



[LinkedFiles\GAB_BCH1\Samples\001069_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: /001069_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Comment:

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 85.36 | percent | Y |
| Inorg | Hydrogen | | | 7.40478767395627 | percent | Y |
| Inorg | Nitrogen | | | 0.23 | percent | Y |
| Inorg | Sulphur | | | 1.55951257730225 | percent | Y |

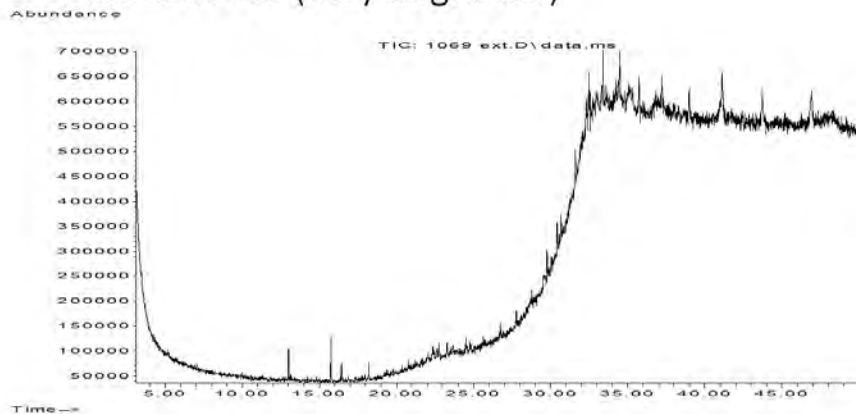
Results for: GCMS with Full Scan

Unique ID: /001069_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\ 001069_ext WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior (splitless)

Results for: GCMS with Full Scan

1069 exterior (very degraded)



Data Sheet:

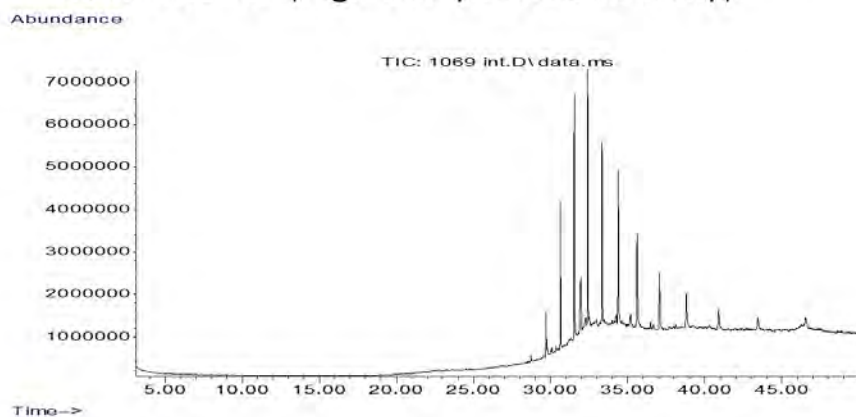
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | | | | | U |
| Aliph | nC10 | | | | | U |
| Aliph | nC11 | | | | | U |
| Aliph | nC12 | | | | | U |
| Aliph | nC13 | | | | | U |
| Aliph | nC14 | | | | | U |
| Aliph | nC15 | | | | | U |
| Aliph | nC16 | 17.9470 | | | | U |
| Aliph | nC17 | 19.3870 | | | | U |
| Aliph | nC18 | 20.7560 | | | | U |
| Aliph | nC19 | 22.0580 | | | | U |
| Aliph | nC20 | 23.3040 | | | | U |
| Aliph | nC21 | 24.4890 | | | | U |
| Aliph | nC22 | 25.6290 | | | | U |
| Aliph | nC23 | 26.7230 | | | | U |
| Aliph | nC24 | 27.7690 | | | | U |
| Aliph | nC25 | 28.7780 | | | | U |
| Aliph | nC26 | 29.7510 | | | | U |
| Aliph | nC27 | 30.6850 | | | | U |
| Aliph | nC28 | 31.5900 | | | | U |
| Aliph | nC29 | 32.4650 | 319915 | | | Z |
| Aliph | nC30 | 33.4020 | 209130 | | | Z |
| Aliph | nC31 | 34.4700 | 558372 | | | Z |
| Aliph | nC32 | 35.7230 | 603801 | | | Z |
| Aliph | nC33 | 37.1970 | 670945 | | | Z |
| Aliph | nC34 | 38.9660 | 607708 | | | Z |
| Aliph | nC35 | 41.0780 | 784971 | | | Z |
| Aliph | nC36 | 43.6950 | 1032869 | | | Z |
| Aliph | nC37 | 46.8640 | 1221658 | | | 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:** /001069 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_001069_int_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

1069 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 9338691 | | | 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 | 671270 | | | Z |
| Aliph | nC26 | 29.6680 | 4292874 | | | Z |
| Aliph | nC27 | 30.6080 | 16346624 | | | Z |
| Aliph | nC28 | 31.5080 | 24178125 | | | Z |
| Aliph | nC29 | 32.3700 | 27990561 | | | Z |
| Aliph | nC30 | 33.2910 | 23413737 | | | Z |
| Aliph | nC31 | 34.3470 | 20293463 | | | Z |
| Aliph | nC32 | 35.5720 | 15208533 | | | Z |
| Aliph | nC33 | 37.0130 | 9666425 | | | Z |
| Aliph | nC34 | 38.7280 | 8028571 | | | Z |
| Aliph | nC35 | 40.8080 | 5651926 | | | Z |
| Aliph | nC36 | 43.3510 | 3930282 | | | Z |
| Aliph | nC37 | 46.4710 | 3204120 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : /001070

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 22/10/2016 1:34:39 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

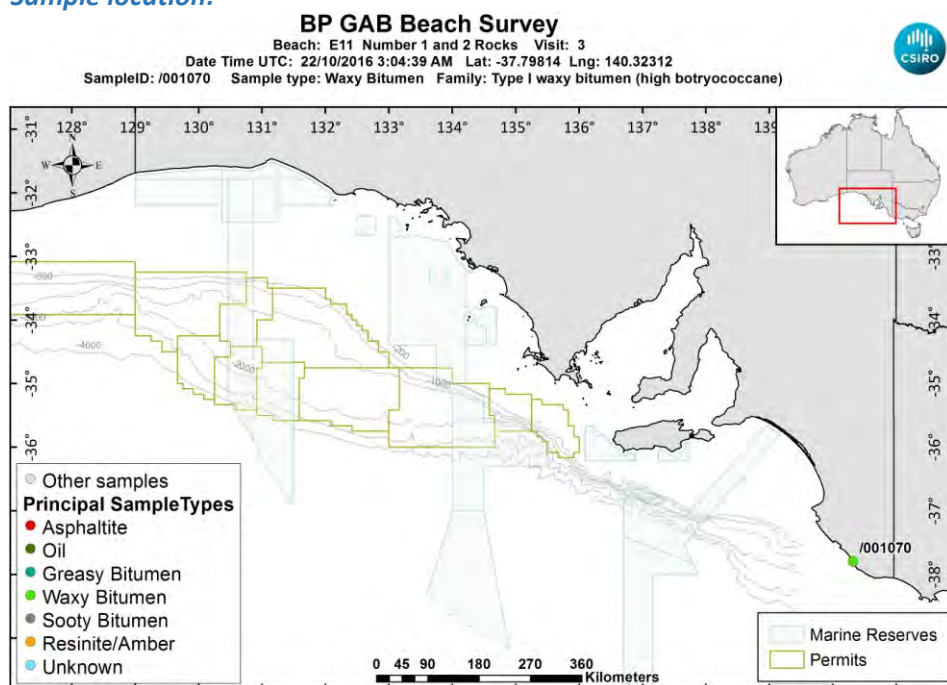
Size (cm): 4

Latitude (Y): -37.798138

Weight (gm): 8.7314

Longitude (X): 140.323120

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001070 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001070_146A7178.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB BCH1\Samples\001070 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: /001070_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|-------------------|---------|------------|
| Inorg | Carbon | | | 86.94 | percent | Y |
| Inorg | Hydrogen | | | 5.65092445328032 | percent | Y |
| Inorg | Nitrogen | | | 0.19 | percent | Y |
| Inorg | Sulphur | | | 0.935998618509109 | percent | Y |

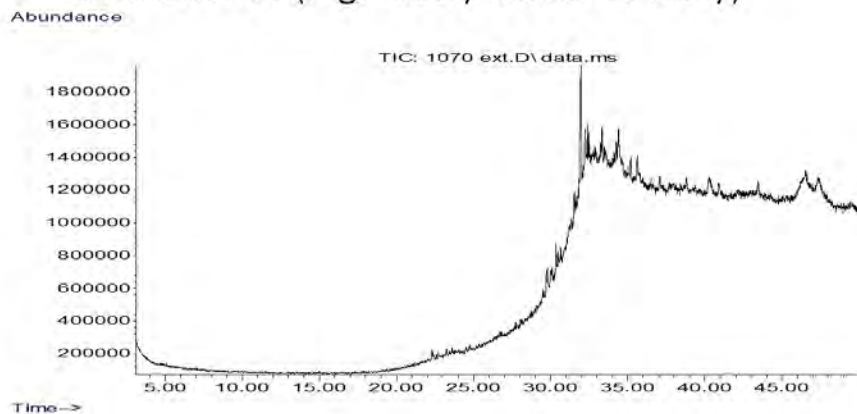
Results for: GCMS with Full Scan

Unique ID: /001070_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\ 001070_ext WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

1070 exterior (high botryococcane waxy)



Data Sheet:

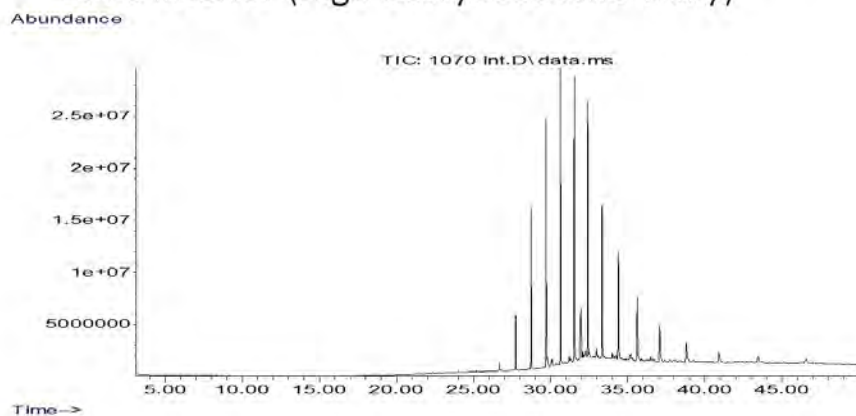
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 5343812 | | | 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 | 100329 | | | Z |
| Aliph | nC27 | 30.6080 | 409985 | | | Z |
| Aliph | nC28 | 31.5080 | 737117 | | | Z |
| Aliph | nC29 | 32.3700 | 700438 | | | Z |
| Aliph | nC30 | 33.2910 | 773968 | | | Z |
| Aliph | nC31 | 34.3470 | 1504675 | | | Z |
| Aliph | nC32 | 35.5720 | 1044359 | | | Z |
| Aliph | nC33 | 37.0130 | 764121 | | | Z |
| Aliph | nC34 | 38.7280 | 574558 | | | Z |
| Aliph | nC35 | 40.8080 | 761046 | | | Z |
| Aliph | nC36 | 43.3510 | 910010 | | | Z |
| Aliph | nC37 | 46.4710 | 1105851 | | | 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:** /001070 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_001070_int_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

1070 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 36389796 | | | 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 | 3361842 | | | Z |
| Aliph | nC24 | 27.7060 | 21530516 | | | Z |
| Aliph | nC25 | 28.7100 | 60769108 | | | Z |
| Aliph | nC26 | 29.6680 | 92632838 | | | Z |
| Aliph | nC27 | 30.6080 | 118985411 | | | Z |
| Aliph | nC28 | 31.5080 | 108749887 | | | Z |
| Aliph | nC29 | 32.3700 | 98916702 | | | Z |
| Aliph | nC30 | 33.2910 | 75822710 | | | Z |
| Aliph | nC31 | 34.3470 | 60120623 | | | Z |
| Aliph | nC32 | 35.5720 | 44249424 | | | Z |
| Aliph | nC33 | 37.0130 | 30689356 | | | Z |
| Aliph | nC34 | 38.7280 | 18881172 | | | Z |
| Aliph | nC35 | 40.8080 | 11971133 | | | Z |
| Aliph | nC36 | 43.3510 | 8726558 | | | Z |
| Aliph | nC37 | 46.4710 | 5516006 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : /001071

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 22/10/2016 1:36:34 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

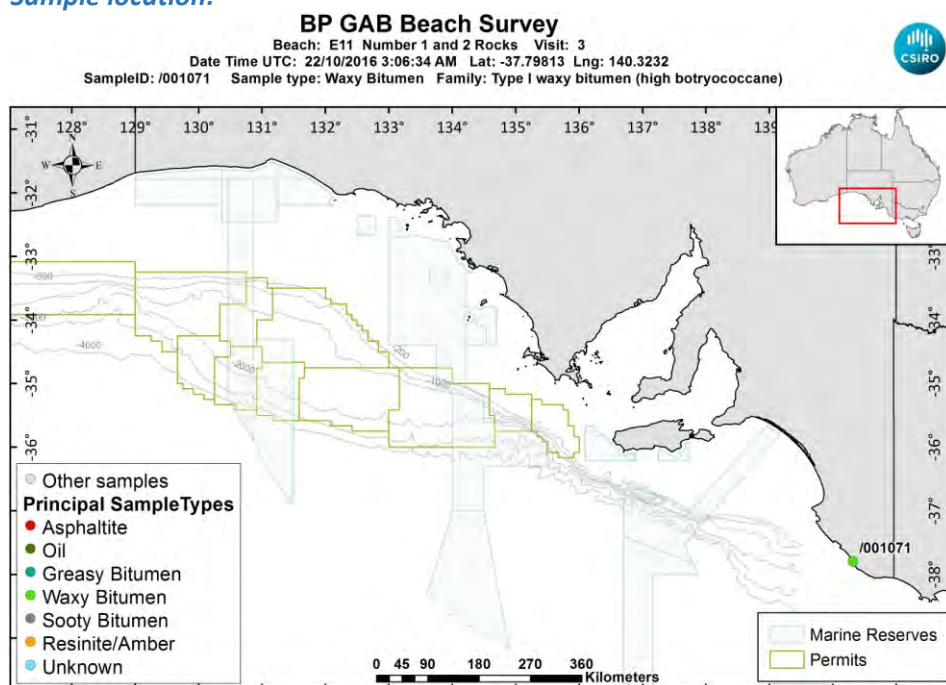
Size (cm): 2.5

Latitude (Y): -37.798127

Weight (gm): 2.75451

Longitude (X): 140.323202

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001071 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001071_146A7180.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB BCH1\Samples\001071 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: /001071_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 85.64 | percent | Y |
| Inorg | Hydrogen | | | 6.72880218687872 | percent | Y |
| Inorg | Nitrogen | | | 0.23 | percent | Y |
| Inorg | Sulphur | | | 1.38331879863517 | percent | Y |

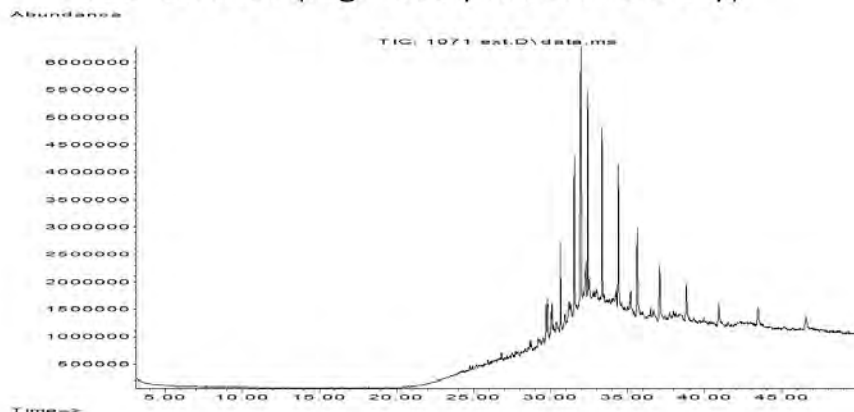
Results for: GCMS with Full Scan

Unique ID: /001071_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\ 001071_ext WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

1071 exterior (high botryococcane waxy)



Data Sheet:

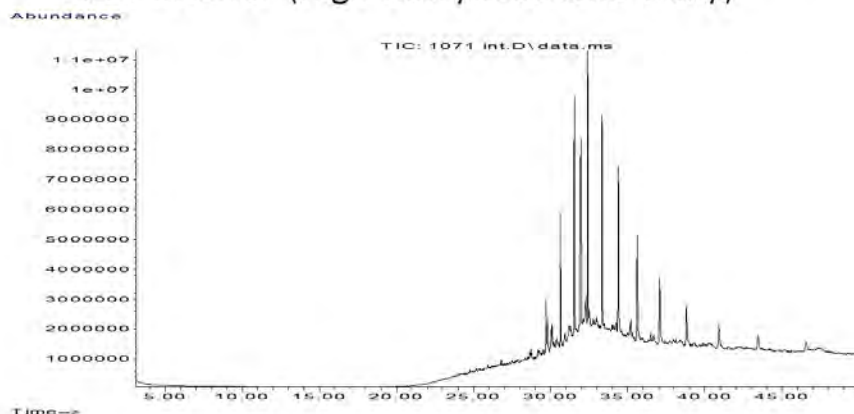
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 33304677 | | | 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 | 946161 | | | Z |
| Aliph | nC26 | 29.6680 | 1688146 | | | Z |
| Aliph | nC27 | 30.6080 | 7480211 | | | Z |
| Aliph | nC28 | 31.5080 | 11365310 | | | Z |
| Aliph | nC29 | 32.3700 | 17091372 | | | Z |
| Aliph | nC30 | 33.2910 | 16649253 | | | Z |
| Aliph | nC31 | 34.3470 | 15312369 | | | Z |
| Aliph | nC32 | 35.5720 | 10334030 | | | Z |
| Aliph | nC33 | 37.0130 | 6753698 | | | Z |
| Aliph | nC34 | 38.7280 | 4975879 | | | Z |
| Aliph | nC35 | 40.8080 | 4658074 | | | Z |
| Aliph | nC36 | 43.3510 | 4343088 | | | Z |
| Aliph | nC37 | 46.4710 | 3788309 | | | 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:** /001071 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_001071_int_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

1071 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 47229806 | | | 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 | 1731725 | | | Z |
| Aliph | nC26 | 29.6680 | 6188336 | | | Z |
| Aliph | nC27 | 30.6080 | 21382592 | | | Z |
| Aliph | nC28 | 31.5080 | 31724807 | | | Z |
| Aliph | nC29 | 32.3700 | 40787905 | | | Z |
| Aliph | nC30 | 33.2910 | 38109433 | | | Z |
| Aliph | nC31 | 34.3470 | 33567638 | | | Z |
| Aliph | nC32 | 35.5720 | 23566695 | | | Z |
| Aliph | nC33 | 37.0130 | 18095901 | | | Z |
| Aliph | nC34 | 38.7280 | 12687905 | | | Z |
| Aliph | nC35 | 40.8080 | 8254415 | | | Z |
| Aliph | nC36 | 43.3510 | 6240732 | | | Z |
| Aliph | nC37 | 46.4710 | 4592436 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : /001072A

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

2 pieces. Part A

Location: Upper Intertidal

Local Date Time: 22/10/2016 1:37:37 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

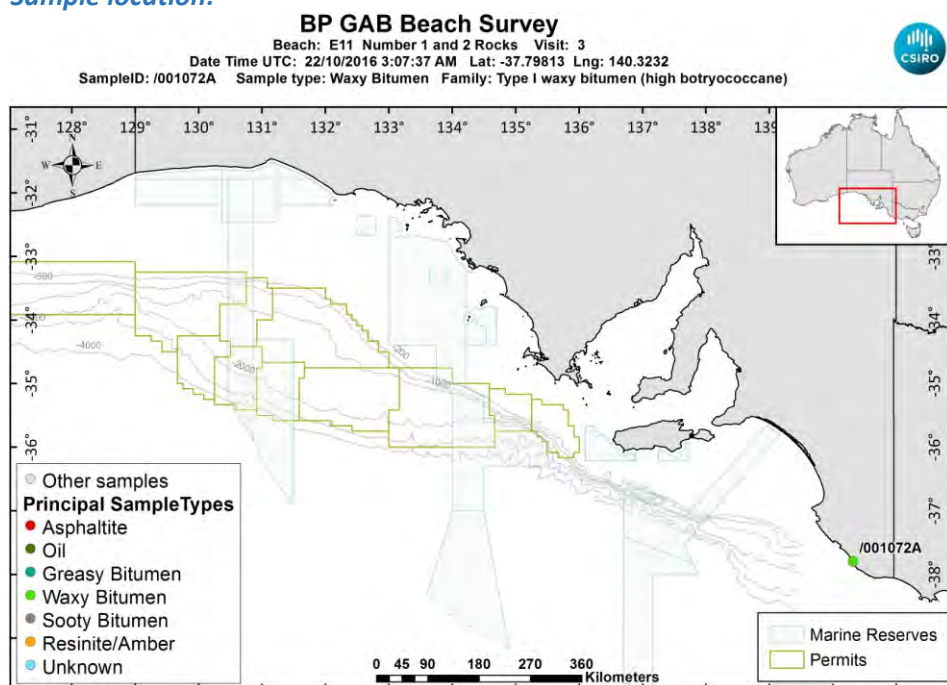
Size (cm): 2

Latitude (Y): -37.798127

Weight (gm): 0.98837

Longitude (X): 140.323200

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001072A Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001072_146A7182.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB BCH1\Samples\001072 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: /001072A_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 | | | 86.36 | percent | Y |
| Inorg | Hydrogen | | | 5.35207833001988 | percent | Y |
| Inorg | Nitrogen | | | 0.21 | percent | Y |
| Inorg | Sulphur | | | 0.774408416547218 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: /001072A 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 Response: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|------------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 3103295 | | | 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 | 55625 | | | Z |
| Aliph | nC24 | 27.7060 | 588665 | | | Z |
| Aliph | nC25 | 28.7100 | 2332042 | | | Z |
| Aliph | nC26 | 29.6680 | 4352256 | | | Z |
| Aliph | nC27 | 30.6080 | 5904275 | | | Z |
| Aliph | nC28 | 31.5080 | 5327909 | | | Z |
| Aliph | nC29 | 32.3700 | 4803975 | | | Z |
| Aliph | nC30 | 33.2910 | 3552147 | | | Z |
| Aliph | nC31 | 34.3470 | 2674859 | | | Z |
| Aliph | nC32 | 35.5720 | 2016052 | | | Z |
| Aliph | nC33 | 37.0130 | 1354189 | | | Z |
| Aliph | nC34 | 38.7280 | 828053 | | | Z |
| Aliph | nC35 | 40.8080 | 615924 | | | Z |
| Aliph | nC36 | 43.3510 | 438092 | | | Z |
| Aliph | nC37 | 46.4710 | 398796 | | | 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 |

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 : /001072B

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Part B subsample

Location: Upper Intertidal

Local Date Time: 22/10/2016 1:37:37 PM

Type: Unknown

Family: Not bitumen (false sample)

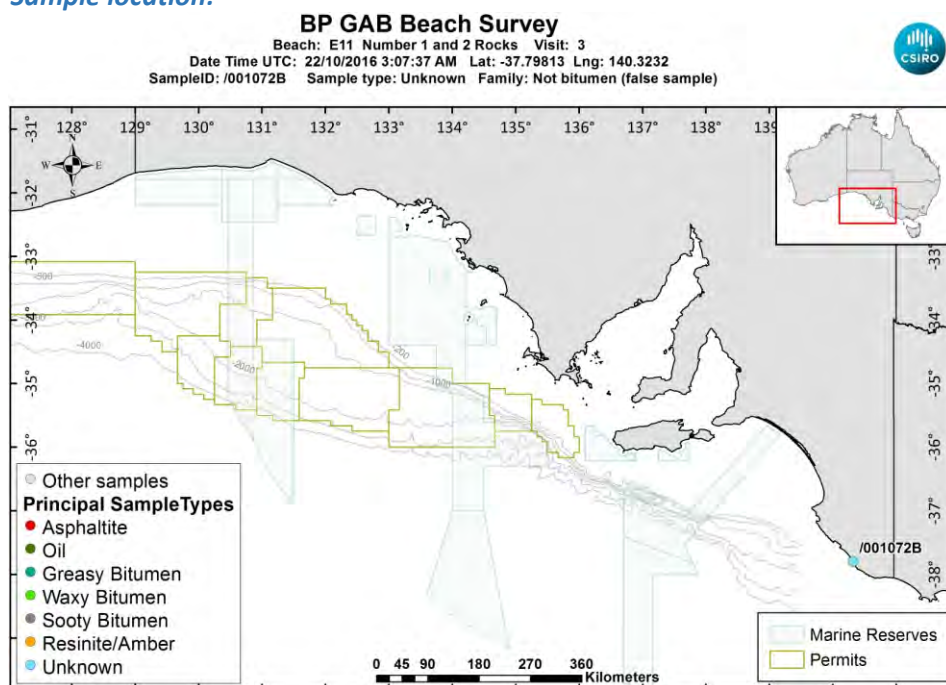
Size (cm): 1.4

Latitude (Y): -37.798127

Weight (gm): 0.15037

Longitude (X): 140.323200

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001072B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001072_AB_Photo02.jpg](#)

Sample ID : /001072B

Beach E11: Number 1 and 2 Rocks Visit: 3

Analyses Requested

Analyses Completed:

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

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 : /001073

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 22/10/2016 1:38:59 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

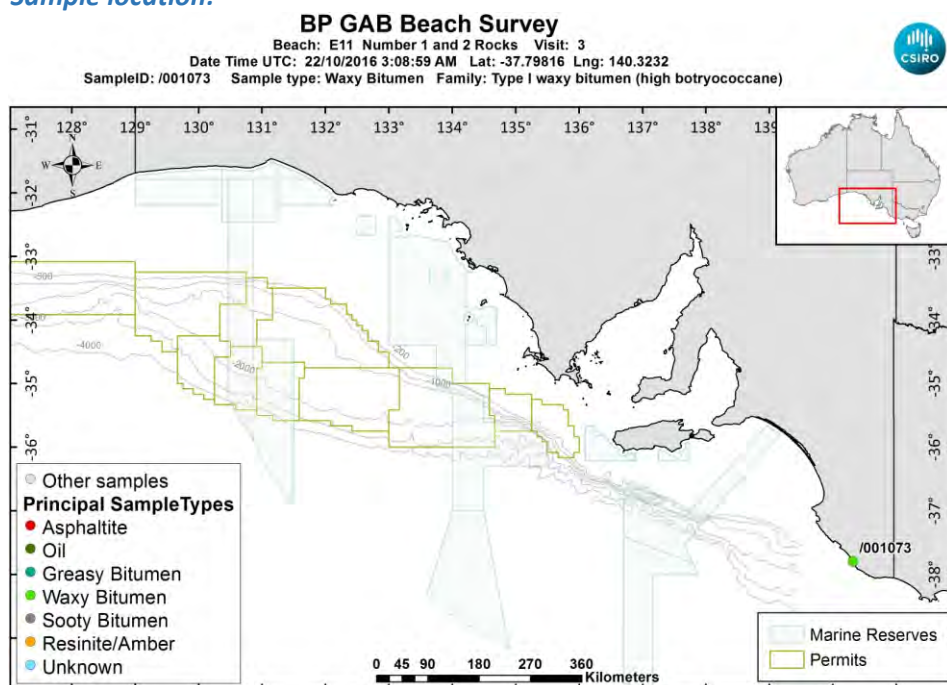
Size (cm): 3.7

Latitude (Y): -37.798163

Weight (gm): 10.28616

Longitude (X): 140.323198

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001073 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001073_146A7184.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001073_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: /001073_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Comment:

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 85.65 | percent | Y |
| Inorg | Hydrogen | | | 7.58076381709742 | percent | Y |
| Inorg | Nitrogen | | | 0.18 | percent | Y |
| Inorg | Sulphur | | | 1.59390279930292 | percent | Y |

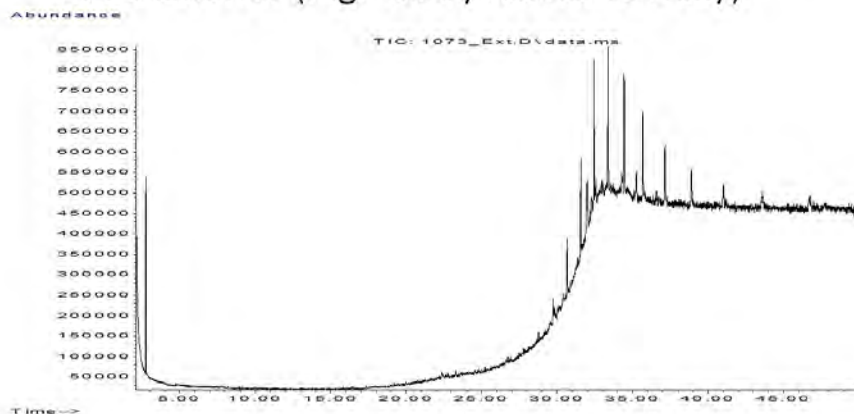
Results for: GCMS with Full Scan

Unique ID: /001073_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\ 001073_ext WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

1073 exterior (high botryococcane waxy)



Data Sheet:

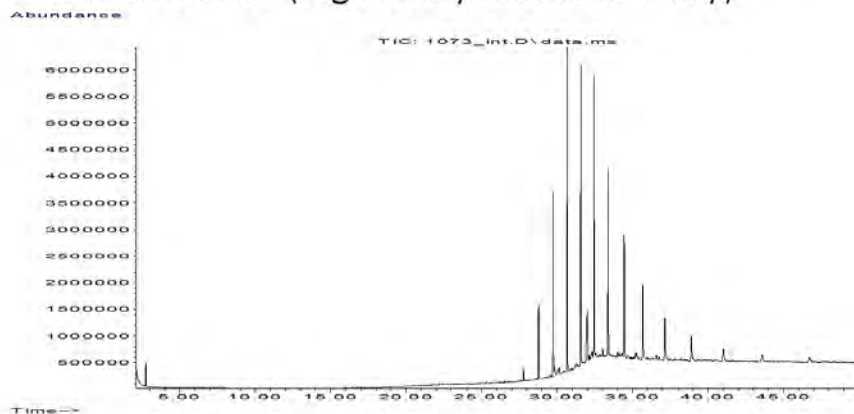
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 682152 | | | 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 | 74288 | | | Z |
| Aliph | nC26 | 29.6680 | 182566 | | | Z |
| Aliph | nC27 | 30.6080 | 477570 | | | Z |
| Aliph | nC28 | 31.5080 | 827919 | | | Z |
| Aliph | nC29 | 32.3700 | 1241180 | | | Z |
| Aliph | nC30 | 33.2910 | 1344125 | | | Z |
| Aliph | nC31 | 34.3470 | 1296607 | | | Z |
| Aliph | nC32 | 35.5720 | 1139902 | | | Z |
| Aliph | nC33 | 37.0130 | 849448 | | | Z |
| Aliph | nC34 | 38.7280 | 611920 | | | Z |
| Aliph | nC35 | 40.8080 | 436743 | | | Z |
| Aliph | nC36 | 43.3510 | 292423 | | | Z |
| Aliph | nC37 | 46.4710 | 286615 | | | 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:** /001073 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_001073_int_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

1073 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 5203055 | | | 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 | 70777 | | | Z |
| Aliph | nC24 | 27.7060 | 907042 | | | Z |
| Aliph | nC25 | 28.7100 | 4788193 | | | Z |
| Aliph | nC26 | 29.6680 | 11201727 | | | Z |
| Aliph | nC27 | 30.6080 | 18310288 | | | Z |
| Aliph | nC28 | 31.5080 | 17831634 | | | Z |
| Aliph | nC29 | 32.3700 | 16911610 | | | Z |
| Aliph | nC30 | 33.2910 | 12742824 | | | Z |
| Aliph | nC31 | 34.3470 | 9920841 | | | Z |
| Aliph | nC32 | 35.5720 | 7347925 | | | Z |
| Aliph | nC33 | 37.0130 | 5228782 | | | Z |
| Aliph | nC34 | 38.7280 | 3206914 | | | Z |
| Aliph | nC35 | 40.8080 | 2130726 | | | Z |
| Aliph | nC36 | 43.3510 | 1486337 | | | Z |
| Aliph | nC37 | 46.4710 | 1168089 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : /001074

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Recently washed up

Location: Mid Intertidal

Local Date Time: 22/10/2016 1:40:26 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

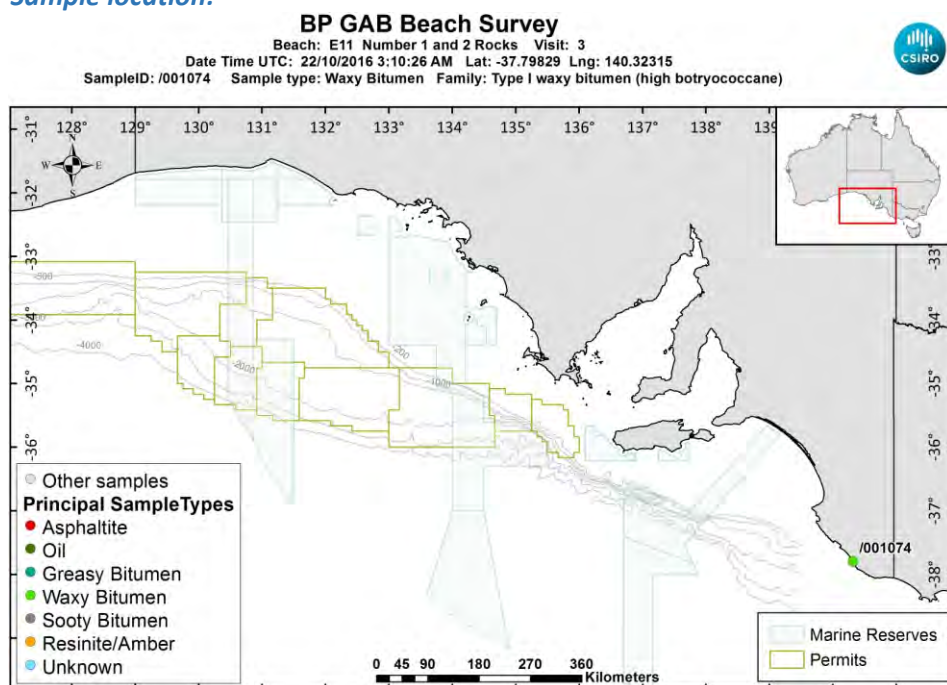
Size (cm): 1.8

Latitude (Y): -37.798293

Weight (gm): 0.61891

Longitude (X): 140.323150

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001074 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001074_146A7186.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001074_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: /001074_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 | | | 85.73 | percent | Y |
| Inorg | Hydrogen | | | 7.74568588469185 | percent | Y |
| Inorg | Nitrogen | | | 0.26 | percent | Y |
| Inorg | Sulphur | | | 1.62371893881335 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: /001074_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\ 001074_bulk_WholeOil.JPG](#)

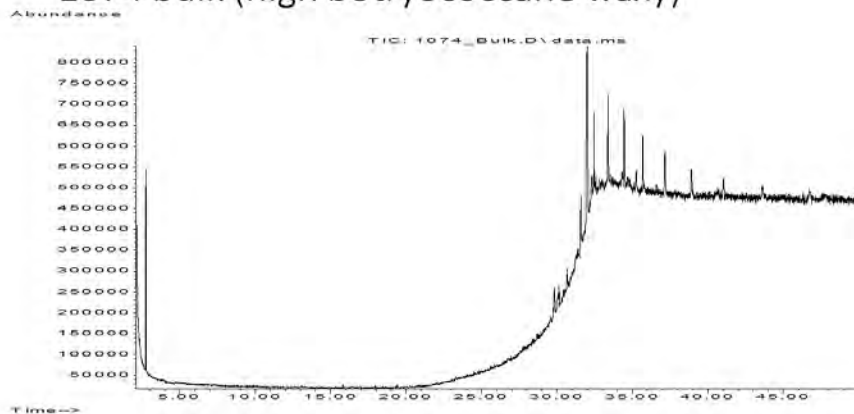
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1074 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 2340074 | | | 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 | 33651 | | | Z |
| Aliph | nC27 | 30.6080 | 156597 | | | Z |
| Aliph | nC28 | 31.5080 | 409625 | | | Z |
| Aliph | nC29 | 32.3700 | 721161 | | | Z |
| Aliph | nC30 | 33.2910 | 867578 | | | Z |
| Aliph | nC31 | 34.3470 | 834850 | | | Z |
| Aliph | nC32 | 35.5720 | 750207 | | | Z |
| Aliph | nC33 | 37.0130 | 619537 | | | Z |
| Aliph | nC34 | 38.7280 | 457900 | | | Z |
| Aliph | nC35 | 40.8080 | 356919 | | | Z |
| Aliph | nC36 | 43.3510 | 259794 | | | Z |
| Aliph | nC37 | 46.4710 | 234878 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : /001075

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 22/10/2016 1:41:43 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

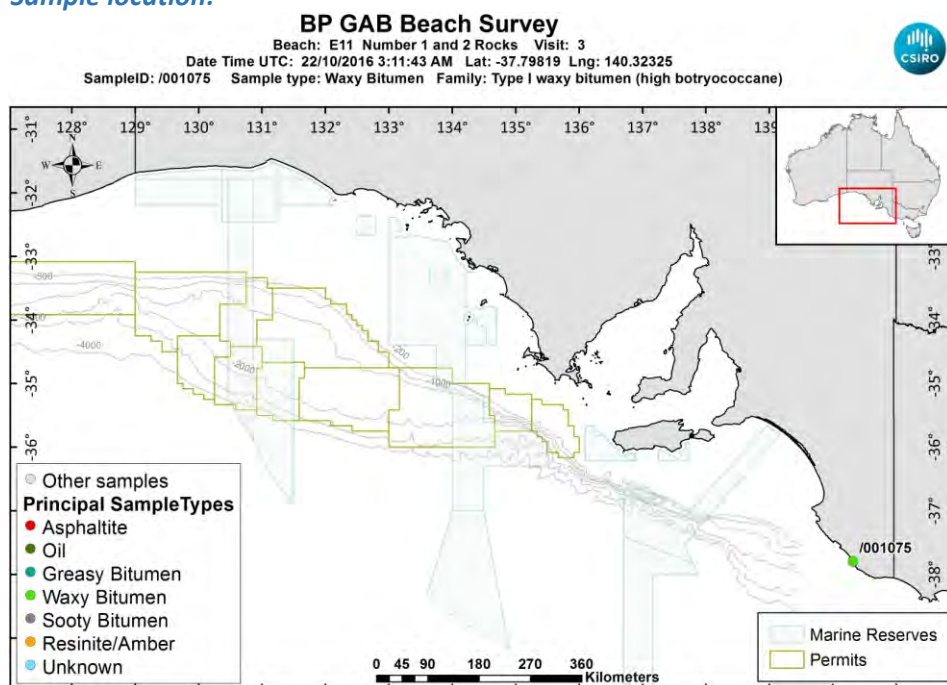
Size (cm): 2.6

Latitude (Y): -37.798187

Weight (gm): 4.33823

Longitude (X): 140.323250

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001075 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001075_146A7188.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001075_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: /001075_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 | | | 87.55 | percent | Y |
| Inorg | Hydrogen | | | 8.16627514910537 | percent | Y |
| Inorg | Nitrogen | | | 0.18 | percent | Y |
| Inorg | Sulphur | | | 1.70509320184859 | percent | Y |

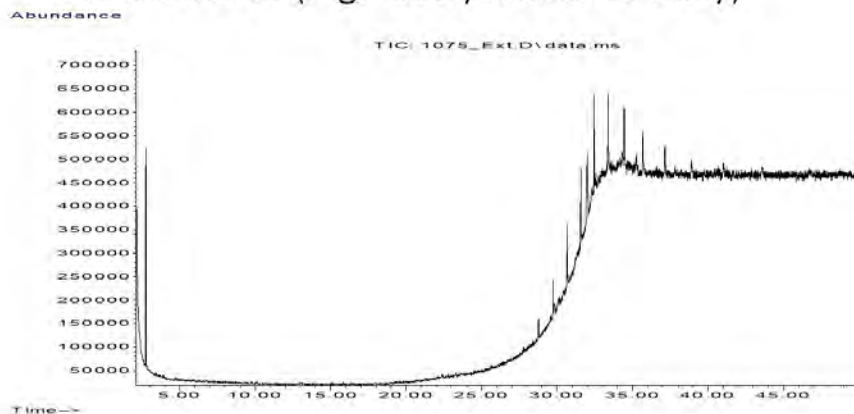
Results for: GCMS with Full Scan

Unique ID: /001075_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\ 001075_ext WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

1075 exterior (high botryococcane waxy)



Data Sheet:

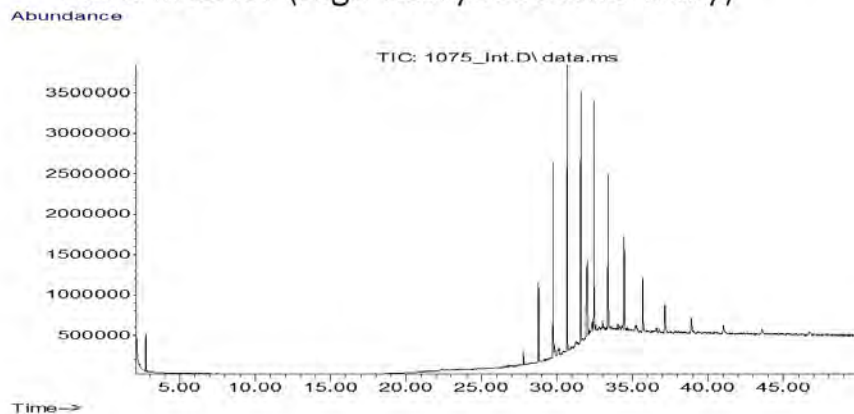
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 781562 | | | 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 | 127807 | | | Z |
| Aliph | nC26 | 29.6680 | 242931 | | | Z |
| Aliph | nC27 | 30.6080 | 461511 | | | Z |
| Aliph | nC28 | 31.5080 | 597829 | | | Z |
| Aliph | nC29 | 32.3700 | 674190 | | | Z |
| Aliph | nC30 | 33.2910 | 624557 | | | Z |
| Aliph | nC31 | 34.3470 | 551284 | | | Z |
| Aliph | nC32 | 35.5720 | 451038 | | | Z |
| Aliph | nC33 | 37.0130 | 315841 | | | Z |
| Aliph | nC34 | 38.7280 | 251256 | | | Z |
| Aliph | nC35 | 40.8080 | 207247 | | | Z |
| Aliph | nC36 | 43.3510 | 173194 | | | Z |
| Aliph | nC37 | 46.4710 | 157340 | | | 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:** /001075 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_001075_int_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

1075 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 4975081 | | | 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 | 57935 | | | Z |
| Aliph | nC24 | 27.7060 | 579818 | | | Z |
| Aliph | nC25 | 28.7100 | 3280877 | | | Z |
| Aliph | nC26 | 29.6680 | 7310040 | | | Z |
| Aliph | nC27 | 30.6080 | 11254549 | | | Z |
| Aliph | nC28 | 31.5080 | 10370011 | | | Z |
| Aliph | nC29 | 32.3700 | 9218965 | | | Z |
| Aliph | nC30 | 33.2910 | 6842255 | | | Z |
| Aliph | nC31 | 34.3470 | 4948565 | | | Z |
| Aliph | nC32 | 35.5720 | 3630207 | | | Z |
| Aliph | nC33 | 37.0130 | 2382909 | | | Z |
| Aliph | nC34 | 38.7280 | 1426842 | | | Z |
| Aliph | nC35 | 40.8080 | 1007445 | | | Z |
| Aliph | nC36 | 43.3510 | 711815 | | | Z |
| Aliph | nC37 | 46.4710 | 539337 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : /001076

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

VERY FRESH

Location: Shore Upper

Local Date Time: 22/10/2016 1:43:41 PM

Type: Waxy Bitumen

Family: 1&2 Rocks Soft Bitumen (Unknown)

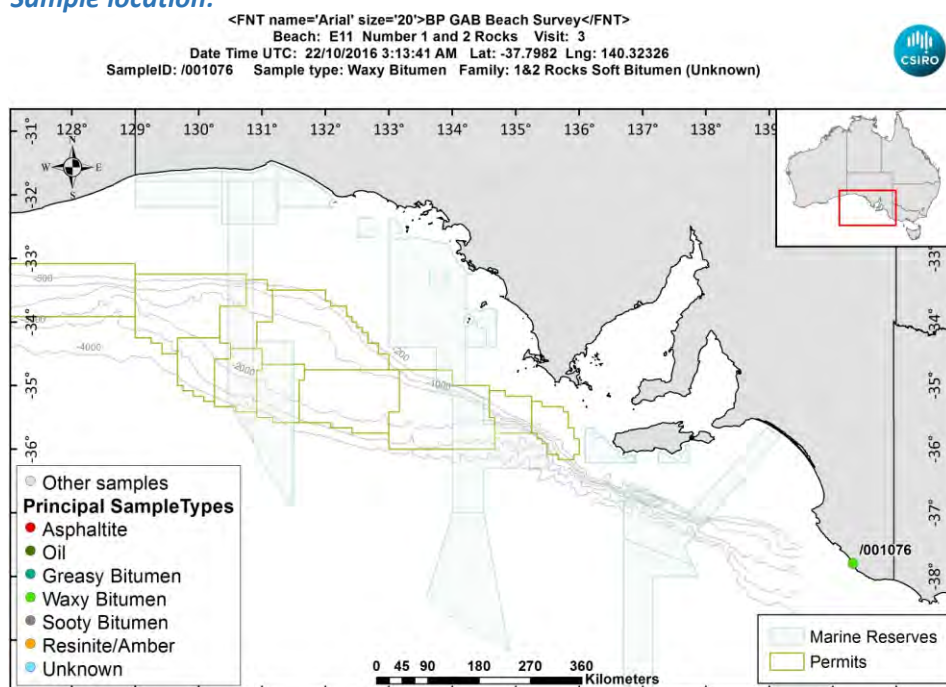
Size (cm): 3

Latitude (Y): -37.798200

Weight (gm): 2.91217

Longitude (X): 140.323265

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001076 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001076_146A7190.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001076_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: /001076 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 Respnse: | Value: | units: | Qualifier: |
|-----------|--------------------------------|---------------|-----------------|----------------------|--------|------------|
| BiomRatio | % C27 aaa 20R | | | 36.7813936040514 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 35.7264748902974 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 26.4622213886023 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 22.6825938566553 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 36.7563850073463 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 41.5909312530473 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.181228872539272 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0.058559262121237 | ratio | Y |
| BiomRatio | C19t/C23t | | | 0.132928410996172 | ratio | Y |
| BiomRatio | C22t/C21t | | | 4.27328942737922E-02 | ratio | Y |
| BiomRatio | C22t/C24t | | | 2.58988421694089E-02 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.259860579057265 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.519123090063585 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.441365347505615 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 1.80995005513394 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 0.11469345477862 | ratio | Y |
| BiomRatio | C26t/C25t | | | 0.618262752646776 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.425938557423531 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.389107863285039 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 3.25945777090903E-02 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 1.16414875469123 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.794765138187857 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 0.12600514380506 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 4.68408332374266E-02 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 7.20985482465515E-02 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 0.109843557051731 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 1.04871200097668 | ratio | Y |
| BiomRatio | Gam/C30H | | | 0.104162898903375 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 0.303686127888026 | ratio | Y |
| BiomRatio | Ole/C30H | | | 6.47370238232248E-02 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 0.27105903592598 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.224820007437247 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.205671323543745 | ratio | Y |

Results for: Elemental Analyser

Unique ID: /001076_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:**

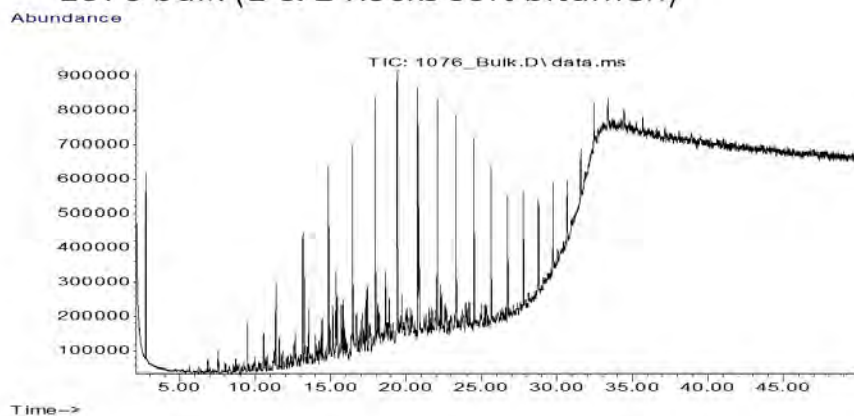
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 39.21 | percent | Y |
| Inorg | Hydrogen | | | 5.52783200795229 | percent | Y |
| Inorg | Nitrogen | | | 0.32 | percent | Y |
| Inorg | Sulphur | | | 2.14700696469326 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** /001076_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_001076_bulk_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

1076 bulk (1 & 2 Rocks soft 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 | 333705 | | | Z |
| Aliph | nC11 | 9.4450 | 763903 | | | Z |
| Aliph | nC12 | 11.3220 | 1215551 | | | Z |
| Aliph | nC13 | 13.1110 | 1655132 | | | Z |
| Aliph | nC14 | 14.8030 | 2269737 | | | Z |
| Aliph | nC15 | 16.4030 | 2400765 | | | Z |
| Aliph | nC16 | 17.9160 | 2659602 | | | Z |
| Aliph | nC17 | 19.3500 | 3148954 | | | Z |
| Aliph | nC18 | 20.7170 | 2587226 | | | Z |
| Aliph | nC19 | 22.0170 | 2341645 | | | Z |
| Aliph | nC20 | 23.2570 | 2190375 | | | Z |
| Aliph | nC21 | 24.4410 | 1868881 | | | Z |
| Aliph | nC22 | 25.5760 | 1621822 | | | Z |
| Aliph | nC23 | 26.6620 | 1311676 | | | Z |
| Aliph | nC24 | 27.7060 | 1134111 | | | Z |
| Aliph | nC25 | 28.7100 | 904066 | | | Z |
| Aliph | nC26 | 29.6680 | 862399 | | | Z |
| Aliph | nC27 | 30.6080 | 615733 | | | Z |
| Aliph | nC28 | 31.5080 | 505629 | | | Z |
| Aliph | nC29 | 32.3700 | 406646 | | | Z |
| Aliph | nC30 | 33.2910 | 350923 | | | Z |
| Aliph | nC31 | 34.3470 | 251349 | | | Z |
| Aliph | nC32 | 35.5720 | 221526 | | | Z |
| Aliph | nC33 | 37.0130 | 160182 | | | Z |
| Aliph | nC34 | 38.7280 | 152785 | | | Z |
| Aliph | nC35 | 40.8080 | 95908 | | | Z |
| Aliph | nC36 | 43.3510 | 95797 | | | Z |
| Aliph | nC37 | 46.4710 | | | | U |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | 115582 | | | Z |
| Aliph | Norpristane | 18.5830 | 1280834 | | | Z |
| Aliph | Phytane | 20.7870 | 1632910 | | | Z |
| Aliph | Pristane | 19.3870 | 1201799 | | | Z |

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

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

Sample ID : /001077

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 22/10/2016 1:45:02 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

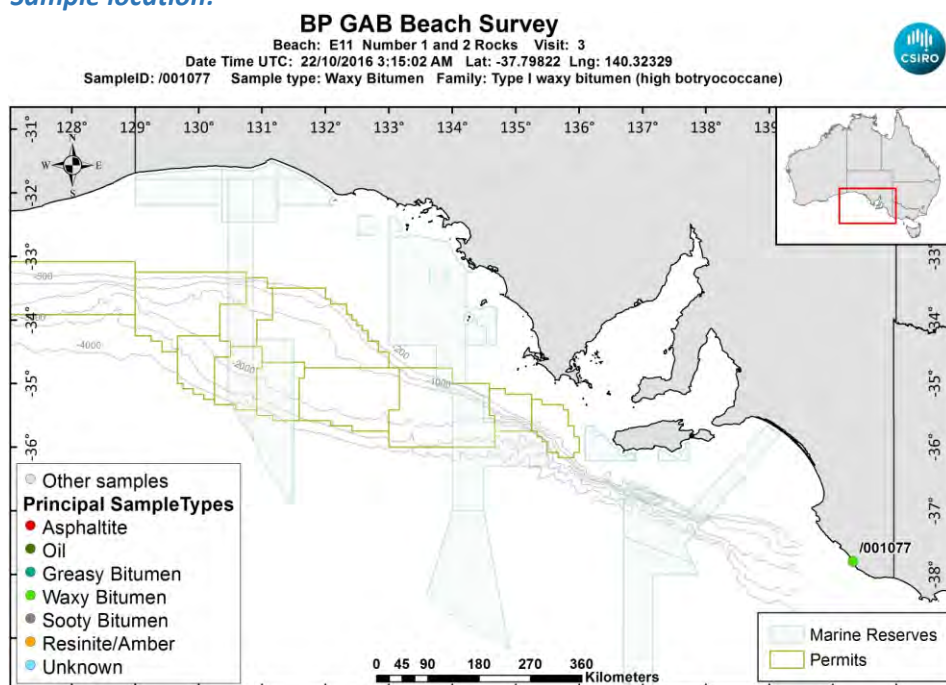
Size (cm): 1.2

Latitude (Y): -37.798223

Weight (gm): 0.38945

Longitude (X): 140.323287

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001077 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001077_146A7192.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001077_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: /001077_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 | | | 85.86 | percent | Y |
| Inorg | Hydrogen | | | 8.25178926441352 | percent | Y |
| Inorg | Nitrogen | | | 0.26 | percent | Y |
| Inorg | Sulphur | | | 1.76047540710086 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: /001077_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\ 001077_bulk_WholeOil.JPG](#)

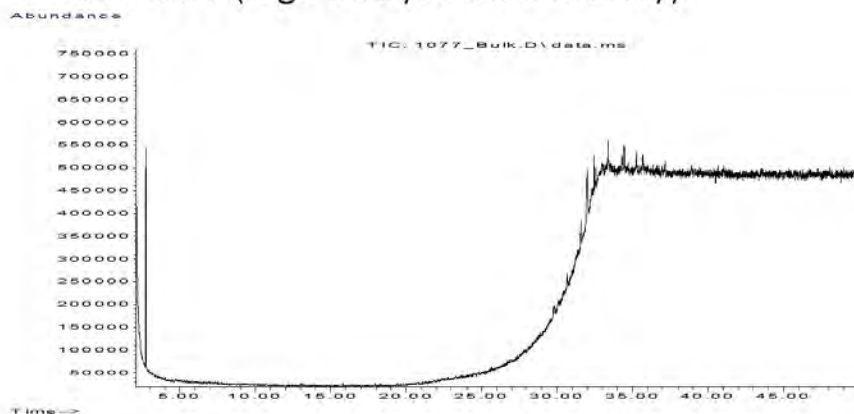
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1077 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 589108 | | | 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 | 122908 | | | Z |
| Aliph | nC28 | 31.5080 | 187451 | | | Z |
| Aliph | nC29 | 32.3700 | 230077 | | | Z |
| Aliph | nC30 | 33.2910 | 231327 | | | Z |
| Aliph | nC31 | 34.3470 | 207591 | | | Z |
| Aliph | nC32 | 35.5720 | 169423 | | | Z |
| Aliph | nC33 | 37.0130 | 146428 | | | Z |
| Aliph | nC34 | 38.7280 | 131791 | | | Z |
| Aliph | nC35 | 40.8080 | 122548 | | | Z |
| Aliph | nC36 | 43.3510 | 111114 | | | Z |
| Aliph | nC37 | 46.4710 | 63960 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : /001078

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 22/10/2016 1:47:01 PM

Type: Resinite/Amber

Family: Resin/Amber

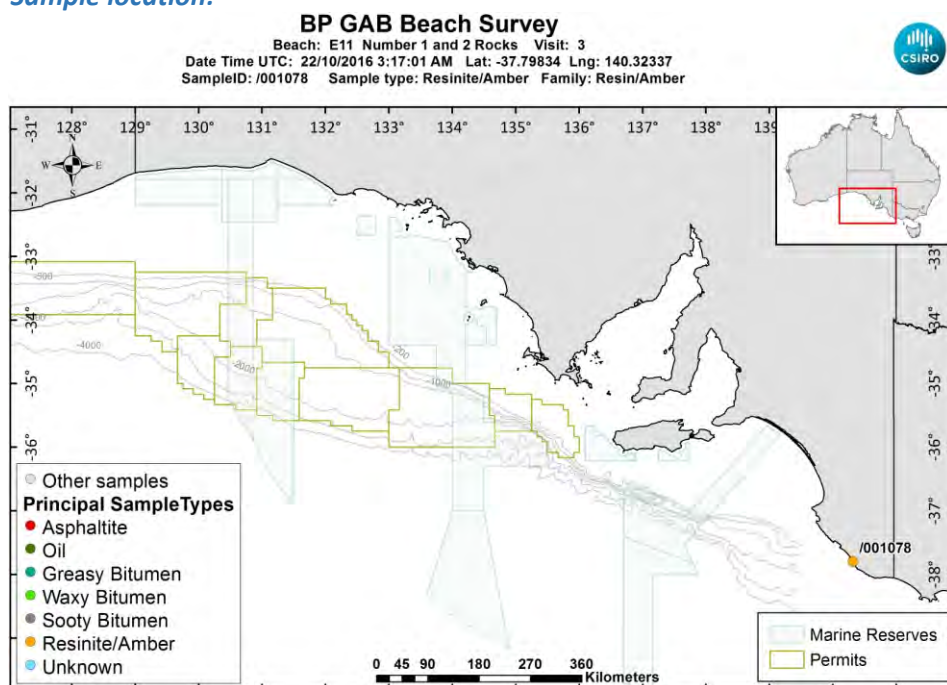
Size (cm): 10.9

Latitude (Y): -37.798343

Weight (gm): 169

Longitude (X): 140.323370

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001078 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001078_146A7194.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001078_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: /001078 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:

| | |
|----------|--|
| 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 : /001079

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

VERY FRESH

Location: Upper Intertidal

Local Date Time: 22/10/2016 1:49:59 PM

Type: Waxy Bitumen

Family: 1&2 Rocks Soft Bitumen (Unknown)

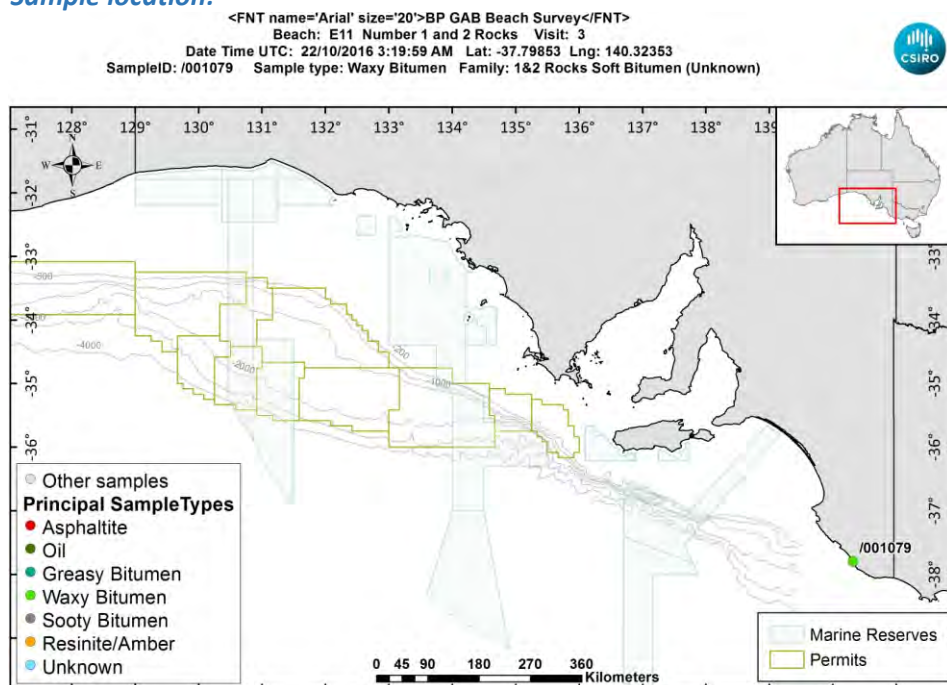
Size (cm): 11.5

Latitude (Y): -37.798530

Weight (gm): 196

Longitude (X): 140.323533

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001079 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001079_146A7196.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001079_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: /001079_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 | | | 32.6345288046308 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 34.7426015992086 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 29.1369330188968 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 24.6496579012447 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 38.2285381764724 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 40.6077404995466 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.182264090306512 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0.04870514190028 | ratio | Y |
| BiomRatio | C19t/C23t | | | 0.11698221979489 | ratio | Y |
| BiomRatio | C22t/C21t | | | 0.144319294809011 | ratio | Y |
| BiomRatio | C22t/C24t | | | 8.57334031535463E-02 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.271864521424241 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.521481886036774 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.401632380605619 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 1.67123287671233 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 0.109189594941825 | ratio | Y |
| BiomRatio | C26t/C25t | | | 0.55797816132441 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.434856733524355 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.40521886330989 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 3.06897248606981E-02 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 1.16881691728208 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.728766513101184 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 7.81334780249593E-02 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 0.040460448983127 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 6.77599099229148E-02 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 0.118147919832782 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 1.0167432113078 | ratio | Y |
| BiomRatio | Gam/C30H | | | 0.100383982446517 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 0.305390348565836 | ratio | Y |
| BiomRatio | Ole/C30H | | | 0.021240704613976 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 0.284223353198546 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.231664947056125 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.226872501905468 | ratio | Y |

Results for: Elemental Analyser

Unique ID: /001079_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:**

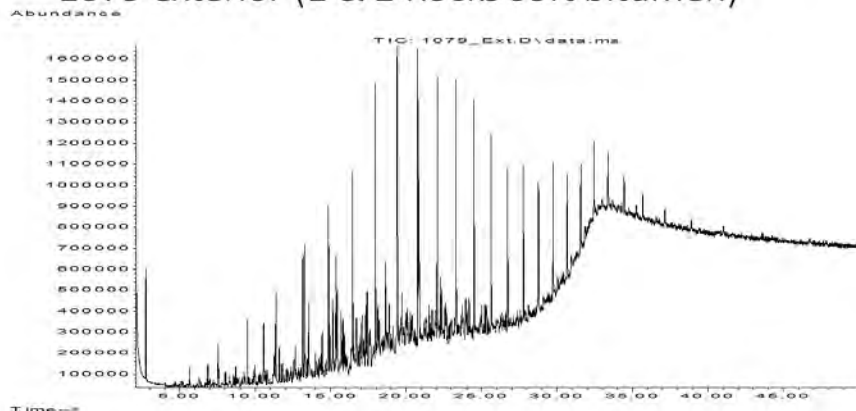
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 50.66 | percent | Y |
| Inorg | Hydrogen | | | 6.18253419483101 | percent | Y |
| Inorg | Nitrogen | | | 0.43 | percent | Y |
| Inorg | Sulphur | | | 2.66685523549559 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** /001079_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_001079_ext_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

1079 exterior (1 & 2 Rocks soft bitumen)



Data Sheet:

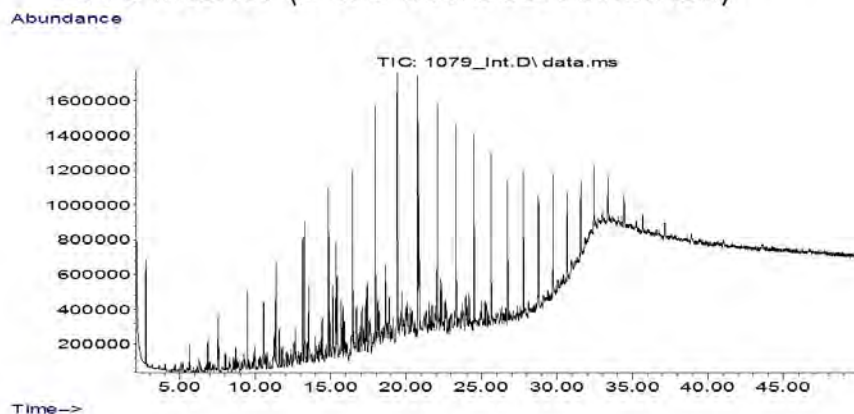
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Rspnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | | | | U |
| Aliph | nC10 | 7.5110 | 987412 | | | Z |
| Aliph | nC11 | 9.4450 | 1564353 | | | Z |
| Aliph | nC12 | 11.3220 | 1990590 | | | Z |
| Aliph | nC13 | 13.1110 | 2554680 | | | Z |
| Aliph | nC14 | 14.8030 | 3268507 | | | Z |
| Aliph | nC15 | 16.4030 | 3593217 | | | Z |
| Aliph | nC16 | 17.9160 | 4416420 | | | Z |
| Aliph | nC17 | 19.3500 | 5882190 | | | Z |
| Aliph | nC18 | 20.7170 | 4979493 | | | Z |
| Aliph | nC19 | 22.0170 | 4538893 | | | Z |
| Aliph | nC20 | 23.2570 | 4181837 | | | Z |
| Aliph | nC21 | 24.4410 | 3647114 | | | Z |
| Aliph | nC22 | 25.5760 | 3255806 | | | Z |
| Aliph | nC23 | 26.6620 | 2624106 | | | Z |
| Aliph | nC24 | 27.7060 | 2443697 | | | Z |
| Aliph | nC25 | 28.7100 | 2116960 | | | Z |
| Aliph | nC26 | 29.6680 | 2277625 | | | Z |
| Aliph | nC27 | 30.6080 | 1596626 | | | Z |
| Aliph | nC28 | 31.5080 | 1325044 | | | Z |
| Aliph | nC29 | 32.3700 | 1143341 | | | Z |
| Aliph | nC30 | 33.2910 | 1056160 | | | Z |
| Aliph | nC31 | 34.3470 | 751230 | | | Z |
| Aliph | nC32 | 35.5720 | 600777 | | | Z |
| Aliph | nC33 | 37.0130 | 437372 | | | Z |
| Aliph | nC34 | 38.7280 | 335003 | | | Z |
| Aliph | nC35 | 40.8080 | 298319 | | | Z |
| Aliph | nC36 | 43.3510 | 273075 | | | Z |
| Aliph | nC37 | 46.4710 | 211555 | | | Z |
| Aliph | nC8 | 4.0300 | 38236 | | | Z |
| Aliph | nC9 | 5.6200 | 434026 | | | Z |
| Aliph | Norpristane | 18.5830 | 2539234 | | | Z |
| Aliph | Phytane | 20.7870 | 3486142 | | | Z |
| Aliph | Pristane | 19.3870 | 2156988 | | | Z |

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** /001079 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_001079_int_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

1079 interior (1 & 2 Rocks soft 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 | 1668396 | | | Z |
| Aliph | nC11 | 9.4450 | 2283195 | | | Z |
| Aliph | nC12 | 11.3220 | 2828722 | | | Z |
| Aliph | nC13 | 13.1110 | 3107743 | | | Z |
| Aliph | nC14 | 14.8030 | 3852752 | | | Z |
| Aliph | nC15 | 16.4030 | 4009426 | | | Z |
| Aliph | nC16 | 17.9160 | 4836319 | | | Z |
| Aliph | nC17 | 19.3500 | 5950947 | | | Z |
| Aliph | nC18 | 20.7170 | 5301168 | | | Z |
| Aliph | nC19 | 22.0170 | 4750383 | | | Z |
| Aliph | nC20 | 23.2570 | 4383907 | | | Z |
| Aliph | nC21 | 24.4410 | 3806585 | | | Z |
| Aliph | nC22 | 25.5760 | 3405548 | | | Z |
| Aliph | nC23 | 26.6620 | 2848890 | | | Z |
| Aliph | nC24 | 27.7060 | 2653231 | | | Z |
| Aliph | nC25 | 28.7100 | 2290186 | | | Z |
| Aliph | nC26 | 29.6680 | 2071651 | | | Z |
| Aliph | nC27 | 30.6080 | 1634483 | | | Z |
| Aliph | nC28 | 31.5080 | 1359695 | | | Z |
| Aliph | nC29 | 32.3700 | 1176227 | | | Z |
| Aliph | nC30 | 33.2910 | 933697 | | | Z |
| Aliph | nC31 | 34.3470 | 764734 | | | Z |
| Aliph | nC32 | 35.5720 | 598445 | | | Z |
| Aliph | nC33 | 37.0130 | 421947 | | | Z |
| Aliph | nC34 | 38.7280 | 311844 | | | Z |
| Aliph | nC35 | 40.8080 | 274660 | | | Z |
| Aliph | nC36 | 43.3510 | 237451 | | | Z |
| Aliph | nC37 | 46.4710 | 184929 | | | Z |
| Aliph | nC8 | 4.0300 | 86430 | | | Z |
| Aliph | nC9 | 5.6200 | 758903 | | | Z |
| Aliph | Norpristane | 18.5830 | 2795885 | | | Z |
| Aliph | Phytane | 20.7870 | 3810805 | | | Z |
| Aliph | Pristane | 19.3870 | 2408461 | | | Z |

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

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

Sample ID : /001080

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 22/10/2016 1:52:02 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

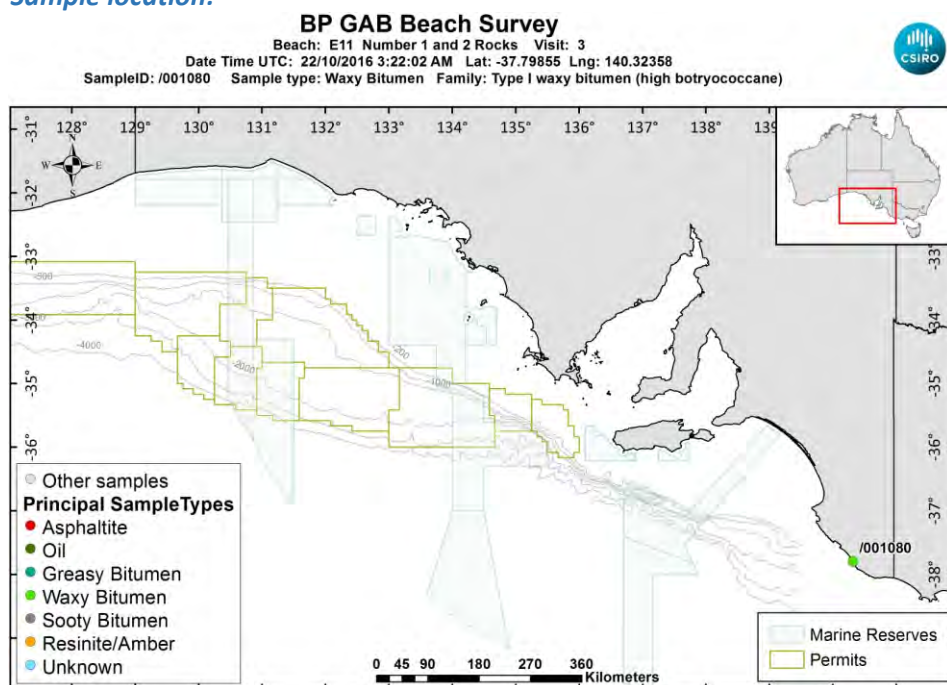
Size (cm): 1.5

Latitude (Y): -37.798553

Weight (gm): 1.00523

Longitude (X): 140.323583

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001080 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001080_146A7198.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001080_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: /001080_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 | | | 86.27 | percent | Y |
| Inorg | Hydrogen | | | 8.80446600397614 | percent | Y |
| Inorg | Nitrogen | | | 0.24 | percent | Y |
| Inorg | Sulphur | | | 1.80842406927734 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: /001080_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\ 001080_bulk_WholeOil.JPG](#)

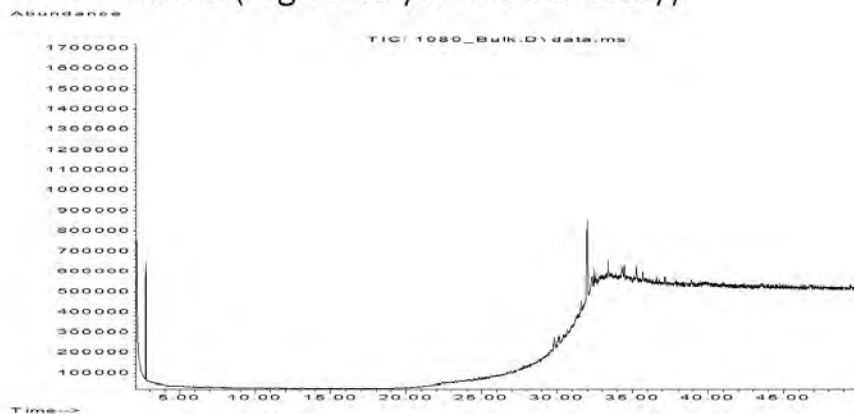
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1080 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 2155859 | | | 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 | 184237 | | | Z |
| Aliph | nC29 | 32.3700 | 237574 | | | Z |
| Aliph | nC30 | 33.2910 | 280397 | | | Z |
| Aliph | nC31 | 34.3470 | 258166 | | | Z |
| Aliph | nC32 | 35.5720 | 255429 | | | Z |
| Aliph | nC33 | 37.0130 | 184373 | | | Z |
| Aliph | nC34 | 38.7280 | 159555 | | | Z |
| Aliph | nC35 | 40.8080 | 138613 | | | Z |
| Aliph | nC36 | 43.3510 | 130994 | | | Z |
| Aliph | nC37 | 46.4710 | 112874 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : /001081

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

VERY FRESH

Location: Upper Intertidal

Local Date Time: 22/10/2016 1:54:02 PM

Type: Waxy Bitumen

Family: 1&2 Rocks Soft Bitumen (Unknown)

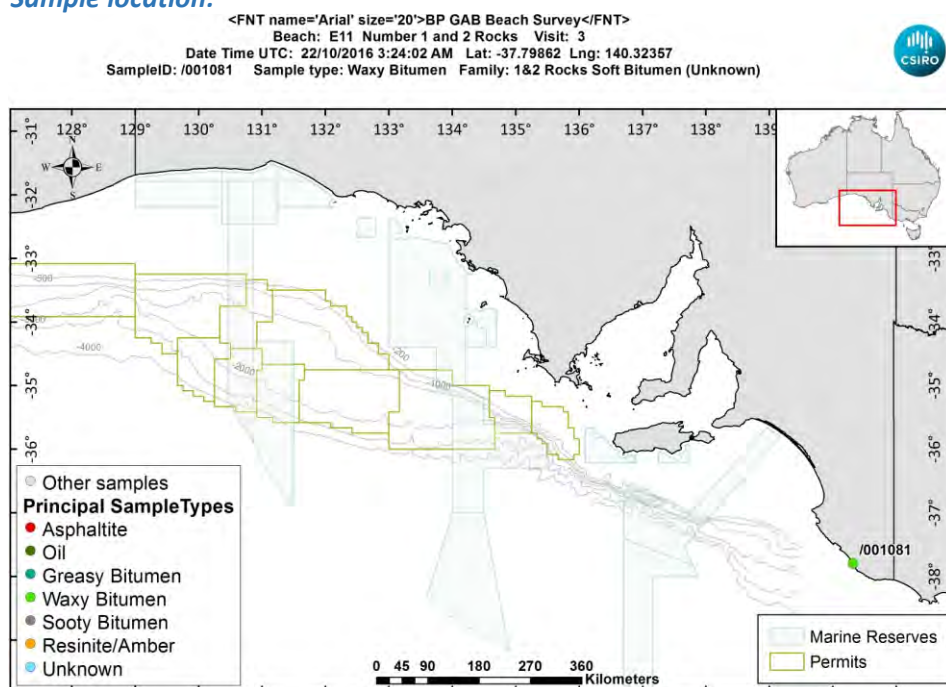
Size (cm): 4.6

Latitude (Y): -37.798623

Weight (gm): 16.85208

Longitude (X): 140.323570

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001081 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001081_146A7200.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001081_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: /001081_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 | | | 32.4487797529376 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 34.6941235257339 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 29.2557999397409 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 24.9713119179207 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 38.2954203073215 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 40.3345645563454 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.197367347060662 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 4.65155966210368E-02 | ratio | Y |
| BiomRatio | C19t/C23t | | | 0.153490328006728 | ratio | Y |
| BiomRatio | C22t/C21t | | | 0.122613210864933 | ratio | Y |
| BiomRatio | C22t/C24t | | | 8.26362166081089E-02 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.285038051935915 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.511211529415119 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.356794628729455 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 1.36077962323647 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 0.101700045914242 | ratio | Y |
| BiomRatio | C26t/C25t | | | 0.619195098550773 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.43802677764466 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.412274327284621 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 3.48765394476476E-02 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 1.16257626529829 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.758440297264243 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 9.51241740715425E-02 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 3.98072414479645E-02 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 5.31000239729228E-02 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 0.117840641971306 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 1.03741240964654 | ratio | Y |
| BiomRatio | Gam/C30H | | | 0.102390791147084 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 0.307397196774705 | ratio | Y |
| BiomRatio | Ole/C30H | | | 7.36659474789831E-03 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 0.282600272528903 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.229028929377671 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.233906447088575 | ratio | Y |

Results for: Elemental Analyser

Unique ID: /001081_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:**

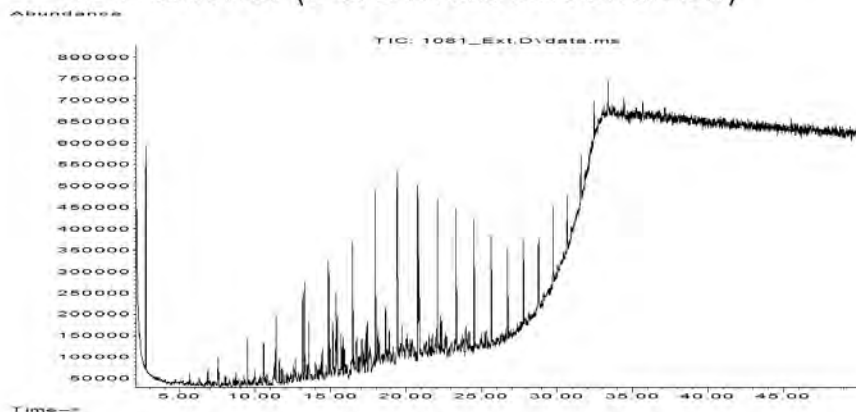
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 63.05 | percent | Y |
| Inorg | Hydrogen | | | 8.1445226640159 | percent | Y |
| Inorg | Nitrogen | | | 0.53 | percent | Y |
| Inorg | Sulphur | | | 3.78728528658002 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** /001081_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_001081_ext_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

1081 exterior (1 & 2 Rocks soft bitumen)



Data Sheet:

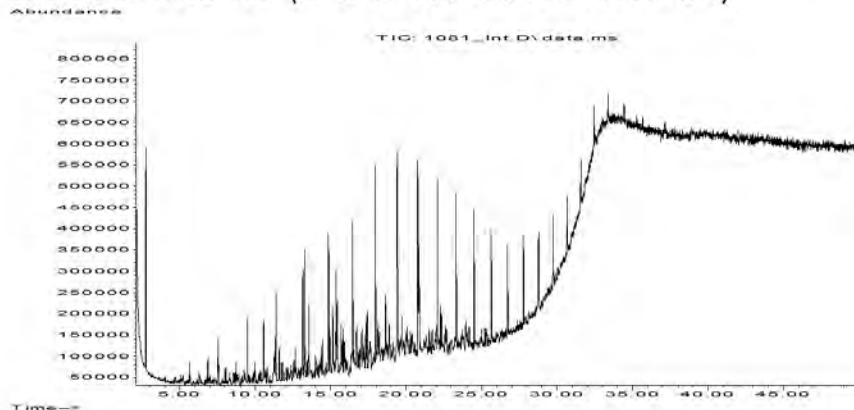
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | | | | U |
| Aliph | nC10 | 7.5110 | 341827 | | | Z |
| Aliph | nC11 | 9.4450 | 523744 | | | Z |
| Aliph | nC12 | 11.3220 | 704288 | | | Z |
| Aliph | nC13 | 13.1110 | 881358 | | | Z |
| Aliph | nC14 | 14.8030 | 1094248 | | | Z |
| Aliph | nC15 | 16.4030 | 1148891 | | | Z |
| Aliph | nC16 | 17.9160 | 1346004 | | | Z |
| Aliph | nC17 | 19.3500 | 1797613 | | | Z |
| Aliph | nC18 | 20.7170 | 1441041 | | | Z |
| Aliph | nC19 | 22.0170 | 1351360 | | | Z |
| Aliph | nC20 | 23.2570 | 1226648 | | | Z |
| Aliph | nC21 | 24.4410 | 978294 | | | Z |
| Aliph | nC22 | 25.5760 | 914870 | | | Z |
| Aliph | nC23 | 26.6620 | 738764 | | | Z |
| Aliph | nC24 | 27.7060 | 678151 | | | Z |
| Aliph | nC25 | 28.7100 | 534504 | | | Z |
| Aliph | nC26 | 29.6680 | 551137 | | | Z |
| Aliph | nC27 | 30.6080 | 439615 | | | Z |
| Aliph | nC28 | 31.5080 | 362874 | | | Z |
| Aliph | nC29 | 32.3700 | 361858 | | | Z |
| Aliph | nC30 | 33.2910 | 299646 | | | Z |
| Aliph | nC31 | 34.3470 | 221126 | | | Z |
| Aliph | nC32 | 35.5720 | 176044 | | | Z |
| Aliph | nC33 | 37.0130 | 161519 | | | Z |
| Aliph | nC34 | 38.7280 | 133613 | | | Z |
| Aliph | nC35 | 40.8080 | 103184 | | | Z |
| Aliph | nC36 | 43.3510 | | | | U |
| Aliph | nC37 | 46.4710 | | | | U |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | 153362 | | | Z |
| Aliph | Norpristane | 18.5830 | 781946 | | | Z |
| Aliph | Phytane | 20.7870 | 1065541 | | | Z |
| Aliph | Pristane | 19.3870 | 760008 | | | Z |

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** /001081 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_001081_int_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

1081 interior (1 & 2 Rocks soft 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 | 531382 | | | Z |
| Aliph | nC11 | 9.4450 | 797072 | | | Z |
| Aliph | nC12 | 11.3220 | 919021 | | | Z |
| Aliph | nC13 | 13.1110 | 1080571 | | | Z |
| Aliph | nC14 | 14.8030 | 1311216 | | | Z |
| Aliph | nC15 | 16.4030 | 1355545 | | | Z |
| Aliph | nC16 | 17.9160 | 1590169 | | | Z |
| Aliph | nC17 | 19.3500 | 2281811 | | | Z |
| Aliph | nC18 | 20.7170 | 1600226 | | | Z |
| Aliph | nC19 | 22.0170 | 1417182 | | | Z |
| Aliph | nC20 | 23.2570 | 1316633 | | | Z |
| Aliph | nC21 | 24.4410 | 1090750 | | | Z |
| Aliph | nC22 | 25.5760 | 942472 | | | Z |
| Aliph | nC23 | 26.6620 | 765961 | | | Z |
| Aliph | nC24 | 27.7060 | 716504 | | | Z |
| Aliph | nC25 | 28.7100 | 549838 | | | Z |
| Aliph | nC26 | 29.6680 | 571757 | | | Z |
| Aliph | nC27 | 30.6080 | 439773 | | | Z |
| Aliph | nC28 | 31.5080 | 342460 | | | Z |
| Aliph | nC29 | 32.3700 | 296051 | | | Z |
| Aliph | nC30 | 33.2910 | 227503 | | | Z |
| Aliph | nC31 | 34.3470 | 183697 | | | Z |
| Aliph | nC32 | 35.5720 | 104326 | | | Z |
| Aliph | nC33 | 37.0130 | 124574 | | | Z |
| Aliph | nC34 | 38.7280 | 111970 | | | Z |
| Aliph | nC35 | 40.8080 | 63691 | | | Z |
| Aliph | nC36 | 43.3510 | | | | U |
| Aliph | nC37 | 46.4710 | | | | U |
| Aliph | nC8 | 4.0300 | 32230 | | | Z |
| Aliph | nC9 | 5.6200 | 250923 | | | Z |
| Aliph | Norpristane | 18.5830 | 891566 | | | Z |
| Aliph | Phytane | 20.7870 | 1111847 | | | Z |
| Aliph | Pristane | 19.3870 | 733778 | | | Z |

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

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

Sample ID : /001082

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Recorded after survey finished - were in car parking area in back shore

Location: Shore Upper

Local Date Time: 22/10/2016 2:15:08 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

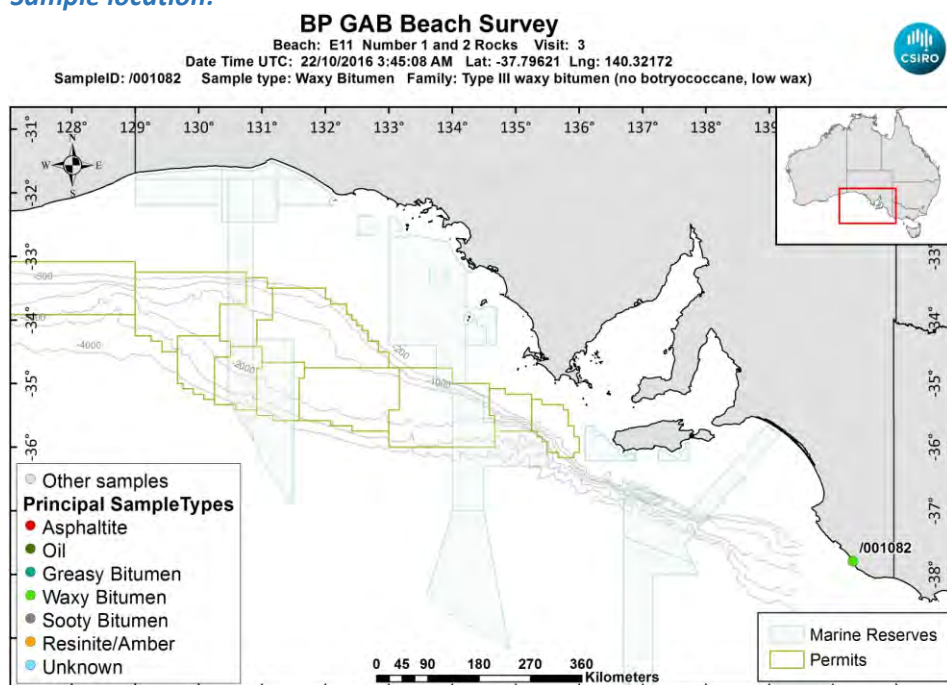
Size (cm): 7

Latitude (Y): -37.796210

Weight (gm): 21.49763

Longitude (X): 140.321720

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001082 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001082_146A7203.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001082_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: /001082_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|----------------------|---------|------------|
| Inorg | Carbon | | | 86.61 | percent | Y |
| Inorg | Hydrogen | | | 6.99370079522863 | percent | Y |
| Inorg | Nitrogen | | | 7.10946872322194E-02 | percent | Y |
| Inorg | Sulphur | | | 1.30305356300136 | percent | Y |

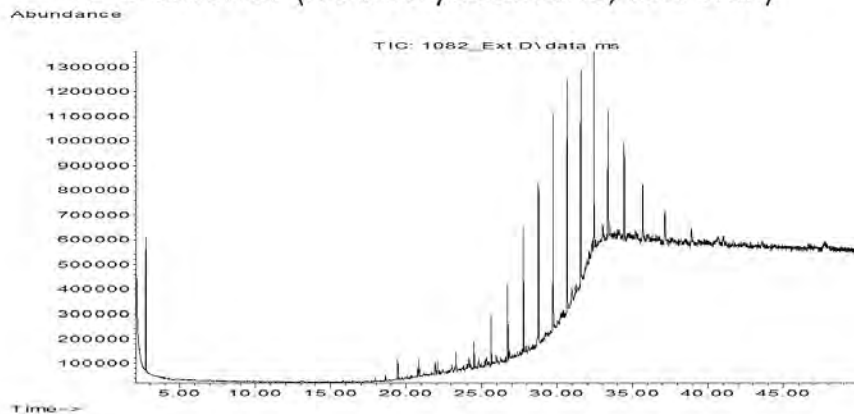
Results for: GCMS with Full Scan

Unique ID: /001082_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\ 001082_ext WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

1082 exterior (no botryococcane, low wax)



Data Sheet:

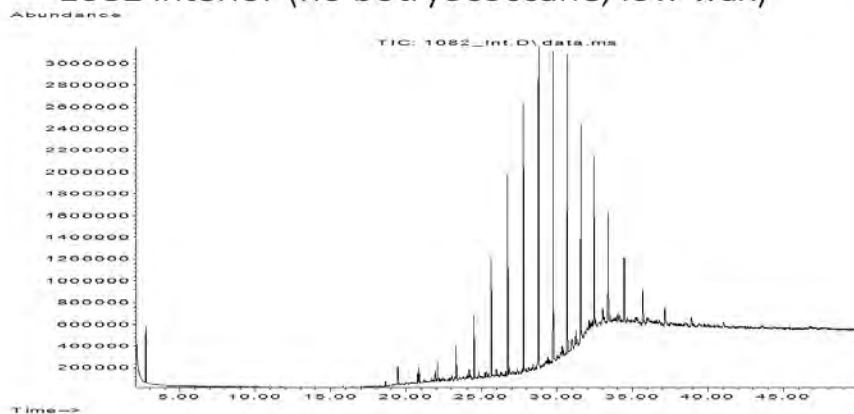
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Rspnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 126940 | | | 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 | 56950 | | | Z |
| Aliph | nC16 | 17.9160 | 71595 | | | Z |
| Aliph | nC17 | 19.3500 | 466581 | | | Z |
| Aliph | nC18 | 20.7170 | 139390 | | | Z |
| Aliph | nC19 | 22.0170 | 211897 | | | Z |
| Aliph | nC20 | 23.2570 | 280680 | | | Z |
| Aliph | nC21 | 24.4410 | 401262 | | | Z |
| Aliph | nC22 | 25.5760 | 670556 | | | Z |
| Aliph | nC23 | 26.6620 | 1135692 | | | Z |
| Aliph | nC24 | 27.7060 | 1760018 | | | Z |
| Aliph | nC25 | 28.7100 | 2342778 | | | Z |
| Aliph | nC26 | 29.6680 | 2858114 | | | Z |
| Aliph | nC27 | 30.6080 | 3362106 | | | Z |
| Aliph | nC28 | 31.5080 | 2871157 | | | Z |
| Aliph | nC29 | 32.3700 | 2680506 | | | Z |
| Aliph | nC30 | 33.2910 | 2135012 | | | Z |
| Aliph | nC31 | 34.3470 | 1584976 | | | Z |
| Aliph | nC32 | 35.5720 | 749928 | | | Z |
| Aliph | nC33 | 37.0130 | 162983 | | | Z |
| 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 | 141198 | | | Z |
| Aliph | Phytane | 20.7870 | 139820 | | | Z |
| Aliph | Pristane | 19.3870 | 459028 | | | Z |

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** /001082 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_001082_int_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

1082 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 | 44444 | | | Z |
| Aliph | nC17 | 19.3500 | 213640 | | | Z |
| Aliph | nC18 | 20.7170 | 355049 | | | Z |
| Aliph | nC19 | 22.0170 | 665602 | | | Z |
| Aliph | nC20 | 23.2570 | 1173977 | | | Z |
| Aliph | nC21 | 24.4410 | 2083949 | | | Z |
| Aliph | nC22 | 25.5760 | 3771706 | | | Z |
| Aliph | nC23 | 26.6620 | 6420913 | | | Z |
| Aliph | nC24 | 27.7060 | 8303652 | | | Z |
| Aliph | nC25 | 28.7100 | 9826145 | | | Z |
| Aliph | nC26 | 29.6680 | 9617238 | | | Z |
| Aliph | nC27 | 30.6080 | 8914311 | | | Z |
| Aliph | nC28 | 31.5080 | 6617552 | | | Z |
| Aliph | nC29 | 32.3700 | 5329421 | | | Z |
| Aliph | nC30 | 33.2910 | 3846091 | | | Z |
| Aliph | nC31 | 34.3470 | 2592757 | | | Z |
| Aliph | nC32 | 35.5720 | 1630678 | | | Z |
| Aliph | nC33 | 37.0130 | 1081781 | | | Z |
| Aliph | nC34 | 38.7280 | 619488 | | | Z |
| Aliph | nC35 | 40.8080 | 379294 | | | Z |
| Aliph | nC36 | 43.3510 | 247750 | | | Z |
| Aliph | nC37 | 46.4710 | 232428 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 286715 | | | Z |
| Aliph | Phytane | 20.7870 | 646434 | | | Z |
| Aliph | Pristane | 19.3870 | 840542 | | | Z |

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

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

Sample ID : /001083

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Recorded after survey finished - were in car parking area in back shore

Location: Shore Upper

Local Date Time: 22/10/2016 2:07:34 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

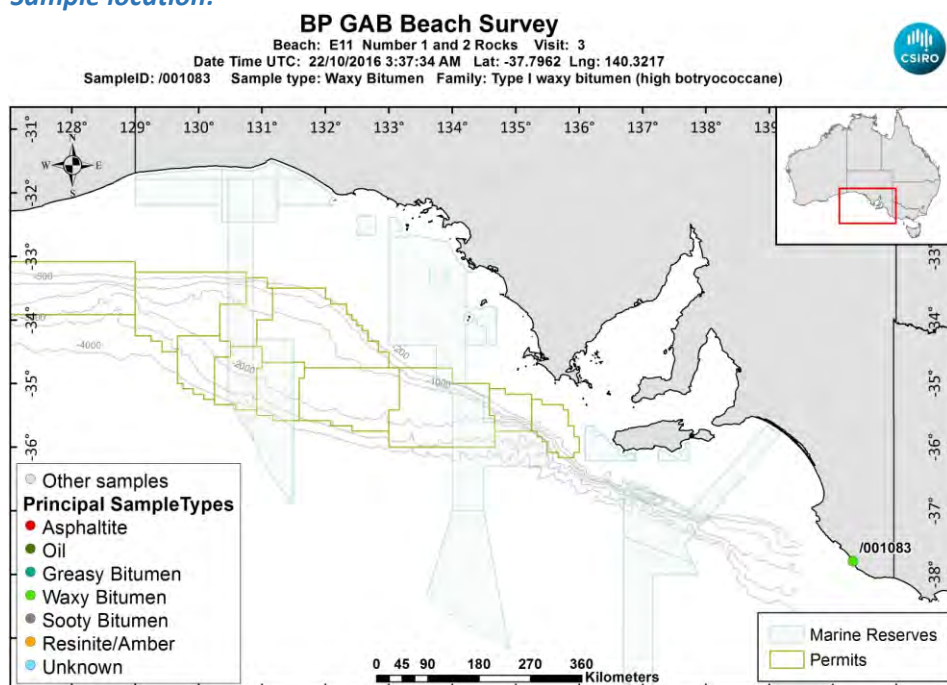
Size (cm): 7.6

Latitude (Y): -37.796200

Weight (gm): 9.99778

Longitude (X): 140.321700

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001083 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001083_146A7205.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001083_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: /001083_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 | | | 83.96 | percent | Y |
| Inorg | Hydrogen | | | 8.59784652087475 | percent | Y |
| Inorg | Nitrogen | | | 0.214208997429306 | percent | Y |
| Inorg | Sulphur | | | 2.1871343165096 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: /001083_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\ 001083_bulk_WholeOil.JPG](#)

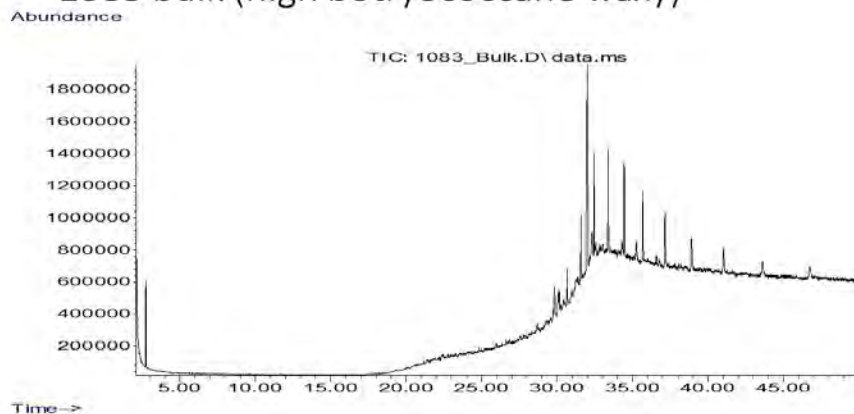
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1083 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 6771509 | | | 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 | 162556 | | | Z |
| Aliph | nC27 | 30.6080 | 724397 | | | Z |
| Aliph | nC28 | 31.5080 | 1376676 | | | Z |
| Aliph | nC29 | 32.3700 | 722498 | | | Z |
| Aliph | nC30 | 33.2910 | 2388349 | | | Z |
| Aliph | nC31 | 34.3470 | 2394660 | | | Z |
| Aliph | nC32 | 35.5720 | 2318415 | | | Z |
| Aliph | nC33 | 37.0130 | 2104885 | | | Z |
| Aliph | nC34 | 38.7280 | 1600974 | | | Z |
| Aliph | nC35 | 40.8080 | 1250005 | | | Z |
| Aliph | nC36 | 43.3510 | 1035338 | | | Z |
| Aliph | nC37 | 46.4710 | 954083 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : /001084

Beach E11: Number 1 and 2 Rocks Visit: 3

Comments:

Recorded after survey finished - were in car parking area in back shore

Location: Shore Upper

Local Date Time: 22/10/2016 2:09:29 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

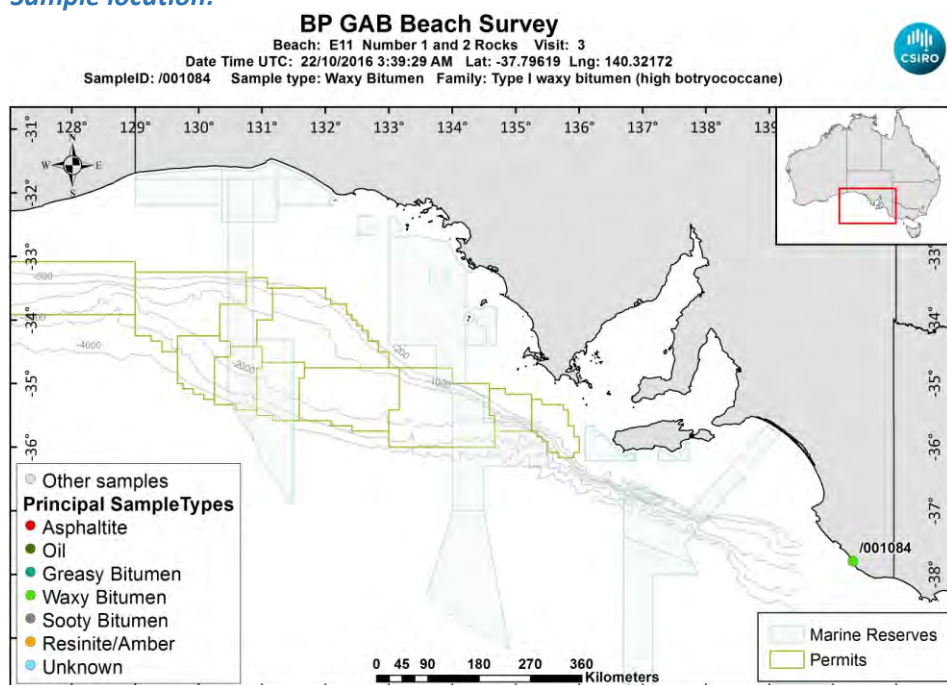
Size (cm): 1.9

Latitude (Y): -37.796190

Weight (gm): 1.26009

Longitude (X): 140.321720

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001084 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001084_146A7207.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001084_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: /001084_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 | | | 86.66 | percent | Y |
| Inorg | Hydrogen | | | 7.52369184890656 | percent | Y |
| Inorg | Nitrogen | | | 0.276341645244216 | percent | Y |
| Inorg | Sulphur | | | 1.44786276184383 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: /001084_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\ 001084_bulk_WholeOil.JPG](#)

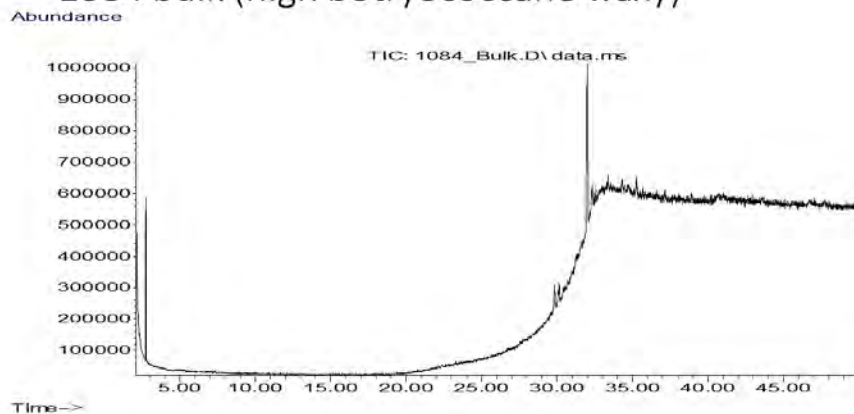
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1084 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 2950640 | | | 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 | 119144 | | | Z |
| Aliph | nC32 | 35.5720 | 97640 | | | Z |
| Aliph | nC33 | 37.0130 | 153949 | | | Z |
| Aliph | nC34 | 38.7280 | 156795 | | | Z |
| Aliph | nC35 | 40.8080 | 163264 | | | Z |
| Aliph | nC36 | 43.3510 | 151127 | | | Z |
| Aliph | nC37 | 46.4710 | 205412 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : **W13/007587**

Beach K8: Pennington Bay Visit: 2

Comments:

Location: Upper Intertidal

Local Date Time: 6/09/2015 3:23:21 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

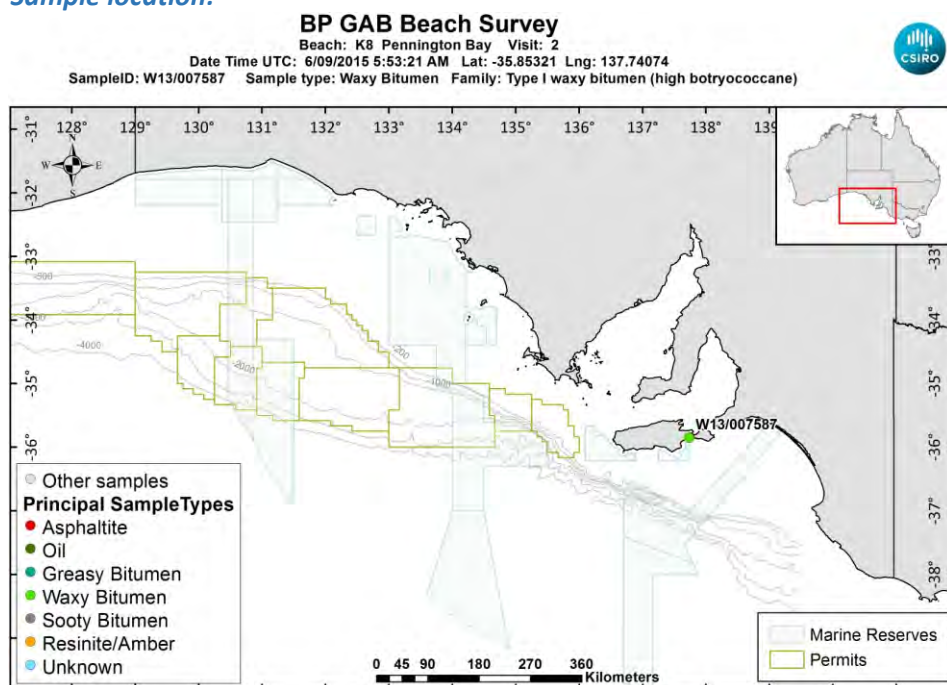
Size (cm): 3.7

Latitude (Y): -35.853208

Weight (gm): 7.9

Longitude (X): 137.740735

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007587_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007587_146A1469.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007587_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: W13/007587_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Comment:

Data Sheet:

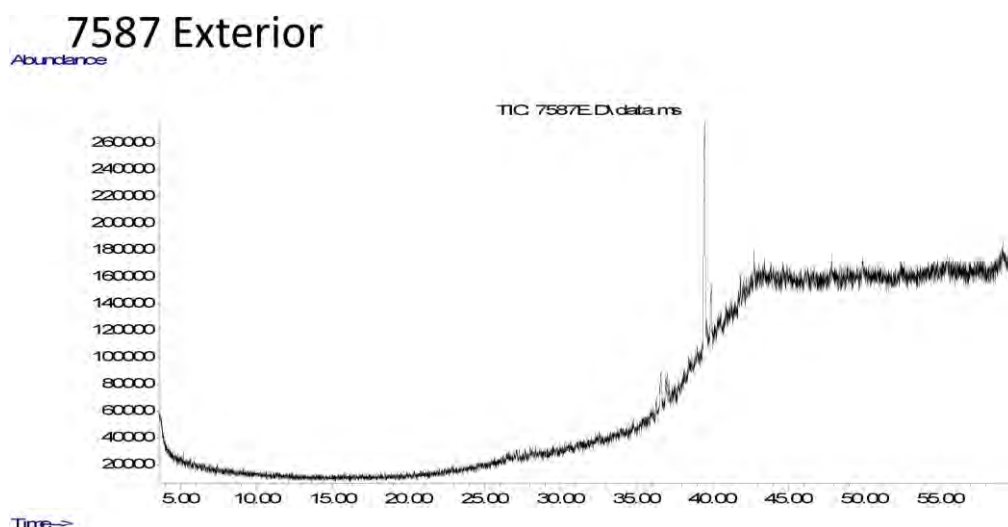
| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|-------------------|---------|------------|
| Inorg | Carbon | | | 81.7 | percent | Y |
| Inorg | Hydrogen | | | 7.16071168986084 | percent | Y |
| Inorg | Nitrogen | | | 0.557441645244216 | percent | Y |
| Inorg | Sulphur | | | 1.28976842465724 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007587_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_007587_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



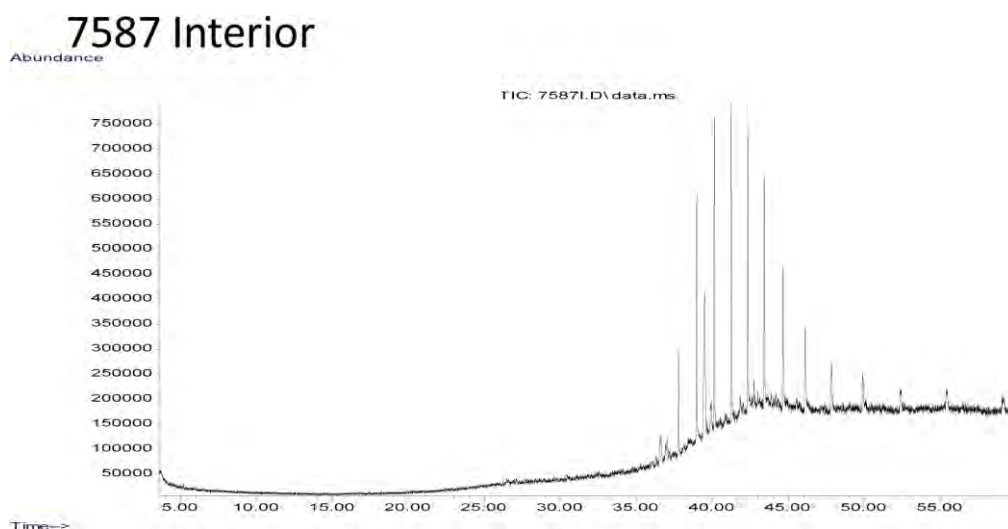
Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 39.4290 | 1475060 | | ug/L | Z |
| Aliph | nC10 | 0.0000 | | | ug/L | U |
| Aliph | nC11 | 0.0000 | | | ug/L | U |
| Aliph | nC12 | 12.2580 | | | ug/L | U |
| Aliph | nC13 | 14.5950 | | | ug/L | U |
| Aliph | nC14 | 16.8180 | | | ug/L | U |
| Aliph | nC15 | 18.9260 | | | ug/L | U |
| Aliph | nC16 | 20.9240 | | | ug/L | U |
| Aliph | nC17 | 22.8190 | | | ug/L | U |
| Aliph | nC18 | 24.6230 | | | ug/L | U |
| Aliph | nC19 | 26.3410 | | | ug/L | U |
| Aliph | nC20 | 27.9810 | | | ug/L | U |
| Aliph | nC21 | 29.5510 | | | ug/L | U |
| Aliph | nC22 | 31.0540 | | | ug/L | U |
| Aliph | nC23 | 32.4960 | | | ug/L | U |
| Aliph | nC24 | 33.8800 | | | ug/L | U |
| Aliph | nC25 | 35.2120 | | | ug/L | U |
| Aliph | nC26 | 36.4960 | | | ug/L | U |
| Aliph | nC27 | 37.7300 | | | ug/L | U |
| Aliph | nC28 | 38.9260 | | | ug/L | U |
| Aliph | nC29 | 40.0740 | | | ug/L | U |
| Aliph | nC30 | 41.1930 | | | ug/L | U |
| Aliph | nC31 | 42.2750 | | | ug/L | U |
| Aliph | nC32 | 43.3560 | | | ug/L | U |
| Aliph | nC33 | 44.5840 | | | ug/L | U |
| Aliph | nC34 | 46.0130 | | | ug/L | U |
| Aliph | nC35 | 47.7140 | | | ug/L | U |
| Aliph | nC36 | 49.7870 | | | ug/L | U |
| Aliph | nC37 | 52.2630 | | | ug/L | U |
| Aliph | nC38 | 55.2360 | | | ug/L | U |
| Aliph | nC39 | 58.9110 | | | ug/L | U |
| Aliph | Norpristane | 21.8010 | | | ug/L | U |
| Aliph | Phytane | 24.7190 | | | ug/L | U |
| Aliph | Pristane | 22.8660 | | | ug/L | U |

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007587 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_007587_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 | 2529090 | | 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 | 189148 | | ug/L | Z |
| Aliph | nC27 | 37.7300 | 1125239 | | ug/L | Z |
| Aliph | nC28 | 38.9260 | 2431467 | | ug/L | Z |
| Aliph | nC29 | 40.0740 | 3278200 | | ug/L | Z |
| Aliph | nC30 | 41.1930 | 3308996 | | ug/L | Z |
| Aliph | nC31 | 42.2750 | 3139018 | | ug/L | Z |
| Aliph | nC32 | 43.3560 | 2631959 | | ug/L | Z |
| Aliph | nC33 | 44.5840 | 1877628 | | ug/L | Z |
| Aliph | nC34 | 46.0130 | 1352201 | | ug/L | Z |
| Aliph | nC35 | 47.7140 | 958599 | | ug/L | Z |
| Aliph | nC36 | 49.7870 | 781352 | | ug/L | Z |
| Aliph | nC37 | 52.2630 | 555681 | | ug/L | Z |
| Aliph | nC38 | 55.2360 | 477503 | | ug/L | Z |
| Aliph | nC39 | 58.9110 | 597432 | | ug/L | Z |
| Aliph | Norpristane | 21.8010 | | | ug/L | U |
| Aliph | Phytane | 24.7190 | | | ug/L | U |
| Aliph | Pristane | 22.8660 | | | ug/L | U |

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

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

Sample ID : **W13/007967**

Beach K8: Pennington Bay Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 18/10/2016 1:14:42 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

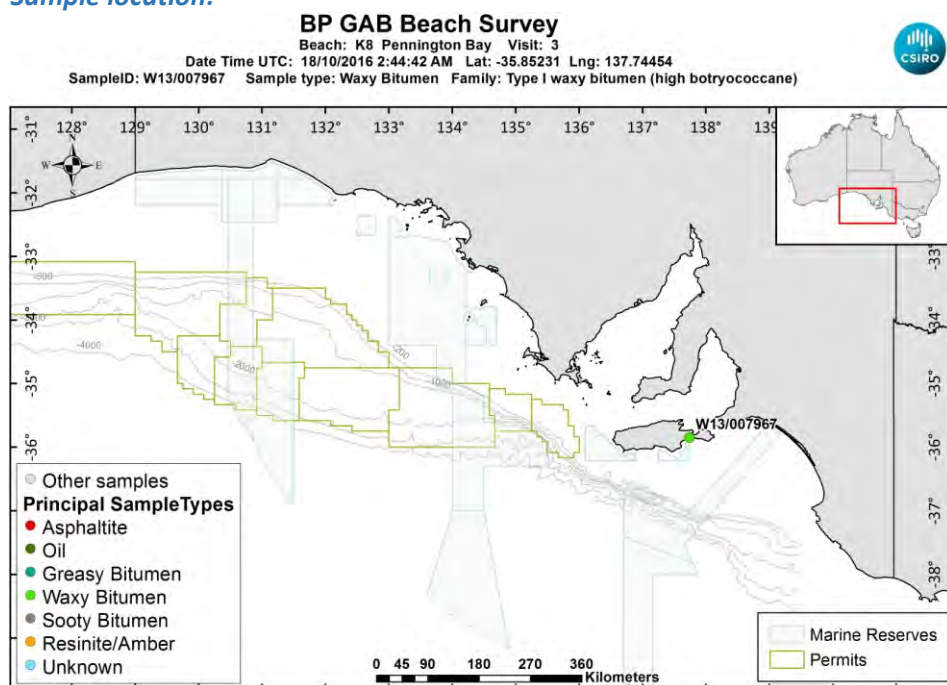
Size (cm): 2.9

Latitude (Y): -35.852310

Weight (gm): 3.8486

Longitude (X): 137.744537

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007967_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007967_146A6843.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007967_Photo02.JPG](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007967 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 Respns: | Value: | units: | Qualifier: |
|-----------|--------------------------------|---------------|----------------|----------------------|--------|------------|
| BiomRatio | % C27 aaa 20R | | | 46.7779530525275 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 41.5665936440083 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 9.01396181103289 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 23.3803983021788 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 44.2080851364396 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 35.0530080538129 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.026589397247753 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0.521777370651745 | ratio | Y |
| BiomRatio | C19t/C23t | | | 0.121787577401097 | ratio | Y |
| BiomRatio | C22t/C21t | | | 9.05566271700193 | ratio | Y |
| BiomRatio | C22t/C24t | | | 0.519556693859483 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.112292108503513 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.934754015990069 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.83398111339353 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 0.306916261944515 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 0.093649497675067 | ratio | Y |
| BiomRatio | C26t/C25t | | | 2.35406104368311 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.719660386001245 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 1.00434251386804 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 0.320118885226967 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 0.843297585412455 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.564792780593364 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 0.561553216952851 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 1.60556955051295 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 8.29558013800245E-02 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 0.114781122294673 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 0.55555597037214 | ratio | Y |
| BiomRatio | Gam/C30H | | | 0.224705359128308 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 1.46790611957288 | ratio | Y |
| BiomRatio | Ole/C30H | | | 0.825454117006694 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 0.1673028274838 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.142695553638503 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.172445974789347 | ratio | Y |

Results for: Elemental Analyser

Unique ID: W13/007967_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

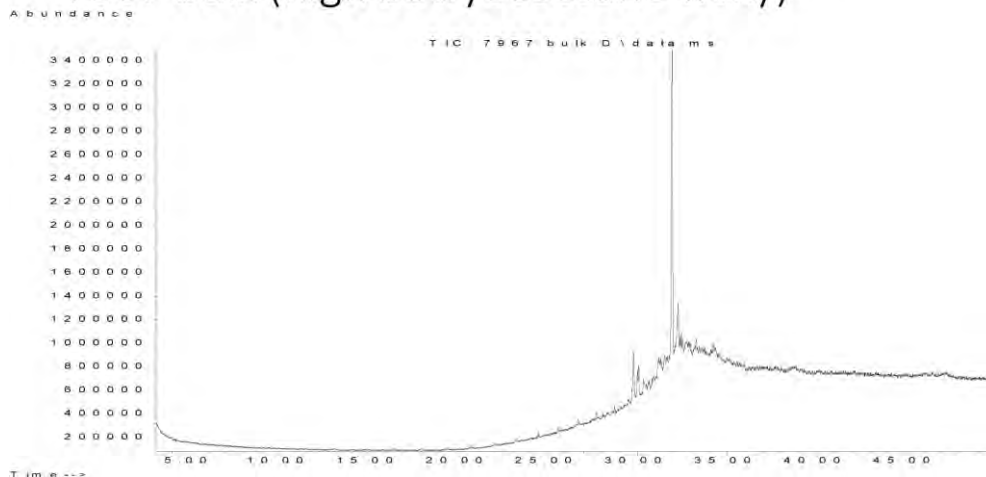
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 84.93 | percent | Y |
| Inorg | Hydrogen | | | 10.6045548707753 | percent | Y |
| Inorg | Nitrogen | | | 0.51 | percent | Y |
| Inorg | Sulphur | | | 2.19039777510691 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** W13/007967_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_007967_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7967 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 22210420 | | | Z |
| Aliph | nC10 | 7.5110 | | | | U |
| Aliph | nC11 | 9.4450 | | | | U |
| Aliph | nC12 | 11.3220 | | | | U |
| Aliph | nC13 | 13.1110 | | | | U |
| Aliph | nC14 | 14.8030 | | | | U |
| Aliph | nC15 | 16.4030 | | | | U |
| Aliph | nC16 | 17.9160 | | | | U |
| Aliph | nC17 | 19.3500 | | | | U |
| Aliph | nC18 | 20.7170 | | | | U |
| Aliph | nC19 | 22.0170 | | | | U |
| Aliph | nC20 | 23.2570 | | | | U |
| Aliph | nC21 | 24.4410 | | | | U |
| Aliph | nC22 | 25.5760 | | | | U |
| Aliph | nC23 | 26.6620 | | | | U |
| Aliph | nC24 | 27.7060 | | | | U |
| Aliph | nC25 | 28.7100 | | | | U |
| Aliph | nC26 | 29.6680 | | | | U |
| Aliph | nC27 | 30.6080 | | | | U |
| Aliph | nC28 | 31.5080 | | | | U |
| Aliph | nC29 | 32.3700 | | | | U |
| Aliph | nC30 | 33.2910 | | | | U |
| Aliph | nC31 | 34.3470 | | | | U |
| Aliph | nC32 | 35.5720 | | | | U |
| Aliph | nC33 | 37.0130 | | | | U |
| Aliph | nC34 | 38.7280 | | | | U |
| Aliph | nC35 | 40.8080 | | | | U |
| Aliph | nC36 | 43.3510 | | | | U |
| Aliph | nC37 | 46.4710 | | | | U |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

Results for: GCMS with Full Scan**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 : **W13/007968**

Beach K8: Pennington Bay Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 18/10/2016 1:20:19 PM

Type: Waxy Bitumen

Family: Unclassified high wax bitumen

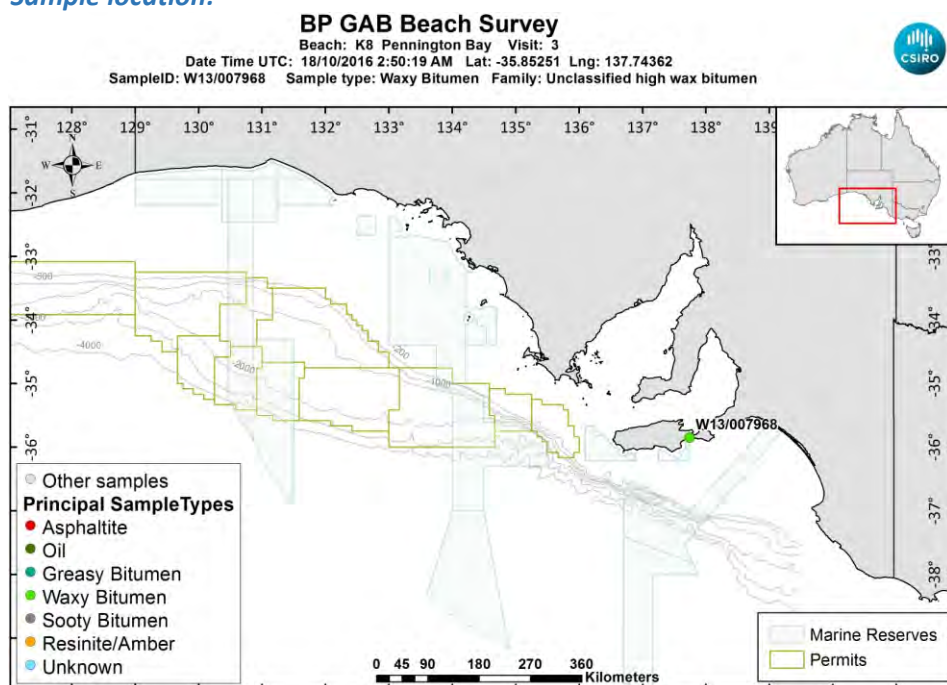
Size (cm): 2

Latitude (Y): -35.852515

Weight (gm): 0.58693

Longitude (X): 137.743620

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007968_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007968_146A6845.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007968_Photo02.JPG](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007968 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 | | | 65.2988870362902 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 9.47886963397733 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 19.7492370570567 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 26.4430249318068 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 14.9518759066531 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 64.0781054342159 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 1.12081778825357E-02 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0 | ratio | U |
| BiomRatio | C19t/C23t | | | 6.99326506135252E-02 | ratio | Y |
| BiomRatio | C22t/C21t | | | 1.9876492383697 | ratio | Y |
| BiomRatio | C22t/C24t | | | 0.972994760177348 | ratio | Y |
| BiomRatio | C23t/C30H | | | 7.68113271727422E-02 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.457791309161362 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0 | ratio | U |
| BiomRatio | C24Tet/C26t | | | 0 | ratio | U |
| BiomRatio | C24Tet/C30H | | | 0 | ratio | U |
| BiomRatio | C26t/C25t | | | 3.72283585923452 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.168089325338747 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.112058139425089 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 3.95430579964851E-02 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 6.76009987567777 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.544581608934747 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 0.167773096957948 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 0.32744911843075 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 0.16250212597086 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 0.424226846185231 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 2.01785922047702 | ratio | Y |
| BiomRatio | Gam/C30H | | | 1.05795396564431 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 9.02217924699341 | ratio | Y |
| BiomRatio | Ole/C30H | | | 6.00657633652701E-02 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 1.76135651341043 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 1.5244648750656 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.155393307001995 | ratio | Y |

Results for: Elemental Analyser

Unique ID: W13/007968_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:**

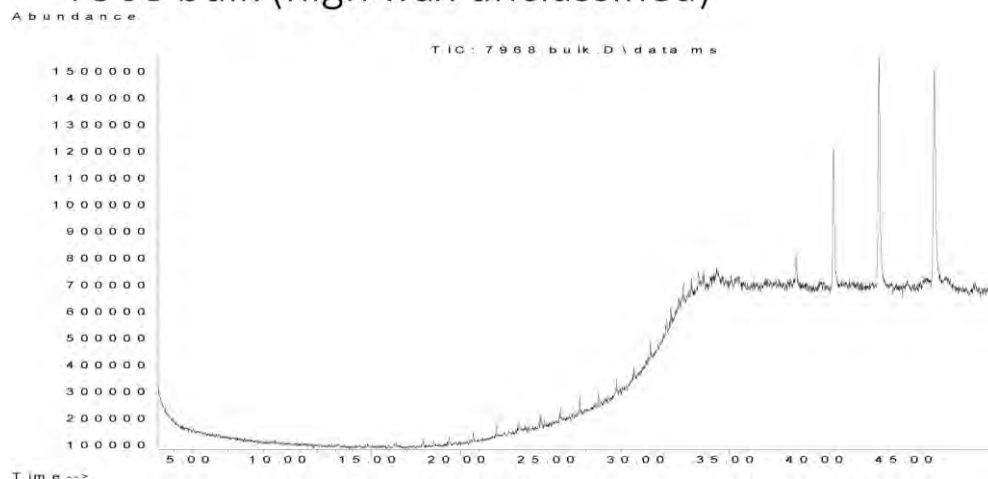
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 83.19 | percent | Y |
| Inorg | Hydrogen | | | 10.7986282306163 | percent | Y |
| Inorg | Nitrogen | | | 0.3 | percent | Y |
| Inorg | Sulphur | | | 4.79436911170895 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** W13/007968_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_007968_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7968 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 | | | | U |
| Aliph | nC34 | 38.7280 | 1171633 | | | Z |
| Aliph | nC35 | 40.8080 | 6140649 | | | Z |
| Aliph | nC36 | 43.3510 | 14631915 | | | Z |
| Aliph | nC37 | 46.4710 | 15726772 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : **W13/007478**

Beach W12: Point Peter Visit: 1

Comments:

Location: Mid Intertidal

Local Date Time: 11/11/2014 11:10:17 AM

Type: Mudstone

Family: Not bitumen (false sample)

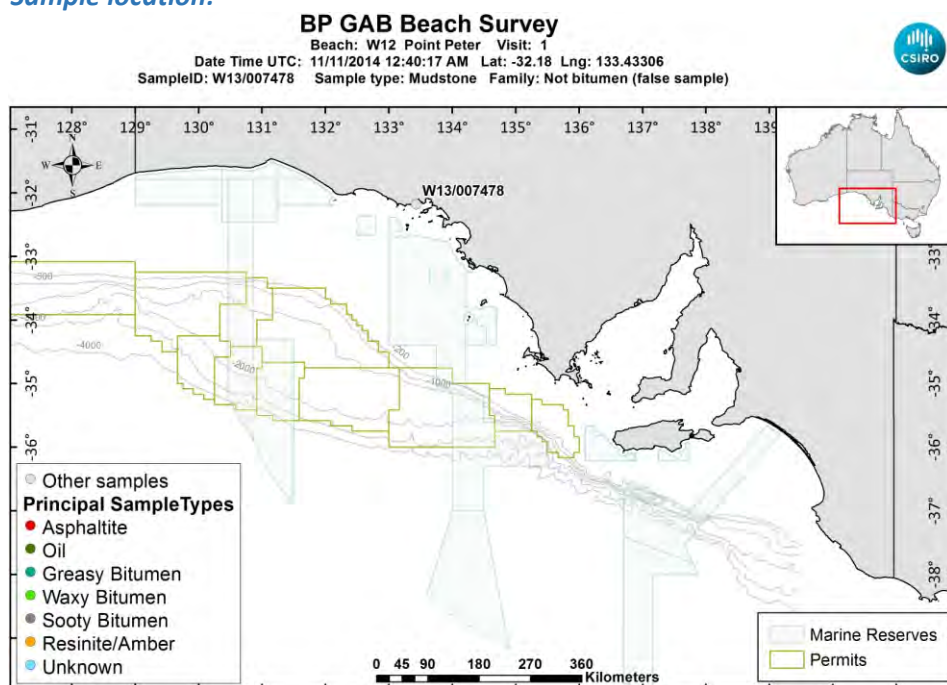
Size (cm): 18

Latitude (Y): -32.180000

Weight (gm): 212

Longitude (X): 133.433056

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007478_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007478_146A0225.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB BCH1\Samples\W13_007478_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 : **W13/007479A**

Beach W12: Point Peter Visit: 1

Comments:

Part A.

Location: Mid Intertidal

Local Date Time: 11/11/2014 11:21:00 AM

Type: Mudstone

Family: Not bitumen (false sample)

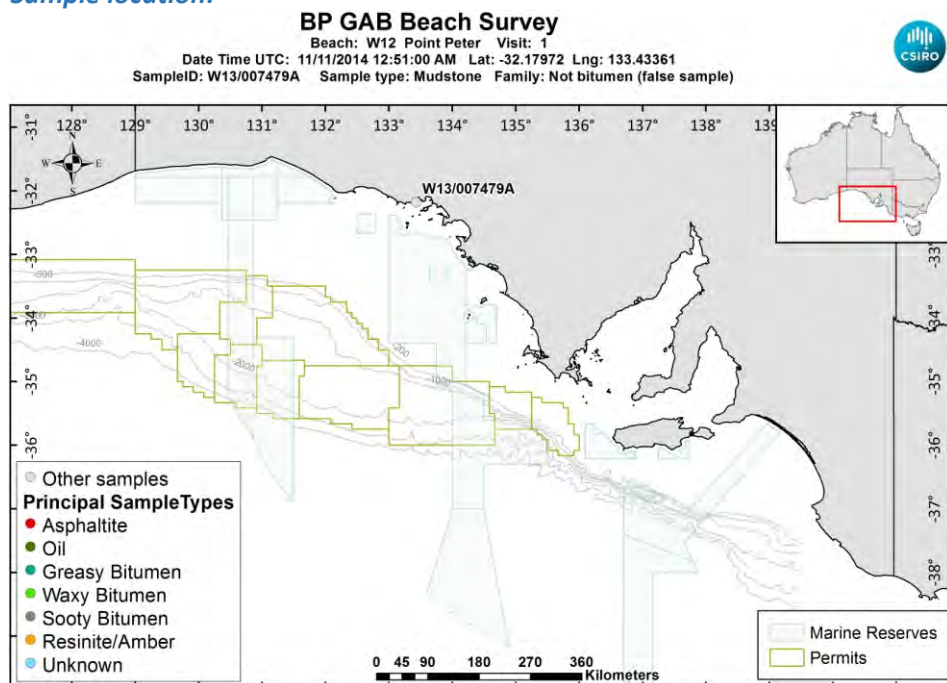
Size (cm): 4

Latitude (Y): -32.179722

Weight (gm): 2.3665

Longitude (X): 133.433611

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007479A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007479_146A0230.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007479_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 : **W13/007479B**

Beach W12: Point Peter Visit: 1

Comments:

Part B subsample

Location: Mid Intertidal

Local Date Time: 11/11/2014 11:21:00 AM

Type: Mudstone

Family: Unknown

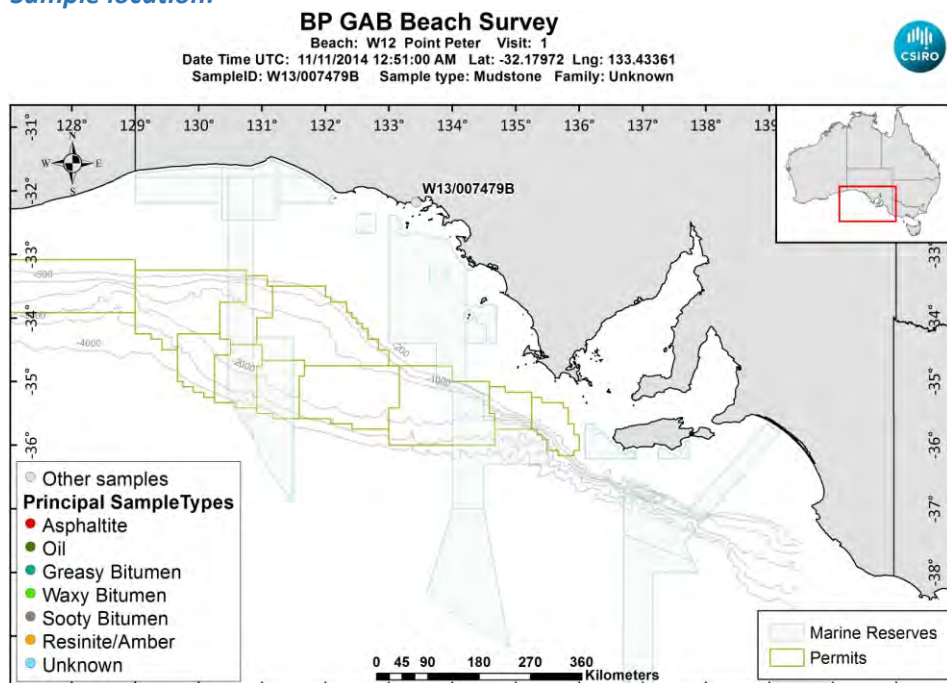
Size (cm):

Latitude (Y): -32.179722

Weight (gm):

Longitude (X): 133.433611

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007479B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007479_Photo01.JPG](#)

Sample ID : W13/007479B

Beach W12: Point Peter Visit: 1

Analyses Requested

Analyses Completed:

| Split: | Analysis: | Sent: |
|--------|-----------------------|-------|
| 1 | Bitumen Determination | YES |

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 : **W13/007480**

Beach W12: Point Peter Visit: 1

Comments:

Location: Mid Intertidal

Local Date Time: 11/11/2014 11:27:00 AM

Type: Unknown

Family: Not bitumen (false sample)

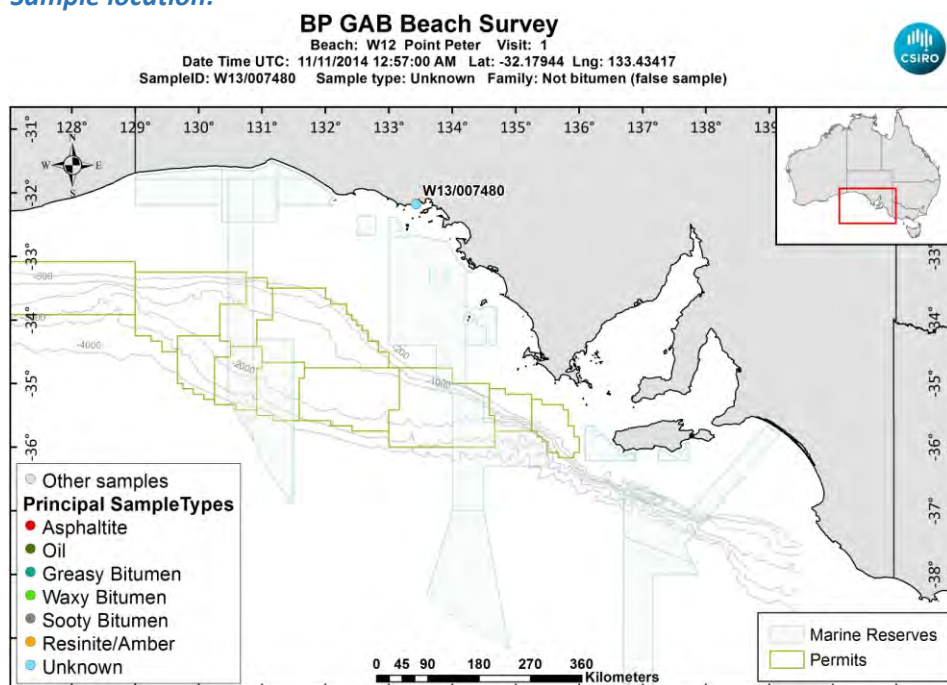
Size (cm): 1

Latitude (Y): -32.179444

Weight (gm): 0.11414

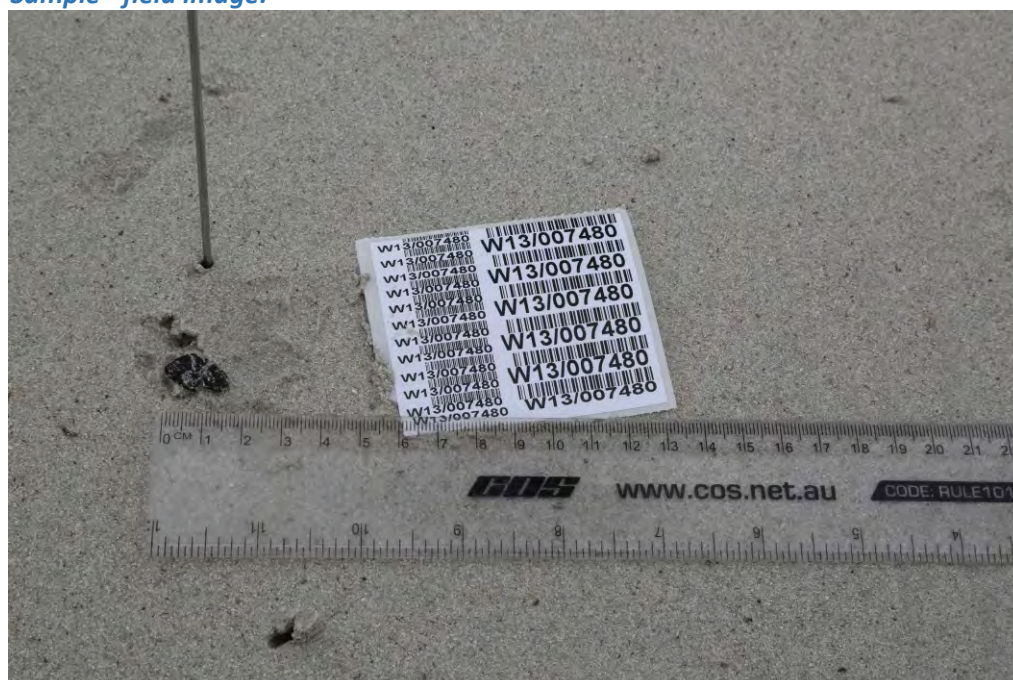
Longitude (X): 133.434167

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007480_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007480_146A0234.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007480_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 : **W13/007481A**

Beach W12: Point Peter Visit: 1

Comments:

Part A.

Location: Mid Intertidal

Local Date Time: 11/11/2014 11:37:07 AM

Type: Unknown

Family: Not bitumen (false sample)

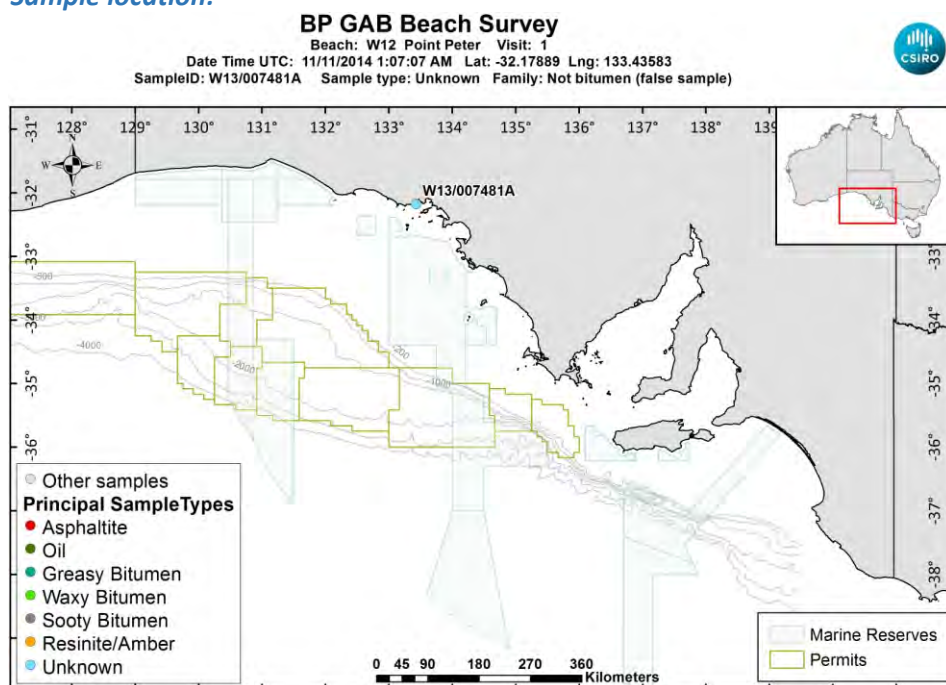
Size (cm): 1.5

Latitude (Y): -32.178889

Weight (gm): 0.26213

Longitude (X): 133.435833

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007481A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007481_146A0238.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007481_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 : **W13/007481B**

Beach W12: Point Peter Visit: 1

Comments:

Part B subsample

Location: Mid Intertidal

Local Date Time: 11/11/2014 11:37:07 AM

Type: Unknown

Family: Not bitumen (false sample)

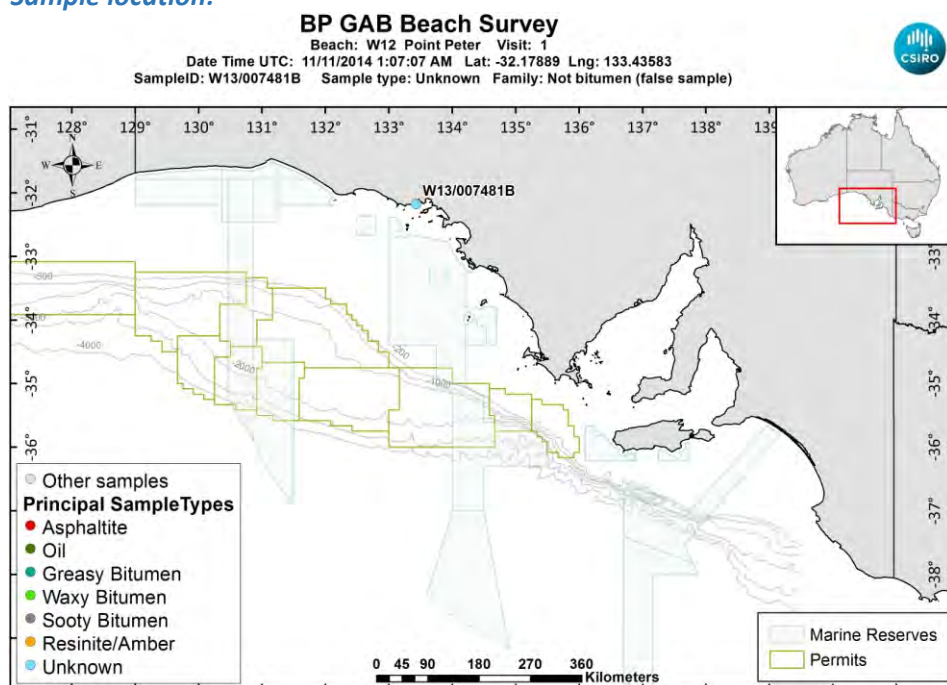
Size (cm):

Latitude (Y): -32.178889

Weight (gm):

Longitude (X): 133.435833

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007481B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007481_Photo01.JPG](#)

Sample ID : W13/007481B

Beach W12: Point Peter Visit: 1

Analyses Requested

Analyses Completed:

| Split: | Analysis: | Sent: |
|--------|-----------------------|-------|
| 1 | Bitumen Determination | YES |

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 : **W13/007482**

Beach W12: Point Peter Visit: 1

Comments:

Location: Mid Intertidal

Local Date Time: 11/11/2014 11:44:55 AM

Type: Unknown

Family: Not bitumen (false sample)

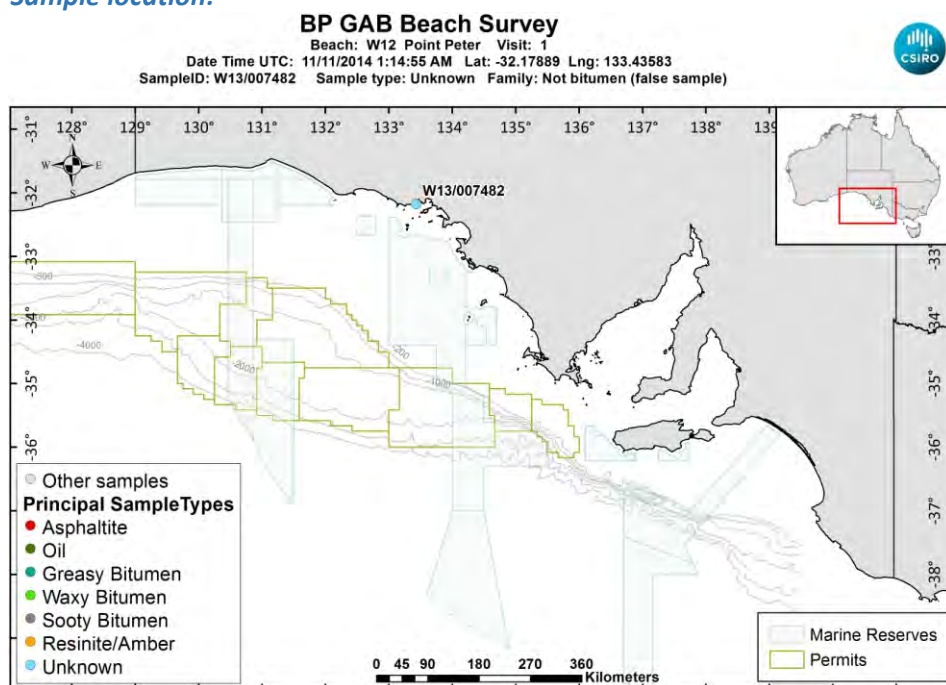
Size (cm): 4

Latitude (Y): -32.178889

Weight (gm): 6.9833

Longitude (X): 133.435833

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007482_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007482_146A0241.JPG](#)

Sample - laboratory image:



LinkedFiles\GAB_BCH1\Samples\W13_007482_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 : **W13/007483**

Beach W12: Point Peter Visit: 1

Comments:

Location: Mid Intertidal

Local Date Time: 11/11/2014 11:49:32 AM

Type: Unknown

Family: Not bitumen (false sample)

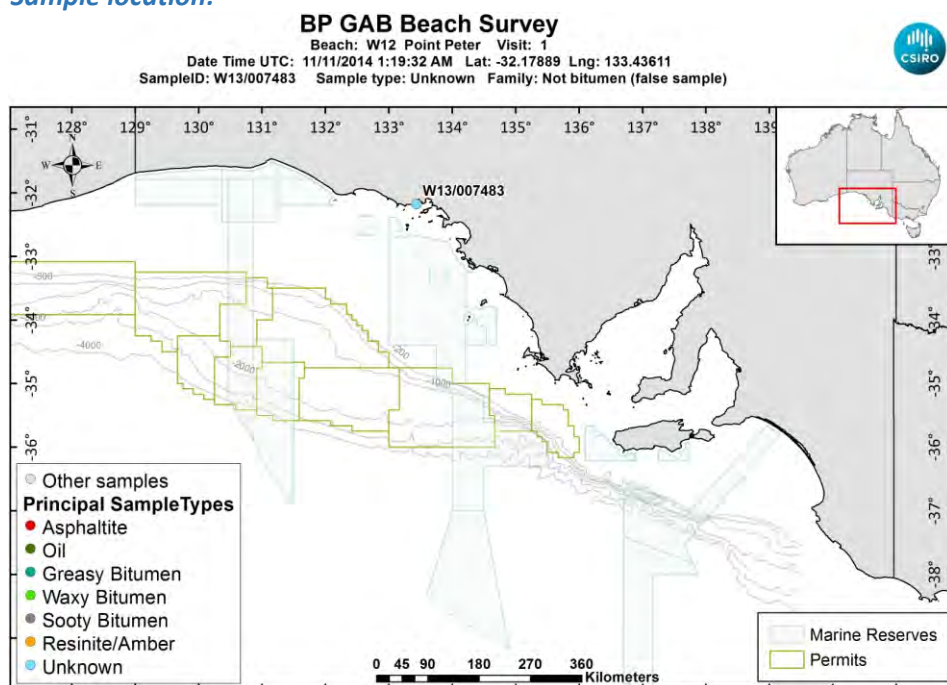
Size (cm): 4

Latitude (Y): -32.178889

Weight (gm): 2.36

Longitude (X): 133.436111

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007483_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007483_146A0243.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007483_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 : **W13/007484**

Beach W12: Point Peter Visit: 1

Comments:

main sample was 1metre long - possible seagrass peat

Location: Upper Intertidal

Local Date Time: 11/11/2014 12:17:28 PM

Type: Peat

Family: Not bitumen (false sample)

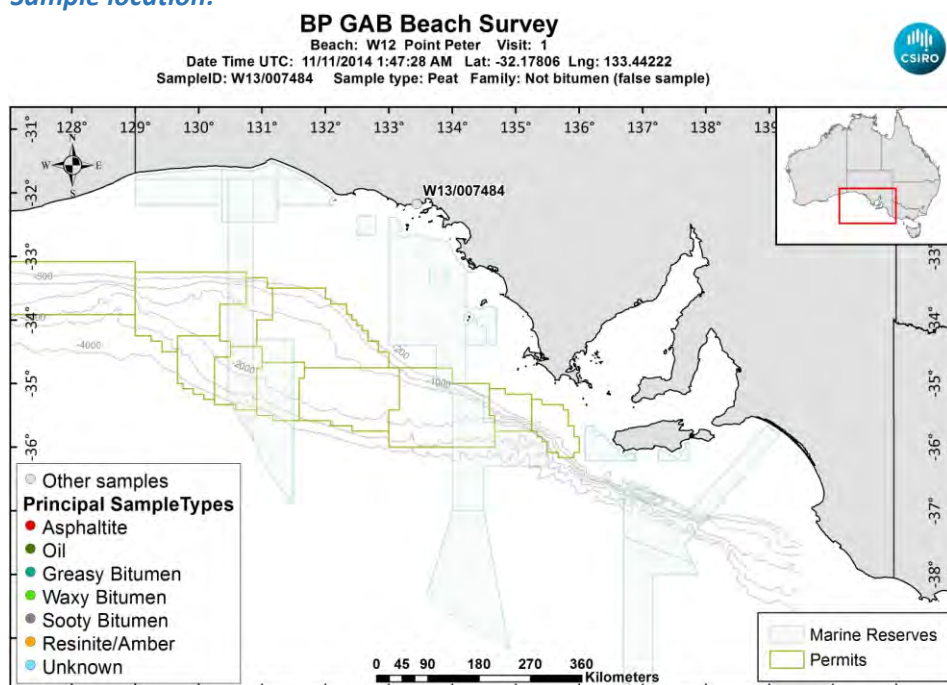
Size (cm): 20

Latitude (Y): -32.178056

Weight (gm): 718

Longitude (X): 133.442222

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007484_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007484_146A0247.JPG](#)

Sample ID : W13/007484**Beach W12: Point Peter Visit: 1****Analyses Requested****Analyses Completed:**

| Split: | Analysis: | Sent: |
|--------|-----------------------|-------|
| 1 | Bitumen Determination | YES |

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 : **W13/007485**

Beach W12: Point Peter Visit: 1

Comments:

Location: Mid Intertidal

Local Date Time: 11/11/2014 12:45:41 PM

Type: Peat

Family: Not bitumen (false sample)

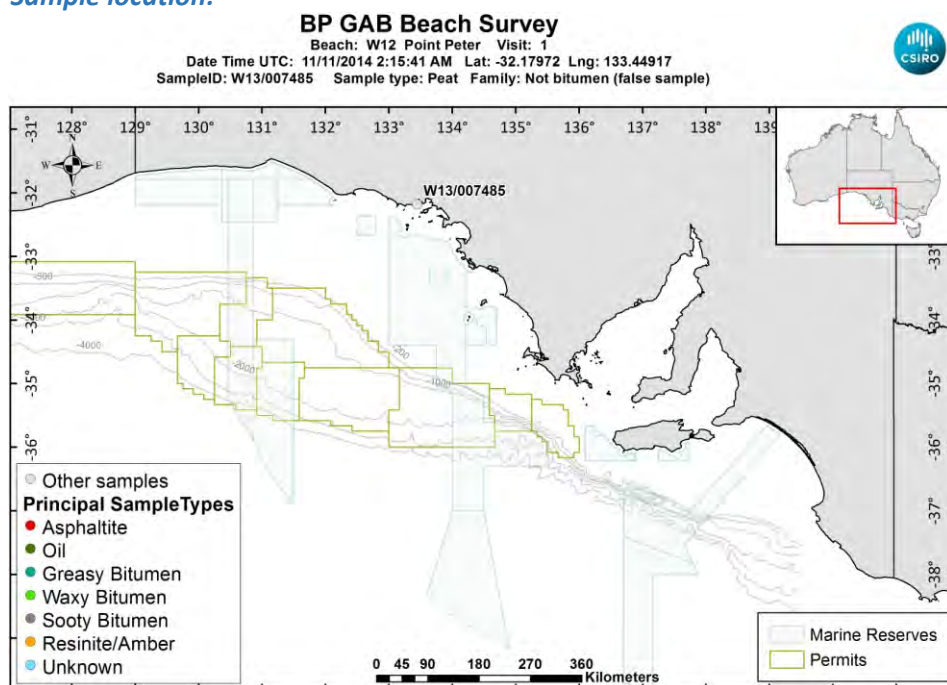
Size (cm): 28

Latitude (Y): -32.179722

Weight (gm): 873

Longitude (X): 133.449167

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007485_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007485_146A0273.JPG](#)

Sample ID : W13/007485**Beach W12: Point Peter Visit: 1****Analyses Requested****Analyses Completed:**

| Split: | Analysis: | Sent: |
|--------|-----------------------|-------|
| 1 | Bitumen Determination | YES |

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 : **W13/007670**

Beach W12: Point Peter Visit: 2

Comments:

Location: Mid Intertidal

Local Date Time: 23/09/2015 10:27:58 AM

Type: Resinite/Amber

Family: Resin/Amber

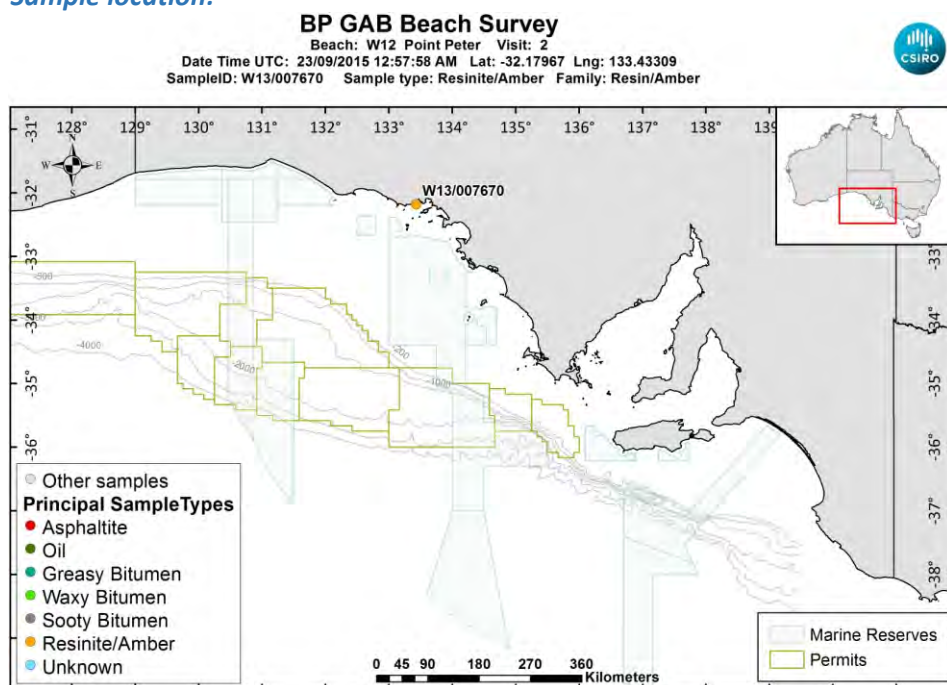
Size (cm): 3.3

Latitude (Y): -32.179667

Weight (gm): 9.3

Longitude (X): 133.433093

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007670_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007670_146A1793.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007670_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 : **W13/007573**

Beach K3: Sandy River Visit: 2

Comments:

Location: Upper Intertidal

Local Date Time: 5/09/2015 9:14:47 AM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

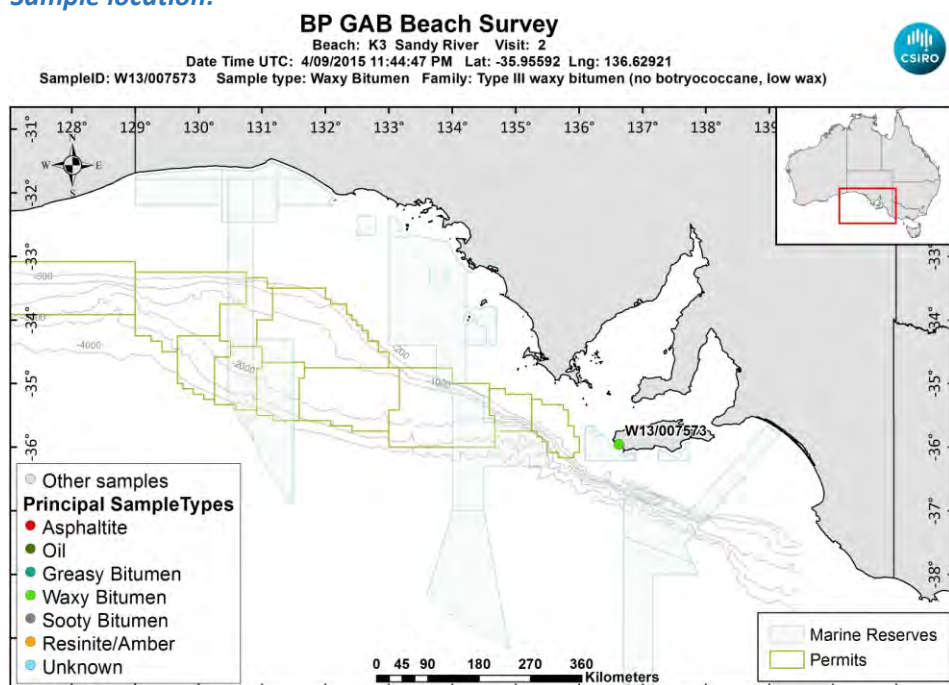
Size (cm): 5

Latitude (Y): -35.955917

Weight (gm): 20.44279

Longitude (X): 136.629210

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007573_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007573_146A1393.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007573_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: W13/007573_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Comment:

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|-------------------|---------|------------|
| Inorg | Carbon | | | 81.94 | percent | Y |
| Inorg | Hydrogen | | | 9.67003001988072 | percent | Y |
| Inorg | Nitrogen | | | 0.244113367609255 | percent | Y |
| Inorg | Sulphur | | | 1.76163811413018 | percent | Y |

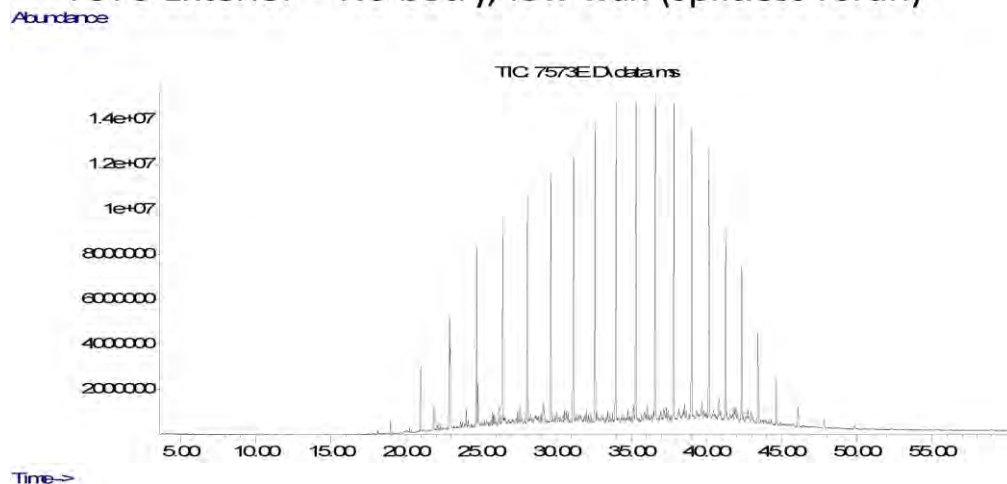
Results for: GCMS with Full Scan

Unique ID: W13/007573_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_007573_extSplitless_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior - Splitless rerun

Results for: GCMS with Full Scan

7573 Exterior – No botry, low wax (splitless rerun)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Rspnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-------------------|--------|--------|------------|
| Ratio | nC17/nC29 | | 0.570211783107211 | | ug/L | Y |
| Ratio | nC17/nC35 | | 9.99874689311608 | | ug/L | Y |
| Ratio | nC17/Pristane | | 2.04915082042742 | | ug/L | Y |
| Ratio | nC18/Phytane | | 3.88723315044263 | | ug/L | Y |
| Ratio | Pristane/Phytane | | 1.52830180339542 | | ug/L | Y |
| Aliph | Botryococcane | 43.4250 | | | ug/L | U |
| Aliph | nC10 | 16.8780 | | | ug/L | U |
| Aliph | nC11 | 18.9810 | | | ug/L | U |
| Aliph | nC12 | 20.9940 | | | ug/L | U |
| Aliph | nC13 | 21.8630 | | | ug/L | U |
| Aliph | nC14 | 22.9140 | 160599 | | ug/L | Z |
| Aliph | nC15 | 22.9620 | 2969818 | | ug/L | Z |
| Aliph | nC16 | 24.7240 | 14107210 | | ug/L | Z |
| Aliph | nC17 | 26.4480 | 34023480 | | ug/L | Z |
| Aliph | nC18 | 29.6630 | 42231477 | | ug/L | Z |
| Aliph | nC19 | 32.6110 | 51332618 | | ug/L | Z |
| Aliph | nC20 | 33.9970 | 55988233 | | ug/L | Z |
| Aliph | nC21 | 35.3310 | 62916757 | | ug/L | Z |
| Aliph | nC22 | 36.6140 | 67151828 | | ug/L | Z |
| Aliph | nC23 | 37.8500 | 75399297 | | ug/L | Z |
| Aliph | nC24 | 39.0340 | 78173835 | | ug/L | Z |
| Aliph | nC25 | | 85252415 | | ug/L | Z |
| Aliph | nC26 | 40.1800 | 82362589 | | ug/L | Z |
| Aliph | nC27 | 41.2810 | 83184830 | | ug/L | Z |
| Aliph | nC28 | 42.3500 | 69049599 | | ug/L | Z |
| Aliph | nC29 | 44.6530 | 59668146 | | ug/L | Z |
| Aliph | nC30 | 46.0960 | 41082556 | | ug/L | Z |
| Aliph | nC31 | 47.8040 | 31688858 | | ug/L | Z |
| Aliph | nC32 | 49.8510 | 19231648 | | ug/L | Z |
| Aliph | nC33 | 52.3010 | 12038124 | | ug/L | Z |
| Aliph | nC34 | 55.3160 | 6757323 | | ug/L | Z |
| Aliph | nC35 | 58.9690 | 3402774 | | ug/L | Z |
| Aliph | nC36 | | 1836005 | | ug/L | Z |
| Aliph | nC37 | | 989701 | | ug/L | Z |

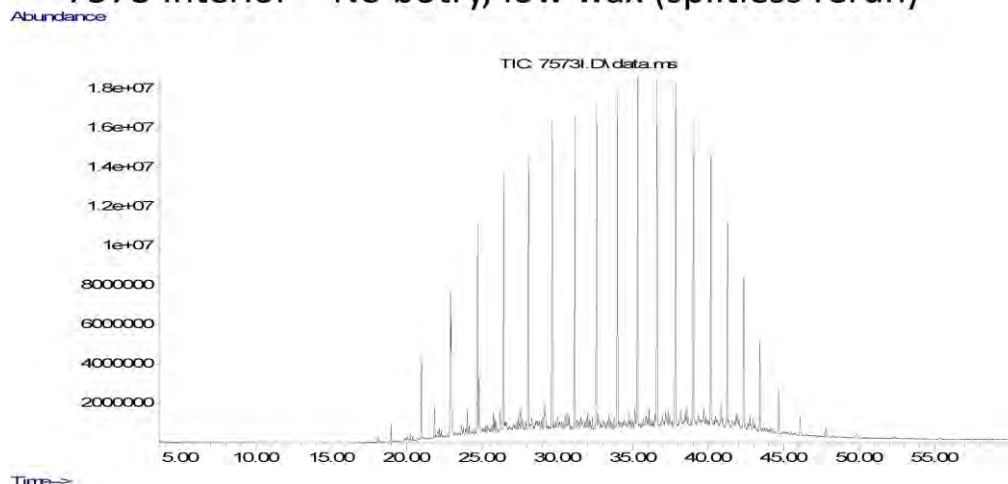
Results for: GCMS with Full Scan

| | | | | | |
|-------|-------------|---------|----------|------|---|
| Aliph | nC38 | | 587259 | ug/L | Z |
| Aliph | nC39 | | 425967 | ug/L | Z |
| Aliph | Norpristane | 24.8030 | 8016084 | ug/L | Z |
| Aliph | Phytane | 31.1670 | 10864148 | ug/L | Z |
| Aliph | Pristane | 28.0920 | 16603697 | ug/L | Z |

Results for: GCMS with Full Scan**Unique ID:** W13/007573 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_007573_intSplitless_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior - Splitless rerun

Results for: GCMS with Full Scan

7573 Interior – No botry, low wax (splitless rerun)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Rspnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-------------------|--------|--------|------------|
| Ratio | nC17/nC29 | | 0.713923553356671 | | ug/L | Y |
| Ratio | nC17/nC35 | | 14.2739774777853 | | ug/L | Y |
| Ratio | nC17/Pristane | | 2.00586393830441 | | ug/L | Y |
| Ratio | nC18/Phytane | | 3.75232551784947 | | ug/L | Y |
| Ratio | Pristane/Phytane | | 1.594118616913 | | ug/L | Y |
| Aliph | Botryococcane | 43.4250 | | | ug/L | U |
| Aliph | nC10 | 16.8780 | | | ug/L | U |
| Aliph | nC11 | 18.9810 | | | ug/L | U |
| Aliph | nC12 | 20.9940 | | | ug/L | U |
| Aliph | nC13 | 21.8630 | | | ug/L | U |
| Aliph | nC14 | 22.9140 | 244092 | | ug/L | Z |
| Aliph | nC15 | 22.9620 | 4523942 | | ug/L | Z |
| Aliph | nC16 | 24.7240 | 21542846 | | ug/L | Z |
| Aliph | nC17 | 26.4480 | 51404690 | | ug/L | Z |
| Aliph | nC18 | 29.6630 | 60322752 | | ug/L | Z |
| Aliph | nC19 | 32.6110 | 74658122 | | ug/L | Z |
| Aliph | nC20 | 33.9970 | 80196159 | | ug/L | Z |
| Aliph | nC21 | 35.3310 | 88959926 | | ug/L | Z |
| Aliph | nC22 | 36.6140 | 92074389 | | ug/L | Z |
| Aliph | nC23 | 37.8500 | 101536484 | | ug/L | Z |
| Aliph | nC24 | 39.0340 | 100189708 | | ug/L | Z |
| Aliph | nC25 | | 110152864 | | ug/L | Z |
| Aliph | nC26 | 40.1800 | 108476911 | | ug/L | Z |
| Aliph | nC27 | 41.2810 | 107750503 | | ug/L | Z |
| Aliph | nC28 | 42.3500 | 85332037 | | ug/L | Z |
| Aliph | nC29 | 44.6530 | 72003074 | | ug/L | Z |
| Aliph | nC30 | 46.0960 | 49368306 | | ug/L | Z |
| Aliph | nC31 | 47.8040 | 36891142 | | ug/L | Z |
| Aliph | nC32 | 49.8510 | 22682539 | | ug/L | Z |
| Aliph | nC33 | 52.3010 | 13340836 | | ug/L | Z |
| Aliph | nC34 | 55.3160 | 6971951 | | ug/L | Z |
| Aliph | nC35 | 58.9690 | 3601287 | | ug/L | Z |
| Aliph | nC36 | | 1785918 | | ug/L | Z |
| Aliph | nC37 | | 992922 | | ug/L | Z |

Results for: GCMS with Full Scan

| | | | | | |
|-------|-------------|---------|----------|------|---|
| Aliph | nC38 | | 538760 | ug/L | Z |
| Aliph | nC39 | | 303106 | ug/L | Z |
| Aliph | Norpristane | 24.8030 | 12685441 | ug/L | Z |
| Aliph | Phytane | 31.1670 | 16076098 | ug/L | Z |
| Aliph | Pristane | 28.0920 | 25627207 | ug/L | Z |

Qualifier codes:

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

Sample ID : **W13/007574**

Beach K3: Sandy River Visit: 2

Comments:
Questionable

Location: Shore Upper

Local Date Time: 5/09/2015 9:27:47 AM

Type: Unknown

Family: Not bitumen (false sample)

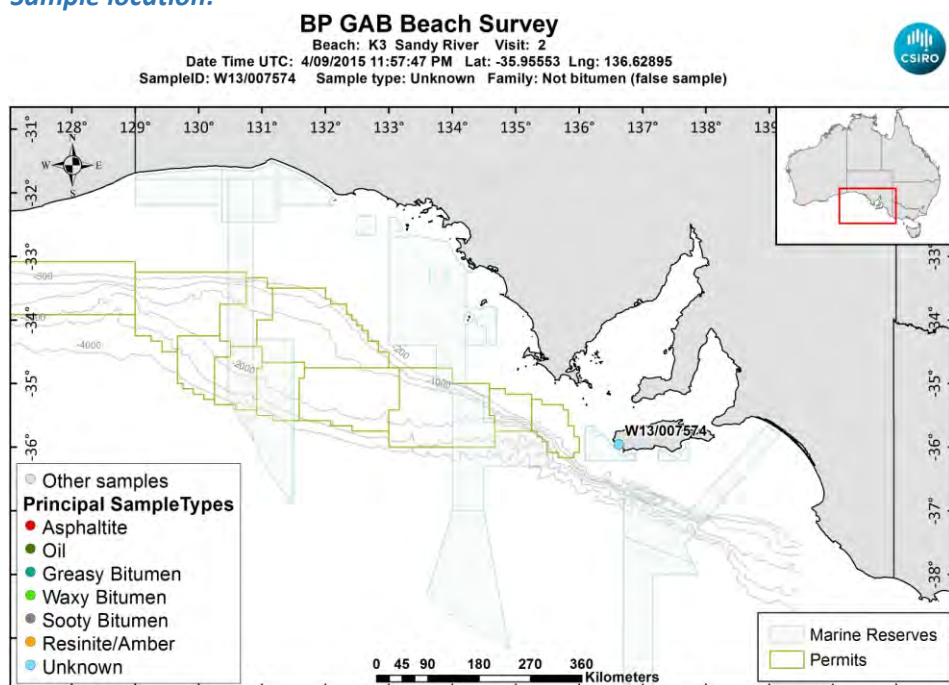
Size (cm): 4.5

Latitude (Y): -35.955535

Weight (gm): 1.6

Longitude (X): 136.628952

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007574_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007574_146A1396.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007574_Photo02.JPG](#)

Analyses Requested

| Split: | Analysis: | Sent: |
|--------|-----------------------|-------|
| 1 | Bitumen Determination | YES |

Analyses Completed:

Sample Analyses Completed:

No results to date

Qualifier codes:

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

Sample ID : **W13/007575**

Beach K3: Sandy River Visit: 2

Comments:

Location: Mid Intertidal

Local Date Time: 5/09/2015 9:33:06 AM

Type: Resinite/Amber

Family: Resin/Amber

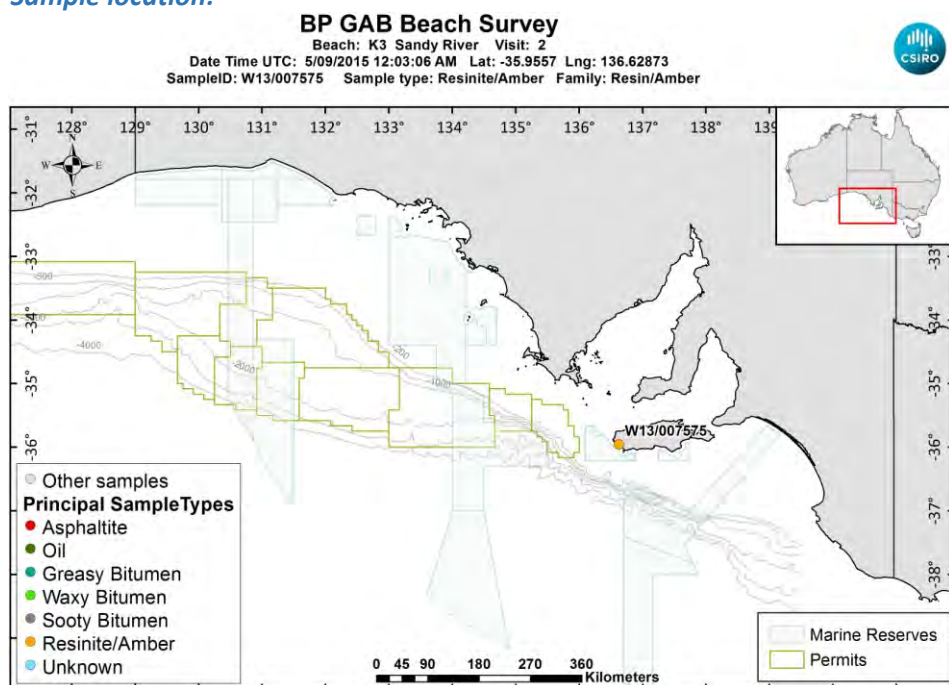
Size (cm): 2.9

Latitude (Y): -35.955698

Weight (gm): 3.6

Longitude (X): 136.628732

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007575_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007575_146A1399.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007575_Photo02.JPG](#)

Analyses Requested

| Split: | Analysis: | Sent: |
|--------|-----------------------|-------|
| 1 | Bitumen Determination | YES |

Analyses Completed:**Sample Analyses Completed:**

No results to date

Qualifier codes:

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

Sample ID : **W13/007576**

Beach K3: Sandy River Visit: 2

Comments:

no photo. Another questionable

Location: Shore Upper

Local Date Time: 5/09/2015 9:50:51 AM

Type: Unknown

Family: Not bitumen (false sample)

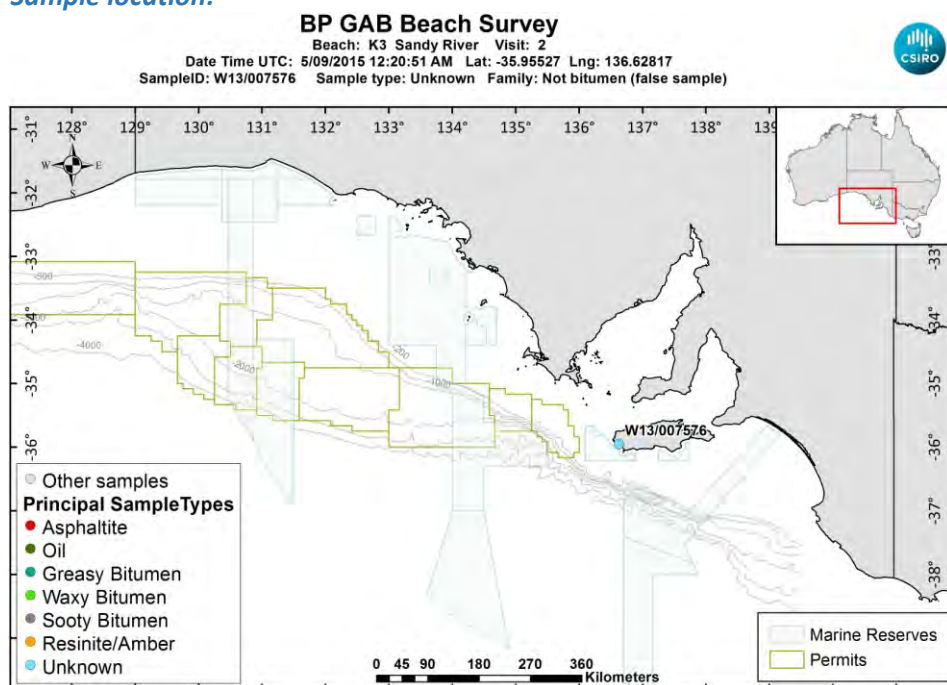
Size (cm): 3

Latitude (Y): -35.955272

Weight (gm): 0.2

Longitude (X): 136.628172

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007576_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007576_Photo02.JPG](#)

Sample ID : W13/007576

Beach K3: Sandy River Visit: 2

Analyses Requested

Analyses Completed:

| Split: | Analysis: | Sent: |
|--------|-----------------------|-------|
| 1 | Bitumen Determination | YES |

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 : **W13/007577**

Beach K3: Sandy River Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 5/09/2015 9:54:03 AM

Type: Unknown

Family: Not bitumen (false sample)

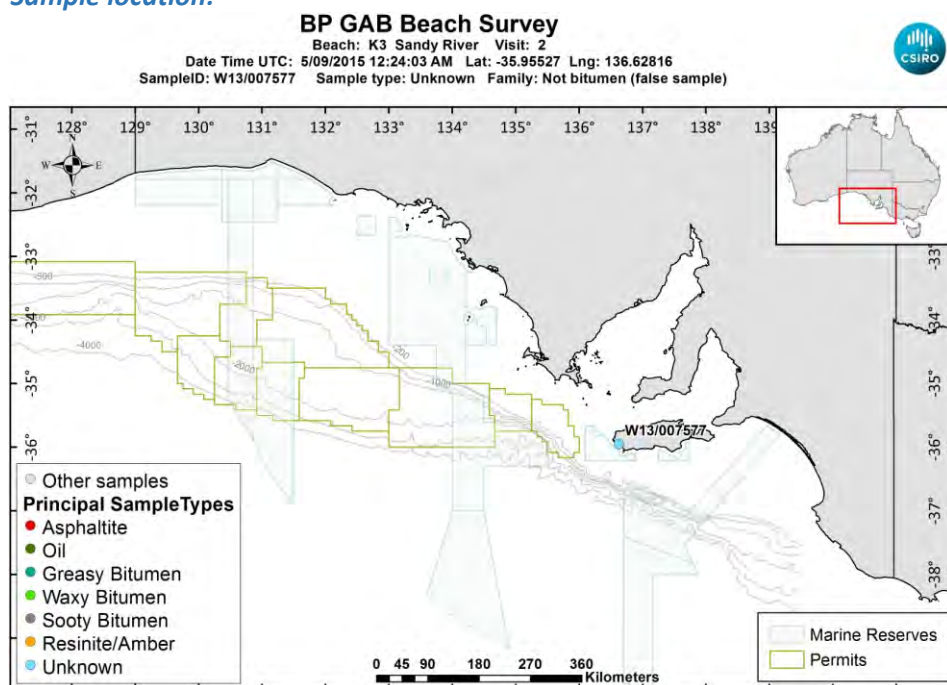
Size (cm): 5

Latitude (Y): -35.955267

Weight (gm): 2.9

Longitude (X): 136.628157

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007577_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007577_146A1401.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007577_Photo02.JPG](#)

Analyses Requested

| Split: | Analysis: | Sent: |
|--------|-----------------------|-------|
| 1 | Bitumen Determination | YES |

Analyses Completed:

Sample Analyses Completed:

No results to date

Qualifier codes:

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

Sample ID : **W13/007578**

Beach K3: Sandy River Visit: 2

Comments:

Location: Upper Intertidal

Local Date Time: 5/09/2015 10:18:04 AM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

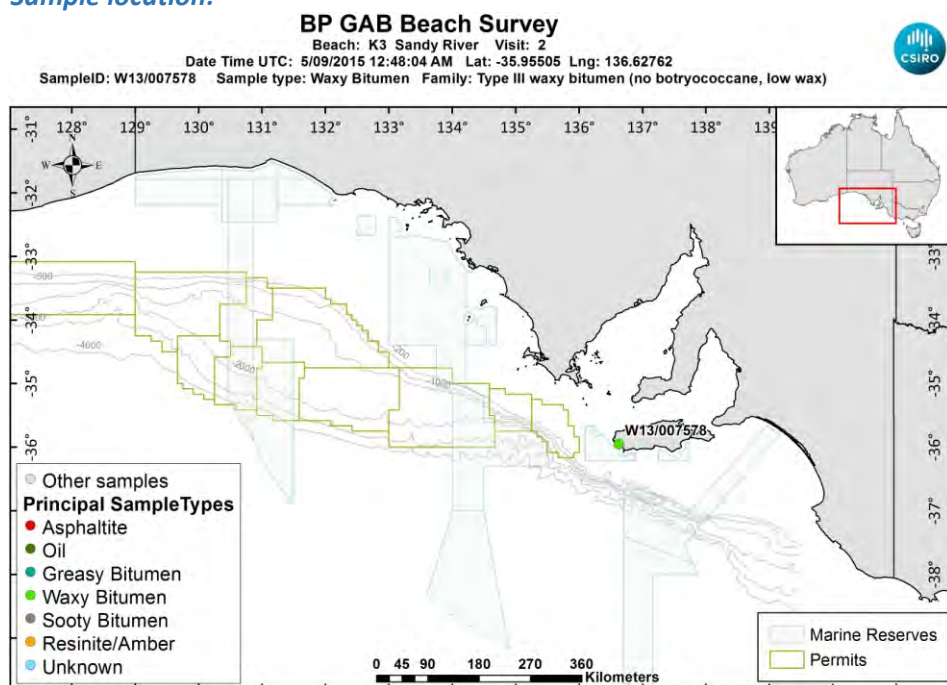
Size (cm): 2.8

Latitude (Y): -35.955053

Weight (gm): 3.7

Longitude (X): 136.627615

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007578_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007578_146A1403.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007578_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: W13/007578_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:

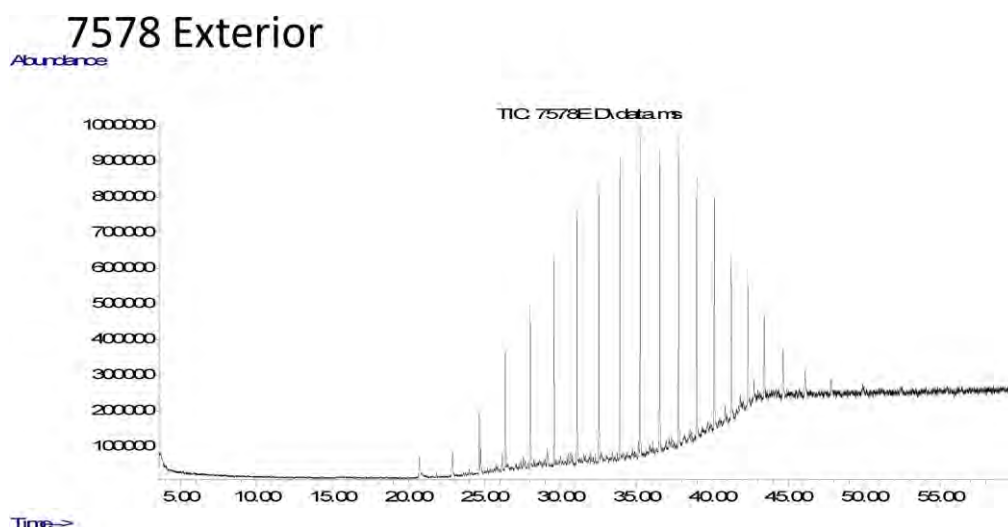
| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|-------------------|---------|------------|
| Inorg | Carbon | | | 69.15 | percent | Y |
| Inorg | Hydrogen | | | 10.883568667992 | percent | Y |
| Inorg | Nitrogen | | | 0.180763838903171 | percent | Y |
| Inorg | Sulphur | | | 1.90800308770115 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007578_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_007578_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

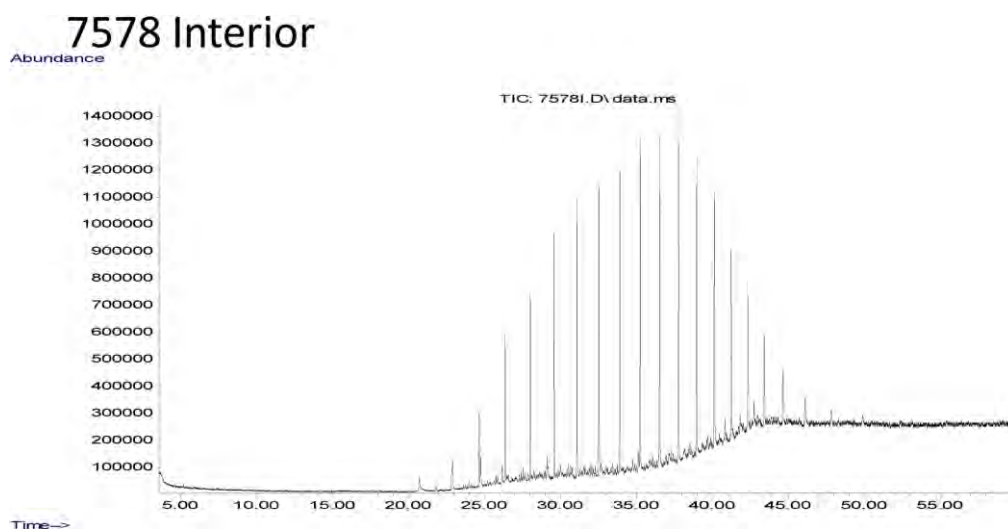
| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------------|--------|--------|------------|
| Ratio | nC17/nC29 | | 7.78408028498851E-02 | | ug/L | Y |
| Ratio | nC17/nC35 | | 0.734236992655006 | | ug/L | Y |
| Ratio | nC17/Pristane | | 0.550573158446386 | | ug/L | Y |
| Ratio | nC18/Phytane | | 1.64053657273561 | | ug/L | Y |
| Ratio | Pristane/Phytane | | 0.840814382898884 | | 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 | 254082 | | ug/L | Z |
| Aliph | nC18 | 24.6230 | 900420 | | ug/L | Z |
| Aliph | nC19 | 26.3410 | 1670044 | | ug/L | Z |
| Aliph | nC20 | 27.9810 | 2236974 | | ug/L | Z |
| Aliph | nC21 | 29.5510 | 3016402 | | ug/L | Z |
| Aliph | nC22 | 31.0540 | 3488842 | | ug/L | Z |
| Aliph | nC23 | 32.4960 | 3882903 | | ug/L | Z |
| Aliph | nC24 | 33.8800 | 3845763 | | ug/L | Z |
| Aliph | nC25 | 35.2120 | 4373319 | | ug/L | Z |
| Aliph | nC26 | 36.4960 | 4289688 | | ug/L | Z |
| Aliph | nC27 | 37.7300 | 4347317 | | ug/L | Z |
| Aliph | nC28 | 38.9260 | 3678002 | | ug/L | Z |
| Aliph | nC29 | 40.0740 | 3264126 | | ug/L | Z |
| Aliph | nC30 | 41.1930 | 2350289 | | ug/L | Z |
| Aliph | nC31 | 42.2750 | 1872849 | | ug/L | Z |
| Aliph | nC32 | 43.3560 | 1320163 | | ug/L | Z |
| Aliph | nC33 | 44.5840 | 995770 | | ug/L | Z |
| Aliph | nC34 | 46.0130 | 565849 | | ug/L | Z |
| Aliph | nC35 | 47.7140 | 346049 | | ug/L | Z |
| Aliph | nC36 | 49.7870 | 292482 | | ug/L | Z |
| Aliph | nC37 | 52.2630 | 142912 | | ug/L | Z |

Results for: GCMS with Full Scan

| | | | | | |
|-------|-------------|---------|--------|------|---|
| Aliph | nC38 | 55.2360 | | ug/L | U |
| Aliph | nC39 | 58.9110 | | ug/L | U |
| Aliph | Norpristane | 21.8010 | 74224 | ug/L | Z |
| Aliph | Phytane | 24.7190 | 548857 | ug/L | Z |
| Aliph | Pristane | 22.8660 | 461487 | ug/L | Z |

Results for: GCMS with Full Scan**Unique ID:** W13/007578 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_007578_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------------|--------|--------|------------|
| Ratio | nC17/nC29 | | 7.92069867307444E-02 | | ug/L | Y |
| Ratio | nC17/nC35 | | 0.618639709481562 | | ug/L | Y |
| Ratio | nC17/Pristane | | 0.509442001446933 | | ug/L | Y |
| Ratio | nC18/Phytane | | 2.25314822073623 | | ug/L | Y |
| Ratio | Pristane/Phytane | | 1.12762497301246 | | 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 | 364365 | | ug/L | Z |
| Aliph | nC18 | 24.6230 | 1429114 | | ug/L | Z |
| Aliph | nC19 | 26.3410 | 2574492 | | ug/L | Z |
| Aliph | nC20 | 27.9810 | 3468269 | | ug/L | Z |
| Aliph | nC21 | 29.5510 | 4422416 | | ug/L | Z |
| Aliph | nC22 | 31.0540 | 4962247 | | ug/L | Z |
| Aliph | nC23 | 32.4960 | 5479293 | | ug/L | Z |
| Aliph | nC24 | 33.8800 | 5767166 | | ug/L | Z |
| Aliph | nC25 | 35.2120 | 5992093 | | ug/L | Z |
| Aliph | nC26 | 36.4960 | 5899990 | | ug/L | Z |
| Aliph | nC27 | 37.7300 | 6258038 | | ug/L | Z |
| Aliph | nC28 | 38.9260 | 5168928 | | ug/L | Z |
| Aliph | nC29 | 40.0740 | 4600160 | | ug/L | Z |
| Aliph | nC30 | 41.1930 | 3627897 | | ug/L | Z |
| Aliph | nC31 | 42.2750 | 2724464 | | ug/L | Z |
| Aliph | nC32 | 43.3560 | 2005226 | | ug/L | Z |
| Aliph | nC33 | 44.5840 | 1364723 | | ug/L | Z |
| Aliph | nC34 | 46.0130 | 854506 | | ug/L | Z |
| Aliph | nC35 | 47.7140 | 588977 | | ug/L | Z |
| Aliph | nC36 | 49.7870 | 337767 | | ug/L | Z |
| Aliph | nC37 | 52.2630 | 290461 | | ug/L | Z |

Results for: GCMS with Full Scan

| | | | | | |
|-------|-------------|---------|--------|------|---|
| Aliph | nC38 | 55.2360 | | ug/L | U |
| Aliph | nC39 | 58.9110 | | ug/L | U |
| Aliph | Norpristane | 21.8010 | 139561 | ug/L | Z |
| Aliph | Phytane | 24.7190 | 634274 | ug/L | Z |
| Aliph | Pristane | 22.8660 | 715223 | ug/L | Z |

Qualifier codes:

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

Sample ID : **W13/007579**

Beach K3: Sandy River Visit: 2

Comments:

Location: Mid Intertidal

Local Date Time: 5/09/2015 10:55:46 AM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

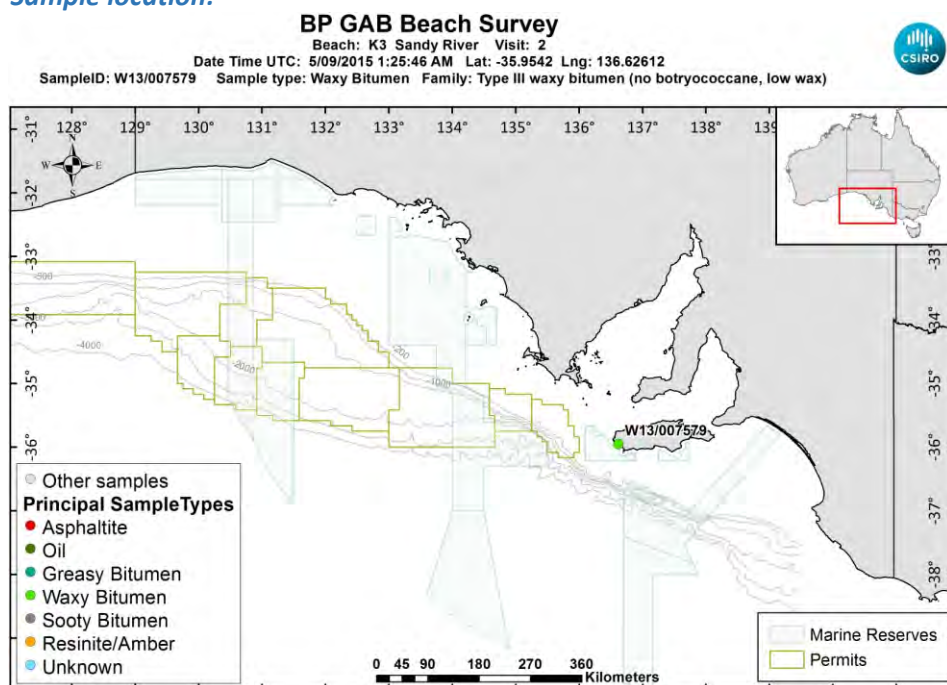
Size (cm): 3

Latitude (Y): -35.954200

Weight (gm): 9

Longitude (X): 136.626115

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007579_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007579_146A1409.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007579_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: W13/007579_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 | | | 84.62 | percent | Y |
| Inorg | Hydrogen | | | 5.85373204771372 | percent | Y |
| Inorg | Nitrogen | | | 0.24997763496144 | percent | Y |
| Inorg | Sulphur | | | 0.52725247390641 | percent | Y |

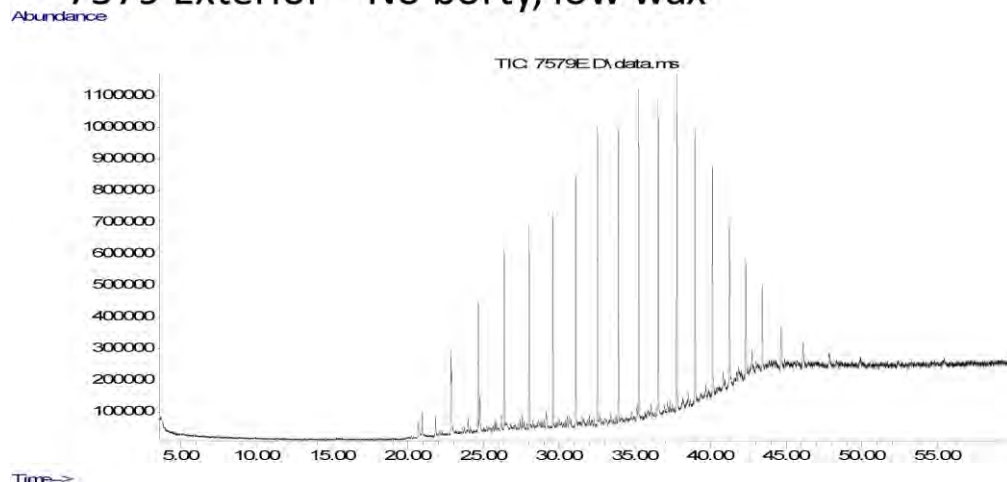
Results for: GCMS with Full Scan

Unique ID: W13/007579_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_007579_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7579 Exterior – No borty, low wax



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Rspnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|-------------------|--------|------------|
| Ratio | nC17/nC29 | | | 0.391624348896916 | ug/L | Y |
| Ratio | nC17/nC35 | | | 3.68150377004477 | ug/L | Y |
| Ratio | nC17/Pristane | | | 1.07135301513993 | ug/L | Y |
| Ratio | nC18/Phytane | | | 3.29142450669833 | ug/L | Y |
| Ratio | Pristane/Phytane | | | 2.04663745428543 | 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 | 389354 | | ug/L | Z |
| Aliph | nC17 | 22.8190 | 1394648 | | ug/L | Z |
| Aliph | nC18 | 24.6230 | 2093510 | | ug/L | Z |
| Aliph | nC19 | 26.3410 | 2699549 | | ug/L | Z |
| Aliph | nC20 | 27.9810 | 3045788 | | ug/L | Z |
| Aliph | nC21 | 29.5510 | 3464038 | | ug/L | Z |
| Aliph | nC22 | 31.0540 | 4022146 | | ug/L | Z |
| Aliph | nC23 | 32.4960 | 4547203 | | ug/L | Z |
| Aliph | nC24 | 33.8800 | 4660934 | | ug/L | Z |
| Aliph | nC25 | 35.2120 | 4858976 | | ug/L | Z |
| Aliph | nC26 | 36.4960 | 4866186 | | ug/L | Z |
| Aliph | nC27 | 37.7300 | 5158466 | | ug/L | Z |
| Aliph | nC28 | 38.9260 | 4024817 | | ug/L | Z |
| Aliph | nC29 | 40.0740 | 3561189 | | ug/L | Z |
| Aliph | nC30 | 41.1930 | 2634540 | | ug/L | Z |
| Aliph | nC31 | 42.2750 | 1995741 | | ug/L | Z |
| Aliph | nC32 | 43.3560 | 1325354 | | ug/L | Z |
| Aliph | nC33 | 44.5840 | 971024 | | ug/L | Z |
| Aliph | nC34 | 46.0130 | 639706 | | ug/L | Z |
| Aliph | nC35 | 47.7140 | 378826 | | ug/L | Z |
| Aliph | nC36 | 49.7870 | 237631 | | ug/L | Z |
| Aliph | nC37 | 52.2630 | 196893 | | ug/L | Z |

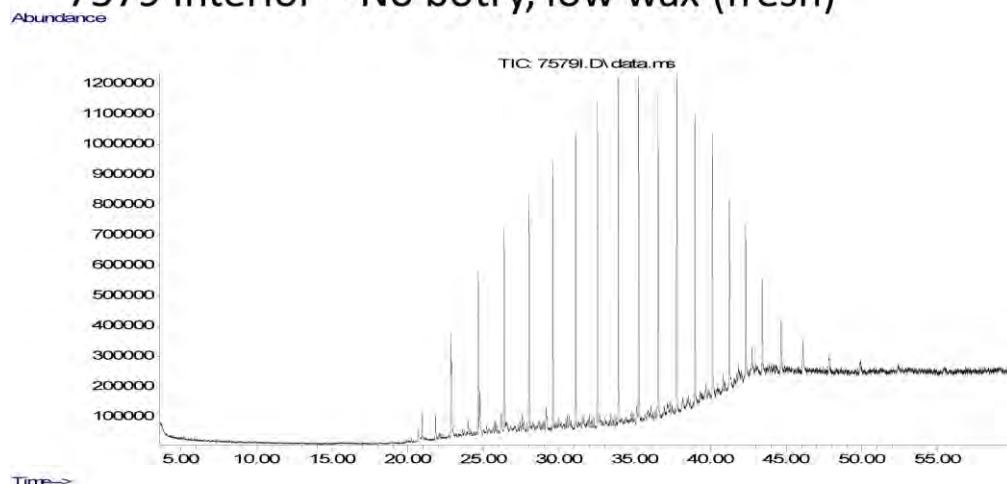
Results for: GCMS with Full Scan

| | | | | | |
|-------|-------------|---------|---------|------|---|
| Aliph | nC38 | 55.2360 | 135054 | ug/L | Z |
| Aliph | nC39 | 58.9110 | | ug/L | U |
| Aliph | Norpristane | 21.8010 | 524239 | ug/L | Z |
| Aliph | Phytane | 24.7190 | 636050 | ug/L | Z |
| Aliph | Pristane | 22.8660 | 1301764 | ug/L | Z |

Results for: GCMS with Full Scan**Unique ID:** W13/007579 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_007579_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7579 Interior – No botry, low wax (fresh)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-----------------|-------------------|--------|------------|
| Ratio | nC17/nC29 | | | 0.442721376539687 | ug/L | Y |
| Ratio | nC17/nC35 | | | 3.58348929311453 | ug/L | Y |
| Ratio | nC17/Pristane | | | 1.14711074024964 | ug/L | Y |
| Ratio | nC18/Phytane | | | 3.12854789091086 | ug/L | Y |
| Ratio | Pristane/Phytane | | | 1.82843749157425 | 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 | 492047 | | ug/L | Z |
| Aliph | nC17 | 22.8190 | 1803963 | | ug/L | Z |
| Aliph | nC18 | 24.6230 | 2690822 | | ug/L | Z |
| Aliph | nC19 | 26.3410 | 3294568 | | ug/L | Z |
| Aliph | nC20 | 27.9810 | 3793831 | | ug/L | Z |
| Aliph | nC21 | 29.5510 | 4264691 | | ug/L | Z |
| Aliph | nC22 | 31.0540 | 4640956 | | ug/L | Z |
| Aliph | nC23 | 32.4960 | 5200222 | | ug/L | Z |
| Aliph | nC24 | 33.8800 | 5250933 | | ug/L | Z |
| Aliph | nC25 | 35.2120 | 5513364 | | ug/L | Z |
| Aliph | nC26 | 36.4960 | 5144984 | | ug/L | Z |
| Aliph | nC27 | 37.7300 | 5568500 | | ug/L | Z |
| Aliph | nC28 | 38.9260 | 4503225 | | ug/L | Z |
| Aliph | nC29 | 40.0740 | 4074715 | | ug/L | Z |
| Aliph | nC30 | 41.1930 | 3091448 | | ug/L | Z |
| Aliph | nC31 | 42.2750 | 2682591 | | ug/L | Z |
| Aliph | nC32 | 43.3560 | 1704823 | | ug/L | Z |
| Aliph | nC33 | 44.5840 | 1210844 | | ug/L | Z |
| Aliph | nC34 | 46.0130 | 741690 | | ug/L | Z |
| Aliph | nC35 | 47.7140 | 503410 | | ug/L | Z |
| Aliph | nC36 | 49.7870 | 315074 | | ug/L | Z |
| Aliph | nC37 | 52.2630 | 225495 | | ug/L | Z |

Results for: GCMS with Full Scan

| | | | | | |
|-------|-------------|---------|---------|------|---|
| Aliph | nC38 | 55.2360 | 196368 | ug/L | Z |
| Aliph | nC39 | 58.9110 | | ug/L | U |
| Aliph | Norpristane | 21.8010 | 615100 | ug/L | Z |
| Aliph | Phytane | 24.7190 | 860087 | ug/L | Z |
| Aliph | Pristane | 22.8660 | 1572615 | ug/L | Z |

Qualifier codes:

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

Sample ID : **W13/007923**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:35:46 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

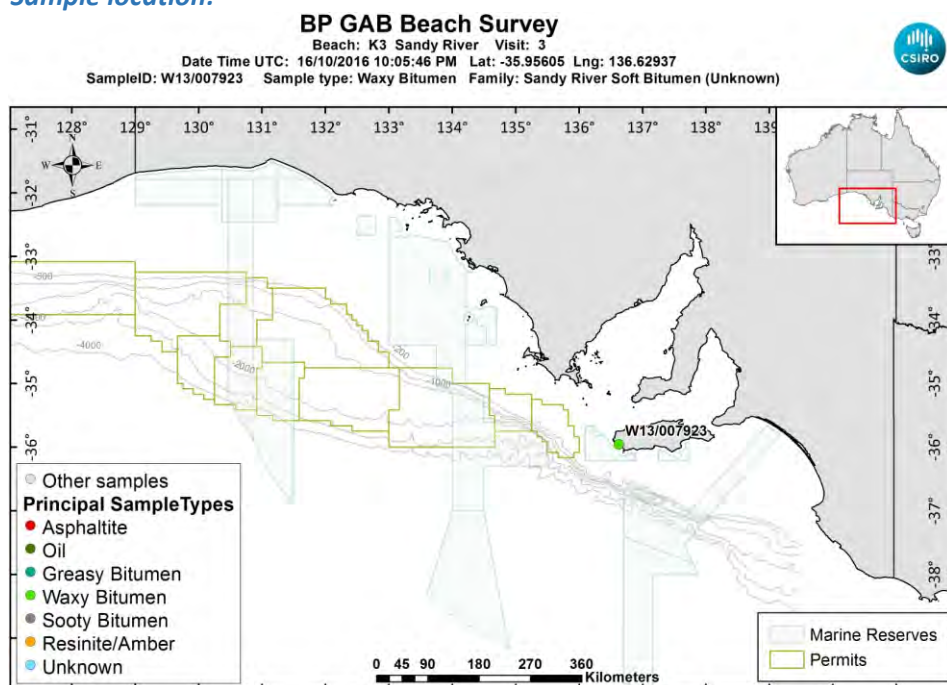
Size (cm): 5.7

Latitude (Y): -35.956047

Weight (gm): 11.82842

Longitude (X): 136.629370

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007923_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007923_146A6725.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007923_Photo02.JPG](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007923 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 | | | 37.5588158931589 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 36.5218116250286 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 27.3366933739028 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 26.7548380614834 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 35.1044907329383 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 36.723350313488 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.154925666174897 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0.218629585503134 | ratio | Y |
| BiomRatio | C19t/C23t | | | 0.225140579097504 | ratio | Y |
| BiomRatio | C22t/C21t | | | 1.42277814826163E-02 | ratio | Y |
| BiomRatio | C22t/C24t | | | 7.94550274881784E-03 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.228257641269735 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.528944759681883 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.4647655169403 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 0.717559523320253 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 0.106086280640302 | ratio | Y |
| BiomRatio | C26t/C25t | | | 0.968785933841915 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.336777829967121 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.295156244866542 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 0.103852437540619 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 1.00551831027794 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.612031448310995 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 0.192887678904193 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 2.26162334843626E-02 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 7.25538433718951E-02 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 5.57714312502751E-02 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 0.802710377441881 | ratio | Y |
| BiomRatio | Gam/C30H | | | 5.60091618920124E-02 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 0.291121554359635 | ratio | Y |
| BiomRatio | Ole/C30H | | | 0.793694102275064 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 0.234529288183335 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.178663130977423 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.31268990362075 | ratio | Y |

Results for: Elemental Analyser

Unique ID: W13/007923_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:**

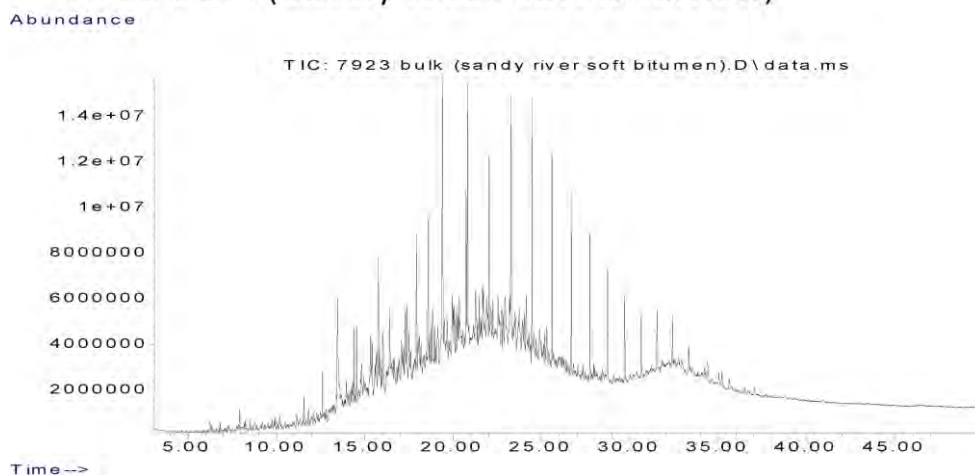
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 77.64 | percent | Y |
| Inorg | Hydrogen | | | 9.36853300198807 | percent | Y |
| Inorg | Nitrogen | | | 0.16 | percent | Y |
| Inorg | Sulphur | | | 2.19938279808285 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** W13/007923_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_007923_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7923 bulk (Sandy River soft 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 | 8400763 | | | Z |
| Aliph | nC15 | 16.4030 | 12495128 | | | Z |
| Aliph | nC16 | 17.9160 | 19894046 | | | Z |
| Aliph | nC17 | 19.3500 | 35260410 | | | Z |
| Aliph | nC18 | 20.7170 | 30579470 | | | Z |
| Aliph | nC19 | 22.0170 | 38655488 | | | Z |
| Aliph | nC20 | 23.2570 | 46063534 | | | Z |
| Aliph | nC21 | 24.4410 | 44921619 | | | Z |
| Aliph | nC22 | 25.5760 | 38113162 | | | Z |
| Aliph | nC23 | 26.6620 | 31142457 | | | Z |
| Aliph | nC24 | 27.7060 | 25950955 | | | Z |
| Aliph | nC25 | 28.7100 | 18929021 | | | Z |
| Aliph | nC26 | 29.6680 | 17019370 | | | Z |
| Aliph | nC27 | 30.6080 | 12763913 | | | Z |
| Aliph | nC28 | 31.5080 | 9834038 | | | Z |
| Aliph | nC29 | 32.3700 | 7706412 | | | Z |
| Aliph | nC30 | 33.2910 | 5955848 | | | Z |
| Aliph | nC31 | 34.3470 | 5195306 | | | Z |
| Aliph | nC32 | 35.5720 | 3358315 | | | Z |
| Aliph | nC33 | 37.0130 | 2625629 | | | Z |
| Aliph | nC34 | 38.7280 | 1335455 | | | Z |
| Aliph | nC35 | 40.8080 | 946068 | | | Z |
| Aliph | nC36 | 43.3510 | | | | U |
| Aliph | nC37 | 46.4710 | | | | U |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 51321611 | | | Z |
| Aliph | Phytane | 20.7870 | 57629125 | | | Z |
| Aliph | Pristane | 19.3870 | 68068973 | | | Z |

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

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

Sample ID : **W13/007924**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:38:02 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

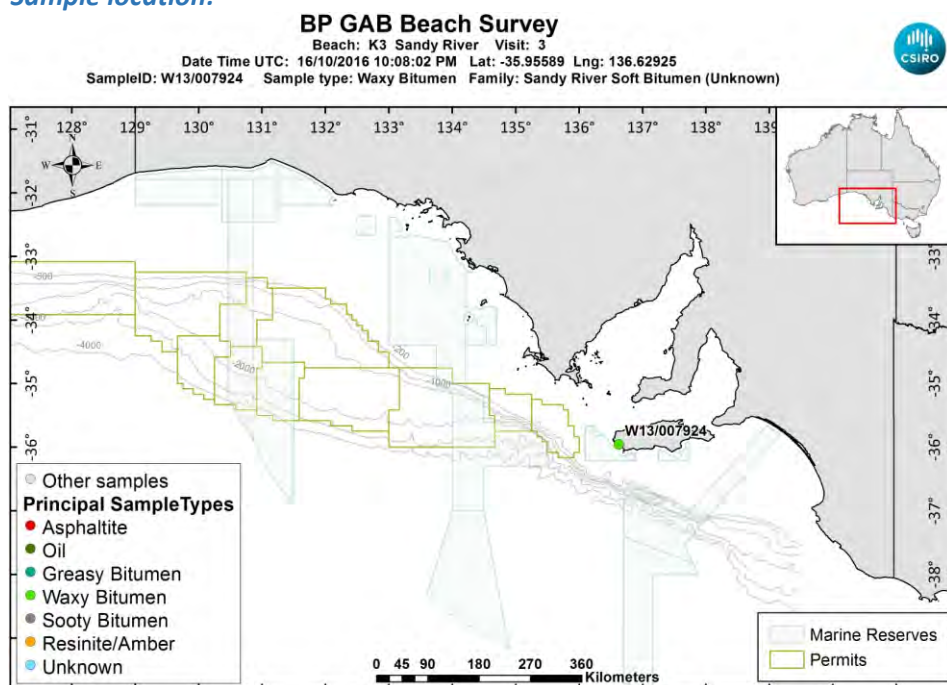
Size (cm): 2.9

Latitude (Y): -35.955893

Weight (gm): 1.34719

Longitude (X): 136.629247

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007924_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007924_146A6727.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007924_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: W13/007924_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-----------------|------------------|---------|------------|
| Inorg | Carbon | | | 84.56 | percent | Y |
| Inorg | Hydrogen | | | 7.5387069582505 | percent | Y |
| Inorg | Nitrogen | | | 0.12 | percent | Y |
| Inorg | Sulphur | | | 1.78061781332769 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007924 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_007924_bulk_WholeOil.jpg](#)

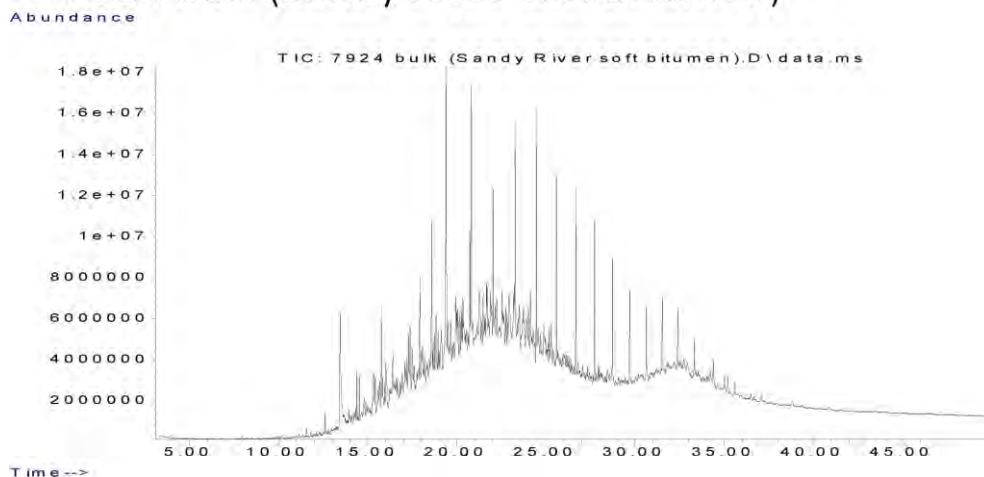
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7924 bulk (Sandy River soft bitumen)



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 | 5940885 | | | Z |
| Aliph | nC15 | 16.4030 | 9095127 | | | Z |
| Aliph | nC16 | 17.9160 | 15752076 | | | Z |
| Aliph | nC17 | 19.3500 | 31576895 | | | Z |
| Aliph | nC18 | 20.7170 | 25998021 | | | Z |
| Aliph | nC19 | 22.0170 | 34855867 | | | Z |
| Aliph | nC20 | 23.2570 | 45766328 | | | Z |
| Aliph | nC21 | 24.4410 | 45148963 | | | Z |
| Aliph | nC22 | 25.5760 | 39134203 | | | Z |
| Aliph | nC23 | 26.6620 | 35428024 | | | Z |
| Aliph | nC24 | 27.7060 | 31343599 | | | Z |
| Aliph | nC25 | 28.7100 | 25015564 | | | Z |
| Aliph | nC26 | 29.6680 | 20167709 | | | Z |
| Aliph | nC27 | 30.6080 | 16841078 | | | Z |
| Aliph | nC28 | 31.5080 | 13600949 | | | Z |
| Aliph | nC29 | 32.3700 | 11173194 | | | Z |
| Aliph | nC30 | 33.2910 | 8748077 | | | Z |
| Aliph | nC31 | 34.3470 | 7522536 | | | Z |
| Aliph | nC32 | 35.5720 | 5008154 | | | Z |
| Aliph | nC33 | 37.0130 | 4032527 | | | Z |
| Aliph | nC34 | 38.7280 | 2435726 | | | Z |
| Aliph | nC35 | 40.8080 | 1553000 | | | Z |
| Aliph | nC36 | 43.3510 | 1109800 | | | Z |
| Aliph | nC37 | 46.4710 | | | | U |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 58012265 | | | Z |
| Aliph | Phytane | 20.7870 | 70275993 | | | Z |
| Aliph | Pristane | 19.3870 | 79269224 | | | Z |

Results for: GCMS with Full Scan

Qualifier codes:

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

Sample ID : W13/007925

Beach K3: Sandy River Visit: 3

Comments:

Very soft. Touched by chris

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:40:19 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

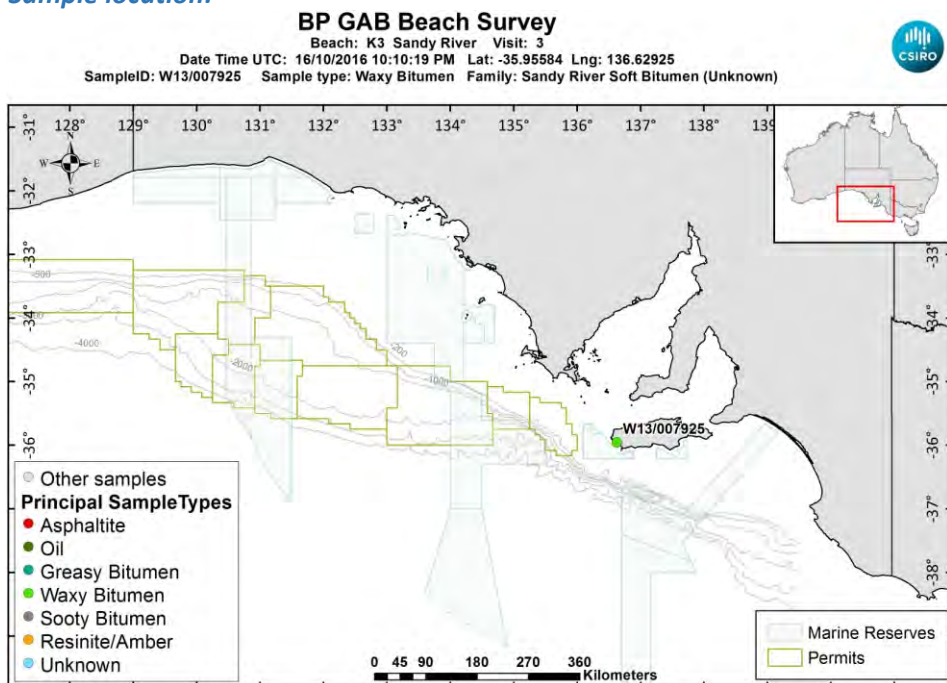
Size (cm): 2.6

Latitude (Y): -35.955838

Weight (gm): 1.70801

Longitude (X): 136.629252

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007925_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007925_146A6729.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007925_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: W13/007925_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 | | | 82.25 | percent | Y |
| Inorg | Hydrogen | | | 9.42681332007952 | percent | Y |
| Inorg | Nitrogen | | | 0.12 | percent | Y |
| Inorg | Sulphur | | | 2.62597006437174 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007925 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_007925_bulk_WholeOil.jpg](#)

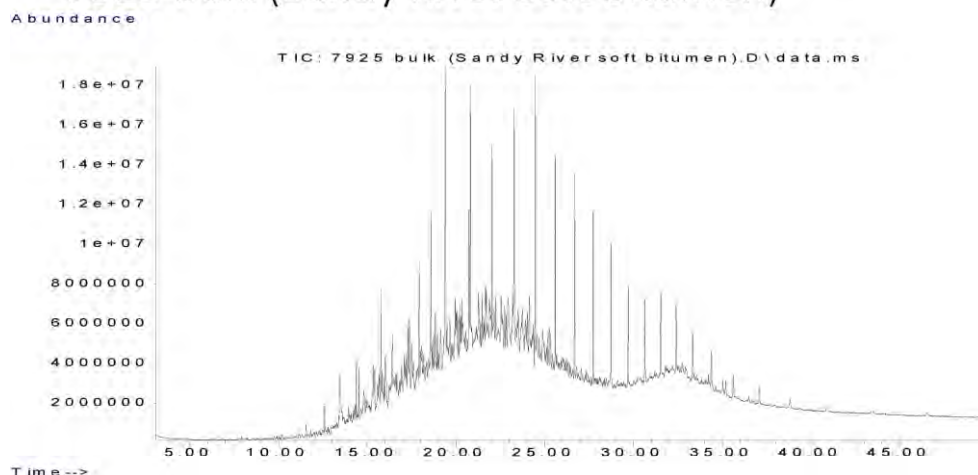
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7925 bulk (Sandy River soft bitumen)



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 | 7174219 | | | Z |
| Aliph | nC15 | 16.4030 | 11746516 | | | Z |
| Aliph | nC16 | 17.9160 | 19572238 | | | Z |
| Aliph | nC17 | 19.3500 | 34941080 | | | Z |
| Aliph | nC18 | 20.7170 | 31722224 | | | Z |
| Aliph | nC19 | 22.0170 | 44407977 | | | Z |
| Aliph | nC20 | 23.2570 | 55415925 | | | Z |
| Aliph | nC21 | 24.4410 | 54720346 | | | Z |
| Aliph | nC22 | 25.5760 | 46921223 | | | Z |
| Aliph | nC23 | 26.6620 | 40053266 | | | Z |
| Aliph | nC24 | 27.7060 | 35778290 | | | Z |
| Aliph | nC25 | 28.7100 | 28333421 | | | Z |
| Aliph | nC26 | 29.6680 | 23478815 | | | Z |
| Aliph | nC27 | 30.6080 | 19125317 | | | Z |
| Aliph | nC28 | 31.5080 | 16102430 | | | Z |
| Aliph | nC29 | 32.3700 | 14134383 | | | Z |
| Aliph | nC30 | 33.2910 | 11456460 | | | Z |
| Aliph | nC31 | 34.3470 | 11145462 | | | Z |
| Aliph | nC32 | 35.5720 | 7826671 | | | Z |
| Aliph | nC33 | 37.0130 | 6636483 | | | Z |
| Aliph | nC34 | 38.7280 | 4499149 | | | Z |
| Aliph | nC35 | 40.8080 | 3624469 | | | Z |
| Aliph | nC36 | 43.3510 | 2451350 | | | Z |
| Aliph | nC37 | 46.4710 | 2054386 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 59587640 | | | Z |
| Aliph | Phytane | 20.7870 | 68230731 | | | Z |
| Aliph | Pristane | 19.3870 | 85139639 | | | Z |

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

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

Sample ID : **W13/007926**

Beach K3: Sandy River Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:41:52 AM

Type: Waxy Bitumen

Family: Unclassified high wax bitumen

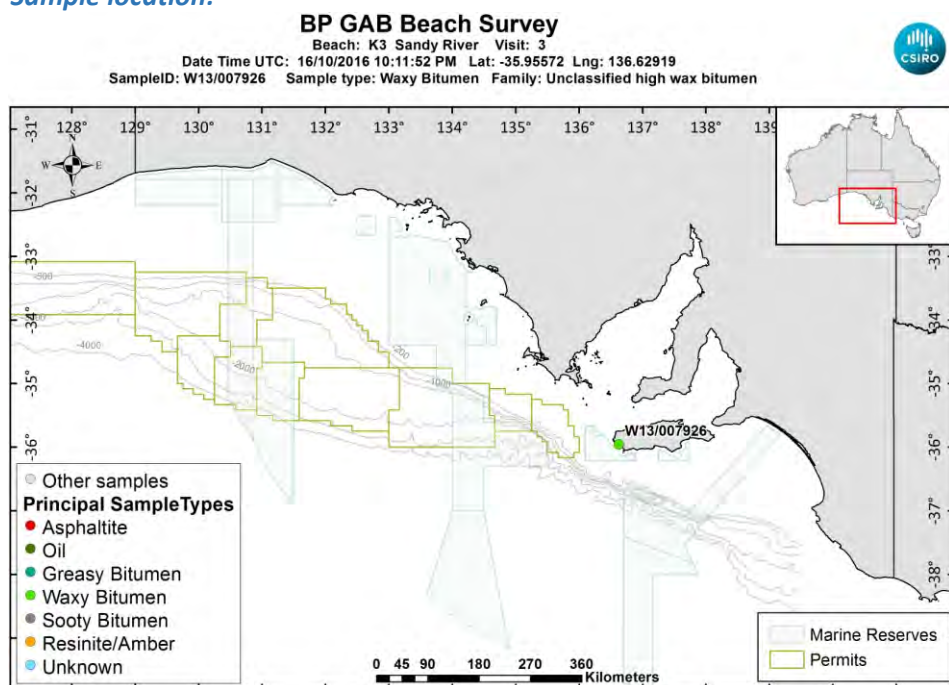
Size (cm): 1.2

Latitude (Y): -35.955715

Weight (gm): 0.25053

Longitude (X): 136.629192

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007926_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007926_146A6731.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007926_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: W13/007926_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 | | | 61.24 | percent | Y |
| Inorg | Hydrogen | | | 6.74924850894632 | percent | Y |
| Inorg | Nitrogen | | | 0.16 | percent | Y |
| Inorg | Sulphur | | | 1.26388090119648 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007926 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_007926_bulk_WholeOil.jpg](#)

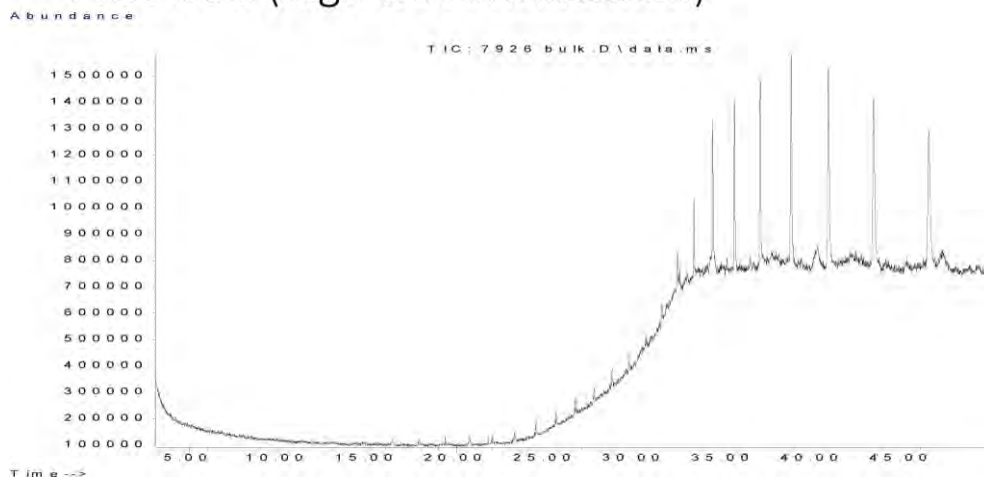
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7926 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 | 910839 | | | Z |
| Aliph | nC30 | 33.2910 | 2054404 | | | Z |
| Aliph | nC31 | 34.3470 | 4119638 | | | Z |
| Aliph | nC32 | 35.5720 | 5569393 | | | Z |
| Aliph | nC33 | 37.0130 | 6571061 | | | Z |
| Aliph | nC34 | 38.7280 | 8755170 | | | Z |
| Aliph | nC35 | 40.8080 | 8831613 | | | Z |
| Aliph | nC36 | 43.3510 | 10129263 | | | Z |
| Aliph | nC37 | 46.4710 | 9550813 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : **W13/007927**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:43:02 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

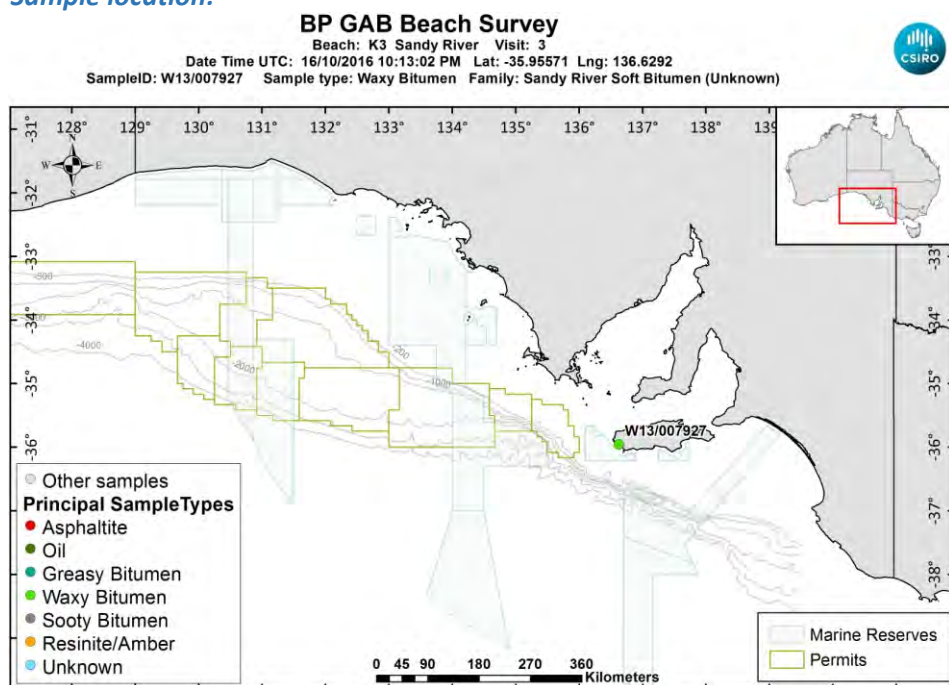
Size (cm): 3.3

Latitude (Y): -35.955712

Weight (gm): 1.87782

Longitude (X): 136.629200

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007927_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007927_146A6733.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007927_Photo02.JPG](#)

Analyses Requested

| Split: | Analysis: | Sent: |
|--------|-----------------------|-------|
| 1 | Bitumen Determination | YES |
| 5 | CSIA | YES |

Analyses Completed:

| Analysis: | Instrument/Type: |
|----------------|--|
| CSIA | Compound Specific Isotope Analysis d13C Run: 3 |
| CSIA | Compound Specific Isotope Analysis d2H Run: 1 |
| Elemental CHNS | Elemental Analyser Run: 1 |
| Whole Oils | GCMS with Full Scan Run: 3 |

Sample Analyses Completed:

Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007927_PTE_CSIA-C13/03

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

for Analysis: CSIA

Analysis Date: 17/07/2017

Linked Image: [None available](#)

Preparation: Pentane Extraction

Method ID/s: Final d13C

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk 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 | | | -27.093 | value | Y |
| Aliph | nC14 | | | -27.512 | value | Y |
| Aliph | nC15 | | | -28.407 | value | Y |
| Aliph | nC16 | | | -29.127 | value | Y |
| Aliph | nC17 | | | -32.202 | value | Y |
| Aliph | nC18 | | | -30.56 | value | Y |
| Aliph | nC19 | | | -28.981 | value | Y |
| Aliph | nC20 | | | -29.041 | value | Y |
| Aliph | nC21 | | | -29.512 | value | Y |
| Aliph | nC22 | | | -29.537 | value | Y |
| Aliph | nC23 | | | -30.078 | value | Y |
| Aliph | nC24 | | | -30.094 | value | Y |
| Aliph | nC25 | | | -30.207 | value | Y |
| Aliph | nC26 | | | -30.777 | value | Y |
| Aliph | nC27 | | | -31.21 | value | Y |
| Aliph | nC28 | | | -31.314 | value | Y |
| Aliph | nC29 | | | -31.144 | value | Y |
| Aliph | nC30 | | | -31.092 | value | Y |
| Aliph | nC31 | | | -32.191 | value | Y |
| Aliph | nC32 | | | -31.795 | value | Y |
| Aliph | nC33 | | | -31.869 | value | Y |
| Aliph | nC34 | | | -30.746 | value | Y |
| Aliph | nC35 | | | -31.259 | value | Y |
| Aliph | nC36 | | | -28.195 | value | Y |
| Aliph | nC37 | | | | value | U |
| Aliph | nC38 | | | | value | U |
| Aliph | nC39 | | | | value | U |

Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007927_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: Bulk 2H analysis

Results for: Compound Specific Isotope Analysis d2H

Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Rspnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|----------|--------|------------|
| Aliph | nC13 | | | -53.2455 | value | Y |
| Aliph | nC14 | | | -80.7175 | value | Y |
| Aliph | nC15 | | | -77.2905 | value | Y |
| Aliph | nC16 | | | -80.028 | value | Y |
| Aliph | nC17 | | | -82.6595 | value | Y |
| Aliph | nC18 | | | -78.434 | value | Y |
| Aliph | nC19 | | | -84.3415 | value | Y |
| Aliph | nC20 | | | -84.139 | value | Y |
| Aliph | nC21 | | | -84.7745 | value | Y |
| Aliph | nC22 | | | -84.0345 | value | Y |
| Aliph | nC23 | | | -82.4275 | value | Y |
| Aliph | nC24 | | | -85.5115 | value | Y |
| Aliph | nC25 | | | -90.989 | value | Y |
| Aliph | nC26 | | | -91.432 | value | Y |
| Aliph | nC27 | | | -94.4865 | value | Y |
| Aliph | nC28 | | | -87.855 | value | Y |
| Aliph | nC29 | | | -97.2595 | value | Y |
| Aliph | nC30 | | | -91.638 | value | Y |
| Aliph | nC31 | | | -120.506 | value | Y |
| Aliph | nC32 | | | -149.672 | value | Y |
| Aliph | nC33 | | | | value | U |
| Aliph | nC34 | | | | value | U |
| Aliph | nC35 | | | | value | U |
| Aliph | nC36 | | | | value | U |
| Aliph | nC37 | | | | value | U |
| Aliph | nC38 | | | | value | U |
| Aliph | nC39 | | | | value | U |

Results for: Elemental Analyser

Unique ID: W13/007927_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)

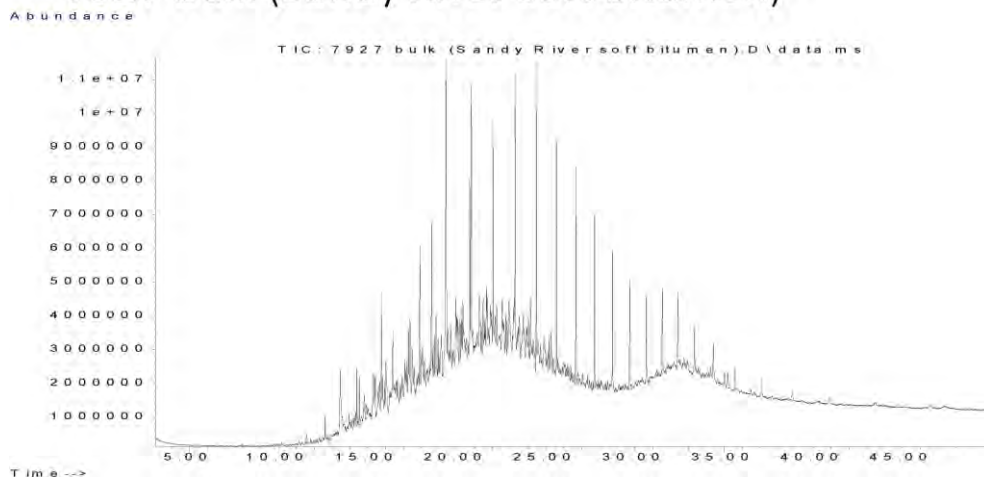
| Type: | Compound / Variable: | Retentn Time: | Target Rspnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 83.7 | percent | Y |
| Inorg | Hydrogen | | | 7.60428926441352 | percent | Y |
| Inorg | Nitrogen | | | 0.11 | percent | Y |
| Inorg | Sulphur | | | 2.21375215486301 | percent | Y |

Results for: GCMS with Full Scan

Results for: GCMS with Full Scan**Unique ID:** W13/007927 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 007927 bulk WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7927 bulk (Sandy River soft 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 | 5288847 | | | Z |
| Aliph | nC15 | 16.4030 | 8417032 | | | Z |
| Aliph | nC16 | 17.9160 | 14215872 | | | Z |
| Aliph | nC17 | 19.3500 | 9191593 | | | Z |
| Aliph | nC18 | 20.7170 | 22776889 | | | Z |
| Aliph | nC19 | 22.0170 | 29863008 | | | Z |
| Aliph | nC20 | 23.2570 | 35829716 | | | Z |
| Aliph | nC21 | 24.4410 | 34957616 | | | Z |
| Aliph | nC22 | 25.5760 | 30103980 | | | Z |
| Aliph | nC23 | 26.6620 | 24950225 | | | Z |
| Aliph | nC24 | 27.7060 | 20936073 | | | Z |
| Aliph | nC25 | 28.7100 | 17270159 | | | Z |
| Aliph | nC26 | 29.6680 | 14425943 | | | Z |
| Aliph | nC27 | 30.6080 | 11661321 | | | Z |
| Aliph | nC28 | 31.5080 | 9894170 | | | Z |
| Aliph | nC29 | 32.3700 | 8852110 | | | Z |
| Aliph | nC30 | 33.2910 | 7180286 | | | Z |
| Aliph | nC31 | 34.3470 | 6832948 | | | Z |
| Aliph | nC32 | 35.5720 | 5207658 | | | Z |
| Aliph | nC33 | 37.0130 | 4257178 | | | Z |
| Aliph | nC34 | 38.7280 | 3226599 | | | Z |
| Aliph | nC35 | 40.8080 | 2400262 | | | Z |
| Aliph | nC36 | 43.3510 | 1461207 | | | Z |
| Aliph | nC37 | 46.4710 | 1555581 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 36316991 | | | Z |
| Aliph | Phytane | 20.7870 | 42225866 | | | Z |
| Aliph | Pristane | 19.3870 | 51757322 | | | Z |

Results for: GCMS with Full Scan

Qualifier codes:

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

Sample ID : **W13/007928**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:44:50 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

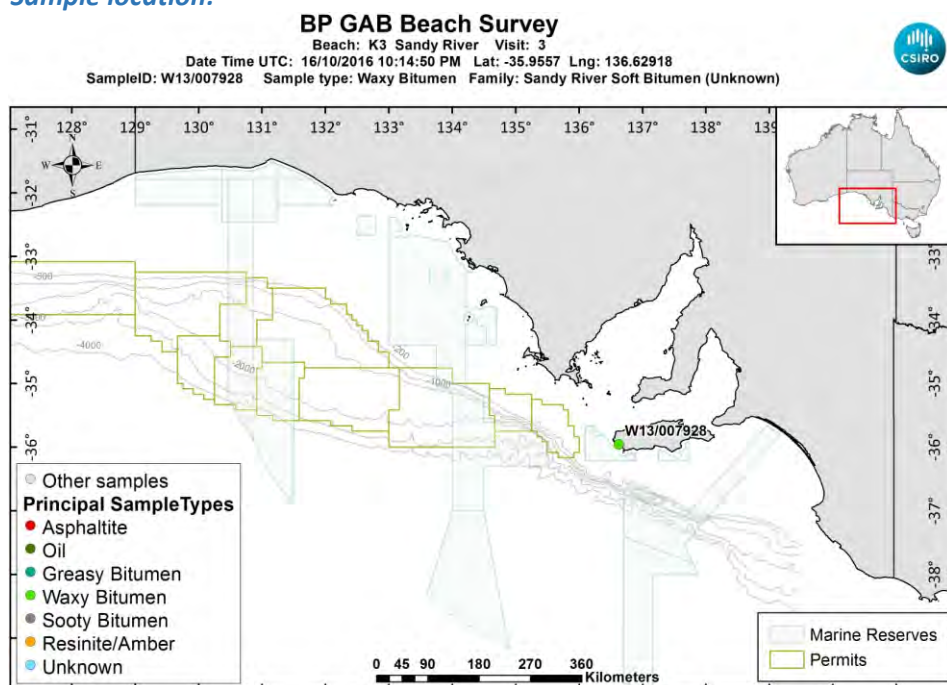
Size (cm): 2.3

Latitude (Y): -35.955703

Weight (gm): 1.00539

Longitude (X): 136.629177

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007928_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007928_146A6735.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007928_Photo02.JPG](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007928 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 | | | 33.4080309214024 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 34.4544127557762 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 25.4132241437496 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 28.8696160573359 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 41.178744934848 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 36.6759711868879 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.14979773405229 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0.201065124487868 | ratio | Y |
| BiomRatio | C19t/C23t | | | 0.244500378251818 | ratio | Y |
| BiomRatio | C22t/C21t | | | 0.655185911001746 | ratio | Y |
| BiomRatio | C22t/C24t | | | 0.31176089321102 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.222550041171921 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.535849423174295 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.419400425957456 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 0.678178269719883 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 9.33375820643532E-02 | ratio | Y |
| BiomRatio | C26t/C25t | | | 0.9454681576316 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.355638015853983 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.330198024092 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 0.102753447195179 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 1.06447819752027 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.619033791774767 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 0.176687150152558 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 3.31565381469955E-02 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 0.060066434792961 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 5.60356031979419E-02 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 0.789380243177233 | ratio | Y |
| BiomRatio | Gam/C30H | | | 6.34388156820228E-02 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 0.329763938075405 | ratio | Y |
| BiomRatio | Ole/C30H | | | 0.837466640822852 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 0.237784633888026 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.181795118181693 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.307981403826118 | ratio | Y |

Results for: Elemental Analyser

Unique ID: W13/007928_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:**

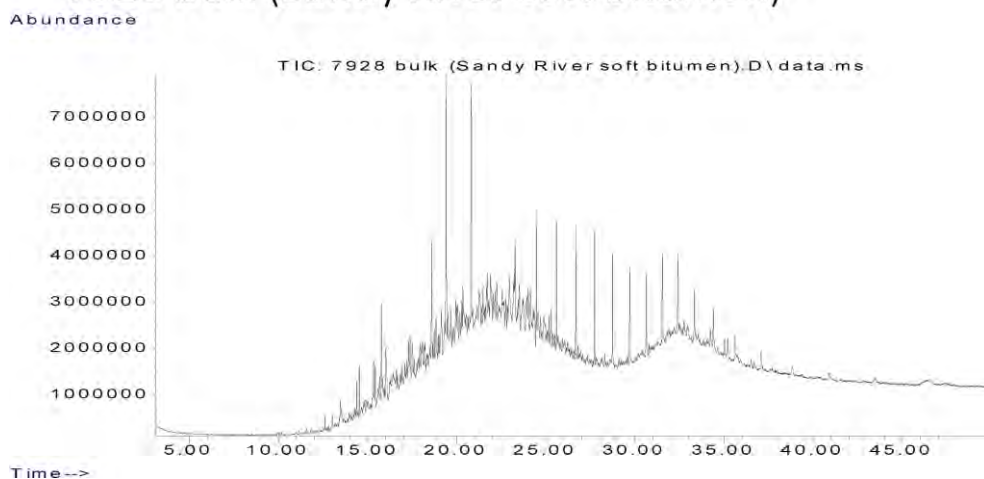
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 79.28 | percent | Y |
| Inorg | Hydrogen | | | 8.36214155069583 | percent | Y |
| Inorg | Nitrogen | | | 0.13 | percent | Y |
| Inorg | Sulphur | | | 2.8240403940197 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** W13/007928_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_007928_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7928 bulk (Sandy River soft bitumen)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retention Time: | Target Response: | 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 | 878308 | | | Z |
| Aliph | nC19 | 22.0170 | 2587994 | | | Z |
| Aliph | nC20 | 23.2570 | 6991056 | | | Z |
| Aliph | nC21 | 24.4410 | 10990027 | | | Z |
| Aliph | nC22 | 25.5760 | 11558439 | | | Z |
| Aliph | nC23 | 26.6620 | 11215490 | | | Z |
| Aliph | nC24 | 27.7060 | 11924541 | | | Z |
| Aliph | nC25 | 28.7100 | 10857381 | | | Z |
| Aliph | nC26 | 29.6680 | 9507195 | | | Z |
| Aliph | nC27 | 30.6080 | 8294869 | | | Z |
| Aliph | nC28 | 31.5080 | 7483735 | | | Z |
| Aliph | nC29 | 32.3700 | 6634134 | | | Z |
| Aliph | nC30 | 33.2910 | 5605923 | | | Z |
| Aliph | nC31 | 34.3470 | 5397286 | | | Z |
| Aliph | nC32 | 35.5720 | 4060988 | | | Z |
| Aliph | nC33 | 37.0130 | 3400562 | | | Z |
| Aliph | nC34 | 38.7280 | 2066486 | | | Z |
| Aliph | nC35 | 40.8080 | 1116516 | | | Z |
| Aliph | nC36 | 43.3510 | | | | U |
| Aliph | nC37 | 46.4710 | | | | U |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 20032548 | | | Z |
| Aliph | Phytane | 20.7870 | 29026824 | | | Z |
| Aliph | Pristane | 19.3870 | 31190777 | | | Z |

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

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

Sample ID : **W13/007929**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. 2 pieces

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:46:31 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

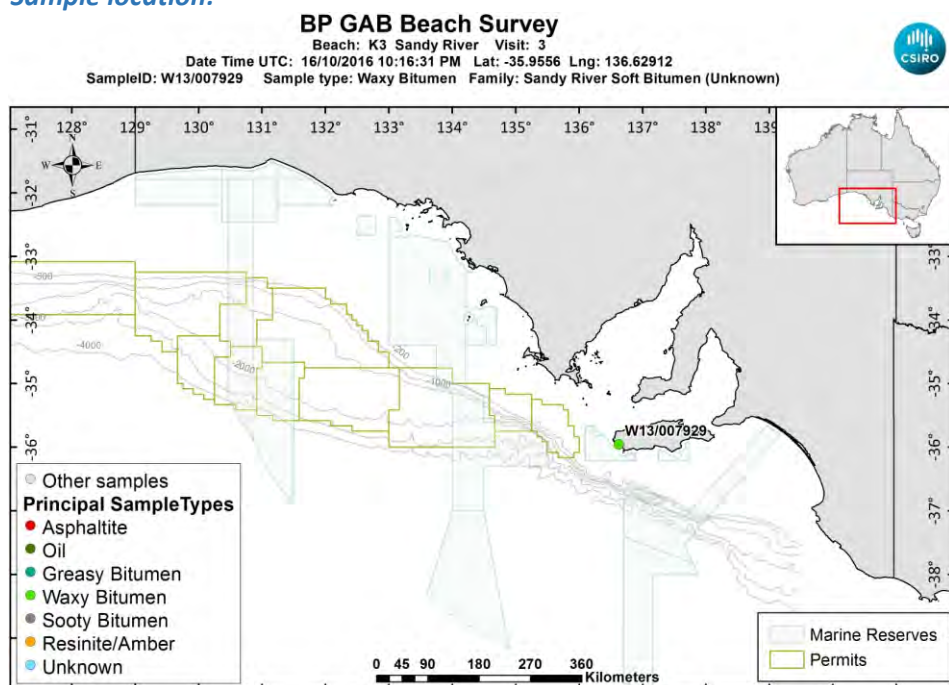
Size (cm): 2.5

Latitude (Y): -35.955600

Weight (gm): 1.99257

Longitude (X): 136.629120

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007929_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007929_146A6738.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007929_Photo02.JPG](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007929 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 Respnse: | Value: | units: | Qualifier: |
|-----------|--------------------------------|---------------|-----------------|----------------------|--------|------------|
| BiomRatio | % C27 aaa 20R | | | 35.1455725307853 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 36.01160548486 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 25.8937203004445 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 26.2114711180783 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 38.9607071687701 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 37.7769233970618 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.153367092003076 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0.215578801864658 | ratio | Y |
| BiomRatio | C19t/C23t | | | 0.313041074113114 | ratio | Y |
| BiomRatio | C22t/C21t | | | 0.469102424597528 | ratio | Y |
| BiomRatio | C22t/C24t | | | 0.332006342699281 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.225406490035014 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.486147350716824 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.351172819239727 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 0.539301078280766 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 7.91566325805271E-02 | ratio | Y |
| BiomRatio | C26t/C25t | | | 1.16721014710969 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.331704505825745 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.288087183164216 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 9.08796621579367E-02 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 1.04902080561068 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.599826543478491 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 0.215198829252051 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 2.98331800946524E-02 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 6.32854474176379E-02 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 5.16889199091491E-02 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 0.772184279749982 | ratio | Y |
| BiomRatio | Gam/C30H | | | 6.93588059370774E-02 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 0.349614423926441 | ratio | Y |
| BiomRatio | Ole/C30H | | | 0.797618911088602 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 0.221364760653564 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.168641901914287 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.312632021702845 | ratio | Y |

Results for: Elemental Analyser

Unique ID: W13/007929_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:**

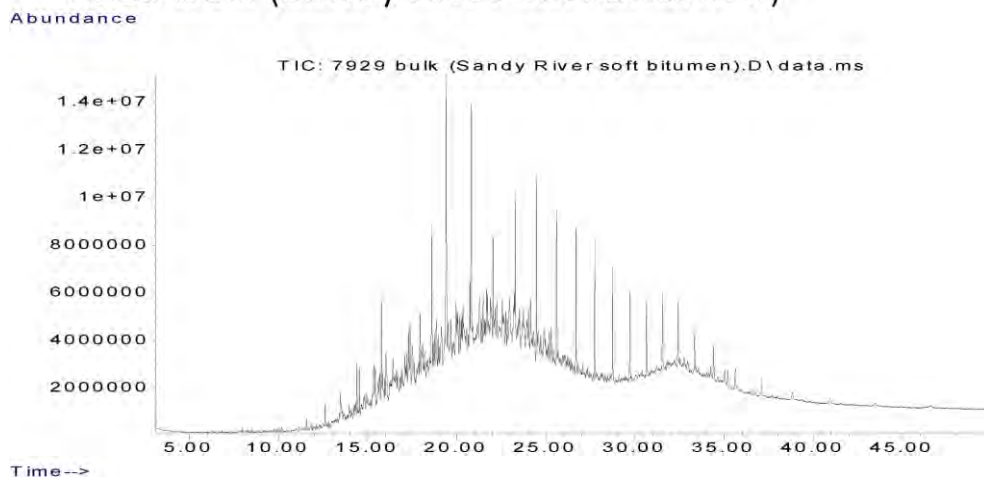
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 85.71 | percent | Y |
| Inorg | Hydrogen | | | 6.29487236580517 | percent | Y |
| Inorg | Nitrogen | | | 0.12 | percent | Y |
| Inorg | Sulphur | | | 1.95379167198465 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** W13/007929_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_007929_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7929 bulk (Sandy River soft 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 | 4366019 | | | Z |
| Aliph | nC15 | 16.4030 | 4232243 | | | Z |
| Aliph | nC16 | 17.9160 | 7313458 | | | Z |
| Aliph | nC17 | 19.3500 | 16815412 | | | Z |
| Aliph | nC18 | 20.7170 | 11431240 | | | Z |
| Aliph | nC19 | 22.0170 | 18840469 | | | Z |
| Aliph | nC20 | 23.2570 | 28629826 | | | Z |
| Aliph | nC21 | 24.4410 | 29687974 | | | Z |
| Aliph | nC22 | 25.5760 | 28028780 | | | Z |
| Aliph | nC23 | 26.6620 | 25219912 | | | Z |
| Aliph | nC24 | 27.7060 | 24494589 | | | Z |
| Aliph | nC25 | 28.7100 | 18008109 | | | Z |
| Aliph | nC26 | 29.6680 | 16168106 | | | Z |
| Aliph | nC27 | 30.6080 | 14208011 | | | Z |
| Aliph | nC28 | 31.5080 | 11571217 | | | Z |
| Aliph | nC29 | 32.3700 | 10773289 | | | Z |
| Aliph | nC30 | 33.2910 | 8650981 | | | Z |
| Aliph | nC31 | 34.3470 | 8572267 | | | Z |
| Aliph | nC32 | 35.5720 | 6050964 | | | Z |
| Aliph | nC33 | 37.0130 | 5291732 | | | Z |
| Aliph | nC34 | 38.7280 | 4017519 | | | Z |
| Aliph | nC35 | 40.8080 | 2696694 | | | Z |
| Aliph | nC36 | 43.3510 | 1627501 | | | Z |
| Aliph | nC37 | 46.4710 | 1378038 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 45393743 | | | Z |
| Aliph | Phytane | 20.7870 | 55934723 | | | Z |
| Aliph | Pristane | 19.3870 | 55163954 | | | Z |

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

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

Sample ID : **W13/007930**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:47:56 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

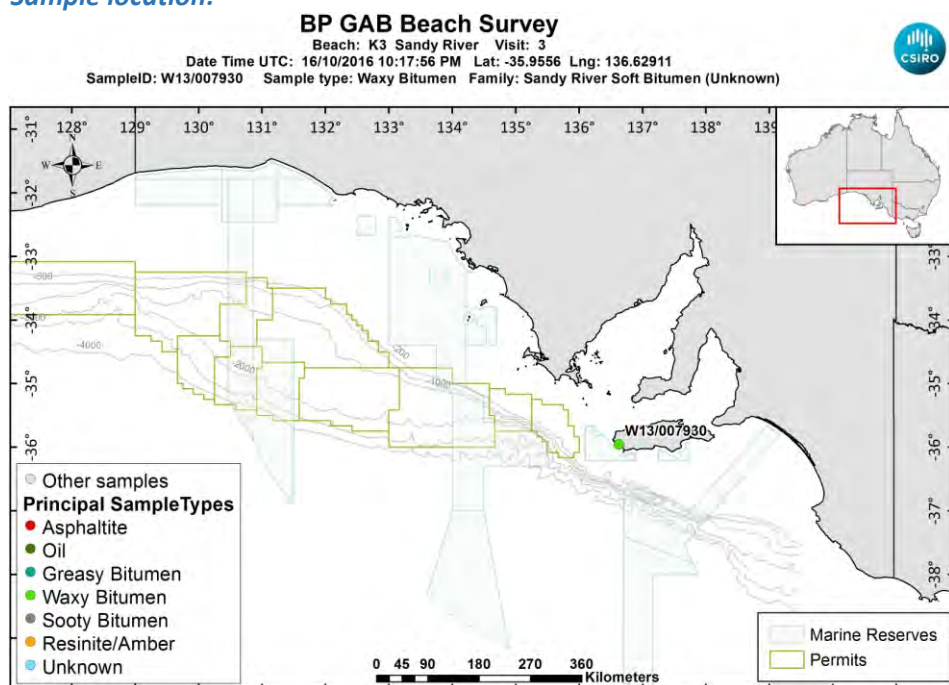
Size (cm): 1.7

Latitude (Y): -35.955600

Weight (gm): 0.48686

Longitude (X): 136.629107

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007930_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007930_146A6740.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007930_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: W13/007930_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-----------------|------------------|---------|------------|
| Inorg | Carbon | | | 81.47 | percent | Y |
| Inorg | Hydrogen | | | 10.274958250497 | percent | Y |
| Inorg | Nitrogen | | | 0.09 | percent | Y |
| Inorg | Sulphur | | | 3.32386048702296 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007930 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_007930_bulk_WholeOil.jpg](#)

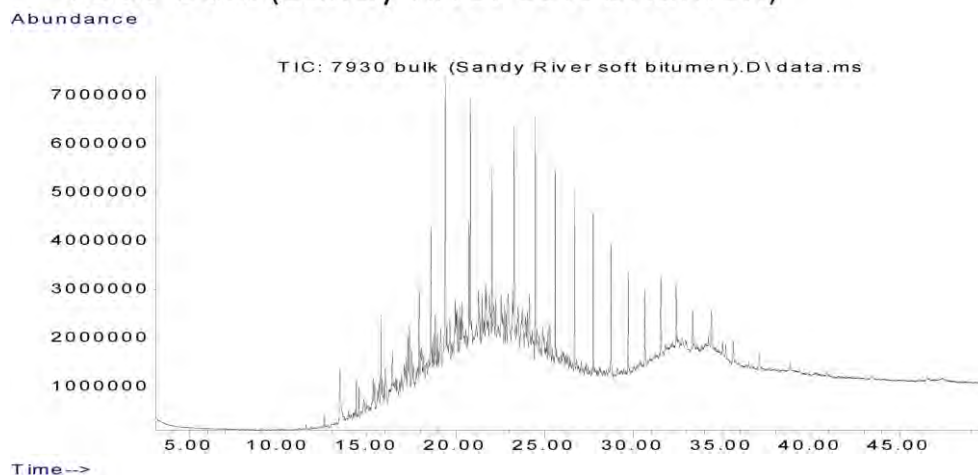
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7930 bulk (Sandy River soft 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 | 2144294 | | | Z |
| Aliph | nC15 | 16.4030 | 3516676 | | | Z |
| Aliph | nC16 | 17.9160 | 6410907 | | | Z |
| Aliph | nC17 | 19.3500 | 4170901 | | | Z |
| Aliph | nC18 | 20.7170 | 11176626 | | | Z |
| Aliph | nC19 | 22.0170 | 14829865 | | | Z |
| Aliph | nC20 | 23.2570 | 18402390 | | | Z |
| Aliph | nC21 | 24.4410 | 18960563 | | | Z |
| Aliph | nC22 | 25.5760 | 16913676 | | | Z |
| Aliph | nC23 | 26.6620 | 14766002 | | | Z |
| Aliph | nC24 | 27.7060 | 13636836 | | | Z |
| Aliph | nC25 | 28.7100 | 10221300 | | | Z |
| Aliph | nC26 | 29.6680 | 8745557 | | | Z |
| Aliph | nC27 | 30.6080 | 7741397 | | | Z |
| Aliph | nC28 | 31.5080 | 5888024 | | | Z |
| Aliph | nC29 | 32.3700 | 5562659 | | | Z |
| Aliph | nC30 | 33.2910 | 4508531 | | | Z |
| Aliph | nC31 | 34.3470 | 5037872 | | | Z |
| Aliph | nC32 | 35.5720 | 3346229 | | | Z |
| Aliph | nC33 | 37.0130 | 2691733 | | | Z |
| Aliph | nC34 | 38.7280 | 1854403 | | | Z |
| Aliph | nC35 | 40.8080 | 1650406 | | | Z |
| Aliph | nC36 | 43.3510 | 991692 | | | Z |
| Aliph | nC37 | 46.4710 | 893218 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 23325231 | | | Z |
| Aliph | Phytane | 20.7870 | 29233470 | | | Z |
| Aliph | Pristane | 19.3870 | 33558701 | | | Z |

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

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

Sample ID : **W13/007931**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:49:51 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

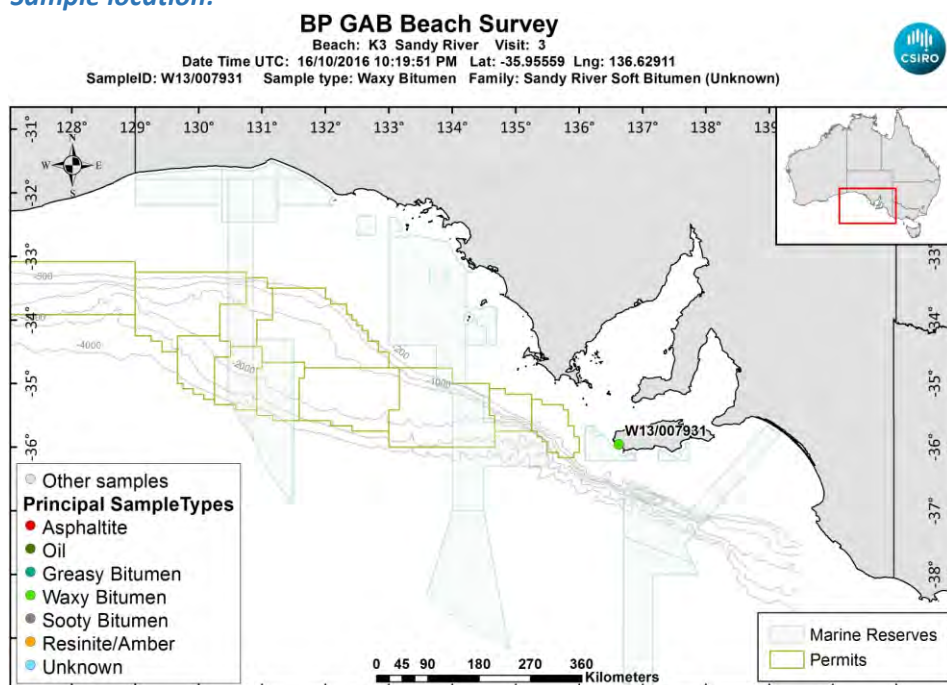
Size (cm): 4.9

Latitude (Y): -35.955588

Weight (gm): 10.64269

Longitude (X): 136.629108

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007931_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007931_146A6742.JPG](#)

Sample - laboratory image:

[LinkedFiles\GAB_BCH1\Samples\W13_007931_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:** W13/007931_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)

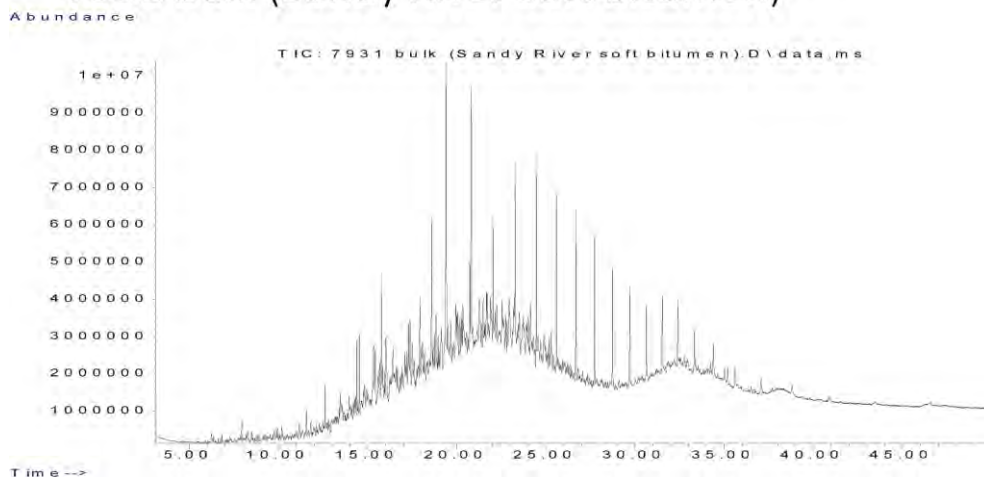
| Type: | Compound / Variable: | Retentn Time: | Target Respnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-----------------|------------------|---------|------------|
| Inorg | Carbon | | | 84.31 | percent | Y |
| Inorg | Hydrogen | | | 7.70815109343936 | percent | Y |
| Inorg | Nitrogen | | | 0.12 | percent | Y |
| Inorg | Sulphur | | | 2.36394743666776 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** W13/007931 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_007931_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

7931 bulk (Sandy River soft bitumen)



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 | 4340996 | | | Z |
| Aliph | nC15 | 16.4030 | 3875349 | | | Z |
| Aliph | nC16 | 17.9160 | 6181341 | | | Z |
| Aliph | nC17 | 19.3500 | 13548127 | | | Z |
| Aliph | nC18 | 20.7170 | 10056372 | | | Z |
| Aliph | nC19 | 22.0170 | 15154186 | | | Z |
| Aliph | nC20 | 23.2570 | 22062071 | | | Z |
| Aliph | nC21 | 24.4410 | 22690848 | | | Z |
| Aliph | nC22 | 25.5760 | 21016487 | | | Z |
| Aliph | nC23 | 26.6620 | 18194148 | | | Z |
| Aliph | nC24 | 27.7060 | 17245057 | | | Z |
| Aliph | nC25 | 28.7100 | 13164141 | | | Z |
| Aliph | nC26 | 29.6680 | 11637226 | | | Z |
| Aliph | nC27 | 30.6080 | 9619471 | | | Z |
| Aliph | nC28 | 31.5080 | 7699587 | | | Z |
| Aliph | nC29 | 32.3700 | 6894137 | | | Z |
| Aliph | nC30 | 33.2910 | 5378072 | | | Z |
| Aliph | nC31 | 34.3470 | 5442632 | | | Z |
| Aliph | nC32 | 35.5720 | 3913883 | | | Z |
| Aliph | nC33 | 37.0130 | 3620294 | | | Z |
| Aliph | nC34 | 38.7280 | 2038422 | | | Z |
| Aliph | nC35 | 40.8080 | 1649787 | | | Z |
| Aliph | nC36 | 43.3510 | 1199874 | | | Z |
| Aliph | nC37 | 46.4710 | 1599319 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 31607328 | | | Z |
| Aliph | Phytane | 20.7870 | 38877309 | | | Z |
| Aliph | Pristane | 19.3870 | 44602173 | | | Z |

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

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

Sample ID : **W13/007932**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:51:14 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

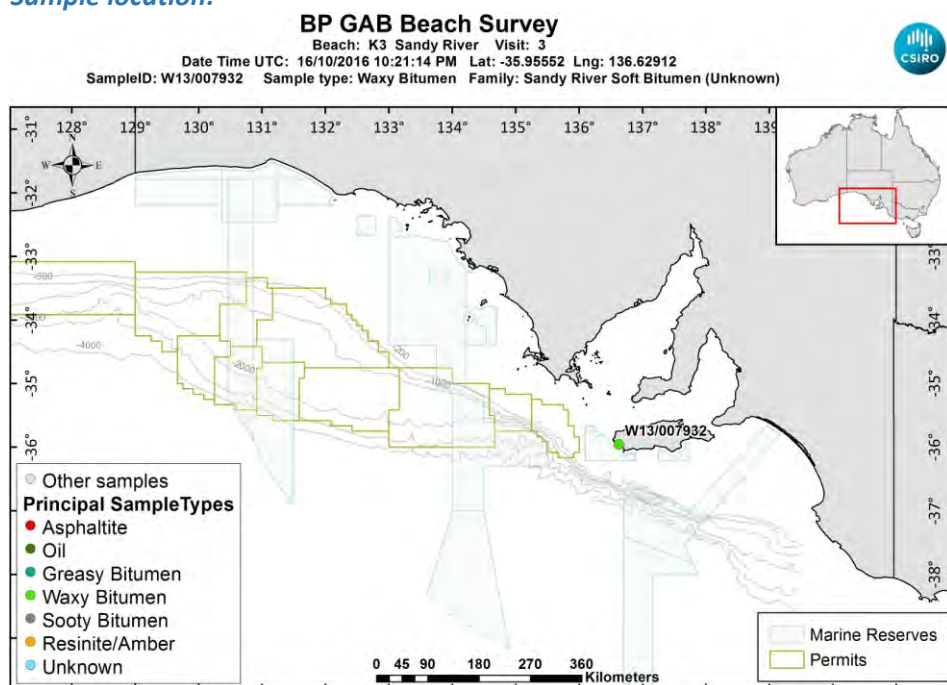
Size (cm): 6.3

Latitude (Y): -35.955520

Weight (gm): 26.0403

Longitude (X): 136.629117

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007932_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007932_146A6744.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007932_Photo02.JPG](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007932 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 Respse: | Value: | units: | Qualifier: |
|-----------|--------------------------------|---------------|----------------|----------------------|--------|------------|
| BiomRatio | % C27 aaa 20R | | | 35.71404856361 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 36.1491329573755 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 26.0503904079824 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 26.2331679371729 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 38.2355610284076 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 37.6176991054516 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.16390998845291 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0.228826600061883 | ratio | Y |
| BiomRatio | C19t/C23t | | | 0.232447222581579 | ratio | Y |
| BiomRatio | C22t/C21t | | | 0.633754447870552 | ratio | Y |
| BiomRatio | C22t/C24t | | | 0.336285998127625 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.230127066040681 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.522392312081282 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.372485075904812 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 0.553899666622928 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 8.57188976619146E-02 | ratio | Y |
| BiomRatio | C26t/C25t | | | 1.07075481807639 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.356816765089394 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.323101783667678 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 0.143697274511039 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 1.04062521083999 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.617240355092433 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 0.147782447138243 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 3.92123963645462E-02 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 0.058175072973746 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 5.27926378234575E-02 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 0.729368833626166 | ratio | Y |
| BiomRatio | Gam/C30H | | | 6.79675456557002E-02 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 0.319281082208458 | ratio | Y |
| BiomRatio | Ole/C30H | | | 0.904257516011891 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 0.230130412293058 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.176305051440909 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.305296759294443 | ratio | Y |

Results for: Elemental Analyser

Unique ID: W13/007932_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Solid Phase Extract

Analysis Date: 30/10/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

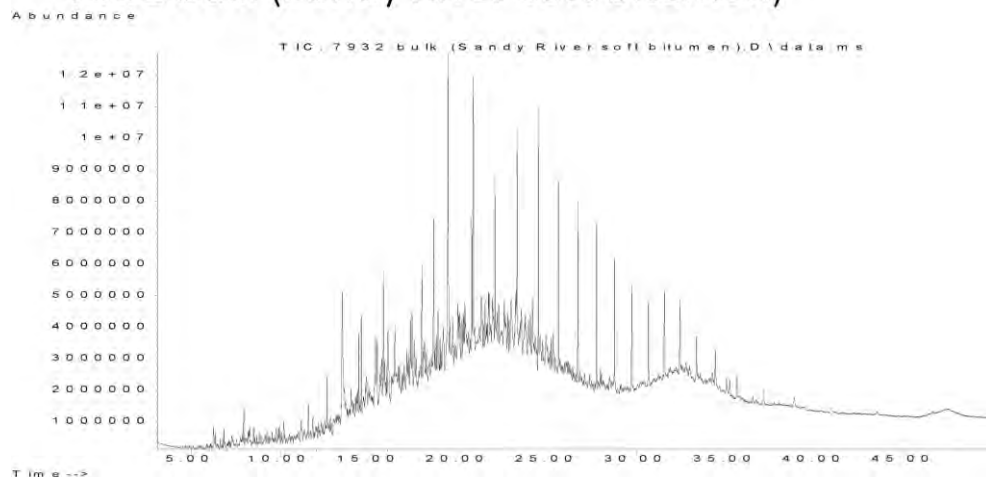
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 72.01 | percent | Y |
| Inorg | Hydrogen | | | 10.1543264413519 | percent | Y |
| Inorg | Nitrogen | | | 0.09 | percent | Y |
| Inorg | Sulphur | | | 3.06159888720872 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** W13/007932_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_007932_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7932 bulk (Sandy River soft bitumen)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retention Time: | Target Response: | 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 | 6388222 | | | Z |
| Aliph | nC15 | 16.4030 | 7495552 | | | Z |
| Aliph | nC16 | 17.9160 | 11451501 | | | Z |
| Aliph | nC17 | 19.3500 | 6926900 | | | Z |
| Aliph | nC18 | 20.7170 | 17389185 | | | Z |
| Aliph | nC19 | 22.0170 | 23321095 | | | Z |
| Aliph | nC20 | 23.2570 | 29316362 | | | Z |
| Aliph | nC21 | 24.4410 | 30144243 | | | Z |
| Aliph | nC22 | 25.5760 | 27029897 | | | Z |
| Aliph | nC23 | 26.6620 | 23616774 | | | Z |
| Aliph | nC24 | 27.7060 | 21430534 | | | Z |
| Aliph | nC25 | 28.7100 | 17989294 | | | Z |
| Aliph | nC26 | 29.6680 | 15436652 | | | Z |
| Aliph | nC27 | 30.6080 | 12458902 | | | Z |
| Aliph | nC28 | 31.5080 | 10722541 | | | Z |
| Aliph | nC29 | 32.3700 | 9592435 | | | Z |
| Aliph | nC30 | 33.2910 | 7577808 | | | Z |
| Aliph | nC31 | 34.3470 | 7311988 | | | Z |
| Aliph | nC32 | 35.5720 | 4941517 | | | Z |
| Aliph | nC33 | 37.0130 | 4450621 | | | Z |
| Aliph | nC34 | 38.7280 | 3004306 | | | Z |
| Aliph | nC35 | 40.8080 | 2053695 | | | Z |
| Aliph | nC36 | 43.3510 | 1529544 | | | Z |
| Aliph | nC37 | 46.4710 | 1555949 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 37643886 | | | Z |
| Aliph | Phytane | 20.7870 | 44666724 | | | Z |
| Aliph | Pristane | 19.3870 | 50009993 | | | Z |

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

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

Sample ID : **W13/007933**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. Tide line in photo

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:53:00 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

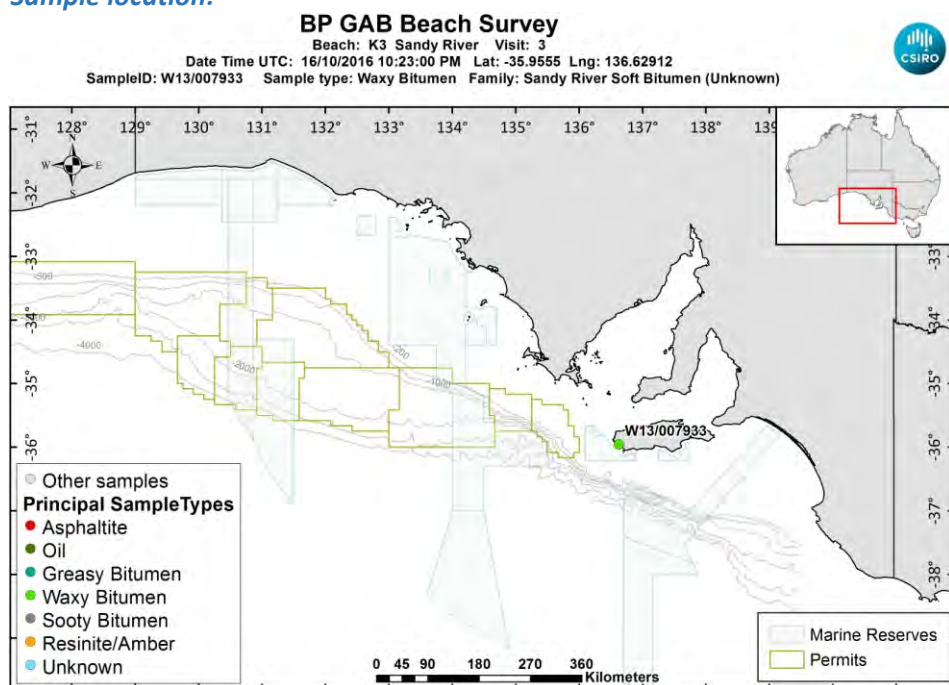
Size (cm): 2.7

Latitude (Y): -35.955505

Weight (gm): 1.30028

Longitude (X): 136.629123

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007933_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007933_146A6746.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007933_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: W13/007933_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 | | | 85.1 | percent | Y |
| Inorg | Hydrogen | | | 6.28291848906561 | percent | Y |
| Inorg | Nitrogen | | | 0.14 | percent | Y |
| Inorg | Sulphur | | | 1.91965160818137 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007933 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_007933_bulk_WholeOil.jpg](#)

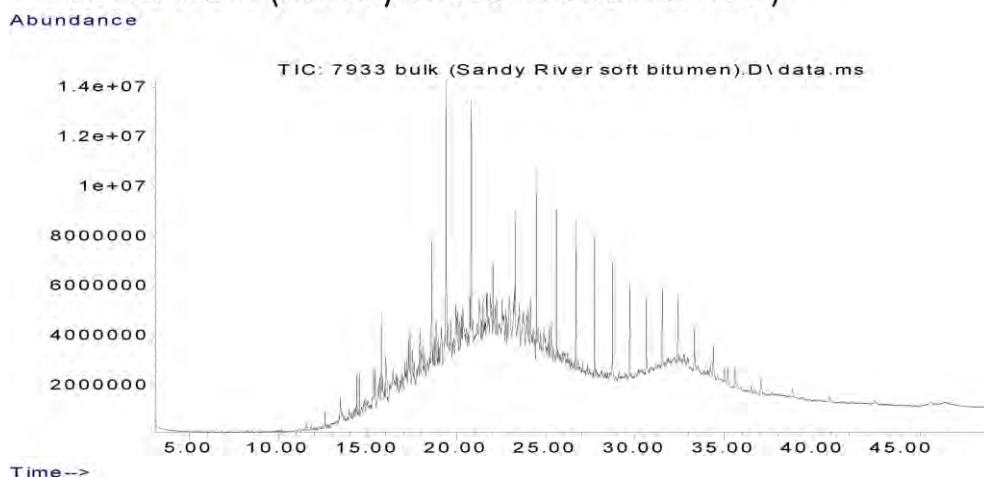
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7933 bulk (Sandy River soft bitumen)



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 | 3018923 | | | Z |
| Aliph | nC15 | 16.4030 | 2579060 | | | Z |
| Aliph | nC16 | 17.9160 | 4323803 | | | Z |
| Aliph | nC17 | 19.3500 | 13285212 | | | Z |
| Aliph | nC18 | 20.7170 | 7579335 | | | Z |
| Aliph | nC19 | 22.0170 | 13764628 | | | Z |
| Aliph | nC20 | 23.2570 | 23832996 | | | Z |
| Aliph | nC21 | 24.4410 | 27972108 | | | Z |
| Aliph | nC22 | 25.5760 | 26942529 | | | Z |
| Aliph | nC23 | 26.6620 | 24377994 | | | Z |
| Aliph | nC24 | 27.7060 | 23785548 | | | Z |
| Aliph | nC25 | 28.7100 | 20647692 | | | Z |
| Aliph | nC26 | 29.6680 | 17339419 | | | Z |
| Aliph | nC27 | 30.6080 | 13480784 | | | Z |
| Aliph | nC28 | 31.5080 | 11954584 | | | Z |
| Aliph | nC29 | 32.3700 | 10361071 | | | Z |
| Aliph | nC30 | 33.2910 | 8793638 | | | Z |
| Aliph | nC31 | 34.3470 | 8779070 | | | Z |
| Aliph | nC32 | 35.5720 | 6094898 | | | Z |
| Aliph | nC33 | 37.0130 | 5988037 | | | Z |
| Aliph | nC34 | 38.7280 | 3375978 | | | Z |
| Aliph | nC35 | 40.8080 | 2602461 | | | Z |
| Aliph | nC36 | 43.3510 | 2056246 | | | Z |
| Aliph | nC37 | 46.4710 | 1598751 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 39164179 | | | Z |
| Aliph | Phytane | 20.7870 | 52526192 | | | Z |
| Aliph | Pristane | 19.3870 | 50793590 | | | Z |

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

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

Sample ID : **W13/007934**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. Again on tide line

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:54:57 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

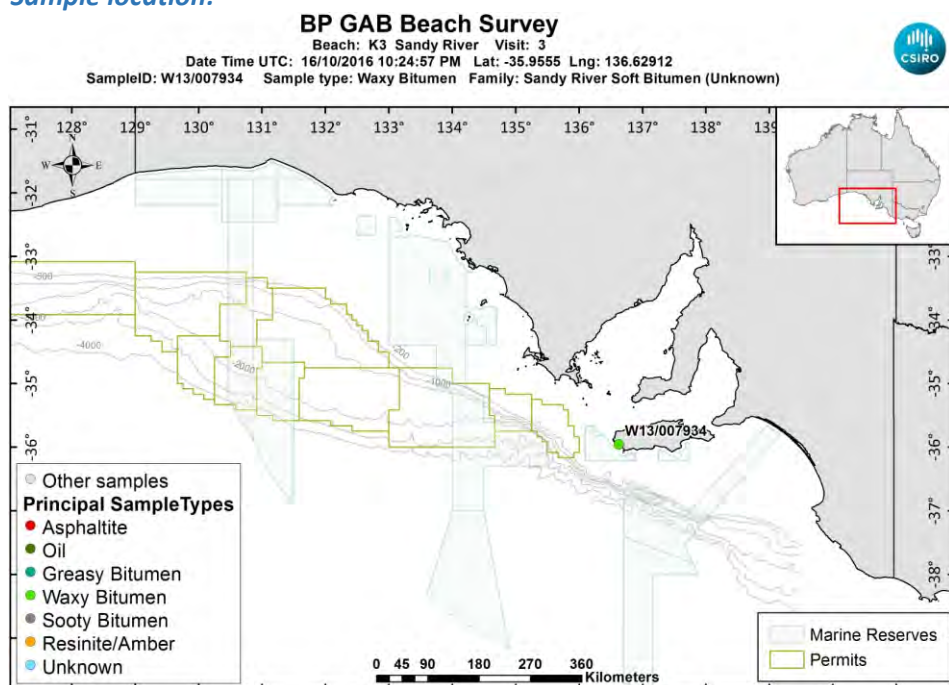
Size (cm): 2.5

Latitude (Y): -35.955498

Weight (gm): 1.07678

Longitude (X): 136.629123

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007934_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007934_146A6748.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007934_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: W13/007934_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-----------------|------------------|---------|------------|
| Inorg | Carbon | | | 84.17 | percent | Y |
| Inorg | Hydrogen | | | 10.7979343936382 | percent | Y |
| Inorg | Nitrogen | | | 0.1 | percent | Y |
| Inorg | Sulphur | | | 3.0362016922105 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007934 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_007934_bulk_WholeOil.jpg](#)

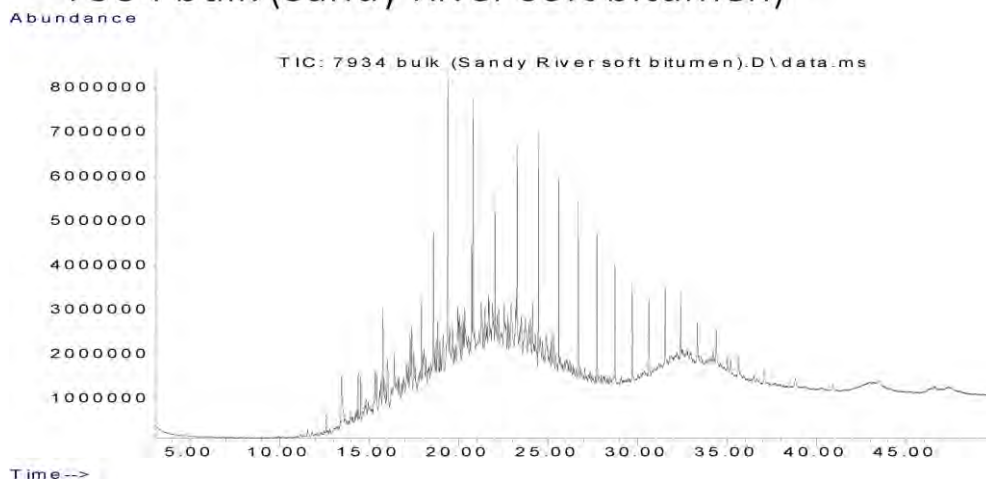
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7934 bulk (Sandy River soft 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 | 3057082 | | | Z |
| Aliph | nC15 | 16.4030 | 3538356 | | | Z |
| Aliph | nC16 | 17.9160 | 5955080 | | | Z |
| Aliph | nC17 | 19.3500 | 12681208 | | | Z |
| Aliph | nC18 | 20.7170 | 10165875 | | | Z |
| Aliph | nC19 | 22.0170 | 14678411 | | | Z |
| Aliph | nC20 | 23.2570 | 20374789 | | | Z |
| Aliph | nC21 | 24.4410 | 20117446 | | | Z |
| Aliph | nC22 | 25.5760 | 18187161 | | | Z |
| Aliph | nC23 | 26.6620 | 15412302 | | | Z |
| Aliph | nC24 | 27.7060 | 13292598 | | | Z |
| Aliph | nC25 | 28.7100 | 10747357 | | | Z |
| Aliph | nC26 | 29.6680 | 9386458 | | | Z |
| Aliph | nC27 | 30.6080 | 7902403 | | | Z |
| Aliph | nC28 | 31.5080 | 6717651 | | | Z |
| Aliph | nC29 | 32.3700 | 5709875 | | | Z |
| Aliph | nC30 | 33.2910 | 4783400 | | | Z |
| Aliph | nC31 | 34.3470 | 5392614 | | | Z |
| Aliph | nC32 | 35.5720 | 3572671 | | | Z |
| Aliph | nC33 | 37.0130 | 3063707 | | | Z |
| Aliph | nC34 | 38.7280 | 1913536 | | | Z |
| Aliph | nC35 | 40.8080 | 1551034 | | | Z |
| Aliph | nC36 | 43.3510 | 1654409 | | | Z |
| Aliph | nC37 | 46.4710 | 1449032 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 24082210 | | | Z |
| Aliph | Phytane | 20.7870 | 29635040 | | | Z |
| Aliph | Pristane | 19.3870 | 26127678 | | | Z |

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

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

Sample ID : **W13/007935**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. On tide line

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:57:09 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

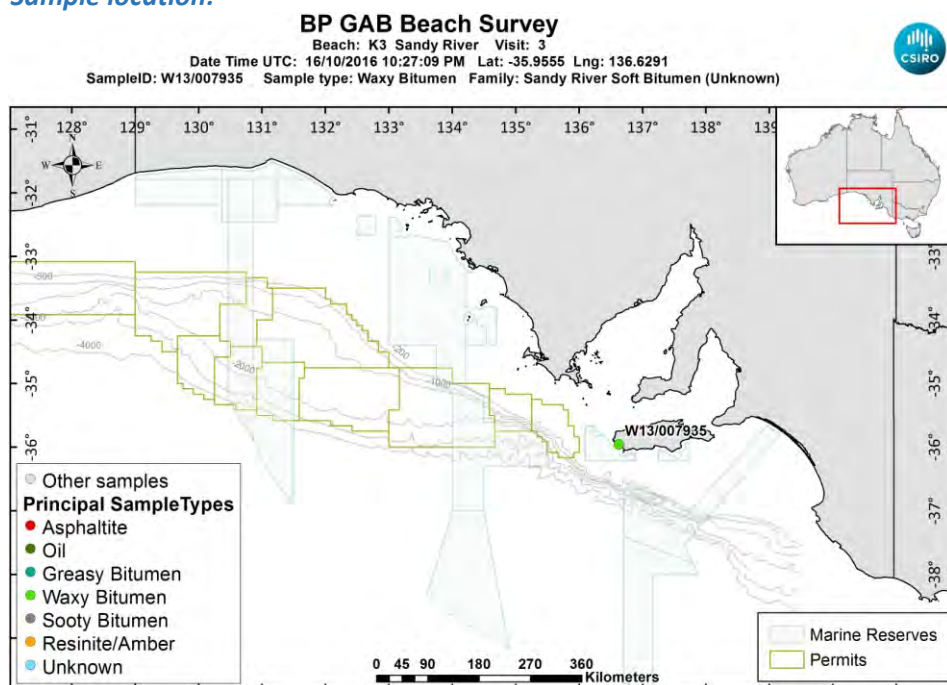
Size (cm): 1.7

Latitude (Y): -35.955497

Weight (gm): 0.26054

Longitude (X): 136.629095

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007935_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007935_146A6750.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007935_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: W13/007935_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 | | | 82.45 | percent | Y |
| Inorg | Hydrogen | | | 10.2585347912525 | percent | Y |
| Inorg | Nitrogen | | | 0.13 | percent | Y |
| Inorg | Sulphur | | | 3.71409706096087 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007935 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_007935_bulk_WholeOil.jpg](#)

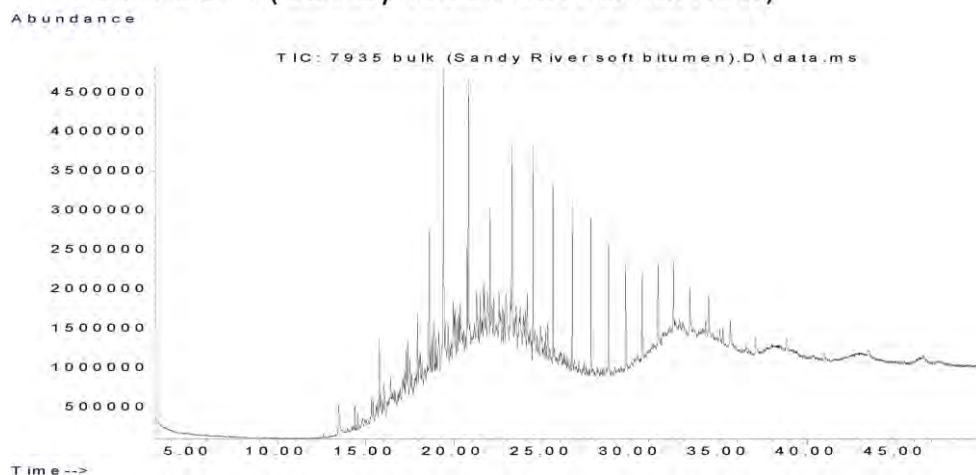
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7935 bulk (Sandy River soft bitumen)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retention Time: | Target Response: | 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 | 877266 | | | Z |
| Aliph | nC15 | 16.4030 | 1345556 | | | Z |
| Aliph | nC16 | 17.9160 | 2710102 | | | Z |
| Aliph | nC17 | 19.3500 | 6900640 | | | Z |
| Aliph | nC18 | 20.7170 | 4893813 | | | Z |
| Aliph | nC19 | 22.0170 | 7666939 | | | Z |
| Aliph | nC20 | 23.2570 | 10531314 | | | Z |
| Aliph | nC21 | 24.4410 | 10942450 | | | Z |
| Aliph | nC22 | 25.5760 | 9777787 | | | Z |
| Aliph | nC23 | 26.6620 | 8605015 | | | Z |
| Aliph | nC24 | 27.7060 | 7844025 | | | Z |
| Aliph | nC25 | 28.7100 | 7434946 | | | Z |
| Aliph | nC26 | 29.6680 | 5872370 | | | Z |
| Aliph | nC27 | 30.6080 | 4997147 | | | Z |
| Aliph | nC28 | 31.5080 | 4179384 | | | Z |
| Aliph | nC29 | 32.3700 | 3626842 | | | Z |
| Aliph | nC30 | 33.2910 | 3075656 | | | Z |
| Aliph | nC31 | 34.3470 | 3176847 | | | Z |
| Aliph | nC32 | 35.5720 | 2183124 | | | Z |
| Aliph | nC33 | 37.0130 | 2123883 | | | Z |
| Aliph | nC34 | 38.7280 | 1499102 | | | Z |
| Aliph | nC35 | 40.8080 | 1173603 | | | Z |
| Aliph | nC36 | 43.3510 | 1124413 | | | Z |
| Aliph | nC37 | 46.4710 | 904383 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 14476251 | | | Z |
| Aliph | Phytane | 20.7870 | 18378751 | | | Z |
| Aliph | Pristane | 19.3870 | 19832363 | | | Z |

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

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

Sample ID : **W13/007936A**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. Tide line. 3 pieces. Part A

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:59:11 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

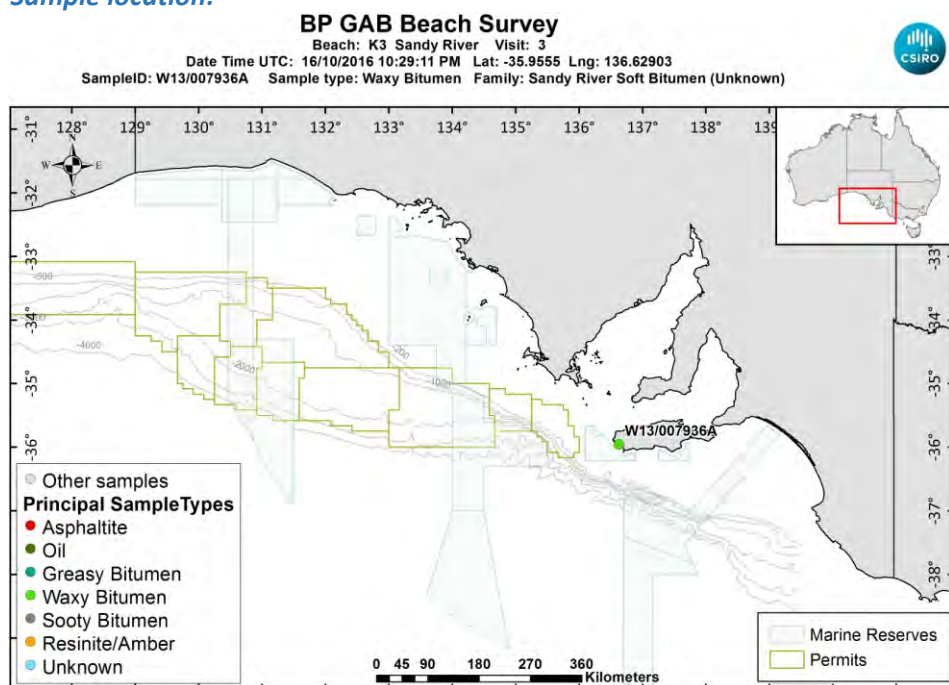
Size (cm): 1.5

Latitude (Y): -35.955502

Weight (gm): 0.48534

Longitude (X): 136.629032

Sample location:



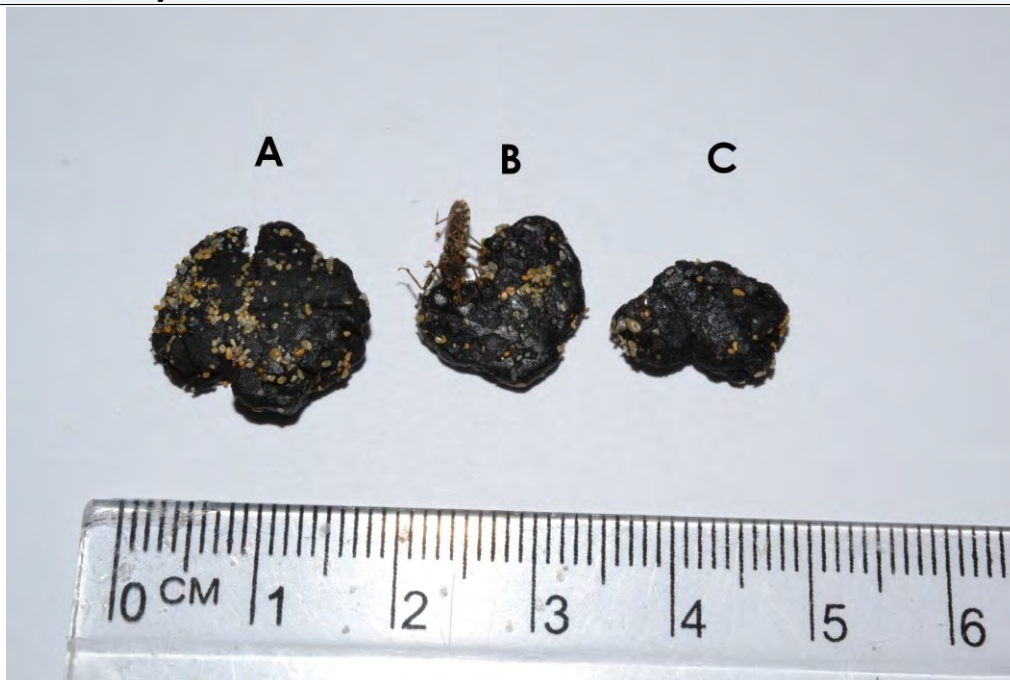
[LinkedFiles\GAB_BCH1\SampleLocations\W13_007936A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007936_146A6752.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007936_ABC_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: W13/007936A_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-----------------|------------------|---------|------------|
| Inorg | Carbon | | | 84.54 | percent | Y |
| Inorg | Hydrogen | | | 11.1460723658052 | percent | Y |
| Inorg | Nitrogen | | | 0.11 | percent | Y |
| Inorg | Sulphur | | | 3.02121570576082 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007936A 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_007936A_bulk_WholeOil.jpg](#)

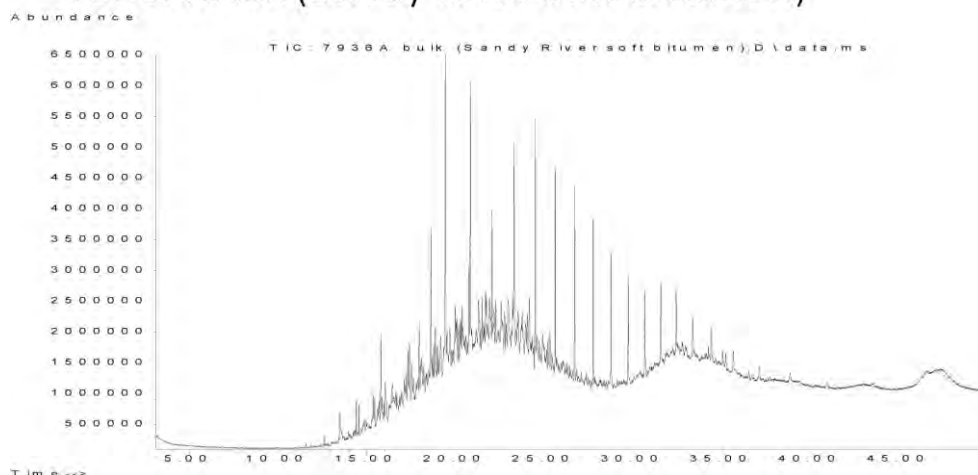
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7936A bulk (Sandy River soft 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 | 1420978 | | | Z |
| Aliph | nC15 | 16.4030 | 1618549 | | | Z |
| Aliph | nC16 | 17.9160 | 3122040 | | | Z |
| Aliph | nC17 | 19.3500 | 8115771 | | | Z |
| Aliph | nC18 | 20.7170 | 5734745 | | | Z |
| Aliph | nC19 | 22.0170 | 9315627 | | | Z |
| Aliph | nC20 | 23.2570 | 14235670 | | | Z |
| Aliph | nC21 | 24.4410 | 15374125 | | | Z |
| Aliph | nC22 | 25.5760 | 14285519 | | | Z |
| Aliph | nC23 | 26.6620 | 12573269 | | | Z |
| Aliph | nC24 | 27.7060 | 11688276 | | | Z |
| Aliph | nC25 | 28.7100 | 9942533 | | | Z |
| Aliph | nC26 | 29.6680 | 7854433 | | | Z |
| Aliph | nC27 | 30.6080 | 6503931 | | | Z |
| Aliph | nC28 | 31.5080 | 4931563 | | | Z |
| Aliph | nC29 | 32.3700 | 4062707 | | | Z |
| Aliph | nC30 | 33.2910 | 3487393 | | | Z |
| Aliph | nC31 | 34.3470 | 3397011 | | | Z |
| Aliph | nC32 | 35.5720 | 2485553 | | | Z |
| Aliph | nC33 | 37.0130 | 2277060 | | | Z |
| Aliph | nC34 | 38.7280 | 1363822 | | | Z |
| Aliph | nC35 | 40.8080 | 998896 | | | Z |
| Aliph | nC36 | 43.3510 | 856483 | | | Z |
| Aliph | nC37 | 46.4710 | | | | U |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 19729573 | | | Z |
| Aliph | Phytane | 20.7870 | 22915050 | | | Z |
| Aliph | Pristane | 19.3870 | 25552415 | | | Z |

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

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

Sample ID : **W13/007936B**

Beach K3: Sandy River Visit: 3

Comments:

Part B subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:59:11 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

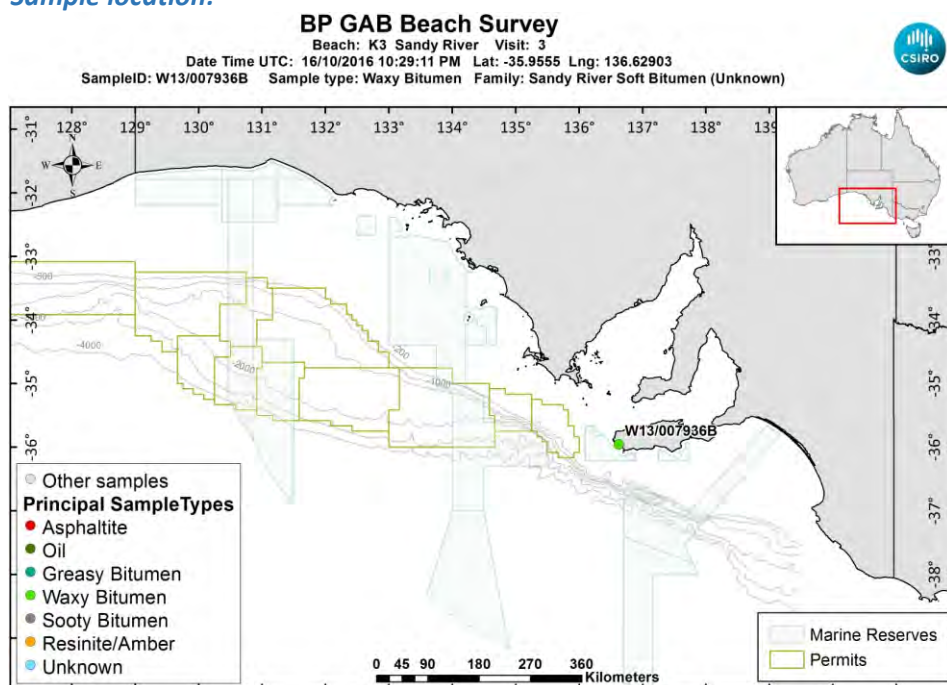
Size (cm): 1.2

Latitude (Y): -35.955502

Weight (gm): 0.24162

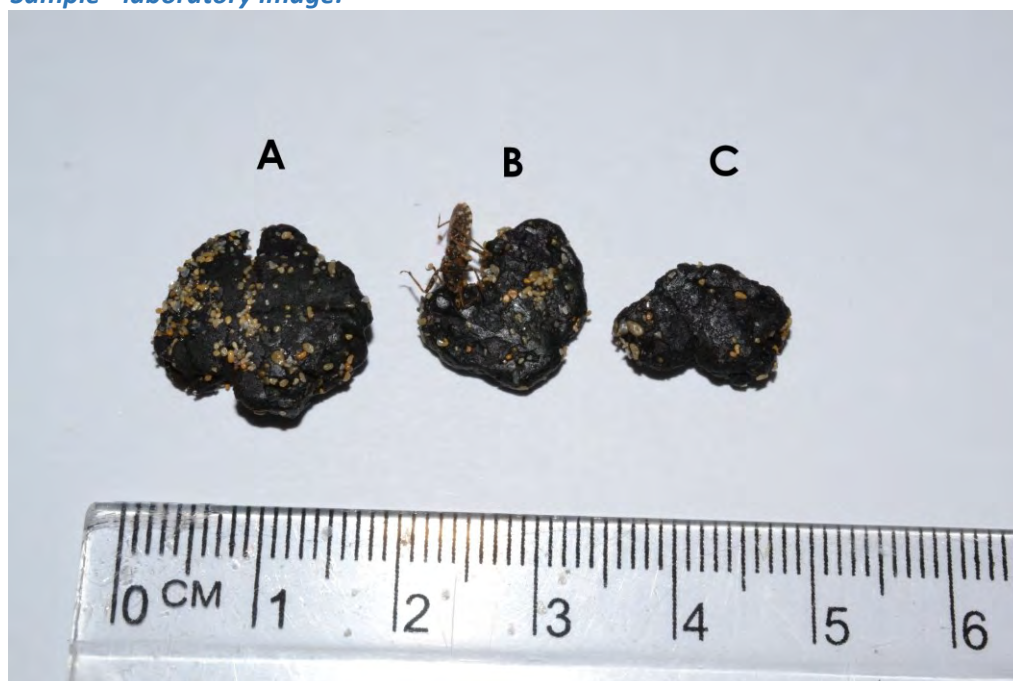
Longitude (X): 136.629032

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007936B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007936_ABC_Photo02.jpg](#)

Sample ID : W13/007936B

Beach K3: Sandy River Visit: 3

Analyses Requested

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:

Results for: GCMS with Full Scan

Unique ID: W13/007936B_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_007936B_bulk_WholeOil.jpg](#)

Sample Volume:

Volume Units:

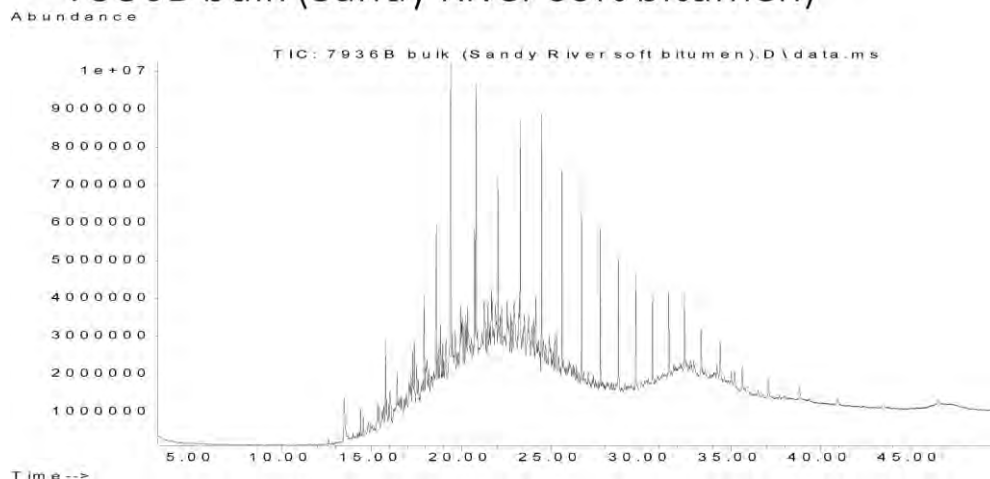
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7936B bulk (Sandy River soft 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 | 2271430 | | | Z |
| Aliph | nC15 | 16.4030 | 4044596 | | | Z |
| Aliph | nC16 | 17.9160 | 8397940 | | | Z |
| Aliph | nC17 | 19.3500 | 17209624 | | | Z |
| Aliph | nC18 | 20.7170 | 14768394 | | | Z |
| Aliph | nC19 | 22.0170 | 21206636 | | | Z |
| Aliph | nC20 | 23.2570 | 27304987 | | | Z |
| Aliph | nC21 | 24.4410 | 26119555 | | | Z |
| Aliph | nC22 | 25.5760 | 23325531 | | | Z |
| Aliph | nC23 | 26.6620 | 20436536 | | | Z |
| Aliph | nC24 | 27.7060 | 18874089 | | | Z |
| Aliph | nC25 | 28.7100 | 15554071 | | | Z |
| Aliph | nC26 | 29.6680 | 12477610 | | | Z |
| Aliph | nC27 | 30.6080 | 10542850 | | | Z |
| Aliph | nC28 | 31.5080 | 8622281 | | | Z |
| Aliph | nC29 | 32.3700 | 8056314 | | | Z |
| Aliph | nC30 | 33.2910 | 6588553 | | | Z |
| Aliph | nC31 | 34.3470 | 6575509 | | | Z |
| Aliph | nC32 | 35.5720 | 4743953 | | | Z |
| Aliph | nC33 | 37.0130 | 4523516 | | | Z |
| Aliph | nC34 | 38.7280 | 2961902 | | | Z |
| Aliph | nC35 | 40.8080 | 2113451 | | | Z |
| Aliph | nC36 | 43.3510 | 1578252 | | | Z |
| Aliph | nC37 | 46.4710 | 1620923 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 30379710 | | | Z |
| Aliph | Phytane | 20.7870 | 37632537 | | | Z |
| Aliph | Pristane | 19.3870 | 40294649 | | | Z |

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

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

Sample ID : W13/007936C

Beach K3: Sandy River Visit: 3

Comments:

Part C subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 8:59:11 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

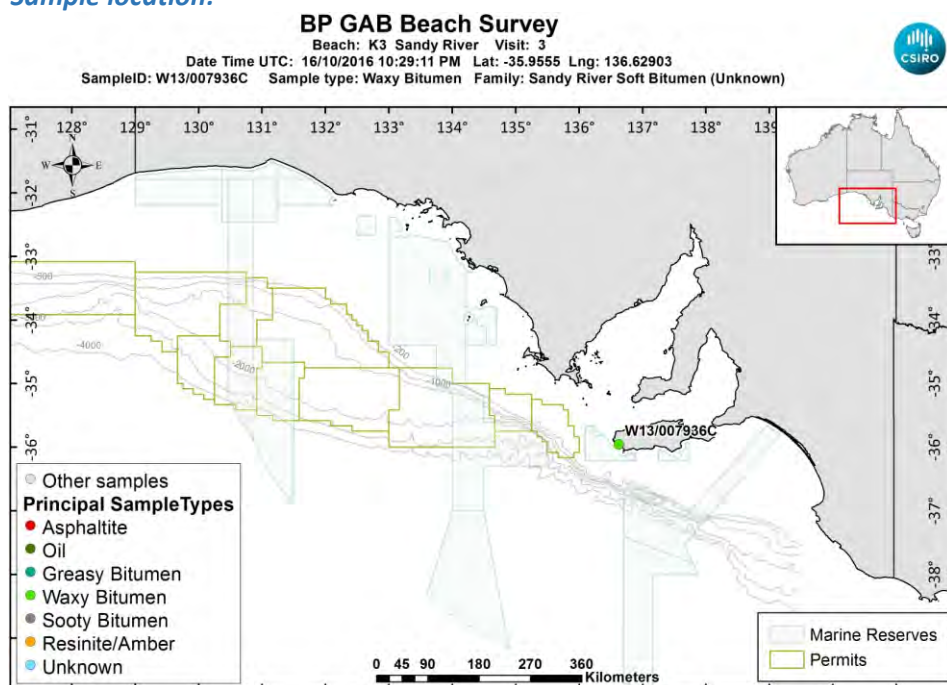
Size (cm): 1.2

Latitude (Y): -35.955502

Weight (gm): 0.24075

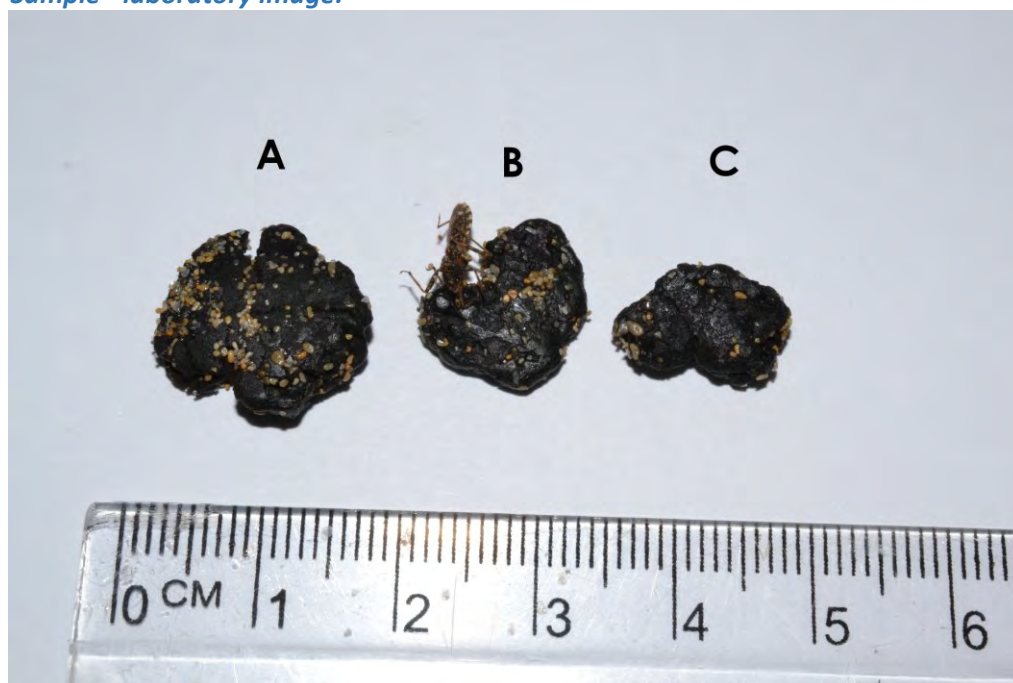
Longitude (X): 136.629032

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007936C_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007936_ABC_Photo02.jpg](#)

Sample ID : W13/007936C

Beach K3: Sandy River Visit: 3

Analyses Requested

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:

Results for: GCMS with Full Scan

Unique ID: W13/007936C_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_007936C_bulk_WholeOil.jpg](#)

Sample Volume:

Volume Units:

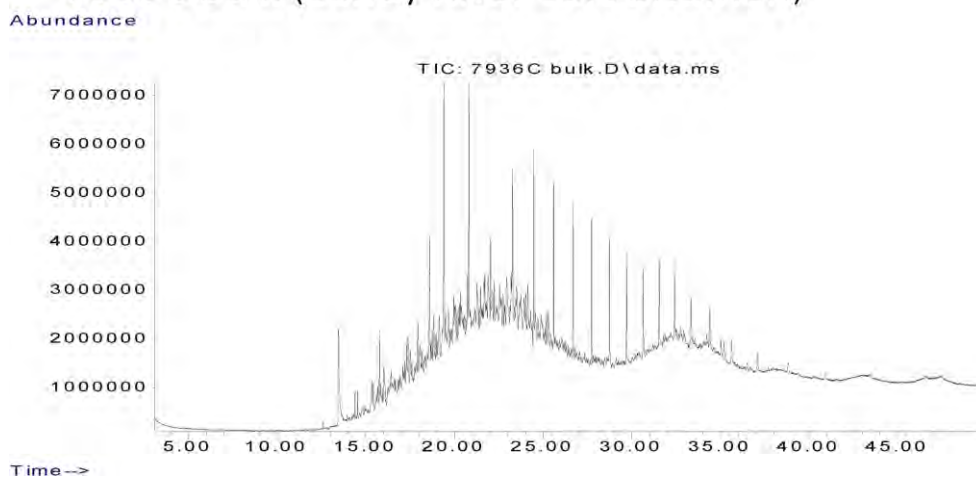
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7936C bulk (Sandy River soft bitumen)



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 | 1251985 | | | Z |
| Aliph | nC15 | 16.4030 | 1590909 | | | Z |
| Aliph | nC16 | 17.9160 | 2847647 | | | Z |
| Aliph | nC17 | 19.3500 | 7925559 | | | Z |
| Aliph | nC18 | 20.7170 | 4920611 | | | Z |
| Aliph | nC19 | 22.0170 | 7858925 | | | Z |
| Aliph | nC20 | 23.2570 | 12811365 | | | Z |
| Aliph | nC21 | 24.4410 | 15010715 | | | Z |
| Aliph | nC22 | 25.5760 | 15037910 | | | Z |
| Aliph | nC23 | 26.6620 | 13093973 | | | Z |
| Aliph | nC24 | 27.7060 | 12839791 | | | Z |
| Aliph | nC25 | 28.7100 | 10770133 | | | Z |
| Aliph | nC26 | 29.6680 | 9903340 | | | Z |
| Aliph | nC27 | 30.6080 | 8261379 | | | Z |
| Aliph | nC28 | 31.5080 | 6988297 | | | Z |
| Aliph | nC29 | 32.3700 | 6442465 | | | Z |
| Aliph | nC30 | 33.2910 | 5229531 | | | Z |
| Aliph | nC31 | 34.3470 | 5155803 | | | Z |
| Aliph | nC32 | 35.5720 | 3366209 | | | Z |
| Aliph | nC33 | 37.0130 | 3222380 | | | Z |
| Aliph | nC34 | 38.7280 | 1834649 | | | Z |
| Aliph | nC35 | 40.8080 | 1460283 | | | Z |
| Aliph | nC36 | 43.3510 | 1049966 | | | Z |
| Aliph | nC37 | 46.4710 | 1149603 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 19326451 | | | Z |
| Aliph | Phytane | 20.7870 | 26972151 | | | Z |
| Aliph | Pristane | 19.3870 | 25813713 | | | Z |

Results for: GCMS with Full Scan

Qualifier codes:

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

Sample ID : **W13/007937A**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. On strand tide line. 1 large (this sample) and 2 small pieces. Part A

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:00:26 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

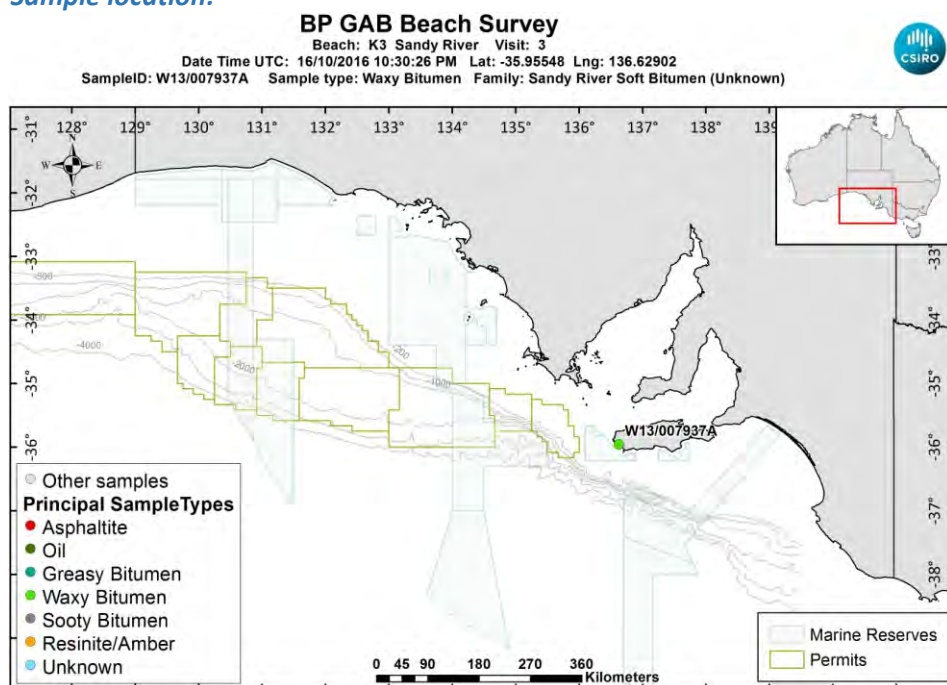
Size (cm): 4.4

Latitude (Y): -35.955483

Weight (gm): 4.80644

Longitude (X): 136.629022

Sample location:



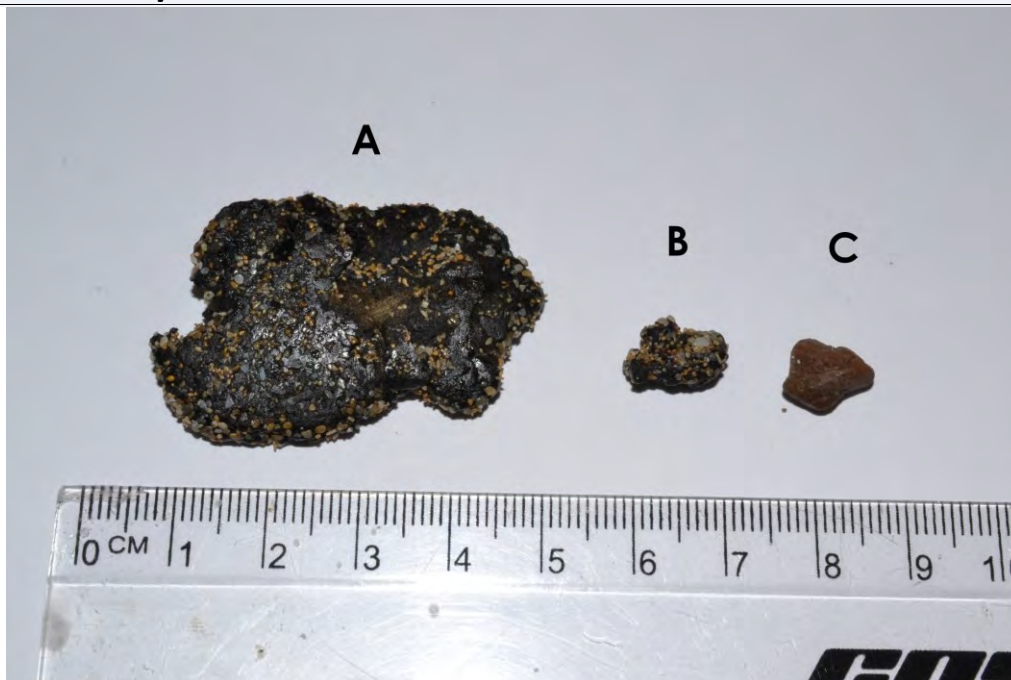
[LinkedFiles\GAB_BCH1\SampleLocations\W13_007937A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007937_146A6754.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007937_ABC_Photo02.jpg](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007937A 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: 7937A Bulk Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respnse: | Value: | units: | Qualifier: |
|-----------|--------------------------------|---------------|-----------------|----------------------|--------|------------|
| BiomRatio | % C27 aaa 20R | | | 43.3628309589896 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 36.7132978397895 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 22.4306118072488 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 27.875499569276 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 34.2065572337617 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 35.4112025909346 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.275423356937116 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0.216662835415963 | ratio | Y |
| BiomRatio | C19t/C23t | | | 4.41691695725974E-02 | ratio | Y |
| BiomRatio | C22t/C21t | | | 0.532570292438713 | ratio | Y |
| BiomRatio | C22t/C24t | | | 0.279326066827709 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.402806836840315 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.484016917074503 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.331166476780937 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 0.524521341737998 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 0.133396120979681 | ratio | Y |
| BiomRatio | C26t/C25t | | | 1.00745332551333 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.393629094746413 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.381399427830523 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 0.126277078648316 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 0.964533416351289 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.594879654453064 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 0.169589393207228 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 3.42949477432753E-02 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 4.49193778521123E-02 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 5.00734944298235E-02 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 0.704665777351648 | ratio | Y |
| BiomRatio | Gam/C30H | | | 6.70402755950275E-02 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 0.350795719916474 | ratio | Y |
| BiomRatio | Ole/C30H | | | 0.84000744289813 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 0.274273936389138 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.191034041218075 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.43573331035823 | ratio | Y |

Results for: Elemental Analyser

Unique ID: W13/007937A_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:**

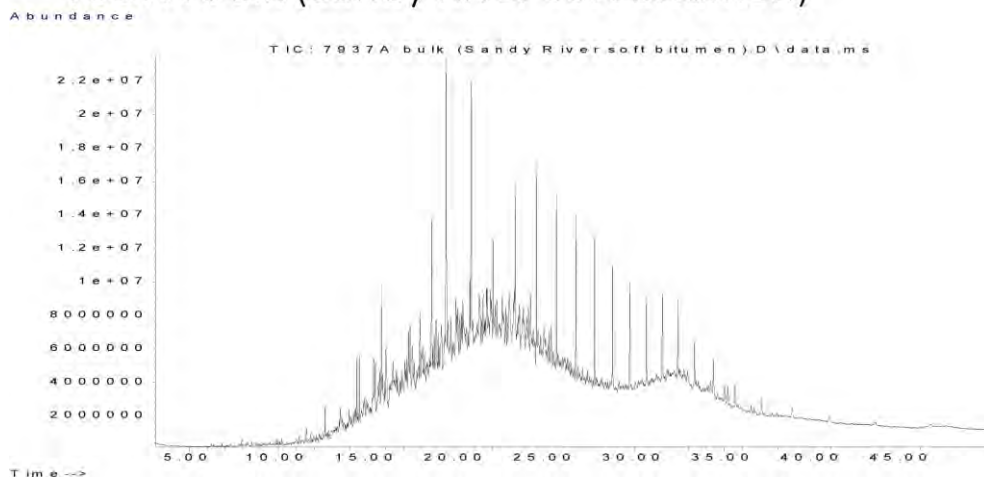
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 85.87 | percent | Y |
| Inorg | Hydrogen | | | 8.7437717693837 | percent | Y |
| Inorg | Nitrogen | | | 0.12 | percent | Y |
| Inorg | Sulphur | | | 2.55330749850728 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** W13/007937A_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_007937A_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7937A bulk (Sandy River soft 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 | 6567919 | | | Z |
| Aliph | nC15 | 16.4030 | 6369299 | | | Z |
| Aliph | nC16 | 17.9160 | 10460545 | | | Z |
| Aliph | nC17 | 19.3500 | 23974894 | | | Z |
| Aliph | nC18 | 20.7170 | 16605619 | | | Z |
| Aliph | nC19 | 22.0170 | 27270666 | | | Z |
| Aliph | nC20 | 23.2570 | 40114894 | | | Z |
| Aliph | nC21 | 24.4410 | 47182481 | | | Z |
| Aliph | nC22 | 25.5760 | 43916588 | | | Z |
| Aliph | nC23 | 26.6620 | 39402728 | | | Z |
| Aliph | nC24 | 27.7060 | 36564470 | | | Z |
| Aliph | nC25 | 28.7100 | 29002360 | | | Z |
| Aliph | nC26 | 29.6680 | 27030733 | | | Z |
| Aliph | nC27 | 30.6080 | 22557793 | | | Z |
| Aliph | nC28 | 31.5080 | 19144704 | | | Z |
| Aliph | nC29 | 32.3700 | 16648050 | | | Z |
| Aliph | nC30 | 33.2910 | 13746964 | | | Z |
| Aliph | nC31 | 34.3470 | 13122569 | | | Z |
| Aliph | nC32 | 35.5720 | 9163984 | | | Z |
| Aliph | nC33 | 37.0130 | 8463267 | | | Z |
| Aliph | nC34 | 38.7280 | 5011137 | | | Z |
| Aliph | nC35 | 40.8080 | 4675938 | | | Z |
| Aliph | nC36 | 43.3510 | 2650782 | | | Z |
| Aliph | nC37 | 46.4710 | 2354161 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 72799547 | | | Z |
| Aliph | Phytane | 20.7870 | 87130681 | | | Z |
| Aliph | Pristane | 19.3870 | 83233299 | | | Z |

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

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

Sample ID : **W13/007937B**

Beach K3: Sandy River Visit: 3

Comments:

Part B subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:00:26 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

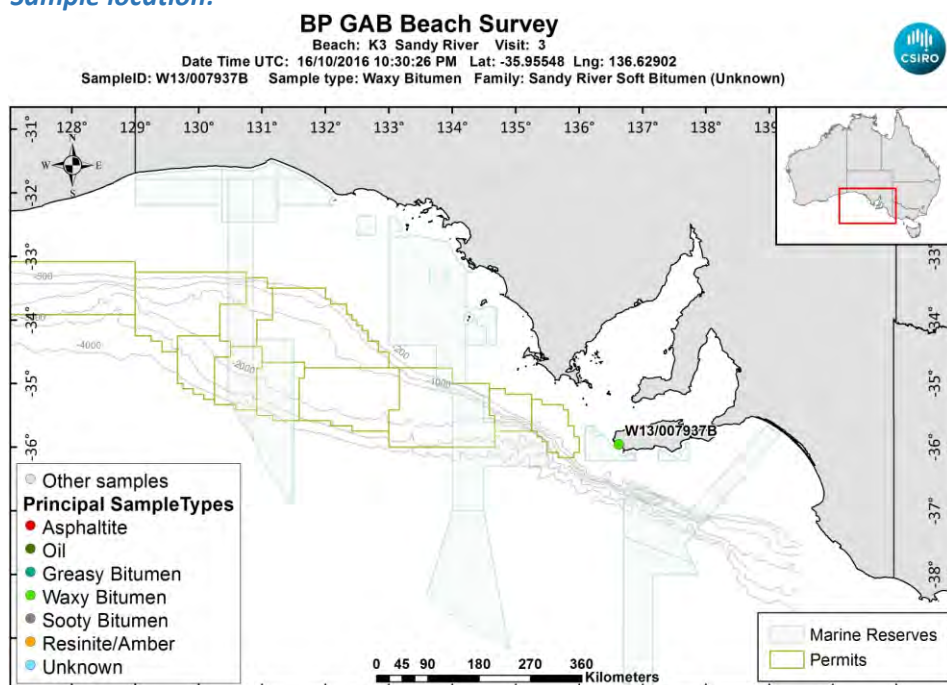
Size (cm): 1.1

Latitude (Y): -35.955483

Weight (gm): 0.22079

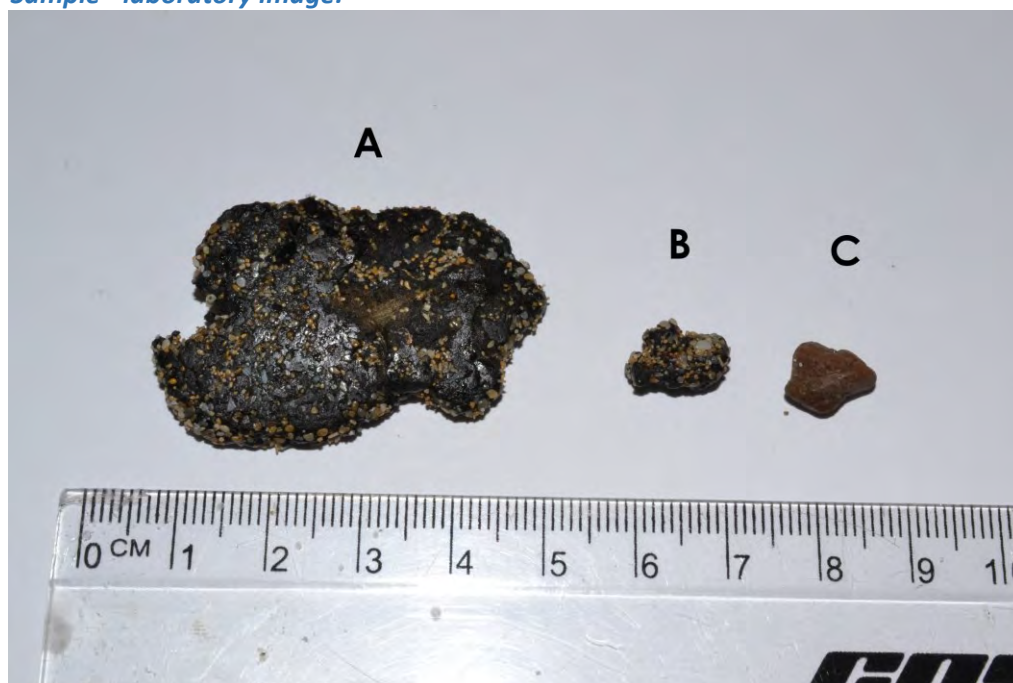
Longitude (X): 136.629022

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007937B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007937_ABC_Photo02.jpg](#)

Sample ID : W13/007937B

Beach K3: Sandy River 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: W13/007937B 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 | | | 38.469467195389 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 36.4193192899764 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 26.6273008299605 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 25.4750843979741 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 34.9032319746505 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 38.1055963120496 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.157497938102996 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0.233320747623053 | ratio | Y |
| BiomRatio | C19t/C23t | | | 0.274876852434367 | ratio | Y |
| BiomRatio | C22t/C21t | | | 0.623240926959221 | ratio | Y |
| BiomRatio | C22t/C24t | | | 0.372363969330396 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.228858993844154 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.52646421824681 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.387925491045751 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 0.594346049500397 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 0.08878023756723 | ratio | Y |
| BiomRatio | C26t/C25t | | | 1.13744683109537 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.327957086449037 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.270400118298282 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 0.114592493818664 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 1.04630171719155 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.63089357746425 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 0.149420099736724 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 4.08959910529938E-02 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 6.29221788891438E-02 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 5.31858720164187E-02 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 0.733716014428112 | ratio | Y |
| BiomRatio | Gam/C30H | | | 6.51286610078764E-02 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 0.308199736890712 | ratio | Y |
| BiomRatio | Ole/C30H | | | 0.875144974637404 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 0.224040116045809 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.171307070816892 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.307827604415009 | ratio | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007937B 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_007937B_bulk_WholeOil.jpg](#)

Sample Volume:

Volume Units:

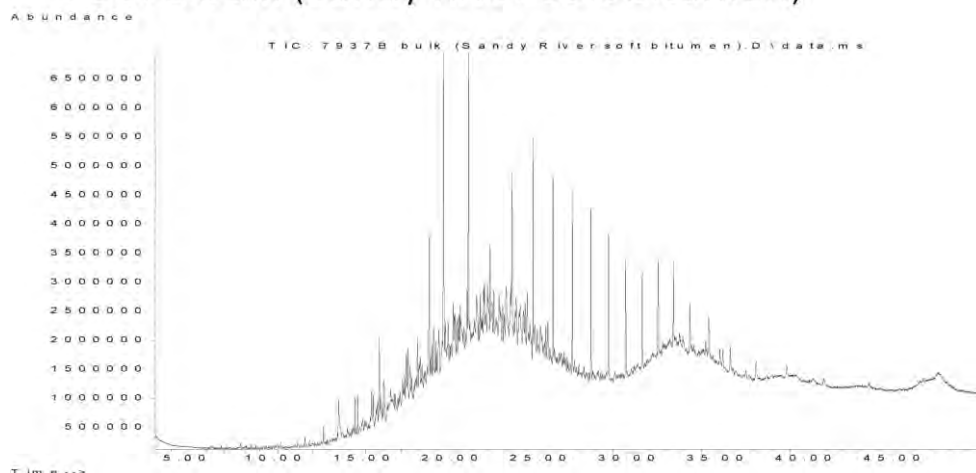
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7937B bulk (Sandy River soft bitumen)



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 | 1187199 | | | Z |
| Aliph | nC15 | 16.4030 | 1141513 | | | Z |
| Aliph | nC16 | 17.9160 | 2008495 | | | Z |
| Aliph | nC17 | 19.3500 | 6731072 | | | Z |
| Aliph | nC18 | 20.7170 | 4062393 | | | Z |
| Aliph | nC19 | 22.0170 | 7098152 | | | Z |
| Aliph | nC20 | 23.2570 | 12586850 | | | Z |
| Aliph | nC21 | 24.4410 | 14713879 | | | Z |
| Aliph | nC22 | 25.5760 | 14228545 | | | Z |
| Aliph | nC23 | 26.6620 | 12528406 | | | Z |
| Aliph | nC24 | 27.7060 | 11991035 | | | Z |
| Aliph | nC25 | 28.7100 | 10640412 | | | Z |
| Aliph | nC26 | 29.6680 | 9094931 | | | Z |
| Aliph | nC27 | 30.6080 | 7572552 | | | Z |
| Aliph | nC28 | 31.5080 | 6361793 | | | Z |
| Aliph | nC29 | 32.3700 | 5496175 | | | Z |
| Aliph | nC30 | 33.2910 | 4181813 | | | Z |
| Aliph | nC31 | 34.3470 | 4345396 | | | Z |
| Aliph | nC32 | 35.5720 | 2804363 | | | Z |
| Aliph | nC33 | 37.0130 | 2522620 | | | Z |
| Aliph | nC34 | 38.7280 | 2080540 | | | Z |
| Aliph | nC35 | 40.8080 | 1356193 | | | Z |
| Aliph | nC36 | 43.3510 | 1242266 | | | Z |
| Aliph | nC37 | 46.4710 | 889701 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 18548483 | | | Z |
| Aliph | Phytane | 20.7870 | 26448317 | | | Z |
| Aliph | Pristane | 19.3870 | 25407981 | | | Z |

Results for: GCMS with Full Scan

Qualifier codes:

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

Sample ID : **W13/007937C**

Beach K3: Sandy River Visit: 3

Comments:

Part C subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:00:26 AM

Type: Unknown

Family: Not bitumen (false sample)

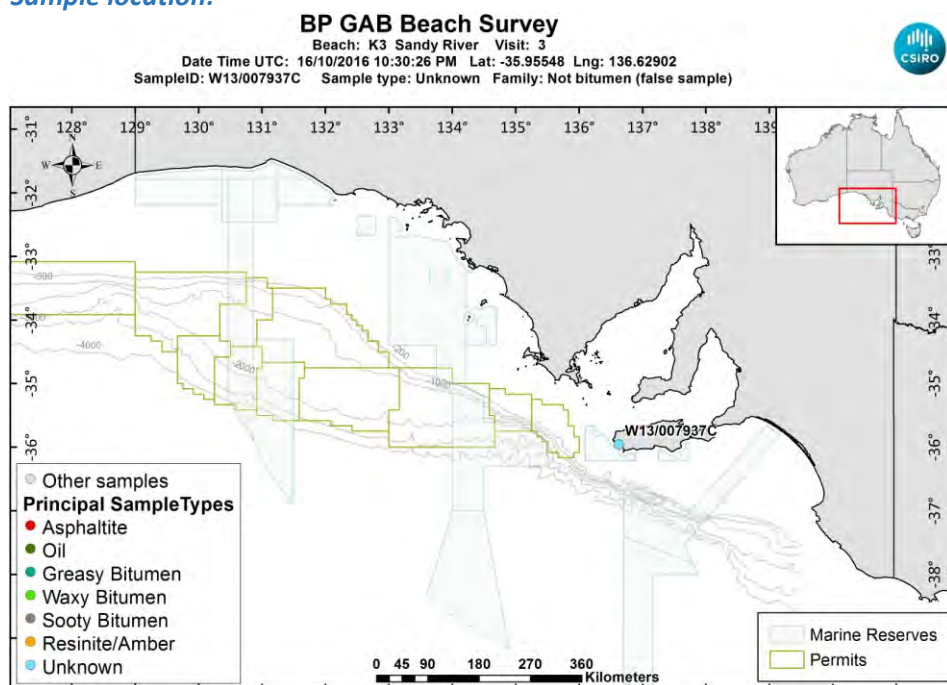
Size (cm): 1

Latitude (Y): -35.955483

Weight (gm): 0.11277

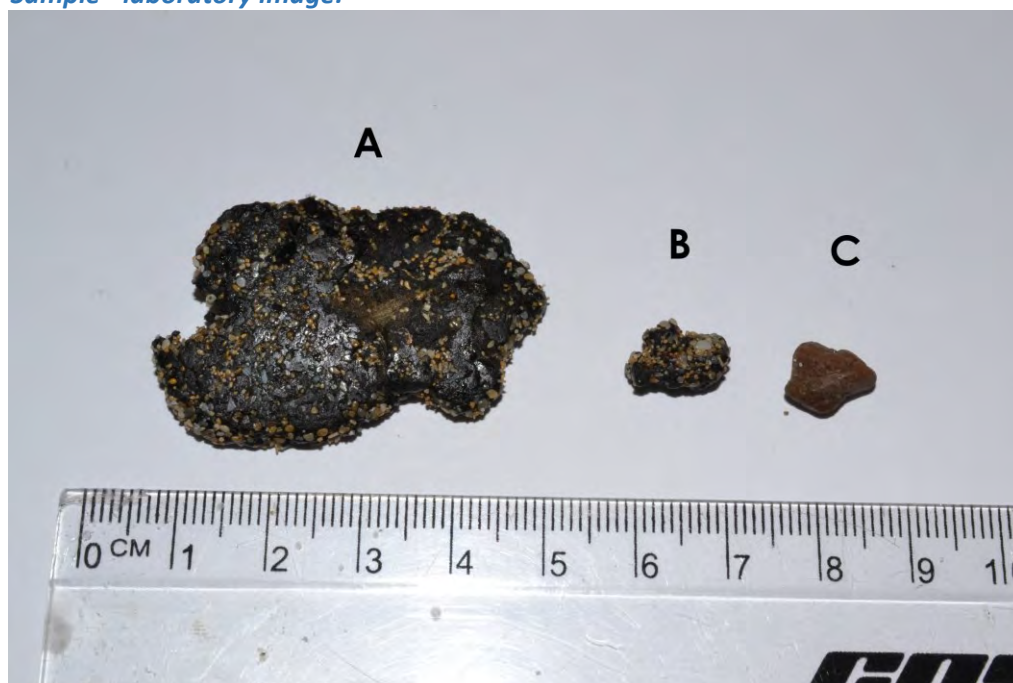
Longitude (X): 136.629022

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007937C_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007937_ABC_Photo02.jpg](#)

Sample ID : W13/007937C

Beach K3: Sandy River 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: W13/007937C_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:

| | |
|----------|--|
| 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 : **W13/007938**

Beach K3: Sandy River Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 17/10/2016 9:03:33 AM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

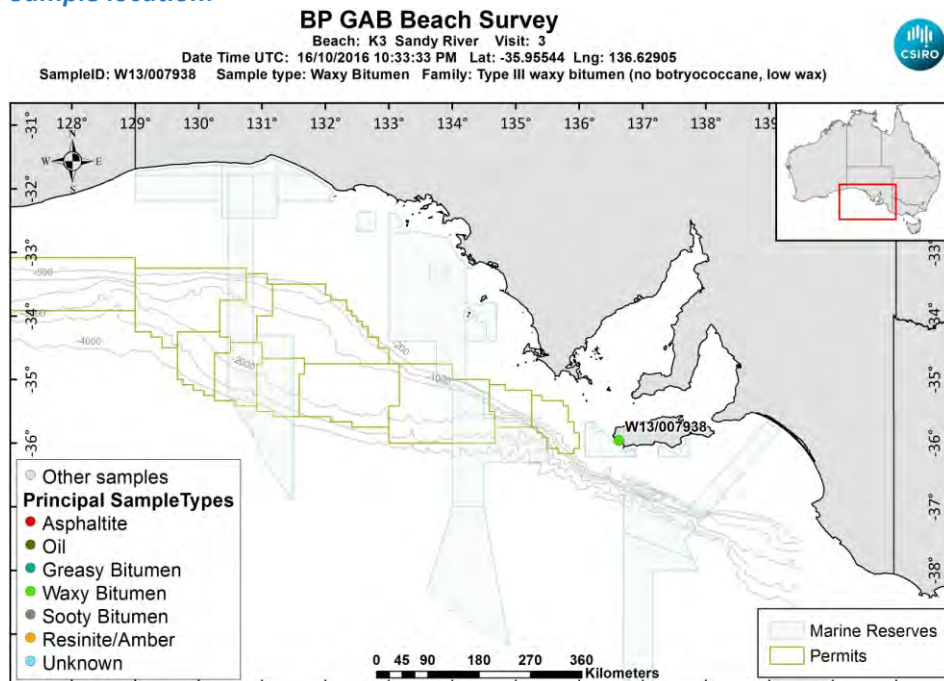
Size (cm): 5.7

Latitude (Y): -35.955443

Weight (gm): 32.66606

Longitude (X): 136.629052

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007938_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007938_146A6756.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007938_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: W13/007938_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 | | | 28.9819356382342 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 37.5310203416789 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 21.7442277784424 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 24.7721981085975 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 49.2738365833234 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 37.6967815497236 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.132338622114812 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0.096204505648062 | ratio | Y |
| BiomRatio | C19t/C23t | | | 0.19360336462471 | ratio | Y |
| BiomRatio | C22t/C21t | | | 0.319291460561319 | ratio | Y |
| BiomRatio | C22t/C24t | | | 0.314589473684211 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.120961380040716 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.652858144233544 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.527000838407301 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 0.703780182263704 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 6.37467486963613E-02 | ratio | Y |
| BiomRatio | C26t/C25t | | | 1.92330638613337 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.624029499508959 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.828523630280217 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 5.70583526395723E-02 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 1.00441664539188 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.460592412668883 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 0.38869452875298 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 0.319307319579145 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 0 | ratio | U |
| BiomRatio | C35 Homohopane Index | | | 4.53762881161351E-02 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 0.529074677283146 | ratio | Y |
| BiomRatio | Gam/C30H | | | 0.129470256754274 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 0.852173246957892 | ratio | Y |
| BiomRatio | Ole/C30H | | | 0.182426293393318 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 4.54626789798529E-02 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.038482449476506 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.181387349254065 | ratio | Y |

Results for: Elemental Analyser

Unique ID: W13/007938_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

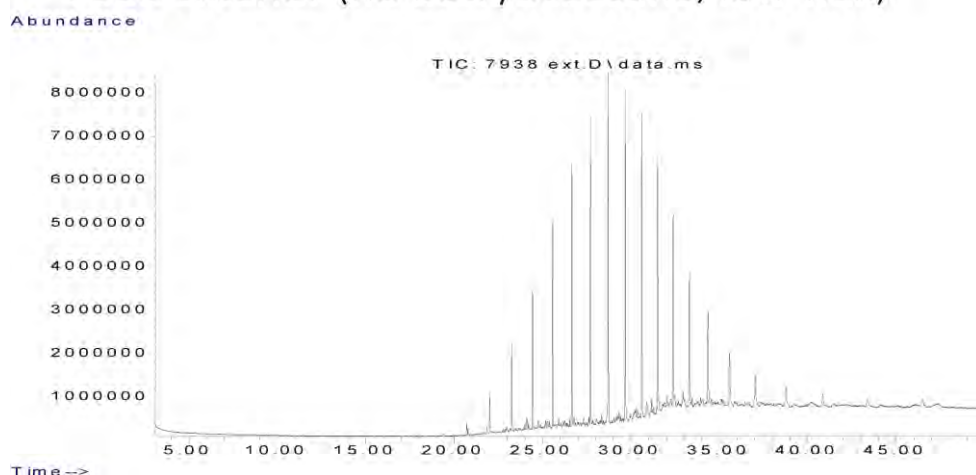
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 86.33 | percent | Y |
| Inorg | Hydrogen | | | 10.3910397614314 | percent | Y |
| Inorg | Nitrogen | | | 0.11 | percent | Y |
| Inorg | Sulphur | | | 2.19469255363664 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** W13/007938_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_007938_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7938 exterior (no botryococcane, low wax)



Data Sheet:

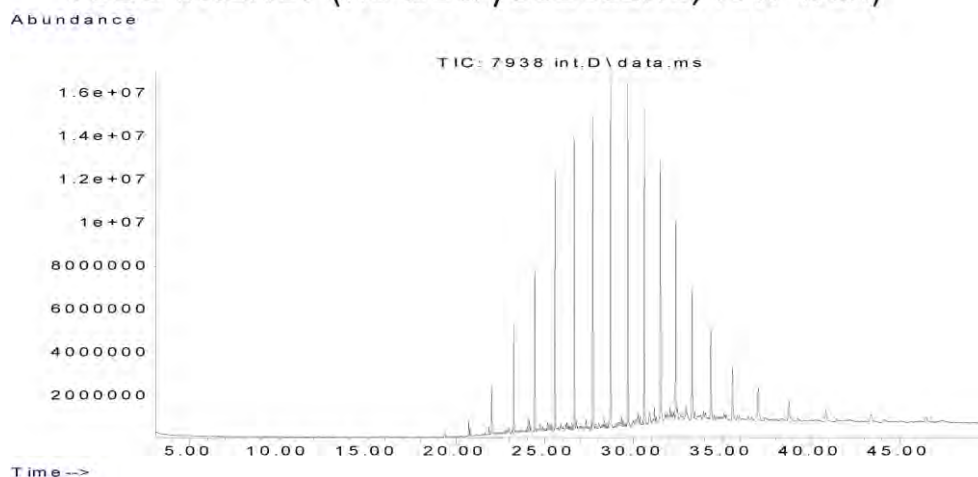
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | | | | U |
| Aliph | nC10 | 7.5110 | | | | U |
| Aliph | nC11 | 9.4450 | | | | U |
| Aliph | nC12 | 11.3220 | | | | U |
| Aliph | nC13 | 13.1110 | | | | U |
| Aliph | nC14 | 14.8030 | | | | U |
| Aliph | nC15 | 16.4030 | | | | U |
| Aliph | nC16 | 17.9160 | 149829 | | | Z |
| Aliph | nC17 | 19.3500 | 483856 | | | Z |
| Aliph | nC18 | 20.7170 | 1359917 | | | Z |
| Aliph | nC19 | 22.0170 | 4363128 | | | Z |
| Aliph | nC20 | 23.2570 | 9190526 | | | Z |
| Aliph | nC21 | 24.4410 | 15414953 | | | Z |
| Aliph | nC22 | 25.5760 | 22115213 | | | Z |
| Aliph | nC23 | 26.6620 | 28839249 | | | Z |
| Aliph | nC24 | 27.7060 | 33498694 | | | Z |
| Aliph | nC25 | 28.7100 | 35961750 | | | Z |
| Aliph | nC26 | 29.6680 | 34906471 | | | Z |
| Aliph | nC27 | 30.6080 | 33921713 | | | Z |
| Aliph | nC28 | 31.5080 | 28357927 | | | Z |
| Aliph | nC29 | 32.3700 | 22828725 | | | Z |
| Aliph | nC30 | 33.2910 | 17138285 | | | Z |
| Aliph | nC31 | 34.3470 | 15265281 | | | Z |
| Aliph | nC32 | 35.5720 | 10193657 | | | Z |
| Aliph | nC33 | 37.0130 | 7629767 | | | Z |
| Aliph | nC34 | 38.7280 | 5019819 | | | Z |
| Aliph | nC35 | 40.8080 | 3923617 | | | Z |
| Aliph | nC36 | 43.3510 | 2864105 | | | Z |
| Aliph | nC37 | 46.4710 | 2393336 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 123432 | | | Z |
| Aliph | Phytane | 20.7870 | 845797 | | | Z |
| Aliph | Pristane | 19.3870 | 338054 | | | Z |

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007938 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_007938_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7938 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 | 140843 | | | Z |
| Aliph | nC16 | 17.9160 | 179293 | | | Z |
| Aliph | nC17 | 19.3500 | 746325 | | | Z |
| Aliph | nC18 | 20.7170 | 3232180 | | | Z |
| Aliph | nC19 | 22.0170 | 10418722 | | | Z |
| Aliph | nC20 | 23.2570 | 22123439 | | | Z |
| Aliph | nC21 | 24.4410 | 37629944 | | | Z |
| Aliph | nC22 | 25.5760 | 52015542 | | | Z |
| Aliph | nC23 | 26.6620 | 65240689 | | | Z |
| Aliph | nC24 | 27.7060 | 70899858 | | | Z |
| Aliph | nC25 | 28.7100 | 73405792 | | | Z |
| Aliph | nC26 | 29.6680 | 69475218 | | | Z |
| Aliph | nC27 | 30.6080 | 67172588 | | | Z |
| Aliph | nC28 | 31.5080 | 56025402 | | | Z |
| Aliph | nC29 | 32.3700 | 47897602 | | | Z |
| Aliph | nC30 | 33.2910 | 34310679 | | | Z |
| Aliph | nC31 | 34.3470 | 28625383 | | | Z |
| Aliph | nC32 | 35.5720 | 20347830 | | | Z |
| Aliph | nC33 | 37.0130 | 14396872 | | | Z |
| Aliph | nC34 | 38.7280 | 9590438 | | | Z |
| Aliph | nC35 | 40.8080 | 7118089 | | | Z |
| Aliph | nC36 | 43.3510 | 5544679 | | | Z |
| Aliph | nC37 | 46.4710 | 4800754 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 214653 | | | Z |
| Aliph | Phytane | 20.7870 | 2232567 | | | Z |
| Aliph | Pristane | 19.3870 | 1184780 | | | Z |

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

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

Sample ID : **W13/007939**

Beach K3: Sandy River Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 17/10/2016 9:05:47 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

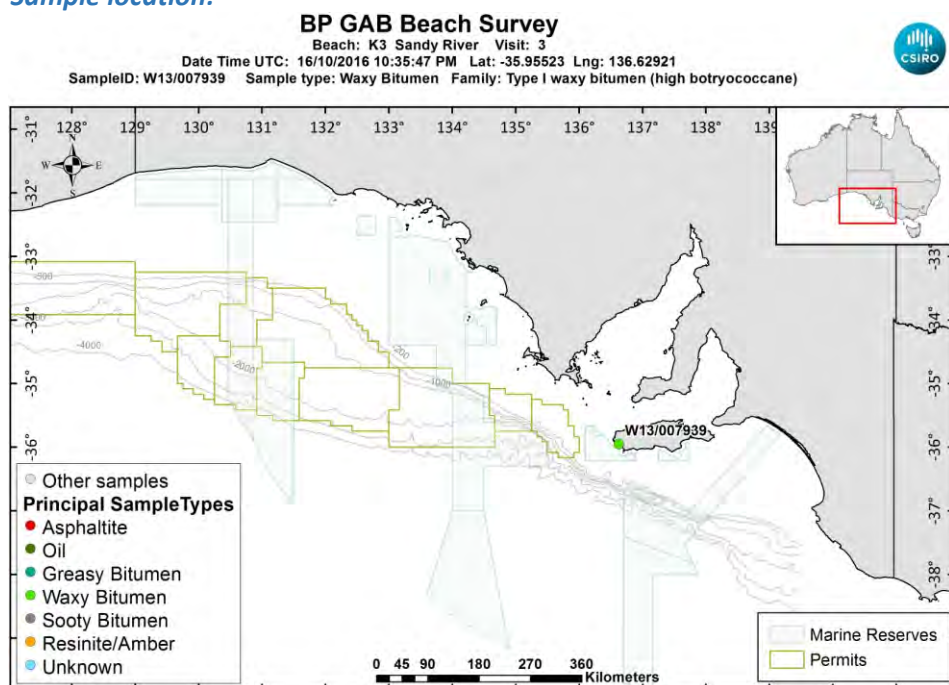
Size (cm): 1.4

Latitude (Y): -35.955228

Weight (gm): 0.82514

Longitude (X): 136.629207

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007939_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007939_146A6758.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007939_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: W13/007939_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 | | | 85.99 | percent | Y |
| Inorg | Hydrogen | | | 10.2866640159046 | percent | Y |
| Inorg | Nitrogen | | | 0.28 | percent | Y |
| Inorg | Sulphur | | | 2.12478975421093 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007939 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_007939_bulk_WholeOil.jpg](#)

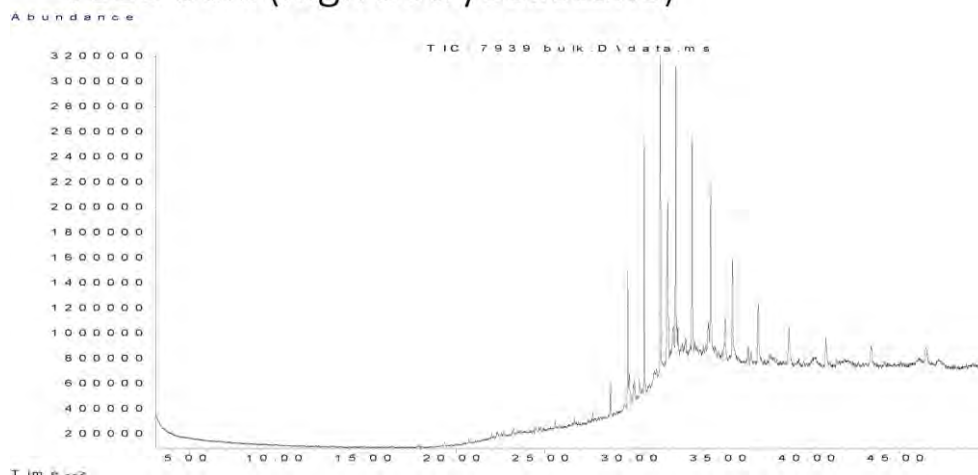
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7939 bulk (high botryococcane)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | 10303116 | | | 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 | 1282503 | | | Z |
| Aliph | nC26 | 29.6680 | 4735335 | | | Z |
| Aliph | nC27 | 30.6080 | 10814099 | | | Z |
| Aliph | nC28 | 31.5080 | 12848532 | | | Z |
| Aliph | nC29 | 32.3700 | 12390249 | | | Z |
| Aliph | nC30 | 33.2910 | 10068353 | | | Z |
| Aliph | nC31 | 34.3470 | 9520416 | | | Z |
| Aliph | nC32 | 35.5720 | 6204861 | | | Z |
| Aliph | nC33 | 37.0130 | 4329861 | | | Z |
| Aliph | nC34 | 38.7280 | 3940519 | | | Z |
| Aliph | nC35 | 40.8080 | 2503264 | | | Z |
| Aliph | nC36 | 43.3510 | 2750232 | | | Z |
| Aliph | nC37 | 46.4710 | 3152697 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | | | | U |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : **W13/007940**

Beach K3: Sandy River Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 17/10/2016 9:07:51 AM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

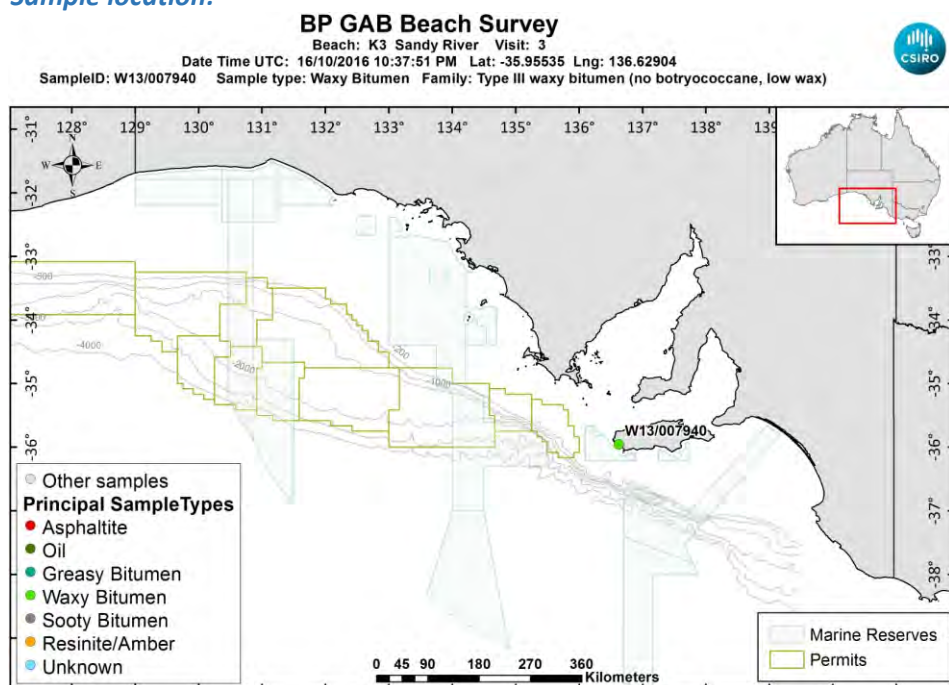
Size (cm): 2

Latitude (Y): -35.955355

Weight (gm): 1.24282

Longitude (X): 136.629042

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007940_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007940_146A6761.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007940_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: W13/007940_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 85.9 | percent | Y |
| Inorg | Hydrogen | | | 8.35656779324055 | percent | Y |
| Inorg | Nitrogen | | | 0.12 | percent | Y |
| Inorg | Sulphur | | | 1.42714731027906 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007940 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_007940_bulk_WholeOil.jpg](#)

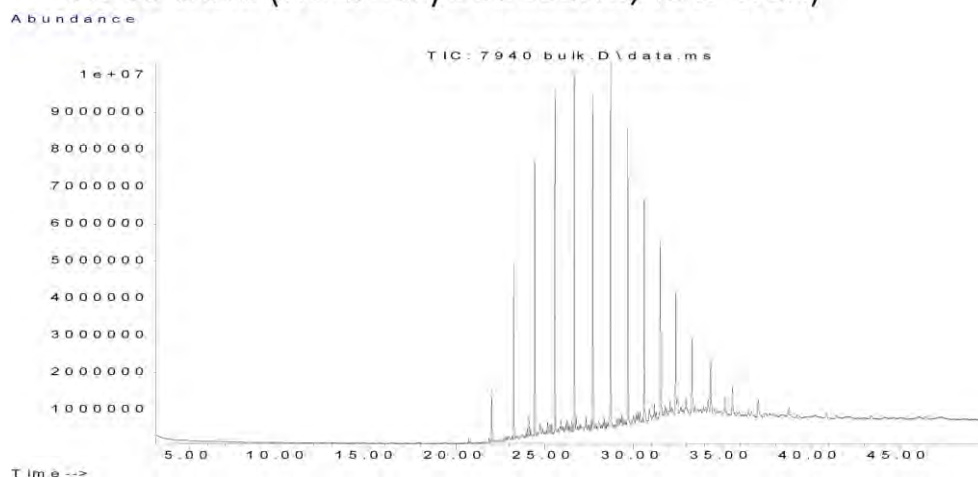
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7940 bulk (no botryococcane, low wax)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | | | | U |
| Aliph | nC10 | 7.5110 | | | | U |
| Aliph | nC11 | 9.4450 | | | | U |
| Aliph | nC12 | 11.3220 | | | | U |
| Aliph | nC13 | 13.1110 | | | | U |
| Aliph | nC14 | 14.8030 | | | | U |
| Aliph | nC15 | 16.4030 | | | | U |
| Aliph | nC16 | 17.9160 | | | | U |
| Aliph | nC17 | 19.3500 | | | | U |
| Aliph | nC18 | 20.7170 | 616312 | | | Z |
| Aliph | nC19 | 22.0170 | 6507365 | | | Z |
| Aliph | nC20 | 23.2570 | 21028904 | | | Z |
| Aliph | nC21 | 24.4410 | 35966099 | | | Z |
| Aliph | nC22 | 25.5760 | 42630978 | | | Z |
| Aliph | nC23 | 26.6620 | 47111449 | | | Z |
| Aliph | nC24 | 27.7060 | 44516958 | | | Z |
| Aliph | nC25 | 28.7100 | 43340514 | | | Z |
| Aliph | nC26 | 29.6680 | 37181193 | | | Z |
| Aliph | nC27 | 30.6080 | 32590044 | | | Z |
| Aliph | nC28 | 31.5080 | 23491683 | | | Z |
| Aliph | nC29 | 32.3700 | 16942829 | | | Z |
| Aliph | nC30 | 33.2910 | 12117211 | | | Z |
| Aliph | nC31 | 34.3470 | 10420892 | | | Z |
| Aliph | nC32 | 35.5720 | 6535881 | | | Z |
| Aliph | nC33 | 37.0130 | 4284318 | | | Z |
| Aliph | nC34 | 38.7280 | 2695107 | | | Z |
| Aliph | nC35 | 40.8080 | 1664527 | | | Z |
| Aliph | nC36 | 43.3510 | 1212707 | | | Z |
| Aliph | nC37 | 46.4710 | 1274787 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | | | | U |
| Aliph | Phytane | 20.7870 | 296606 | | | Z |
| Aliph | Pristane | 19.3870 | | | | U |

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

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

Sample ID : **W13/007941**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. On tide line

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:13:24 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

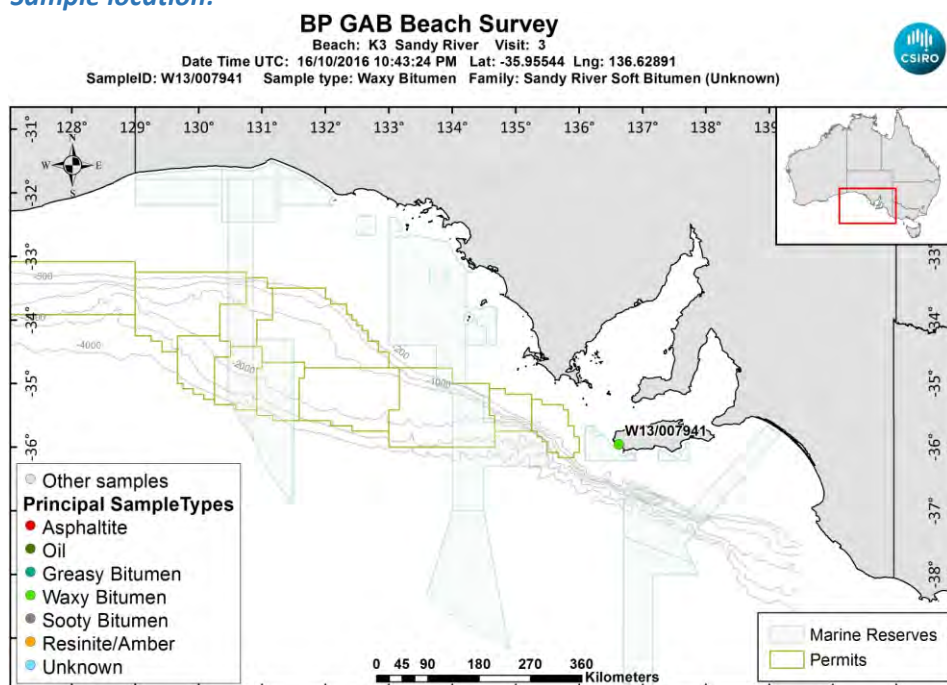
Size (cm): 2

Latitude (Y): -35.955443

Weight (gm): 0.67151

Longitude (X): 136.628910

Sample location:



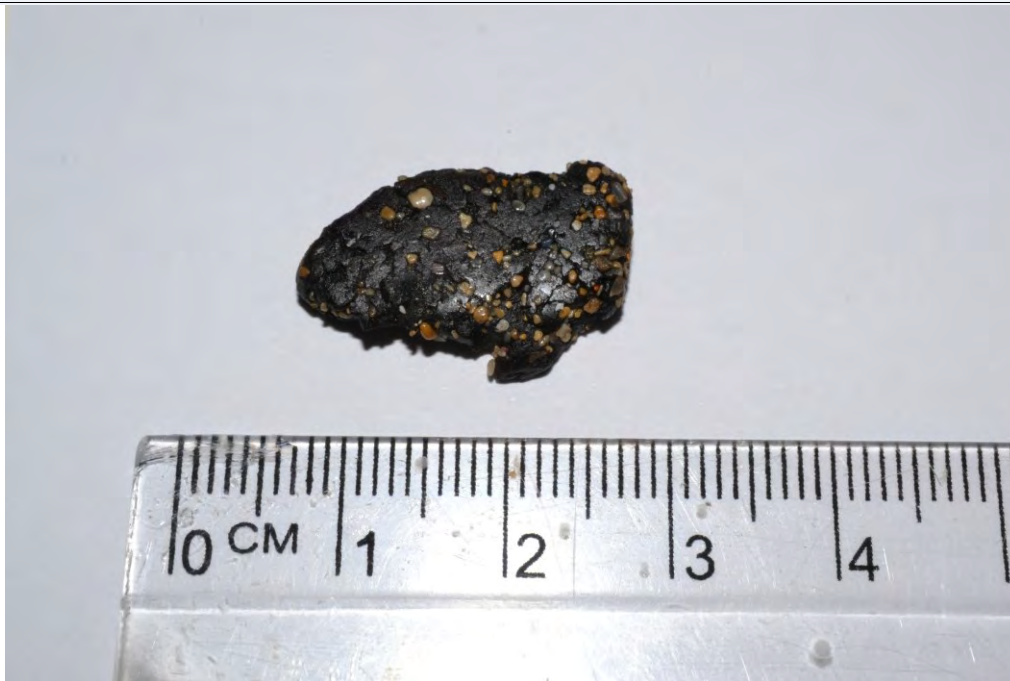
[LinkedFiles\GAB_BCH1\SampleLocations\W13_007941_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007941_146A6763.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007941_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: W13/007941_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

| Type: | Compound / Variable: | Retentn Time: | Target Respnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|-----------------|------------------|---------|------------|
| Inorg | Carbon | | | 84.53 | percent | Y |
| Inorg | Hydrogen | | | 9.79312246520875 | percent | Y |
| Inorg | Nitrogen | | | 0.11 | percent | Y |
| Inorg | Sulphur | | | 2.73451958867186 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007941 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_007941_bulk_WholeOil.jpg](#)

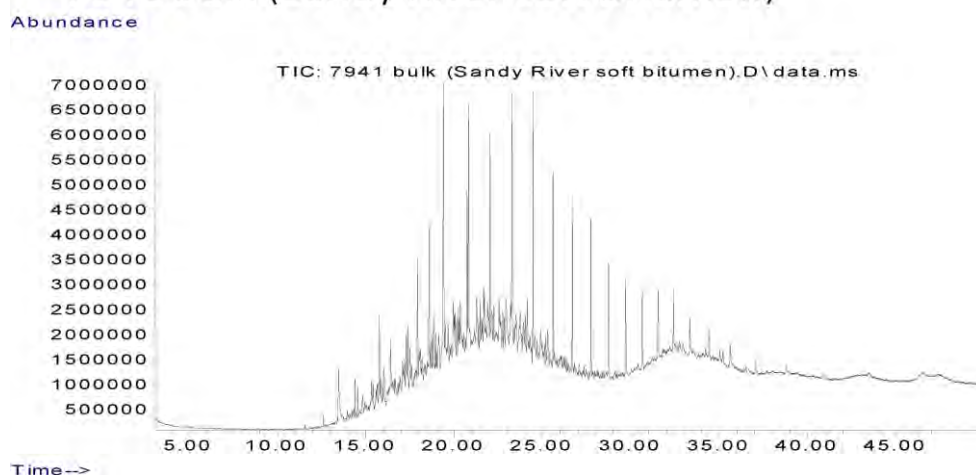
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7941 bulk (Sandy River soft bitumen)



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 | 2310880 | | | Z |
| Aliph | nC15 | 16.4030 | 4420798 | | | Z |
| Aliph | nC16 | 17.9160 | 8060504 | | | Z |
| Aliph | nC17 | 19.3500 | 16035113 | | | Z |
| Aliph | nC18 | 20.7170 | 14019276 | | | Z |
| Aliph | nC19 | 22.0170 | 18331221 | | | Z |
| Aliph | nC20 | 23.2570 | 22595913 | | | Z |
| Aliph | nC21 | 24.4410 | 20840806 | | | Z |
| Aliph | nC22 | 25.5760 | 17800340 | | | Z |
| Aliph | nC23 | 26.6620 | 15526549 | | | Z |
| Aliph | nC24 | 27.7060 | 13268833 | | | Z |
| Aliph | nC25 | 28.7100 | 10374014 | | | Z |
| Aliph | nC26 | 29.6680 | 8427708 | | | Z |
| Aliph | nC27 | 30.6080 | 6787185 | | | Z |
| Aliph | nC28 | 31.5080 | 5457378 | | | Z |
| Aliph | nC29 | 32.3700 | 5021761 | | | Z |
| Aliph | nC30 | 33.2910 | 4030836 | | | Z |
| Aliph | nC31 | 34.3470 | 3631810 | | | Z |
| Aliph | nC32 | 35.5720 | 2781149 | | | Z |
| Aliph | nC33 | 37.0130 | 2216079 | | | Z |
| Aliph | nC34 | 38.7280 | 1717045 | | | Z |
| Aliph | nC35 | 40.8080 | 1127190 | | | Z |
| Aliph | nC36 | 43.3510 | 1264370 | | | Z |
| Aliph | nC37 | 46.4710 | 1336702 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 22727534 | | | Z |
| Aliph | Phytane | 20.7870 | 26129190 | | | Z |
| Aliph | Pristane | 19.3870 | 30691386 | | | Z |

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

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

Sample ID : **W13/007942**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:15:01 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

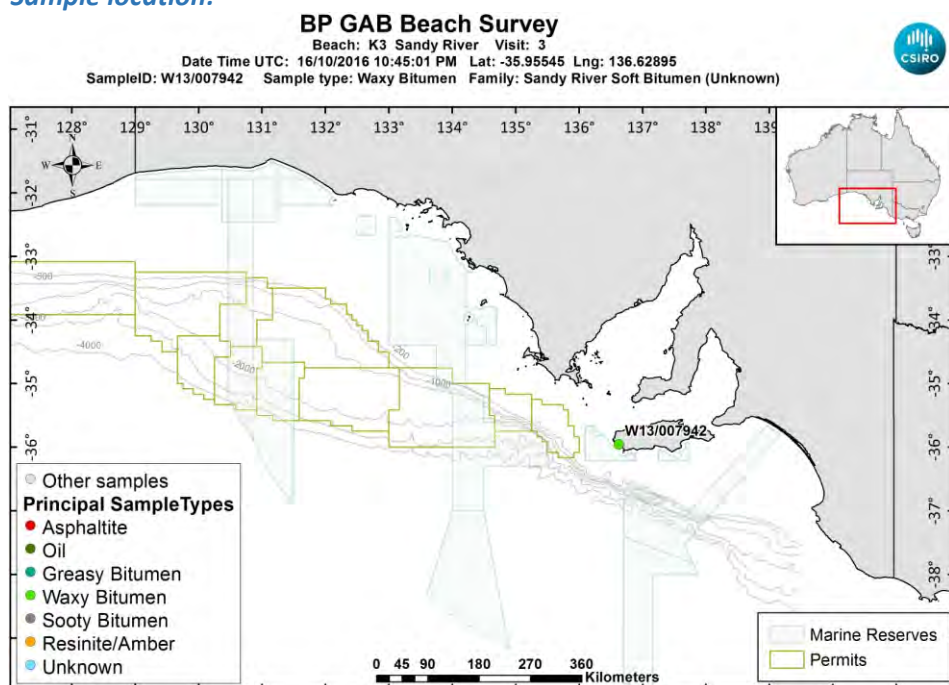
Size (cm): 1.6

Latitude (Y): -35.955450

Weight (gm): 0.31826

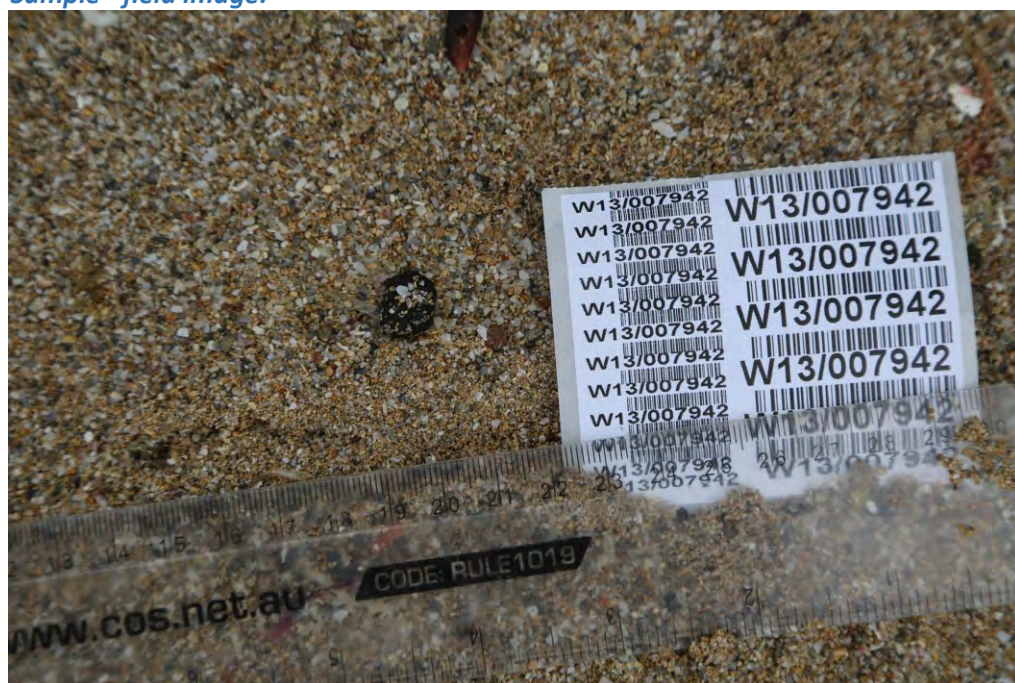
Longitude (X): 136.628950

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007942_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007942_146A6765.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007942_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: W13/007942_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 | | | 83.13 | percent | Y |
| Inorg | Hydrogen | | | 10.0456274353877 | percent | Y |
| Inorg | Nitrogen | | | 0.12 | percent | Y |
| Inorg | Sulphur | | | 2.83718091461281 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007942 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_007942_bulk_WholeOil.jpg](#)

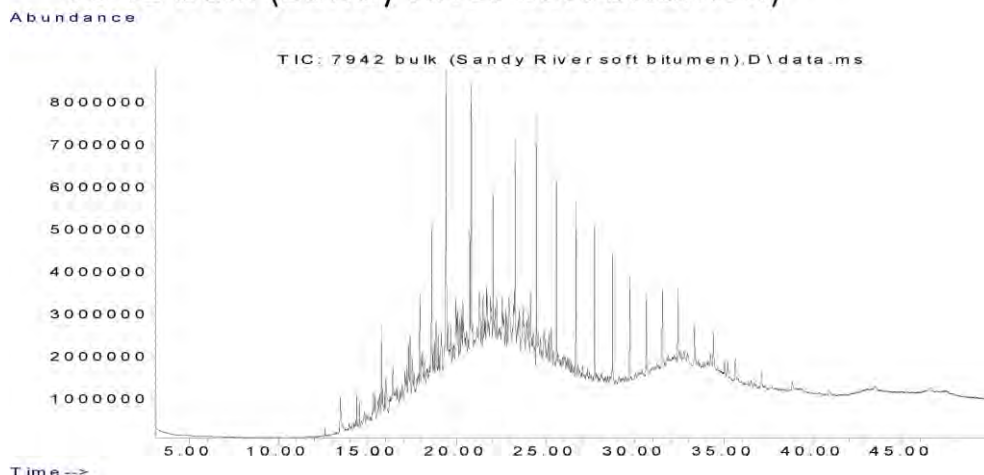
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7942 bulk (Sandy River soft 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 | 2304068 | | | Z |
| Aliph | nC15 | 16.4030 | 3395821 | | | Z |
| Aliph | nC16 | 17.9160 | 6711849 | | | Z |
| Aliph | nC17 | 19.3500 | 14771265 | | | Z |
| Aliph | nC18 | 20.7170 | 12355210 | | | Z |
| Aliph | nC19 | 22.0170 | 16821262 | | | Z |
| Aliph | nC20 | 23.2570 | 22232859 | | | Z |
| Aliph | nC21 | 24.4410 | 21787175 | | | Z |
| Aliph | nC22 | 25.5760 | 19910962 | | | Z |
| Aliph | nC23 | 26.6620 | 17066571 | | | Z |
| Aliph | nC24 | 27.7060 | 14493802 | | | Z |
| Aliph | nC25 | 28.7100 | 12793908 | | | Z |
| Aliph | nC26 | 29.6680 | 10375320 | | | Z |
| Aliph | nC27 | 30.6080 | 8832841 | | | Z |
| Aliph | nC28 | 31.5080 | 7117981 | | | Z |
| Aliph | nC29 | 32.3700 | 6461953 | | | Z |
| Aliph | nC30 | 33.2910 | 5079540 | | | Z |
| Aliph | nC31 | 34.3470 | 5336673 | | | Z |
| Aliph | nC32 | 35.5720 | 3711964 | | | Z |
| Aliph | nC33 | 37.0130 | 3372247 | | | Z |
| Aliph | nC34 | 38.7280 | 2232005 | | | Z |
| Aliph | nC35 | 40.8080 | 1293330 | | | Z |
| Aliph | nC36 | 43.3510 | 1703876 | | | Z |
| Aliph | nC37 | 46.4710 | 1114239 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 26104942 | | | Z |
| Aliph | Phytane | 20.7870 | 33068453 | | | Z |
| Aliph | Pristane | 19.3870 | 35274855 | | | Z |

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

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

Sample ID : **W13/007943**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:16:28 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

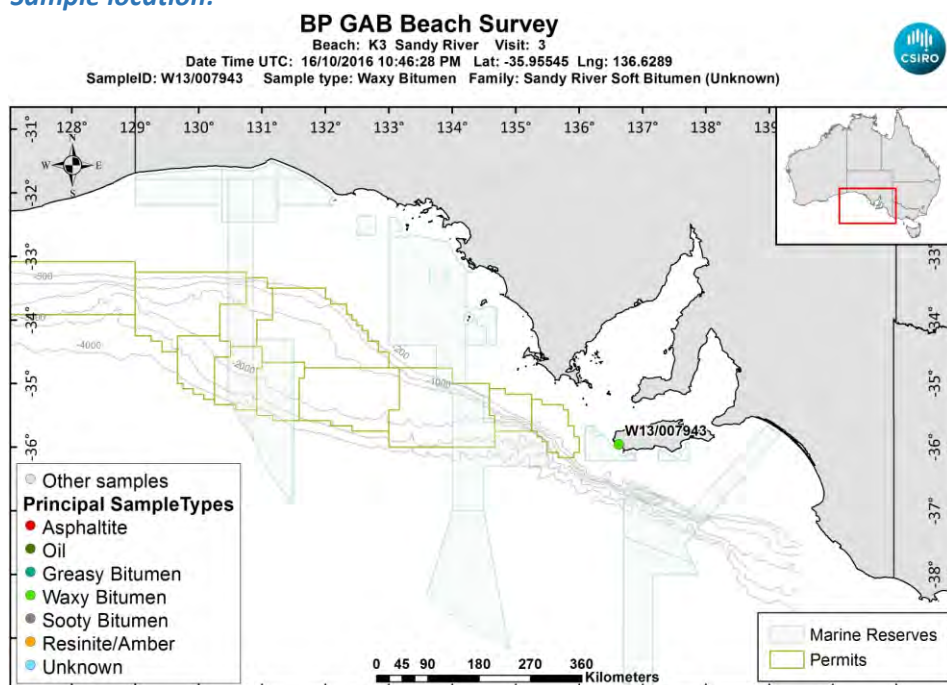
Size (cm): 5.4

Latitude (Y): -35.955448

Weight (gm): 17.5845

Longitude (X): 136.628905

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007943_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007943_146A6767.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007943_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: W13/007943_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 | | | 78.58 | percent | Y |
| Inorg | Hydrogen | | | 6.79715705765408 | percent | Y |
| Inorg | Nitrogen | | | 0.15 | percent | Y |
| Inorg | Sulphur | | | 2.18751294336271 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007943 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_007943_bulk_WholeOil.jpg](#)

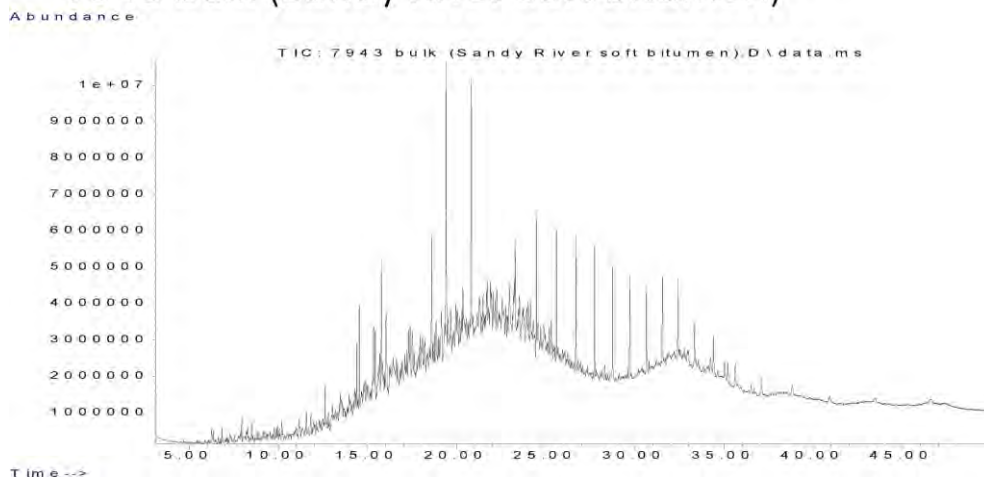
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7943 bulk (Sandy River soft 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 | 1781887 | | | Z |
| Aliph | nC19 | 22.0170 | 4722650 | | | Z |
| Aliph | nC20 | 23.2570 | 11475108 | | | Z |
| Aliph | nC21 | 24.4410 | 15167157 | | | Z |
| Aliph | nC22 | 25.5760 | 15830479 | | | Z |
| Aliph | nC23 | 26.6620 | 15130880 | | | Z |
| Aliph | nC24 | 27.7060 | 14369977 | | | Z |
| Aliph | nC25 | 28.7100 | 13989611 | | | Z |
| Aliph | nC26 | 29.6680 | 12544920 | | | Z |
| Aliph | nC27 | 30.6080 | 10908733 | | | Z |
| Aliph | nC28 | 31.5080 | 9008557 | | | Z |
| Aliph | nC29 | 32.3700 | 7832596 | | | Z |
| Aliph | nC30 | 33.2910 | 6708678 | | | Z |
| Aliph | nC31 | 34.3470 | 6334674 | | | Z |
| Aliph | nC32 | 35.5720 | 4583011 | | | Z |
| Aliph | nC33 | 37.0130 | 4167889 | | | Z |
| Aliph | nC34 | 38.7280 | 2505605 | | | Z |
| Aliph | nC35 | 40.8080 | 845687 | | | Z |
| Aliph | nC36 | 43.3510 | 1764648 | | | Z |
| Aliph | nC37 | 46.4710 | 2123541 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 26164233 | | | Z |
| Aliph | Phytane | 20.7870 | 38919608 | | | Z |
| Aliph | Pristane | 19.3870 | 41085987 | | | Z |

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

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

Sample ID : **W13/007944**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:18:04 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

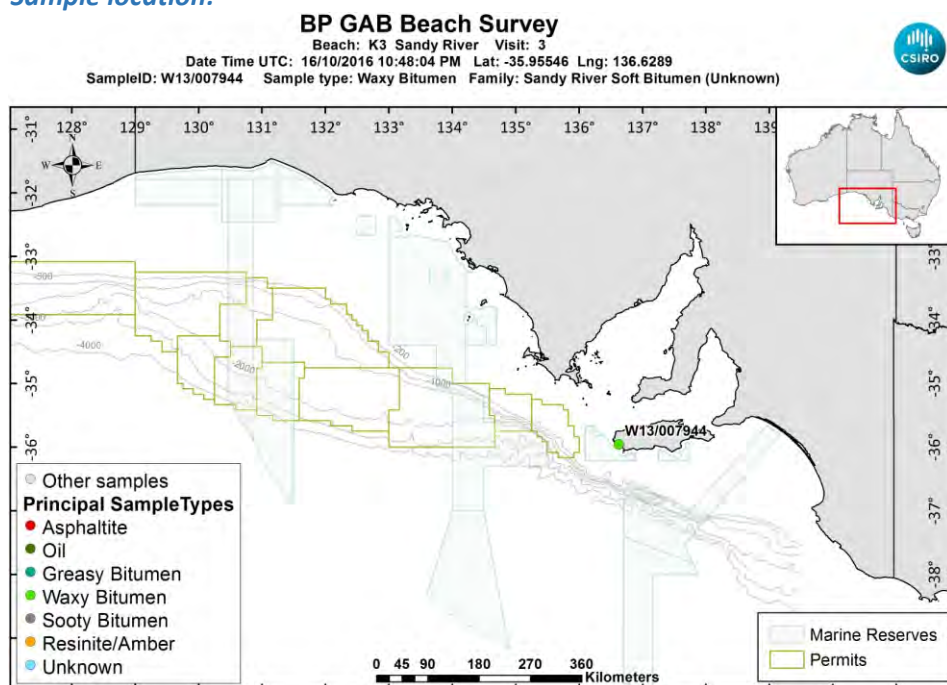
Size (cm): 1.6

Latitude (Y): -35.955458

Weight (gm): 0.48309

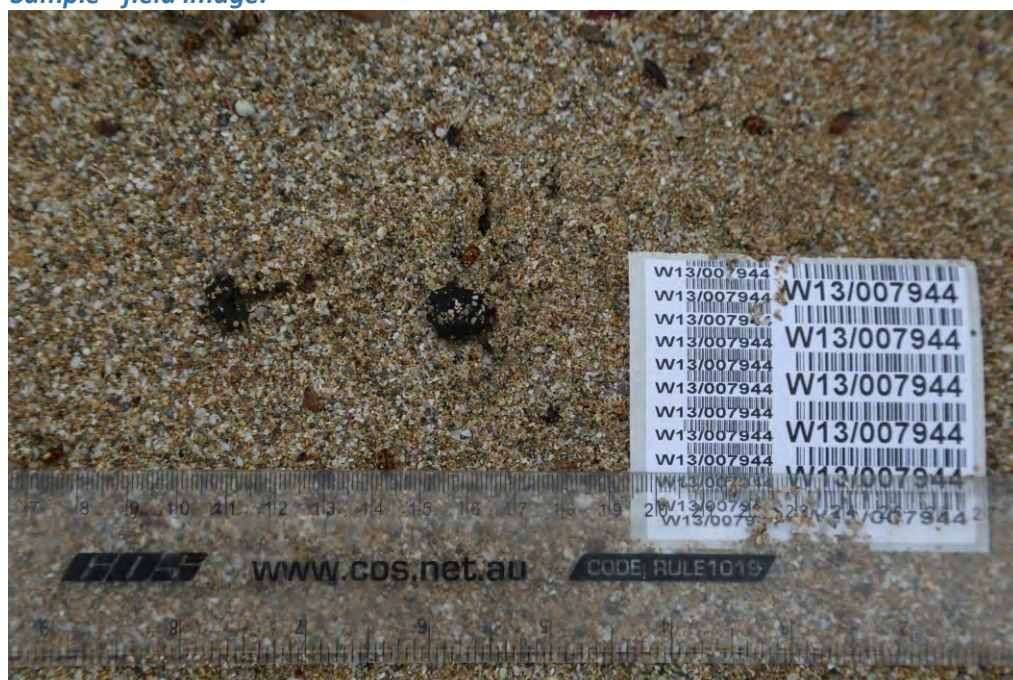
Longitude (X): 136.628903

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007944_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007944_146A6769.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007944_Photo02.JPG](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007944 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 | | | 33.6356067369519 | ratio | Y |
| BiomRatio | % C27 abb 20(R+S) | | | 34.2089493524559 | ratio | Y |
| BiomRatio | % C28 aaa 20R | | | 24.269812450053 | ratio | Y |
| BiomRatio | % C28 abb 20(R+S) | | | 27.1899776720415 | ratio | Y |
| BiomRatio | % C29 aaa 20R | | | 42.0945808129951 | ratio | Y |
| BiomRatio | % C29 abb 20(R+S) | | | 38.6010729755026 | ratio | Y |
| BiomRatio | (C21+C22)/(C27+C28+C29) | | | 0.165609246947463 | ratio | Y |
| BiomRatio | 25-Nor/C30H | | | 0.205189814921506 | ratio | Y |
| BiomRatio | C19t/C23t | | | 0.302143172554693 | ratio | Y |
| BiomRatio | C22t/C21t | | | 0.660941443167053 | ratio | Y |
| BiomRatio | C22t/C24t | | | 0.329684942112324 | ratio | Y |
| BiomRatio | C23t/C30H | | | 0.198683746108063 | ratio | Y |
| BiomRatio | C24t/C23t | | | 0.516482812089837 | ratio | Y |
| BiomRatio | C24Tet/C23t | | | 0.396830823265591 | ratio | Y |
| BiomRatio | C24Tet/C26t | | | 0.54756452824361 | ratio | Y |
| BiomRatio | C24Tet/C30H | | | 7.88438345375544E-02 | ratio | Y |
| BiomRatio | C26t/C25t | | | 1.21940300551593 | ratio | Y |
| BiomRatio | C27 Dia/(Dia+Reg) | | | 0.34936088795657 | ratio | Y |
| BiomRatio | C27 Dia/Ster | | | 0.30345348039094 | ratio | Y |
| BiomRatio | C28BNH/C30H | | | 9.59519815572437E-02 | ratio | Y |
| BiomRatio | C29/C27 abb Sterane Ratio | | | 1.12839107035397 | ratio | Y |
| BiomRatio | C29H/C30H | | | 0.622803261767385 | ratio | Y |
| BiomRatio | C29Ts/(C29Ts+C29H) | | | 0.179442256754723 | ratio | Y |
| BiomRatio | C30DiaH/C30H | | | 2.47185737105818E-02 | ratio | Y |
| BiomRatio | C30Ts/C30H | | | 6.53988888902366E-02 | ratio | Y |
| BiomRatio | C35 Homohopane Index | | | 5.41629770521034E-02 | ratio | Y |
| BiomRatio | C35HS/C34HS | | | 0.701579595399146 | ratio | Y |
| BiomRatio | Gam/C30H | | | 6.48813790666468E-02 | ratio | Y |
| BiomRatio | Gam/C31HR | | | 0.325235044597166 | ratio | Y |
| BiomRatio | Ole/C30H | | | 0.830122953056603 | ratio | Y |
| BiomRatio | Sterane/hopane | | | 0.191632870600538 | ratio | Y |
| BiomRatio | Steranes/Terpanes | | | 0.149340315643231 | ratio | Y |
| BiomRatio | Tricyclic/Pentacyclic Terpanes | | | 0.283195832117714 | ratio | Y |

Results for: Elemental Analyser

Unique ID: W13/007944_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:**

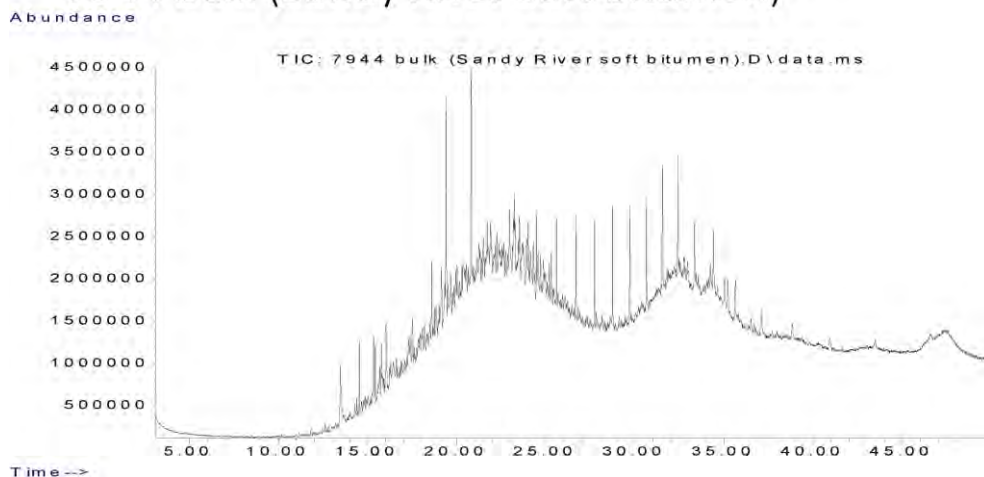
(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Respns: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|------------------|---------|------------|
| Inorg | Carbon | | | 82.98 | percent | Y |
| Inorg | Hydrogen | | | 9.16071769383698 | percent | Y |
| Inorg | Nitrogen | | | 0.15 | percent | Y |
| Inorg | Sulphur | | | 2.76075297735534 | percent | Y |

Results for: GCMS with Full Scan**Unique ID:** W13/007944_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_007944_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7944 bulk (Sandy River soft bitumen)



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 | 3654418 | | | Z |
| Aliph | nC22 | 25.5760 | 4365970 | | | Z |
| Aliph | nC23 | 26.6620 | 5123118 | | | Z |
| Aliph | nC24 | 27.7060 | 5744936 | | | Z |
| Aliph | nC25 | 28.7100 | 5901819 | | | Z |
| Aliph | nC26 | 29.6680 | 6033287 | | | Z |
| Aliph | nC27 | 30.6080 | 6044329 | | | Z |
| Aliph | nC28 | 31.5080 | 5313859 | | | Z |
| Aliph | nC29 | 32.3700 | 5088301 | | | Z |
| Aliph | nC30 | 33.2910 | 4236026 | | | Z |
| Aliph | nC31 | 34.3470 | 4687647 | | | Z |
| Aliph | nC32 | 35.5720 | 3413751 | | | Z |
| Aliph | nC33 | 37.0130 | 2916276 | | | Z |
| Aliph | nC34 | 38.7280 | 1965773 | | | Z |
| Aliph | nC35 | 40.8080 | 1054576 | | | Z |
| Aliph | nC36 | 43.3510 | 1219889 | | | Z |
| Aliph | nC37 | 46.4710 | 1391737 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 6301647 | | | Z |
| Aliph | Phytane | 20.7870 | 13709521 | | | Z |
| Aliph | Pristane | 19.3870 | 12886783 | | | Z |

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

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

Sample ID : **W13/007945A**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. 2 pieces. Part A

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:20:00 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

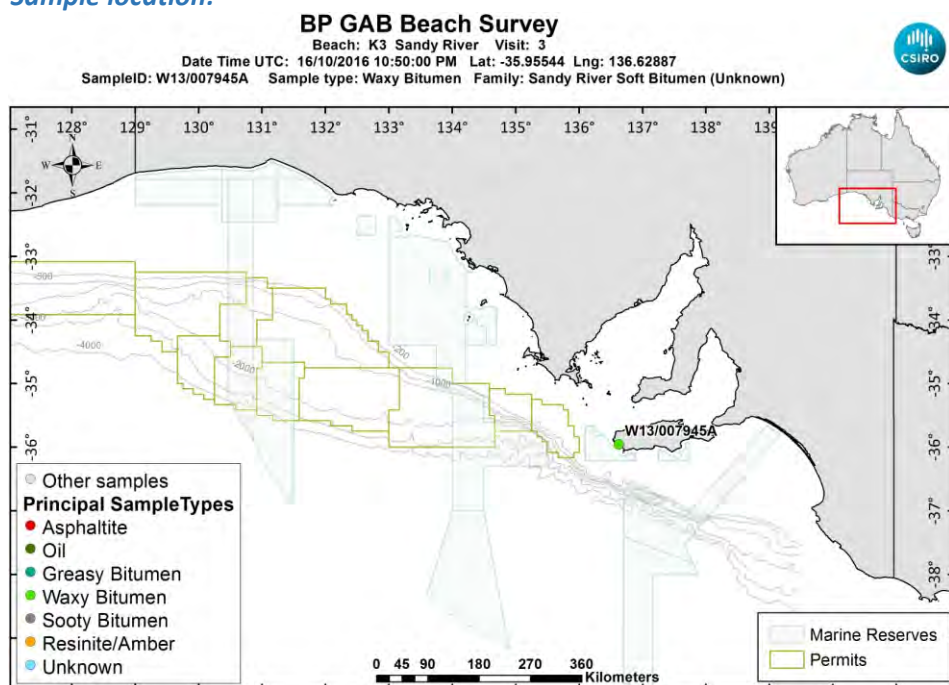
Size (cm): 1.1

Latitude (Y): -35.955438

Weight (gm): 0.26385

Longitude (X): 136.628872

Sample location:



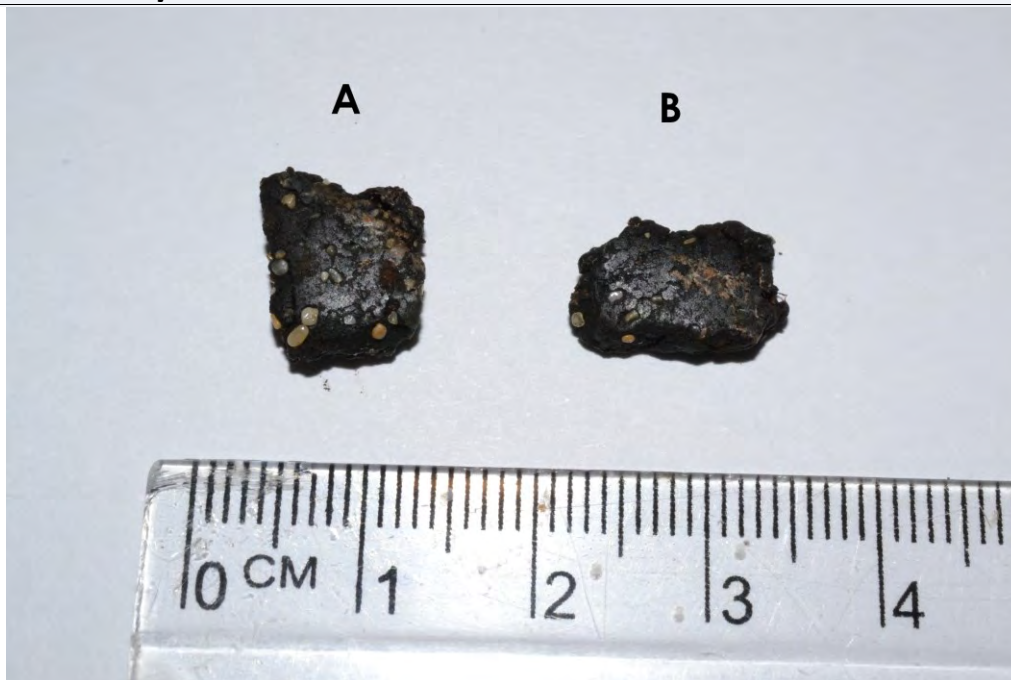
[LinkedFiles\GAB_BCH1\SampleLocations\W13_007945A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007945_146A6771.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007945_AB_Photo02.jpg](#)

Analyses Requested

| | | |
|--------|-----------------------|-------|
| Split: | Analysis: | Sent: |
| 1 | Bitumen Determination | YES |

Analyses Completed:

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

Sample Analyses Completed:**Results for: GCMS with Full Scan**

Unique ID: W13/007945A 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_007945A_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

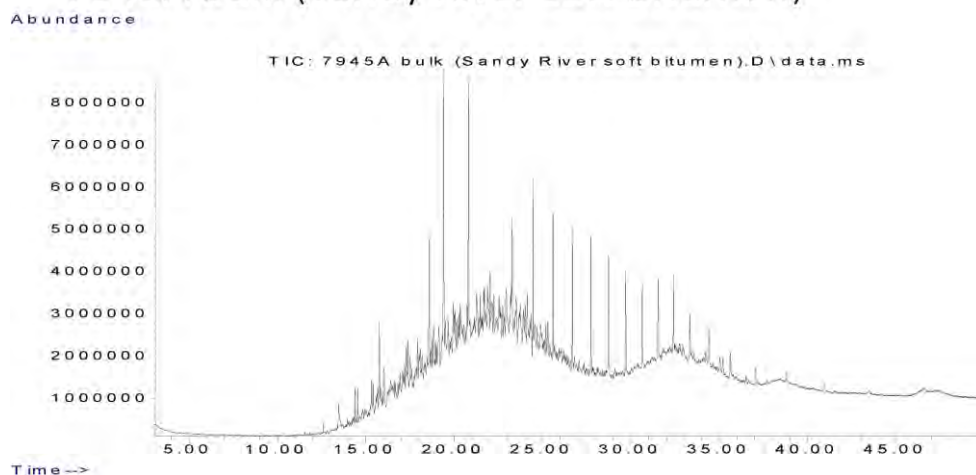
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7945A bulk (Sandy River soft 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 | 1053845 | | | Z |
| Aliph | nC15 | 16.4030 | 907321 | | | Z |
| Aliph | nC16 | 17.9160 | 2095069 | | | Z |
| Aliph | nC17 | 19.3500 | 3776762 | | | Z |
| Aliph | nC18 | 20.7170 | 3269723 | | | Z |
| Aliph | nC19 | 22.0170 | 6539290 | | | Z |
| Aliph | nC20 | 23.2570 | 13251727 | | | Z |
| Aliph | nC21 | 24.4410 | 15195332 | | | Z |
| Aliph | nC22 | 25.5760 | 15429405 | | | Z |
| Aliph | nC23 | 26.6620 | 13788444 | | | Z |
| Aliph | nC24 | 27.7060 | 13440274 | | | Z |
| Aliph | nC25 | 28.7100 | 12175812 | | | Z |
| Aliph | nC26 | 29.6680 | 10613267 | | | Z |
| Aliph | nC27 | 30.6080 | 9099066 | | | Z |
| Aliph | nC28 | 31.5080 | 7765572 | | | Z |
| Aliph | nC29 | 32.3700 | 6114225 | | | Z |
| Aliph | nC30 | 33.2910 | 5318501 | | | Z |
| Aliph | nC31 | 34.3470 | 5525154 | | | Z |
| Aliph | nC32 | 35.5720 | 3991274 | | | Z |
| Aliph | nC33 | 37.0130 | 3214403 | | | Z |
| Aliph | nC34 | 38.7280 | 2869184 | | | Z |
| Aliph | nC35 | 40.8080 | 1977302 | | | Z |
| Aliph | nC36 | 43.3510 | 1435984 | | | Z |
| Aliph | nC37 | 46.4710 | 1519952 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 23647568 | | | Z |
| Aliph | Phytane | 20.7870 | 33899807 | | | Z |
| Aliph | Pristane | 19.3870 | 28784343 | | | Z |

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

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

Sample ID : **W13/007945B**

Beach K3: Sandy River Visit: 3

Comments:

Part B subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:20:00 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

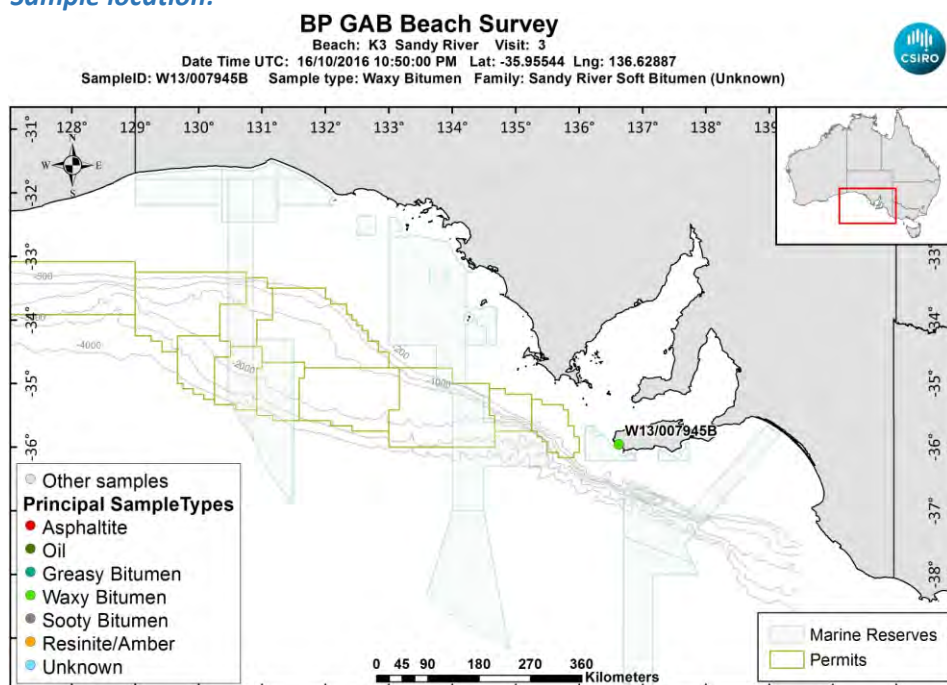
Size (cm): 1.2

Latitude (Y): -35.955438

Weight (gm): 0.202228

Longitude (X): 136.628872

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007945B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007945_AB_Photo02.jpg](#)

Sample ID : W13/007945B

Beach K3: Sandy River Visit: 3

Analyses Requested

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:

Results for: GCMS with Full Scan

Unique ID: W13/007945B_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_007945B_bulk_WholeOil.jpg](#)

Sample Volume:

Volume Units:

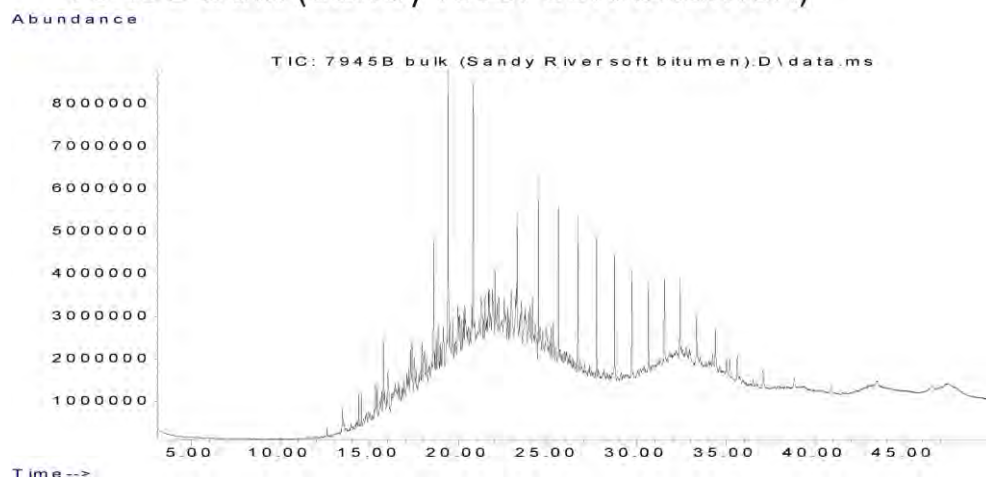
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7945B bulk (Sandy River soft bitumen)



Data Sheet:

(default units ppb)

| Type: | Compound / Variable: | Retentn Time: | Target Rspnse: | Value: | units: | Qualifier: |
|-------|----------------------|---------------|----------------|--------|--------|------------|
| Aliph | Botryococcane | 31.9240 | | | | U |
| Aliph | nC10 | 7.5110 | | | | U |
| Aliph | nC11 | 9.4450 | | | | U |
| Aliph | nC12 | 11.3220 | | | | U |
| Aliph | nC13 | 13.1110 | | | | U |
| Aliph | nC14 | 14.8030 | 1303787 | | | Z |
| Aliph | nC15 | 16.4030 | 1099202 | | | Z |
| Aliph | nC16 | 17.9160 | 2076162 | | | Z |
| Aliph | nC17 | 19.3500 | 7351876 | | | Z |
| Aliph | nC18 | 20.7170 | 3402930 | | | Z |
| Aliph | nC19 | 22.0170 | 7124892 | | | Z |
| Aliph | nC20 | 23.2570 | 13476779 | | | Z |
| Aliph | nC21 | 24.4410 | 15921365 | | | Z |
| Aliph | nC22 | 25.5760 | 15550101 | | | Z |
| Aliph | nC23 | 26.6620 | 14869617 | | | Z |
| Aliph | nC24 | 27.7060 | 13296408 | | | Z |
| Aliph | nC25 | 28.7100 | 13292682 | | | Z |
| Aliph | nC26 | 29.6680 | 11485848 | | | Z |
| Aliph | nC27 | 30.6080 | 8790958 | | | Z |
| Aliph | nC28 | 31.5080 | 7702969 | | | Z |
| Aliph | nC29 | 32.3700 | 7348693 | | | Z |
| Aliph | nC30 | 33.2910 | 5772330 | | | Z |
| Aliph | nC31 | 34.3470 | 5406766 | | | Z |
| Aliph | nC32 | 35.5720 | 4065725 | | | Z |
| Aliph | nC33 | 37.0130 | 3714507 | | | Z |
| Aliph | nC34 | 38.7280 | 2531109 | | | Z |
| Aliph | nC35 | 40.8080 | 1952447 | | | Z |
| Aliph | nC36 | 43.3510 | 1595193 | | | Z |
| Aliph | nC37 | 46.4710 | 1765135 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 23346560 | | | Z |
| Aliph | Phytane | 20.7870 | 33671010 | | | Z |
| Aliph | Pristane | 19.3870 | 29054961 | | | Z |

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

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

Sample ID : **W13/007946A**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. 3 pieces. Part A

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:21:40 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

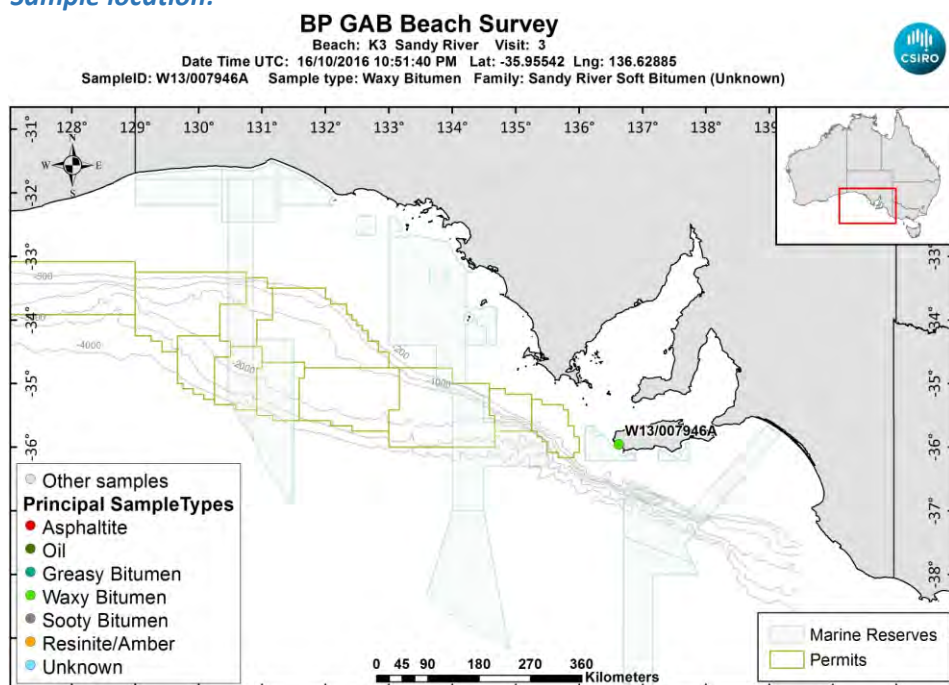
Size (cm): 2.4

Latitude (Y): -35.955422

Weight (gm): 1.07242

Longitude (X): 136.628853

Sample location:



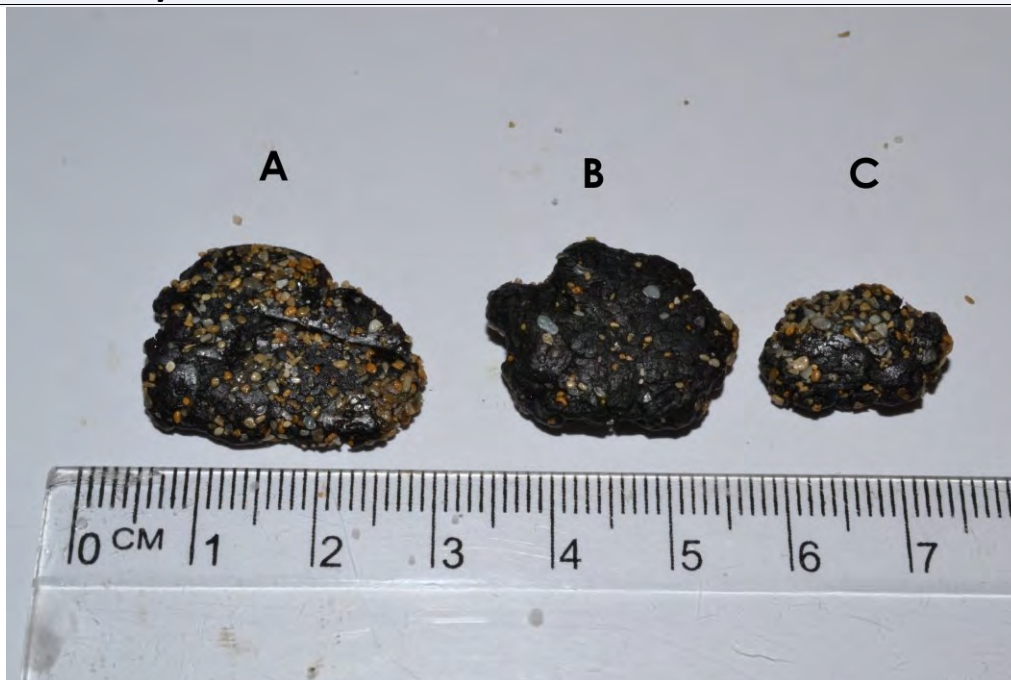
[LinkedFiles\GAB_BCH1\SampleLocations\W13_007946A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007946_146A6773.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007946_ABC_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: W13/007946A_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 | | | 85.24 | percent | Y |
| Inorg | Hydrogen | | | 9.37410894632207 | percent | Y |
| Inorg | Nitrogen | | | 0.13 | percent | Y |
| Inorg | Sulphur | | | 3.13484097058773 | percent | Y |

Results for: GCMS with Full Scan

Unique ID: W13/007946A 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_007946A_bulk_WholeOil.jpg](#)

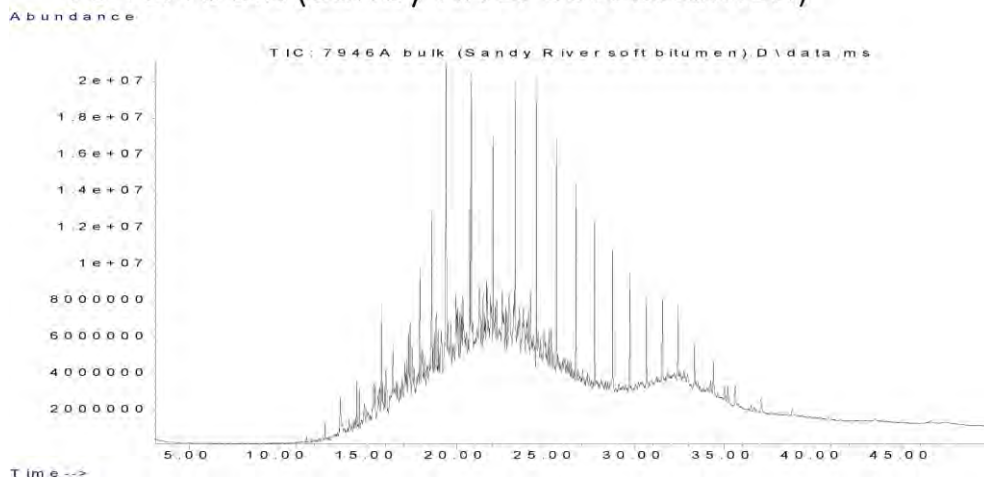
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7946A bulk (Sandy River soft 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 | 8239409 | | | Z |
| Aliph | nC15 | 16.4030 | 11968819 | | | Z |
| Aliph | nC16 | 17.9160 | 21911053 | | | Z |
| Aliph | nC17 | 19.3500 | 31629724 | | | Z |
| Aliph | nC18 | 20.7170 | 36502654 | | | Z |
| Aliph | nC19 | 22.0170 | 50609072 | | | Z |
| Aliph | nC20 | 23.2570 | 61950505 | | | Z |
| Aliph | nC21 | 24.4410 | 61405197 | | | Z |
| Aliph | nC22 | 25.5760 | 54254763 | | | Z |
| Aliph | nC23 | 26.6620 | 44783845 | | | Z |
| Aliph | nC24 | 27.7060 | 38280203 | | | Z |
| Aliph | nC25 | 28.7100 | 32207154 | | | Z |
| Aliph | nC26 | 29.6680 | 26320787 | | | Z |
| Aliph | nC27 | 30.6080 | 20938466 | | | Z |
| Aliph | nC28 | 31.5080 | 17197342 | | | Z |
| Aliph | nC29 | 32.3700 | 14918952 | | | Z |
| Aliph | nC30 | 33.2910 | 11580285 | | | Z |
| Aliph | nC31 | 34.3470 | 11555556 | | | Z |
| Aliph | nC32 | 35.5720 | 7786607 | | | Z |
| Aliph | nC33 | 37.0130 | 6811374 | | | Z |
| Aliph | nC34 | 38.7280 | 4535036 | | | Z |
| Aliph | nC35 | 40.8080 | 3432390 | | | Z |
| Aliph | nC36 | 43.3510 | 2038941 | | | Z |
| Aliph | nC37 | 46.4710 | 2049797 | | | Z |
| Aliph | nC8 | 4.0300 | | | | U |
| Aliph | nC9 | 5.6200 | | | | U |
| Aliph | Norpristane | 18.5830 | 69102635 | | | Z |
| Aliph | Phytane | 20.7870 | 83458880 | | | Z |
| Aliph | Pristane | 19.3870 | 96223462 | | | Z |

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

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

Sample ID : **W13/007946B**

Beach K3: Sandy River Visit: 3

Comments:

Part B subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:21:40 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

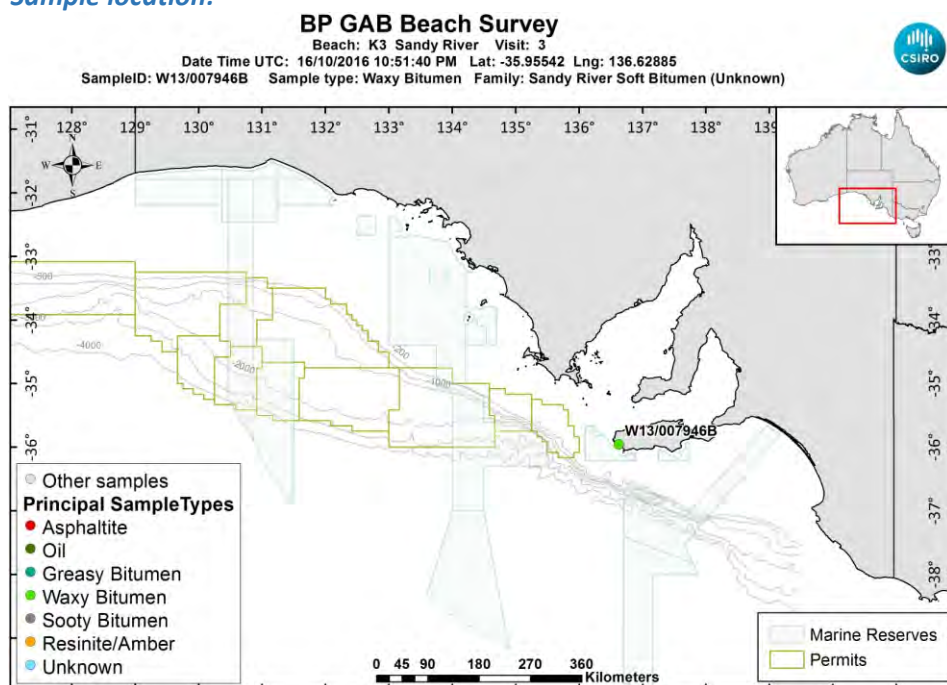
Size (cm): 2.1

Latitude (Y): -35.955422

Weight (gm): 1.23347

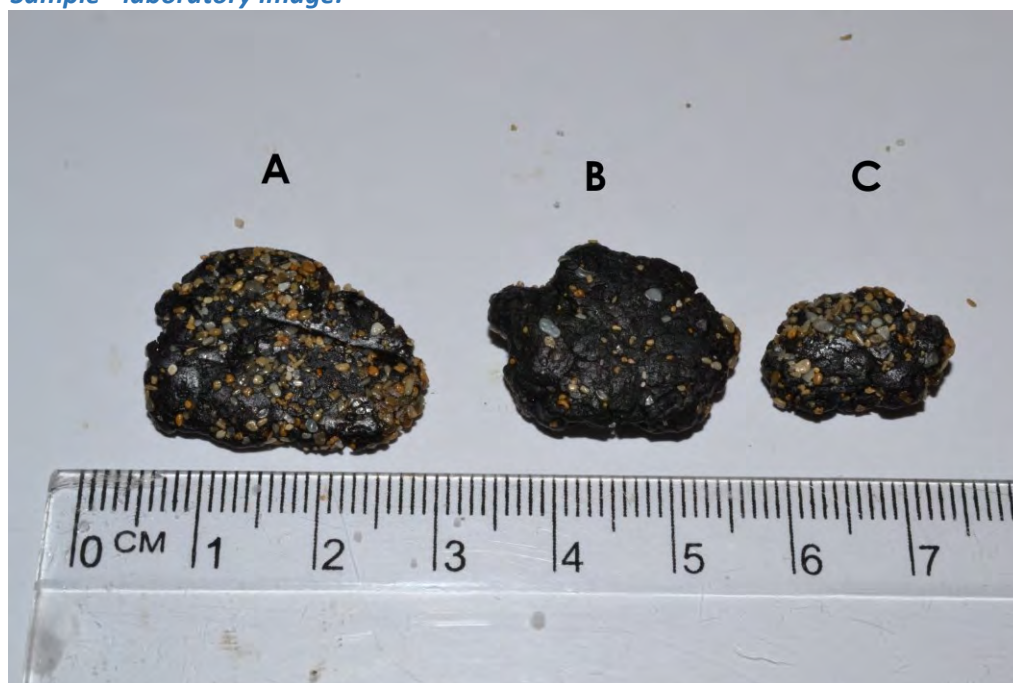
Longitude (X): 136.628853

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007946B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007946_ABC_Photo02.jpg](#)