach K5: Hanson Bay Visit: 1

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 20/11/2014 2:40:01 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

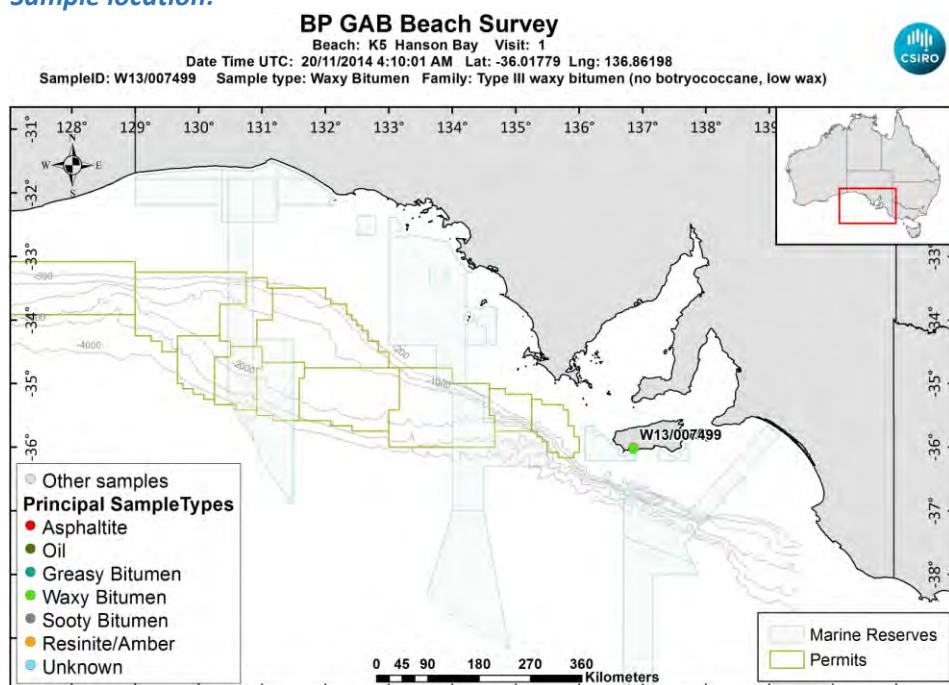
**Size (cm):** 3

**Latitude (Y):** -36.017787

**Weight (gm):** 8.78672

**Longitude (X):** 136.861980

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007499\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007499\\_146A0473.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007499\\_Photo01.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	YES
3	Elemental CHNS	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: 2
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:** W13/007499\_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			21.0883112249397	ratio	Y
BiomRatio	% C27 abb 20(R+S)			17.0425707972403	ratio	Y
BiomRatio	% C28 aaa 20R			21.3390940240694	ratio	Y
BiomRatio	% C28 abb 20(R+S)			19.9607089829364	ratio	Y
BiomRatio	% C29 aaa 20R			57.5725947509909	ratio	Y
BiomRatio	% C29 abb 20(R+S)			62.9967202198233	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			1.61975466803318E-02	ratio	Y
BiomRatio	25-Nor/C30H			0.192585160218016	ratio	Y
BiomRatio	C19t/C23t			1.13230884557721	ratio	Y
BiomRatio	C22t/C21t			0.837119106060401	ratio	Y
BiomRatio	C22t/C24t			0.566699409707241	ratio	Y
BiomRatio	C23t/C30H			8.97141651201753E-03	ratio	Y
BiomRatio	C24t/C23t			0.887564369988919	ratio	Y
BiomRatio	C24Tet/C23t			2.49281337592074	ratio	Y
BiomRatio	C24Tet/C26t			0.990590718939011	ratio	Y
BiomRatio	C24Tet/C30H			2.23640670821134E-02	ratio	Y
BiomRatio	C26t/C25t			1.59709172143821	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.277597757167772	ratio	Y
BiomRatio	C27 Dia/Ster			0.263049776643465	ratio	Y
BiomRatio	C28BNH/C30H			6.08954413452563E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			3.69643294836859	ratio	Y
BiomRatio	C29H/C30H			0.515972824637272	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.124592042979307	ratio	Y
BiomRatio	C30DiaH/C30H			3.12582168966112E-02	ratio	Y
BiomRatio	C30Ts/C30H			2.23247392833759E-02	ratio	Y
BiomRatio	C35 Homohopane Index			2.27662590324882E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.403288080188129	ratio	Y
BiomRatio	Gam/C30H			4.90922771241379E-02	ratio	Y
BiomRatio	Gam/C31HR			0.207289199634423	ratio	Y
BiomRatio	Ole/C30H			0.756801278606679	ratio	Y
BiomRatio	Sterane/hopane			0.074346864878492	ratio	Y
BiomRatio	Steranes/Terpanes			7.06202368969339E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			5.27699728195031E-02	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007499 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 Respnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			26.4153129014142	ratio	Y
BiomRatio	% C27 abb 20(R+S)			24.8878854372507	ratio	Y
BiomRatio	% C28 aaa 20R			15.7415617354557	ratio	Y
BiomRatio	% C28 abb 20(R+S)			19.09249759614	ratio	Y
BiomRatio	% C29 aaa 20R			57.8431253631301	ratio	Y
BiomRatio	% C29 abb 20(R+S)			56.0196169666093	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			3.63779257427241E-02	ratio	Y
BiomRatio	25-Nor/C30H			0.264076778805627	ratio	Y
BiomRatio	C19t/C23t			1.19769102109085	ratio	Y
BiomRatio	C22t/C21t			0.89694689437866	ratio	Y
BiomRatio	C22t/C24t			0.640259840295787	ratio	Y
BiomRatio	C23t/C30H			1.98986778951743E-02	ratio	Y
BiomRatio	C24t/C23t			0.882683564729826	ratio	Y
BiomRatio	C24Tet/C23t			3.1401659890217	ratio	Y
BiomRatio	C24Tet/C26t			2.48999543531628	ratio	Y
BiomRatio	C24Tet/C30H			6.24851515529243E-02	ratio	Y
BiomRatio	C26t/C25t			0.958378400721997	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.297747801847017	ratio	Y
BiomRatio	C27 Dia/Ster			0.297433762411227	ratio	Y
BiomRatio	C28BNH/C30H			6.25139239423982E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			2.25087893095017	ratio	Y
BiomRatio	C29H/C30H			0.499961486488071	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.116078976050926	ratio	Y
BiomRatio	C30DiaH/C30H			7.30484067041291E-02	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			3.14771153826925E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.452227776359624	ratio	Y
BiomRatio	Gam/C30H			5.51903135721436E-02	ratio	Y
BiomRatio	Gam/C31HR			0.193598948566381	ratio	Y
BiomRatio	Ole/C30H			0.748019260003005	ratio	Y
BiomRatio	Sterane/hopane			0.100754807915641	ratio	Y
BiomRatio	Steranes/Terpanes			0.094364305984761	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			6.77216015546368E-02	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007499\_UNK\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:



## Results for: Elemental Analyser

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon				percent	U
Inorg	delta13 Carbon				per mille	U
Inorg	delta34 Sulphur			3.14	per mille	Y
Inorg	Hydrogen			7.79	percent	Y
Inorg	Nitrogen			0.21	percent	Y
Inorg	Sulphur			1.02	percent	Y

## Results for: Elemental Analyser

Unique ID: W13/007499\_UNK\_ELEM-AN/02

Instrument / Type: Elemental Analyser Run: 2

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date: 30/10/2017

Method ID/s:

Linked Image: [None available](#)

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			86.39	percent	Y
Inorg	Hydrogen			7.89349264413519	percent	Y
Inorg	Nitrogen			0.143873693230506	percent	Y
Inorg	Sulphur			1.73187351128169	percent	Y

## Results for: GCMS with Full Scan

Unique ID: W13/007499 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\\_007499\\_ext\\_WholeOil.jpg](#)

Sample Volume:

Volume Units:

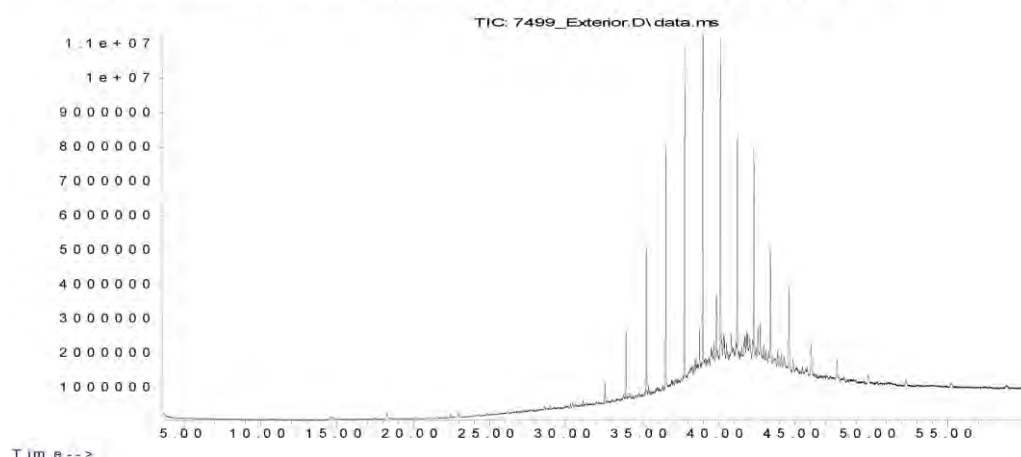
Extract Volume:

Dilution Factor:

Comment: Exterior

## Results for: GCMS with Full Scan

7499 Exterior - No botryococcane, low wax



## Data Sheet:

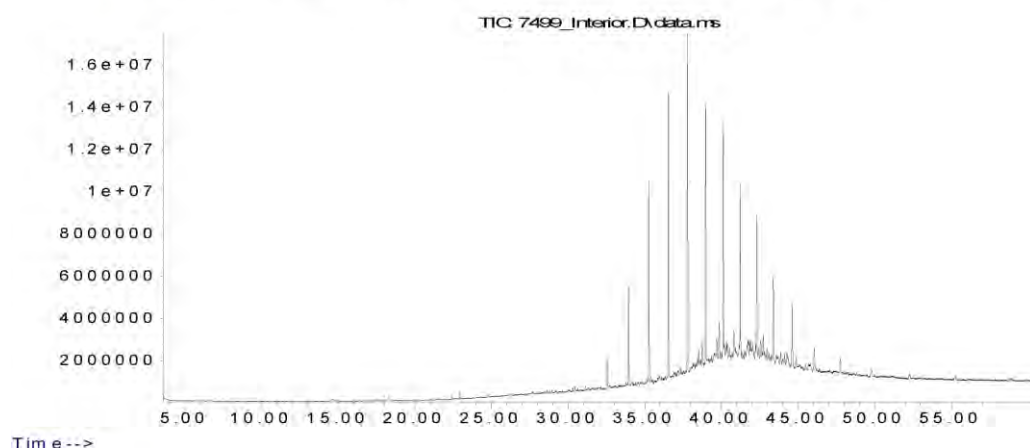
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720	2988029		ug/L	Z
Aliph	nC24	33.9520	9726852		ug/L	Z
Aliph	nC25	35.2810	21688925		ug/L	Z
Aliph	nC26	36.5600	35619423		ug/L	Z
Aliph	nC27	37.7930	50332077		ug/L	Z
Aliph	nC28	38.9870	49064820		ug/L	Z
Aliph	nC29	40.1370	46569905		ug/L	Z
Aliph	nC30	41.2480	33232830		ug/L	Z
Aliph	nC31	42.3270	29684968		ug/L	Z
Aliph	nC32	43.4130	18937423		ug/L	Z
Aliph	nC33	44.6430	15859767		ug/L	Z
Aliph	nC34	46.0860	7865548		ug/L	Z
Aliph	nC35	47.8060	4555098		ug/L	Z
Aliph	nC36	49.8090	1294379		ug/L	Z
Aliph	nC37	52.2960	2134745		ug/L	Z
Aliph	nC38	55.2370	1846364		ug/L	Z
Aliph	nC39	58.8850	50507		ug/L	Z
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007499 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\\_007499\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

## Results for: GCMS with Full Scan

7499 Interior - No botryococcane, low wax



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720	7300145		ug/L	Z
Aliph	nC24	33.9520	25184781		ug/L	Z
Aliph	nC25	35.2810	51858216		ug/L	Z
Aliph	nC26	36.5600	69090486		ug/L	Z
Aliph	nC27	37.7930	76424966		ug/L	Z
Aliph	nC28	38.9870	64606756		ug/L	Z
Aliph	nC29	40.1370	56141562		ug/L	Z
Aliph	nC30	41.2480	40134232		ug/L	Z
Aliph	nC31	42.3270	35089981		ug/L	Z
Aliph	nC32	43.4130	22278363		ug/L	Z
Aliph	nC33	44.6430	19177821		ug/L	Z
Aliph	nC34	46.0860	9436312		ug/L	Z
Aliph	nC35	47.8060	5690801		ug/L	Z
Aliph	nC36	49.8090	2038578		ug/L	Z
Aliph	nC37	52.2960	2649159		ug/L	Z
Aliph	nC38	55.2370	1950711		ug/L	Z
Aliph	nC39	58.8850	49363		ug/L	Z
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

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

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

Sample ID : **W13/007580**

Beach K5: Hanson Bay Visit: 2

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 5/09/2015 2:40:00 PM

**Type:** Resinite/Amber

**Family:** Resin/Amber

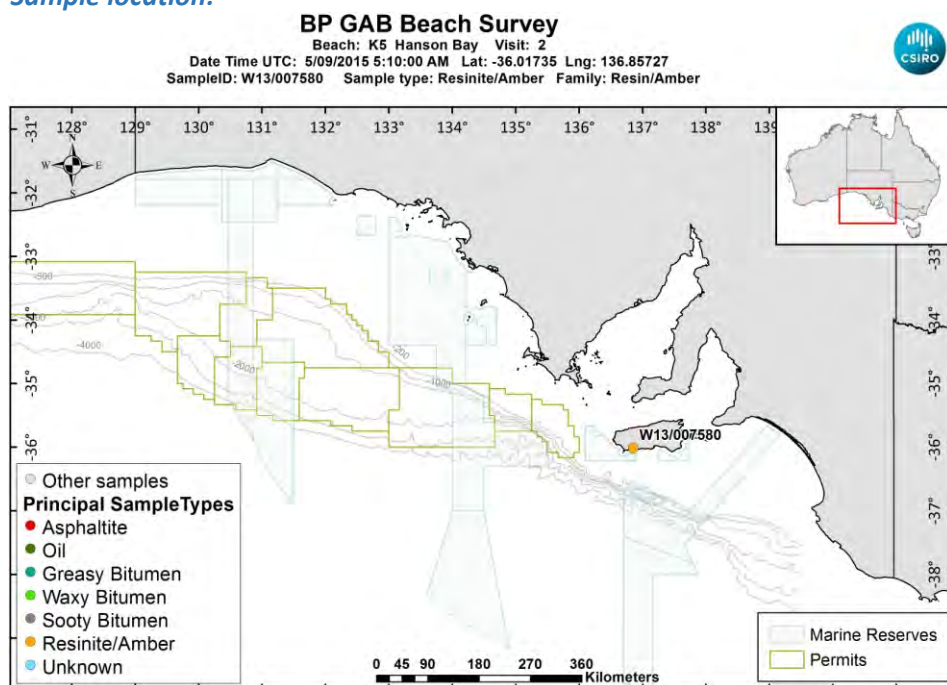
**Size (cm):** 2.5

**Latitude (Y):** -36.017347

**Weight (gm):** 4.1

**Longitude (X):** 136.857273

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007580\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007580\\_146A1430.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007580\\_Photo02.JPG](#)

**Analyses Requested**

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

**Analyses Completed:****Sample Analyses Completed:**

*No results to date*

**Qualifier codes:**

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

Sample ID : **W13/007581**

Beach K5: Hanson Bay Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 5/09/2015 3:09:52 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

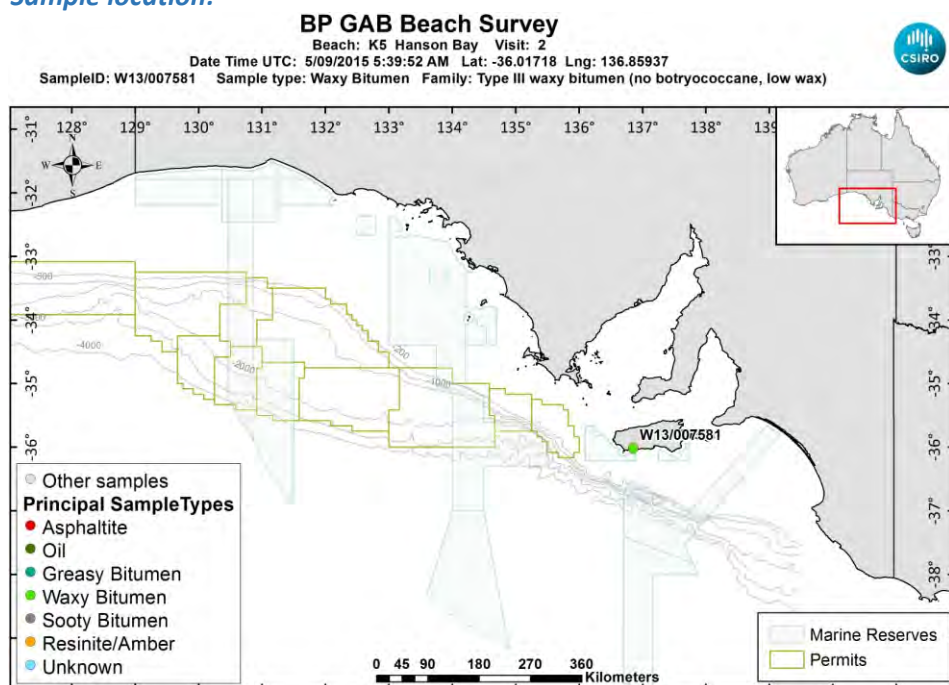
**Size (cm):** 3.5

**Latitude (Y):** -36.017177

**Weight (gm):** 8.2

**Longitude (X):** 136.859372

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007581\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007581\\_146A1435.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007581\\_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:** W13/007581\_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:

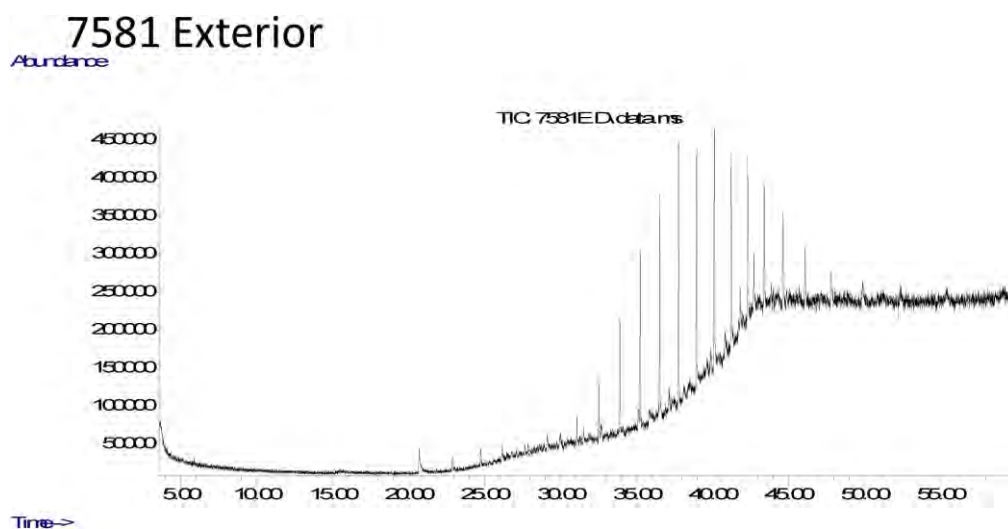
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			84.97	percent	Y
Inorg	Hydrogen			9.2712703777336	percent	Y
Inorg	Nitrogen			0.268467866323907	percent	Y
Inorg	Sulphur			1.59088195195772	percent	Y

### Results for: GCMS with Full Scan

**Unique ID:** W13/007581\_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\\_007581\\_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		0.675792218303463		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	146683		ug/L	Z
Aliph	nC23	32.4960	394489		ug/L	Z
Aliph	nC24	33.8800	738293		ug/L	Z
Aliph	nC25	35.2120	1100387		ug/L	Z
Aliph	nC26	36.4960	1250349		ug/L	Z
Aliph	nC27	37.7300	1634349		ug/L	Z
Aliph	nC28	38.9260	1562989		ug/L	Z
Aliph	nC29	40.0740	1513525		ug/L	Z
Aliph	nC30	41.1930	1252299		ug/L	Z
Aliph	nC31	42.2750	1204641		ug/L	Z
Aliph	nC32	43.3560	880891		ug/L	Z
Aliph	nC33	44.5840	808649		ug/L	Z
Aliph	nC34	46.0130	607614		ug/L	Z
Aliph	nC35	47.7140	415147		ug/L	Z
Aliph	nC36	49.7870	277593		ug/L	Z
Aliph	nC37	52.2630	198039		ug/L	Z
Aliph	nC38	55.2360	154333		ug/L	Z
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190	151822		ug/L	Z



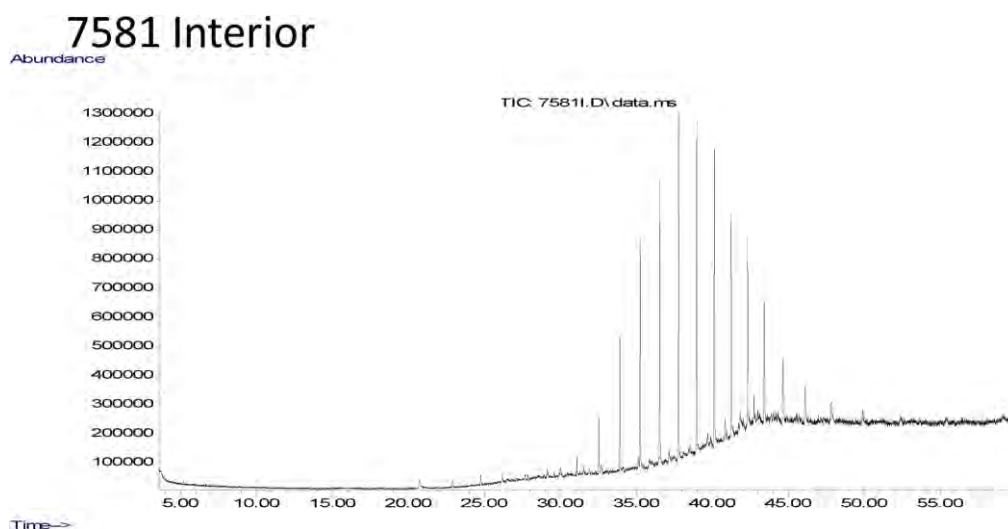
**Results for: GCMS with Full Scan**

Aliph	Pristane	22.8660	102600	ug/L	Z
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**Results for: GCMS with Full Scan****Unique ID:** W13/007581 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\\_007581\\_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			0.783792438133122	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	290506		ug/L	Z
Aliph	nC23	32.4960	988091		ug/L	Z
Aliph	nC24	33.8800	2279846		ug/L	Z
Aliph	nC25	35.2120	3909381		ug/L	Z
Aliph	nC26	36.4960	4687036		ug/L	Z
Aliph	nC27	37.7300	5967656		ug/L	Z
Aliph	nC28	38.9260	5268004		ug/L	Z
Aliph	nC29	40.0740	5033823		ug/L	Z
Aliph	nC30	41.1930	3926826		ug/L	Z
Aliph	nC31	42.2750	3145617		ug/L	Z
Aliph	nC32	43.3560	2279628		ug/L	Z
Aliph	nC33	44.5840	1556162		ug/L	Z
Aliph	nC34	46.0130	986885		ug/L	Z
Aliph	nC35	47.7140	615675		ug/L	Z
Aliph	nC36	49.7870	461739		ug/L	Z
Aliph	nC37	52.2630	299853		ug/L	Z
Aliph	nC38	55.2360	191364		ug/L	Z
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190	239311		ug/L	Z

## Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	187570	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 : **W13/007582**

Beach K5: Hanson Bav Visit: 2

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 5/09/2015 3:15:40 PM

**Type:** Unknown

**Family:** Not bitumen (false sample)

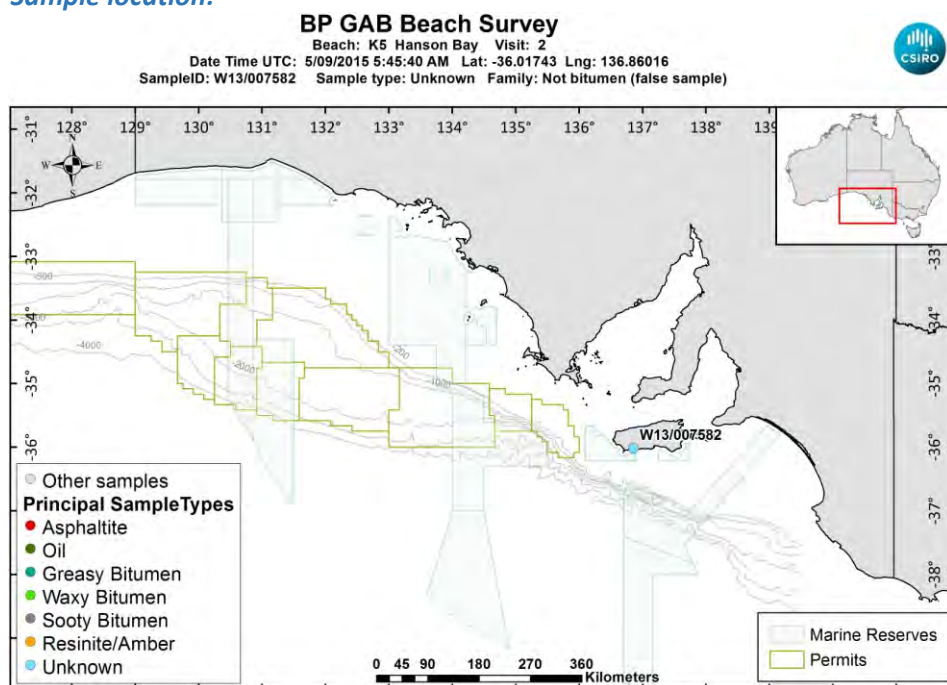
**Size (cm):** 3.5

**Latitude (Y):** -36.017433

**Weight (gm):** 2.5

**Longitude (X):** 136.860165

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007582\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007582\\_146A1440.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007582\\_Photo02.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	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 : **W13/007583**

Beach K5: Hanson Bav Visit: 2

**Comments:**  
probably pitch

**Location:** Mid Intertidal

**Local Date Time:** 5/09/2015 3:21:20 PM

**Type:** Unknown

**Family:** Not bitumen (false sample)

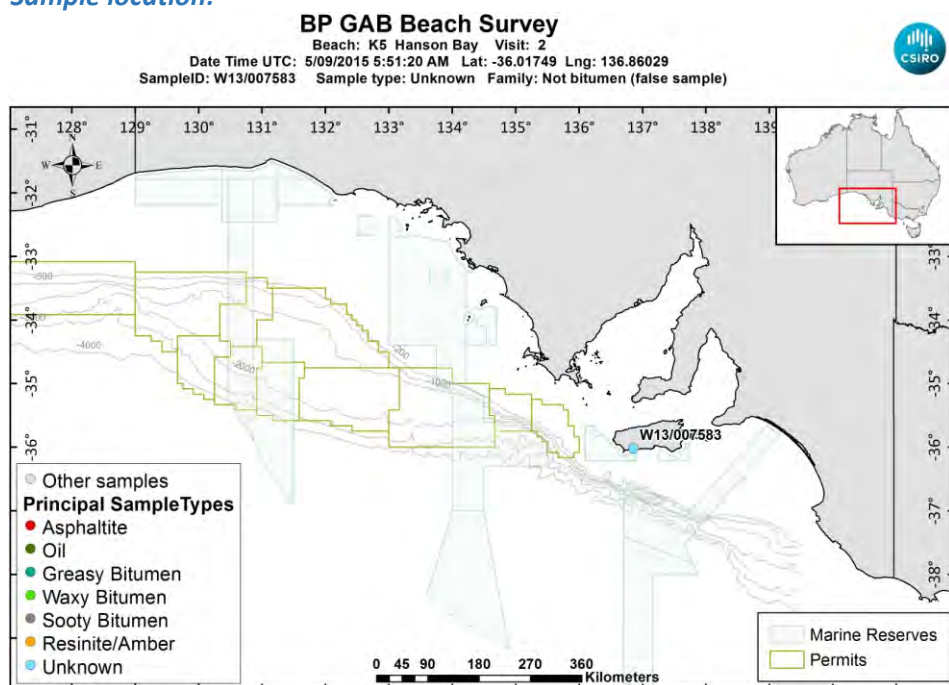
**Size (cm):** 9.5

**Latitude (Y):** -36.017493

**Weight (gm):** 111.3

**Longitude (X):** 136.860293

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007583\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007583\\_146A1442.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007583\\_Photo02.JPG](#)

### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	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 : **W13/007959**

Beach K5: Hanson Bav Visit: 3

**Comments:**

**Location:** Mid Intertidal

**Local Date Time:** 17/10/2016 12:12:53 PM

**Type:** Unknown

**Family:** Not bitumen (false sample)

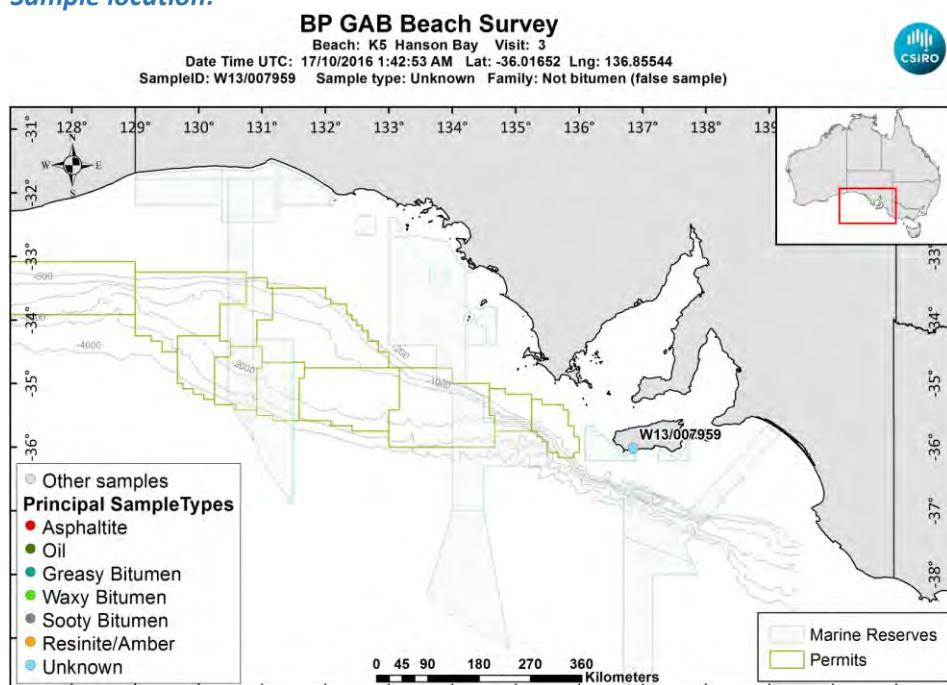
**Size (cm):** 2.2

**Latitude (Y):** -36.016523

**Weight (gm):** 1.8525

**Longitude (X):** 136.855445

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007959\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007959\\_146A6805.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007959\\_Photo02.JPG](#)

#### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

#### Analyses Completed:

Analysis:	Instrument/Type:
Whole Oils	GCMS with Full Scan Run: 1

### Sample Analyses Completed:

#### Results for: GCMS with Full Scan

**Unique ID:** W13/007959 DISS GCMS-Scan/01

**Instrument / Type:** GCMS with Full Scan Run: 1

**for Analysis:** Whole Oils

**Analysis Date:** 30/10/2017

**Linked Image:** [None available](#)

**Preparation:** Dissolved in solvent

**Method ID/s:**

**Sample Volume:**

**Volume Units:**

**Extract Volume:**

**Dilution Factor:**

**Comment:**

## Results for: GCMS with Full Scan

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	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

**Qualifier codes:**

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



Sample ID : **W13/007960**

Beach K5: Hanson Bav Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 17/10/2016 12:30:57 PM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

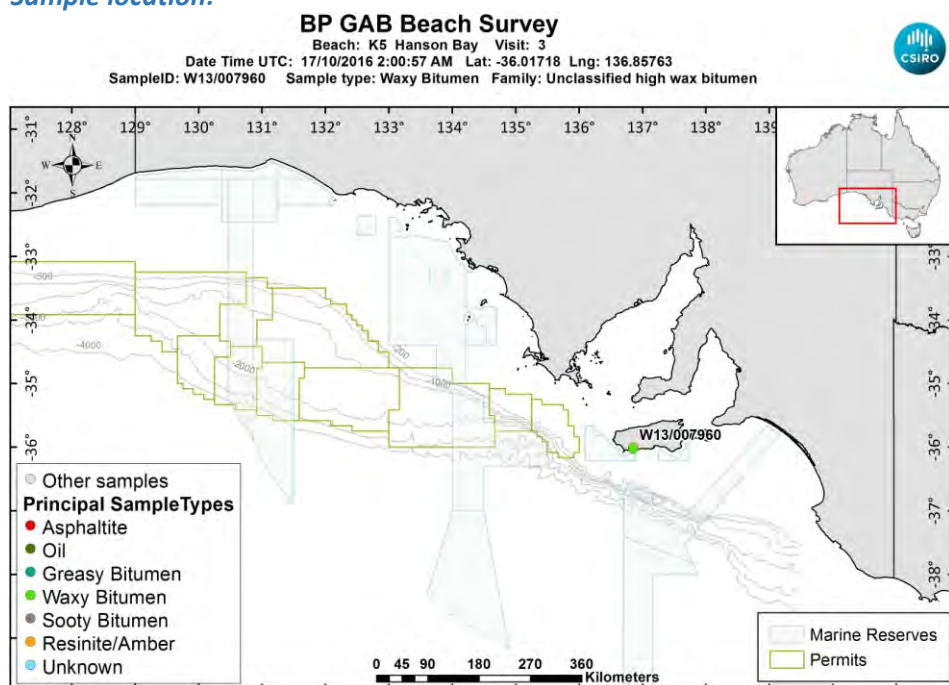
**Size (cm):** 2.6

**Latitude (Y):** -36.017180

**Weight (gm):** 1.0648

**Longitude (X):** 136.857630

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007960\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007960\\_146A6811.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007960\\_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: 3

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: W13/007960\_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			85.9	percent	Y
Inorg	Hydrogen			10.9143946322068	percent	Y
Inorg	Nitrogen			0.57	percent	Y
Inorg	Sulphur			2.33805738703839	percent	Y

### Results for: GCMS with Full Scan

Unique ID: W13/007960 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\\_007960\\_bulk\\_WholeOil.jpg](#)

Preparation: Dissolved in solvent

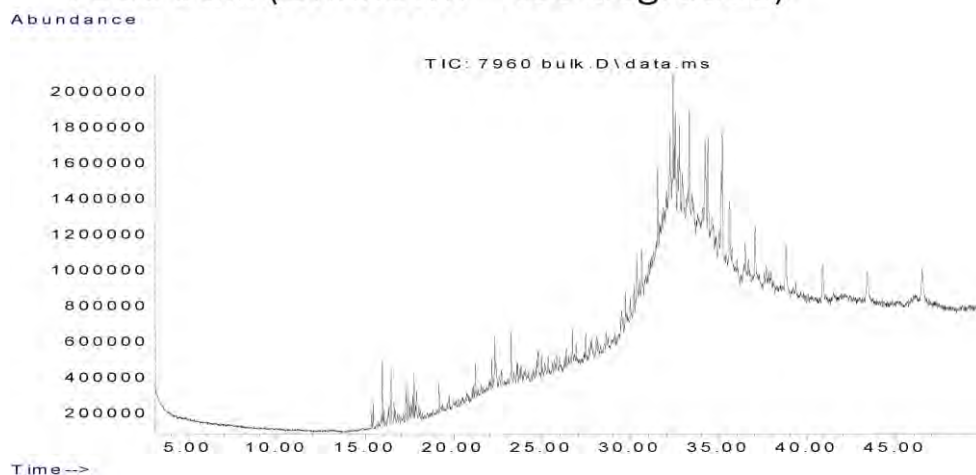
Method ID/s:

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



## Results for: GCMS with Full Scan

7960 bulk (Unknown – too degraded)



## 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	1209950			Z
Aliph	nC28	31.5080	1969115			Z
Aliph	nC29	32.3700	2994645			Z
Aliph	nC30	33.2910	3156664			Z
Aliph	nC31	34.3470	3316938			Z
Aliph	nC32	35.5720	2735692			Z
Aliph	nC33	37.0130	2738034			Z
Aliph	nC34	38.7280	2762289			Z
Aliph	nC35	40.8080	2587510			Z
Aliph	nC36	43.3510	2618522			Z
Aliph	nC37	46.4710	2845359			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:**

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

Sample ID : **W13/007647**

Beach W22: Mount Drummond Beach Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 19/09/2015 5:19:44 PM

**Type:** Unknown

**Family:** Not bitumen (false sample)

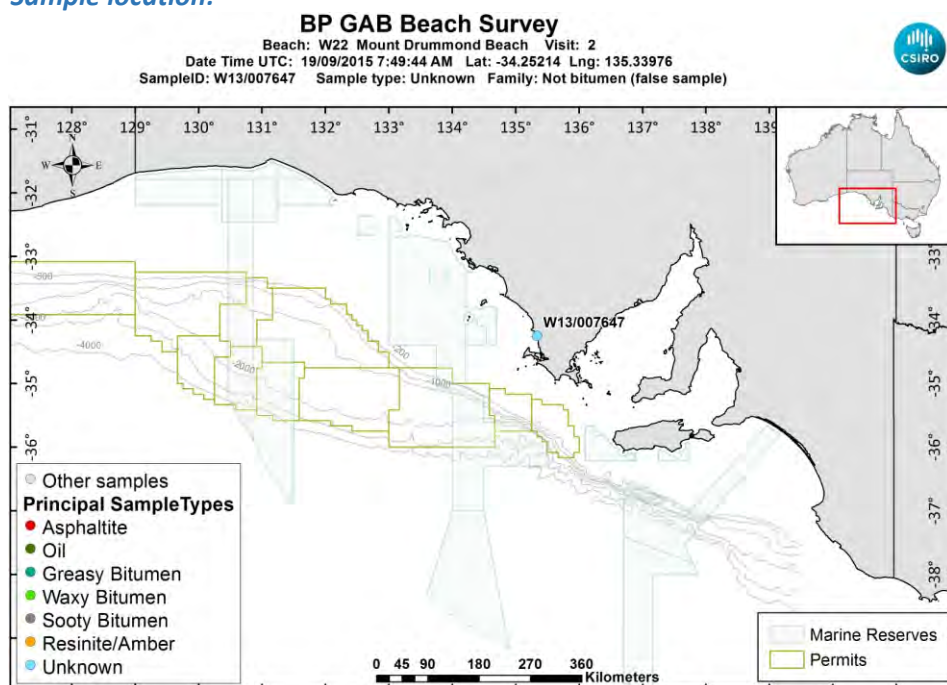
**Size (cm):** 1.4

**Latitude (Y):** -34.252140

**Weight (gm):** 0.6

**Longitude (X):** 135.339763

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007647\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007647\\_146A1731.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007647\\_Photo02.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 : **W13/007648**

Beach W22: Mount Drummond Beach Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 19/09/2015 6:24:27 PM

**Type:** Resinite/Amber

**Family:** Resin/Amber

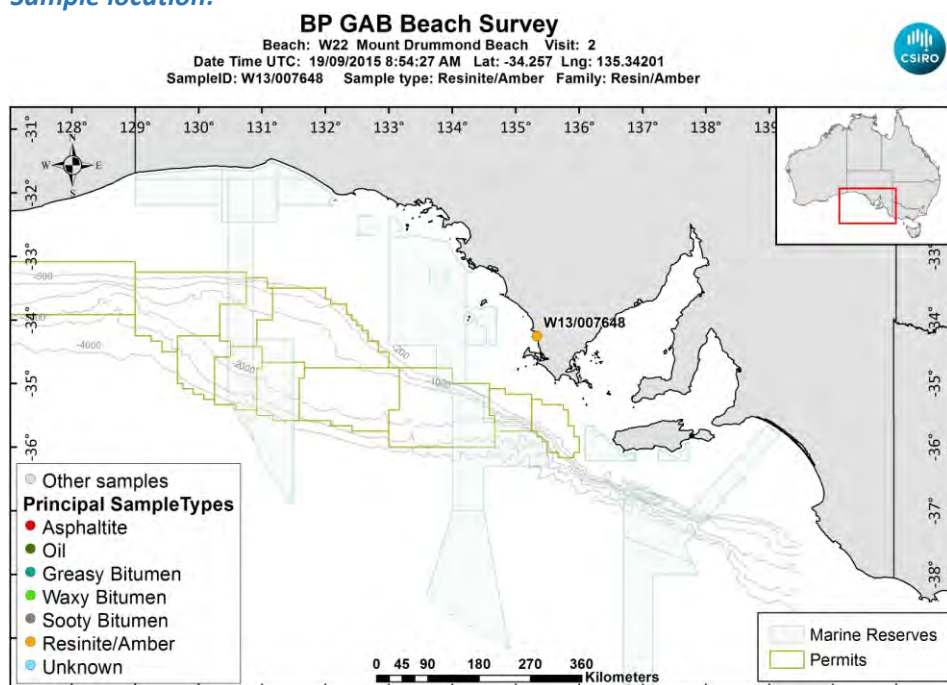
**Size (cm):** 5.5

**Latitude (Y):** -34.257002

**Weight (gm):** 16.1

**Longitude (X):** 135.342012

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007648\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007648\\_146A1732.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007648\\_Photo02.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 : **W13/007649**

Beach W22: Mount Drummond Beach Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 19/09/2015 6:25:19 PM

**Type:** Waxy Bitumen

**Family:** Type III waxy bitumen (no botryococcane, low

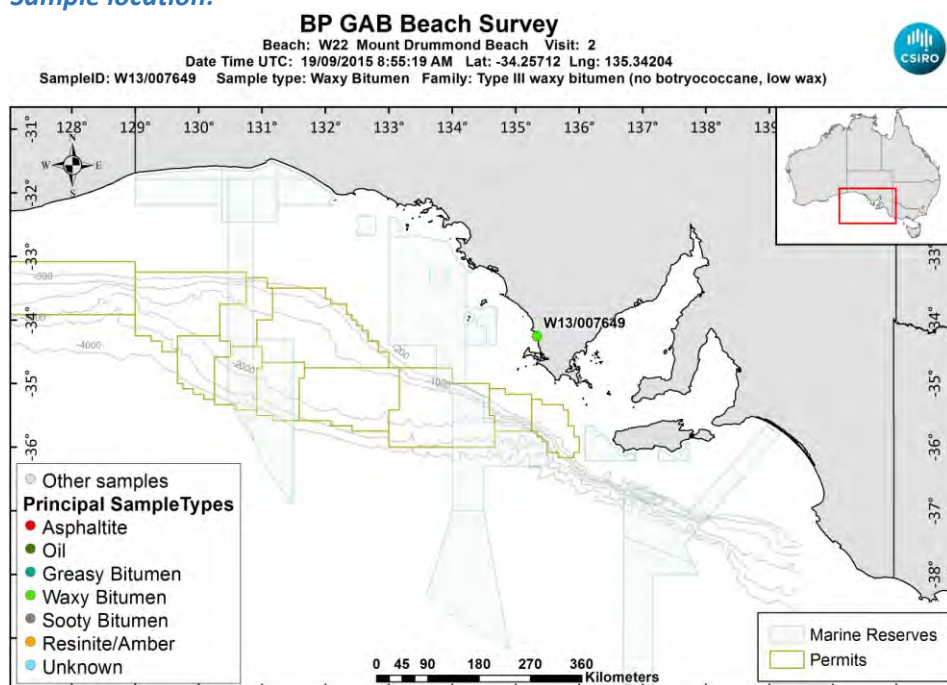
**Size (cm):** 2.7

**Latitude (Y):** -34.257120

**Weight (gm):** 3.3

**Longitude (X):** 135.342040

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007649\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007649\\_146A1733.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007649\\_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: W13/007649\_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			84.45	percent	Y
Inorg	Hydrogen			10.0878685467197	percent	Y
Inorg	Nitrogen			9.17622107969152E-02	percent	Y
Inorg	Sulphur			1.47135991767695	percent	Y

### Results for: GCMS with Full Scan

Unique ID: W13/007649\_DISS\_GCMS-Scan/01