

Sample ID : /001037

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 3:19:50 PM

**Type:** Waxy Bitumen

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

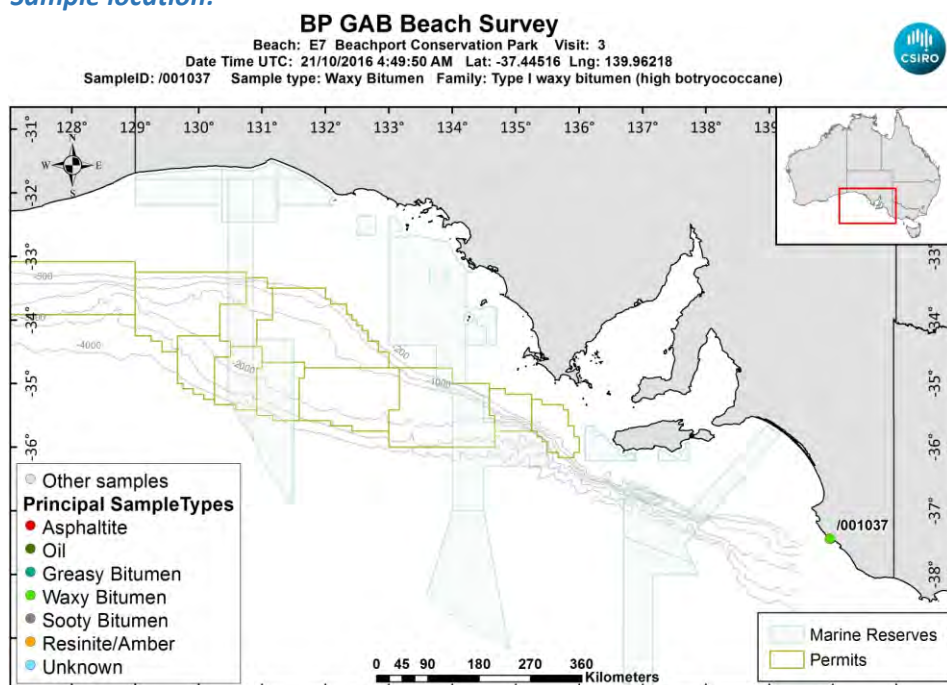
**Size (cm):** 2.5

**Latitude (Y):** -37.445158

**Weight (gm):** 3.55372

**Longitude (X):** 139.962185

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001037 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001037\\_146A7102.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001037\\_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: /001037\_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			92.62	percent	Y
Inorg	Hydrogen			12.0339345924453	percent	Y
Inorg	Nitrogen			0.2	percent	Y
Inorg	Sulphur			2.6146461227828	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001037 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\ 001037\\_bulk\\_WholeOil.JPG](#)

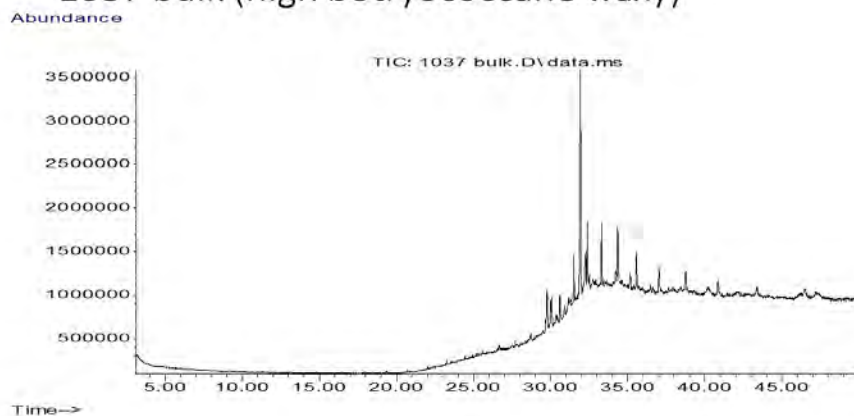
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

1037 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	19821624			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	628354			Z
Aliph	nC27	30.6080	1633466			Z
Aliph	nC28	31.5080	3084525			Z
Aliph	nC29	32.3700	3834841			Z
Aliph	nC30	33.2910	3791579			Z
Aliph	nC31	34.3470	4708867			Z
Aliph	nC32	35.5720	3347706			Z
Aliph	nC33	37.0130	2720756			Z
Aliph	nC34	38.7280	2204655			Z
Aliph	nC35	40.8080	1787141			Z
Aliph	nC36	43.3510	2021417			Z
Aliph	nC37	46.4710	1458856			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 : /001038

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 3:22:14 PM

**Type:** Waxy Bitumen

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

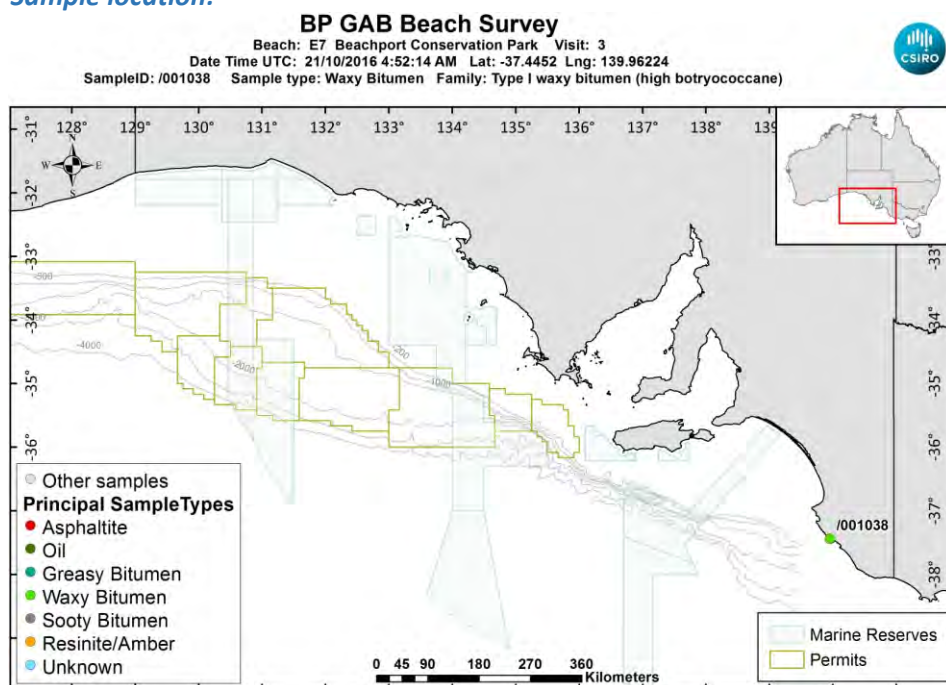
**Size (cm):** 1.9

**Latitude (Y):** -37.445202

**Weight (gm):** 1.28647

**Longitude (X):** 139.962237

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001038\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001038\\_146A7104.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001038\\_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: /001038\_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			87.44	percent	Y
Inorg	Hydrogen			7.74128827037773	percent	Y
Inorg	Nitrogen			0.26	percent	Y
Inorg	Sulphur			1.4144556366276	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001038\_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\ 001038\\_bulk\\_WholeOil.JPG](#)

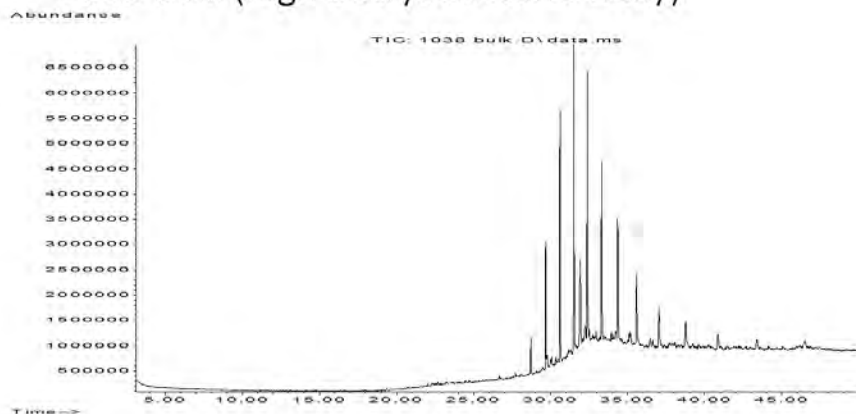
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

1038 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	13714124			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	444018			Z
Aliph	nC25	28.7100	3323717			Z
Aliph	nC26	29.6680	10444584			Z
Aliph	nC27	30.6080	23815170			Z
Aliph	nC28	31.5080	27697775			Z
Aliph	nC29	32.3700	25973064			Z
Aliph	nC30	33.2910	19835860			Z
Aliph	nC31	34.3470	15463536			Z
Aliph	nC32	35.5720	10876029			Z
Aliph	nC33	37.0130	7751613			Z
Aliph	nC34	38.7280	4931868			Z
Aliph	nC35	40.8080	3535309			Z
Aliph	nC36	43.3510	3248540			Z
Aliph	nC37	46.4710	2360398			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 : /001039A

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

2 pieces. Part A

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 3:23:59 PM

**Type:** Waxy Bitumen

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

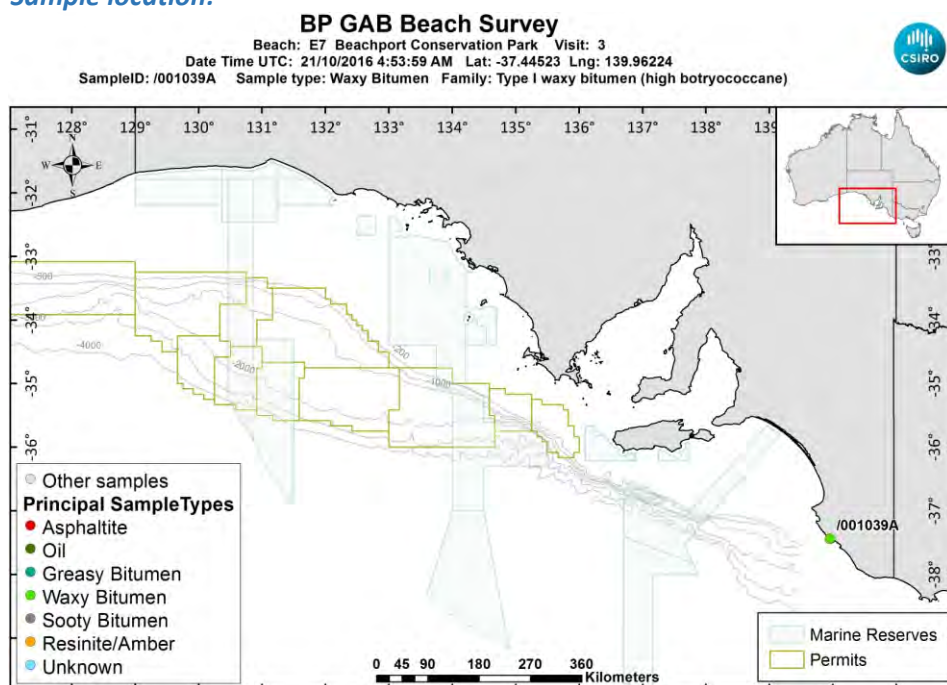
**Size (cm):** 1.1

**Latitude (Y):** -37.445227

**Weight (gm):** 1.00095

**Longitude (X):** 139.962235

**Sample location:**



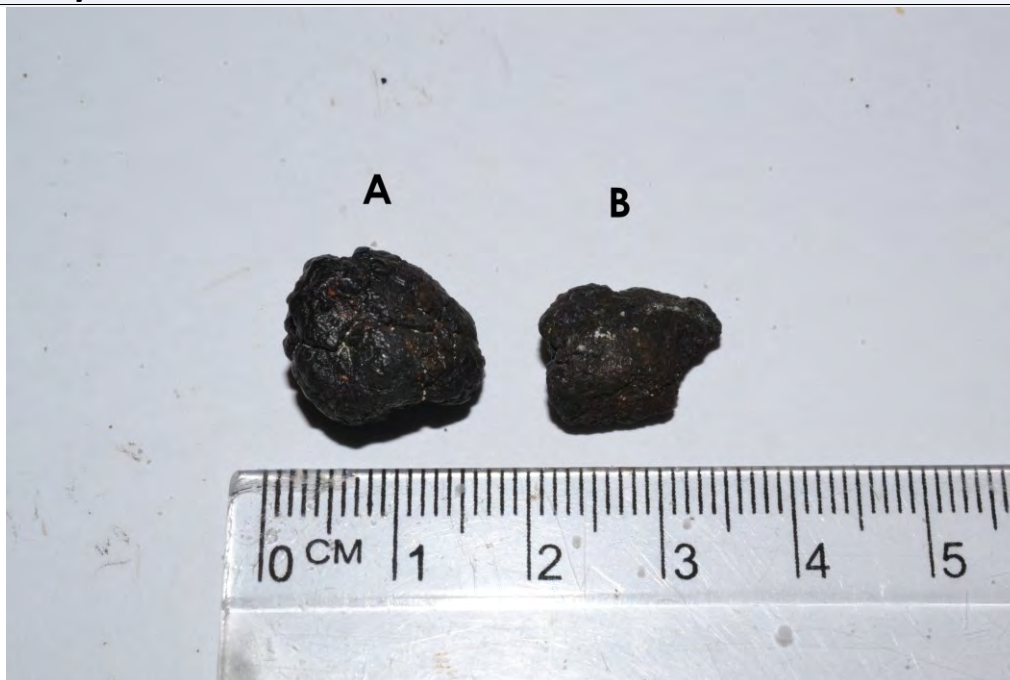
[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001039A Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001039\\_146A7106.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001039\\_AB\\_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: 1

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: /001039A\_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			85.39	percent	Y
Inorg	Hydrogen			8.95537276341948	percent	Y
Inorg	Nitrogen			0.21	percent	Y
Inorg	Sulphur			2.25710569697554	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001039A\_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\ 001039A\\_bulk\\_WholeOil.JPG](#)

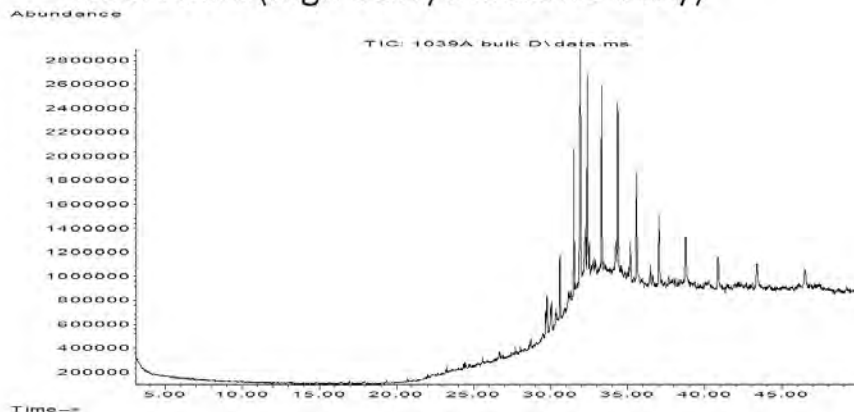
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

1039A bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	15991994			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	722184			Z
Aliph	nC27	30.6080	2613417			Z
Aliph	nC28	31.5080	6207397			Z
Aliph	nC29	32.3700	8548869			Z
Aliph	nC30	33.2910	8941237			Z
Aliph	nC31	34.3470	9375193			Z
Aliph	nC32	35.5720	6673391			Z
Aliph	nC33	37.0130	5009637			Z
Aliph	nC34	38.7280	3779579			Z
Aliph	nC35	40.8080	3443719			Z
Aliph	nC36	43.3510	2338016			Z
Aliph	nC37	46.4710	2796854			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 : /001039B

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

Part B subsample

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 3:23:59 PM

**Type:** Waxy Bitumen

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

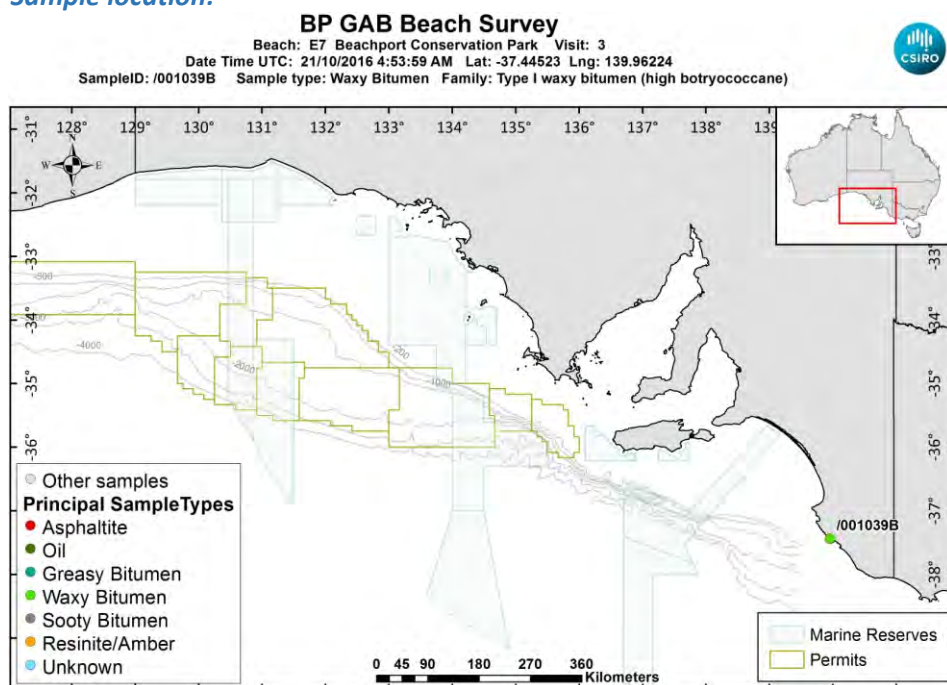
**Size (cm):** 1.4

**Latitude (Y):** -37.445227

**Weight (gm):** 0.46969

**Longitude (X):** 139.962235

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001039B Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001039 AB Photo02.jpg](#)

**Sample ID : /001039B**

**Beach E7: Beachport Conservation Park Visit: 3**

**Analyses Requested**

Split:	Analysis:	Sent:
1	Bitumen Determination	NO
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: 1

**Sample Analyses Completed:**

**Results for: Gas Chromatography Mass Spectrometry**

**Unique ID: /001039B\_DISS\_GC-MS/01**

**Instrument / Type:** Gas Chromatography Mass Spectrometry Run: 1

**for Analysis:** Biomarkers

**Preparation:** Dissolved in solvent

**Analysis Date:** 18/07/2017

**Method ID/s:**

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

**Sample Volume:**

**Volume Units:**

**Extract Volume:**

**Dilution Factor:**

**Comment:** Bulk Ratios only

## Results for: Gas Chromatography Mass Spectrometry

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			17.1922232129265	ratio	Y
BiomRatio	% C27 abb 20(R+S)			34.4956400233475	ratio	Y
BiomRatio	% C28 aaa 20R			23.9392819085314	ratio	Y
BiomRatio	% C28 abb 20(R+S)			26.6147832392946	ratio	Y
BiomRatio	% C29 aaa 20R			58.8684948785421	ratio	Y
BiomRatio	% C29 abb 20(R+S)			38.8895767373578	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			7.79481261677107E-02	ratio	Y
BiomRatio	25-Nor/C30H			6.08185000175889E-02	ratio	Y
BiomRatio	C19t/C23t			0.184377125803691	ratio	Y
BiomRatio	C22t/C21t			0.167606499401598	ratio	Y
BiomRatio	C22t/C24t			0.103646461885172	ratio	Y
BiomRatio	C23t/C30H			8.01544306469202E-02	ratio	Y
BiomRatio	C24t/C23t			0.822787518377916	ratio	Y
BiomRatio	C24Tet/C23t			0.598357508064339	ratio	Y
BiomRatio	C24Tet/C26t			0.777967189728959	ratio	Y
BiomRatio	C24Tet/C30H			4.79610053822071E-02	ratio	Y
BiomRatio	C26t/C25t			1.32271638017246	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.7017381068983	ratio	Y
BiomRatio	C27 Dia/Ster			0.846820431683916	ratio	Y
BiomRatio	C28BNH/C30H			8.55876455482464E-03	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.12737658182415	ratio	Y
BiomRatio	C29H/C30H			0.53135179582791	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.357963064701063	ratio	Y
BiomRatio	C30DiaH/C30H			0.215195940479122	ratio	Y
BiomRatio	C30Ts/C30H			2.83339782601048E-02	ratio	Y
BiomRatio	C35 Homohopane Index			3.55212769279013E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.490315891643872	ratio	Y
BiomRatio	Gam/C30H			5.31959053012981E-02	ratio	Y
BiomRatio	Gam/C31HR			0.26484811997154	ratio	Y
BiomRatio	Ole/C30H			0.121623368628417	ratio	Y
BiomRatio	Sterane/hopane			0.064206473886832	ratio	Y
BiomRatio	Steranes/Terpanes			5.70489642718226E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.125462568976814	ratio	Y

## Results for: Elemental Analyser

Unique ID: /001039B\_SPE\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

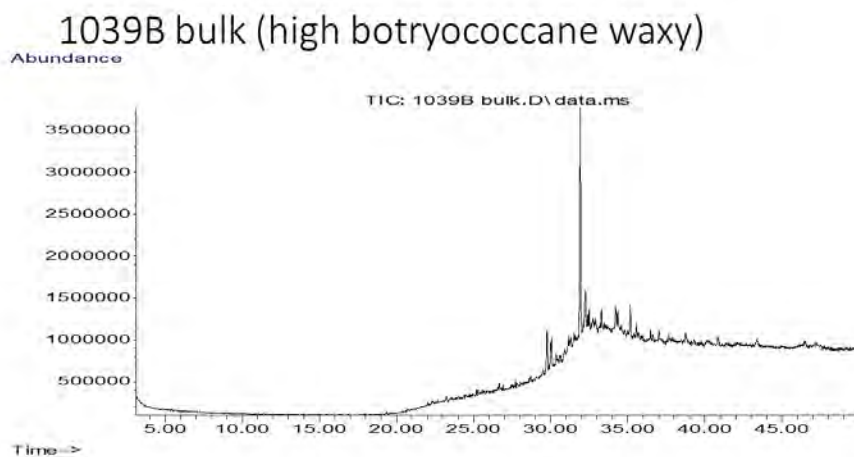
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			83.84	percent	Y
Inorg	Hydrogen			8.28615268389662	percent	Y
Inorg	Nitrogen			0.24	percent	Y
Inorg	Sulphur			2.04704592361728	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** /001039B\_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\ 001039B\\_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	31.9240	21602039			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100				U
Aliph	nC26	29.6680				U
Aliph	nC27	30.6080				U
Aliph	nC28	31.5080	786305			Z
Aliph	nC29	32.3700	375179			Z
Aliph	nC30	33.2910	659378			Z
Aliph	nC31	34.3470	1448109			Z
Aliph	nC32	35.5720	1184049			Z
Aliph	nC33	37.0130	1357516			Z
Aliph	nC34	38.7280	1119593			Z
Aliph	nC35	40.8080	974280			Z
Aliph	nC36	43.3510	881320			Z
Aliph	nC37	46.4710	1599815			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 : /001040A

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

2 pieces. Part A

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 3:25:17 PM

**Type:** Waxy Bitumen

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

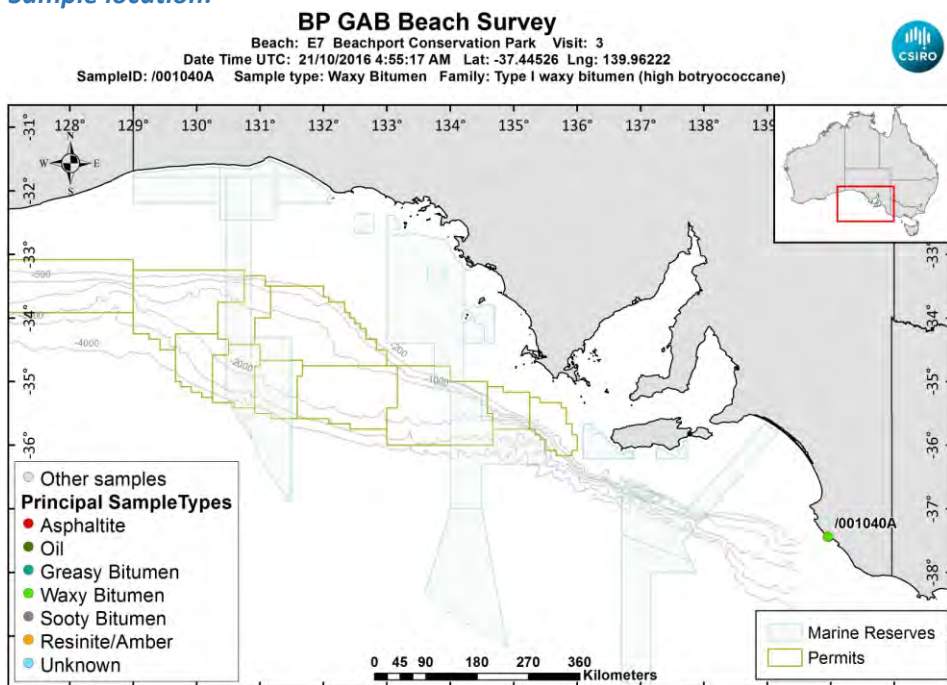
**Size (cm):** 1.8

**Latitude (Y):** -37.445257

**Weight (gm):** 1.07882

**Longitude (X):** 139.962225

**Sample location:**



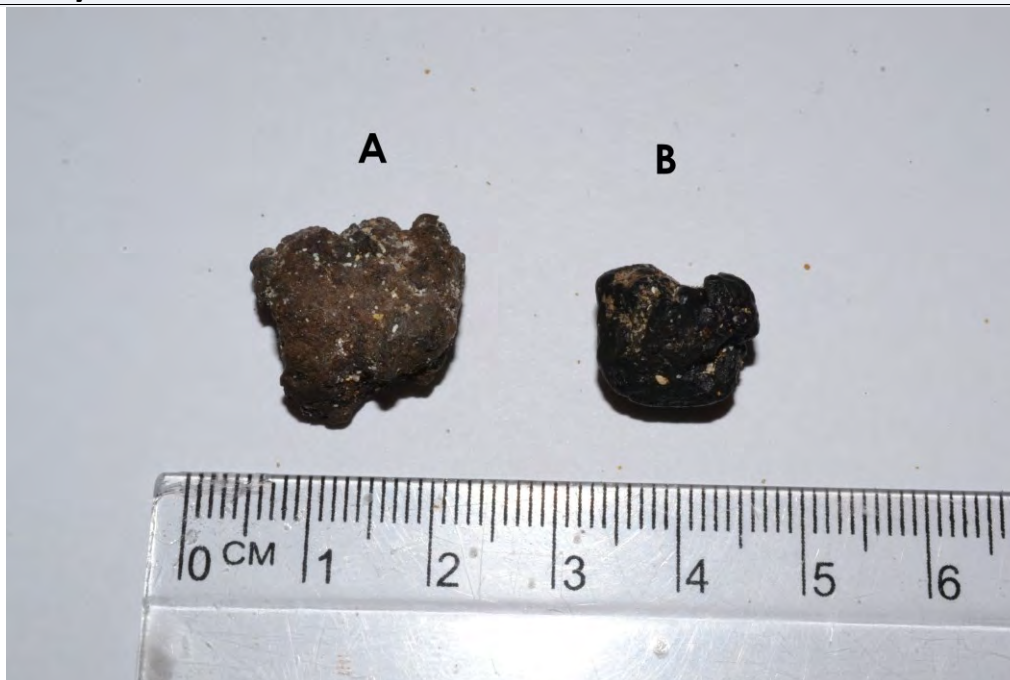
[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001040A\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001040\\_146A7108.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001040\\_AB\\_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:** /001040A\_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\\\_001040A\\_bulk\\_WholeOil.JPG](#)

**Preparation:** Dissolved in solvent

**Method ID/s:**

**Sample Volume:**

**Volume Units:**

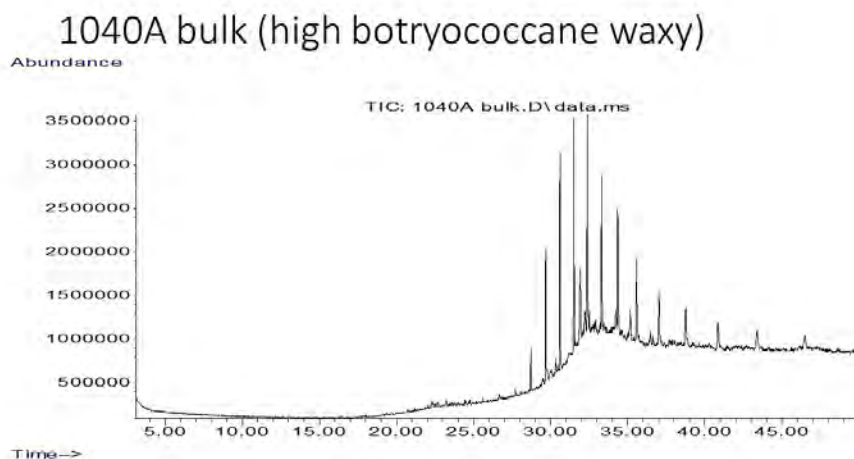
**Extract Volume:**

**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	6866314			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	418828			Z
Aliph	nC25	28.7100	2134344			Z
Aliph	nC26	29.6680	7081004			Z
Aliph	nC27	30.6080	11877138			Z
Aliph	nC28	31.5080	13398165			Z
Aliph	nC29	32.3700	12548002			Z
Aliph	nC30	33.2910	9839976			Z
Aliph	nC31	34.3470	8943835			Z
Aliph	nC32	35.5720	7027207			Z
Aliph	nC33	37.0130	5788380			Z
Aliph	nC34	38.7280	4726014			Z
Aliph	nC35	40.8080	3785859			Z
Aliph	nC36	43.3510	3778112			Z
Aliph	nC37	46.4710	2953244			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 : /001040B

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

Part B subsample

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 3:25:17 PM

**Type:** Waxy Bitumen

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

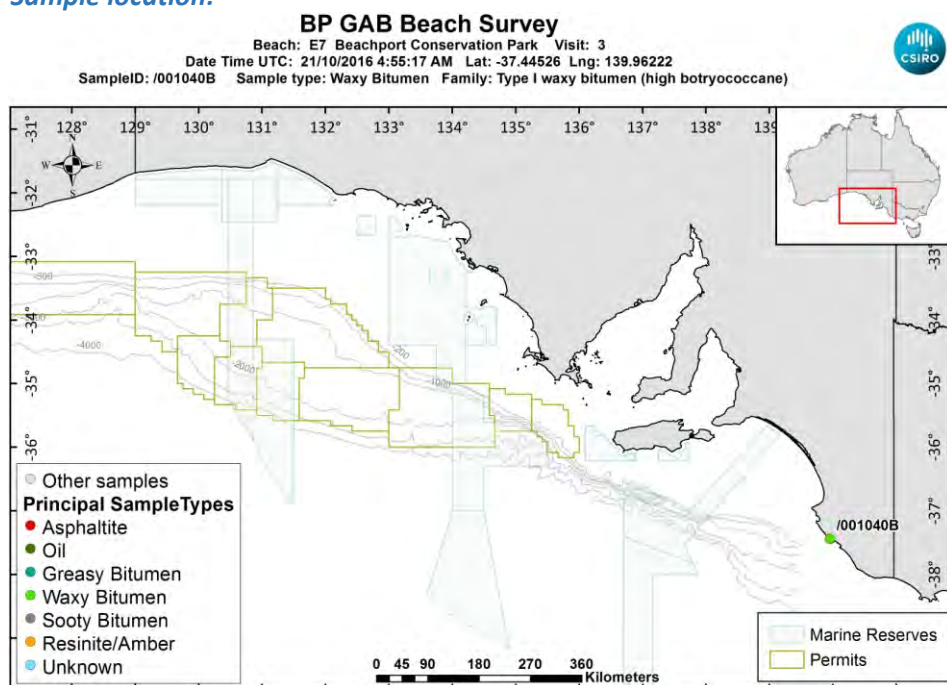
**Size (cm):** 1.4

**Latitude (Y):** -37.445257

**Weight (gm):** 0.63196

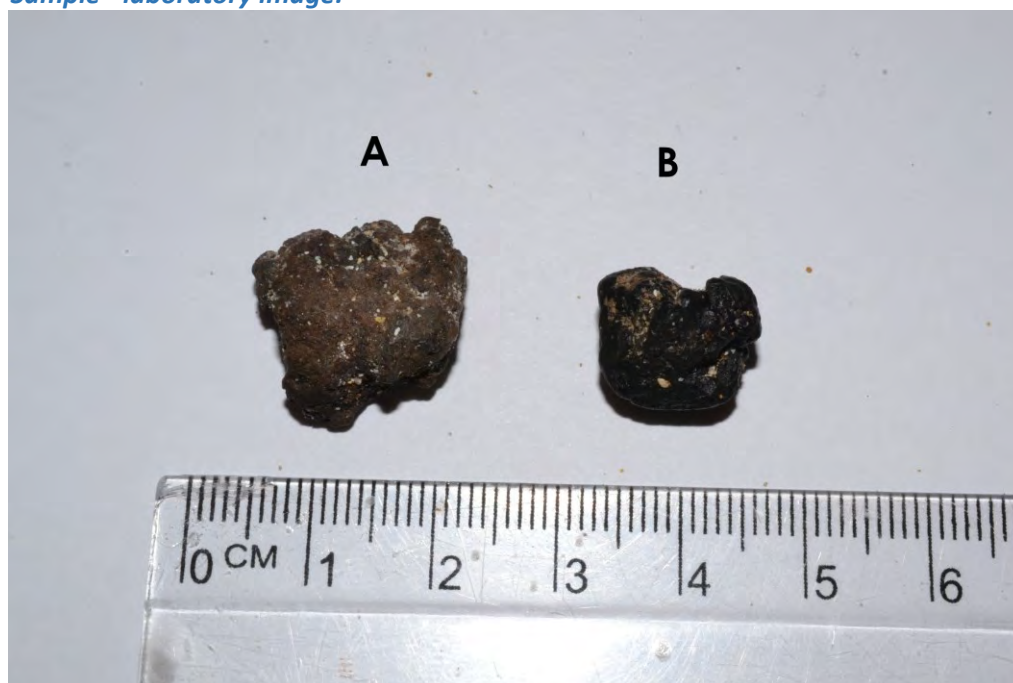
**Longitude (X):** 139.962225

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001040B\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001040\\_AB\\_Photo02.jpg](#)

**Sample ID : /001040B****Beach E7: Beachport Conservation Park Visit: 3****Analyses Requested**

Split: Analysis: Sent:  
1 Bitumen Determination NO

**Analyses Completed:**

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

**Sample Analyses Completed:****Results for: Elemental Analyser****Unique ID: /001040B\_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:**

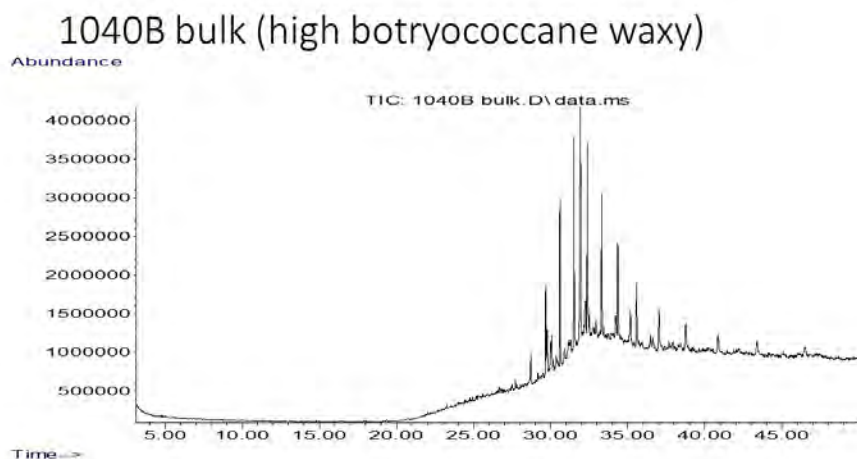
**Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
<a href="#">Inorg</a>	Carbon			87.58	percent	Y
<a href="#">Inorg</a>	Hydrogen			6.34777097415507	percent	Y
<a href="#">Inorg</a>	Nitrogen			0.2	percent	Y
<a href="#">Inorg</a>	Sulphur			1.2629121411843	percent	Y

**Results for: GCMS with Full Scan****Unique ID: /001040B\_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\\\_001040B\\_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	23656146			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	1756150			Z
Aliph	nC26	29.6680	4760724			Z
Aliph	nC27	30.6080	10800056			Z
Aliph	nC28	31.5080	13021493			Z
Aliph	nC29	32.3700	12326159			Z
Aliph	nC30	33.2910	9781780			Z
Aliph	nC31	34.3470	8479506			Z
Aliph	nC32	35.5720	6074325			Z
Aliph	nC33	37.0130	4771941			Z
Aliph	nC34	38.7280	3691465			Z
Aliph	nC35	40.8080	3046865			Z
Aliph	nC36	43.3510	2358619			Z
Aliph	nC37	46.4710	2504149			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 : /001041

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 3:26:40 PM

**Type:** Waxy Bitumen

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

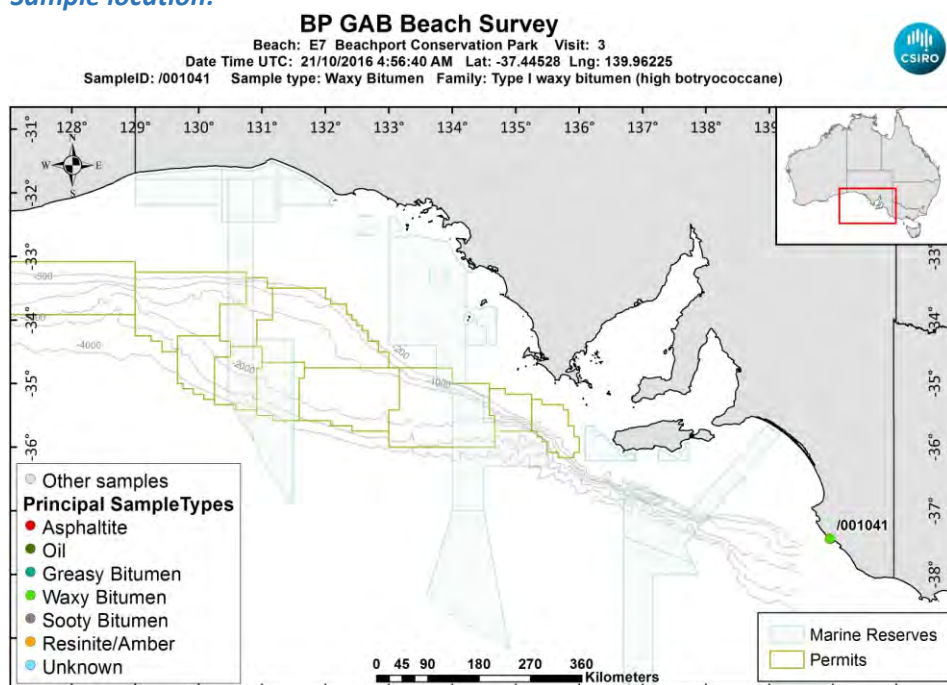
**Size (cm):** 1.6

**Latitude (Y):** -37.445285

**Weight (gm):** 0.72807

**Longitude (X):** 139.962252

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001041 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001041\\_146A7110.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001041\\_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: /001041\_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			87.72	percent	Y
Inorg	Hydrogen			6.84052763419483	percent	Y
Inorg	Nitrogen			0.25	percent	Y
Inorg	Sulphur			1.56523442483352	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001041\_DISS\_GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 30/10/2017

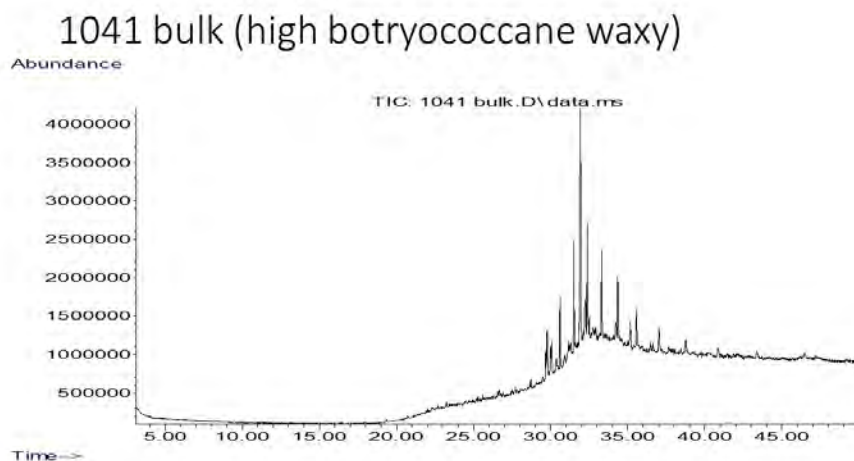
Linked Image: [LinkedFiles\GAB\\_BCH1\GCMS\ 001041\\_bulk\\_WholeOil.JPG](#)

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	24943196			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	424607			Z
Aliph	nC26	29.6680	1614178			Z
Aliph	nC27	30.6080	4623795			Z
Aliph	nC28	31.5080	7099223			Z
Aliph	nC29	32.3700	7161725			Z
Aliph	nC30	33.2910	6039349			Z
Aliph	nC31	34.3470	5787185			Z
Aliph	nC32	35.5720	4224444			Z
Aliph	nC33	37.0130	2957284			Z
Aliph	nC34	38.7280	2277102			Z
Aliph	nC35	40.8080	1445842			Z
Aliph	nC36	43.3510	1378065			Z
Aliph	nC37	46.4710	947233			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 : /001042

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 21/10/2016 3:28:23 PM

**Type:** Waxy Bitumen

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

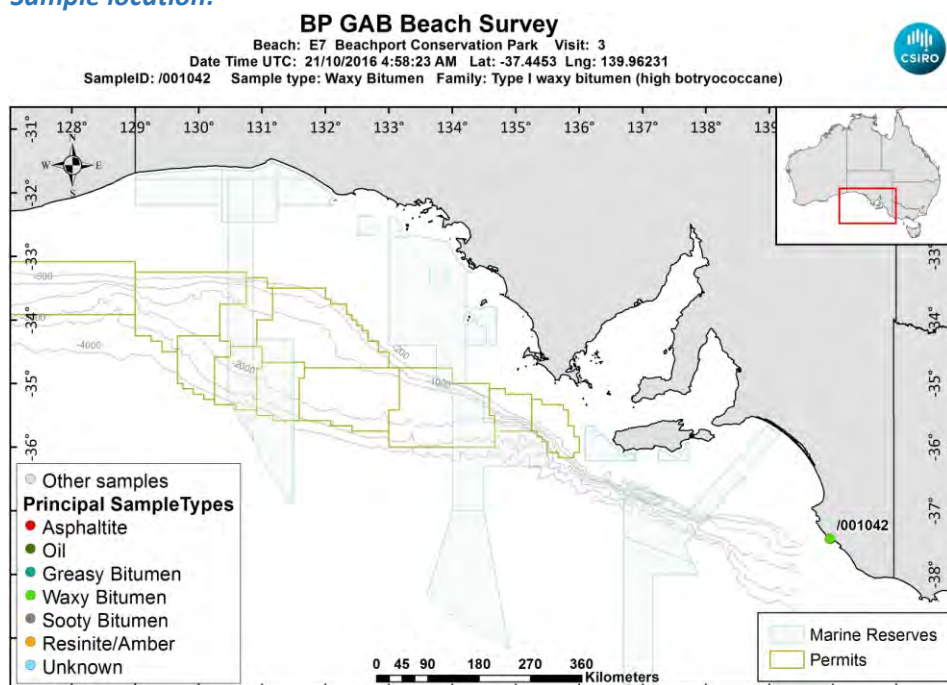
**Size (cm):** 1

**Latitude (Y):** -37.445303

**Weight (gm):** 0.27951

**Longitude (X):** 139.962313

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001042 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001042\\_146A7112.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001042\\_Photo02.JPG](#)

#### Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

#### Analyses Completed:

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

### Sample Analyses Completed:

#### Results for: GCMS with Full Scan

**Unique ID:** /001042\_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\ 001042\\_bulk\\_WholeOil.JPG](#)

**Preparation:** Dissolved in solvent

**Method ID/s:**

**Sample Volume:**

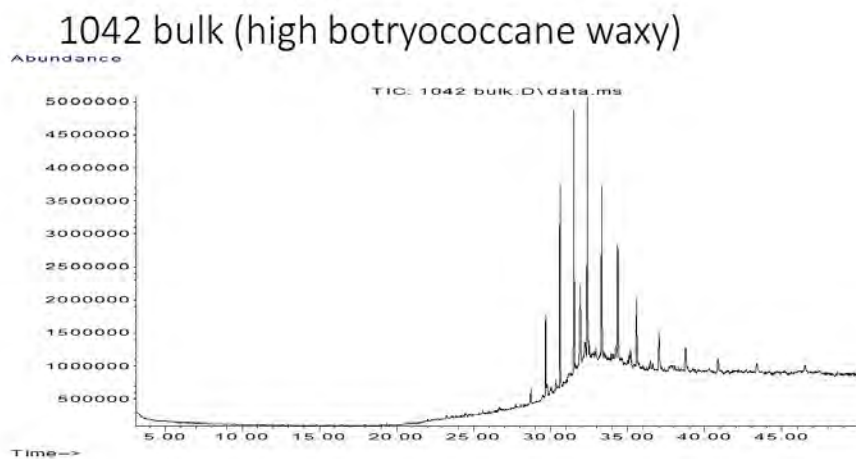
**Volume Units:**

**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	9729977			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	1193677			Z
Aliph	nC26	29.6680	5702493			Z
Aliph	nC27	30.6080	14550372			Z
Aliph	nC28	31.5080	18306513			Z
Aliph	nC29	32.3700	18194118			Z
Aliph	nC30	33.2910	13894409			Z
Aliph	nC31	34.3470	11967886			Z
Aliph	nC32	35.5720	7624086			Z
Aliph	nC33	37.0130	5257119			Z
Aliph	nC34	38.7280	3722614			Z
Aliph	nC35	40.8080	2604881			Z
Aliph	nC36	43.3510	2175328			Z
Aliph	nC37	46.4710	1870817			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 : /001043

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 3:29:31 PM

**Type:** Waxy Bitumen

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

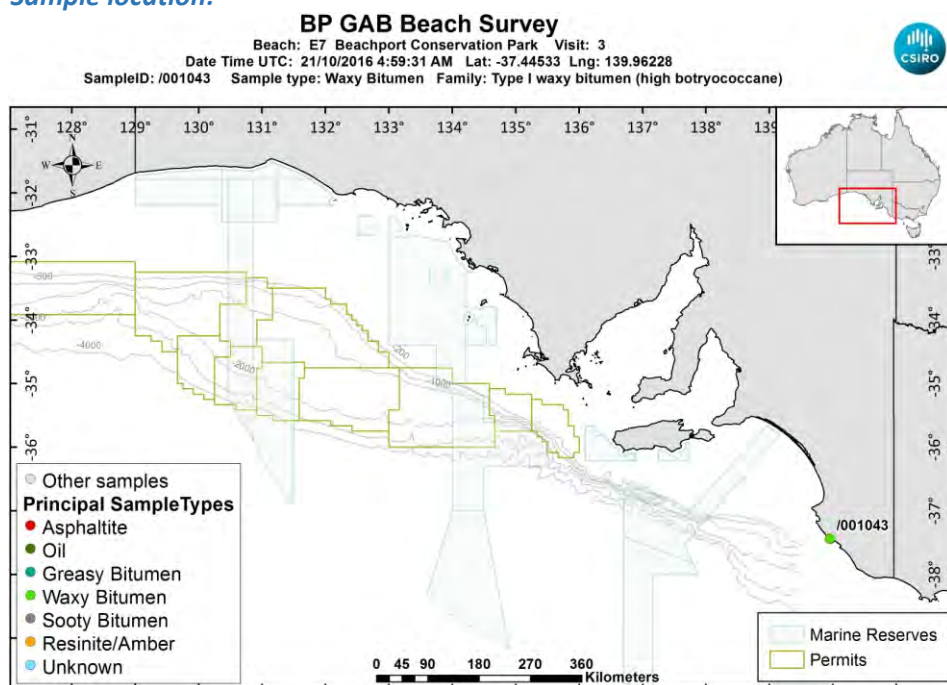
**Size (cm):** 1.1

**Latitude (Y):** -37.445328

**Weight (gm):** 0.80787

**Longitude (X):** 139.962282

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001043 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001043\\_146A7114.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\001043\\_Photo02.JPG](#)

#### Analyses Requested

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

#### Analyses Completed:

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

#### Sample Analyses Completed:

##### Results for: Gas Chromatography Mass Spectrometry

Unique ID: /001043 DISS\_GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk Ratios only

## Results for: Gas Chromatography Mass Spectrometry

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			0	ratio	U
BiomRatio	% C27 abb 20(R+S)			42.6975231481867	ratio	Y
BiomRatio	% C28 aaa 20R			17.5500321567737	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.0857652175505	ratio	Y
BiomRatio	% C29 aaa 20R			82.4499678432263	ratio	Y
BiomRatio	% C29 abb 20(R+S)			33.2167116342628	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.11847871601676	ratio	Y
BiomRatio	25-Nor/C30H			0.298097128726331	ratio	Y
BiomRatio	C19t/C23t			0.184110267848132	ratio	Y
BiomRatio	C22t/C21t			0.266928147709291	ratio	Y
BiomRatio	C22t/C24t			9.89076337808209E-02	ratio	Y
BiomRatio	C23t/C30H			0.411294983962003	ratio	Y
BiomRatio	C24t/C23t			0.907951173727873	ratio	Y
BiomRatio	C24Tet/C23t			4.56295541246998E-02	ratio	Y
BiomRatio	C24Tet/C26t			4.92780634279657E-02	ratio	Y
BiomRatio	C24Tet/C30H			1.87672067319117E-02	ratio	Y
BiomRatio	C26t/C25t			1.58788101676582	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.850856580203211	ratio	Y
BiomRatio	C27 Dia/Ster			1.20657871405063	ratio	Y
BiomRatio	C28BNH/C30H			3.57474557644952E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.777954063494044	ratio	Y
BiomRatio	C29H/C30H			0.362227325509599	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.749932837344586	ratio	Y
BiomRatio	C30DiaH/C30H			0.759915695445126	ratio	Y
BiomRatio	C30Ts/C30H			0.144310843471015	ratio	Y
BiomRatio	C35 Homohopane Index			0.103330935339291	ratio	Y
BiomRatio	C35HS/C34HS			0.64428892344911	ratio	Y
BiomRatio	Gam/C30H			0.145902709389	ratio	Y
BiomRatio	Gam/C31HR			0.881376863379346	ratio	Y
BiomRatio	Ole/C30H			0.594903330984622	ratio	Y
BiomRatio	Sterane/hopane			0.183721597990933	ratio	Y
BiomRatio	Steranes/Terpanes			0.13731905662473	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.337917711545408	ratio	Y

## Results for: Elemental Analyser

Unique ID: /001043\_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:**

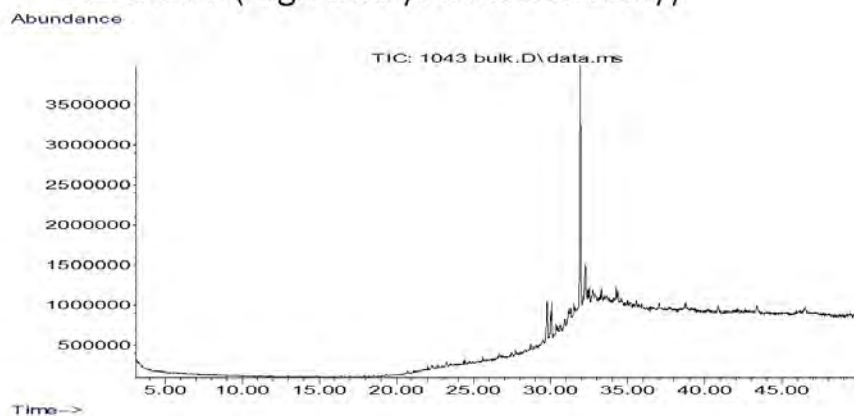
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			81.4	percent	Y
Inorg	Hydrogen			9.81634194831014	percent	Y
Inorg	Nitrogen			0.21	percent	Y
Inorg	Sulphur			2.75074036202828	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** /001043\_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\\\_001043\\_bulk\\_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

## Results for: GCMS with Full Scan

1043 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	24702666			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100				U
Aliph	nC26	29.6680				U
Aliph	nC27	30.6080				U
Aliph	nC28	31.5080				U
Aliph	nC29	32.3700				U
Aliph	nC30	33.2910				U
Aliph	nC31	34.3470	611082			Z
Aliph	nC32	35.5720	822178			Z
Aliph	nC33	37.0130	872106			Z
Aliph	nC34	38.7280	1089051			Z
Aliph	nC35	40.8080	1045391			Z
Aliph	nC36	43.3510	1138021			Z
Aliph	nC37	46.4710	1211204			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 : /001044A

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

2 pieces. Part A

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 3:30:50 PM

**Type:** Waxy Bitumen

**Family:** Unknown

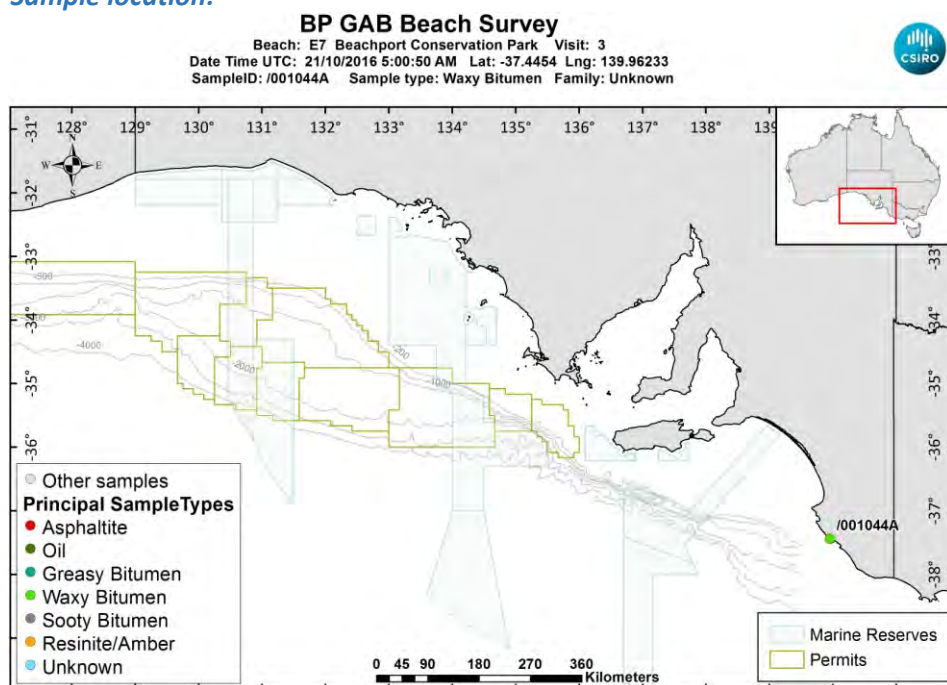
**Size (cm):** 1.3

**Latitude (Y):** -37.445402

**Weight (gm):** 0.34623

**Longitude (X):** 139.962333

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001044A Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001044\\_146A7116.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001044\\_AB\\_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: /001044A\_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			87.24	percent	Y
Inorg	Hydrogen			10.2416153081511	percent	Y
Inorg	Nitrogen			0.32	percent	Y
Inorg	Sulphur			2.62852267091037	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001044A 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\ 001044A\\_bulk\\_WholeOil.JPG](#)

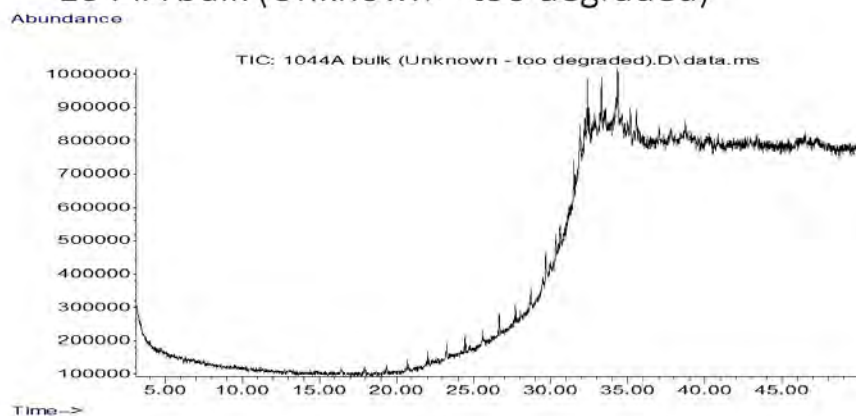
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

1044A 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				U
Aliph	nC28	31.5080				U
Aliph	nC29	32.3700				U
Aliph	nC30	33.2910				U
Aliph	nC31	34.3470				U
Aliph	nC32	35.5720				U
Aliph	nC33	37.0130				U
Aliph	nC34	38.7280				U
Aliph	nC35	40.8080				U
Aliph	nC36	43.3510				U
Aliph	nC37	46.4710				U
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

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

<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 : /001044B

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

Part B subsample

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 3:30:50 PM

**Type:** Waxy Bitumen

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

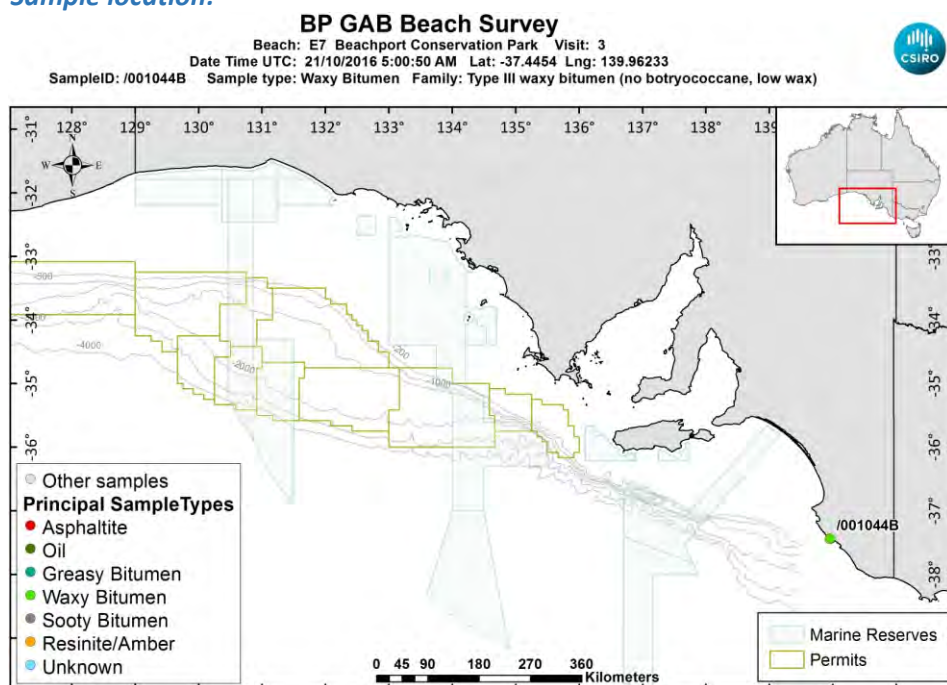
**Size (cm):** 1.1

**Latitude (Y):** -37.445402

**Weight (gm):** 0.18624

**Longitude (X):** 139.962333

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001044B Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001044 AB Photo02.jpg](#)



**Sample ID : /001044B**

**Beach E7: Beachport Conservation Park Visit: 3**

**Analyses Requested**

Split:	Analysis:	Sent:
1	Bitumen Determination	NO
4	Biomarkers	YES

**Analyses Completed:**

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

**Sample Analyses Completed:**

**Results for: Gas Chromatography Mass Spectrometry**

**Unique ID:** /001044B DISS GC-MS/01

**Instrument / Type:** Gas Chromatography Mass Spectrometry Run: 1

**for Analysis:** Biomarkers

**Preparation:** Dissolved in solvent

**Analysis Date:** 18/07/2017

**Method ID/s:**

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

**Sample Volume:**

**Volume Units:**

**Extract Volume:**

**Dilution Factor:**

**Comment:** Bulk Ratios only

## Results for: Gas Chromatography Mass Spectrometry

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			37.0463766482588	ratio	Y
BiomRatio	% C27 abb 20(R+S)			15.6914592675969	ratio	Y
BiomRatio	% C28 aaa 20R			6.23802547052857	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.1223133408372	ratio	Y
BiomRatio	% C29 aaa 20R			56.7155978812127	ratio	Y
BiomRatio	% C29 abb 20(R+S)			60.1862273915659	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.108066507442731	ratio	Y
BiomRatio	25-Nor/C30H			5.83973219726925E-02	ratio	Y
BiomRatio	C19t/C23t			0.777841114631179	ratio	Y
BiomRatio	C22t/C21t			0.406141532016756	ratio	Y
BiomRatio	C22t/C24t			0.349767435867703	ratio	Y
BiomRatio	C23t/C30H			0.025857079283554	ratio	Y
BiomRatio	C24t/C23t			1.70161033949771	ratio	Y
BiomRatio	C24Tet/C23t			0.939401247492409	ratio	Y
BiomRatio	C24Tet/C26t			2.46661101836394	ratio	Y
BiomRatio	C24Tet/C30H			2.42901725354807E-02	ratio	Y
BiomRatio	C26t/C25t			0.234443852107781	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			8.41952634122765E-02	ratio	Y
BiomRatio	C27 Dia/Ster			4.42158271920448E-02	ratio	Y
BiomRatio	C28BNH/C30H			7.06383557683314E-03	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			3.83560422043419	ratio	Y
BiomRatio	C29H/C30H			0.556327293032537	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.334885386940858	ratio	Y
BiomRatio	C30DiaH/C30H			0.224609619696313	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			5.30433946782517E-03	ratio	Y
BiomRatio	C35HS/C34HS			0.327992006513211	ratio	Y
BiomRatio	Gam/C30H			3.38409907113723E-02	ratio	Y
BiomRatio	Gam/C31HR			0.195413455195995	ratio	Y
BiomRatio	Ole/C30H			0.135339586220971	ratio	Y
BiomRatio	Sterane/hopane			0.075616542575679	ratio	Y
BiomRatio	Steranes/Terpanes			6.85069845711071E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.103778586213971	ratio	Y

## Results for: GCMS with Full Scan

Unique ID: /001044B 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\ 001044B\\_bulk\\_WholeOil.JPG](#)

Sample Volume:

Volume Units:

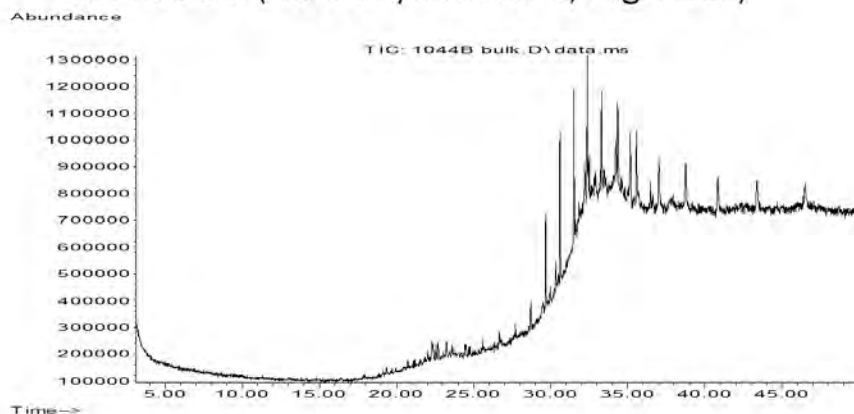
Extract Volume:

Dilution Factor:

Comment: Bulk

## Results for: GCMS with Full Scan

1044B bulk (no botryococcane, 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	231939			Z
Aliph	nC25	28.7100	524736			Z
Aliph	nC26	29.6680	1662808			Z
Aliph	nC27	30.6080	3029174			Z
Aliph	nC28	31.5080	2788017			Z
Aliph	nC29	32.3700	2669587			Z
Aliph	nC30	33.2910	2006155			Z
Aliph	nC31	34.3470	2121669			Z
Aliph	nC32	35.5720	2233201			Z
Aliph	nC33	37.0130	1824943			Z
Aliph	nC34	38.7280	1713011			Z
Aliph	nC35	40.8080	1870607			Z
Aliph	nC36	43.3510	1754539			Z
Aliph	nC37	46.4710	1353989			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 : /001045

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 21/10/2016 3:32:51 PM

**Type:** Waxy Bitumen

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

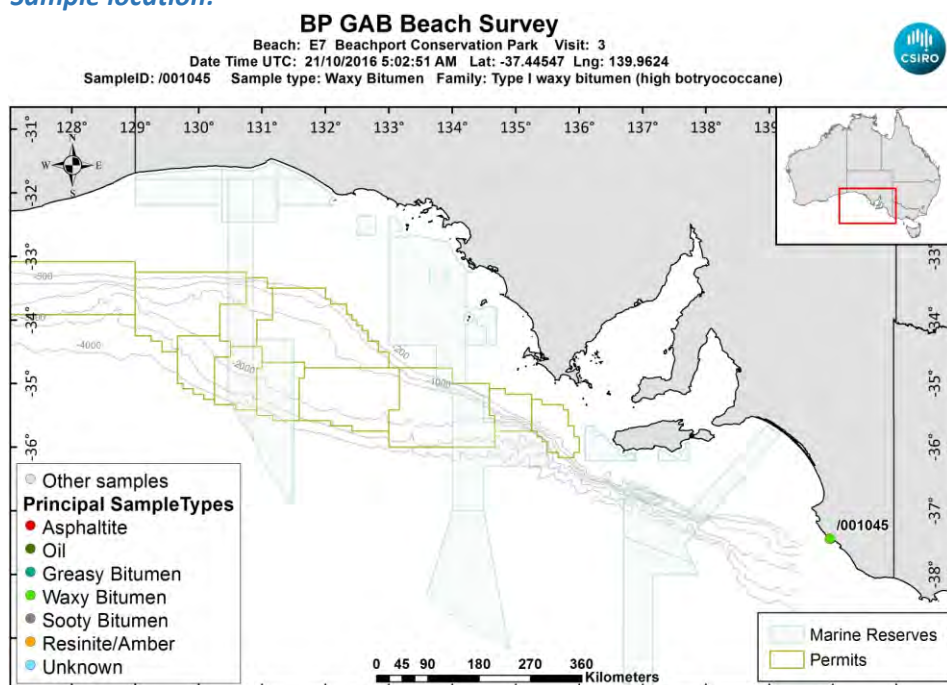
**Size (cm):** 1.6

**Latitude (Y):** -37.445473

**Weight (gm):** 0.62026

**Longitude (X):** 139.962400

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001045 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001045\\_146A7118.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\001045\\_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: /001045\_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			87.63	percent	Y
Inorg	Hydrogen			7.69668409542744	percent	Y
Inorg	Nitrogen			0.26	percent	Y
Inorg	Sulphur			2.44837536881873	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001045\_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\ 001045\\_bulk\\_WholeOil.JPG](#)

Preparation: Dissolved in solvent

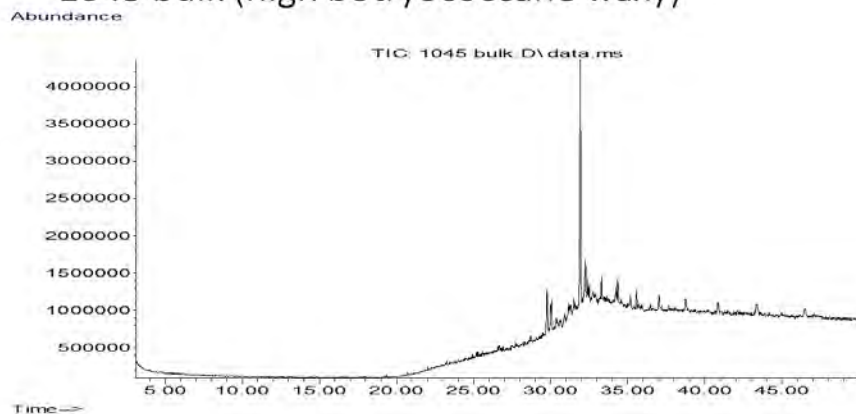
Method ID/s:

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



## Results for: GCMS with Full Scan

1045 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	25616686			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100				U
Aliph	nC26	29.6680				U
Aliph	nC27	30.6080				U
Aliph	nC28	31.5080	813294			Z
Aliph	nC29	32.3700	889883			Z
Aliph	nC30	33.2910	1618759			Z
Aliph	nC31	34.3470	2190849			Z
Aliph	nC32	35.5720	1954887			Z
Aliph	nC33	37.0130	1900648			Z
Aliph	nC34	38.7280	2126121			Z
Aliph	nC35	40.8080	2015391			Z
Aliph	nC36	43.3510	2423566			Z
Aliph	nC37	46.4710	2336296			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 : /001046

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 21/10/2016 3:34:08 PM

**Type:** Waxy Bitumen

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

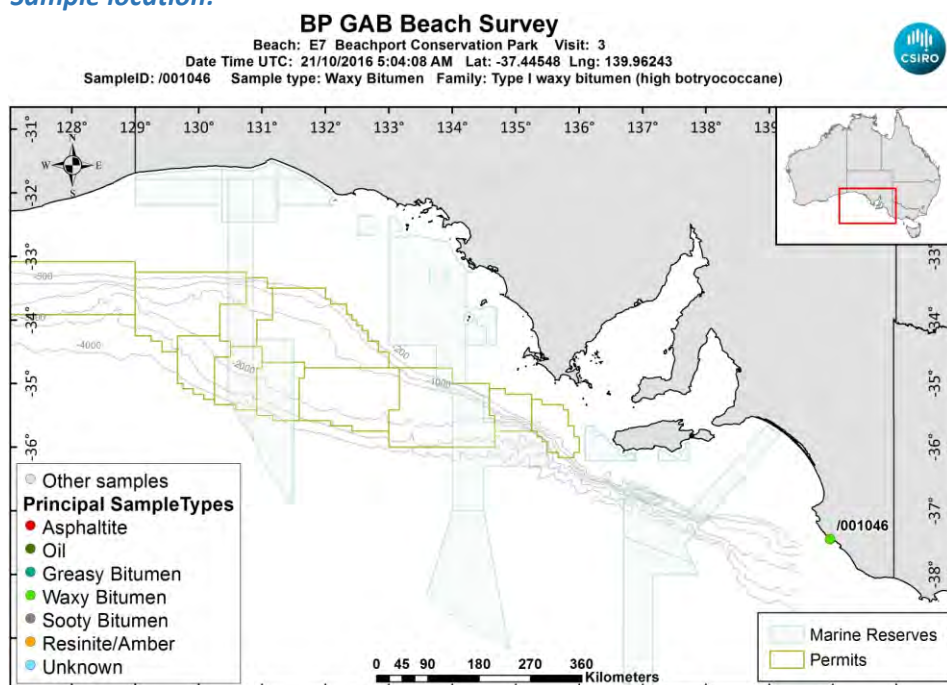
**Size (cm):** 2.2

**Latitude (Y):** -37.445483

**Weight (gm):** 2.89829

**Longitude (X):** 139.962433

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001046 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001046\\_146A7119.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001046\\_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: /001046\_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			87.57	percent	Y
Inorg	Hydrogen			8.89390377733599	percent	Y
Inorg	Nitrogen			0.27	percent	Y
Inorg	Sulphur			2.10219349662807	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001046\_DISS\_GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 30/10/2017

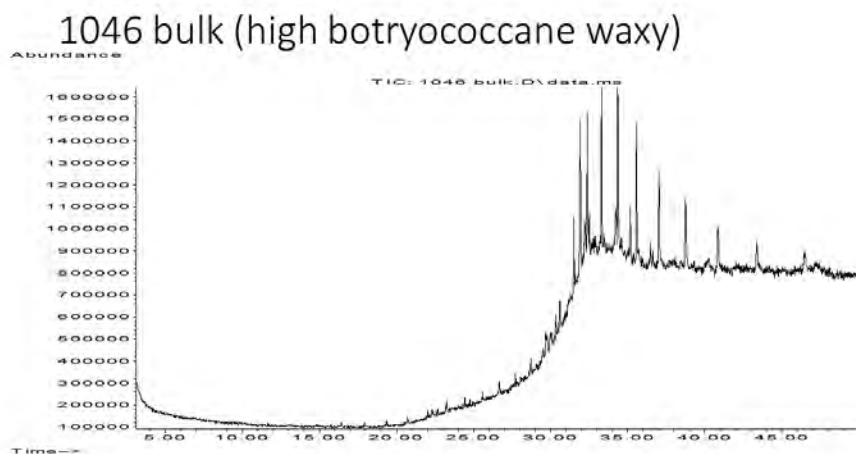
Linked Image: [LinkedFiles\GAB\\_BCH1\GCMS\ 001046\\_bulk\\_WholeOil.JPG](#)

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 Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	5549623			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	404912			Z
Aliph	nC27	30.6080	718960			Z
Aliph	nC28	31.5080	1660058			Z
Aliph	nC29	32.3700	3303609			Z
Aliph	nC30	33.2910	4263557			Z
Aliph	nC31	34.3470	5836000			Z
Aliph	nC32	35.5720	4950850			Z
Aliph	nC33	37.0130	4232715			Z
Aliph	nC34	38.7280	3342166			Z
Aliph	nC35	40.8080	2518899			Z
Aliph	nC36	43.3510	2219940			Z
Aliph	nC37	46.4710	1417272			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 : /001047

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 21/10/2016 3:37:24 PM

**Type:** Waxy Bitumen

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

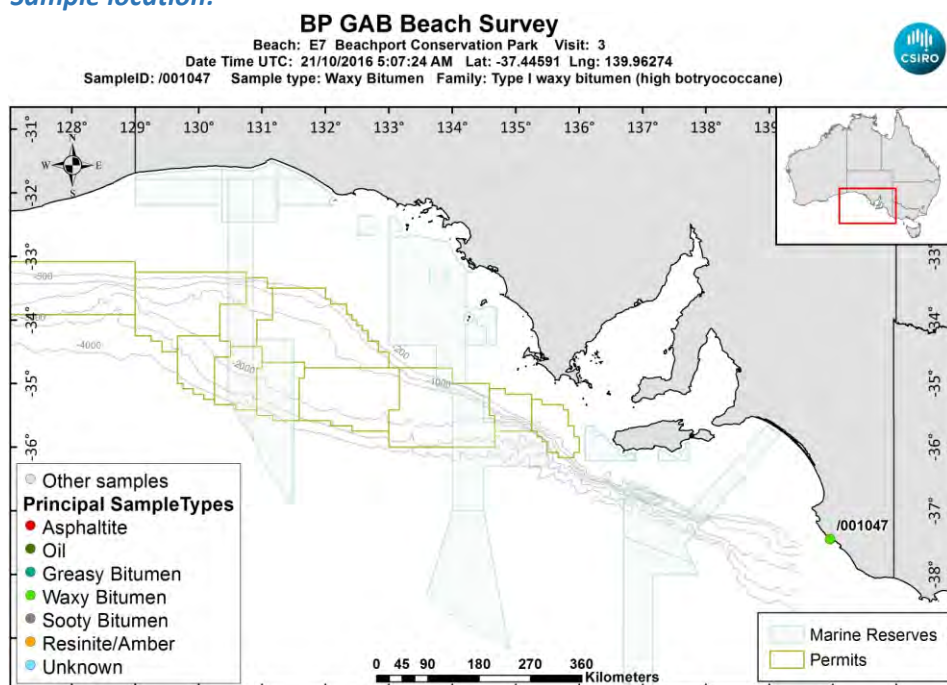
**Size (cm):** 2.6

**Latitude (Y):** -37.445912

**Weight (gm):** 2.33552

**Longitude (X):** 139.962738

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001047 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001047\\_146A7121.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001047\\_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: /001047\_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			84.08	percent	Y
Inorg	Hydrogen			8.05162326043738	percent	Y
Inorg	Nitrogen			0.19	percent	Y
Inorg	Sulphur			1.74175666261299	percent	Y

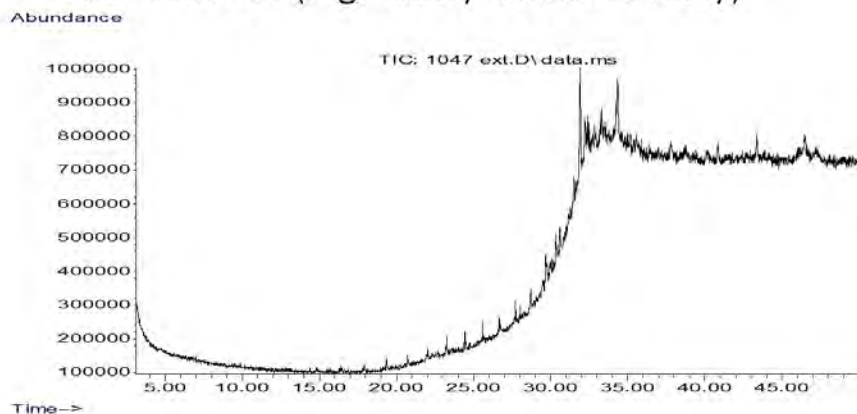
### Results for: GCMS with Full Scan

Unique ID: /001047\_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\ 001047\\_ext\\_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

1047 exterior (high botryococcane waxy)



## Data Sheet:

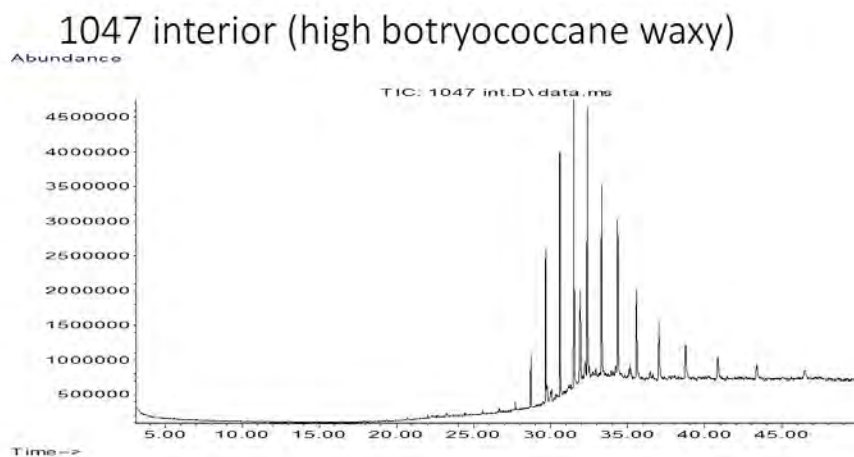
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	3011927			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	291150			Z
Aliph	nC27	30.6080	377087			Z
Aliph	nC28	31.5080	386845			Z
Aliph	nC29	32.3700	407505			Z
Aliph	nC30	33.2910	295474			Z
Aliph	nC31	34.3470	1462953			Z
Aliph	nC32	35.5720	501194			Z
Aliph	nC33	37.0130	368290			Z
Aliph	nC34	38.7280	379003			Z
Aliph	nC35	40.8080	634919			Z
Aliph	nC36	43.3510	808580			Z
Aliph	nC37	46.4710	774301			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:** /001047 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\\\_001047\\_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	10811754			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	665779			Z
Aliph	nC25	28.7100	3623129			Z
Aliph	nC26	29.6680	9338409			Z
Aliph	nC27	30.6080	18503925			Z
Aliph	nC28	31.5080	20130807			Z
Aliph	nC29	32.3700	20355207			Z
Aliph	nC30	33.2910	15783862			Z
Aliph	nC31	34.3470	14322292			Z
Aliph	nC32	35.5720	10449486			Z
Aliph	nC33	37.0130	7542218			Z
Aliph	nC34	38.7280	5492480			Z
Aliph	nC35	40.8080	3922962			Z
Aliph	nC36	43.3510	3627011			Z
Aliph	nC37	46.4710	2623427			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 : /001048

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 21/10/2016 3:38:39 PM

**Type:** Waxy Bitumen

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

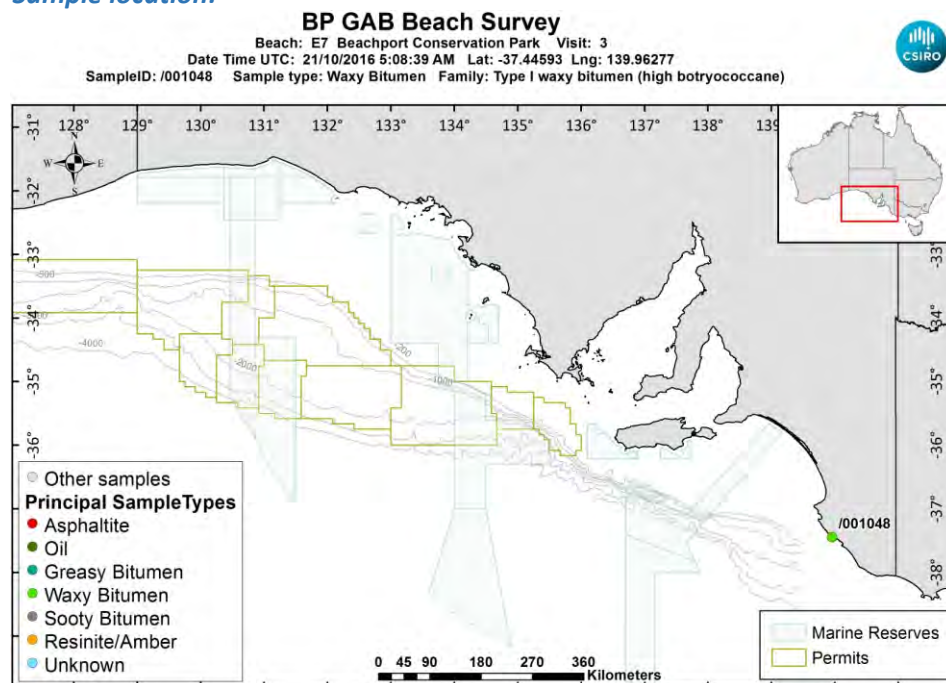
**Size (cm):** 1.9

**Latitude (Y):** -37.445927

**Weight (gm):** 1.05583

**Longitude (X):** 139.962767

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001048 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001048\\_146A7123.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001048\\_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: /001048\_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			83.29	percent	Y
Inorg	Hydrogen			8.76112922465209	percent	Y
Inorg	Nitrogen			0.53	percent	Y
Inorg	Sulphur			2.16513300849543	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001048\_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\ 001048\\_bulk\\_WholeOil.JPG](#)

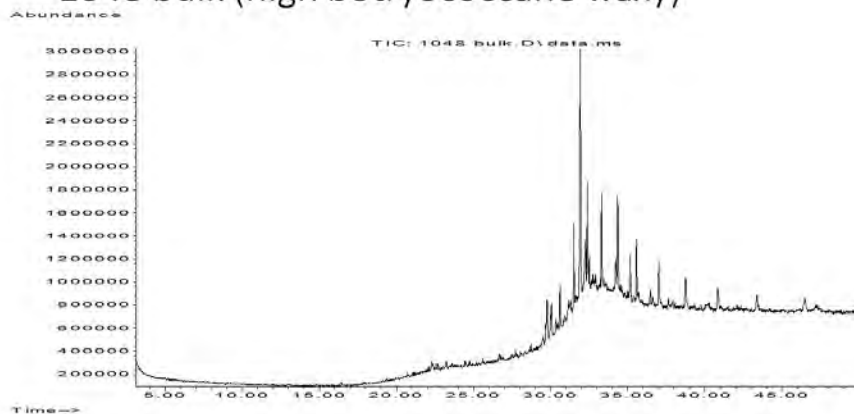
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

1048 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	17741126			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	425765			Z
Aliph	nC27	30.6080	1944228			Z
Aliph	nC28	31.5080	3837769			Z
Aliph	nC29	32.3700	4956912			Z
Aliph	nC30	33.2910	4751672			Z
Aliph	nC31	34.3470	5778483			Z
Aliph	nC32	35.5720	4207936			Z
Aliph	nC33	37.0130	3695903			Z
Aliph	nC34	38.7280	3060239			Z
Aliph	nC35	40.8080	2416379			Z
Aliph	nC36	43.3510	2133349			Z
Aliph	nC37	46.4710	1650233			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 : /001049

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 21/10/2016 3:40:05 PM

**Type:** Asphaltite

**Family:** Unknown

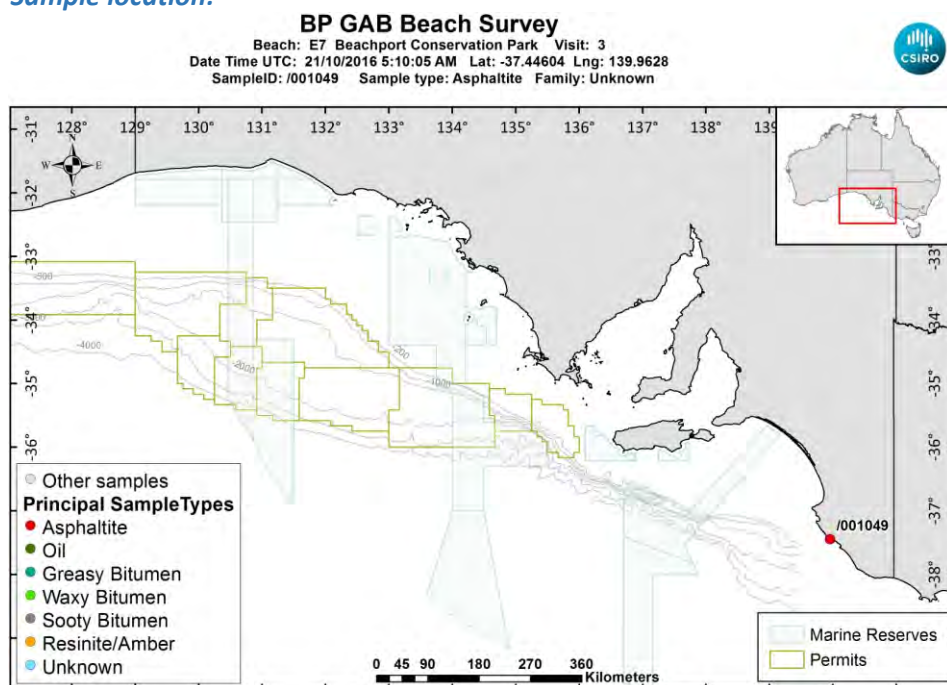
**Size (cm):** 2.4

**Latitude (Y):** -37.446035

**Weight (gm):** 1.2702

**Longitude (X):** 139.962797

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001049 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001049\\_146A7125.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001049\\_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: /001049\_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			87.39	percent	Y
Inorg	Hydrogen			7.35619502982107	percent	Y
Inorg	Nitrogen			0.94	percent	Y
Inorg	Sulphur			2.58252091403249	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001049\_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\ 001049\\_bulk\\_WholeOil.JPG](#)

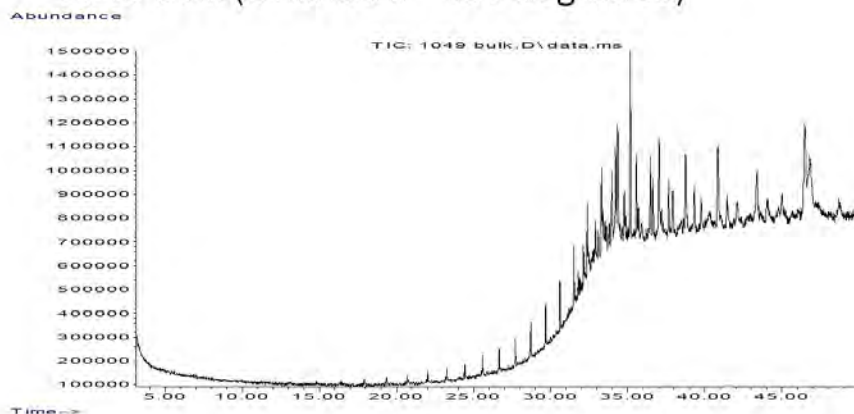
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

1049 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	676690			Z
Aliph	nC25	28.7100	859802			Z
Aliph	nC26	29.6680	996642			Z
Aliph	nC27	30.6080	1155520			Z
Aliph	nC28	31.5080	1506969			Z
Aliph	nC29	32.3700	1979628			Z
Aliph	nC30	33.2910	2074846			Z
Aliph	nC31	34.3470	3145173			Z
Aliph	nC32	35.5720	2602117			Z
Aliph	nC33	37.0130	2722255			Z
Aliph	nC34	38.7280	3362323			Z
Aliph	nC35	40.8080	3837958			Z
Aliph	nC36	43.3510	2685615			Z
Aliph	nC37	46.4710	6714186			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 : /001050

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 21/10/2016 3:41:51 PM

**Type:** Waxy Bitumen

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

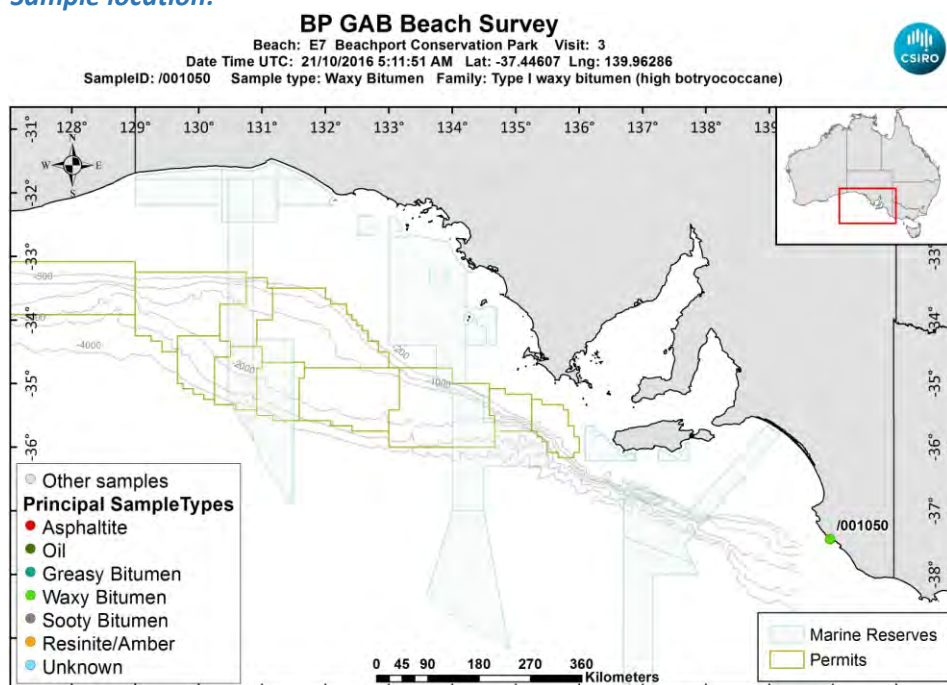
**Size (cm):** 2.1

**Latitude (Y):** -37.446070

**Weight (gm):** 1.10727

**Longitude (X):** 139.962865

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001050 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001050\\_146A7127.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\001050\\_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: /001050\_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			87.09	percent	Y
Inorg	Hydrogen			9.50257514910537	percent	Y
Inorg	Nitrogen			0.24	percent	Y
Inorg	Sulphur			2.55790362268203	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001050\_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\ 001050\\_bulk\\_WholeOil.JPG](#)

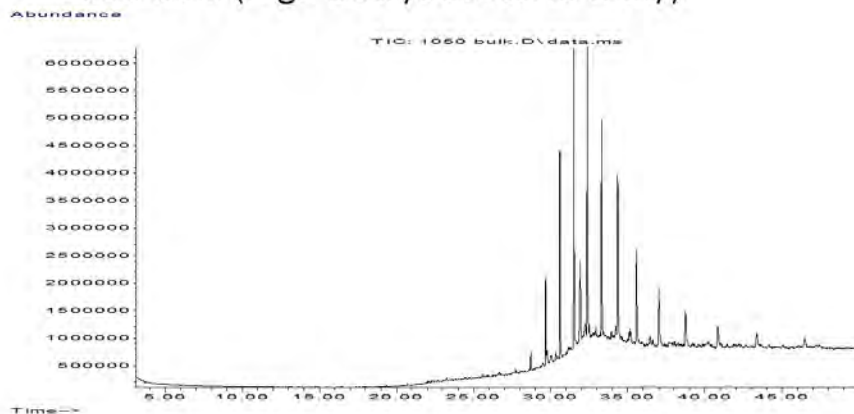
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

1050 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	11791583			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	1727209			Z
Aliph	nC26	29.6680	6864713			Z
Aliph	nC27	30.6080	19840344			Z
Aliph	nC28	31.5080	25962527			Z
Aliph	nC29	32.3700	28133073			Z
Aliph	nC30	33.2910	23035997			Z
Aliph	nC31	34.3470	19715275			Z
Aliph	nC32	35.5720	13842066			Z
Aliph	nC33	37.0130	9480346			Z
Aliph	nC34	38.7280	6313207			Z
Aliph	nC35	40.8080	5076752			Z
Aliph	nC36	43.3510	4043329			Z
Aliph	nC37	46.4710	2883637			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 : /001051

Beach E7: Beachport Conservation Park Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 21/10/2016 3:45:01 PM

**Type:** Waxy Bitumen

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

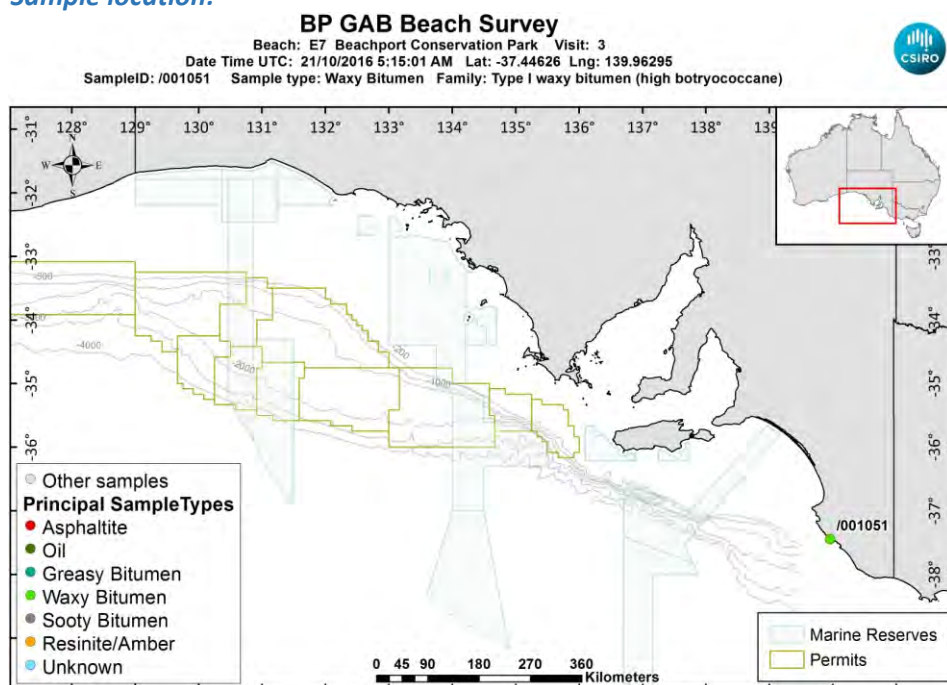
**Size (cm):** 1.2

**Latitude (Y):** -37.446255

**Weight (gm):** 0.79239

**Longitude (X):** 139.962950

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\ 001051 Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\001051\\_146A7130.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\001051\\_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: /001051\_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			86.78	percent	Y
Inorg	Hydrogen			8.49628628230616	percent	Y
Inorg	Nitrogen			0.3	percent	Y
Inorg	Sulphur			1.98867089122199	percent	Y

### Results for: GCMS with Full Scan

Unique ID: /001051\_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\ 001051\\_bulk\\_WholeOil.JPG](#)

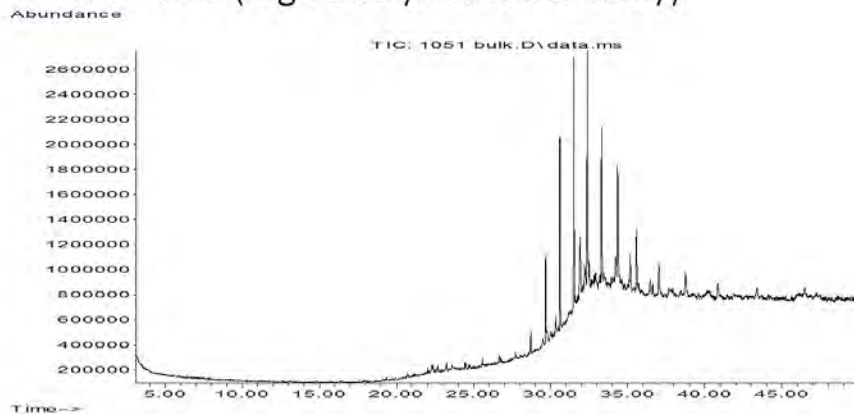
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

1051 bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	4213363			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	938259			Z
Aliph	nC26	29.6680	3877263			Z
Aliph	nC27	30.6080	8271746			Z
Aliph	nC28	31.5080	10020511			Z
Aliph	nC29	32.3700	10077875			Z
Aliph	nC30	33.2910	7293181			Z
Aliph	nC31	34.3470	6481275			Z
Aliph	nC32	35.5720	4106913			Z
Aliph	nC33	37.0130	2857516			Z
Aliph	nC34	38.7280	1862082			Z
Aliph	nC35	40.8080	1457418			Z
Aliph	nC36	43.3510	1050919			Z
Aliph	nC37	46.4710	1449632			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 : **W13/007476**

Beach W10: Cactus Beach Visit: 1

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 10/11/2014 1:58:49 PM

**Type:** Asphaltite

**Family:** Asphaltite

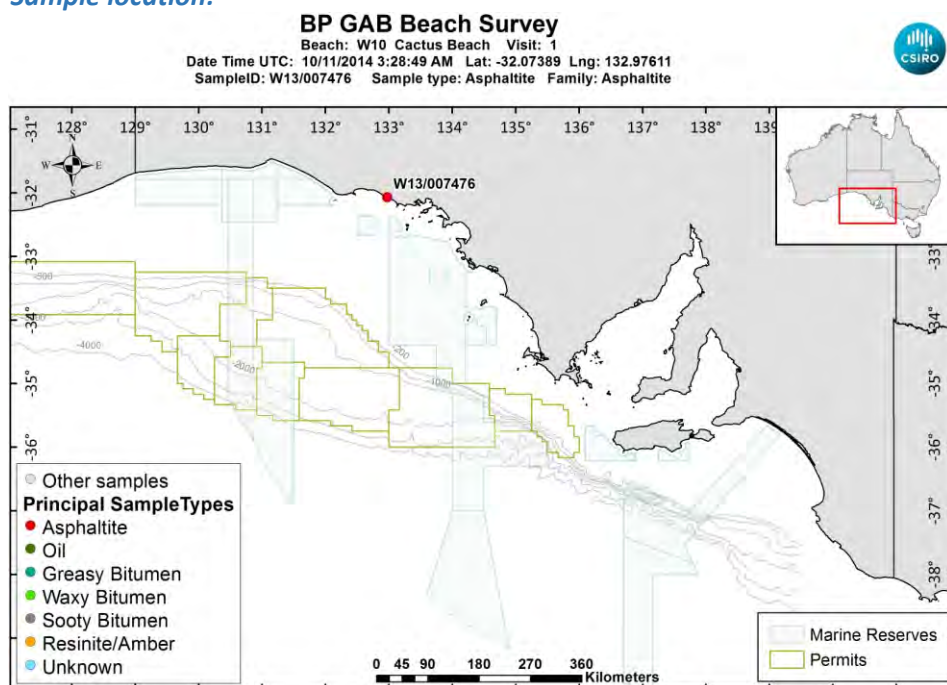
**Size (cm):** 21

**Latitude (Y):** -32.073889

**Weight (gm):** 813

**Longitude (X):** 132.976111

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007476\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007476\\_146A0193.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007476\\_Photo01.JPG](#)

### Analyses Requested

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

### Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 2
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
CSIA	Compound Specific Isotope Analysis d13C Run: 4
CSIA	Compound Specific Isotope Analysis d13C Run: 3
CSIA	Compound Specific Isotope Analysis d2H Run: 2
CSIA	Compound Specific Isotope Analysis d2H 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:** W13/007476 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			36.1513987352634	ratio	Y
BiomRatio	% C27 abb 20(R+S)			36.8500973277647	ratio	Y
BiomRatio	% C28 aaa 20R			24.7683736649636	ratio	Y
BiomRatio	% C28 abb 20(R+S)			26.0340574104167	ratio	Y
BiomRatio	% C29 aaa 20R			39.0802275997729	ratio	Y
BiomRatio	% C29 abb 20(R+S)			37.1158452618185	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			8.10282076554493E-02	ratio	Y
BiomRatio	25-Nor/C30H			3.42408046471713E-02	ratio	Y
BiomRatio	C19t/C23t			0.304707008378828	ratio	Y
BiomRatio	C22t/C21t			0.360398084473798	ratio	Y
BiomRatio	C22t/C24t			0.298756396748946	ratio	Y
BiomRatio	C23t/C30H			0.060978146609177	ratio	Y
BiomRatio	C24t/C23t			0.568412835059539	ratio	Y
BiomRatio	C24Tet/C23t			1.15711772600645	ratio	Y
BiomRatio	C24Tet/C26t			1.88314072888023	ratio	Y
BiomRatio	C24Tet/C30H			7.05588943404987E-02	ratio	Y
BiomRatio	C26t/C25t			1.06079571679129	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.437889235589455	ratio	Y
BiomRatio	C27 Dia/Ster			0.428019975897218	ratio	Y
BiomRatio	C28BNH/C30H			4.96406241441103E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.00721159381724	ratio	Y
BiomRatio	C29H/C30H			0.622548079807394	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.186970977255482	ratio	Y
BiomRatio	C30DiaH/C30H			8.48710003051858E-02	ratio	Y
BiomRatio	C30Ts/C30H			1.68132601930757E-02	ratio	Y
BiomRatio	C35 Homohopane Index			7.97673682319869E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.878460821516543	ratio	Y
BiomRatio	Gam/C30H			7.27033463493778E-02	ratio	Y
BiomRatio	Gam/C31HR			0.219616572196806	ratio	Y
BiomRatio	Ole/C30H			2.85651962970788E-02	ratio	Y
BiomRatio	Sterane/hopane			0.274667094260501	ratio	Y
BiomRatio	Steranes/Terpanes			0.251611071380797	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			9.16335785749654E-02	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007476 DISS GC-MS/02

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 2

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

## Results for: Gas Chromatography Mass Spectrometry

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			42.785589392394	ratio	Y
BiomRatio	% C27 abb 20(R+S)			37.5439039946389	ratio	Y
BiomRatio	% C28 aaa 20R			19.5605056097916	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.4241970896244	ratio	Y
BiomRatio	% C29 aaa 20R			37.6539049978144	ratio	Y
BiomRatio	% C29 abb 20(R+S)			37.0318989157367	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			8.76447918839689E-02	ratio	Y
BiomRatio	25-Nor/C30H			3.12792500517156E-02	ratio	Y
BiomRatio	C19t/C23t			0.223707239459029	ratio	Y
BiomRatio	C22t/C21t			0.382067005683518	ratio	Y
BiomRatio	C22t/C24t			0.293620689655172	ratio	Y
BiomRatio	C23t/C30H			6.43629146722868E-02	ratio	Y
BiomRatio	C24t/C23t			0.553699284009546	ratio	Y
BiomRatio	C24Tet/C23t			0.953031026252983	ratio	Y
BiomRatio	C24Tet/C26t			1.90563756681089	ratio	Y
BiomRatio	C24Tet/C30H			6.13398546227627E-02	ratio	Y
BiomRatio	C26t/C25t			0.805783429040197	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.415975330374476	ratio	Y
BiomRatio	C27 Dia/Ster			0.412902474267175	ratio	Y
BiomRatio	C28BNH/C30H			4.05061372624921E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.986362497651406	ratio	Y
BiomRatio	C29H/C30H			0.599815257441418	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.201849989507278	ratio	Y
BiomRatio	C30DiaH/C30H			8.99626623409873E-02	ratio	Y
BiomRatio	C30Ts/C30H			3.87242522739515E-02	ratio	Y
BiomRatio	C35 Homohopane Index			7.64871061648247E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.895796913054522	ratio	Y
BiomRatio	Gam/C30H			6.75825965136499E-02	ratio	Y
BiomRatio	Gam/C31HR			0.194552047404263	ratio	Y
BiomRatio	Ole/C30H			1.77717425811116E-02	ratio	Y
BiomRatio	Sterane/hopane			0.273710894665549	ratio	Y
BiomRatio	Steranes/Terpanes			0.252197562503492	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			8.53034896471651E-02	ratio	Y

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007476\_PTE\_CSIA-C13/03

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 3

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: External 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			-28.652	value	Y
Aliph	nC14			-29.962	value	Y
Aliph	nC15			-32.09	value	Y
Aliph	nC16			-32.257	value	Y
Aliph	nC17			-32.278	value	Y
Aliph	nC18			-32.678	value	Y
Aliph	nC19			-32.204	value	Y
Aliph	nC20			-32.136	value	Y
Aliph	nC21			-32.302	value	Y
Aliph	nC22			-32.336	value	Y
Aliph	nC23			-33.533	value	Y
Aliph	nC24			-32.967	value	Y
Aliph	nC25			-32.882	value	Y
Aliph	nC26			-32.623	value	Y
Aliph	nC27			-32.7	value	Y
Aliph	nC28			-32.473	value	Y
Aliph	nC29			-32.323	value	Y
Aliph	nC30			-32.282	value	Y
Aliph	nC31			-32.148	value	Y
Aliph	nC32			-31.688	value	Y
Aliph	nC33			-32.565	value	Y
Aliph	nC34			-30.733	value	Y
Aliph	nC35			-30.966	value	Y
Aliph	nC36			-31.866	value	Y
Aliph	nC37			-32.104	value	Y
Aliph	nC38			-32.652	value	Y
Aliph	nC39				value	U

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007476\_PTE\_CSIA-C13/04

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 4

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: Internal 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			-30.054	value	Y
Aliph	nC14			-31.149	value	Y
Aliph	nC15			-31.789	value	Y
Aliph	nC16			-31.927	value	Y
Aliph	nC17			-32.285	value	Y
Aliph	nC18			-33.563	value	Y
Aliph	nC19			-32.431	value	Y
Aliph	nC20			-32.506	value	Y
Aliph	nC21			-32.991	value	Y
Aliph	nC22			-32.865	value	Y
Aliph	nC23			-33.356	value	Y
Aliph	nC24			-32.89	value	Y
Aliph	nC25			-32.85	value	Y
Aliph	nC26			-32.447	value	Y
Aliph	nC27			-32.58	value	Y
Aliph	nC28			-32.196	value	Y
Aliph	nC29			-32.377	value	Y
Aliph	nC30			-32.009	value	Y
Aliph	nC31			-32.083	value	Y
Aliph	nC32			-32.076	value	Y
Aliph	nC33			-32.282	value	Y
Aliph	nC34			-31.658	value	Y
Aliph	nC35			-31.439	value	Y
Aliph	nC36			-32.825	value	Y
Aliph	nC37			-31.054	value	Y
Aliph	nC38				value	U
Aliph	nC39				value	U

## Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007476\_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: External 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			-70.123	value	Y
Aliph	nC14			-114.458	value	Y
Aliph	nC15			-119.5955	value	Y
Aliph	nC16			-121.1115	value	Y
Aliph	nC17			-124.458	value	Y
Aliph	nC18			-120.308	value	Y
Aliph	nC19			-123.9235	value	Y
Aliph	nC20			-125.438	value	Y
Aliph	nC21			-126.3945	value	Y
Aliph	nC22			-121.7345	value	Y
Aliph	nC23			-120.312	value	Y
Aliph	nC24			-116.663	value	Y
Aliph	nC25			-118.818	value	Y
Aliph	nC26			-114.626	value	Y
Aliph	nC27			-111.8645	value	Y
Aliph	nC28			-112.809	value	Y
Aliph	nC29			-110.547	value	Y
Aliph	nC30			-106.483	value	Y
Aliph	nC31			-113.1785	value	Y
Aliph	nC32			-94.051	value	Y
Aliph	nC33			-90.0775	value	Y
Aliph	nC34			-89.67	value	Y
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: W13/007476\_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: Internal 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			-104.2525	value	Y
Aliph	nC14			-122.1075	value	Y
Aliph	nC15			-124.1685	value	Y
Aliph	nC16			-125.446	value	Y
Aliph	nC17			-128.235	value	Y
Aliph	nC18			-122.922	value	Y
Aliph	nC19			-130.3325	value	Y
Aliph	nC20			-128.1745	value	Y
Aliph	nC21			-128.2385	value	Y
Aliph	nC22			-125.002	value	Y
Aliph	nC23			-123.2445	value	Y
Aliph	nC24			-119.53	value	Y
Aliph	nC25			-122.571	value	Y
Aliph	nC26			-117.289	value	Y
Aliph	nC27			-115.0265	value	Y
Aliph	nC28			-116.2775	value	Y
Aliph	nC29			-108.2555	value	Y
Aliph	nC30			-109.018	value	Y
Aliph	nC31			-106.886	value	Y
Aliph	nC32			-92.736	value	Y
Aliph	nC33			-92.962	value	Y
Aliph	nC34			-76.7685	value	Y
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: W13/007476\_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:

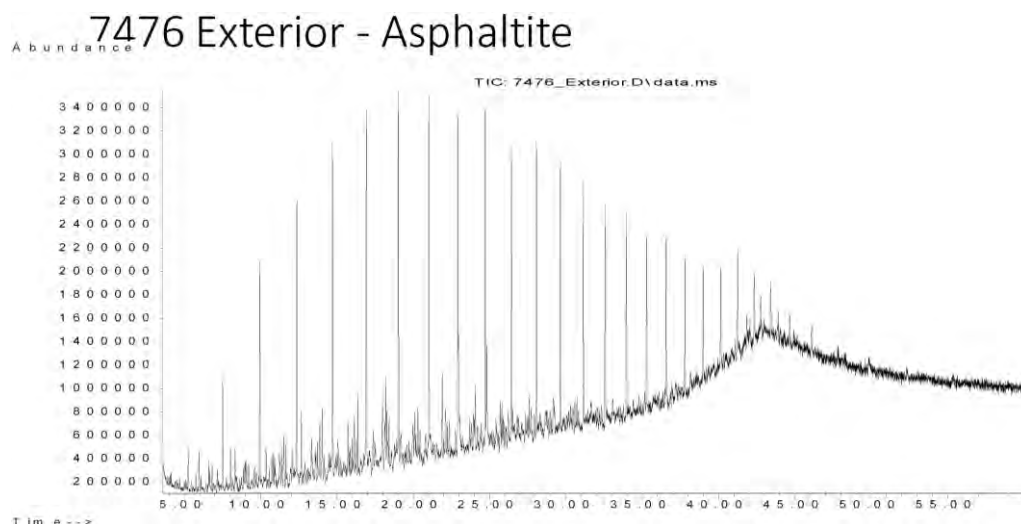
## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			83.955	percent	Y
Inorg	delta13 Carbon			-29.5646776054753	per mille	Y
Inorg	delta34 Sulphur			-5.34396786846616	per mille	Y
Inorg	Hydrogen			8.22	percent	Y
Inorg	Nitrogen			0.69	percent	Y
Inorg	Sulphur			4.34	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007476 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 007476\\_ext WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan



## Data Sheet:

(default units ppb)

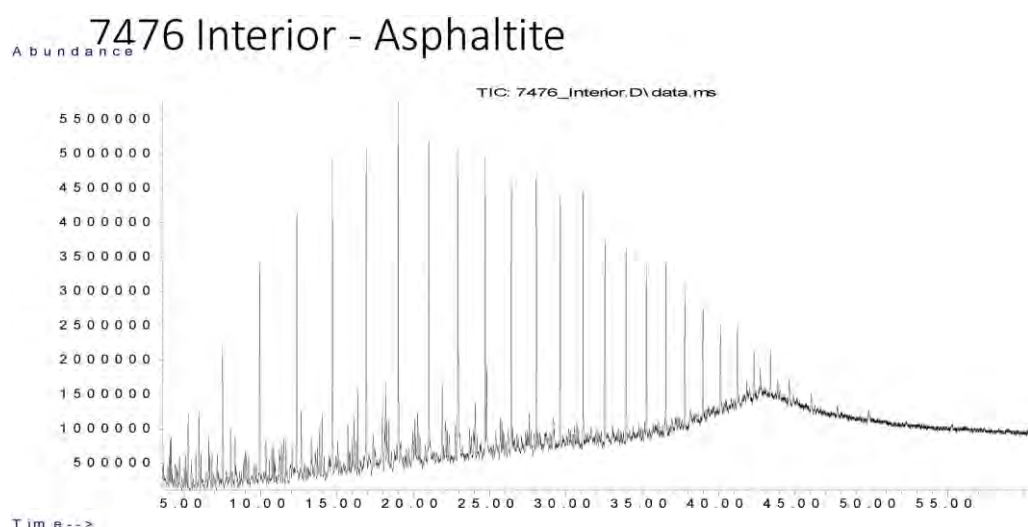
Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Ratio	nC17/nC29			4.6460314248644	ug/L	Y
Ratio	nC17/nC35			17.8494259940799	ug/L	Y
Ratio	nC17/Pristane			3.89252632542737	ug/L	Y
Ratio	nC18/Phytane			2.75297612199914	ug/L	Y
Ratio	Pristane/Phytane			0.857982002260071	ug/L	Y
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100	7162985		ug/L	Z
Aliph	nC11	9.9450	13325679		ug/L	Z
Aliph	nC12	12.3690	17779472		ug/L	Z
Aliph	nC13	14.7030	19895789		ug/L	Z
Aliph	nC14	16.9230	21499530		ug/L	Z
Aliph	nC15	19.0270	20801977		ug/L	Z
Aliph	nC16	21.0200	18675134		ug/L	Z
Aliph	nC17	22.9150	20321393		ug/L	Z
Aliph	nC18	24.7150	16751210		ug/L	Z
Aliph	nC19	26.4300	14786584		ug/L	Z
Aliph	nC20	28.0680	14297535		ug/L	Z
Aliph	nC21	29.6330	13006139		ug/L	Z
Aliph	nC22	31.1340	11678340		ug/L	Z
Aliph	nC23	32.5720	10784148		ug/L	Z
Aliph	nC24	33.9520	9552043		ug/L	Z
Aliph	nC25	35.2810	7969402		ug/L	Z
Aliph	nC26	36.5600	8523350		ug/L	Z
Aliph	nC27	37.7930	6578573		ug/L	Z
Aliph	nC28	38.9870	5127328		ug/L	Z
Aliph	nC29	40.1370	4373925		ug/L	Z
Aliph	nC30	41.2480	4349460		ug/L	Z
Aliph	nC31	42.3270	3165086		ug/L	Z
Aliph	nC32	43.4130	2544669		ug/L	Z
Aliph	nC33	44.6430	1940934		ug/L	Z
Aliph	nC34	46.0860	1766146		ug/L	Z
Aliph	nC35	47.8060	1138490		ug/L	Z
Aliph	nC36	49.8090	840733		ug/L	Z
Aliph	nC37	52.2960	528717		ug/L	Z

**Results for: GCMS with Full Scan**

Aliph	nC38	55.2370		ug/L	U
Aliph	nC39	58.8850		ug/L	U
Aliph	Norpristane	21.9070	7498189	ug/L	Z
Aliph	Phytane	24.8210	6084764	ug/L	Z
Aliph	Pristane	22.9640	5220618	ug/L	Z

**Results for: GCMS with Full Scan****Unique ID:** W13/007476 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\\_007476\\_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		4.43243349811891		ug/L	Y
Ratio	nC17/nC35		34.777112844715		ug/L	Y
Ratio	nC17/Pristane		3.03893216412944		ug/L	Y
Ratio	nC18/Phytane		2.95076447361098		ug/L	Y
Ratio	Pristane/Phytane		1.09258987246381		ug/L	Y
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100	14816751		ug/L	Z
Aliph	nC11	9.9450	22473063		ug/L	Z
Aliph	nC12	12.3690	28588457		ug/L	Z
Aliph	nC13	14.7030	30627942		ug/L	Z
Aliph	nC14	16.9230	33586519		ug/L	Z
Aliph	nC15	19.0270	31603698		ug/L	Z
Aliph	nC16	21.0200	28947626		ug/L	Z
Aliph	nC17	22.9150	29114599		ug/L	Z
Aliph	nC18	24.7150	25874215		ug/L	Z
Aliph	nC19	26.4300	22549063		ug/L	Z
Aliph	nC20	28.0680	22545205		ug/L	Z
Aliph	nC21	29.6330	20118843		ug/L	Z
Aliph	nC22	31.1340	18979751		ug/L	Z
Aliph	nC23	32.5720	16353225		ug/L	Z
Aliph	nC24	33.9520	15978854		ug/L	Z
Aliph	nC25	35.2810	14080297		ug/L	Z
Aliph	nC26	36.5600	13841948		ug/L	Z
Aliph	nC27	37.7930	10613963		ug/L	Z
Aliph	nC28	38.9870	8295812		ug/L	Z
Aliph	nC29	40.1370	6568536		ug/L	Z
Aliph	nC30	41.2480	6294184		ug/L	Z
Aliph	nC31	42.3270	3899002		ug/L	Z
Aliph	nC32	43.4130	3582834		ug/L	Z
Aliph	nC33	44.6430	2184434		ug/L	Z
Aliph	nC34	46.0860	2314029		ug/L	Z
Aliph	nC35	47.8060	837177		ug/L	Z
Aliph	nC36	49.8090	1252907		ug/L	Z
Aliph	nC37	52.2960	523673		ug/L	Z



**Results for: GCMS with Full Scan**

<i>Aliph</i>	<b>nC38</b>	55.2370		ug/L	U
<i>Aliph</i>	<b>nC39</b>	58.8850		ug/L	U
<i>Aliph</i>	<b>Norpristane</b>	21.9070	11636524	ug/L	Z
<i>Aliph</i>	<b>Phytane</b>	24.8210	8768648	ug/L	Z
<i>Aliph</i>	<b>Pristane</b>	22.9640	9580536	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 : **W13/007477**

Beach W10: Cactus Beach Visit: 1

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 10/11/2014 2:30:30 PM

**Type:** Asphaltite

**Family:** Asphaltite

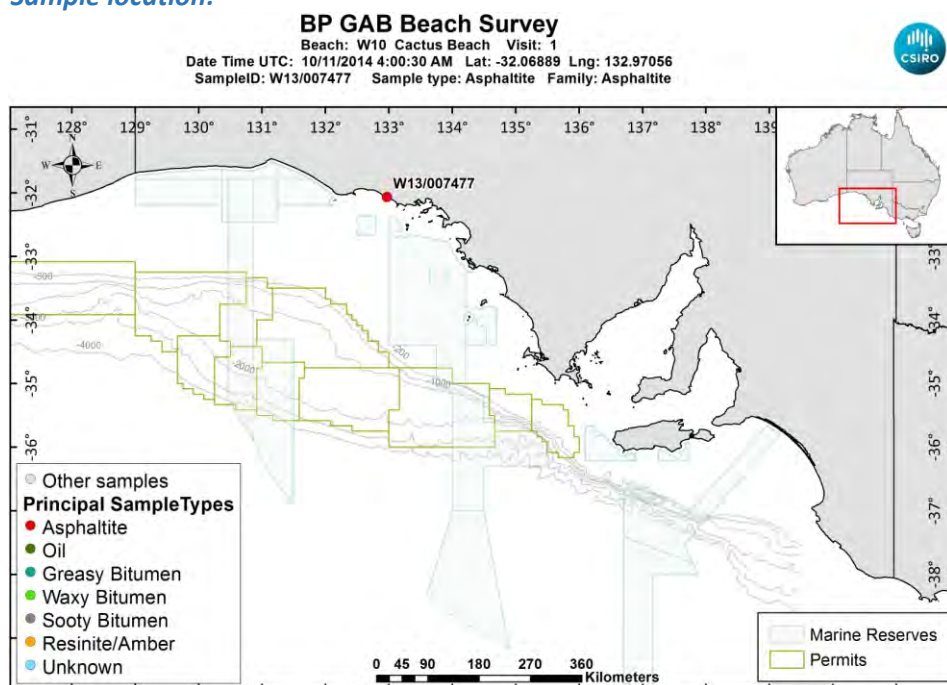
**Size (cm):** 15

**Latitude (Y):** -32.068889

**Weight (gm):** 219

**Longitude (X):** 132.970556

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007477\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007477\\_146A0202.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB BCH1\Samples\W13\\_007477\\_Photo01.JPG](#)

### Analyses Requested

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

### Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 2
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
CSIA	Compound Specific Isotope Analysis d13C Run: 4
CSIA	Compound Specific Isotope Analysis d13C Run: 3
CSIA	Compound Specific Isotope Analysis d2H Run: 2
CSIA	Compound Specific Isotope Analysis d2H 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: W13/007477\_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			42.4225695856819	ratio	Y
BiomRatio	% C27 abb 20(R+S)			37.9179780926804	ratio	Y
BiomRatio	% C28 aaa 20R			19.5728148892191	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.4011028442255	ratio	Y
BiomRatio	% C29 aaa 20R			38.004615525099	ratio	Y
BiomRatio	% C29 abb 20(R+S)			36.6809190630941	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			8.07827332046003E-02	ratio	Y
BiomRatio	25-Nor/C30H			3.13257615015231E-02	ratio	Y
BiomRatio	C19t/C23t			0.151742962578914	ratio	Y
BiomRatio	C22t/C21t			0.382858030927034	ratio	Y
BiomRatio	C22t/C24t			0.267546360402921	ratio	Y
BiomRatio	C23t/C30H			6.66325263622083E-02	ratio	Y
BiomRatio	C24t/C23t			0.561636524444173	ratio	Y
BiomRatio	C24Tet/C23t			0.950638933788771	ratio	Y
BiomRatio	C24Tet/C26t			1.42689402609293	ratio	Y
BiomRatio	C24Tet/C30H			6.33434738166219E-02	ratio	Y
BiomRatio	C26t/C25t			1.04769669792091	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.421176451097176	ratio	Y
BiomRatio	C27 Dia/Ster			0.421026714268128	ratio	Y
BiomRatio	C28BNH/C30H			4.10547321916653E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.967375395740706	ratio	Y
BiomRatio	C29H/C30H			0.639710051271422	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.193547725974335	ratio	Y
BiomRatio	C30DiaH/C30H			9.13232822651279E-02	ratio	Y
BiomRatio	C30Ts/C30H			3.85114827256156E-02	ratio	Y
BiomRatio	C35 Homohopane Index			7.75871905778333E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.86301277965988	ratio	Y
BiomRatio	Gam/C30H			0.07013190756919	ratio	Y
BiomRatio	Gam/C31HR			0.20882977629055	ratio	Y
BiomRatio	Ole/C30H			1.38745790886571E-02	ratio	Y
BiomRatio	Sterane/hopane			0.309410876400303	ratio	Y
BiomRatio	Steranes/Terpanes			0.283698810458497	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			9.06315606338012E-02	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007477 DISS GC-MS/02

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 2

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only



## Results for: Gas Chromatography Mass Spectrometry

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			46.560600581986	ratio	Y
BiomRatio	% C27 abb 20(R+S)			38.3565978327965	ratio	Y
BiomRatio	% C28 aaa 20R			17.9227577182017	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.4451014871643	ratio	Y
BiomRatio	% C29 aaa 20R			35.5166416998123	ratio	Y
BiomRatio	% C29 abb 20(R+S)			37.1983006800392	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			9.65341664290791E-02	ratio	Y
BiomRatio	25-Nor/C30H			2.75267194946561E-02	ratio	Y
BiomRatio	C19t/C23t			0.180121172425086	ratio	Y
BiomRatio	C22t/C21t			0.363648504273504	ratio	Y
BiomRatio	C22t/C24t			0.277263007840342	ratio	Y
BiomRatio	C23t/C30H			6.45815120836976E-02	ratio	Y
BiomRatio	C24t/C23t			0.536051525571748	ratio	Y
BiomRatio	C24Tet/C23t			0.942907046558594	ratio	Y
BiomRatio	C24Tet/C26t			1.82765552264071	ratio	Y
BiomRatio	C24Tet/C30H			6.08943628211274E-02	ratio	Y
BiomRatio	C26t/C25t			0.850765076507651	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.438986367707055	ratio	Y
BiomRatio	C27 Dia/Ster			0.445336001274151	ratio	Y
BiomRatio	C28BNH/C30H			3.85740672851865E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.969801879775509	ratio	Y
BiomRatio	C29H/C30H			0.586288457742308	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.199966329156545	ratio	Y
BiomRatio	C30DiaH/C30H			8.63166577366685E-02	ratio	Y
BiomRatio	C30Ts/C30H			3.76998674600265E-02	ratio	Y
BiomRatio	C35 Homohopane Index			7.42868602255227E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.898939537828427	ratio	Y
BiomRatio	Gam/C30H			4.59307408138518E-02	ratio	Y
BiomRatio	Gam/C31HR			0.132104548127421	ratio	Y
BiomRatio	Ole/C30H			1.03599729280054E-02	ratio	Y
BiomRatio	Sterane/hopane			0.266460626543143	ratio	Y
BiomRatio	Steranes/Terpanes			0.245958812034868	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			8.33546655176064E-02	ratio	Y

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007477\_PTE\_CSIA-C13/03

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 3

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: External Final d13C



## Results for: Compound Specific Isotope Analysis d13C

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	nC13			-29.495	value	Y
Aliph	nC14			-30.816	value	Y
Aliph	nC15			-31.737	value	Y
Aliph	nC16				value	U
Aliph	nC17			-32.075	value	Y
Aliph	nC18			-32.204	value	Y
Aliph	nC19			-32.062	value	Y
Aliph	nC20			-32.006	value	Y
Aliph	nC21			-32.773	value	Y
Aliph	nC22			-32.938	value	Y
Aliph	nC23			-32.998	value	Y
Aliph	nC24			-32.672	value	Y
Aliph	nC25			-32.33	value	Y
Aliph	nC26			-31.928	value	Y
Aliph	nC27			-32.233	value	Y
Aliph	nC28			-31.986	value	Y
Aliph	nC29			-31.71	value	Y
Aliph	nC30			-31.326	value	Y
Aliph	nC31			-31.743	value	Y
Aliph	nC32			-31.738	value	Y
Aliph	nC33			-31.688	value	Y
Aliph	nC34			-30.096	value	Y
Aliph	nC35			-31.274	value	Y
Aliph	nC36			-32.867	value	Y
Aliph	nC37			-33.475	value	Y
Aliph	nC38				value	U
Aliph	nC39				value	U

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007477\_PTE\_CSIA-C13/04

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 4

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: Internal Final d13C

## Results for: Compound Specific Isotope Analysis d13C

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	nC13			-30.83	value	Y
Aliph	nC14			-31.58	value	Y
Aliph	nC15			-31.765	value	Y
Aliph	nC16			-31.948	value	Y
Aliph	nC17			-31.902	value	Y
Aliph	nC18			-32.382	value	Y
Aliph	nC19			-31.933	value	Y
Aliph	nC20			-31.812	value	Y
Aliph	nC21			-32.21	value	Y
Aliph	nC22			-33.012	value	Y
Aliph	nC23			-33.441	value	Y
Aliph	nC24			-32.955	value	Y
Aliph	nC25			-32.878	value	Y
Aliph	nC26			-32.701	value	Y
Aliph	nC27			-32.665	value	Y
Aliph	nC28			-32.275	value	Y
Aliph	nC29			-32.355	value	Y
Aliph	nC30			-32.503	value	Y
Aliph	nC31			-31.998	value	Y
Aliph	nC32			-31.742	value	Y
Aliph	nC33			-32.446	value	Y
Aliph	nC34			-30.313	value	Y
Aliph	nC35			-31.136	value	Y
Aliph	nC36			-33.357	value	Y
Aliph	nC37			-34.051	value	Y
Aliph	nC38				value	U
Aliph	nC39				value	U

## Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007477\_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: External 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			-97.972	value	Y
Aliph	nC14			-115.528	value	Y
Aliph	nC15			-112.943	value	Y
Aliph	nC16			-113.4215	value	Y
Aliph	nC17			-113.255	value	Y
Aliph	nC18			-104.7895	value	Y
Aliph	nC19			-114.1585	value	Y
Aliph	nC20			-110.7115	value	Y
Aliph	nC21			-112.5835	value	Y
Aliph	nC22			-112.06	value	Y
Aliph	nC23			-111.537	value	Y
Aliph	nC24			-106.383	value	Y
Aliph	nC25			-110.275	value	Y
Aliph	nC26			-107.0495	value	Y
Aliph	nC27			-107.762	value	Y
Aliph	nC28			-108.323	value	Y
Aliph	nC29			-101.473	value	Y
Aliph	nC30			-100.119	value	Y
Aliph	nC31			-119.3275	value	Y
Aliph	nC32			-87.3365	value	Y
Aliph	nC33			-94.699	value	Y
Aliph	nC34				value	U
Aliph	nC35				value	U
Aliph	nC36				value	U
Aliph	nC37				value	U
Aliph	nC38				value	U
Aliph	nC39				value	U

## Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007477\_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: Internal 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			-106.1005	value	Y
Aliph	nC14			-116.062	value	Y
Aliph	nC15			-116.4895	value	Y
Aliph	nC16			-115.186	value	Y
Aliph	nC17			-118.259	value	Y
Aliph	nC18			-114.859	value	Y
Aliph	nC19			-117.7425	value	Y
Aliph	nC20			-117.4135	value	Y
Aliph	nC21			-118.07	value	Y
Aliph	nC22			-114.3485	value	Y
Aliph	nC23			-114.294	value	Y
Aliph	nC24			-113.4365	value	Y
Aliph	nC25			-115.737	value	Y
Aliph	nC26			-114.0965	value	Y
Aliph	nC27			-112.2955	value	Y
Aliph	nC28			-115.42	value	Y
Aliph	nC29			-107.4175	value	Y
Aliph	nC30			-112.6645	value	Y
Aliph	nC31			-120.118	value	Y
Aliph	nC32			-100.214	value	Y
Aliph	nC33			-97.0475	value	Y
Aliph	nC34				value	U
Aliph	nC35				value	U
Aliph	nC36				value	U
Aliph	nC37				value	U
Aliph	nC38				value	U
Aliph	nC39				value	U

## Results for: Elemental Analyser

Unique ID: W13/007477\_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 Averaged from 10.29 and 6.09. This is a large range and an average may not be representative. Bulk d34 S Averaged from two cross sections (vertical and horizontal). Overall variance in values is a maximum of 0.42 per mil. Hydrogen Averaged from 10.29 and 6.09. This is a large range and an average may not be representative. Bulk d34 S Averaged from two cross sections (vertical and horizontal). Overall variance in values is a maximum of 0.42 per mil.

## Results for: Elemental Analyser

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			84.075	percent	Y
Inorg	delta13 Carbon			-29.5841175109704	per mille	Y
Inorg	delta34 Sulphur			-5.20894692887685	per mille	Y
Inorg	Hydrogen			8.19	percent	Y
Inorg	Nitrogen			0.67	percent	Y
Inorg	Sulphur			4.195	percent	Y

## Results for: GCMS with Full Scan

Unique ID: W13/007477\_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\\_007477\\_ext\\_WholeOil.jpg](#)

Sample Volume:

Volume Units:

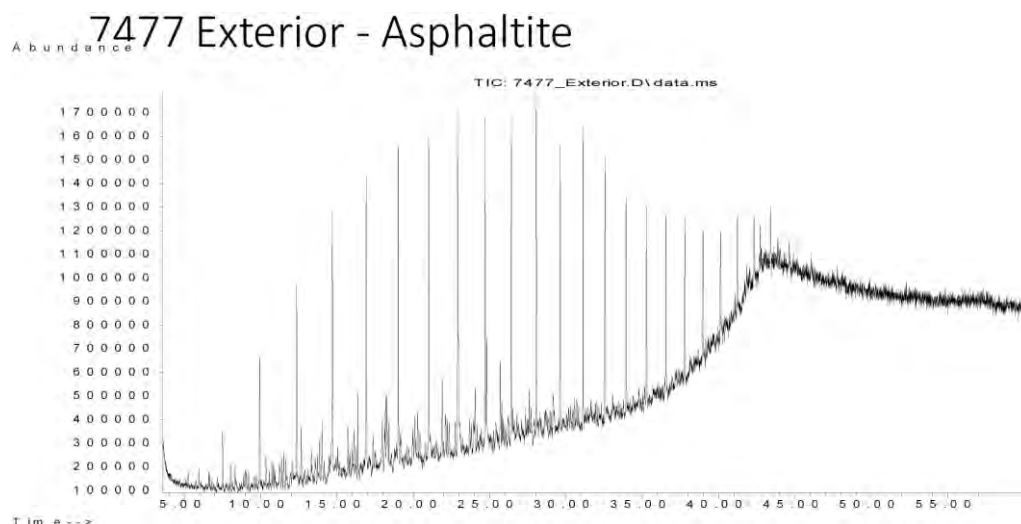
Extract Volume:

Dilution Factor:

Comment: Exterior



## Results for: GCMS with Full Scan



## Data Sheet:

(default units ppb)

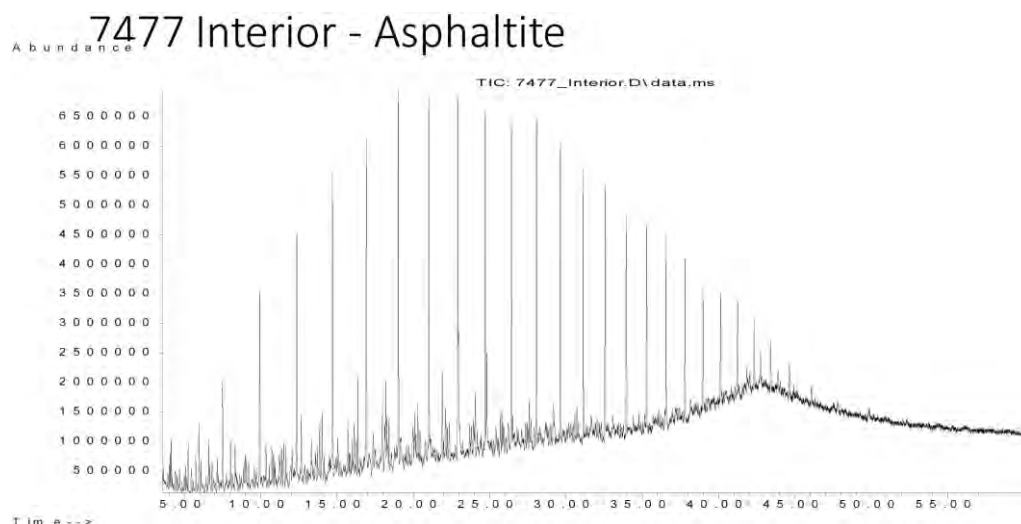
Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Ratio	nC17/nC29			4.42439052425094	ug/L	Y
Ratio	nC17/Pristane			4.74436905249309	ug/L	Y
Ratio	nC18/Phytane			9.93519587827909	ug/L	Y
Ratio	Pristane/Phytane			2.49468635996887	ug/L	Y
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100	1737015		ug/L	Z
Aliph	nC11	9.9450	3844189		ug/L	Z
Aliph	nC12	12.3690	5729863		ug/L	Z
Aliph	nC13	14.7030	7321213		ug/L	Z
Aliph	nC14	16.9230	8325697		ug/L	Z
Aliph	nC15	19.0270	8530173		ug/L	Z
Aliph	nC16	21.0200	8530753		ug/L	Z
Aliph	nC17	22.9150	9930956		ug/L	Z
Aliph	nC18	24.7150	8336295		ug/L	Z
Aliph	nC19	26.4300	7677727		ug/L	Z
Aliph	nC20	28.0680	7182594		ug/L	Z
Aliph	nC21	29.6330	6715955		ug/L	Z
Aliph	nC22	31.1340	6082059		ug/L	Z
Aliph	nC23	32.5720	5676228		ug/L	Z
Aliph	nC24	33.9520	5030387		ug/L	Z
Aliph	nC25	35.2810	4301396		ug/L	Z
Aliph	nC26	36.5600	4113069		ug/L	Z
Aliph	nC27	37.7930	3534752		ug/L	Z
Aliph	nC28	38.9870	2731615		ug/L	Z
Aliph	nC29	40.1370	2244593		ug/L	Z
Aliph	nC30	41.2480	2064148		ug/L	Z
Aliph	nC31	42.3270	1498196		ug/L	Z
Aliph	nC32	43.4130	1038073		ug/L	Z
Aliph	nC33	44.6430	777435		ug/L	Z
Aliph	nC34	46.0860	536730		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	3289141	ug/L	Z
Aliph	Phytane	24.8210	839067	ug/L	Z
Aliph	Pristane	22.9640	2093209	ug/L	Z

**Results for: GCMS with Full Scan****Unique ID:** W13/007477 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\\_007477\\_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		4.16589390029044		ug/L	Y
Ratio	nC17/nC35		21.1458265330632		ug/L	Y
Ratio	nC17/Pristane		63.0638450282552		ug/L	Y
Ratio	nC18/Phytane		2.86462936340384		ug/L	Y
Ratio	Pristane/Phytane		5.35333518242278E-02		ug/L	Y
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100	13537704		ug/L	Z
Aliph	nC11	9.9450	23599002		ug/L	Z
Aliph	nC12	12.3690	31432250		ug/L	Z
Aliph	nC13	14.7030	36525249		ug/L	Z
Aliph	nC14	16.9230	41023160		ug/L	Z
Aliph	nC15	19.0270	40891400		ug/L	Z
Aliph	nC16	21.0200	37588355		ug/L	Z
Aliph	nC17	22.9150	41201628		ug/L	Z
Aliph	nC18	24.7150	34960524		ug/L	Z
Aliph	nC19	26.4300	32432393		ug/L	Z
Aliph	nC20	28.0680	30959079		ug/L	Z
Aliph	nC21	29.6330	28935691		ug/L	Z
Aliph	nC22	31.1340	25316619		ug/L	Z
Aliph	nC23	32.5720	24379766		ug/L	Z
Aliph	nC24	33.9520	21772525		ug/L	Z
Aliph	nC25	35.2810	20516314		ug/L	Z
Aliph	nC26	36.5600	18815972		ug/L	Z
Aliph	nC27	37.7930	15443809		ug/L	Z
Aliph	nC28	38.9870	11754562		ug/L	Z
Aliph	nC29	40.1370	9890225		ug/L	Z
Aliph	nC30	41.2480	8324635		ug/L	Z
Aliph	nC31	42.3270	6690127		ug/L	Z
Aliph	nC32	43.4130	4640820		ug/L	Z
Aliph	nC33	44.6430	3613257		ug/L	Z
Aliph	nC34	46.0860	2582949		ug/L	Z
Aliph	nC35	47.8060	1948452		ug/L	Z
Aliph	nC36	49.8090			ug/L	U
Aliph	nC37	52.2960			ug/L	U

**Results for: GCMS with Full Scan**

<i>Aliph</i>	<b>nC38</b>	55.2370		ug/L	U
<i>Aliph</i>	<b>nC39</b>	58.8850		ug/L	U
<i>Aliph</i>	<b>Norpristane</b>	21.9070	15846628	ug/L	Z
<i>Aliph</i>	<b>Phytane</b>	24.8210	12204205	ug/L	Z
<i>Aliph</i>	<b>Pristane</b>	22.9640	653332	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 : **W13/007671**

Beach W10: Cactus Beach Visit: 2

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 23/09/2015 2:45:49 PM

**Type:** Asphaltite

**Family:** Asphaltite

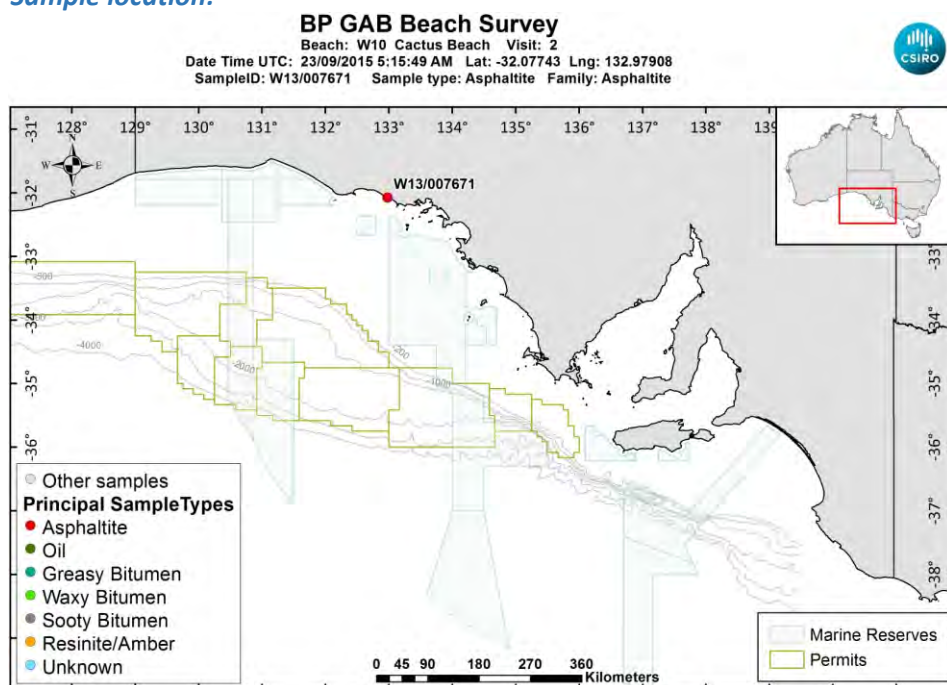
**Size (cm):** 13.4

**Latitude (Y):** -32.077433

**Weight (gm):** 275.7

**Longitude (X):** 132.979075

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007671\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007671\\_146A1801.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007671\\_Photo02.JPG](#)

### Analyses Requested

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

### Analyses Completed:

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

### Sample Analyses Completed:

#### Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007671\_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			37.6874967531808	ratio	Y
BiomRatio	% C27 abb 20(R+S)			38.2271590015757	ratio	Y
BiomRatio	% C28 aaa 20R			24.1942806290811	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.8497439180785	ratio	Y
BiomRatio	% C29 aaa 20R			38.1182226177381	ratio	Y
BiomRatio	% C29 abb 20(R+S)			35.9230970803458	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.097750683076075	ratio	Y
BiomRatio	25-Nor/C30H			3.22197796227943E-02	ratio	Y
BiomRatio	C19t/C23t			0.293846973747492	ratio	Y
BiomRatio	C22t/C21t			0.37684208531165	ratio	Y
BiomRatio	C22t/C24t			0.314536350764509	ratio	Y
BiomRatio	C23t/C30H			7.12398424801171E-02	ratio	Y
BiomRatio	C24t/C23t			0.547758419736825	ratio	Y
BiomRatio	C24Tet/C23t			0.895119953898881	ratio	Y
BiomRatio	C24Tet/C26t			1.50303749026912	ratio	Y
BiomRatio	C24Tet/C30H			0.063768204516566	ratio	Y
BiomRatio	C26t/C25t			1.0591086316633	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.443091106956304	ratio	Y
BiomRatio	C27 Dia/Ster			0.435144047468068	ratio	Y
BiomRatio	C28BNH/C30H			4.36766409915925E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.939727095044259	ratio	Y
BiomRatio	C29H/C30H			0.666270644543754	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.187442475201047	ratio	Y
BiomRatio	C30DiaH/C30H			9.47644208539138E-02	ratio	Y
BiomRatio	C30Ts/C30H			4.17579554763717E-02	ratio	Y
BiomRatio	C35 Homohopane Index			7.82717976132993E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.856871739785216	ratio	Y
BiomRatio	Gam/C30H			8.65377789054479E-02	ratio	Y
BiomRatio	Gam/C31HR			0.255794559992993	ratio	Y
BiomRatio	Ole/C30H			3.88305401889918E-03	ratio	Y
BiomRatio	Sterane/hopane			0.307175314427879	ratio	Y
BiomRatio	Steranes/Terpanes			0.279879507677295	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			9.75269928731488E-02	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007671 DISS GC-MS/02

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 2

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

## Results for: Gas Chromatography Mass Spectrometry

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			37.0414818343022	ratio	Y
BiomRatio	% C27 abb 20(R+S)			36.7471953188633	ratio	Y
BiomRatio	% C28 aaa 20R			23.4999167895694	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.0745034456352	ratio	Y
BiomRatio	% C29 aaa 20R			39.4586013761284	ratio	Y
BiomRatio	% C29 abb 20(R+S)			38.1783012355016	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			9.26565655517352E-02	ratio	Y
BiomRatio	25-Nor/C30H			2.51272827420371E-02	ratio	Y
BiomRatio	C19t/C23t			0.257598596208613	ratio	Y
BiomRatio	C22t/C21t			0.41971201919872	ratio	Y
BiomRatio	C22t/C24t			0.306664588498312	ratio	Y
BiomRatio	C23t/C30H			6.43409911507307E-02	ratio	Y
BiomRatio	C24t/C23t			0.590596323677473	ratio	Y
BiomRatio	C24Tet/C23t			0.898875240917067	ratio	Y
BiomRatio	C24Tet/C26t			1.57911067762948	ratio	Y
BiomRatio	C24Tet/C30H			0.057834523921456	ratio	Y
BiomRatio	C26t/C25t			0.856271852390349	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.422099725357501	ratio	Y
BiomRatio	C27 Dia/Ster			0.415418568458645	ratio	Y
BiomRatio	C28BNH/C30H			4.46751874722836E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.03894462976617	ratio	Y
BiomRatio	C29H/C30H			0.653668970847681	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.188176021173406	ratio	Y
BiomRatio	C30DiaH/C30H			8.90090787742655E-02	ratio	Y
BiomRatio	C30Ts/C30H			3.42142007339718E-02	ratio	Y
BiomRatio	C35 Homohopane Index			7.93235224345301E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.899015367475999	ratio	Y
BiomRatio	Gam/C30H			7.43679542885233E-02	ratio	Y
BiomRatio	Gam/C31HR			0.232868066639543	ratio	Y
BiomRatio	Ole/C30H			1.03073664447378E-03	ratio	Y
BiomRatio	Sterane/hopane			0.31303092864319	ratio	Y
BiomRatio	Steranes/Terpanes			0.285817239397284	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			9.52136032917176E-02	ratio	Y

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007671\_PTE\_CSIA-C13/03

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 3

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: External 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			-30.86	value	Y
Aliph	nC14			-31.39	value	Y
Aliph	nC15			-31.677	value	Y
Aliph	nC16			-31.57	value	Y
Aliph	nC17			-31.906	value	Y
Aliph	nC18			-32.28	value	Y
Aliph	nC19			-31.875	value	Y
Aliph	nC20			-31.856	value	Y
Aliph	nC21			-32.824	value	Y
Aliph	nC22			-33.056	value	Y
Aliph	nC23			-33.167	value	Y
Aliph	nC24			-33.155	value	Y
Aliph	nC25			-32.756	value	Y
Aliph	nC26			-32.527	value	Y
Aliph	nC27			-32.444	value	Y
Aliph	nC28			-31.937	value	Y
Aliph	nC29			-31.984	value	Y
Aliph	nC30			-31.571	value	Y
Aliph	nC31			-31.617	value	Y
Aliph	nC32			-31.658	value	Y
Aliph	nC33			-32.341	value	Y
Aliph	nC34			-31.227	value	Y
Aliph	nC35			-30.996	value	Y
Aliph	nC36			-31.156	value	Y
Aliph	nC37			-32.006	value	Y
Aliph	nC38			-32.383	value	Y
Aliph	nC39			-30.55	value	Y

## Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007671\_PTE\_CSIA-C13/04

Instrument / Type: Compound Specific Isotope Analysis d13C Run: 4

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: Internal 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			-30.907	value	Y
Aliph	nC14			-31.32	value	Y
Aliph	nC15			-31.667	value	Y
Aliph	nC16			-32.375	value	Y
Aliph	nC17			-32.483	value	Y
Aliph	nC18			-32.788	value	Y
Aliph	nC19			-32.366	value	Y
Aliph	nC20			-32.396	value	Y
Aliph	nC21			-32.608	value	Y
Aliph	nC22			-32.647	value	Y
Aliph	nC23			-33.332	value	Y
Aliph	nC24			-32.852	value	Y
Aliph	nC25			-32.905	value	Y
Aliph	nC26			-32.79	value	Y
Aliph	nC27			-32.819	value	Y
Aliph	nC28			-32.002	value	Y
Aliph	nC29			-32.329	value	Y
Aliph	nC30			-32.136	value	Y
Aliph	nC31			-32.067	value	Y
Aliph	nC32			-32.118	value	Y
Aliph	nC33			-31.934	value	Y
Aliph	nC34			-31.38	value	Y
Aliph	nC35			-31.594	value	Y
Aliph	nC36			-31.626	value	Y
Aliph	nC37			-32.101	value	Y
Aliph	nC38			-33.116	value	Y
Aliph	nC39			-30.259	value	Y

## Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007671\_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: External 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			-118.1875	value	Y
Aliph	nC14			-116.088	value	Y
Aliph	nC15			-113.8765	value	Y
Aliph	nC16			-107.471	value	Y
Aliph	nC17			-108.851	value	Y
Aliph	nC18			-104.6675	value	Y
Aliph	nC19			-107.298	value	Y
Aliph	nC20			-110.1225	value	Y
Aliph	nC21			-113.0805	value	Y
Aliph	nC22			-110.2525	value	Y
Aliph	nC23			-110.3125	value	Y
Aliph	nC24			-107.888	value	Y
Aliph	nC25			-112.0185	value	Y
Aliph	nC26			-116.099	value	Y
Aliph	nC27			-113.129	value	Y
Aliph	nC28			-112.023	value	Y
Aliph	nC29			-111.6305	value	Y
Aliph	nC30			-115.591	value	Y
Aliph	nC31			-113.207	value	Y
Aliph	nC32			-88.1595	value	Y
Aliph	nC33			-97.9915	value	Y
Aliph	nC34			-99.132	value	Y
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: W13/007671\_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: Internal 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			-115.4635	value	Y
Aliph	nC14			-117.2625	value	Y
Aliph	nC15			-108.6575	value	Y
Aliph	nC16			-106.749	value	Y
Aliph	nC17			-108.672	value	Y
Aliph	nC18			-106.499	value	Y
Aliph	nC19			-108.8465	value	Y
Aliph	nC20			-109.2465	value	Y
Aliph	nC21			-112.3805	value	Y
Aliph	nC22			-108.5635	value	Y
Aliph	nC23			-112.528	value	Y
Aliph	nC24			-106.5135	value	Y
Aliph	nC25			-112.5085	value	Y
Aliph	nC26			-113.464	value	Y
Aliph	nC27			-111.3645	value	Y
Aliph	nC28			-110.387	value	Y
Aliph	nC29			-110.806	value	Y
Aliph	nC30			-111.006	value	Y
Aliph	nC31			-106.073	value	Y
Aliph	nC32			-87.274	value	Y
Aliph	nC33			-91.3705	value	Y
Aliph	nC34			-89.728	value	Y
Aliph	nC35			-105.9235	value	Y
Aliph	nC36				value	U
Aliph	nC37				value	U
Aliph	nC38				value	U
Aliph	nC39				value	U

## Results for: Elemental Analyser

Unique ID: W13/007671\_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			87.17	percent	Y
Inorg	Hydrogen			8.97704791252485	percent	Y
Inorg	Nitrogen			0.727651619537275	percent	Y
Inorg	Sulphur			5.78352721143846	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 : **W13/007816A**

Beach W10: Cactus Beach Visit: 3

**Comments:**

5 separate pieces from along the beach. Part A

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:08:27 AM

**Type:** Resinite/Amber

**Family:** Resin/Amber

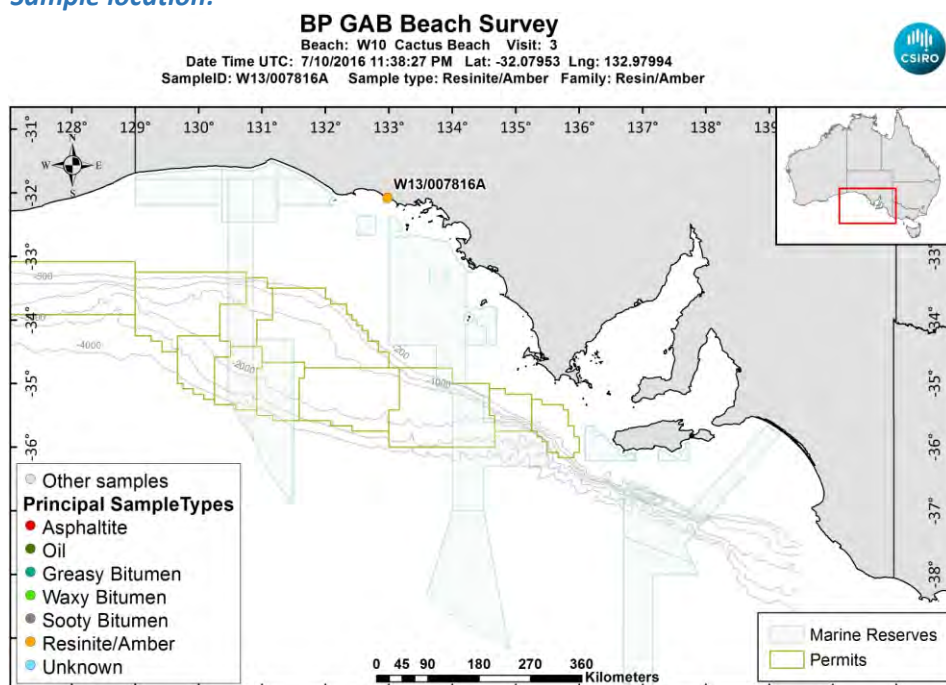
**Size (cm):** 3.3

**Latitude (Y):** -32.079530

**Weight (gm):** 9.17055

**Longitude (X):** 132.979945

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007816A\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007816\\_146A6521.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007816\\_ABCDE\\_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:** W13/007816A 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 : **W13/007816B**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Part B subsample

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:08:27 AM

**Type:** Resinite/Amber

**Family:** Resin/Amber

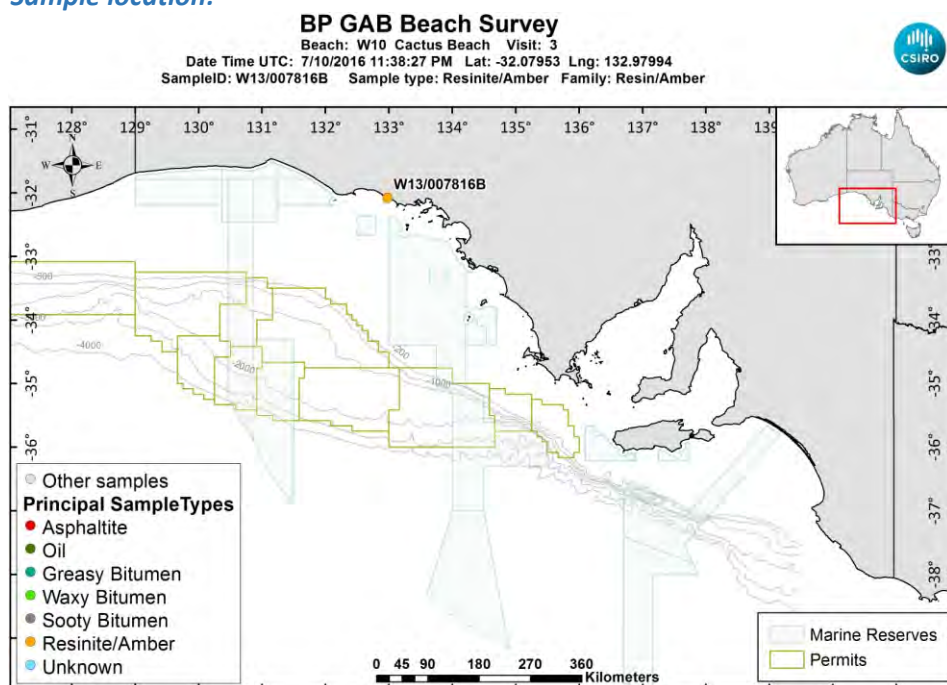
**Size (cm):** 2.7

**Latitude (Y):** -32.079530

**Weight (gm):** 3.94679

**Longitude (X):** 132.979945

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007816B\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007816\\_ABCDE\\_Photo02.jpg](#)

**Sample ID : W13/007816B**

**Beach W10: Cactus Beach Visit: 3**

**Analyses Requested**

Split: Analysis: Sent:  
1 Bitumen Determination NO

**Analyses Completed:**

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

**Sample Analyses Completed:**

**Results for: GCMS with Full Scan**

**Unique ID: W13/007816B\_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 : **W13/007816C**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Part C subsample

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:08:27 AM

**Type:** Resinite/Amber

**Family:** Resin/Amber

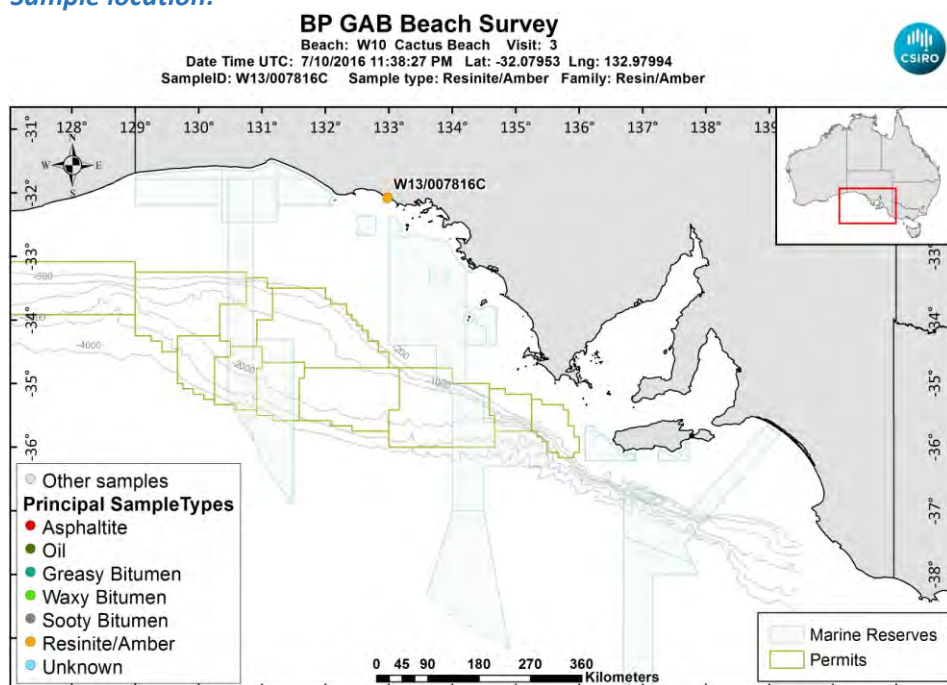
**Size (cm):** 2

**Latitude (Y):** -32.079530

**Weight (gm):** 2.4127

**Longitude (X):** 132.979945

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007816C\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007816\\_ABCDE\\_Photo02.jpg](#)

**Sample ID : W13/007816C**

**Beach W10: Cactus Beach Visit: 3**

**Analyses Requested**

Split: Analysis: Sent:  
1 Bitumen Determination NO

**Analyses Completed:**

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

**Sample Analyses Completed:**

**Results for: GCMS with Full Scan**

**Unique ID: W13/007816C\_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 : **W13/007816D**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Part D subsample

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:08:27 AM

**Type:** Resinite/Amber

**Family:** Resin/Amber

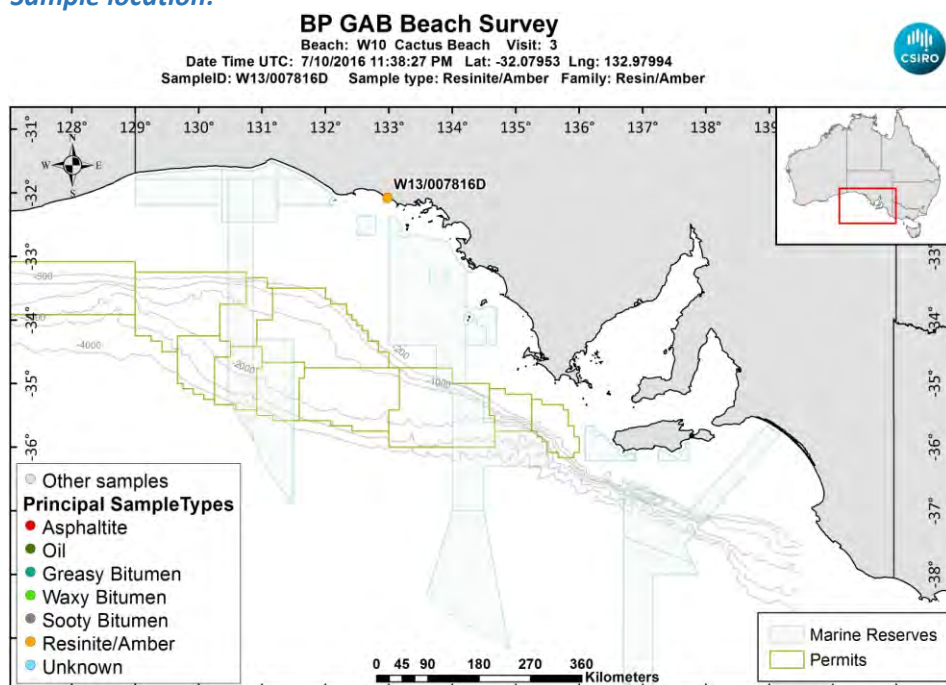
**Size (cm):** 1.9

**Latitude (Y):** -32.079530

**Weight (gm):** 2.12154

**Longitude (X):** 132.979945

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007816D\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007816\\_ABCDE\\_Photo02.jpg](#)

**Sample ID : W13/007816D**

**Beach W10: Cactus Beach Visit: 3**

**Analyses Requested**

Split: Analysis: Sent:  
1 Bitumen Determination NO

**Analyses Completed:**

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

**Sample Analyses Completed:**

**Results for: GCMS with Full Scan**

**Unique ID: W13/007816D\_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 : **W13/007816E**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Part E subsample

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:08:27 AM

**Type:** Resinite/Amber

**Family:** Resin/Amber

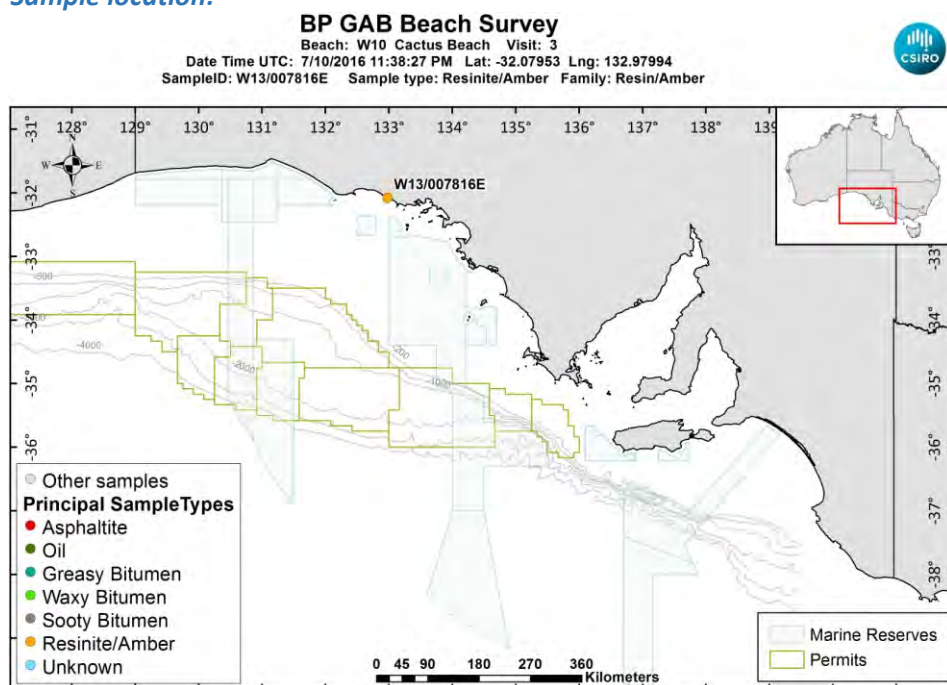
**Size (cm):** 2.2

**Latitude (Y):** -32.079530

**Weight (gm):** 1.24568

**Longitude (X):** 132.979945

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007816E\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007816\\_ABCDE\\_Photo02.jpg](#)



**Sample ID : W13/007816E**

**Beach W10: Cactus Beach Visit: 3**

**Analyses Requested**

Split: Analysis: Sent:  
1 Bitumen Determination NO

**Analyses Completed:**

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

**Sample Analyses Completed:**

**Results for: GCMS with Full Scan**

**Unique ID: W13/007816E\_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 : **W13/007817A**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Query type. Accumulated 4 very small pieces from along the shore. Part A

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:11:03 AM

**Type:** Waxy Bitumen

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

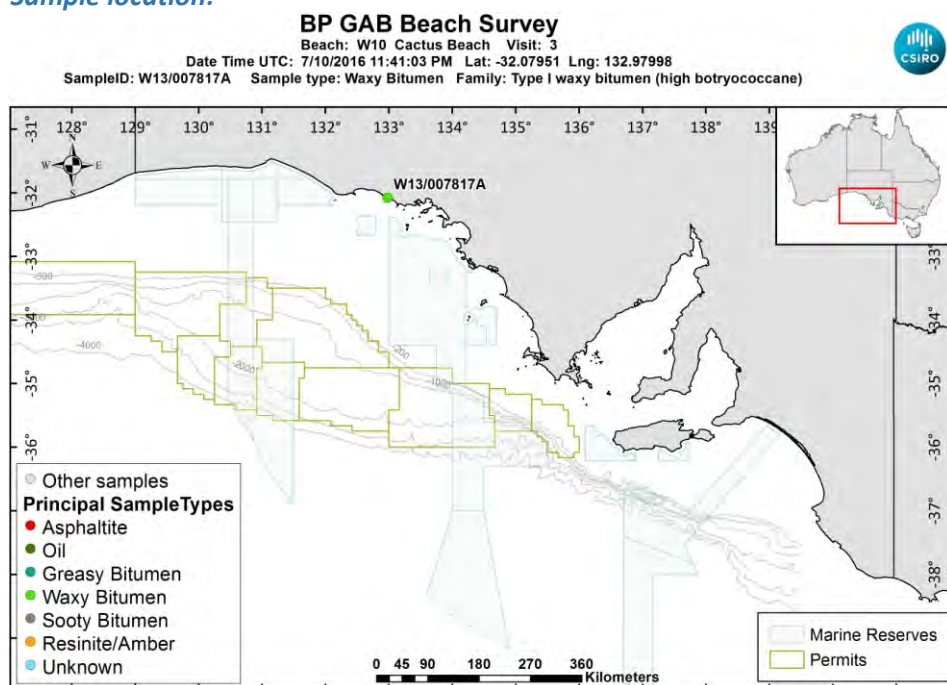
**Size (cm):** 1.7

**Latitude (Y):** -32.079513

**Weight (gm):** 0.93092

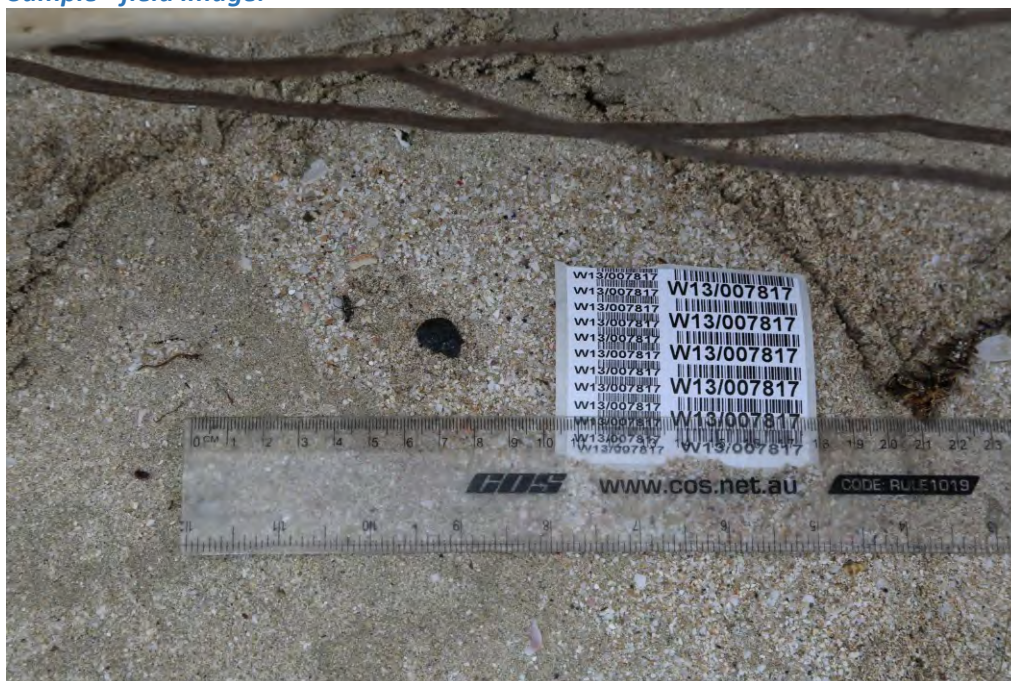
**Longitude (X):** 132.979983

**Sample location:**



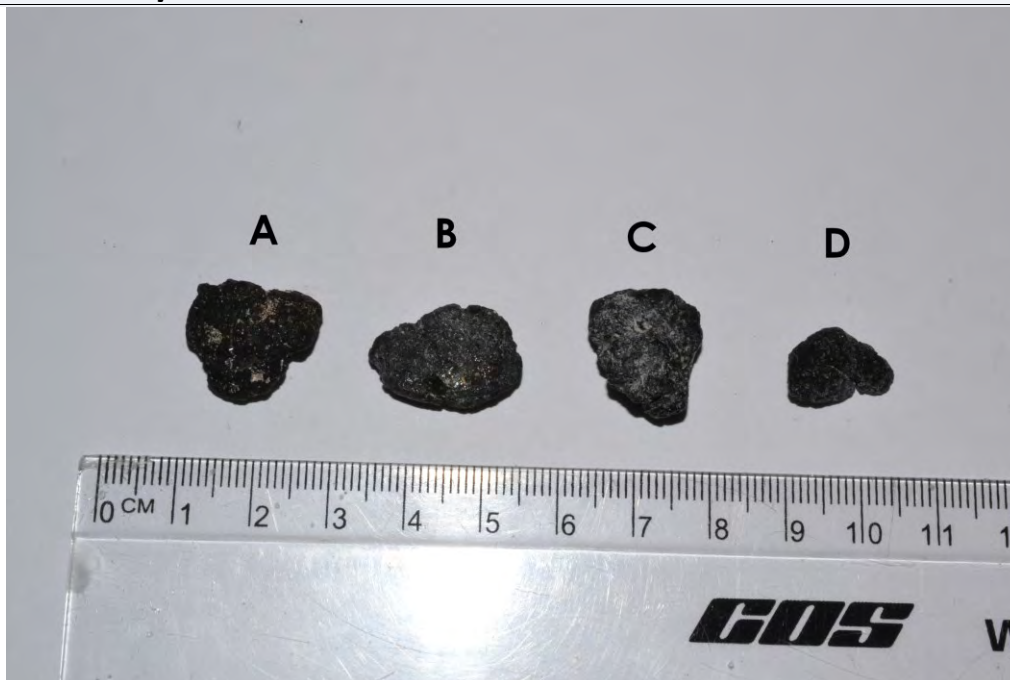
[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007817A\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007817\\_146A6523.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007817\\_ABCD\\_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: W13/007817A\_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			82.72	percent	Y
Inorg	Hydrogen			10.3518950298211	percent	Y
Inorg	Nitrogen			0.28	percent	Y
Inorg	Sulphur			1.73584555147482	percent	Y

### Results for: GCMS with Full Scan

Unique ID: W13/007817A 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\\_007817A\\_bulk\\_WholeOil.jpg](#)

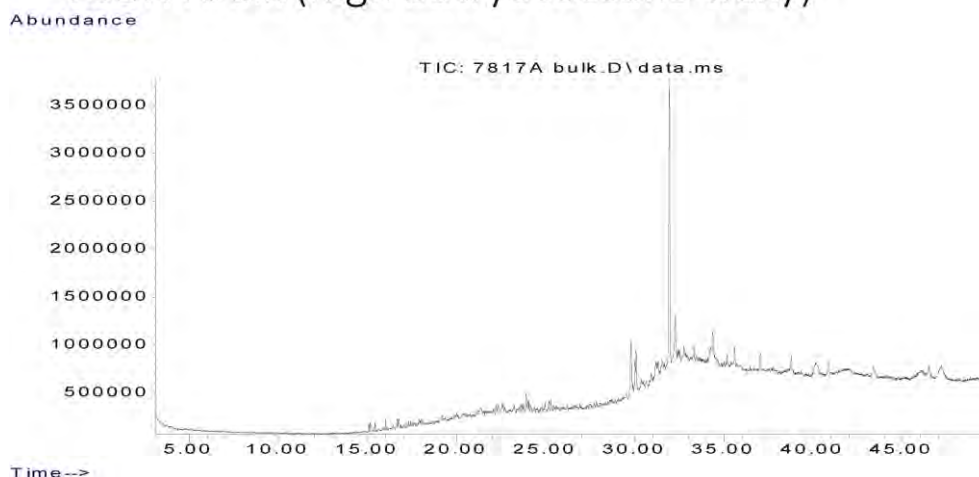
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

7817A bulk (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	24605820			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100				U
Aliph	nC26	29.6680				U
Aliph	nC27	30.6080				U
Aliph	nC28	31.5080				U
Aliph	nC29	32.3700				U
Aliph	nC30	33.2910	676179			Z
Aliph	nC31	34.3470	1362210			Z
Aliph	nC32	35.5720	1561637			Z
Aliph	nC33	37.0130	1799016			Z
Aliph	nC34	38.7280	2027380			Z
Aliph	nC35	40.8080	1614767			Z
Aliph	nC36	43.3510	1745180			Z
Aliph	nC37	46.4710	1466363			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 : **W13/007817B**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Part B subsample

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:11:03 AM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

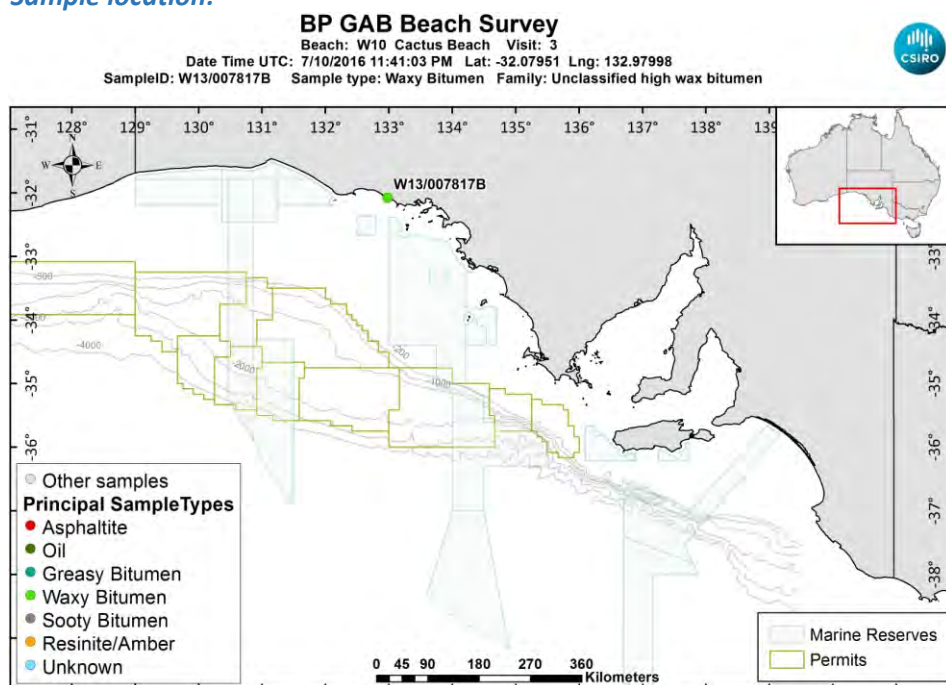
**Size (cm):** 2

**Latitude (Y):** -32.079513

**Weight (gm):** 0.74943

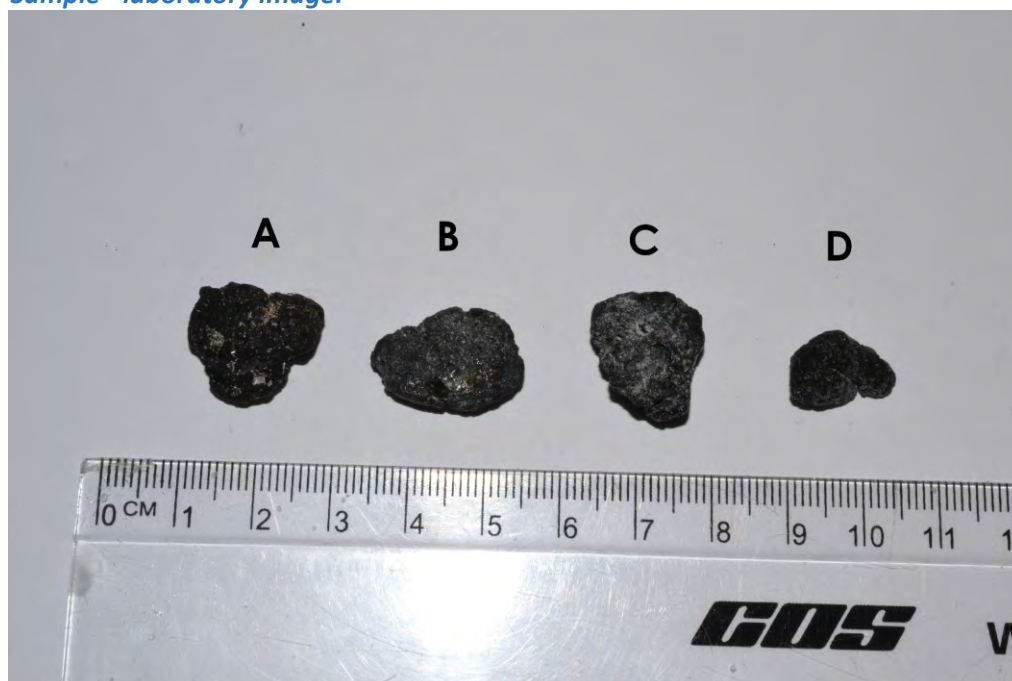
**Longitude (X):** 132.979983

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007817B\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007817\\_ABCD\\_Photo02.jpg](#)

**Sample ID : W13/007817B****Beach W10: Cactus Beach Visit: 3****Analyses Requested**

Split: Analysis: Sent:  
1 Bitumen Determination NO

**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:** W13/007817B\_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)*

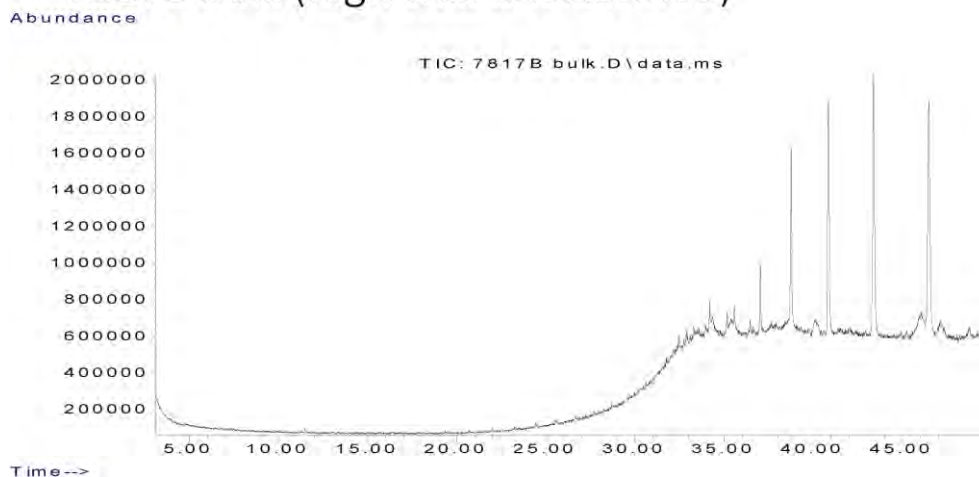
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
<a href="#">Inorg</a>	Carbon			84.65	percent	Y
<a href="#">Inorg</a>	Hydrogen			12.7478864811133	percent	Y
<a href="#">Inorg</a>	Nitrogen			0.26	percent	Y
<a href="#">Inorg</a>	Sulphur			4.72488520643651	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007817B\_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\\_007817B\\_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

7817B 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				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	614387			Z
Aliph	nC33	37.0130	3244053			Z
Aliph	nC34	38.7280	9470503			Z
Aliph	nC35	40.8080	16198921			Z
Aliph	nC36	43.3510	20696990			Z
Aliph	nC37	46.4710	20469421			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 : **W13/007817C**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Part C subsample

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:11:03 AM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

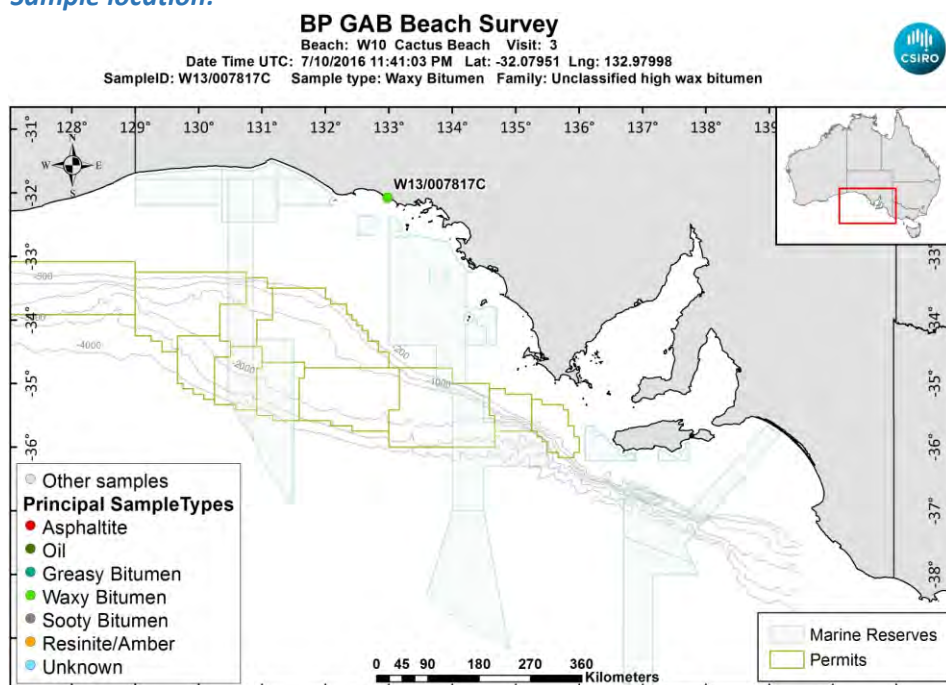
**Size (cm):** 1.8

**Latitude (Y):** -32.079513

**Weight (gm):** 1.07075

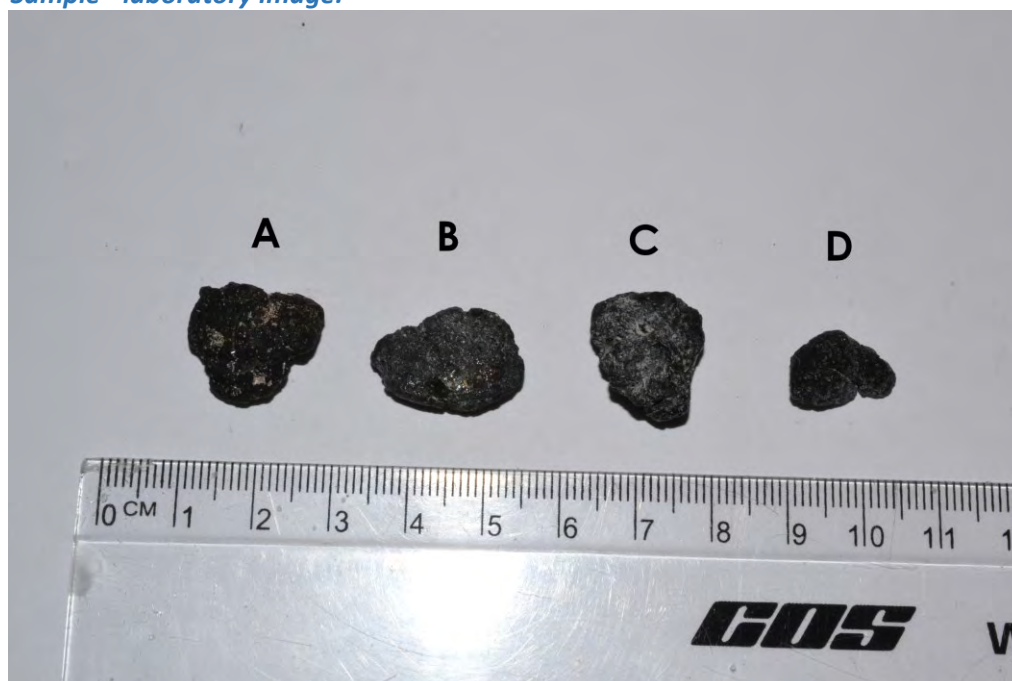
**Longitude (X):** 132.979983

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007817C\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007817\\_ABCD\\_Photo02.jpg](#)



**Sample ID : W13/007817C****Beach W10: Cactus Beach Visit: 3****Analyses Requested**

Split: Analysis: Sent:  
1 Bitumen Determination NO

**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:** W13/007817C\_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)*

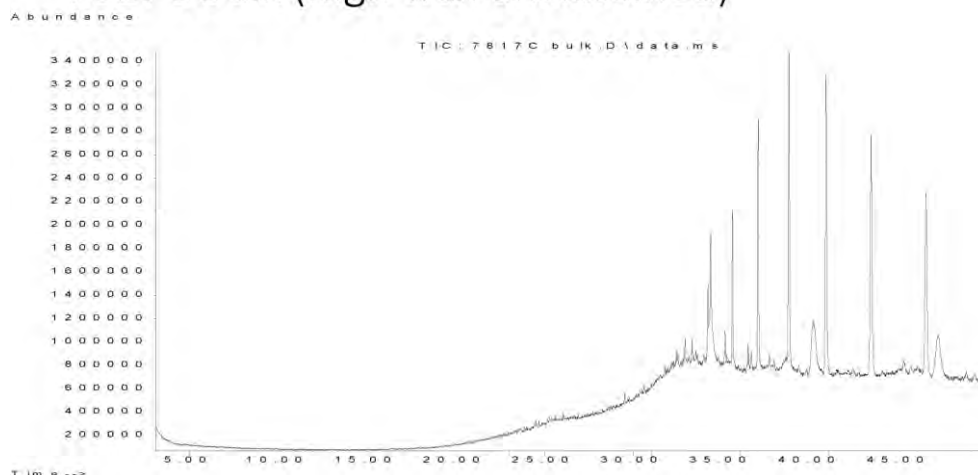
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
<a href="#">Inorg</a>	Carbon			82.82	percent	Y
<a href="#">Inorg</a>	Hydrogen			10.8361825049702	percent	Y
<a href="#">Inorg</a>	Nitrogen			0.26	percent	Y
<a href="#">Inorg</a>	Sulphur			5.38780733683199	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007817C\_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\\_007817C\\_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

7817C 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				U
Aliph	nC28	31.5080				U
Aliph	nC29	32.3700				U
Aliph	nC30	33.2910	853052			Z
Aliph	nC31	34.3470	9888526			Z
Aliph	nC32	35.5720	10871038			Z
Aliph	nC33	37.0130	18949551			Z
Aliph	nC34	38.7280	28267302			Z
Aliph	nC35	40.8080	30158452			Z
Aliph	nC36	43.3510	28113810			Z
Aliph	nC37	46.4710	25801378			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 : **W13/007817D**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Part D subsample

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:11:03 AM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

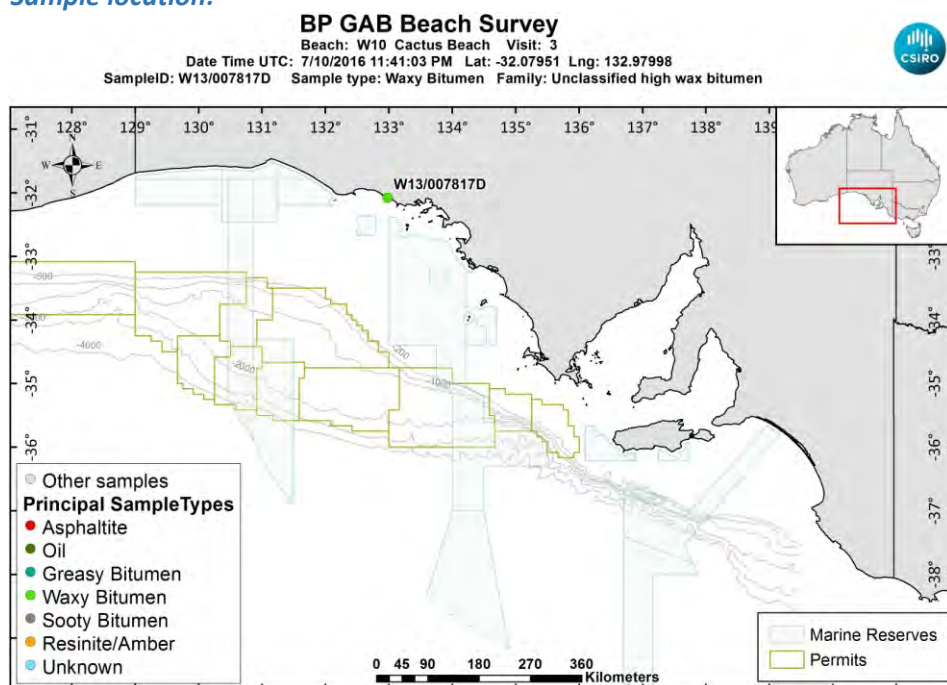
**Size (cm):** 1.6

**Latitude (Y):** -32.079513

**Weight (gm):** 0.36542

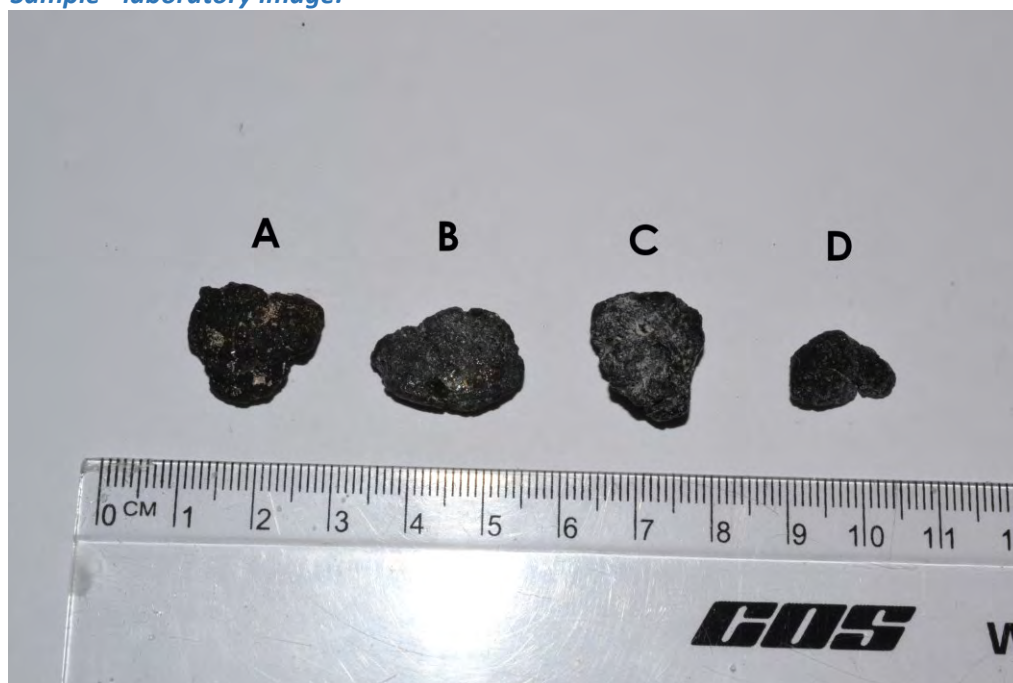
**Longitude (X):** 132.979983

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007817D\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007817\\_ABCD\\_Photo02.jpg](#)

**Sample ID : W13/007817D****Beach W10: Cactus Beach Visit: 3****Analyses Requested**

Split: Analysis: Sent:  
1 Bitumen Determination NO

**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: W13/007817D\_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)*

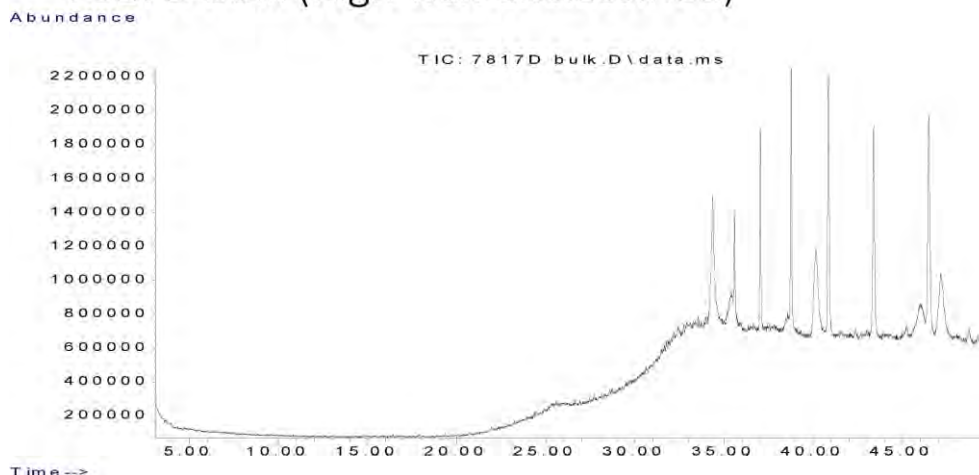
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
<a href="#">Inorg</a>	Carbon			85.4166396798933	percent	Y
<a href="#">Inorg</a>	Hydrogen			10.4086978131213	percent	Y
<a href="#">Inorg</a>	Nitrogen			0.6	percent	Y
<a href="#">Inorg</a>	Sulphur			3.6980414340411	percent	Y

**Results for: GCMS with Full Scan****Unique ID: W13/007817D\_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\\_007817D\\_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

7817D 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				U
Aliph	nC28	31.5080				U
Aliph	nC29	32.3700				U
Aliph	nC30	33.2910				U
Aliph	nC31	34.3470	10036601			Z
Aliph	nC32	35.5720	4366443			Z
Aliph	nC33	37.0130	10694393			Z
Aliph	nC34	38.7280	16206953			Z
Aliph	nC35	40.8080	19046439			Z
Aliph	nC36	43.3510	16335310			Z
Aliph	nC37	46.4710	20190515			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 : **W13/007818A**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Accumulated 2 pieces from along the shore. Part A

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:32:06 AM

**Type:** Waxy Bitumen

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

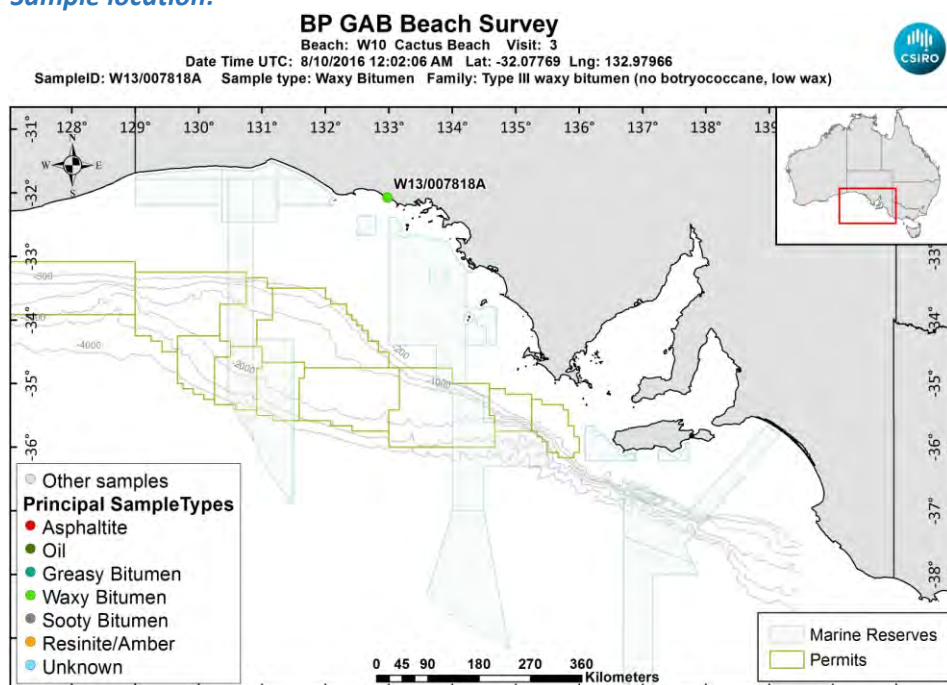
**Size (cm):** 2.6

**Latitude (Y):** -32.077692

**Weight (gm):** 4.39194

**Longitude (X):** 132.979657

**Sample location:**



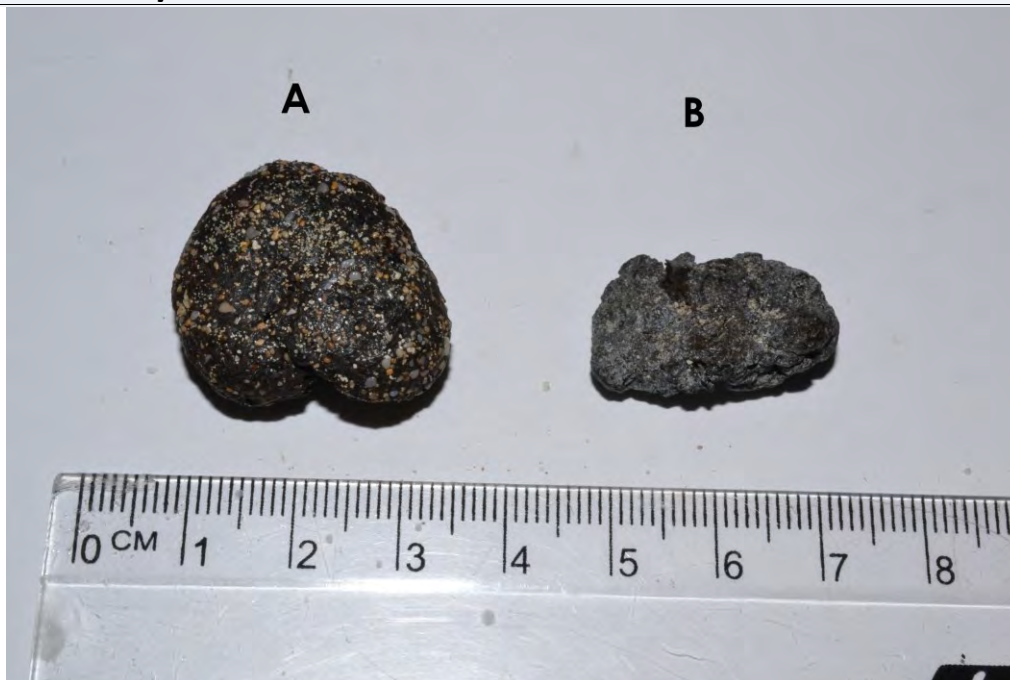
[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007818A\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007818\\_146A6525.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007818\\_AB\\_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: W13/007818A\_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			84.2061397132377	percent	Y
Inorg	Hydrogen			6.756737972167	percent	Y
Inorg	Nitrogen			0.17	percent	Y
Inorg	Sulphur			0.876333884749569	percent	Y

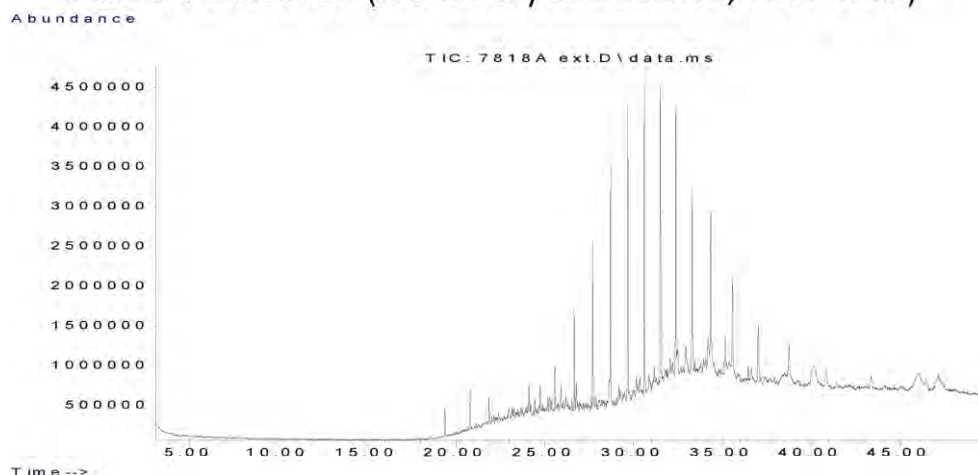
### Results for: GCMS with Full Scan

Unique ID: W13/007818A\_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\\_007818A\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

7818A exterior (no botryococcane, low wax)



## Data Sheet:

(default units ppb)

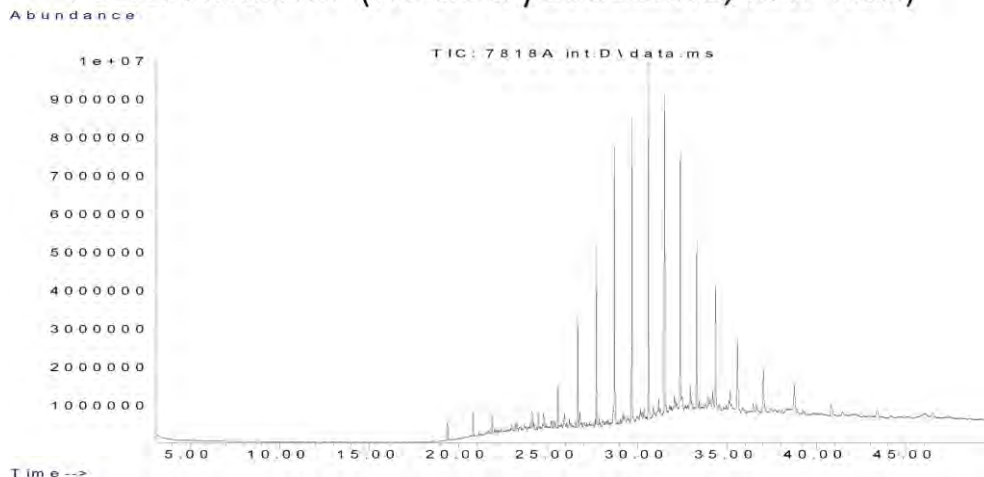
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				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	2590838			Z
Aliph	nC23	26.6620	5744238			Z
Aliph	nC24	27.7060	9723288			Z
Aliph	nC25	28.7100	12752028			Z
Aliph	nC26	29.6680	15855365			Z
Aliph	nC27	30.6080	19719843			Z
Aliph	nC28	31.5080	16392581			Z
Aliph	nC29	32.3700	15403274			Z
Aliph	nC30	33.2910	12408155			Z
Aliph	nC31	34.3470	12221145			Z
Aliph	nC32	35.5720	8241065			Z
Aliph	nC33	37.0130	6022840			Z
Aliph	nC34	38.7280	4426792			Z
Aliph	nC35	40.8080	2876846			Z
Aliph	nC36	43.3510	2197996			Z
Aliph	nC37	46.4710	1355949			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870	2964401			Z
Aliph	Pristane	19.3870	2128279			Z

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007818A 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\\_007818A\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior



## Results for: GCMS with Full Scan

7818A interior (no botryococcane, low wax)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410	2046866			Z
Aliph	nC22	25.5760	5824835			Z
Aliph	nC23	26.6620	12690733			Z
Aliph	nC24	27.7060	20975632			Z
Aliph	nC25	28.7100	30333922			Z
Aliph	nC26	29.6680	37195719			Z
Aliph	nC27	30.6080	41761160			Z
Aliph	nC28	31.5080	34405802			Z
Aliph	nC29	32.3700	31162731			Z
Aliph	nC30	33.2910	24378858			Z
Aliph	nC31	34.3470	19937857			Z
Aliph	nC32	35.5720	13630466			Z
Aliph	nC33	37.0130	9755830			Z
Aliph	nC34	38.7280	6173978			Z
Aliph	nC35	40.8080	4076578			Z
Aliph	nC36	43.3510	3075157			Z
Aliph	nC37	46.4710	2260166			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	303579			Z
Aliph	Phytane	20.7870	3860239			Z
Aliph	Pristane	19.3870	2877346			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 : **W13/007818B**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Part B subsample

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:32:06 AM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

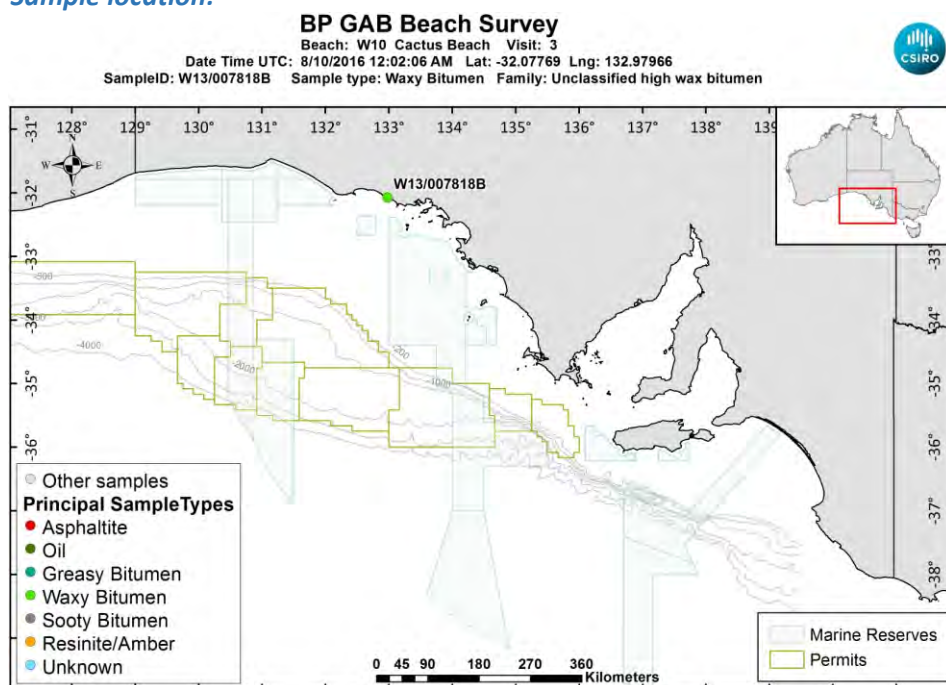
**Size (cm):** 2.3

**Latitude (Y):** -32.077692

**Weight (gm):** 1.37988

**Longitude (X):** 132.979657

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007818B\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007818\\_AB\\_Photo02.jpg](#)

**Sample ID : W13/007818B**

**Beach W10: Cactus Beach Visit: 3**

**Analyses Requested**

Split:	Analysis:	Sent:
1	Bitumen Determination	NO
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: W13/007818B\_DISS\_GC-MS/01**

**Instrument / Type:** Gas Chromatography Mass Spectrometry Run: 1

**for Analysis:** Biomarkers

**Preparation:** Dissolved in solvent

**Analysis Date:** 18/07/2017

**Method ID/s:**

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

**Sample Volume:**

**Volume Units:**

**Extract Volume:**

**Dilution Factor:**

**Comment:** Bulk Ratios only

## Results for: Gas Chromatography Mass Spectrometry

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			21.3606782756281	ratio	Y
BiomRatio	% C27 abb 20(R+S)			7.81139520317478	ratio	Y
BiomRatio	% C28 aaa 20R			22.9941181376481	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.94611284312	ratio	Y
BiomRatio	% C29 aaa 20R			55.6452035867237	ratio	Y
BiomRatio	% C29 abb 20(R+S)			66.2424919537052	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			2.59991575065504E-02	ratio	Y
BiomRatio	25-Nor/C30H			2.21138007919822E-02	ratio	Y
BiomRatio	C19t/C23t			5.37882180105755E-02	ratio	Y
BiomRatio	C22t/C21t			1.14363963875648	ratio	Y
BiomRatio	C22t/C24t			0.377766084475117	ratio	Y
BiomRatio	C23t/C30H			0.128642206763239	ratio	Y
BiomRatio	C24t/C23t			0.414325077186504	ratio	Y
BiomRatio	C24Tet/C23t			1.1205166003391	ratio	Y
BiomRatio	C24Tet/C26t			3.76328551393184	ratio	Y
BiomRatio	C24Tet/C30H			0.144145728182464	ratio	Y
BiomRatio	C26t/C25t			0.781490855470211	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.115582513635997	ratio	Y
BiomRatio	C27 Dia/Ster			8.10190723642774E-02	ratio	Y
BiomRatio	C28BNH/C30H			1.02312626949617E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			8.48023819442426	ratio	Y
BiomRatio	C29H/C30H			1.22701541787256	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			9.34581018284595E-02	ratio	Y
BiomRatio	C30DiaH/C30H			2.90964477299278E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.179550634761569	ratio	Y
BiomRatio	C35 Homohopane Index			8.60477648199324E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.995609860098073	ratio	Y
BiomRatio	Gam/C30H			0.116994178251016	ratio	Y
BiomRatio	Gam/C31HR			0.288080372581654	ratio	Y
BiomRatio	Ole/C30H			6.68924028171354E-03	ratio	Y
BiomRatio	Sterane/hopane			0.19327986315629	ratio	Y
BiomRatio	Steranes/Terpanes			0.176463489834244	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			9.52966153952948E-02	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007818B\_SPE\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

(default units ppb)

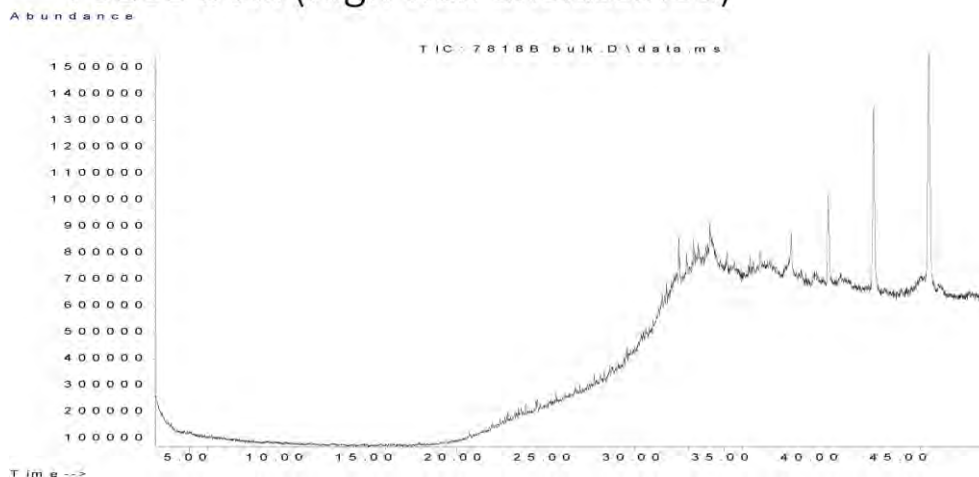
Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			83.4389480493498	percent	Y
Inorg	Hydrogen			11.2291932405567	percent	Y
Inorg	Nitrogen			0.15	percent	Y
Inorg	Sulphur			3.10630020237043	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007818B\_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\\_007818B\\_bulk\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk



## Results for: GCMS with Full Scan

7818B 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				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	761638			Z
Aliph	nC34	38.7280	1349029			Z
Aliph	nC35	40.8080	4431576			Z
Aliph	nC36	43.3510	9141534			Z
Aliph	nC37	46.4710	14368816			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 : **W13/007819**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Very weathered

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 10:57:28 AM

**Type:** Waxy Bitumen

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

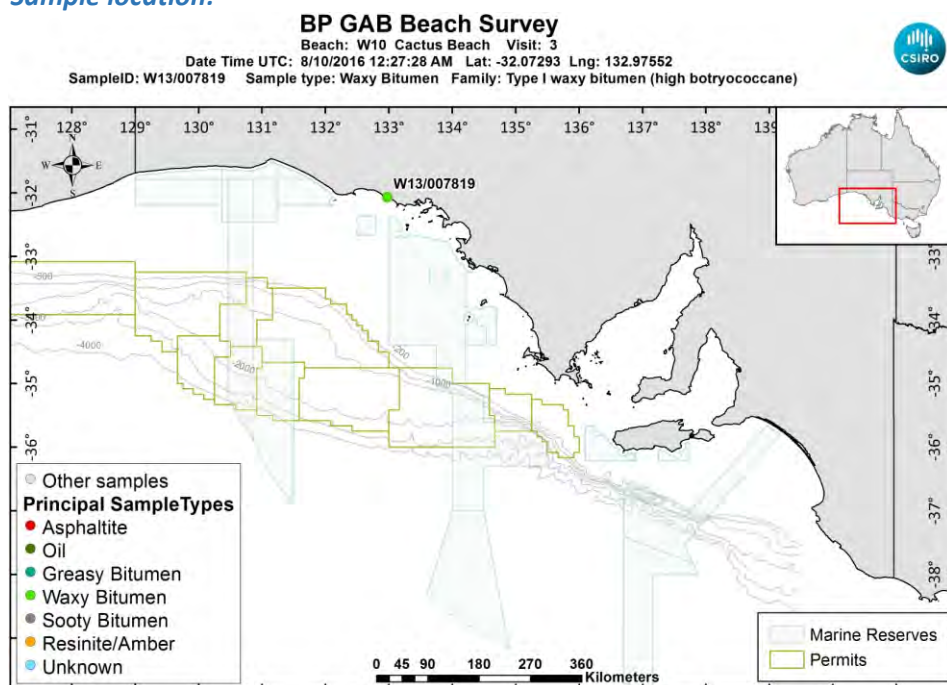
**Size (cm):** 3.6

**Latitude (Y):** -32.072932

**Weight (gm):** 14.03201

**Longitude (X):** 132.975518

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007819\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007819\\_146A6527.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007819\\_Photo02.JPG](#)

### Analyses Requested

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

### Analyses Completed:

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

### Sample Analyses Completed:

#### Results for: Gas Chromatography Mass Spectrometry

**Unique ID:** W13/007819\_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 Respse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			58.4415626383499	ratio	Y
BiomRatio	% C27 abb 20(R+S)			44.6621263469307	ratio	Y
BiomRatio	% C28 aaa 20R			7.7236783852694	ratio	Y
BiomRatio	% C28 abb 20(R+S)			20.2583861644632	ratio	Y
BiomRatio	% C29 aaa 20R			33.8347589763808	ratio	Y
BiomRatio	% C29 abb 20(R+S)			35.0794874886061	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.112665135531857	ratio	Y
BiomRatio	25-Nor/C30H			6.17937582019696E-02	ratio	Y
BiomRatio	C19t/C23t			0.309578700468021	ratio	Y
BiomRatio	C22t/C21t			0.287205377752609	ratio	Y
BiomRatio	C22t/C24t			0.276412621778308	ratio	Y
BiomRatio	C23t/C30H			0.184438015051969	ratio	Y
BiomRatio	C24t/C23t			0.869998641172697	ratio	Y
BiomRatio	C24Tet/C23t			0.318177153239599	ratio	Y
BiomRatio	C24Tet/C26t			0.402618348024812	ratio	Y
BiomRatio	C24Tet/C30H			5.86839625783979E-02	ratio	Y
BiomRatio	C26t/C25t			1.60215131254708	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.688283866455653	ratio	Y
BiomRatio	C27 Dia/Ster			1.09232268198513	ratio	Y
BiomRatio	C28BNH/C30H			3.51247862597115E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.785441499495845	ratio	Y
BiomRatio	C29H/C30H			0.646912992765876	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.309989332181958	ratio	Y
BiomRatio	C30DiaH/C30H			0.170236777182424	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			4.71003532313919E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.437802863228412	ratio	Y
BiomRatio	Gam/C30H			5.70852856796915E-02	ratio	Y
BiomRatio	Gam/C31HR			0.308299742888896	ratio	Y
BiomRatio	Ole/C30H			0.124425346610875	ratio	Y
BiomRatio	Sterane/hopane			7.61153103193803E-02	ratio	Y
BiomRatio	Steranes/Terpanes			5.89569481820147E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.291032060960712	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007819\_SPE\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:



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

(default units ppb)

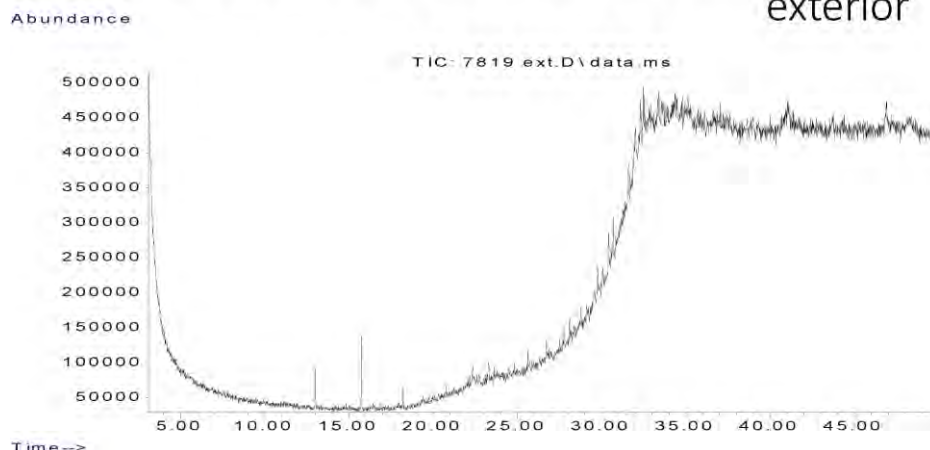
Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			87.6545760586862	percent	Y
Inorg	Hydrogen			12.0191077534791	percent	Y
Inorg	Nitrogen			0.32	percent	Y
Inorg	Sulphur			2.46888913638393	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007819\_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\\_007819\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior (splitless)



## Results for: GCMS with Full Scan

7819 exterior – too degraded to identify using exterior



## Data Sheet:

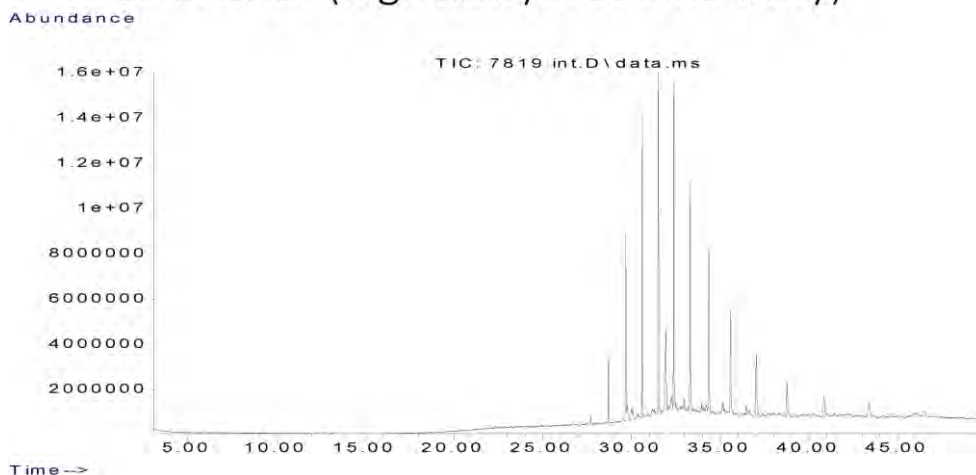
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane		869102			Z
Aliph	nC10					U
Aliph	nC11					U
Aliph	nC12					U
Aliph	nC13					U
Aliph	nC14					U
Aliph	nC15					U
Aliph	nC16	17.9470				U
Aliph	nC17	19.3870				U
Aliph	nC18	20.7560				U
Aliph	nC19	22.0580				U
Aliph	nC20	23.3040				U
Aliph	nC21	24.4890				U
Aliph	nC22	25.6290				U
Aliph	nC23	26.7230				U
Aliph	nC24	27.7690	111640			Z
Aliph	nC25	28.7780	142652			Z
Aliph	nC26	29.7510	204290			Z
Aliph	nC27	30.6850	352692			Z
Aliph	nC28	31.5900	187692			Z
Aliph	nC29	32.4650	356929			Z
Aliph	nC30	33.4020	233392			Z
Aliph	nC31	34.4700	4724422			Z
Aliph	nC32	35.7230	351265			Z
Aliph	nC33	37.1970	410481			Z
Aliph	nC34	38.9660	252471			Z
Aliph	nC35	41.0780	296767			Z
Aliph	nC36	43.6950	199215			Z
Aliph	nC37	46.8640	924766			Z
Aliph	nC8					U
Aliph	nC9					U
Aliph	Norpristane	18.6080				U
Aliph	Phytane	20.7570				U
Aliph	Pristane	19.4110				U

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007819 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\\_007819\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

## Results for: GCMS with Full Scan

7819 interior (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	29529161			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	1857378			Z
Aliph	nC25	28.7100	13670855			Z
Aliph	nC26	29.6680	37118008			Z
Aliph	nC27	30.6080	63269928			Z
Aliph	nC28	31.5080	66112533			Z
Aliph	nC29	32.3700	65309834			Z
Aliph	nC30	33.2910	52650118			Z
Aliph	nC31	34.3470	44769205			Z
Aliph	nC32	35.5720	33219467			Z
Aliph	nC33	37.0130	24296348			Z
Aliph	nC34	38.7280	16456315			Z
Aliph	nC35	40.8080	11129983			Z
Aliph	nC36	43.3510	8798846			Z
Aliph	nC37	46.4710	6174365			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 : **W13/007820**

Beach W10: Cactus Beach Visit: 3

**Comments:**

**Location:** Upper Intertidal

**Local Date Time:** 8/10/2016 11:08:43 AM

**Type:** Asphaltite

**Family:** Asphaltite

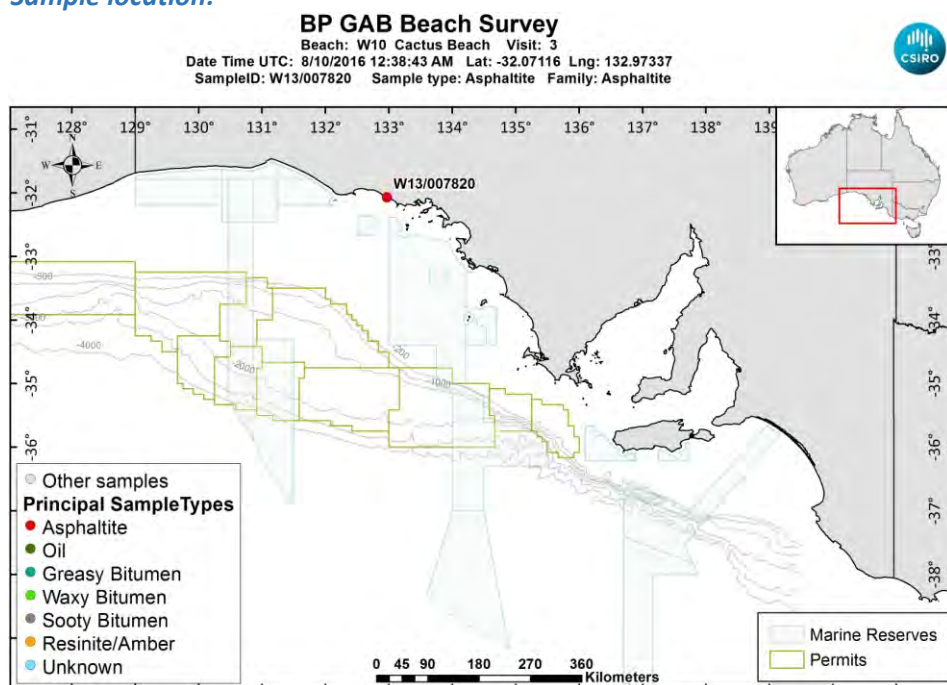
**Size (cm):** 2.9

**Latitude (Y):** -32.071158

**Weight (gm):** 4.94992

**Longitude (X):** 132.973370

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007820\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007820\\_146A6529.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007820\\_Photo02.JPG](#)

### Analyses Requested

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

### Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 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:** W13/007820 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 Respns:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			41.7006547763399	ratio	Y
BiomRatio	% C27 abb 20(R+S)			38.7660516966612	ratio	Y
BiomRatio	% C28 aaa 20R			20.52414174595	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.8249271966506	ratio	Y
BiomRatio	% C29 aaa 20R			37.7752034777102	ratio	Y
BiomRatio	% C29 abb 20(R+S)			36.4090211066882	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.104636876927011	ratio	Y
BiomRatio	25-Nor/C30H			3.28992124536512E-02	ratio	Y
BiomRatio	C19t/C23t			0.324107304947702	ratio	Y
BiomRatio	C22t/C21t			0.336475717503032	ratio	Y
BiomRatio	C22t/C24t			0.299156708467571	ratio	Y
BiomRatio	C23t/C30H			7.31457931133107E-02	ratio	Y
BiomRatio	C24t/C23t			0.543988884078817	ratio	Y
BiomRatio	C24Tet/C23t			1.07533969193816	ratio	Y
BiomRatio	C24Tet/C26t			2.06669440008588	ratio	Y
BiomRatio	C24Tet/C30H			7.86565746330402E-02	ratio	Y
BiomRatio	C26t/C25t			0.941943068055415	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.432963437829837	ratio	Y
BiomRatio	C27 Dia/Ster			0.42687502372732	ratio	Y
BiomRatio	C28BNH/C30H			4.29917568105905E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.939198590343521	ratio	Y
BiomRatio	C29H/C30H			0.669323486450321	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.171171023031635	ratio	Y
BiomRatio	C30DiaH/C30H			8.42597983636196E-02	ratio	Y
BiomRatio	C30Ts/C30H			4.44580639230227E-02	ratio	Y
BiomRatio	C35 Homohopane Index			8.18344808803383E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.959922445152143	ratio	Y
BiomRatio	Gam/C30H			8.46382496246131E-02	ratio	Y
BiomRatio	Gam/C31HR			0.262720261261761	ratio	Y
BiomRatio	Ole/C30H			0.015082891551497	ratio	Y
BiomRatio	Sterane/hopane			0.31729280664312	ratio	Y
BiomRatio	Steranes/Terpanes			0.288481308871406	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			9.98730139031542E-02	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007820 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			40.0506184396928	ratio	Y
BiomRatio	% C27 abb 20(R+S)			39.9452335429624	ratio	Y
BiomRatio	% C28 aaa 20R			26.8237964658222	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.9838402817817	ratio	Y
BiomRatio	% C29 aaa 20R			33.125585094485	ratio	Y
BiomRatio	% C29 abb 20(R+S)			34.0709261752558	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.166086273673722	ratio	Y
BiomRatio	25-Nor/C30H			2.55198077530087E-02	ratio	Y
BiomRatio	C19t/C23t			0.16716430229058	ratio	Y
BiomRatio	C22t/C21t			0.370463876775559	ratio	Y
BiomRatio	C22t/C24t			0.264625249332835	ratio	Y
BiomRatio	C23t/C30H			0.128614660862458	ratio	Y
BiomRatio	C24t/C23t			0.53304300542787	ratio	Y
BiomRatio	C24Tet/C23t			0.758093254488431	ratio	Y
BiomRatio	C24Tet/C26t			1.90895198508512	ratio	Y
BiomRatio	C24Tet/C30H			9.75019068281463E-02	ratio	Y
BiomRatio	C26t/C25t			0.786911662137136	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.470852511727267	ratio	Y
BiomRatio	C27 Dia/Ster			0.495611570242756	ratio	Y
BiomRatio	C28BNH/C30H			9.52368166600738E-03	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.852940968253731	ratio	Y
BiomRatio	C29H/C30H			0.646652490209846	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.194258049331759	ratio	Y
BiomRatio	C30DiaH/C30H			0.100344899394717	ratio	Y
BiomRatio	C30Ts/C30H			0.010033834296556	ratio	Y
BiomRatio	C35 Homohopane Index			6.96327849903139E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.846470490070646	ratio	Y
BiomRatio	Gam/C30H			6.03513059626352E-02	ratio	Y
BiomRatio	Gam/C31HR			0.209945825477231	ratio	Y
BiomRatio	Ole/C30H			0	ratio	U
BiomRatio	Sterane/hopane			0.489724983309964	ratio	Y
BiomRatio	Steranes/Terpanes			0.424388852537081	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.153953456558272	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007820\_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)

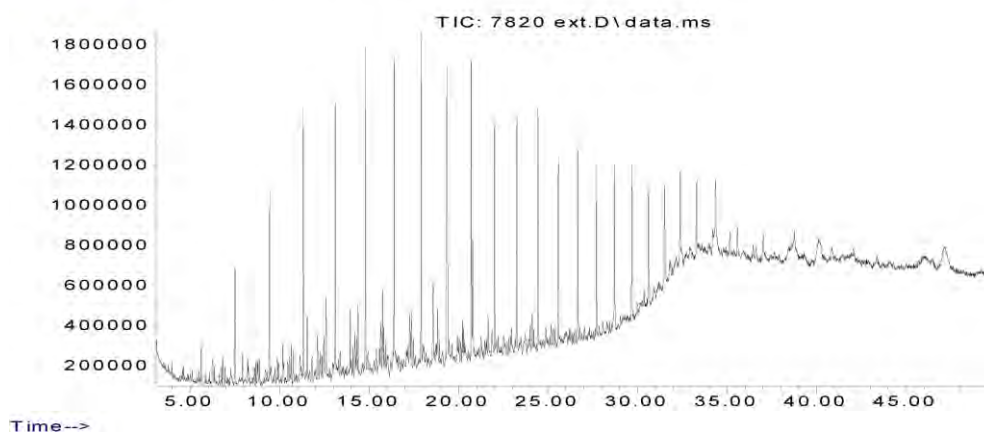
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.8834438146049	percent	Y
Inorg	Hydrogen			8.80151968190855	percent	Y
Inorg	Nitrogen			0.68	percent	Y
Inorg	Sulphur			4.74439750154201	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007820\_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\\_007820\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** ext C8 Not in range of visible compounds on that run. But this is fresh enough it COULD be there.

## Results for: GCMS with Full Scan

## 7820 exterior (Asphaltite)

Abundance



## Data Sheet:

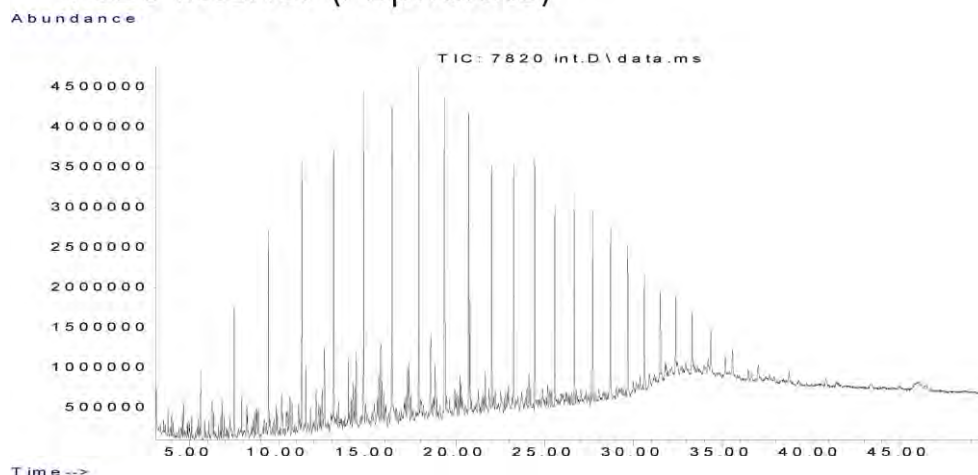
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110	3309603			Z
Aliph	nC11	9.4450	5399199			Z
Aliph	nC12	11.3220	7201666			Z
Aliph	nC13	13.1110	7618240			Z
Aliph	nC14	14.8030	8683443			Z
Aliph	nC15	16.4030	8371939			Z
Aliph	nC16	17.9160	7658262			Z
Aliph	nC17	19.3500	7743273			Z
Aliph	nC18	20.7170	6907520			Z
Aliph	nC19	22.0170	6144692			Z
Aliph	nC20	23.2570	5668542			Z
Aliph	nC21	24.4410	5391886			Z
Aliph	nC22	25.5760	4643913			Z
Aliph	nC23	26.6620	4486510			Z
Aliph	nC24	27.7060	4083080			Z
Aliph	nC25	28.7100	3473401			Z
Aliph	nC26	29.6680	3407311			Z
Aliph	nC27	30.6080	3202472			Z
Aliph	nC28	31.5080	2394216			Z
Aliph	nC29	32.3700	2270561			Z
Aliph	nC30	33.2910	2046492			Z
Aliph	nC31	34.3470	2090783			Z
Aliph	nC32	35.5720	1161926			Z
Aliph	nC33	37.0130	821149			Z
Aliph	nC34	38.7280	927169			Z
Aliph	nC35	40.8080	1032187			Z
Aliph	nC36	43.3510	905763			Z
Aliph	nC37	46.4710	778904			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200	1229501			Z
Aliph	Norpristane	18.5830	3350350			Z
Aliph	Phytane	20.7870	2924793			Z
Aliph	Pristane	19.3870	2552852			Z

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007820 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\\_007820\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** int C8 Not in range of visible compounds on that run. But this is fresh enough it COULD be there.  
-----

## Results for: GCMS with Full Scan

## 7820 interior (Asphaltite)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110	8759165			Z
Aliph	nC11	9.4450	13625479			Z
Aliph	nC12	11.3220	17555867			Z
Aliph	nC13	13.1110	19318038			Z
Aliph	nC14	14.8030	22319788			Z
Aliph	nC15	16.4030	21286301			Z
Aliph	nC16	17.9160	20185444			Z
Aliph	nC17	19.3500	20736878			Z
Aliph	nC18	20.7170	17348867			Z
Aliph	nC19	22.0170	15624528			Z
Aliph	nC20	23.2570	14634632			Z
Aliph	nC21	24.4410	13832964			Z
Aliph	nC22	25.5760	12077316			Z
Aliph	nC23	26.6620	11506168			Z
Aliph	nC24	27.7060	10445351			Z
Aliph	nC25	28.7100	8758144			Z
Aliph	nC26	29.6680	8337219			Z
Aliph	nC27	30.6080	7538287			Z
Aliph	nC28	31.5080	5179257			Z
Aliph	nC29	32.3700	4978523			Z
Aliph	nC30	33.2910	4332623			Z
Aliph	nC31	34.3470	3143365			Z
Aliph	nC32	35.5720	2402625			Z
Aliph	nC33	37.0130	1809159			Z
Aliph	nC34	38.7280	1422214			Z
Aliph	nC35	40.8080	1297849			Z
Aliph	nC36	43.3510	1408692			Z
Aliph	nC37	46.4710	969237			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200	4208303			Z
Aliph	Norpristane	18.5830	8229653			Z
Aliph	Phytane	20.7870	7527856			Z
Aliph	Pristane	19.3870	8025084			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 : **W13/007821**

Beach W10: Cactus Beach Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 11:14:04 AM

**Type:** Waxy Bitumen

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

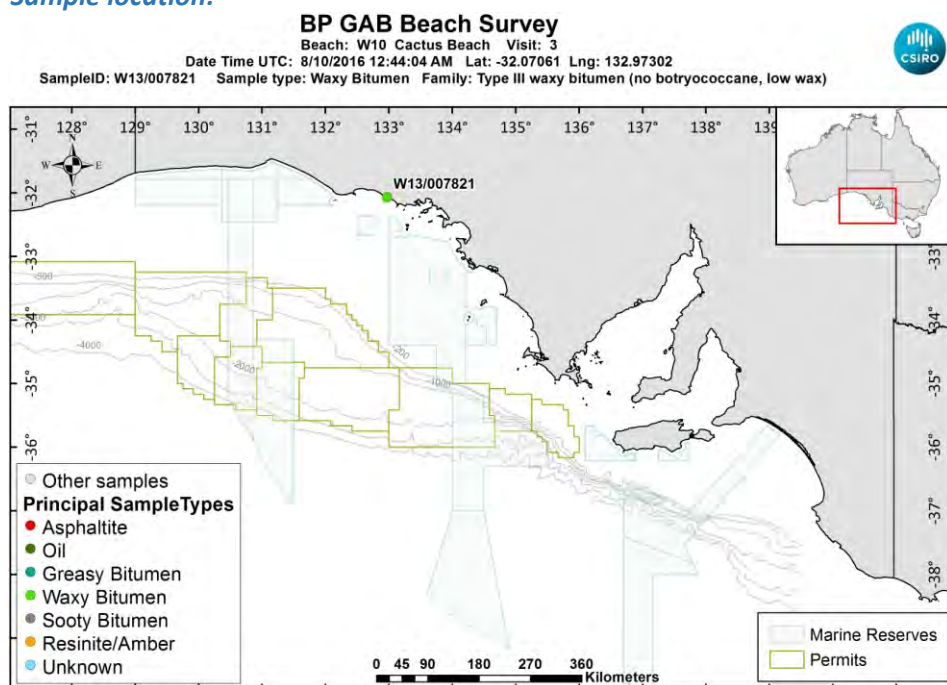
**Size (cm):** 3.1

**Latitude (Y):** -32.070613

**Weight (gm):** 11.59892

**Longitude (X):** 132.973025

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007821\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007821\\_146A6531.JPG](#)

**Sample - laboratory image:**

[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007821\\_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:** W13/007821\_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:**

<b>Sample Volume:</b>	<b>Volume Units:</b>	<b>Extract Volume:</b>	<b>Dilution Factor:</b>
<b>Comment:</b>			

**Data Sheet:**

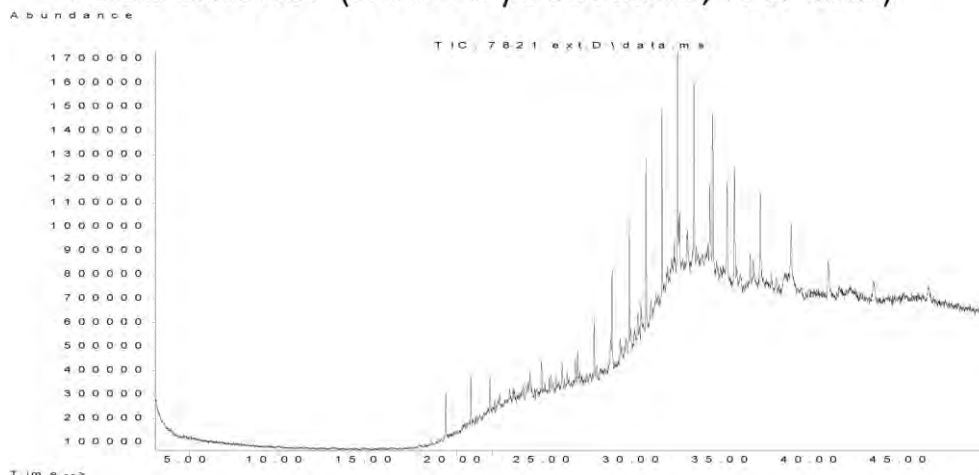
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			83.6985063021007	percent	Y
Inorg	Hydrogen			5.67528827037774	percent	Y
Inorg	Nitrogen			0.19	percent	Y
Inorg	Sulphur			0.783393531913398	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007821\_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\\_007821\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

7821 exterior (no botryococcane, low wax)



## Data Sheet:

(default units ppb)

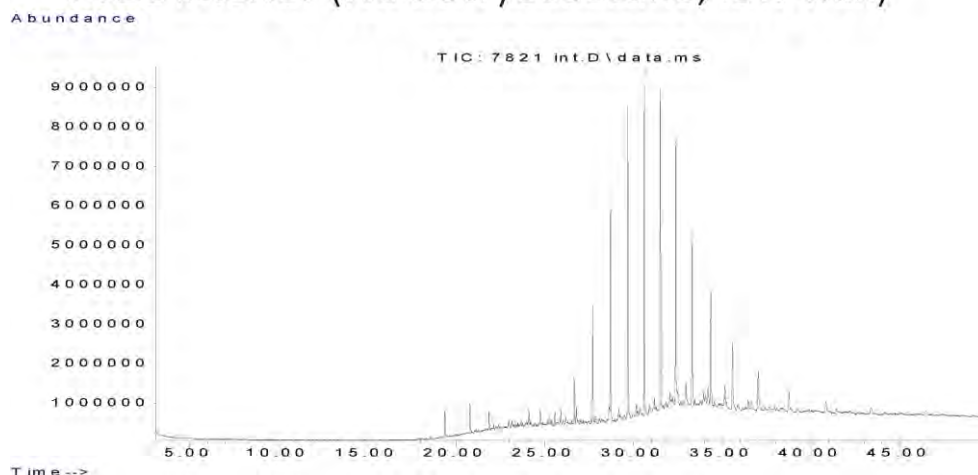
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				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	585538			Z
Aliph	nC24	27.7060	1246256			Z
Aliph	nC25	28.7100	1517384			Z
Aliph	nC26	29.6680	2267452			Z
Aliph	nC27	30.6080	3517589			Z
Aliph	nC28	31.5080	3914905			Z
Aliph	nC29	32.3700	4399081			Z
Aliph	nC30	33.2910	4424383			Z
Aliph	nC31	34.3470	4376099			Z
Aliph	nC32	35.5720	3767588			Z
Aliph	nC33	37.0130	3365118			Z
Aliph	nC34	38.7280	2374254			Z
Aliph	nC35	40.8080	1446105			Z
Aliph	nC36	43.3510	1234782			Z
Aliph	nC37	46.4710	1098432			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	210335			Z
Aliph	Phytane	20.7870	1212028			Z
Aliph	Pristane	19.3870	1224729			Z

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007821 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\\_007821\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior



## Results for: GCMS with Full Scan

7821 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	1535211			Z
Aliph	nC23	26.6620	5194847			Z
Aliph	nC24	27.7060	13695090			Z
Aliph	nC25	28.7100	24493551			Z
Aliph	nC26	29.6680	32867550			Z
Aliph	nC27	30.6080	42679078			Z
Aliph	nC28	31.5080	37231056			Z
Aliph	nC29	32.3700	33681619			Z
Aliph	nC30	33.2910	23644203			Z
Aliph	nC31	34.3470	19087763			Z
Aliph	nC32	35.5720	12856265			Z
Aliph	nC33	37.0130	9216258			Z
Aliph	nC34	38.7280	5177286			Z
Aliph	nC35	40.8080	3598856			Z
Aliph	nC36	43.3510	2286282			Z
Aliph	nC37	46.4710	1594111			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	630342			Z
Aliph	Phytane	20.7870	4424565			Z
Aliph	Pristane	19.3870	4232443			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 : **W13/007822**

Beach W10: Cactus Beach Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 11:18:02 AM

**Type:** Waxy Bitumen

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

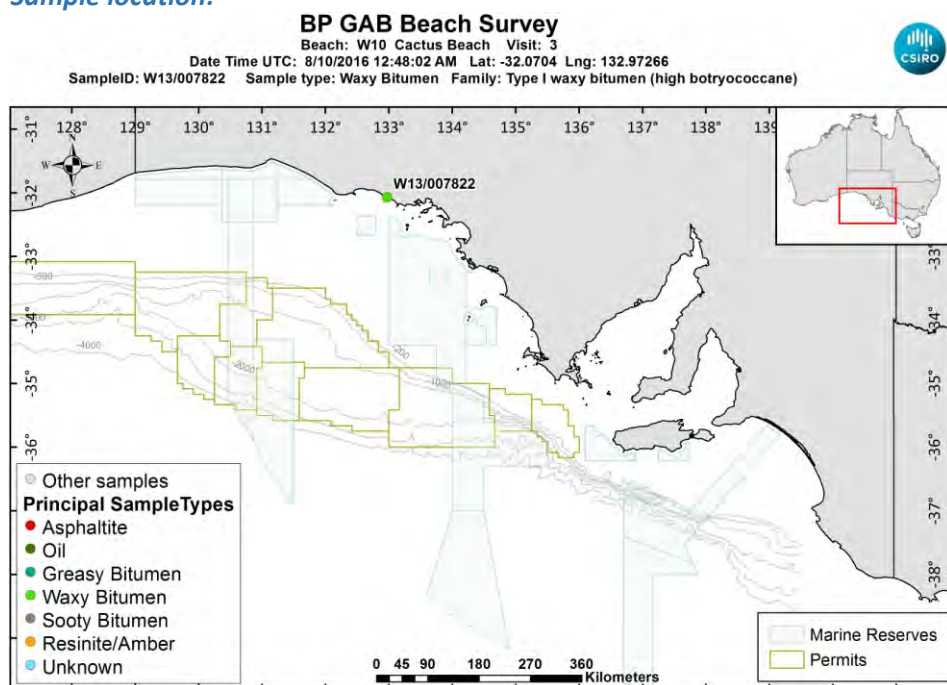
**Size (cm):** 4.6

**Latitude (Y):** -32.070400

**Weight (gm):** 7.6277

**Longitude (X):** 132.972663

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007822\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007822\\_146A6533.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007822\\_Photo02.JPG](#)

### Analyses Requested

Split: Analysis: Sent:  
1 Bitumen Determination YES

### Analyses Completed:

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

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: W13/007822\_SPE\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

### Data Sheet:

				(default units ppb)		
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.1691630543515	percent	Y
Inorg	Hydrogen			9.21085964214712	percent	Y
Inorg	Nitrogen			0.31	percent	Y
Inorg	Sulphur			1.76516565118013	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 : **W13/007823**

Beach W10: Cactus Beach Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 11:29:52 AM

**Type:** Resinite/Amber

**Family:** Resin/Amber

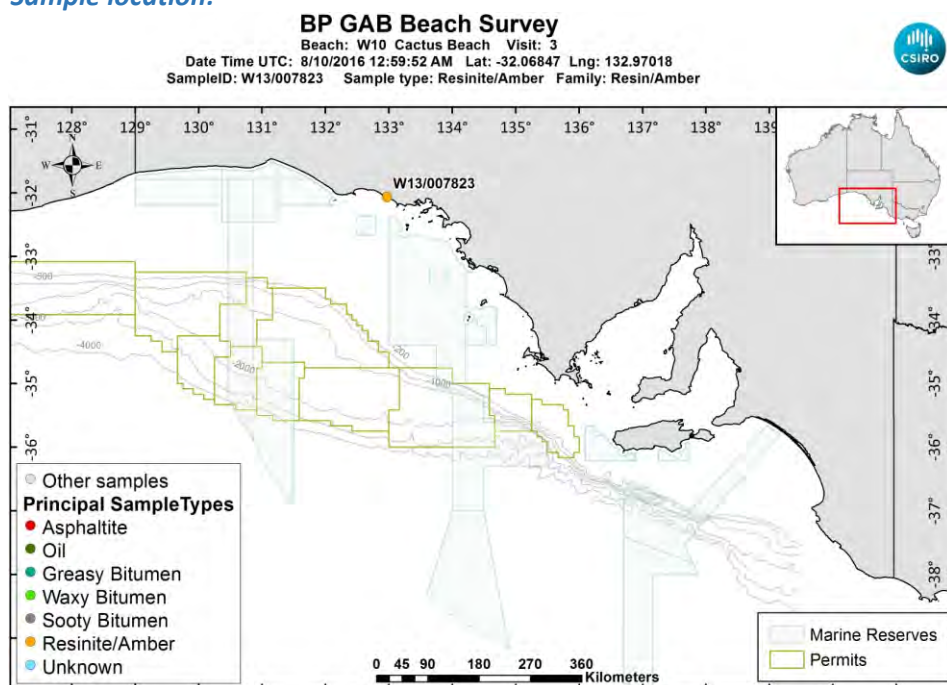
**Size (cm):** 3.3

**Latitude (Y):** -32.068470

**Weight (gm):** 2.25698

**Longitude (X):** 132.970178

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007823\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007823\\_146A6535.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007823\\_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: 1

## Sample Analyses Completed:

### Results for: Elemental Analyser

Unique ID: W13/007823\_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			77.9043473157719	percent	Y
Inorg	Hydrogen			6.66898568588469	percent	Y
Inorg	Nitrogen			0.67	percent	Y
Inorg	Sulphur			1.29626362807802	percent	Y

### Results for: GCMS with Full Scan

Unique ID: W13/007823 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\\_007823\\_treeResin\\_WholeOil.jpg](#)

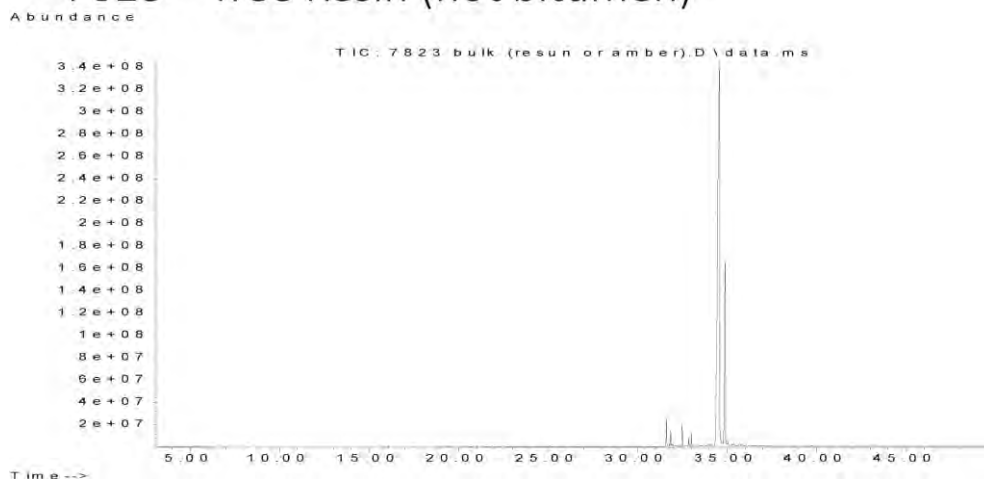
Preparation: Dissolved in solvent

Method ID/s:

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

## Results for: GCMS with Full Scan

## 7823 – Tree Resin (not bitumen)



## Data Sheet:

(default units ppb)

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

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

<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 : **W13/007824**

Beach W10: Cactus Beach Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 11:48:09 AM

**Type:** Waxy Bitumen

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

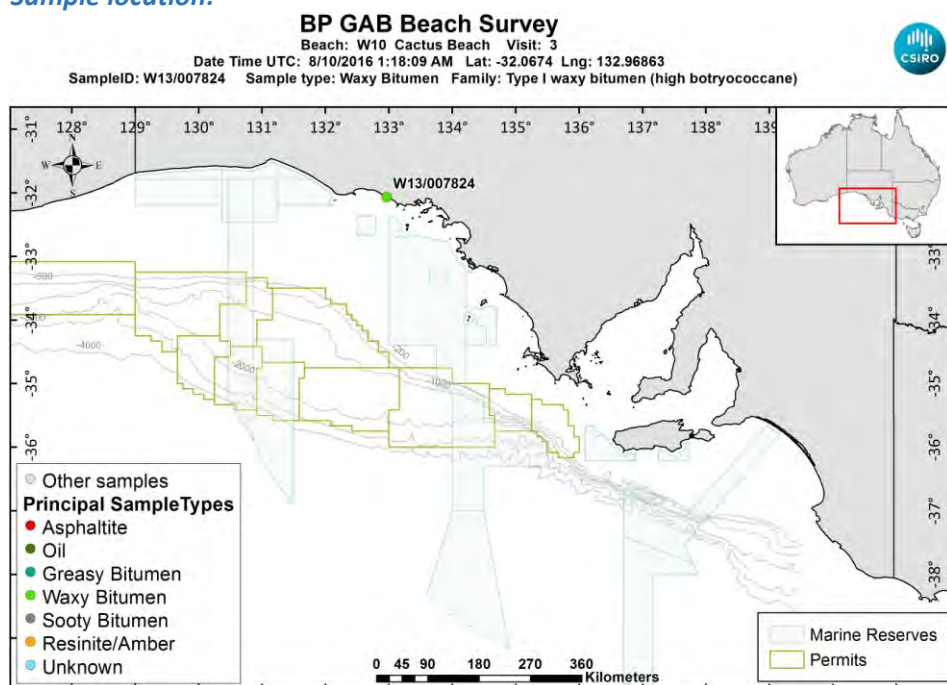
**Size (cm):** 4.3

**Latitude (Y):** -32.067402

**Weight (gm):** 15.30137

**Longitude (X):** 132.968628

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007824\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007824\\_146A6536.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007824\\_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: W13/007824\_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			59.6045598532844	percent	Y
Inorg	Hydrogen			7.82193399602386	percent	Y
Inorg	Nitrogen			0.01	percent	Y
Inorg	Sulphur			1.43786751331806	percent	Y

### Results for: GCMS with Full Scan

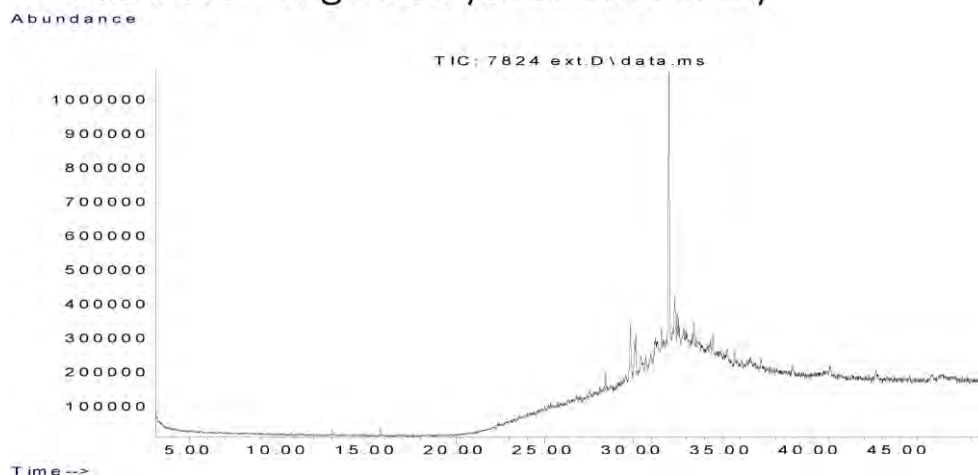
Unique ID: W13/007824\_DISS\_GCMS-Scan/01

**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\\_007824\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior



## Results for: GCMS with Full Scan

7824 ext – High botryococcane waxy



## Data Sheet:

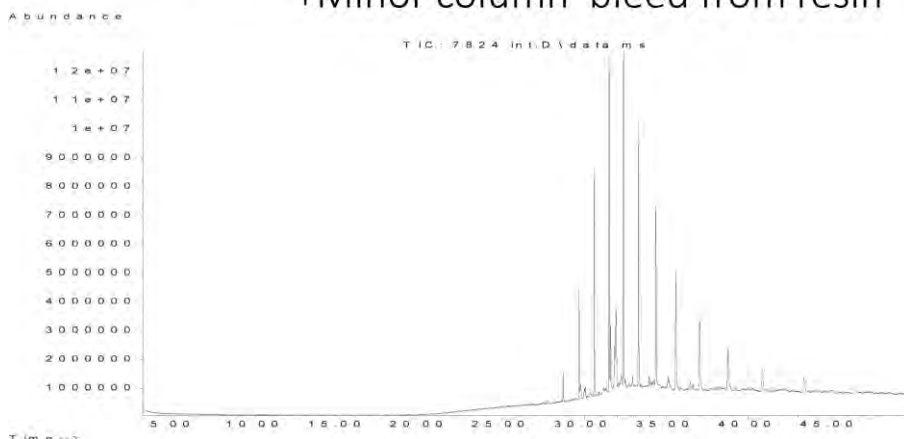
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	5052658			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	70074			Z
Aliph	nC26	29.6680	91889			Z
Aliph	nC27	30.6080	175077			Z
Aliph	nC28	31.5080	367080			Z
Aliph	nC29	32.3700	191882			Z
Aliph	nC30	33.2910	253789			Z
Aliph	nC31	34.3470	318391			Z
Aliph	nC32	35.5720	289957			Z
Aliph	nC33	37.0130	308097			Z
Aliph	nC34	38.7280	300661			Z
Aliph	nC35	40.8080	260459			Z
Aliph	nC36	43.3510	337011			Z
Aliph	nC37	46.4710	236395			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:** W13/007824 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\\_007824\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

## Results for: GCMS with Full Scan

7824 interior (high botryococcane waxy)  
+Minor column bleed from resin



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	20636281			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	793273			Z
Aliph	nC25	28.7100	4731141			Z
Aliph	nC26	29.6680	16062997			Z
Aliph	nC27	30.6080	39479792			Z
Aliph	nC28	31.5080	48727738			Z
Aliph	nC29	32.3700	55350184			Z
Aliph	nC30	33.2910	48125803			Z
Aliph	nC31	34.3470	40256341			Z
Aliph	nC32	35.5720	29875968			Z
Aliph	nC33	37.0130	21273954			Z
Aliph	nC34	38.7280	14637248			Z
Aliph	nC35	40.8080	9900866			Z
Aliph	nC36	43.3510	7035616			Z
Aliph	nC37	46.4710	5231894			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 : **W13/007825**

Beach W10: Cactus Beach Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 11:53:44 AM

**Type:** Asphaltite

**Family:** Unknown

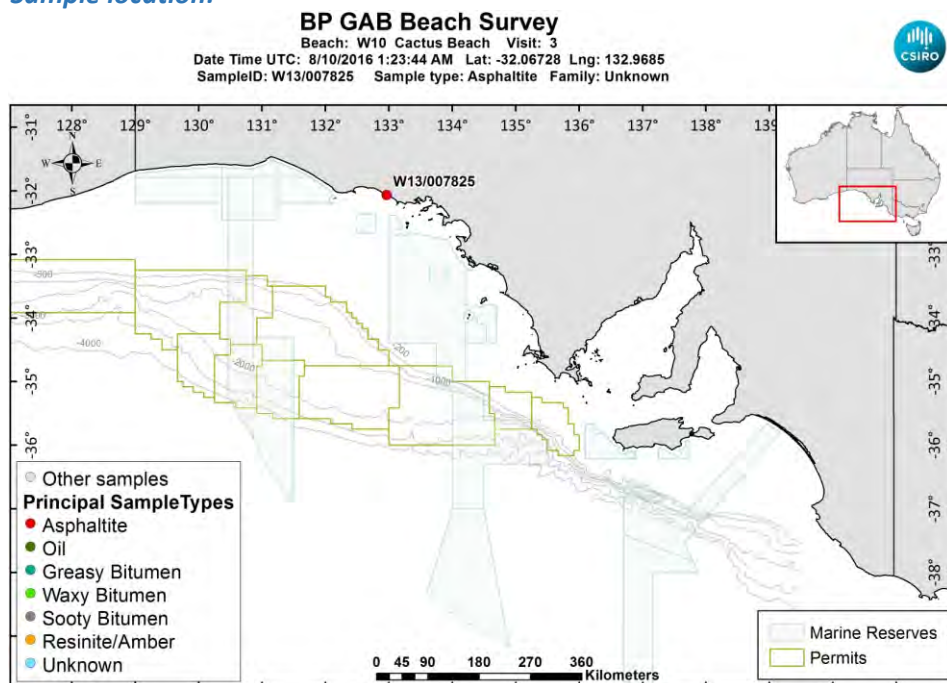
**Size (cm):** 4.7

**Latitude (Y):** -32.067278

**Weight (gm):** 21.22947

**Longitude (X):** 132.968505

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007825\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007825\\_146A6538.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007825\\_Photo02.JPG](#)

### Analyses Requested

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

### Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 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:** W13/007825 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			28.6912540669374	ratio	Y
BiomRatio	% C27 abb 20(R+S)			27.6859023402802	ratio	Y
BiomRatio	% C28 aaa 20R			27.5948723875529	ratio	Y
BiomRatio	% C28 abb 20(R+S)			27.3122841786436	ratio	Y
BiomRatio	% C29 aaa 20R			43.7138735455097	ratio	Y
BiomRatio	% C29 abb 20(R+S)			45.0018134810762	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			8.63698856430315E-03	ratio	Y
BiomRatio	25-Nor/C30H			1.88832804053547E-02	ratio	Y
BiomRatio	C19t/C23t			8.72804782560062E-02	ratio	Y
BiomRatio	C22t/C21t			5.64669605646696E-02	ratio	Y
BiomRatio	C22t/C24t			0.041509133248922	ratio	Y
BiomRatio	C23t/C30H			1.72526626597221E-02	ratio	Y
BiomRatio	C24t/C23t			0.701841931915634	ratio	Y
BiomRatio	C24Tet/C23t			0.810512186330926	ratio	Y
BiomRatio	C24Tet/C26t			0.798034680666202	ratio	Y
BiomRatio	C24Tet/C30H			1.39834933323613E-02	ratio	Y
BiomRatio	C26t/C25t			1.11511851639579	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.101825992549051	ratio	Y
BiomRatio	C27 Dia/Ster			0.088000294346355	ratio	Y
BiomRatio	C28BNH/C30H			7.81021835203503E-03	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.62544145854343	ratio	Y
BiomRatio	C29H/C30H			0.510729441179183	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.116484213118999	ratio	Y
BiomRatio	C30DiaH/C30H			3.77029829079439E-02	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			0.109445690090983	ratio	Y
BiomRatio	C35HS/C34HS			0.850126123482382	ratio	Y
BiomRatio	Gam/C30H			0.289447569136949	ratio	Y
BiomRatio	Gam/C31HR			1.1515387017135	ratio	Y
BiomRatio	Ole/C30H			6.12749460177503E-02	ratio	Y
BiomRatio	Sterane/hopane			0.202896815556279	ratio	Y
BiomRatio	Steranes/Terpanes			0.194479530671198	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			4.32810839065213E-02	ratio	Y

## Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007825 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			32.66924397543	ratio	Y
BiomRatio	% C27 abb 20(R+S)			27.1516420750303	ratio	Y
BiomRatio	% C28 aaa 20R			28.3943679377221	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.8503067046786	ratio	Y
BiomRatio	% C29 aaa 20R			38.9363880868479	ratio	Y
BiomRatio	% C29 abb 20(R+S)			47.9980512202912	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			1.52281513175415E-02	ratio	Y
BiomRatio	25-Nor/C30H			1.68399854005196E-02	ratio	Y
BiomRatio	C19t/C23t			0.157230346206724	ratio	Y
BiomRatio	C22t/C21t			0.05284890235299	ratio	Y
BiomRatio	C22t/C24t			4.86399775928908E-02	ratio	Y
BiomRatio	C23t/C30H			1.99264873220688E-02	ratio	Y
BiomRatio	C24t/C23t			0.677040369953756	ratio	Y
BiomRatio	C24Tet/C23t			0.678428127518543	ratio	Y
BiomRatio	C24Tet/C26t			0.734420707384097	ratio	Y
BiomRatio	C24Tet/C30H			1.35186894819331E-02	ratio	Y
BiomRatio	C26t/C25t			1.36280344358397	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			7.83491667318602E-02	ratio	Y
BiomRatio	C27 Dia/Ster			7.01139302162664E-02	ratio	Y
BiomRatio	C28BNH/C30H			1.01792730317539E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.76777710488575	ratio	Y
BiomRatio	C29H/C30H			0.575478455031453	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.164424358752308	ratio	Y
BiomRatio	C30DiaH/C30H			2.93918457607832E-02	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			9.86193569969753E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.853648015274382	ratio	Y
BiomRatio	Gam/C30H			0.295546643192992	ratio	Y
BiomRatio	Gam/C31HR			1.10352150771233	ratio	Y
BiomRatio	Ole/C30H			5.54208300234021E-02	ratio	Y
BiomRatio	Sterane/hopane			0.226061409903285	ratio	Y
BiomRatio	Steranes/Terpanes			0.217063809223985	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			4.14514087422807E-02	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007825\_SPE\_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

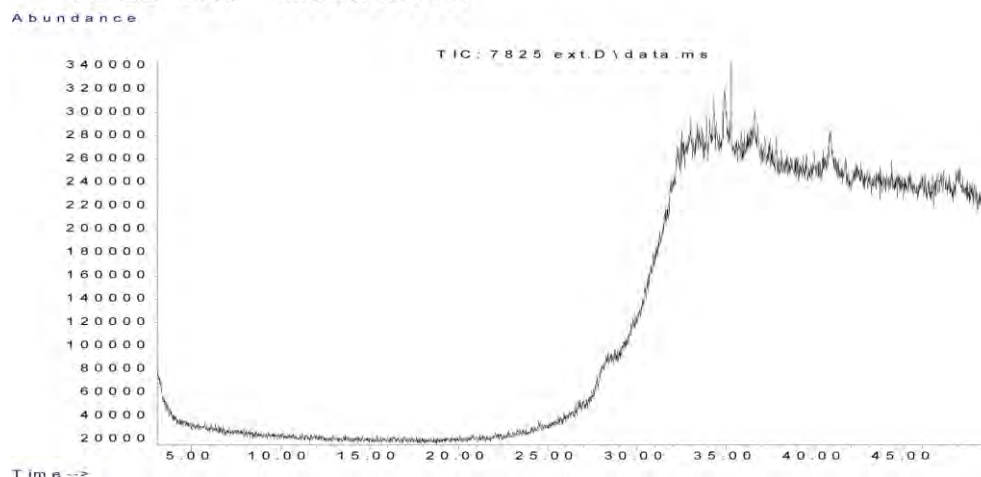
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			88.3732825608536	percent	Y
Inorg	Hydrogen			9.88546222664016	percent	Y
Inorg	Nitrogen			0.78	percent	Y
Inorg	Sulphur			3.73310172167882	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007825\_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\\_007825\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

7825 ext – Unknown



## Data Sheet:

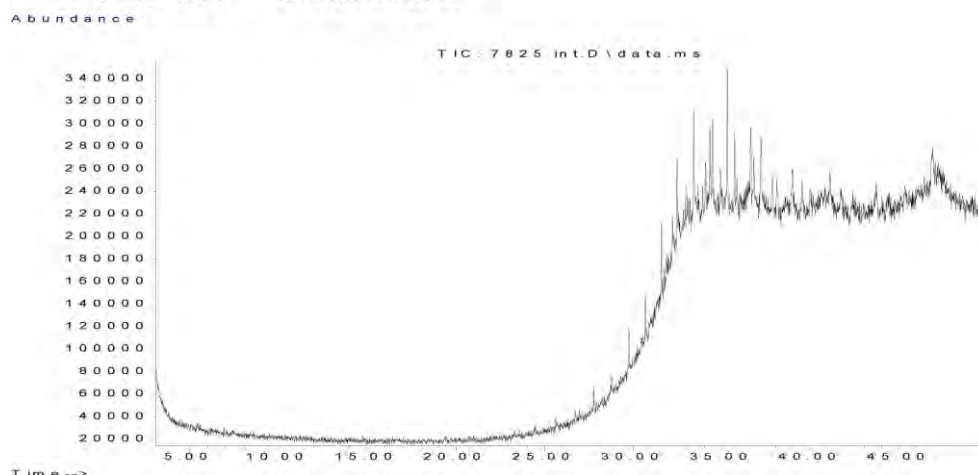
(default units ppb)

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

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007825 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\\_007825\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

## Results for: GCMS with Full Scan

## 7825 int – Unknown



## 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	95748			Z
Aliph	nC26	29.6680	162383			Z
Aliph	nC27	30.6080	189521			Z
Aliph	nC28	31.5080	263117			Z
Aliph	nC29	32.3700	365646			Z
Aliph	nC30	33.2910	389488			Z
Aliph	nC31	34.3470	381971			Z
Aliph	nC32	35.5720	431972			Z
Aliph	nC33	37.0130	372343			Z
Aliph	nC34	38.7280	480975			Z
Aliph	nC35	40.8080	339131			Z
Aliph	nC36	43.3510	287116			Z
Aliph	nC37	46.4710	473202			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 : **W13/007826**

Beach W10: Cactus Beach Visit: 3

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 8/10/2016 12:02:08 PM

**Type:** Waxy Bitumen

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

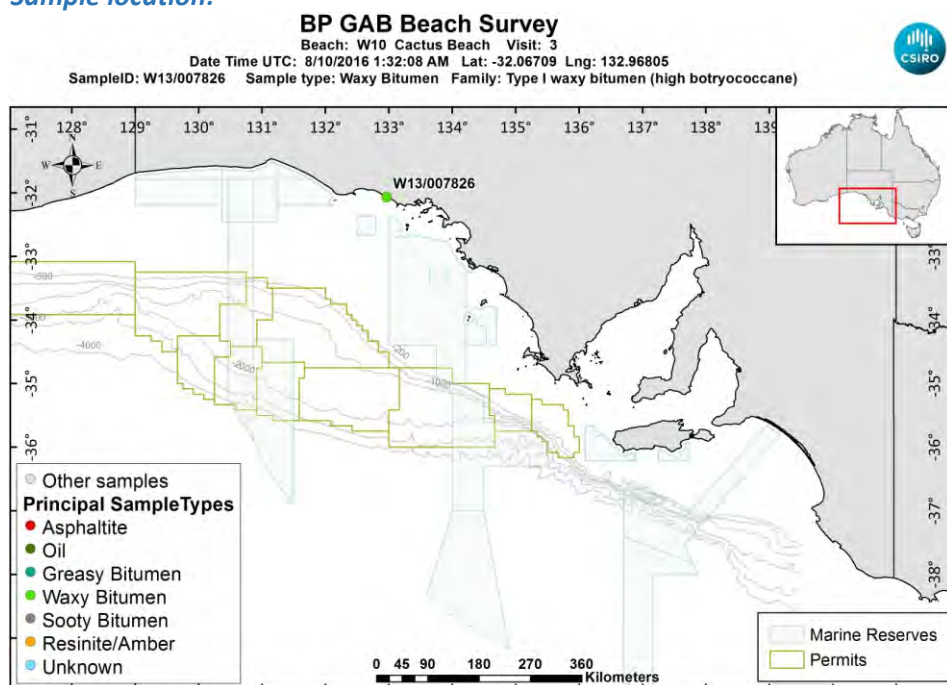
**Size (cm):** 5.9

**Latitude (Y):** -32.067088

**Weight (gm):** 27.9311

**Longitude (X):** 132.968052

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007826\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007826\\_146A6540.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007826\\_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:** W13/007826\_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			87.9295023341114	percent	Y	
Inorg	Hydrogen			8.91103300198805	percent	Y	
Inorg	Nitrogen			0.32	percent	Y	
Inorg	Sulphur			1.964700854161	percent	Y	

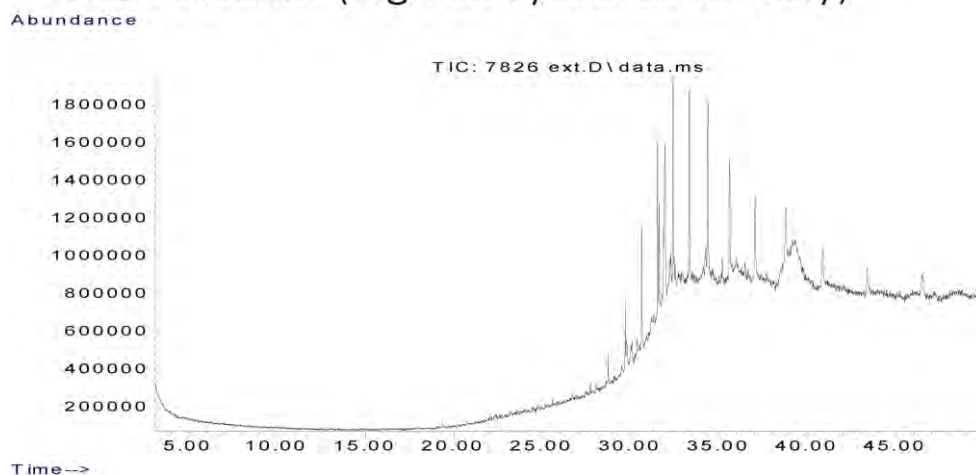
### Results for: GCMS with Full Scan

**Unique ID:** W13/007826\_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\\_007826\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

7826 exterior (high botryococcane waxy)



## Data Sheet:

(default units ppb)

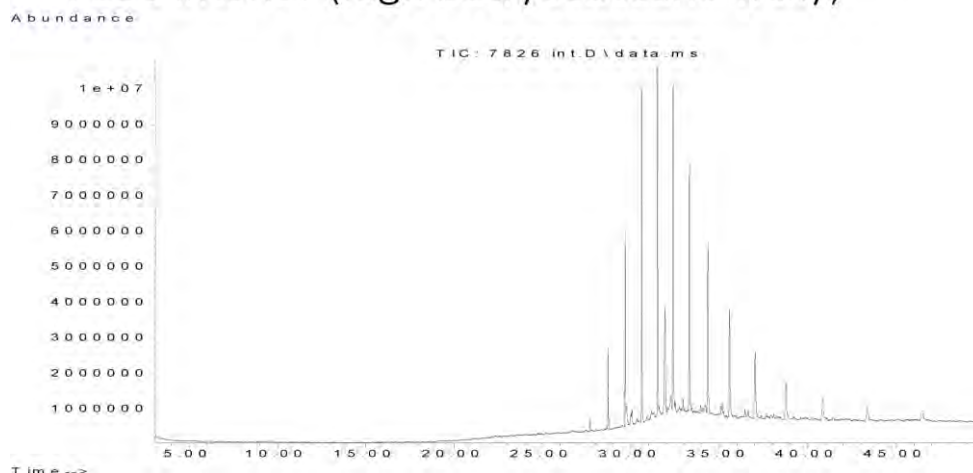
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	7206313			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				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	407771			Z
Aliph	nC25	28.7100	827091			Z
Aliph	nC26	29.6680	1606806			Z
Aliph	nC27	30.6080	3455063			Z
Aliph	nC28	31.5080	4384599			Z
Aliph	nC29	32.3700	5922969			Z
Aliph	nC30	33.2910	5941732			Z
Aliph	nC31	34.3470	5965360			Z
Aliph	nC32	35.5720	5046137			Z
Aliph	nC33	37.0130	3879909			Z
Aliph	nC34	38.7280	3443515			Z
Aliph	nC35	40.8080	2310801			Z
Aliph	nC36	43.3510	2180100			Z
Aliph	nC37	46.4710	1881662			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:** W13/007826 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\\_007826\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior



## Results for: GCMS with Full Scan

7826 interior (high botryococcane waxy)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	23462969			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	1939730			Z
Aliph	nC25	28.7100	10552379			Z
Aliph	nC26	29.6680	26048968			Z
Aliph	nC27	30.6080	44570647			Z
Aliph	nC28	31.5080	48321800			Z
Aliph	nC29	32.3700	47393831			Z
Aliph	nC30	33.2910	38075218			Z
Aliph	nC31	34.3470	31413018			Z
Aliph	nC32	35.5720	23275161			Z
Aliph	nC33	37.0130	17743267			Z
Aliph	nC34	38.7280	11771675			Z
Aliph	nC35	40.8080	7792492			Z
Aliph	nC36	43.3510	6176745			Z
Aliph	nC37	46.4710	5606425			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 : **W13/007827**

Beach W10: Cactus Beach Visit: 3

**Comments:**

Found after survey ended.

**Location:** Mid Intertidal

**Local Date Time:** 8/10/2016 12:30:00 PM

**Type:** Asphaltite

**Family:** Asphaltite

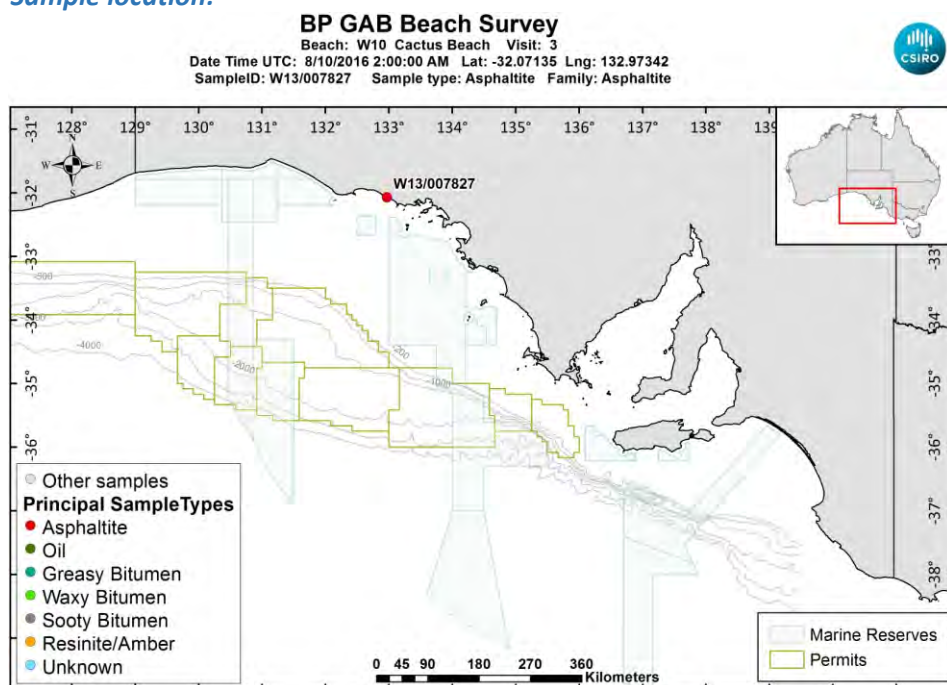
**Size (cm):** 3.1

**Latitude (Y):** -32.071350

**Weight (gm):** 7.42591

**Longitude (X):** 132.973420

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007827\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007827\\_146A6543.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007827\\_Photo03.JPG](#)

### Analyses Requested

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

### Analyses Completed:

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

### Sample Analyses Completed:

#### Results for: Gas Chromatography Mass Spectrometry

**Unique ID:** W13/007827\_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:	Retention Time:	Target Response:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			37.4563390102356	ratio	Y
BiomRatio	% C27 abb 20(R+S)			38.0768147636772	ratio	Y
BiomRatio	% C28 aaa 20R			25.1706949586453	ratio	Y
BiomRatio	% C28 abb 20(R+S)			26.8363433893827	ratio	Y
BiomRatio	% C29 aaa 20R			37.3729660311191	ratio	Y
BiomRatio	% C29 abb 20(R+S)			35.0868418469401	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.100466261807681	ratio	Y
BiomRatio	25-Nor/C30H			3.05344514183916E-02	ratio	Y
BiomRatio	C19t/C23t			0.286728245356299	ratio	Y
BiomRatio	C22t/C21t			0.379758189189978	ratio	Y
BiomRatio	C22t/C24t			0.330630825100947	ratio	Y
BiomRatio	C23t/C30H			7.52868400996325E-02	ratio	Y
BiomRatio	C24t/C23t			0.549629934640979	ratio	Y
BiomRatio	C24Tet/C23t			0.892103527572574	ratio	Y
BiomRatio	C24Tet/C26t			1.67985885692508	ratio	Y
BiomRatio	C24Tet/C30H			6.71636556326744E-02	ratio	Y
BiomRatio	C26t/C25t			0.893723977143931	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.441369103733238	ratio	Y
BiomRatio	C27 Dia/Ster			0.433693071002422	ratio	Y
BiomRatio	C28BNH/C30H			0.045794583790569	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.921475235381576	ratio	Y
BiomRatio	C29H/C30H			0.671338898888159	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.174868757293504	ratio	Y
BiomRatio	C30DiaH/C30H			0.093127108133194	ratio	Y
BiomRatio	C30Ts/C30H			3.61899427515159E-02	ratio	Y
BiomRatio	C35 Homohopane Index			0.073694053890394	ratio	Y
BiomRatio	C35HS/C34HS			0.8531143423071	ratio	Y
BiomRatio	Gam/C30H			8.59631004608305E-02	ratio	Y
BiomRatio	Gam/C31HR			0.262144688351226	ratio	Y
BiomRatio	Ole/C30H			3.8264612471295E-03	ratio	Y
BiomRatio	Sterane/hopane			0.31855784497922	ratio	Y
BiomRatio	Steranes/Terpanes			0.287888672021736	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.106531364162771	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007827\_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)

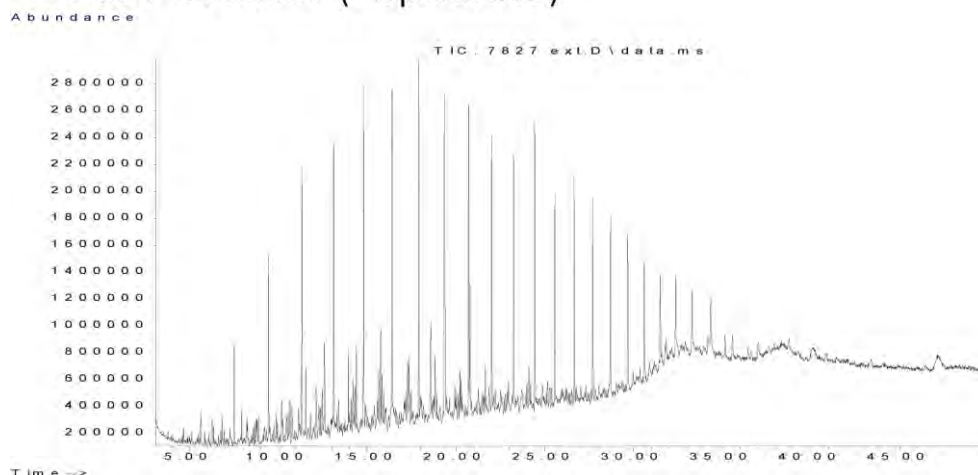
Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			85.8566188729577	percent	Y
Inorg	Hydrogen			7.19326441351889	percent	Y
Inorg	Nitrogen			0.68	percent	Y
Inorg	Sulphur			4.67626556693548	percent	Y

**Results for: GCMS with Full Scan****Unique ID:** W13/007827\_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\\_007827\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** ext C8 Not in range of visible compounds on that run. But this is fresh enough it COULD be there.



## Results for: GCMS with Full Scan

## 7827 exterior (Asphaltite)



## Data Sheet:

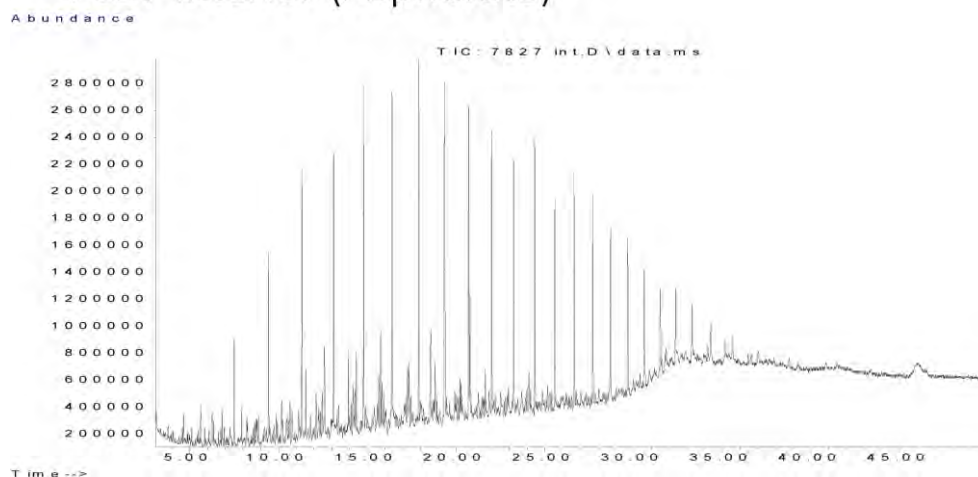
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110	4086316			Z
Aliph	nC11	9.4450	7766047			Z
Aliph	nC12	11.3220	10808916			Z
Aliph	nC13	13.1110	12328139			Z
Aliph	nC14	14.8030	14594280			Z
Aliph	nC15	16.4030	13648874			Z
Aliph	nC16	17.9160	12853043			Z
Aliph	nC17	19.3500	11662340			Z
Aliph	nC18	20.7170	10994829			Z
Aliph	nC19	22.0170	10189135			Z
Aliph	nC20	23.2570	9482813			Z
Aliph	nC21	24.4410	8822540			Z
Aliph	nC22	25.5760	7913896			Z
Aliph	nC23	26.6620	7387115			Z
Aliph	nC24	27.7060	6701919			Z
Aliph	nC25	28.7100	5696464			Z
Aliph	nC26	29.6680	5199441			Z
Aliph	nC27	30.6080	4677435			Z
Aliph	nC28	31.5080	3158686			Z
Aliph	nC29	32.3700	3461618			Z
Aliph	nC30	33.2910	2757563			Z
Aliph	nC31	34.3470	2579063			Z
Aliph	nC32	35.5720	1270135			Z
Aliph	nC33	37.0130	1006960			Z
Aliph	nC34	38.7280	916555			Z
Aliph	nC35	40.8080	883210			Z
Aliph	nC36	43.3510	797296			Z
Aliph	nC37	46.4710	624323			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200	1247077			Z
Aliph	Norpristane	18.5830	6203580			Z
Aliph	Phytane	20.7870	5049491			Z
Aliph	Pristane	19.3870	4786570			Z

**Results for: GCMS with Full Scan****Results for: GCMS with Full Scan****Unique ID:** W13/007827 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\\_007827\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** int C8 Not in range of visible compounds on that run. But this is fresh enough it COULD be there. Column bleed covers C37 response peak. Not really worth re-running just for that.

## Results for: GCMS with Full Scan

## 7827 interior (Asphaltite)



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110	4385825			Z
Aliph	nC11	9.4450	7805786			Z
Aliph	nC12	11.3220	10310091			Z
Aliph	nC13	13.1110	12017494			Z
Aliph	nC14	14.8030	14142641			Z
Aliph	nC15	16.4030	13473771			Z
Aliph	nC16	17.9160	12325180			Z
Aliph	nC17	19.3500	12278476			Z
Aliph	nC18	20.7170	11078501			Z
Aliph	nC19	22.0170	10249074			Z
Aliph	nC20	23.2570	9566527			Z
Aliph	nC21	24.4410	8868836			Z
Aliph	nC22	25.5760	7868382			Z
Aliph	nC23	26.6620	7355898			Z
Aliph	nC24	27.7060	6963200			Z
Aliph	nC25	28.7100	5733536			Z
Aliph	nC26	29.6680	5373836			Z
Aliph	nC27	30.6080	4490094			Z
Aliph	nC28	31.5080	3247087			Z
Aliph	nC29	32.3700	3031597			Z
Aliph	nC30	33.2910	2574008			Z
Aliph	nC31	34.3470	1721239			Z
Aliph	nC32	35.5720	1416906			Z
Aliph	nC33	37.0130	1111432			Z
Aliph	nC34	38.7280	651831			Z
Aliph	nC35	40.8080	963946			Z
Aliph	nC36	43.3510	643686			Z
Aliph	nC37	46.4710				U
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200	1621023			Z
Aliph	Norpristane	18.5830	5524822			Z
Aliph	Phytane	20.7870	4876568			Z
Aliph	Pristane	19.3870	4802021			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 : **W13/007487**

Beach W15: Cape Bauer Visit: 1

**Comments:**

huge accumulation of seagrass peat - like rock layers

**Location:** Mid Intertidal

**Local Date Time:** 12/11/2014 10:51:48 AM

**Type:** Peat

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

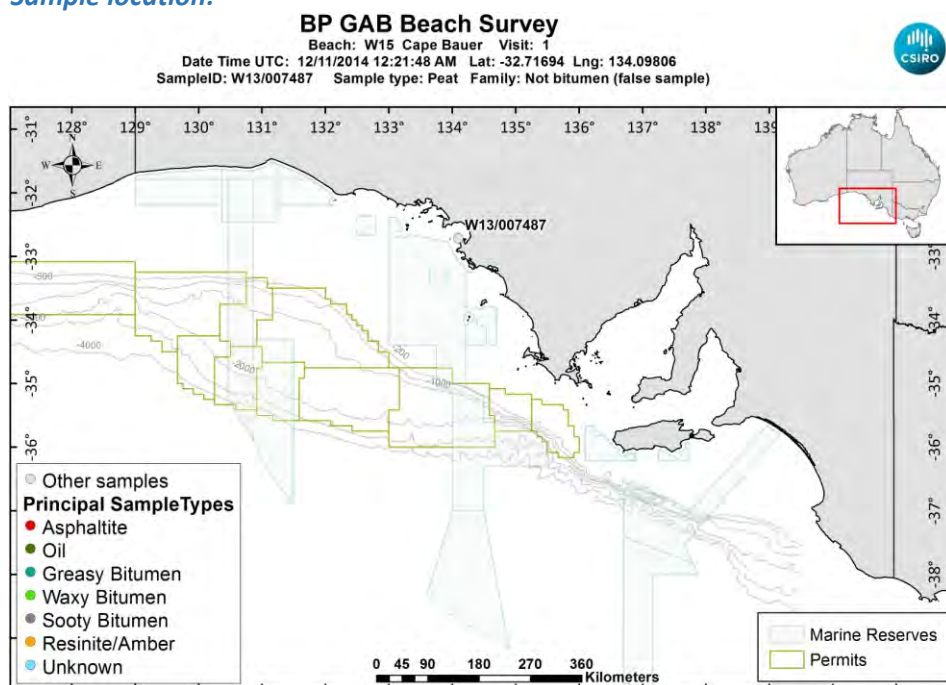
**Size (cm):** 19

**Latitude (Y):** -32.716944

**Weight (gm):** 79

**Longitude (X):** 134.098056

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007487\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007487\\_146A0345.JPG](#)

**Sample ID : W13/007487****Beach W15: Cape Bauer Visit: 1****Analyses Requested****Analyses Completed:**

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

**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 : **W13/007470**

Beach W1: Delisser Sandhills Visit: 1

**Comments:**

**Location:** Mid Intertidal

**Local Date Time:** 7/11/2014 5:18:03 PM

**Type:** Seaweed

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

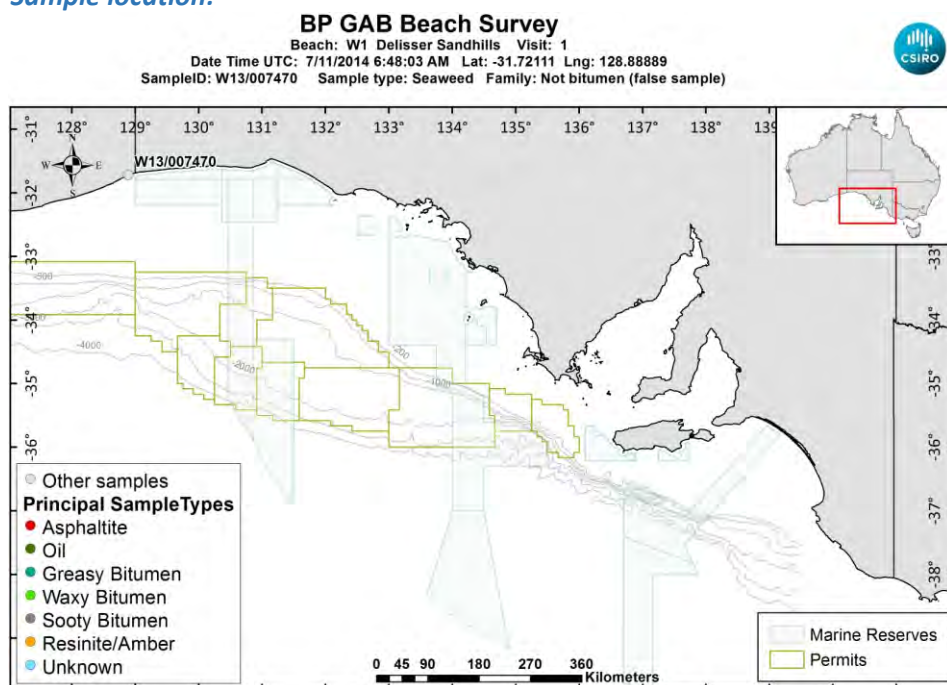
**Size (cm):** 2.5

**Latitude (Y):** -31.721111

**Weight (gm):** 3.58706

**Longitude (X):** 128.888889

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007470\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007470\\_146A0032.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007470\\_Photo01.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 : **W13/007471**

Beach W1: Delisser Sandhills Visit: 1

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 7/11/2014 5:59:51 PM

**Type:** Resinite/Amber

**Family:** Resin/Amber

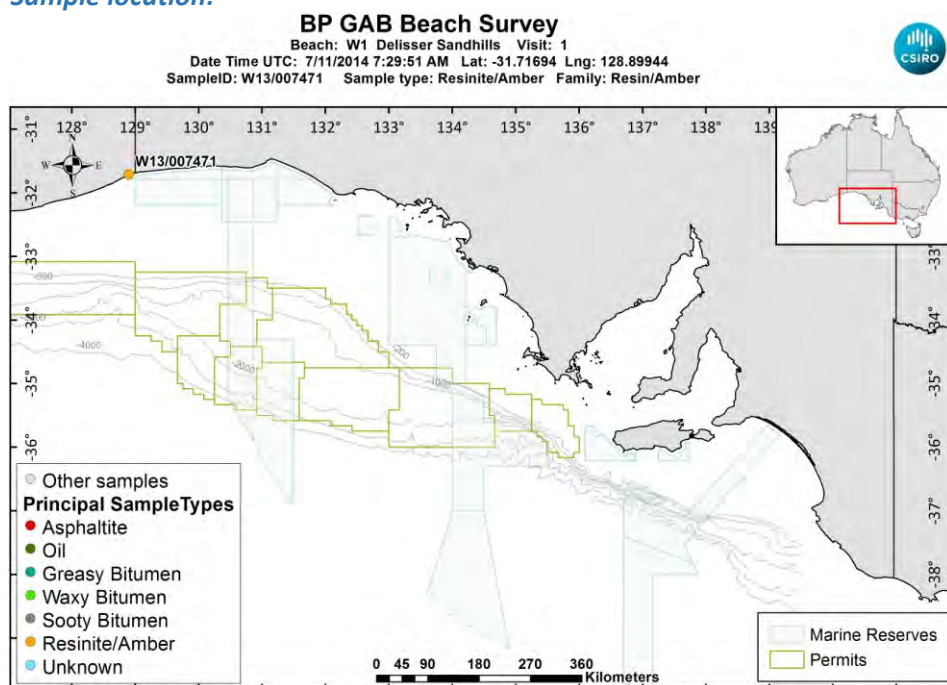
**Size (cm):** 7

**Latitude (Y):** -31.716944

**Weight (gm):** 27.75337

**Longitude (X):** 128.899444

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007471\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007471\\_146A0040.JPG](#)

**Sample - laboratory image:**





[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007471\\_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 : **W13/007767**

Beach W1: Delisser Sandhills Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 27/09/2015 9:31:58 AM

**Type:** Resinite/Amber

**Family:** Resin/Amber

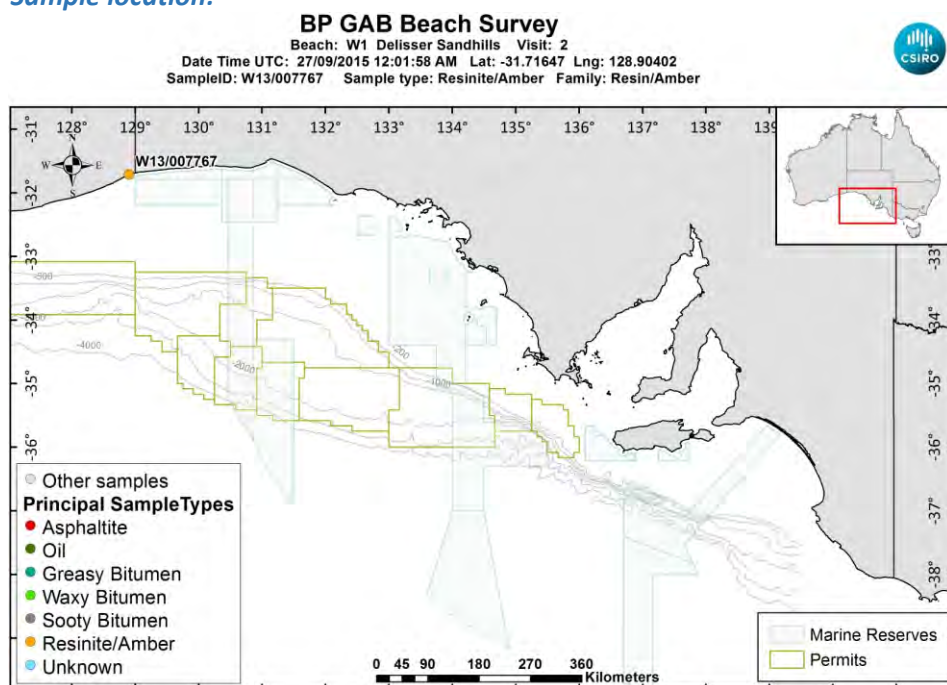
**Size (cm):** 4.2

**Latitude (Y):** -31.716473

**Weight (gm):** 10.8

**Longitude (X):** 128.904017

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007767\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007767\\_146A1887.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007767\\_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 : **W13/007473**

Beach W5: Dogfence Beach Visit: 1

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 8/11/2014 6:04:59 PM

**Type:** Waxy Bitumen

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

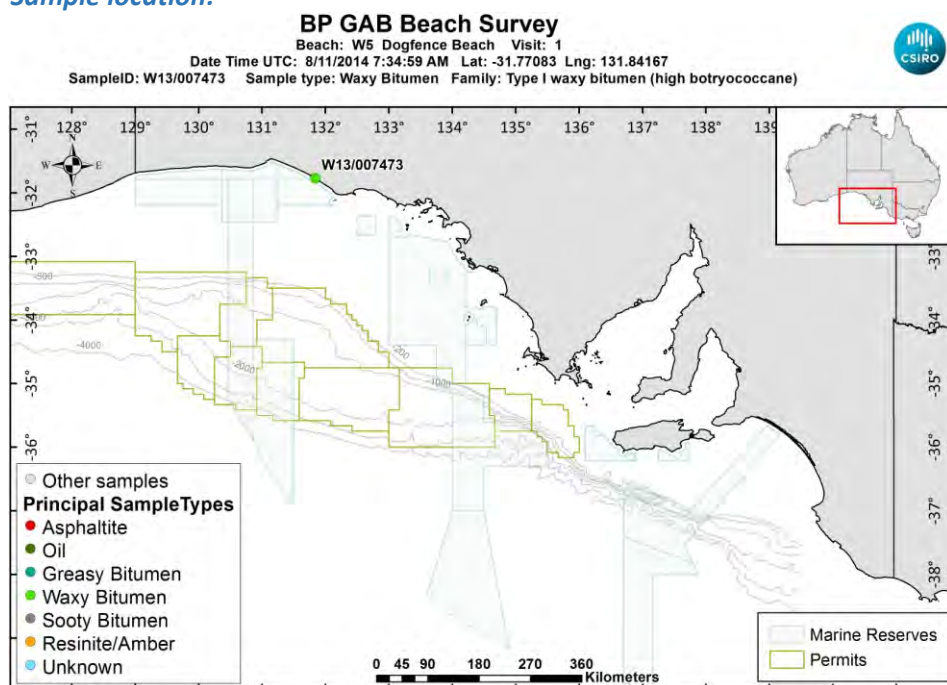
**Size (cm):** 5

**Latitude (Y):** -31.770833

**Weight (gm):** 19.25433

**Longitude (X):** 131.841667

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007473\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007473\\_146A0097.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007473\\_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:** W13/007473\_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 Respns:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			26.579425309723	ratio	Y
BiomRatio	% C27 abb 20(R+S)			41.0704230790269	ratio	Y
BiomRatio	% C28 aaa 20R			11.9186612181358	ratio	Y
BiomRatio	% C28 abb 20(R+S)			23.7180374075349	ratio	Y
BiomRatio	% C29 aaa 20R			61.5019134721411	ratio	Y
BiomRatio	% C29 abb 20(R+S)			35.2115395134382	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			8.87547643123833E-02	ratio	Y
BiomRatio	25-Nor/C30H			6.11781277363558E-02	ratio	Y
BiomRatio	C19t/C23t			0.230655508470053	ratio	Y
BiomRatio	C22t/C21t			0.335461989437473	ratio	Y
BiomRatio	C22t/C24t			0.235722700004766	ratio	Y
BiomRatio	C23t/C30H			7.53624307627829E-02	ratio	Y
BiomRatio	C24t/C23t			0.783808161566133	ratio	Y
BiomRatio	C24Tet/C23t			0.50109411526104	ratio	Y
BiomRatio	C24Tet/C26t			0.61686848312429	ratio	Y
BiomRatio	C24Tet/C30H			3.77636705669981E-02	ratio	Y
BiomRatio	C26t/C25t			1.88153340256144	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.720339458287381	ratio	Y
BiomRatio	C27 Dia/Ster			1.03932624674559	ratio	Y
BiomRatio	C28BNH/C30H			1.01488255767137E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.857345429475729	ratio	Y
BiomRatio	C29H/C30H			0.519494618089702	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.35125921513218	ratio	Y
BiomRatio	C30DiaH/C30H			0.173423366351607	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			0.045178708125685	ratio	Y
BiomRatio	C35HS/C34HS			0.468594116393093	ratio	Y
BiomRatio	Gam/C30H			5.28175741362618E-02	ratio	Y
BiomRatio	Gam/C31HR			0.284769087975573	ratio	Y
BiomRatio	Ole/C30H			7.93001686510211E-02	ratio	Y
BiomRatio	Sterane/hopane			6.54345224506458E-02	ratio	Y
BiomRatio	Steranes/Terpanes			5.75674923163762E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.136657509606886	ratio	Y

## Results for: Elemental Analyser

Unique ID: W13/007473\_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			84.1	percent	Y
Inorg	delta13 Carbon		-25.7898195348896		per mille	Y
Inorg	delta34 Sulphur		4.95943342108399		per mille	Y
Inorg	Hydrogen			6.35	percent	Y
Inorg	Nitrogen			0.15	percent	Y
Inorg	Sulphur			1.12	percent	Y

## Results for: GCMS with Full Scan

Unique ID: W13/007473\_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\\_007473\\_ext\\_WholeOil.jpg](#)

Sample Volume:

Volume Units:

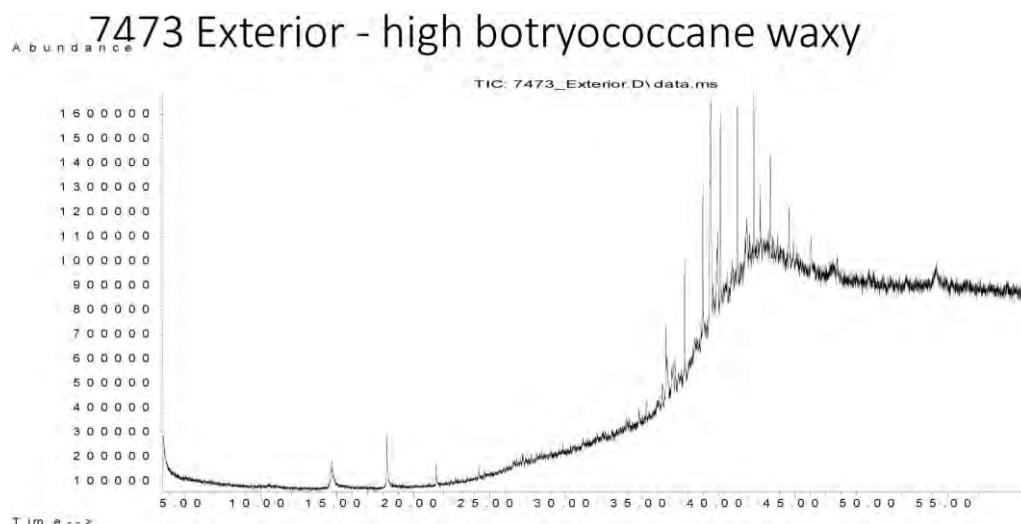
Extract Volume:

Dilution Factor:

Comment: Exterior



## Results for: GCMS with Full Scan



## Data Sheet:

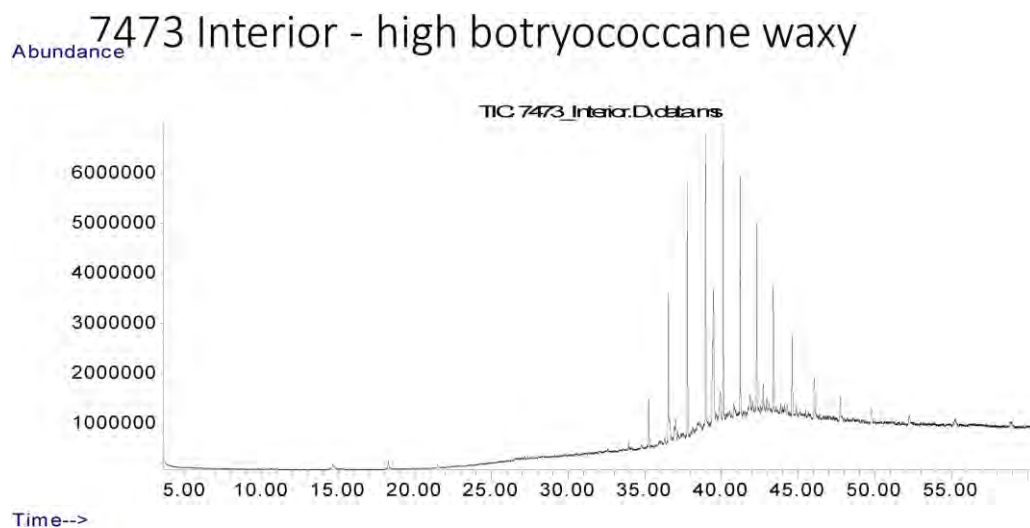
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780	8285180		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	129733		ug/L	Z
Aliph	nC21	29.6330	27735		ug/L	Z
Aliph	nC22	31.1340	162286		ug/L	Z
Aliph	nC23	32.5720			ug/L	U
Aliph	nC24	33.9520	167993		ug/L	Z
Aliph	nC25	35.2810	448535		ug/L	Z
Aliph	nC26	36.5600	1618811		ug/L	Z
Aliph	nC27	37.7930	2360756		ug/L	Z
Aliph	nC28	38.9870	3457783		ug/L	Z
Aliph	nC29	40.1370	4010197		ug/L	Z
Aliph	nC30	41.2480	3677022		ug/L	Z
Aliph	nC31	42.3270	3212001		ug/L	Z
Aliph	nC32	43.4130	2260285		ug/L	Z
Aliph	nC33	44.6430	1675232		ug/L	Z
Aliph	nC34	46.0860	960916		ug/L	Z
Aliph	nC35	47.8060	466088		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****Results for: GCMS with Full Scan****Unique ID:** W13/007473 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\\_007473\\_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	17881424		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	986711		ug/L	Z
Aliph	nC25	35.2810	5027849		ug/L	Z
Aliph	nC26	36.5600	16750873		ug/L	Z
Aliph	nC27	37.7930	27348947		ug/L	Z
Aliph	nC28	38.9870	30399272		ug/L	Z
Aliph	nC29	40.1370	30373228		ug/L	Z
Aliph	nC30	41.2480	24771751		ug/L	Z
Aliph	nC31	42.3270	20144492		ug/L	Z
Aliph	nC32	43.4130	14316558		ug/L	Z
Aliph	nC33	44.6430	10335539		ug/L	Z
Aliph	nC34	46.0860	6779101		ug/L	Z
Aliph	nC35	47.8060	4151282		ug/L	Z
Aliph	nC36	49.8090	944908		ug/L	Z
Aliph	nC37	52.2960	742998		ug/L	Z
Aliph	nC38	55.2370	333462		ug/L	Z
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 : **W13/007474A**

Beach W5: Dogfence Beach Visit: 1

**Comments:**

Part A. Heavily weathered Waxy Bitumen

**Location:** Shore Upper

**Local Date Time:** 9/11/2014 10:25:02 AM

**Type:** Seaweed

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

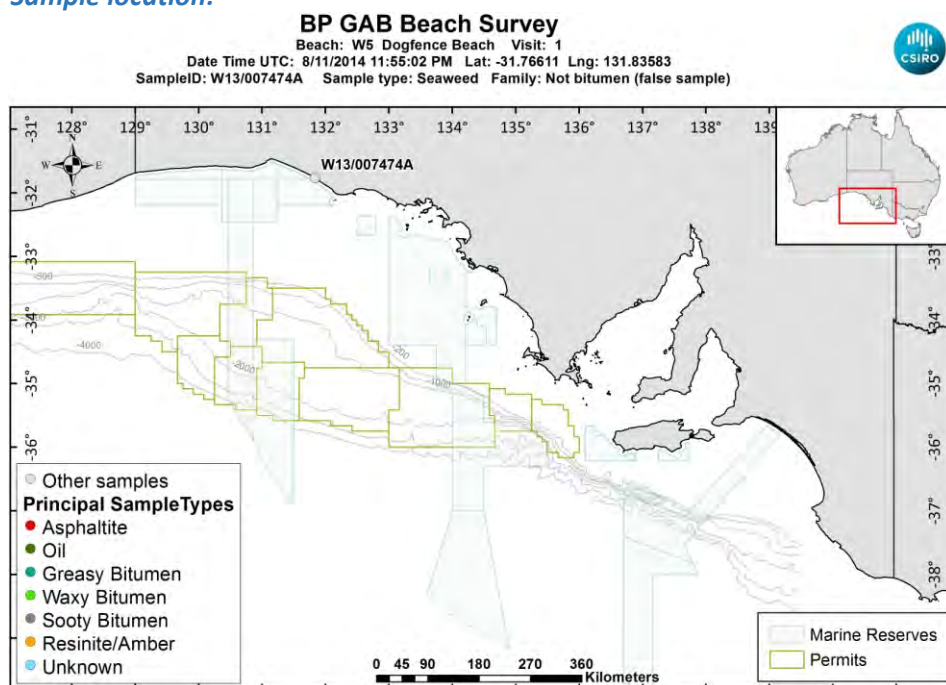
**Size (cm):** 6.5

**Latitude (Y):** -31.766111

**Weight (gm):** 16.32391

**Longitude (X):** 131.835833

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007474A\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007474\\_146A0124.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007474\\_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 : **W13/007474B**

Beach W5: Dogfence Beach Visit: 1

**Comments:**

Part B subsample

**Location:** Shore Upper

**Local Date Time:** 9/11/2014 10:25:02 AM

**Type:** Seaweed

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

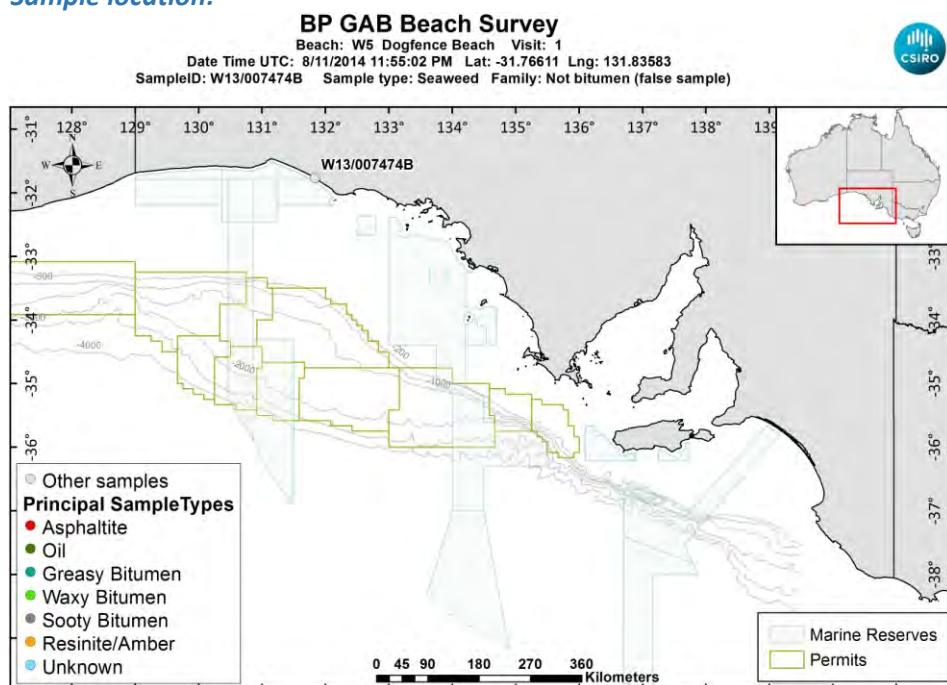
**Size (cm):**

**Latitude (Y):** -31.766111

**Weight (gm):**

**Longitude (X):** 131.835833

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007474B\\_Location.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 : **W13/007746**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 10:38:32 AM

**Type:** Waxy Bitumen

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

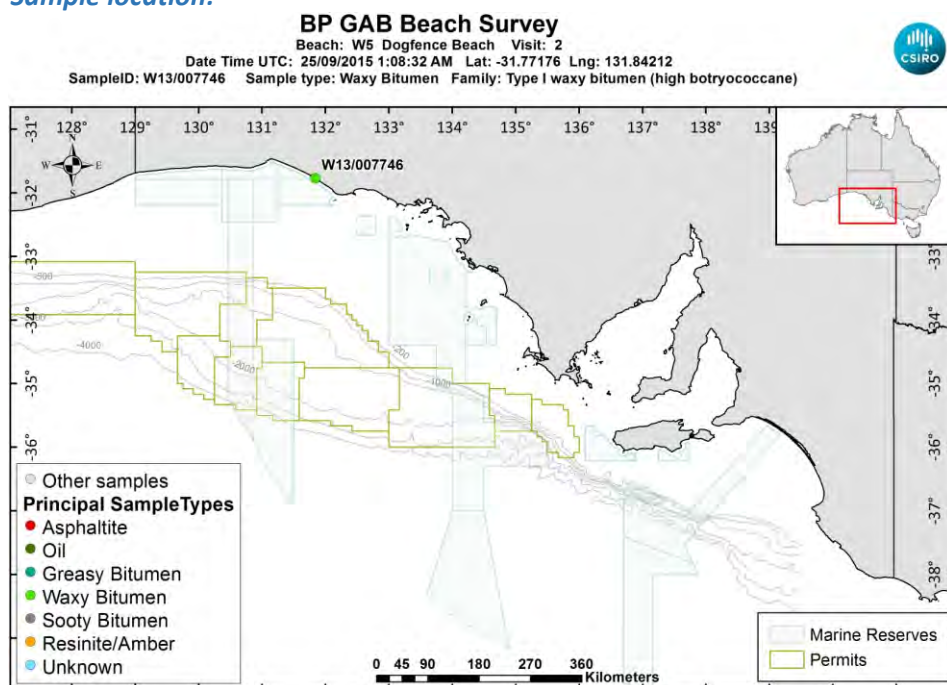
**Size (cm):** 5

**Latitude (Y):** -31.771760

**Weight (gm):** 20.9

**Longitude (X):** 131.842120

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007746\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007746\\_146A1822.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007746\\_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:** W13/007746\_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			87.3622582194065	percent	Y
Inorg	Hydrogen			7.45333836978132	percent	Y
Inorg	Nitrogen			0.38	percent	Y
Inorg	Sulphur			1.36887059315237	percent	Y

### Results for: GCMS with Full Scan

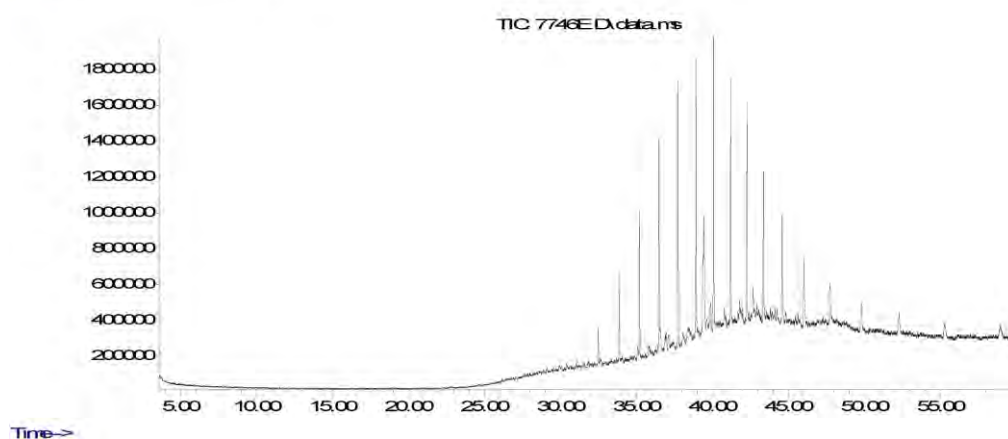
**Unique ID:** W13/007746\_DISS\_GCMS-Scan/01

**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\\_007746\\_ext\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

## Results for: GCMS with Full Scan

7746 Exterior

Abundance



## Data Sheet:

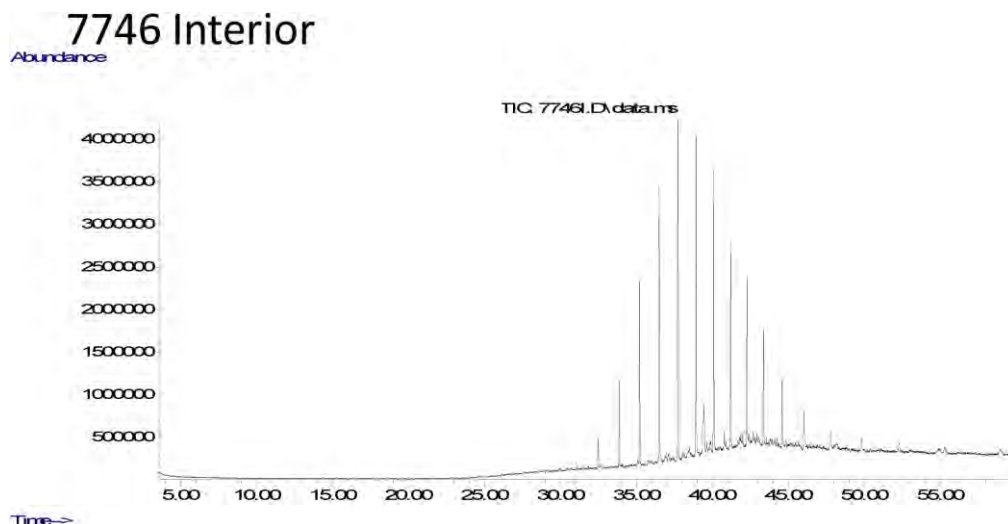
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	6323052		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	302378		ug/L	Z
Aliph	nC23	32.4960	925218		ug/L	Z
Aliph	nC24	33.8800	2438837		ug/L	Z
Aliph	nC25	35.2120	4218081		ug/L	Z
Aliph	nC26	36.4960	5398783		ug/L	Z
Aliph	nC27	37.7300	7556337		ug/L	Z
Aliph	nC28	38.9260	8099108		ug/L	Z
Aliph	nC29	40.0740	7967420		ug/L	Z
Aliph	nC30	41.1930	6707924		ug/L	Z
Aliph	nC31	42.2750	6024200		ug/L	Z
Aliph	nC32	43.3560	4945991		ug/L	Z
Aliph	nC33	44.5840	4348545		ug/L	Z
Aliph	nC34	46.0130	3278159		ug/L	Z
Aliph	nC35	47.7140	2125151		ug/L	Z
Aliph	nC36	49.7870	1890747		ug/L	Z
Aliph	nC37	52.2630	1313011		ug/L	Z
Aliph	nC38	55.2360	1168013		ug/L	Z
Aliph	nC39	58.9110	1190629		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:** W13/007746 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\\_007746\\_int\\_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior



## Results for: GCMS with Full Scan



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	5430855		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	488220		ug/L	Z
Aliph	nC23	32.4960	1861882		ug/L	Z
Aliph	nC24	33.8800	5763113		ug/L	Z
Aliph	nC25	35.2120	11292026		ug/L	Z
Aliph	nC26	36.4960	15959299		ug/L	Z
Aliph	nC27	37.7300	20630138		ug/L	Z
Aliph	nC28	38.9260	18435883		ug/L	Z
Aliph	nC29	40.0740	16506041		ug/L	Z
Aliph	nC30	41.1930	12667635		ug/L	Z
Aliph	nC31	42.2750	10255802		ug/L	Z
Aliph	nC32	43.3560	7704744		ug/L	Z
Aliph	nC33	44.5840	5604997		ug/L	Z
Aliph	nC34	46.0130	3861413		ug/L	Z
Aliph	nC35	47.7140	2545769		ug/L	Z
Aliph	nC36	49.7870	1729522		ug/L	Z
Aliph	nC37	52.2630	1452378		ug/L	Z
Aliph	nC38	55.2360	924466		ug/L	Z
Aliph	nC39	58.9110	1238359		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 : **W13/007747**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:06:31 AM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

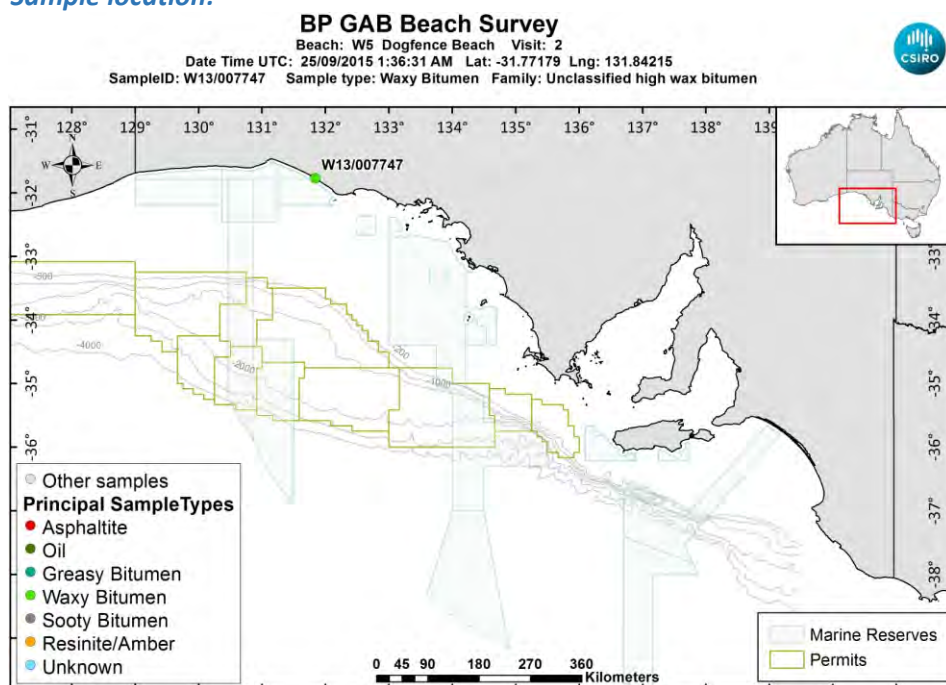
**Size (cm):** 2.9

**Latitude (Y):** -31.771792

**Weight (gm):** 1.9

**Longitude (X):** 131.842153

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007747\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007747\\_146A1823.JPG](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007747\\_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:** W13/007747\_SPE\_ELEM-AN/01

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

**for Analysis:** Elemental CHNS

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

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

**Preparation:** Solid Phase Extract

**Method ID/s:**

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

### Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.18	percent	Y
Inorg	Hydrogen			8.49126043737575	percent	Y
Inorg	Nitrogen			0.29	percent	Y
Inorg	Sulphur			3.06199213682767	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 : **W13/007748**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Found to be seaweed - NOT to be analysed

**Location:** Upper Intertidal

**Local Date Time:** 25/09/2015 11:08:31 AM

**Type:** Seaweed

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

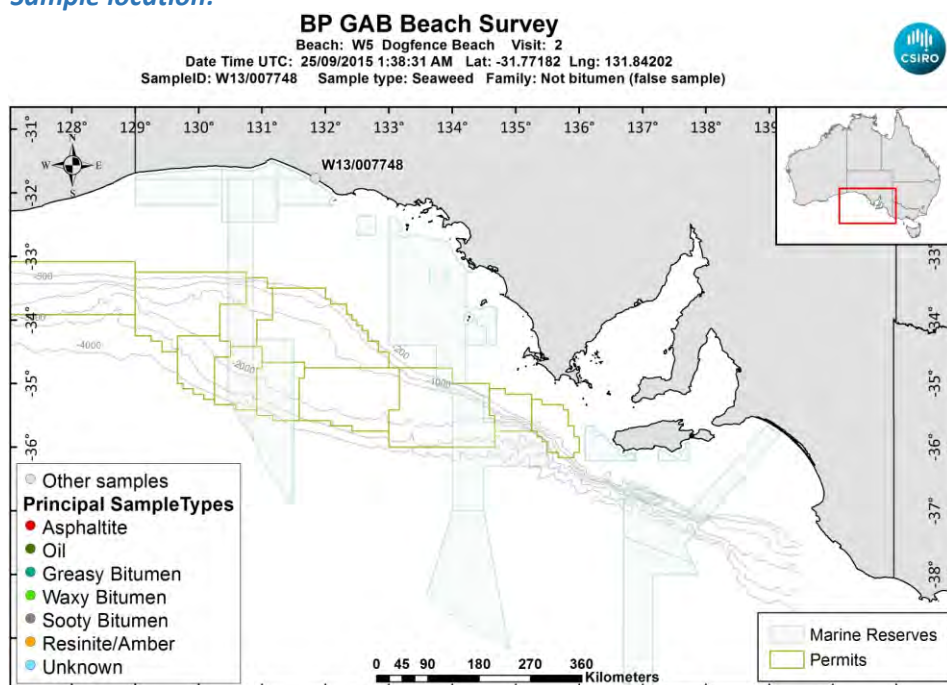
**Size (cm):** 2.5

**Latitude (Y):** -31.771817

**Weight (gm):**

**Longitude (X):** 131.842022

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007748\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007748\\_146A1824.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:**

<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 : W13/007749A**

### Beach W5: Dogfence Beach Visit: 2

**Comments:**

16 pieces found within the 100m transect too small for individual collection. Part A.

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Waxy Bitumen

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

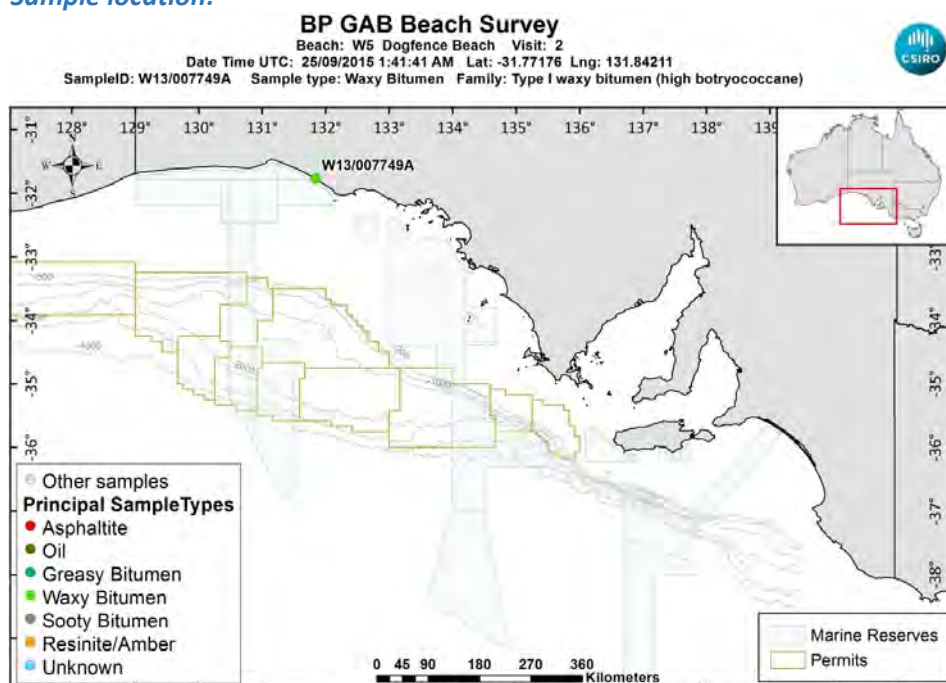
**Size (cm):** 0

**Latitude (Y):** -31.771762

**Weight (gm):** 18

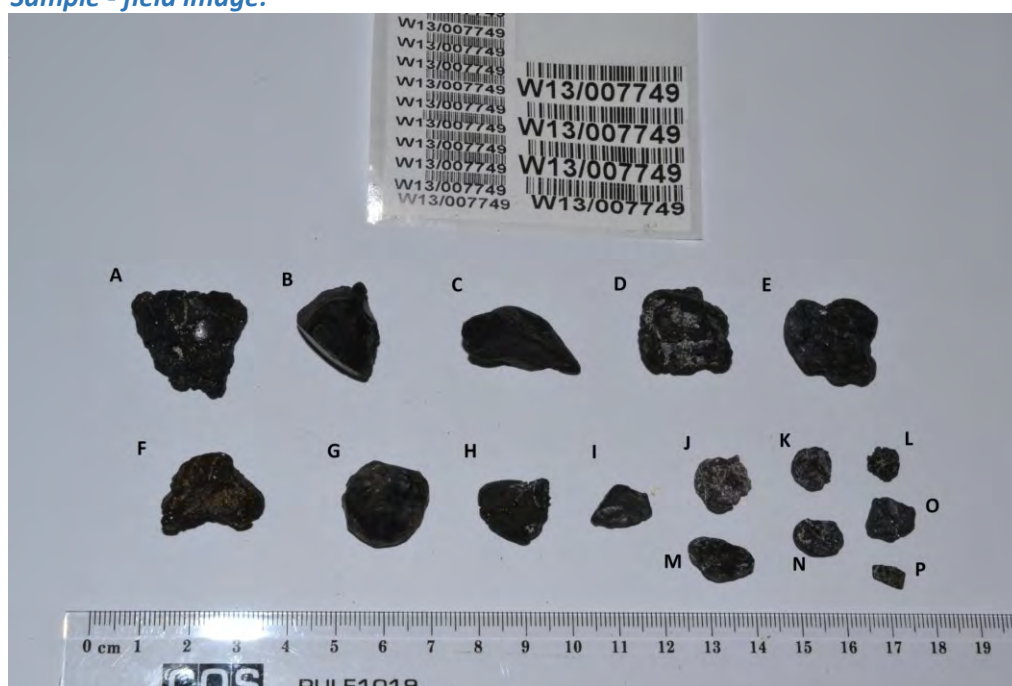
**Longitude (X):** 131.842113

**Sample location:**



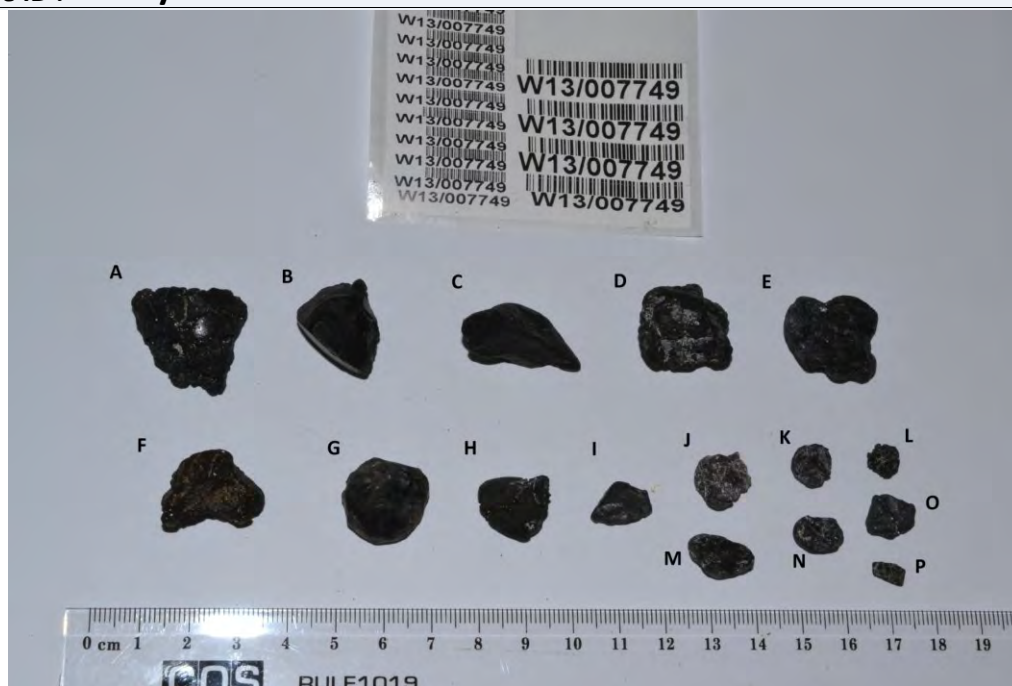
[LinkedFiles\GAB BCH1\SampleLocations\W13\\_007749A\\_Location.jpg](#)

**Sample - field image:**



LinkedFiles\GAB BCH1\Samples\W13 007749 Photo01(annotated).jpg

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).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
Whole Oils	GCMS with Full Scan Run: 3

### Sample Analyses Completed:

#### Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007749A DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Analysis Date: 18/07/2017

Linked Image: [None available](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk Ratios only

## Results for: Gas Chromatography Mass Spectrometry

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			35.7916900047305	ratio	Y
BiomRatio	% C27 abb 20(R+S)			24.142955813699	ratio	Y
BiomRatio	% C28 aaa 20R			19.6882808577573	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.8638744012449	ratio	Y
BiomRatio	% C29 aaa 20R			44.5200291375122	ratio	Y
BiomRatio	% C29 abb 20(R+S)			50.993169785056	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.136072630804519	ratio	Y
BiomRatio	25-Nor/C30H			1.59008621489557E-02	ratio	Y
BiomRatio	C19t/C23t			8.72487283647411E-02	ratio	Y
BiomRatio	C22t/C21t			0.867089822504895	ratio	Y
BiomRatio	C22t/C24t			0.459249619590819	ratio	Y
BiomRatio	C23t/C30H			0.116375953674479	ratio	Y
BiomRatio	C24t/C23t			0.343460244666116	ratio	Y
BiomRatio	C24Tet/C23t			1.62836939694808	ratio	Y
BiomRatio	C24Tet/C26t			7.08140435418639	ratio	Y
BiomRatio	C24Tet/C30H			0.189503041504168	ratio	Y
BiomRatio	C26t/C25t			0.723583101975636	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.182103903652403	ratio	Y
BiomRatio	C27 Dia/Ster			0.12707435543111	ratio	Y
BiomRatio	C28BNH/C30H			8.42886841036215E-03	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			2.11213449498681	ratio	Y
BiomRatio	C29H/C30H			1.40577825513145	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			4.62533495642878E-02	ratio	Y
BiomRatio	C30DiaH/C30H			1.30783256914754E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.177563916830469	ratio	Y
BiomRatio	C35 Homohopane Index			7.33878393775377E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.905837520111916	ratio	Y
BiomRatio	Gam/C30H			0.123922720179043	ratio	Y
BiomRatio	Gam/C31HR			0.300207490461444	ratio	Y
BiomRatio	Ole/C30H			2.46343753974843E-03	ratio	Y
BiomRatio	Sterane/hopane			0.169923269995175	ratio	Y
BiomRatio	Steranes/Terpanes			0.155057671412841	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			9.58714164019285E-02	ratio	Y

## Results for: GCMS with Full Scan

Unique ID: W13/007749A DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Preparation: Dissolved in solvent

Analysis Date: 18/11/2016

Method ID/s:

Linked Image: [LinkedFiles\GAB\\_BCH1\GCMS\W13\\_007749A\\_bulk\\_WholeOil.jpg](#)

Sample Volume:

Volume Units:

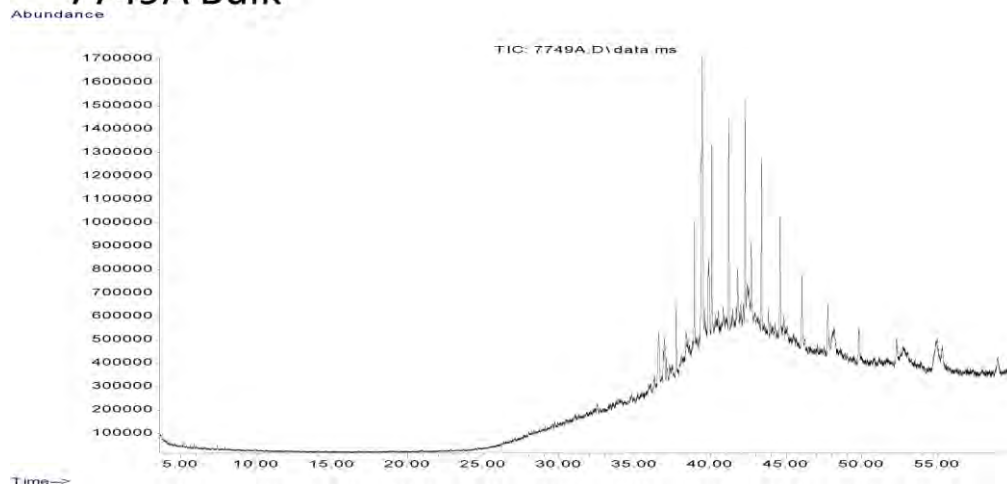
Extract Volume:

Dilution Factor:

Comment: Bulk

## Results for: GCMS with Full Scan

7749A Bulk



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	12026868		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	2507381		ug/L	Z
Aliph	nC27	37.7300	1406296		ug/L	Z
Aliph	nC28	38.9260	3162605		ug/L	Z
Aliph	nC29	40.0740	4377105		ug/L	Z
Aliph	nC30	41.1930	4506542		ug/L	Z
Aliph	nC31	42.2750	4357856		ug/L	Z
Aliph	nC32	43.3560	4042415		ug/L	Z
Aliph	nC33	44.5840	3681229		ug/L	Z
Aliph	nC34	46.0130	2849763		ug/L	Z
Aliph	nC35	47.7140	2161103		ug/L	Z
Aliph	nC36	49.7870	1563269		ug/L	Z
Aliph	nC37	52.2630	1458299		ug/L	Z
Aliph	nC38	55.2360	1165686		ug/L	Z
Aliph	nC39	58.9110	1381341		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 : **W13/007749B**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part B subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Waxy Bitumen

**Family:** Unknown

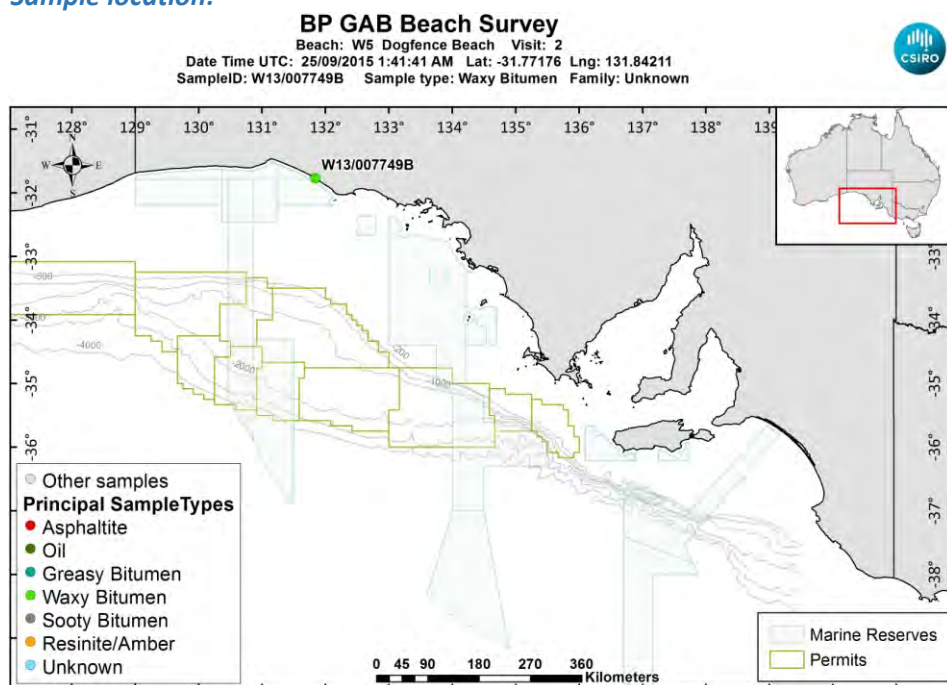
**Size (cm):**

**Latitude (Y):** -31.771762

**Weight (gm):**

**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749B\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749B\\_Photo04.JPG](#)



Sample ID : **W13/007749B**

Beach W5: Dogfence Beach Visit: 2

**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: **W13/007749B\_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			89.47	percent	Y
Inorg	Hydrogen			7.85990854870775	percent	Y
Inorg	Nitrogen			1.14	percent	Y
Inorg	Sulphur			2.261475285001	percent	Y

**Qualifier codes:**

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
D	Compound quantitated on a diluted sample
E	Inorganics: Estimated due to interference    Organics: Concentration exceeds the calibration range of the instrument
J	Estimated - Result is ≥ 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 : **W13/007749C**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part C subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Waxy Bitumen

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

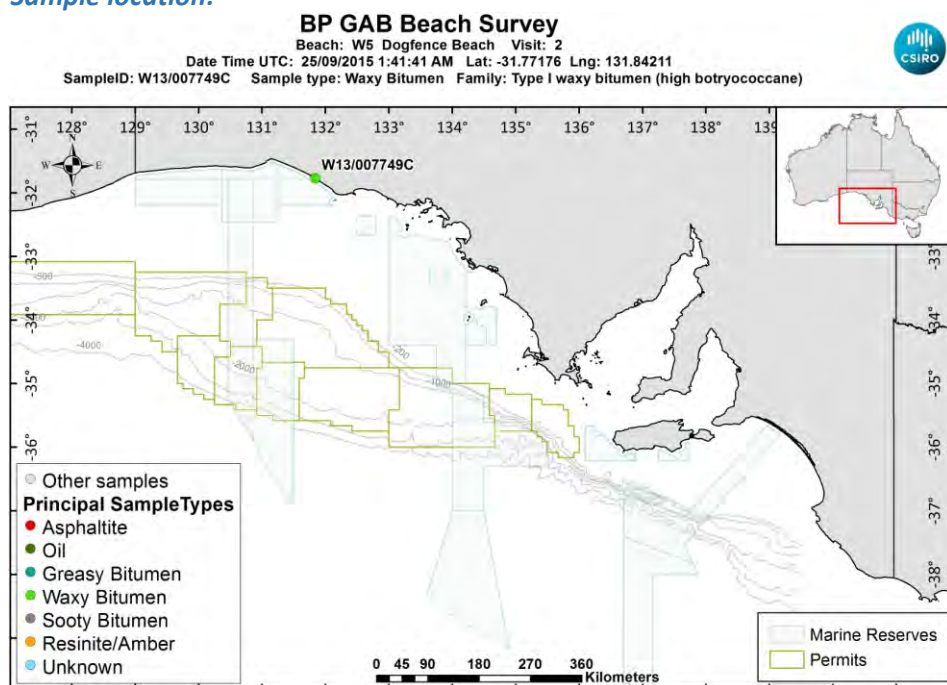
**Size (cm):**

**Latitude (Y):** -31.771762

**Weight (gm):**

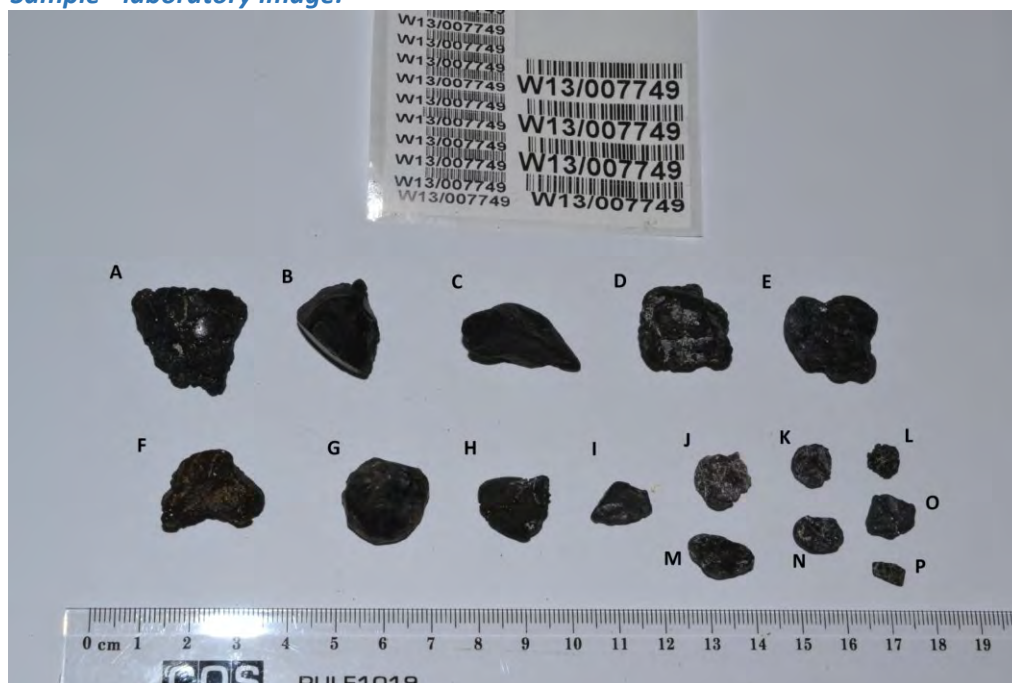
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749C\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).jpg](#)

**Sample ID : W13/007749C**

**Beach W5: Dogfence Beach Visit: 2**

**Analyses Requested**

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

**Analyses Completed:**

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

**Sample Analyses Completed:**

**Results for: GCMS with Full Scan**

**Unique ID:** W13/007749C\_DISS\_GCMS-Scan/03

**Instrument / Type:** GCMS with Full Scan Run: 3

**for Analysis:** Whole Oils

**Preparation:** Dissolved in solvent

**Analysis Date:** 18/11/2016

**Method ID/s:**

**Linked Image:** [LinkedFiles\GAB\\_BCH1\GCMS\W13\\_007749C\\_bulk\\_WholeOil.jpg](#)

**Sample Volume:**

**Volume Units:**

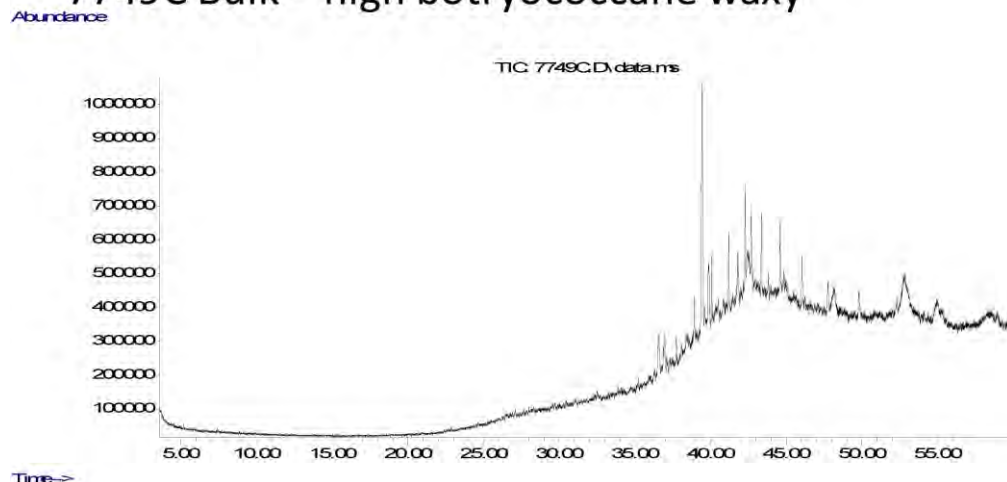
**Extract Volume:**

**Dilution Factor:**

**Comment:** Bulk

## Results for: GCMS with Full Scan

## 7749C Bulk – high botryococcane waxy



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	7043898		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	392708		ug/L	Z
Aliph	nC28	38.9260	703661		ug/L	Z
Aliph	nC29	40.0740	1081668		ug/L	Z
Aliph	nC30	41.1930	1250779		ug/L	Z
Aliph	nC31	42.2750	1518717		ug/L	Z
Aliph	nC32	43.3560	1486289		ug/L	Z
Aliph	nC33	44.5840	1609002		ug/L	Z
Aliph	nC34	46.0130	1363749		ug/L	Z
Aliph	nC35	47.7140	1058684		ug/L	Z
Aliph	nC36	49.7870	1038073		ug/L	Z
Aliph	nC37	52.2630	1017963		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 : **W13/007749D**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part D subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

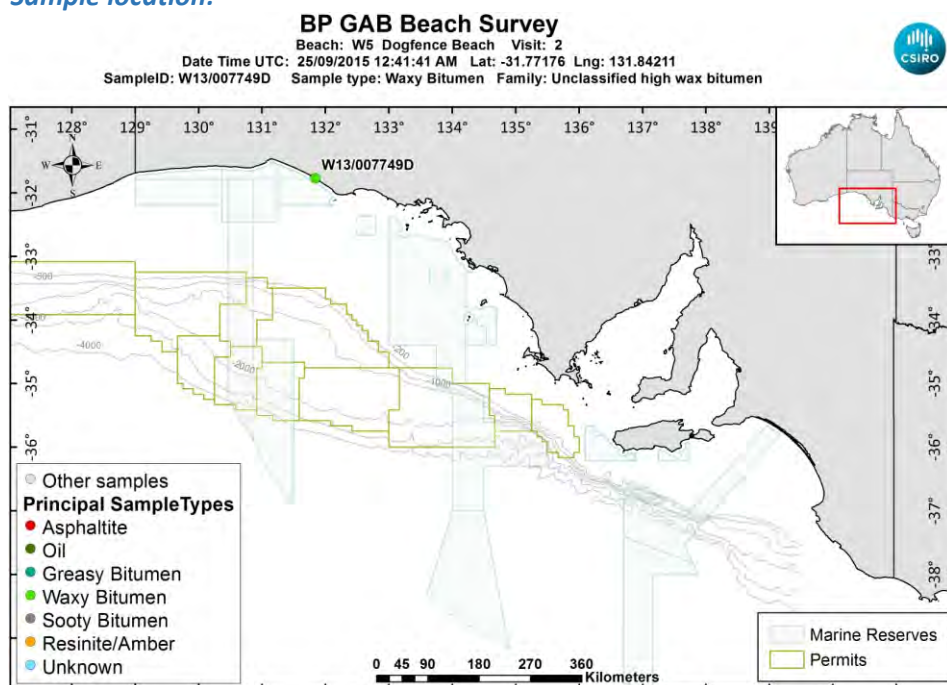
**Size (cm):** 2

**Latitude (Y):** -31.771762

**Weight (gm):** 0

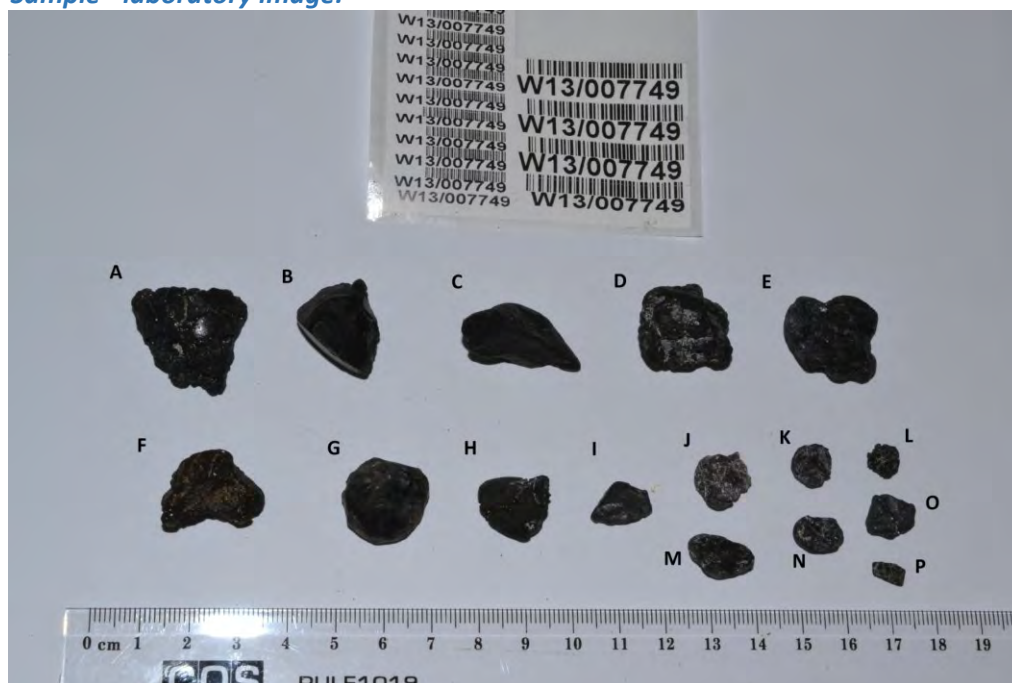
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749D\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).jpg](#)



**Sample ID : W13/007749D**

**Beach W5: Dogfence Beach Visit: 2**

**Analyses Requested**

Split:	Analysis:	Sent:
1	Bitumen Determination	NO
2	Whole Oils	YES

**Analyses Completed:**

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

**Sample Analyses Completed:**

**Results for: GCMS with Full Scan**

**Unique ID:** W13/007749D\_DISS\_GCMS-Scan/03

**Instrument / Type:** GCMS with Full Scan Run: 3

**for Analysis:** Whole Oils

**Preparation:** Dissolved in solvent

**Analysis Date:** 18/11/2016

**Method ID/s:**

**Linked Image:** [LinkedFiles\GAB\\_BCH1\GCMS\W13\\_007749D\\_bulk\\_WholeOil.jpg](#)

**Sample Volume:**

**Volume Units:**

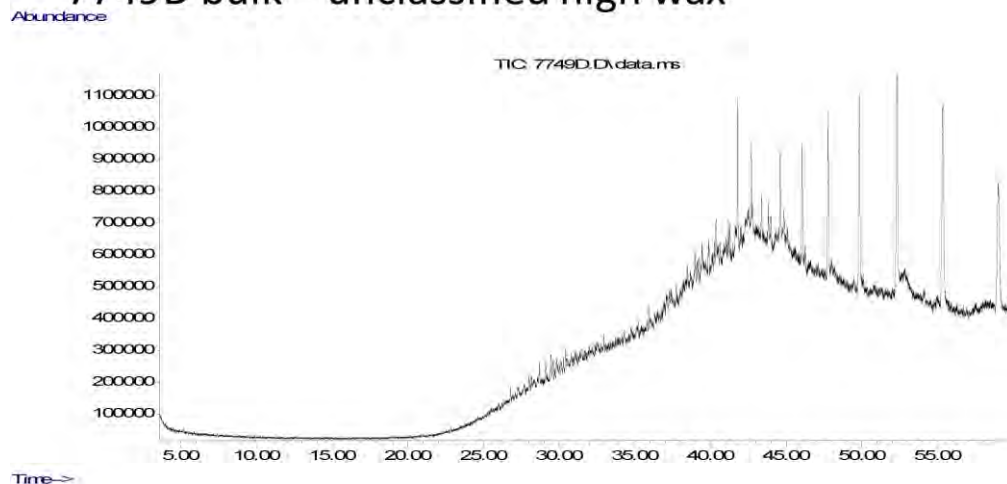
**Extract Volume:**

**Dilution Factor:**

**Comment:** Bulk

## Results for: GCMS with Full Scan

## 7749D bulk – unclassified high wax



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300			ug/L	U
Aliph	nC28	38.9260			ug/L	U
Aliph	nC29	40.0740			ug/L	U
Aliph	nC30	41.1930			ug/L	U
Aliph	nC31	42.2750			ug/L	U
Aliph	nC32	43.3560	740717		ug/L	Z
Aliph	nC33	44.5840	2031307		ug/L	Z
Aliph	nC34	46.0130	3158092		ug/L	Z
Aliph	nC35	47.7140	4565954		ug/L	Z
Aliph	nC36	49.7870	6984396		ug/L	Z
Aliph	nC37	52.2630	8005967		ug/L	Z
Aliph	nC38	55.2360	10182494		ug/L	Z
Aliph	nC39	58.9110	8838622		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 : **W13/007749E**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part E subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Waxy Bitumen

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

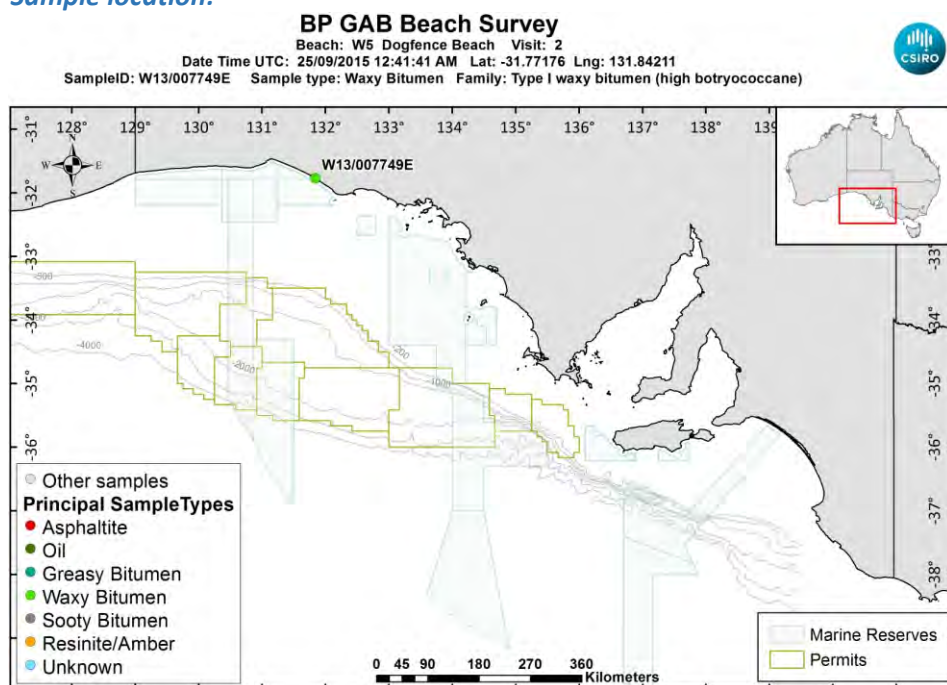
**Size (cm):** 2

**Latitude (Y):** -31.771762

**Weight (gm):** 0

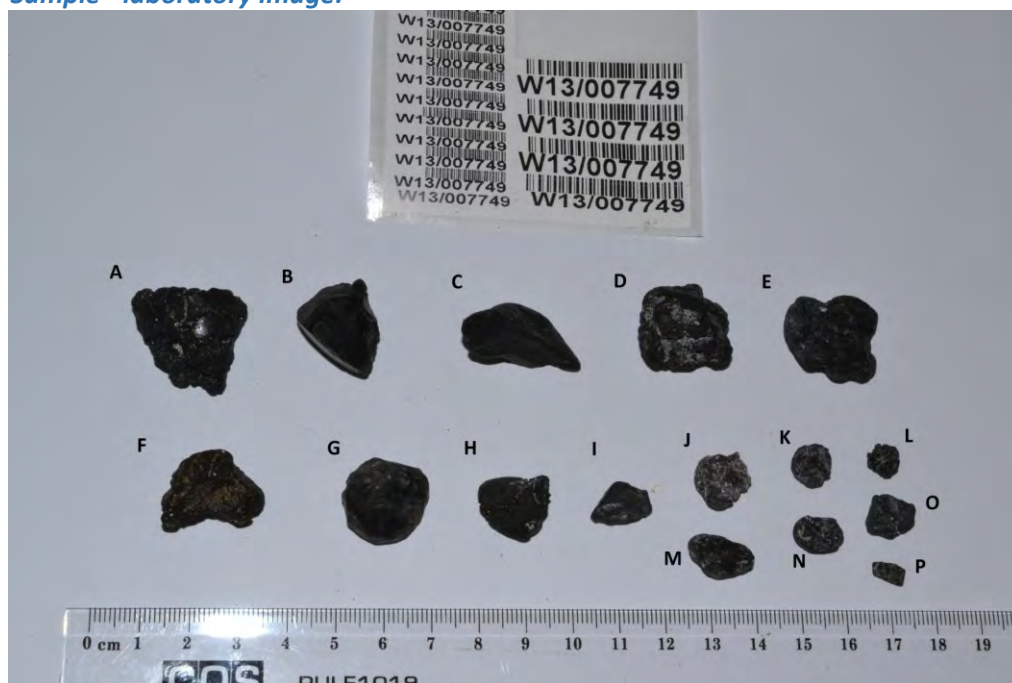
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749E\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).jpg](#)

**Sample ID : W13/007749E**

**Beach W5: Dogfence Beach Visit: 2**

**Analyses Requested**

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

**Analyses Completed:**

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

**Sample Analyses Completed:**

**Results for: GCMS with Full Scan**

**Unique ID:** W13/007749E\_DISS\_GCMS-Scan/03

**Instrument / Type:** GCMS with Full Scan Run: 3

**for Analysis:** Whole Oils

**Preparation:** Dissolved in solvent

**Analysis Date:** 18/11/2016

**Method ID/s:**

**Linked Image:** [LinkedFiles\GAB\\_BCH1\GCMS\W13\\_007749E\\_bulk\\_WholeOil.jpg](#)

**Sample Volume:**

**Volume Units:**

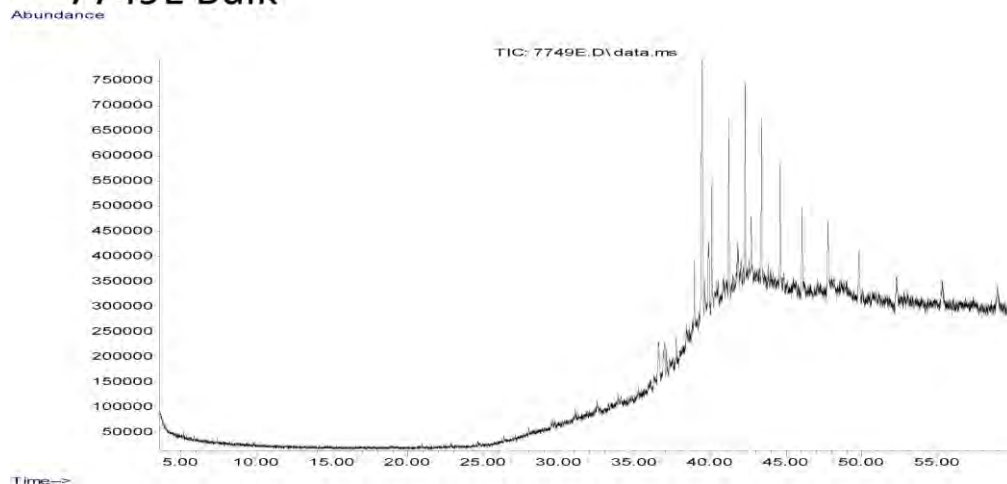
**Extract Volume:**

**Dilution Factor:**

**Comment:** Bulk

## Results for: GCMS with Full Scan

7749E Bulk



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Ratio	nC17/nC29		6.26038438150923E-02		ug/L	Y
Ratio	nC17/nC35		5.11090626303751E-02		ug/L	Y
Aliph	Botryococcane	39.4290	4849290		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	76574		ug/L	Z
Aliph	nC18	24.6230	65524		ug/L	Z
Aliph	nC19	26.3410	66545		ug/L	Z
Aliph	nC20	27.9810	88392		ug/L	Z
Aliph	nC21	29.5510	80486		ug/L	Z
Aliph	nC22	31.0540	108581		ug/L	Z
Aliph	nC23	32.4960	106840		ug/L	Z
Aliph	nC24	33.8800	109131		ug/L	Z
Aliph	nC25	35.2120	123902		ug/L	Z
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300	306178		ug/L	Z
Aliph	nC28	38.9260	686209		ug/L	Z
Aliph	nC29	40.0740	1223153		ug/L	Z
Aliph	nC30	41.1930	1732877		ug/L	Z
Aliph	nC31	42.2750	1846599		ug/L	Z
Aliph	nC32	43.3560	1832922		ug/L	Z
Aliph	nC33	44.5840	1701960		ug/L	Z
Aliph	nC34	46.0130	1440929		ug/L	Z
Aliph	nC35	47.7140	1498249		ug/L	Z
Aliph	nC36	49.7870	1174939		ug/L	Z
Aliph	nC37	52.2630	406797		ug/L	Z
Aliph	nC38	55.2360	81791		ug/L	Z
Aliph	nC39	58.9110	407354		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 : **W13/007749F**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part F subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Waxy Bitumen

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

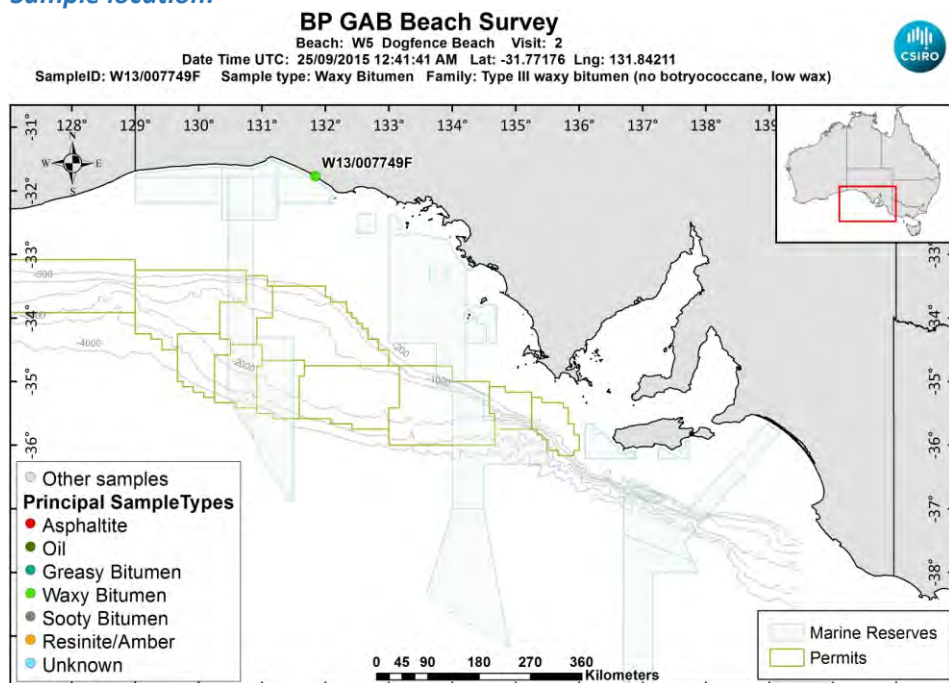
**Size (cm):** 2

**Latitude (Y):** -31.771762

**Weight (gm):** 0

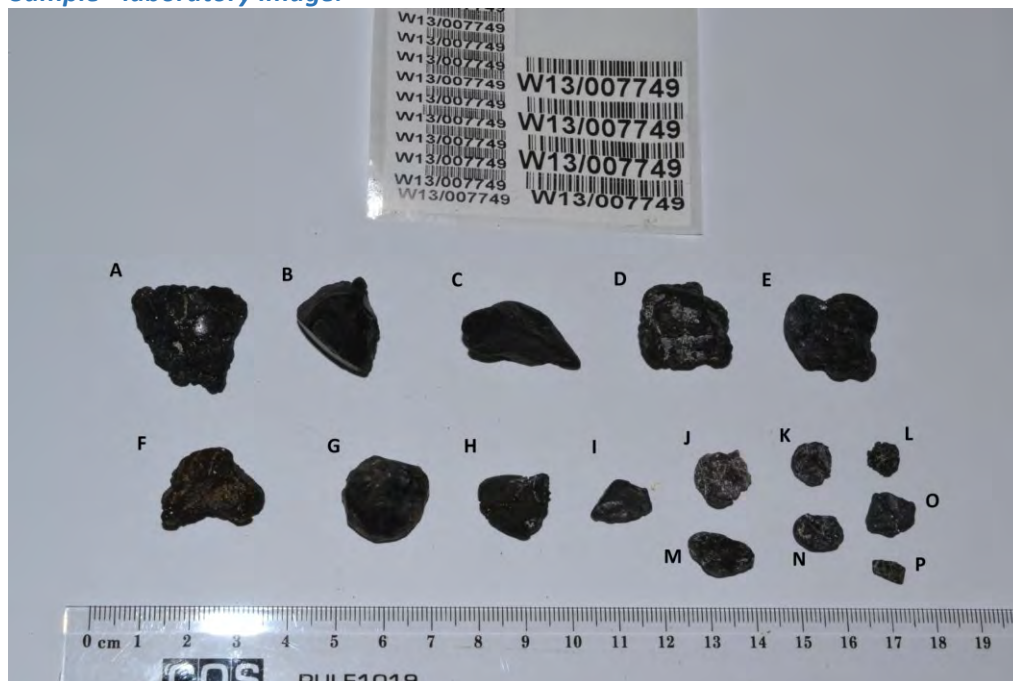
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749F\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).jpg](#)

**Sample ID : W13/007749F**

**Beach W5: Dogfence Beach Visit: 2**

**Analyses Requested**

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

**Analyses Completed:**

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

**Sample Analyses Completed:**

**Results for: GCMS with Full Scan**

**Unique ID:** W13/007749F\_DISS\_GCMS-Scan/03

**Instrument / Type:** GCMS with Full Scan Run: 3

**for Analysis:** Whole Oils

**Preparation:** Dissolved in solvent

**Analysis Date:** 18/11/2016

**Method ID/s:**

**Linked Image:** [LinkedFiles\GAB\\_BCH1\GCMS\W13\\_007749F\\_bulk\\_WholeOil.jpg](#)

**Sample Volume:**

**Volume Units:**

**Extract Volume:**

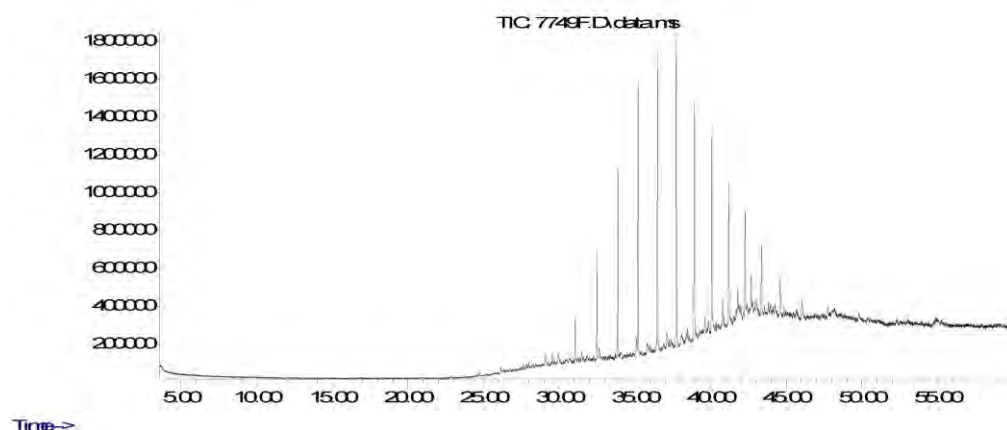
**Dilution Factor:**

**Comment:** Bulk

## Results for: GCMS with Full Scan

7749F Bulk

Abundance



Time--&gt;

## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			0.722112116879523	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	192751		ug/L	Z
Aliph	nC21	29.5510	364170		ug/L	Z
Aliph	nC22	31.0540	1206655		ug/L	Z
Aliph	nC23	32.4960	2866177		ug/L	Z
Aliph	nC24	33.8800	5238339		ug/L	Z
Aliph	nC25	35.2120	6958019		ug/L	Z
Aliph	nC26	36.4960	8045140		ug/L	Z
Aliph	nC27	37.7300	8580021		ug/L	Z
Aliph	nC28	38.9260	6625012		ug/L	Z
Aliph	nC29	40.0740	5856137		ug/L	Z
Aliph	nC30	41.1930	3899570		ug/L	Z
Aliph	nC31	42.2750	3049884		ug/L	Z
Aliph	nC32	43.3560	2030786		ug/L	Z
Aliph	nC33	44.5840	1499338		ug/L	Z
Aliph	nC34	46.0130	875285		ug/L	Z
Aliph	nC35	47.7140	693995		ug/L	Z
Aliph	nC36	49.7870	662844		ug/L	Z
Aliph	nC37	52.2630	612313		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	207448		ug/L	Z

## Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	149801	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 : **W13/007749G**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part G subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Unknown

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

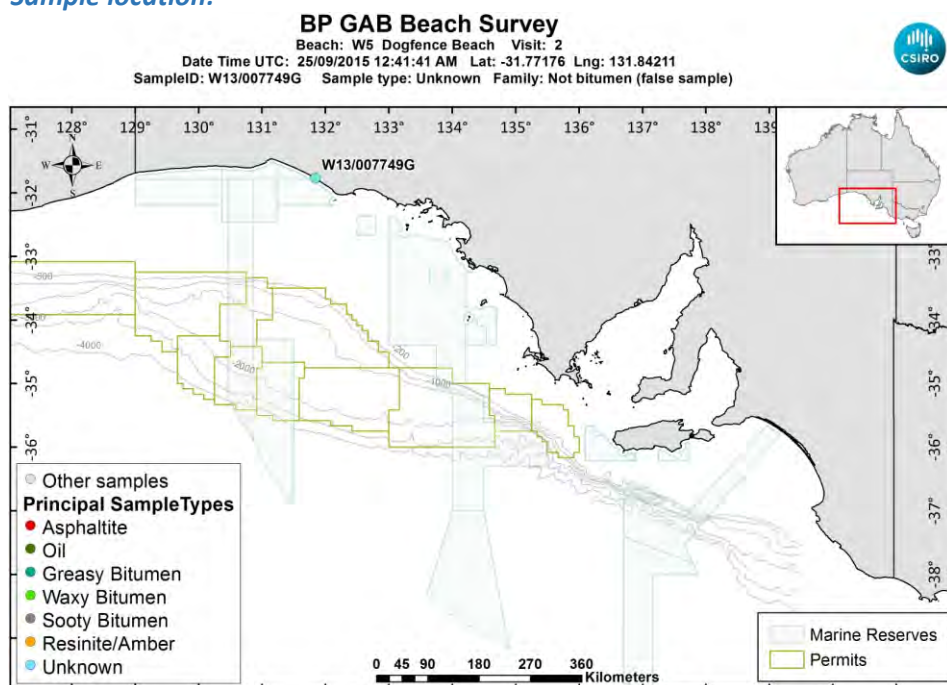
**Size (cm):** 2

**Latitude (Y):** -31.771762

**Weight (gm):** 0

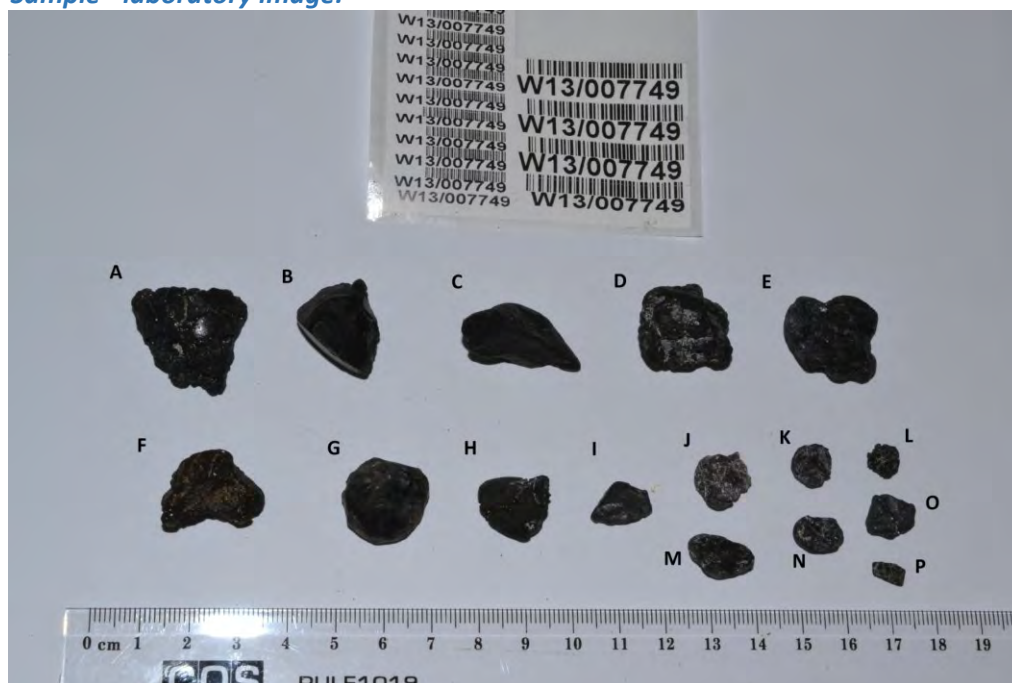
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749G\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).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:**

<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 : **W13/007749H**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part H subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Waxy Bitumen

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

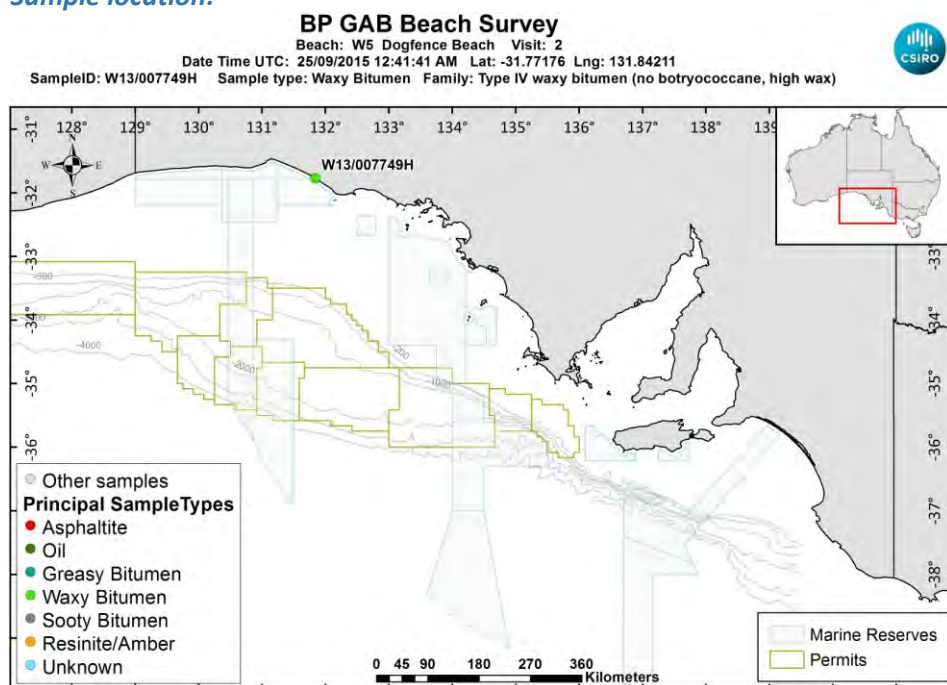
**Size (cm):** 2

**Latitude (Y):** -31.771762

**Weight (gm):** 0

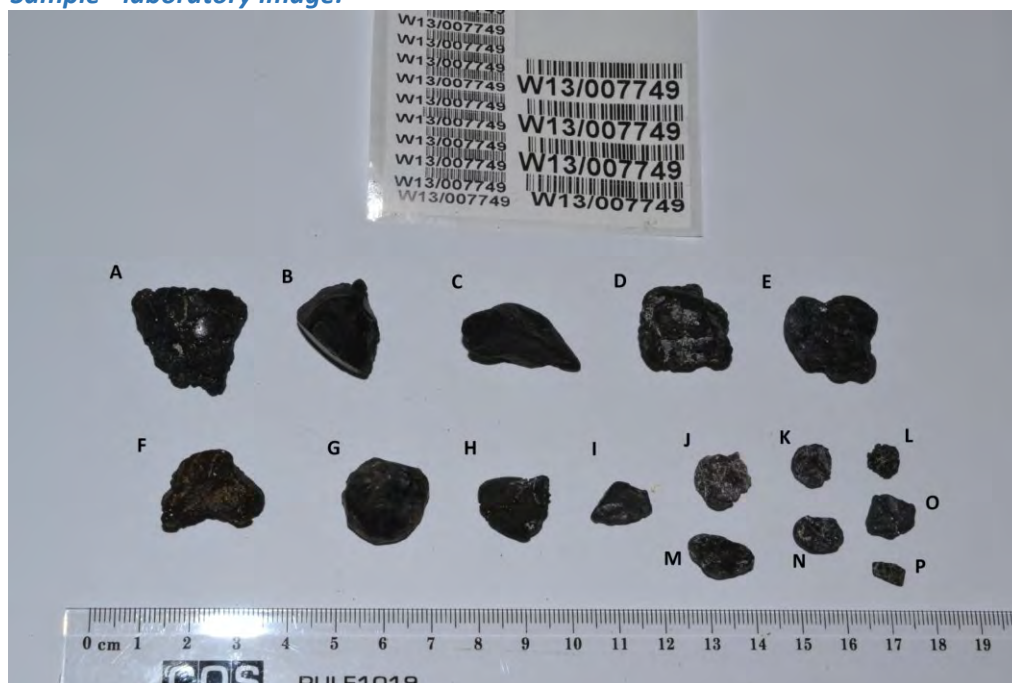
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749H\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).jpg](#)

**Sample ID : W13/007749H**

**Beach W5: Dogfence Beach Visit: 2**

**Analyses Requested**

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

**Analyses Completed:**

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

**Sample Analyses Completed:**

**Results for: GCMS with Full Scan**

**Unique ID:** W13/007749H DISS GCMS-Scan/03

**Instrument / Type:** GCMS with Full Scan Run: 3

**for Analysis:** Whole Oils

**Preparation:** Dissolved in solvent

**Analysis Date:** 18/11/2016

**Method ID/s:**

**Linked Image:** [LinkedFiles\GAB BCH1\GCMS\W13\\_007749H\\_bulk\\_WholeOil.jpg](#)

**Sample Volume:**

**Volume Units:**

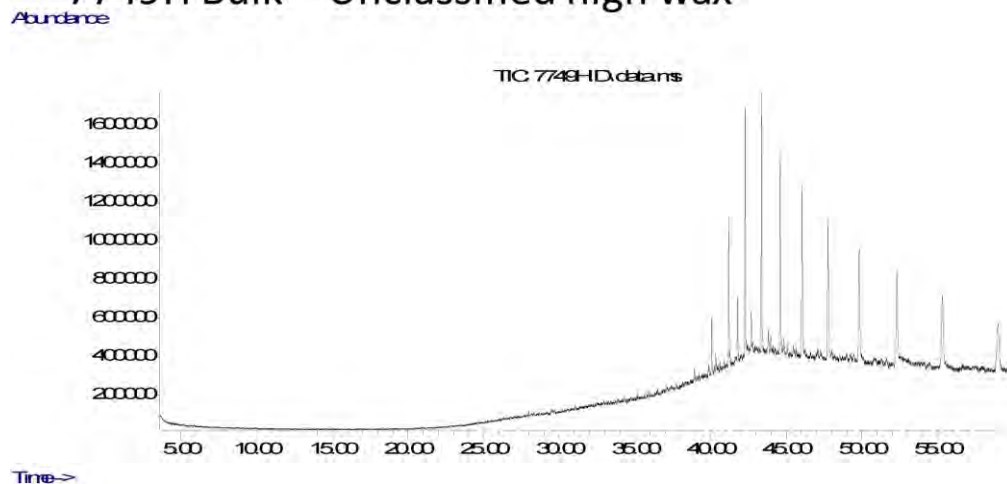
**Extract Volume:**

**Dilution Factor:**

**Comment:** Bulk

## Results for: GCMS with Full Scan

## 7749H Bulk – Unclassified high wax



## Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retention Time:	Target Response:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290			ug/L	U
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120	123339		ug/L	Z
Aliph	nC26	36.4960	105034		ug/L	Z
Aliph	nC27	37.7300	131045		ug/L	Z
Aliph	nC28	38.9260	364462		ug/L	Z
Aliph	nC29	40.0740	1640669		ug/L	Z
Aliph	nC30	41.1930	4323653		ug/L	Z
Aliph	nC31	42.2750	6620068		ug/L	Z
Aliph	nC32	43.3560	8050500		ug/L	Z
Aliph	nC33	44.5840	7370673		ug/L	Z
Aliph	nC34	46.0130	7511976		ug/L	Z
Aliph	nC35	47.7140	7101611		ug/L	Z
Aliph	nC36	49.7870	6772820		ug/L	Z
Aliph	nC37	52.2630	5959776		ug/L	Z
Aliph	nC38	55.2360	6027433		ug/L	Z
Aliph	nC39	58.9110	4907162		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 : **W13/007749I**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part I subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Unknown

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

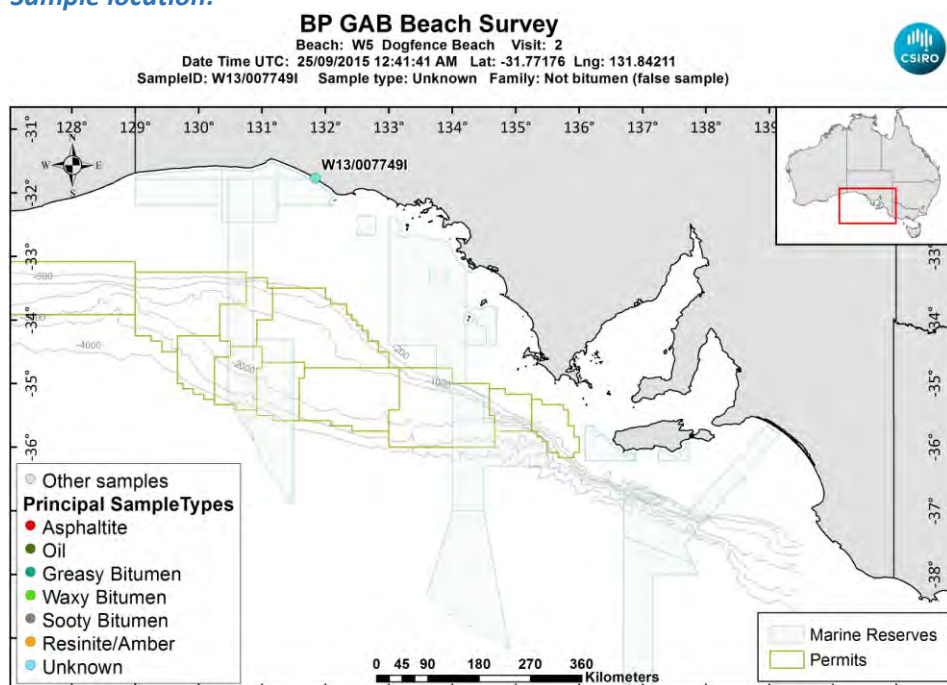
**Size (cm):** 2

**Latitude (Y):** -31.771762

**Weight (gm):** 0

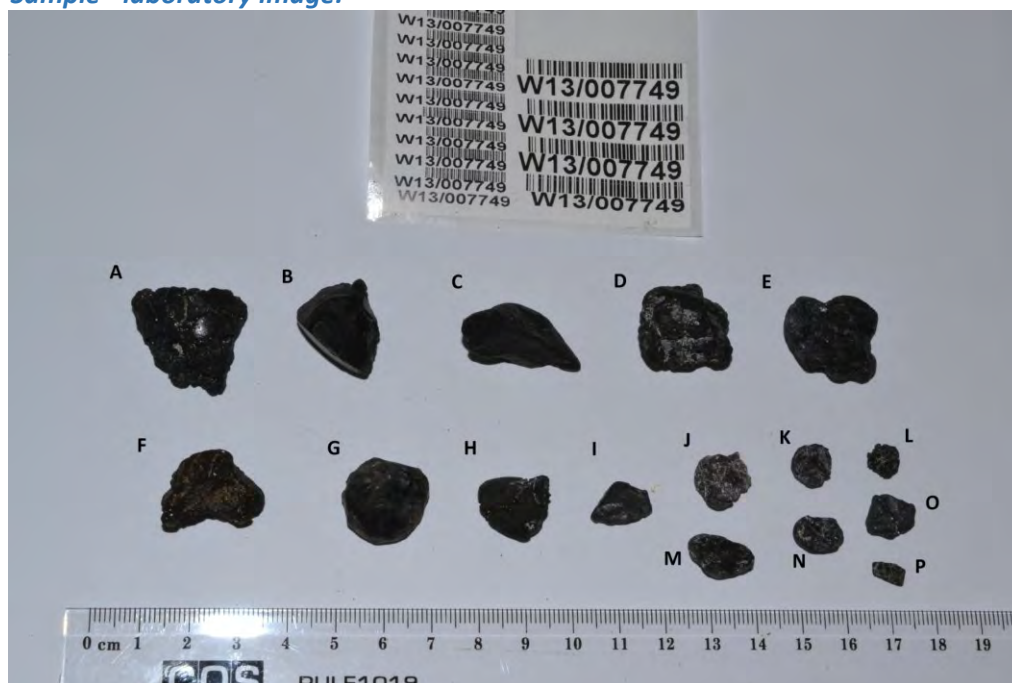
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749I\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).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:**

<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 : **W13/007749J**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part J subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Unknown

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

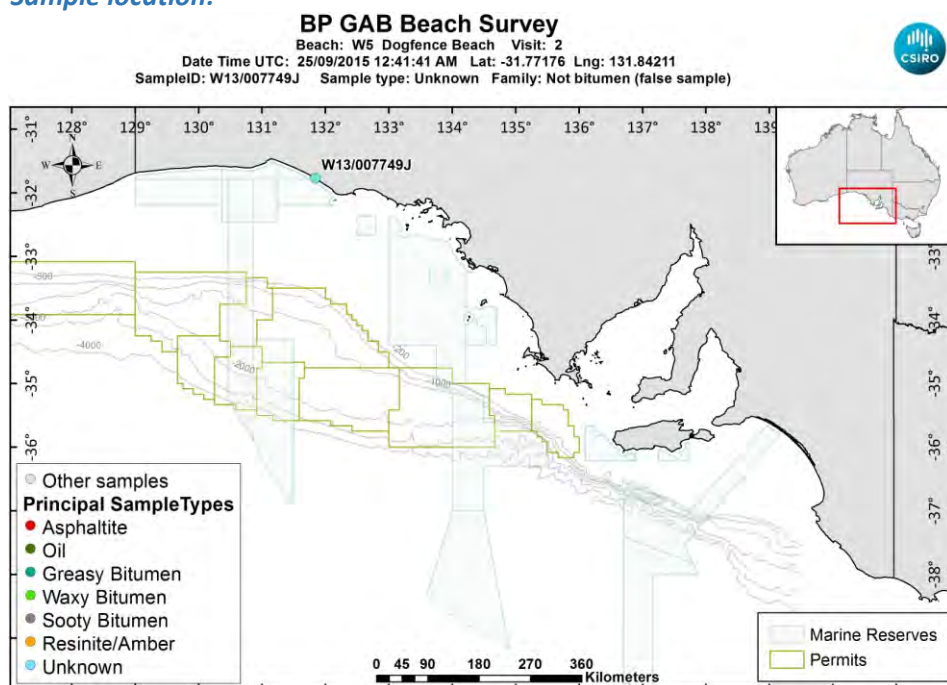
**Size (cm):** 2

**Latitude (Y):** -31.771762

**Weight (gm):** 0

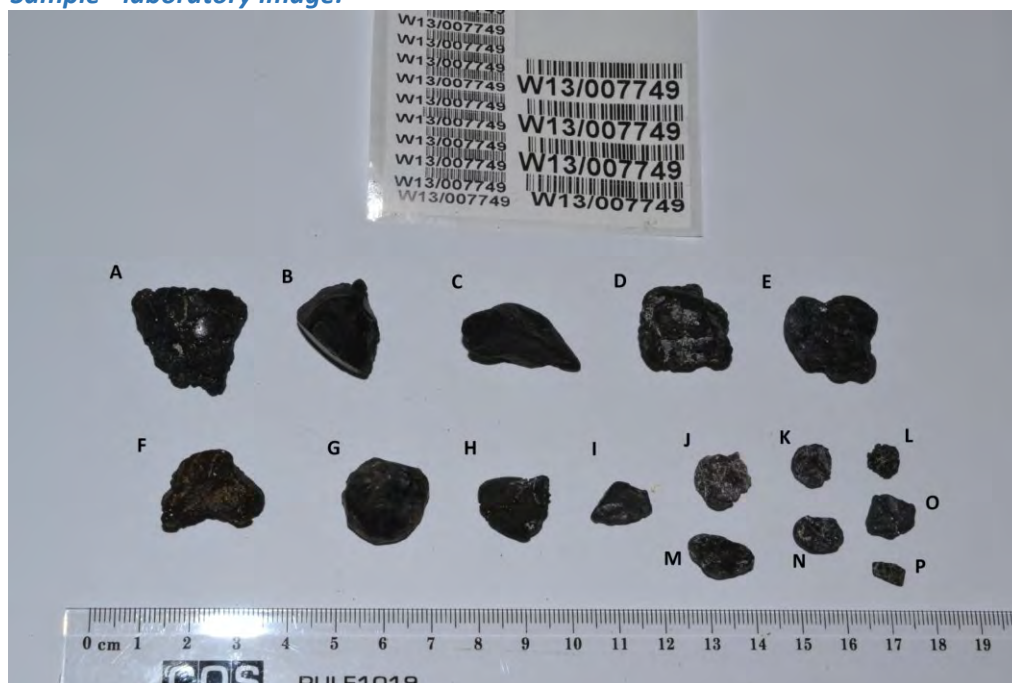
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749J\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).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 : W13/007749K

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part K subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

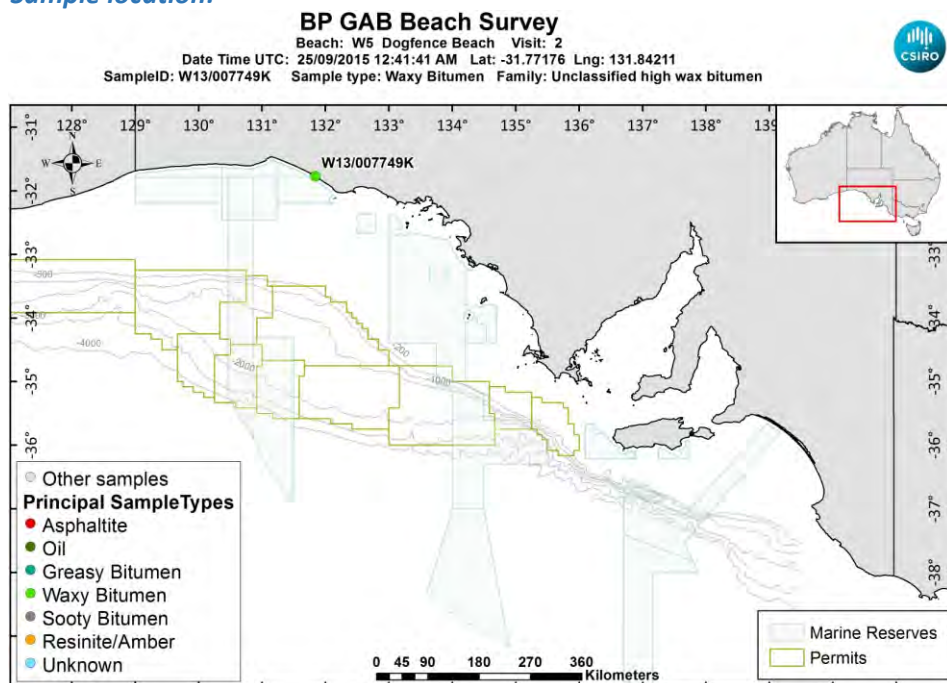
**Size (cm):** 2

**Latitude (Y):** -31.771762

**Weight (gm):** 0

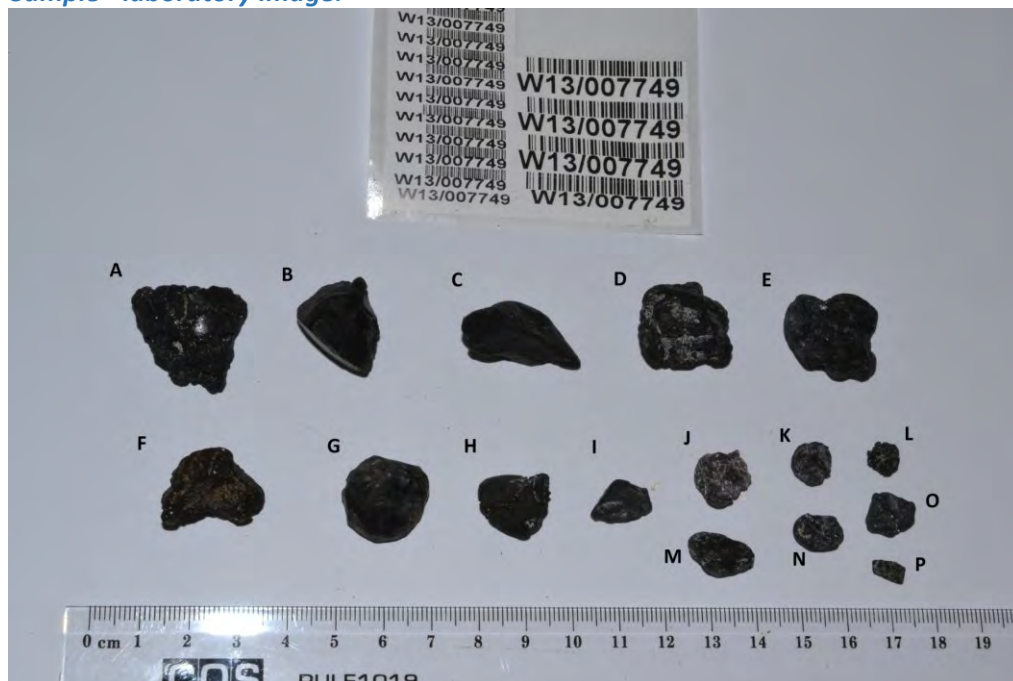
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749K\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).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:**

<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 : W13/007749L

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part L subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Unknown

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

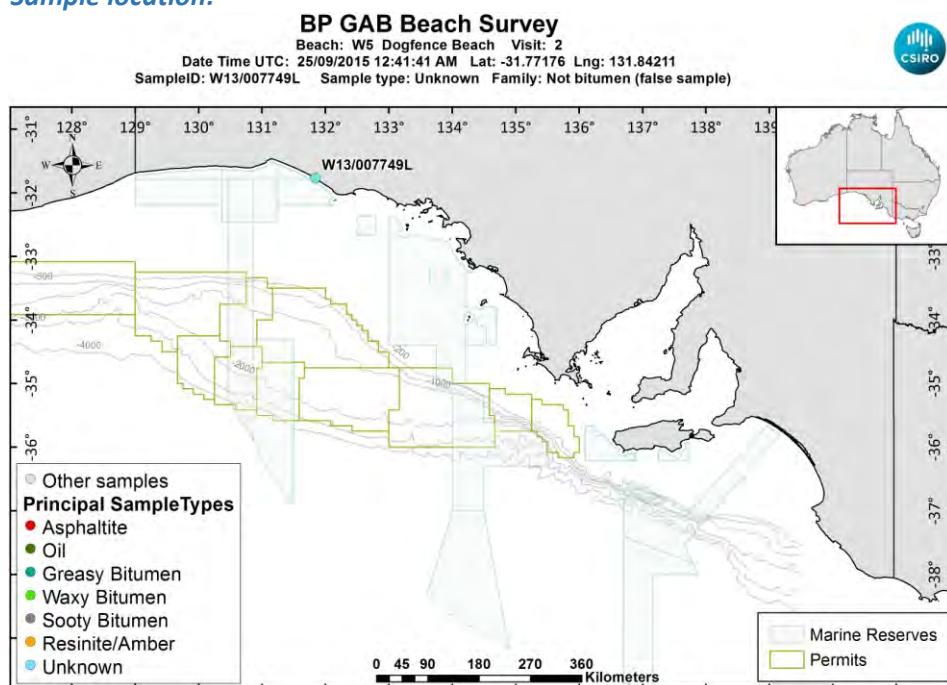
**Size (cm):** 2

**Latitude (Y):** -31.771762

**Weight (gm):** 0

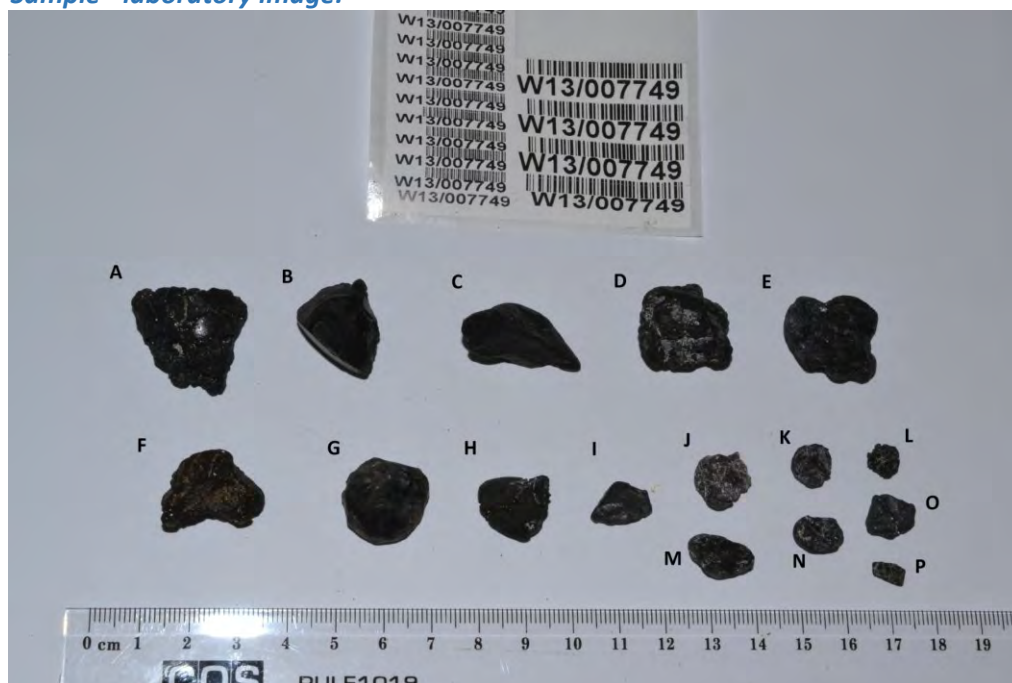
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749L\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).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 : **W13/007749M**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part M subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Waxy Bitumen

**Family:** Unclassified high wax bitumen

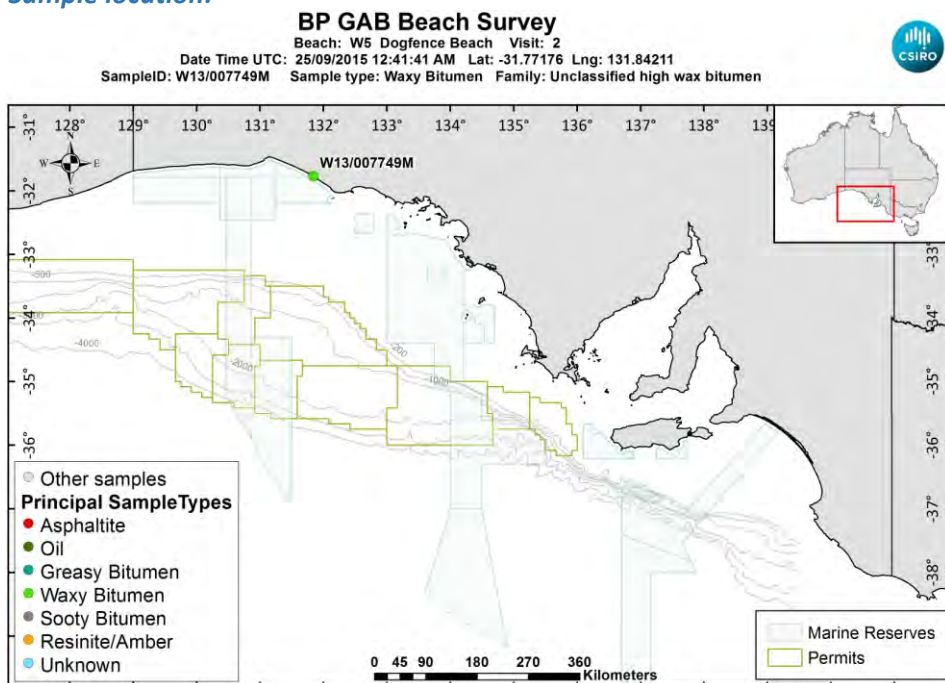
**Size (cm):** 2

**Latitude (Y):** -31.771762

**Weight (gm):** 0

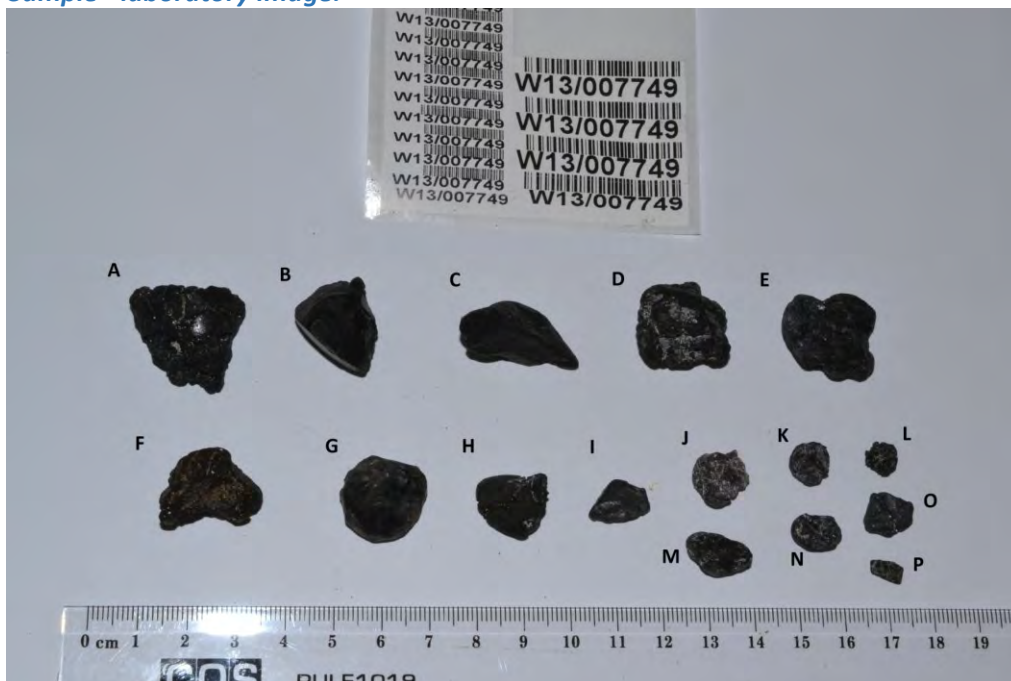
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749M\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).jpg](#)

**Sample ID : W13/007749M****Beach W5: Dogfence Beach Visit: 2****Analyses Requested**

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
2	Whole Oils	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 : **W13/007749N**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

Part N subsample

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:11:41 AM

**Type:** Waxy Bitumen

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

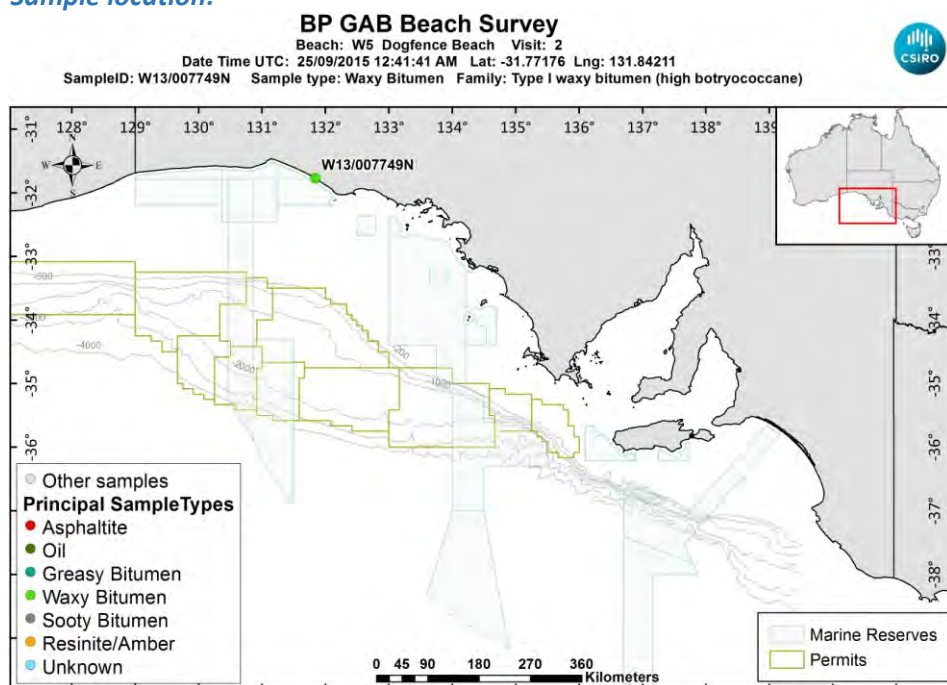
**Size (cm):** 2

**Latitude (Y):** -31.771762

**Weight (gm):** 0

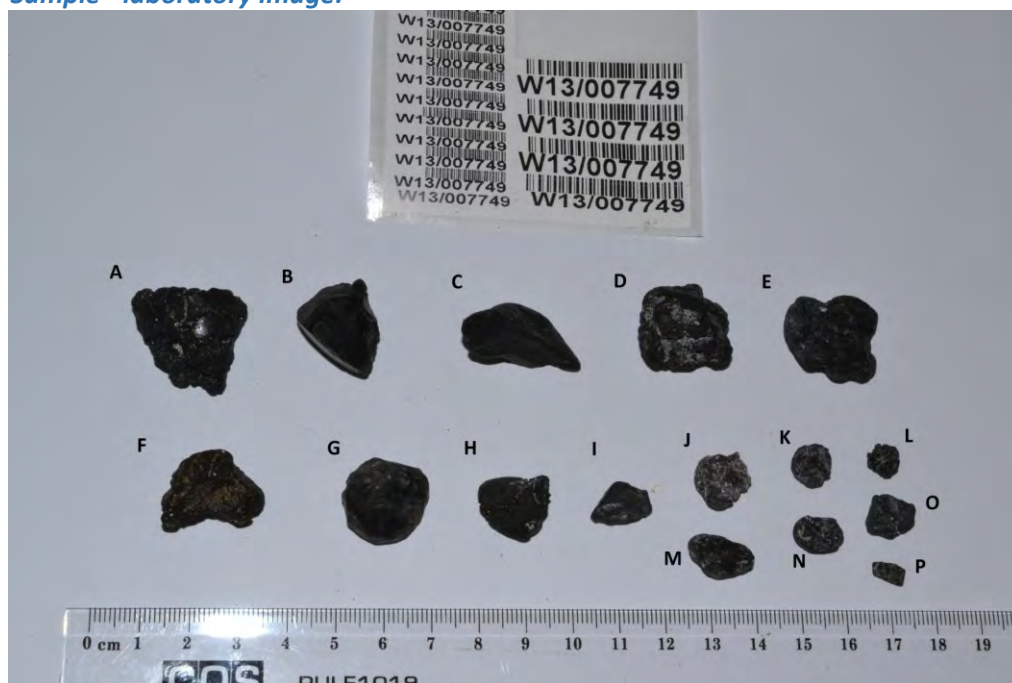
**Longitude (X):** 131.842113

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007749N\\_Location.jpg](#)

**Sample - laboratory image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007749\\_Photo01\(annotated\).jpg](#)

**Analyses Requested****Analyses Completed:**

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

**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 : **W13/007750**

Beach W5: Dogfence Beach Visit: 2

**Comments:**

**Location:** Shore Upper

**Local Date Time:** 25/09/2015 11:14:15 AM

**Type:** Resinite/Amber

**Family:** Resin/Amber

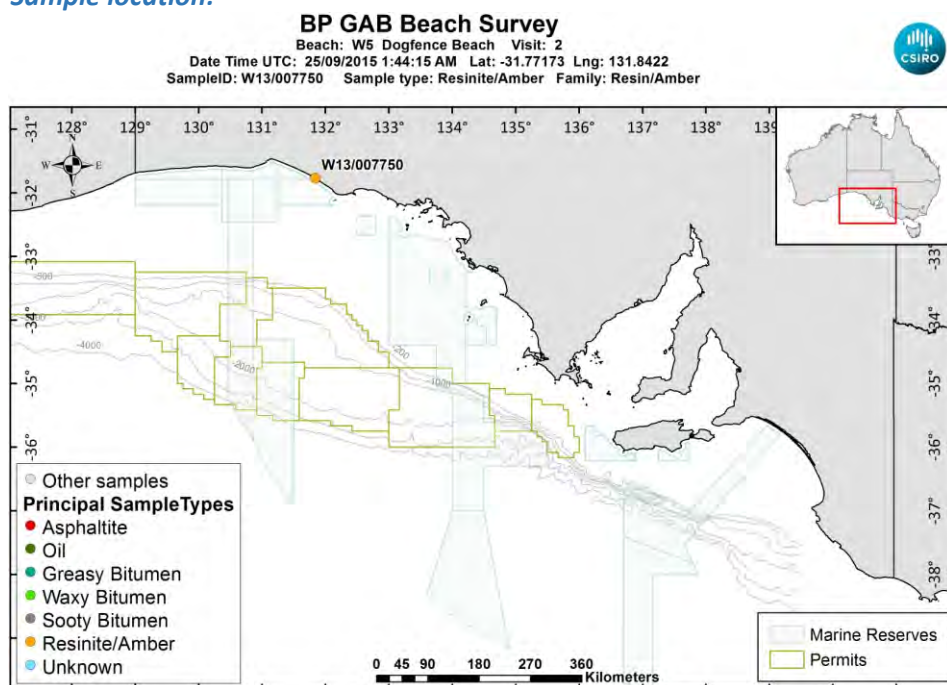
**Size (cm):** 7.9

**Latitude (Y):** -31.771732

**Weight (gm):** 54.1

**Longitude (X):** 131.842205

**Sample location:**



[LinkedFiles\GAB\\_BCH1\SampleLocations\W13\\_007750\\_Location.jpg](#)

**Sample - field image:**



[LinkedFiles\GAB\\_BCH1\Samples\W13\\_007750\\_146A1826.JPG](#)

**Sample - laboratory image:**