

Sample ID : W13/007946B**Beach K3: Sandy River Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007946B_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:**

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

Data Sheet:*(default units ppb)*

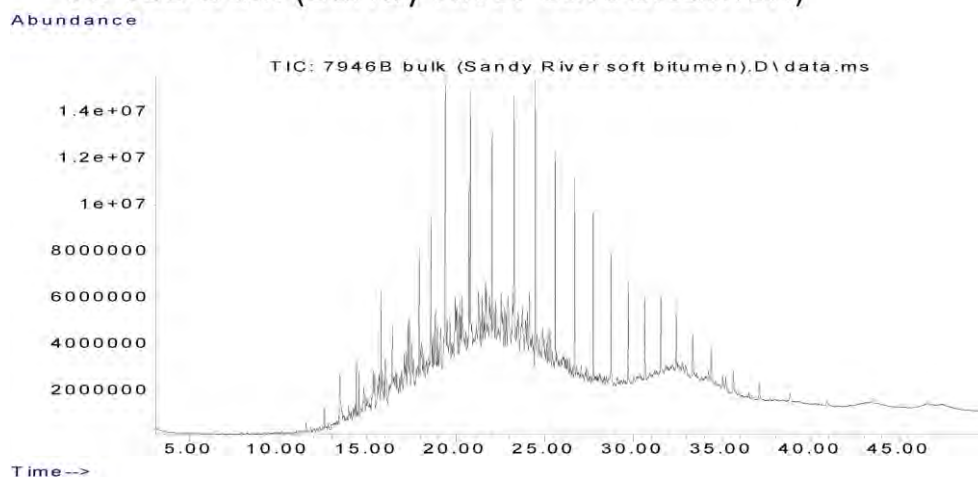
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			83.76	percent	Y
Inorg	Hydrogen		7.37770337972167		percent	Y
Inorg	Nitrogen		0.13		percent	Y
Inorg	Sulphur		2.19101856077868		percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007946B_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_007946B_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

7946B 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	6846390			Z
Aliph	nC15	16.4030	11225779			Z
Aliph	nC16	17.9160	19283254			Z
Aliph	nC17	19.3500	9829970			Z
Aliph	nC18	20.7170	32042753			Z
Aliph	nC19	22.0170	41441484			Z
Aliph	nC20	23.2570	48564502			Z
Aliph	nC21	24.4410	47120044			Z
Aliph	nC22	25.5760	41330669			Z
Aliph	nC23	26.6620	33210787			Z
Aliph	nC24	27.7060	29757008			Z
Aliph	nC25	28.7100	24797538			Z
Aliph	nC26	29.6680	19643021			Z
Aliph	nC27	30.6080	15607959			Z
Aliph	nC28	31.5080	13240867			Z
Aliph	nC29	32.3700	11325598			Z
Aliph	nC30	33.2910	9429637			Z
Aliph	nC31	34.3470	9030506			Z
Aliph	nC32	35.5720	6271278			Z
Aliph	nC33	37.0130	5813850			Z
Aliph	nC34	38.7280	3428241			Z
Aliph	nC35	40.8080	2963214			Z
Aliph	nC36	43.3510	2410578			Z
Aliph	nC37	46.4710	2490803			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	50266341			Z
Aliph	Phytane	20.7870	59282004			Z
Aliph	Pristane	19.3870	69498220			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 : **W13/007946C**

Beach K3: Sandy River Visit: 3

Comments:

Part C subsample

Location: Upper Intertidal

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

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

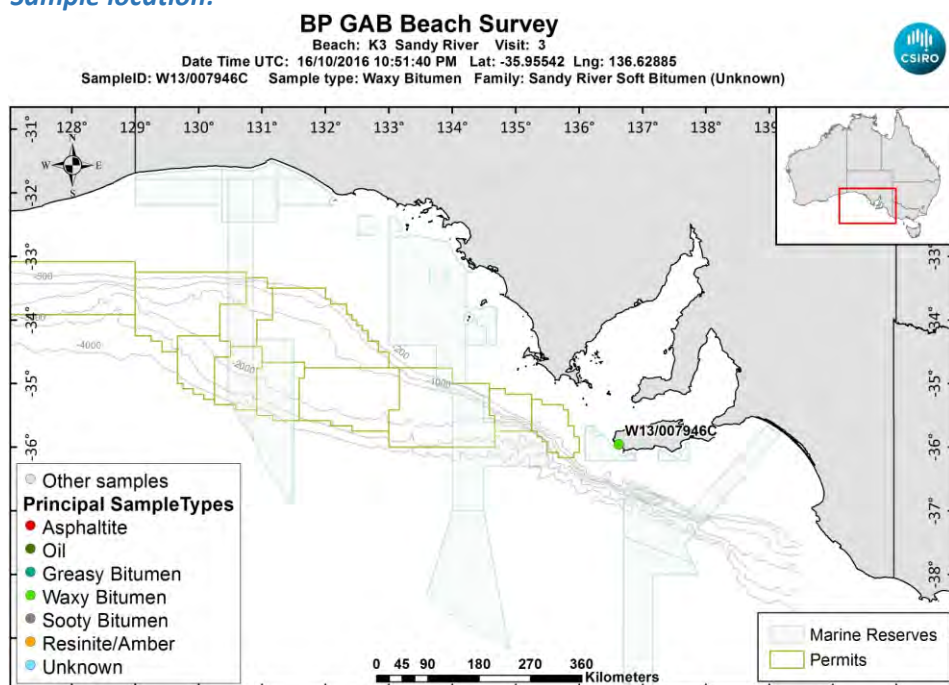
Size (cm): 1.5

Latitude (Y): -35.955422

Weight (gm): 0.54911

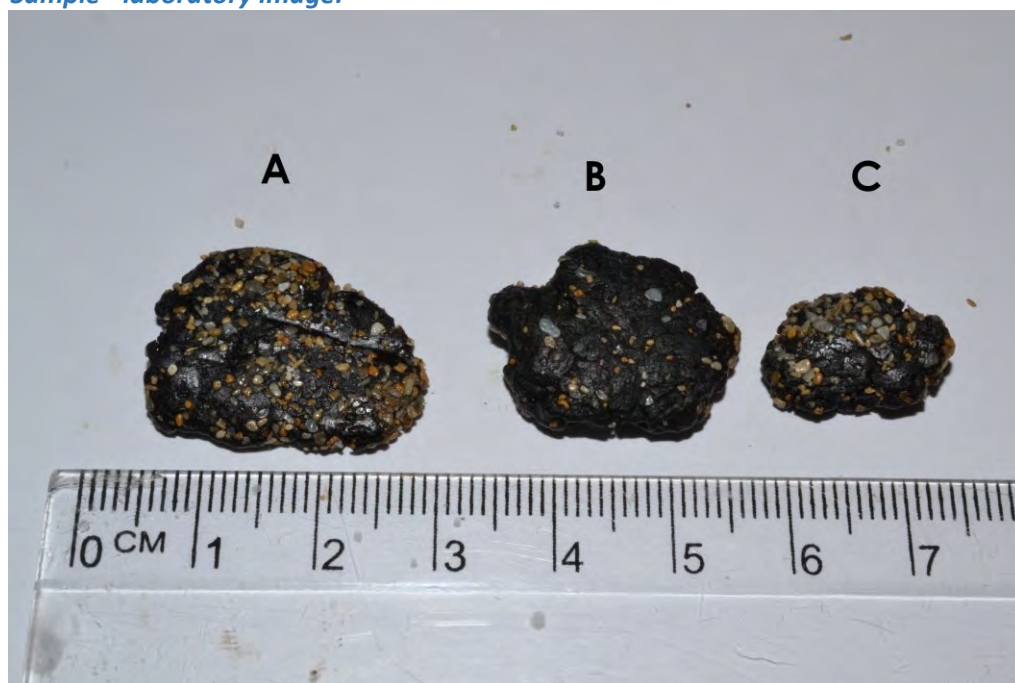
Longitude (X): 136.628853

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007946C_Location.jpg](#)

Sample - laboratory image:



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

Sample ID : W13/007946C**Beach K3: Sandy River Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID:** W13/007946C_SPE_ELEM-AN/01**Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:**

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

Data Sheet:*(default units ppb)*

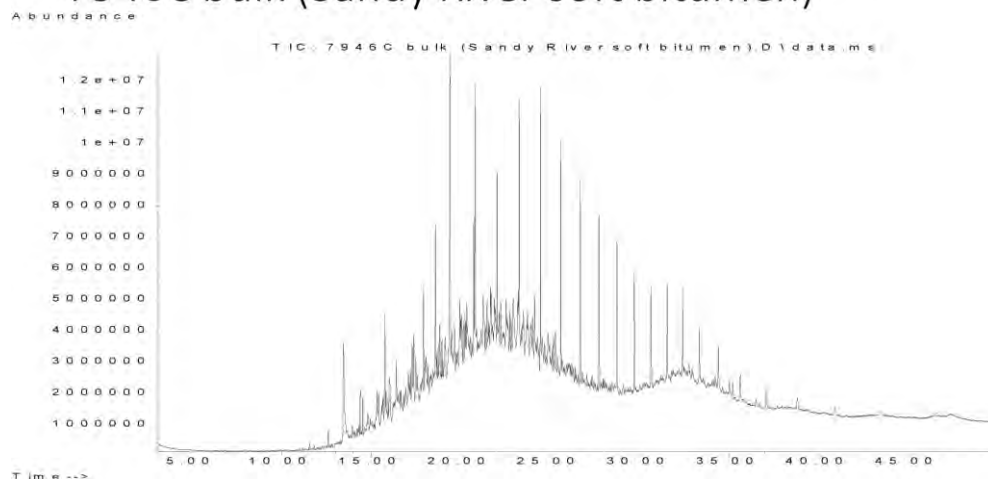
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			84.65	percent	Y
Inorg	Hydrogen			7.05861769383698	percent	Y
Inorg	Nitrogen			0.12	percent	Y
Inorg	Sulphur			2.20862124327529	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007946C_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_007946C_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

7946C 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	3720848			Z
Aliph	nC15	16.4030	6354967			Z
Aliph	nC16	17.9160	11273928			Z
Aliph	nC17	19.3500	19819777			Z
Aliph	nC18	20.7170	19634461			Z
Aliph	nC19	22.0170	27151546			Z
Aliph	nC20	23.2570	34840676			Z
Aliph	nC21	24.4410	37110375			Z
Aliph	nC22	25.5760	32152261			Z
Aliph	nC23	26.6620	27151440			Z
Aliph	nC24	27.7060	24627262			Z
Aliph	nC25	28.7100	21070281			Z
Aliph	nC26	29.6680	16580003			Z
Aliph	nC27	30.6080	13493614			Z
Aliph	nC28	31.5080	11083670			Z
Aliph	nC29	32.3700	10696854			Z
Aliph	nC30	33.2910	8417537			Z
Aliph	nC31	34.3470	8164927			Z
Aliph	nC32	35.5720	5984298			Z
Aliph	nC33	37.0130	5481659			Z
Aliph	nC34	38.7280	3971742			Z
Aliph	nC35	40.8080	2827923			Z
Aliph	nC36	43.3510	2355482			Z
Aliph	nC37	46.4710	2002714			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	39024591			Z
Aliph	Phytane	20.7870	45175205			Z
Aliph	Pristane	19.3870	51299630			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 : **W13/007947**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:23:50 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

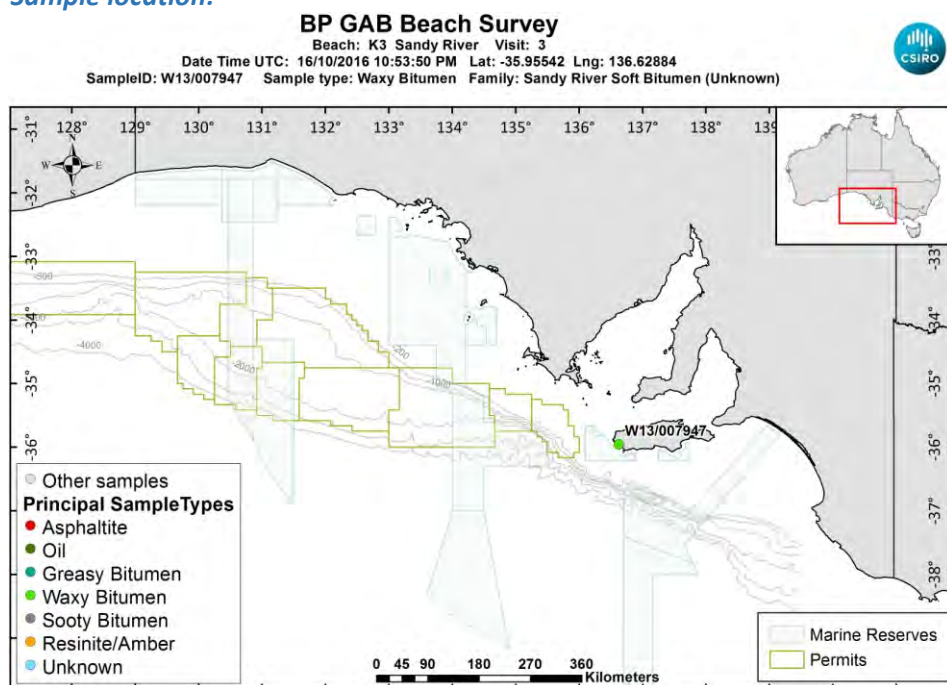
Size (cm): 2.4

Latitude (Y): -35.955415

Weight (gm): 0.64599

Longitude (X): 136.628843

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007947_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007947_146A6775.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007947_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: W13/007947_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			86.11	percent	Y
Inorg	Hydrogen			7.55673459244533	percent	Y
Inorg	Nitrogen			0.14	percent	Y
Inorg	Sulphur			2.52692101026789	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007947 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 30/10/2017

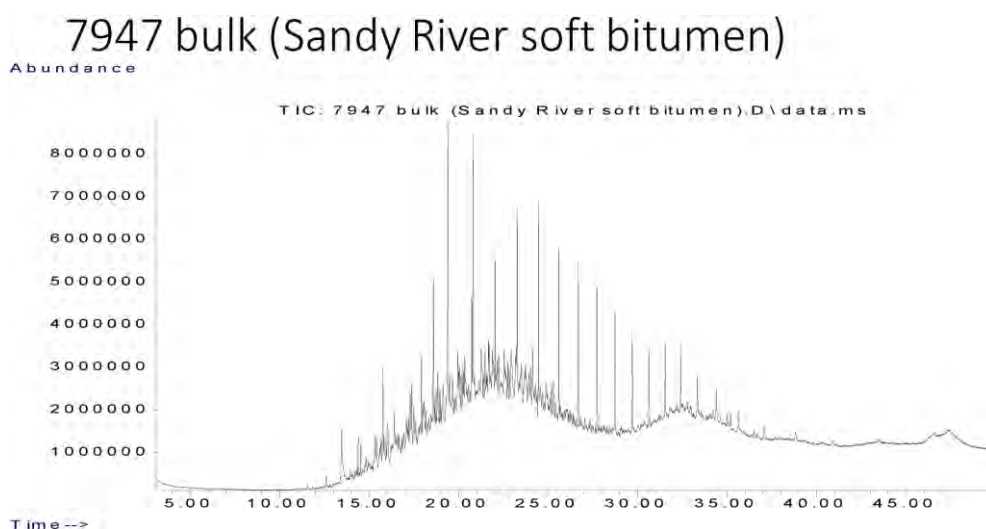
Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007947_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				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	2195351			Z
Aliph	nC15	16.4030	3310552			Z
Aliph	nC16	17.9160	6284966			Z
Aliph	nC17	19.3500	11964603			Z
Aliph	nC18	20.7170	10650650			Z
Aliph	nC19	22.0170	15098020			Z
Aliph	nC20	23.2570	20150210			Z
Aliph	nC21	24.4410	21606015			Z
Aliph	nC22	25.5760	18597184			Z
Aliph	nC23	26.6620	15672927			Z
Aliph	nC24	27.7060	13967489			Z
Aliph	nC25	28.7100	12839869			Z
Aliph	nC26	29.6680	10557839			Z
Aliph	nC27	30.6080	8540197			Z
Aliph	nC28	31.5080	7441561			Z
Aliph	nC29	32.3700	6142123			Z
Aliph	nC30	33.2910	5086078			Z
Aliph	nC31	34.3470	4876548			Z
Aliph	nC32	35.5720	3305333			Z
Aliph	nC33	37.0130	2894114			Z
Aliph	nC34	38.7280	2059830			Z
Aliph	nC35	40.8080	1714023			Z
Aliph	nC36	43.3510	1082181			Z
Aliph	nC37	46.4710	1847289			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	26689814			Z
Aliph	Phytane	20.7870	32317648			Z
Aliph	Pristane	19.3870	34227724			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 : **W13/007948**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:25:38 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

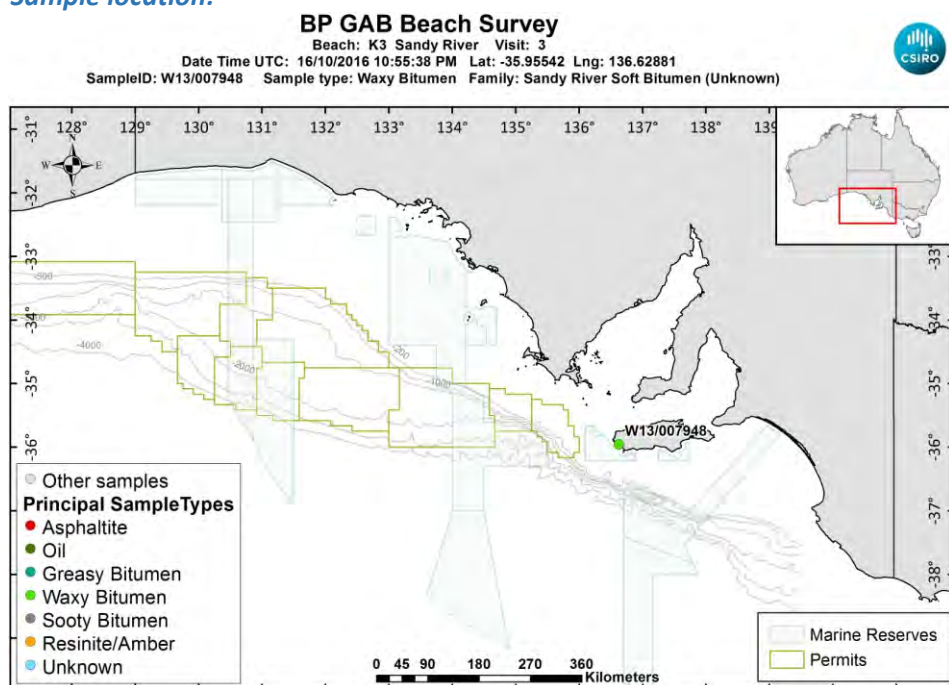
Size (cm): 2.4

Latitude (Y): -35.955420

Weight (gm): 1.0588

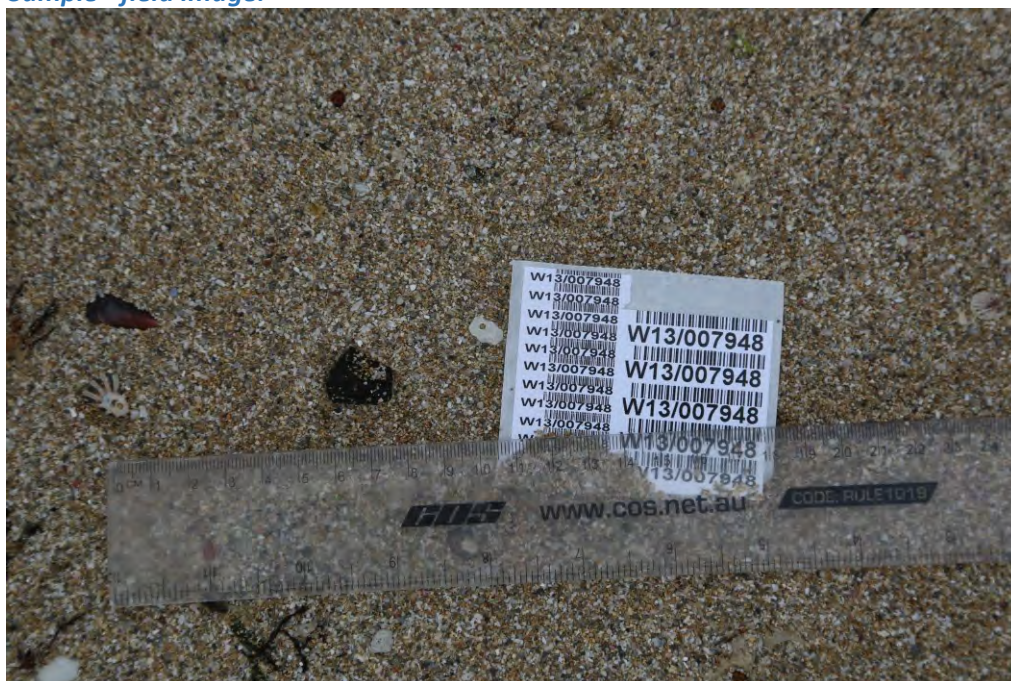
Longitude (X): 136.628810

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007948_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007948_146A6777.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007948_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: W13/007948_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			83.72	percent	Y
Inorg	Hydrogen			5.7599324055666	percent	Y
Inorg	Nitrogen			0.14	percent	Y
Inorg	Sulphur			1.89790356996301	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007948 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_007948_bulk_WholeOil.jpg](#)

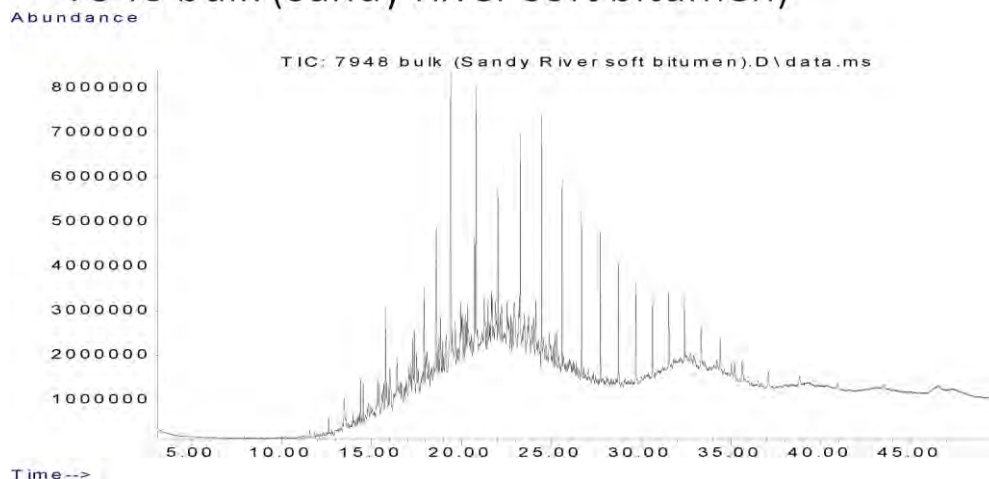
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7948 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	2623632			Z
Aliph	nC15	16.4030	3527519			Z
Aliph	nC16	17.9160	6411758			Z
Aliph	nC17	19.3500	5219691			Z
Aliph	nC18	20.7170	11281786			Z
Aliph	nC19	22.0170	16088326			Z
Aliph	nC20	23.2570	20919278			Z
Aliph	nC21	24.4410	21420520			Z
Aliph	nC22	25.5760	19438143			Z
Aliph	nC23	26.6620	16451737			Z
Aliph	nC24	27.7060	15022312			Z
Aliph	nC25	28.7100	11141116			Z
Aliph	nC26	29.6680	9634568			Z
Aliph	nC27	30.6080	7942072			Z
Aliph	nC28	31.5080	6609846			Z
Aliph	nC29	32.3700	5420941			Z
Aliph	nC30	33.2910	4740803			Z
Aliph	nC31	34.3470	4391069			Z
Aliph	nC32	35.5720	3691491			Z
Aliph	nC33	37.0130	2641777			Z
Aliph	nC34	38.7280	2556649			Z
Aliph	nC35	40.8080	1625649			Z
Aliph	nC36	43.3510	1701288			Z
Aliph	nC37	46.4710	1744085			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	25693119			Z
Aliph	Phytane	20.7870	31660881			Z
Aliph	Pristane	19.3870	38211920			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 : **W13/007949**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:27:27 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

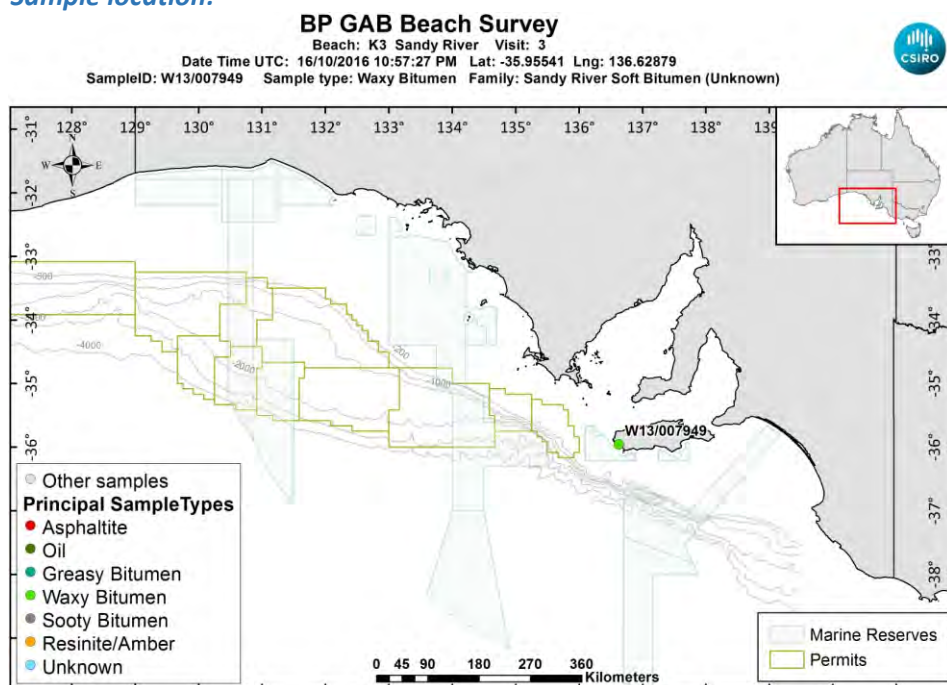
Size (cm): 4.9

Latitude (Y): -35.955408

Weight (gm): 7.16493

Longitude (X): 136.628793

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007949_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007949_146A6779.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007949_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: W13/007949_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			85.09	percent	Y
Inorg	Hydrogen			6.4023703777336	percent	Y
Inorg	Nitrogen			0.11	percent	Y
Inorg	Sulphur			1.87859371223586	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007949 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_007949_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

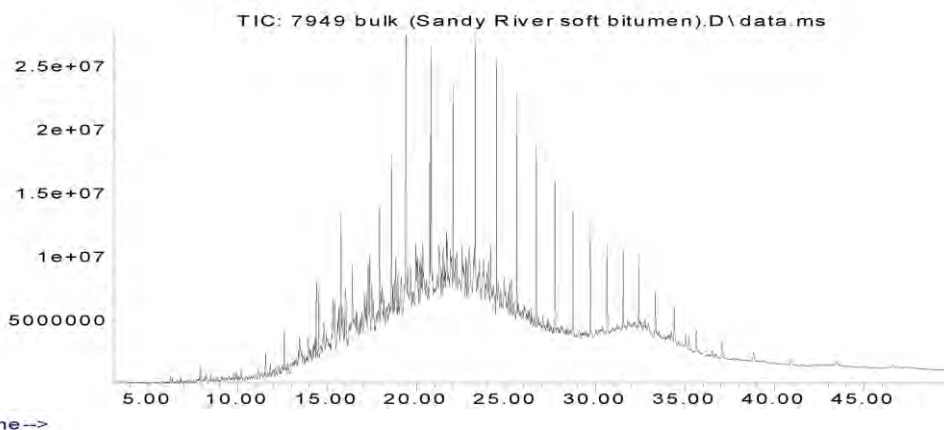
Method ID/s:

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

Results for: GCMS with Full Scan

7949 bulk (Sandy River soft bitumen)

Abundance



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	16231105			Z
Aliph	nC15	16.4030	20242905			Z
Aliph	nC16	17.9160	32626777			Z
Aliph	nC17	19.3500	75677142			Z
Aliph	nC18	20.7170	52369596			Z
Aliph	nC19	22.0170	69487333			Z
Aliph	nC20	23.2570	84553430			Z
Aliph	nC21	24.4410	84419265			Z
Aliph	nC22	25.5760	72849599			Z
Aliph	nC23	26.6620	61277266			Z
Aliph	nC24	27.7060	55296730			Z
Aliph	nC25	28.7100	43284363			Z
Aliph	nC26	29.6680	36216392			Z
Aliph	nC27	30.6080	29188539			Z
Aliph	nC28	31.5080	23884969			Z
Aliph	nC29	32.3700	20995650			Z
Aliph	nC30	33.2910	17707599			Z
Aliph	nC31	34.3470	16277688			Z
Aliph	nC32	35.5720	12312257			Z
Aliph	nC33	37.0130	10394009			Z
Aliph	nC34	38.7280	6974513			Z
Aliph	nC35	40.8080	5772985			Z
Aliph	nC36	43.3510	4228699			Z
Aliph	nC37	46.4710	4153694			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	94560415			Z
Aliph	Phytane	20.7870	104736053			Z
Aliph	Pristane	19.3870	118643843			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 : **W13/007950A**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. 4 pieces. Part A

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:28:26 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

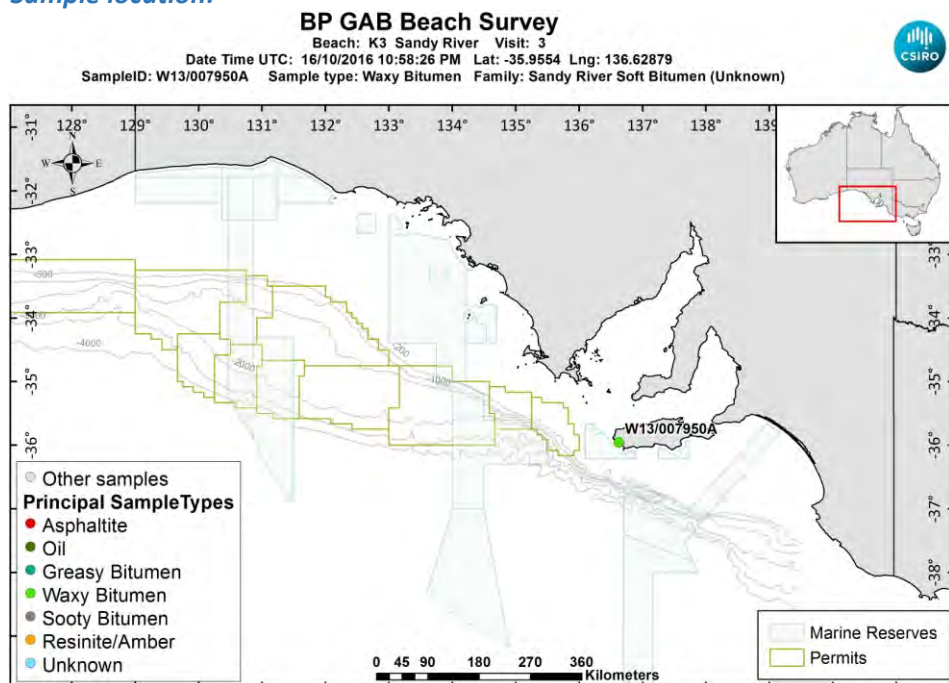
Size (cm): 2.1

Latitude (Y): -35.955405

Weight (gm): 0.75687

Longitude (X): 136.628787

Sample location:



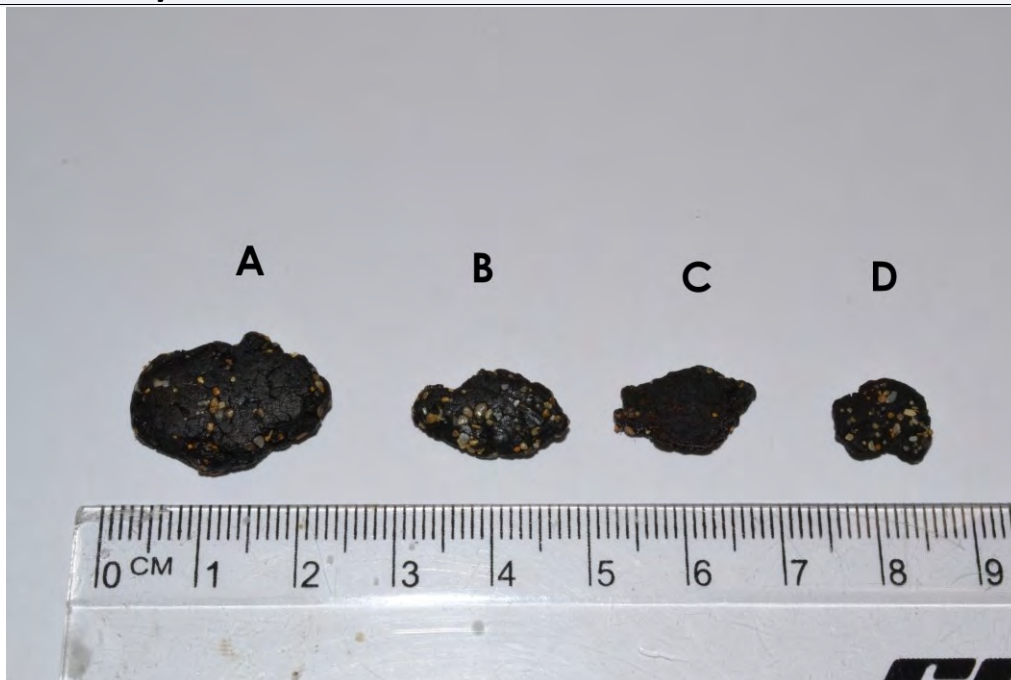
[LinkedFiles\GAB_BCH1\SampleLocations\W13_007950A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007950_146A6781.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007950_ABCD_Photo02.jpg](#)

Analyses Requested

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007950A_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			85.64	percent	Y
Inorg	Hydrogen			9.73946958250497	percent	Y
Inorg	Nitrogen			0.13	percent	Y
Inorg	Sulphur			3.03245117568452	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007950A 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_007950A_bulk_WholeOil.jpg](#)

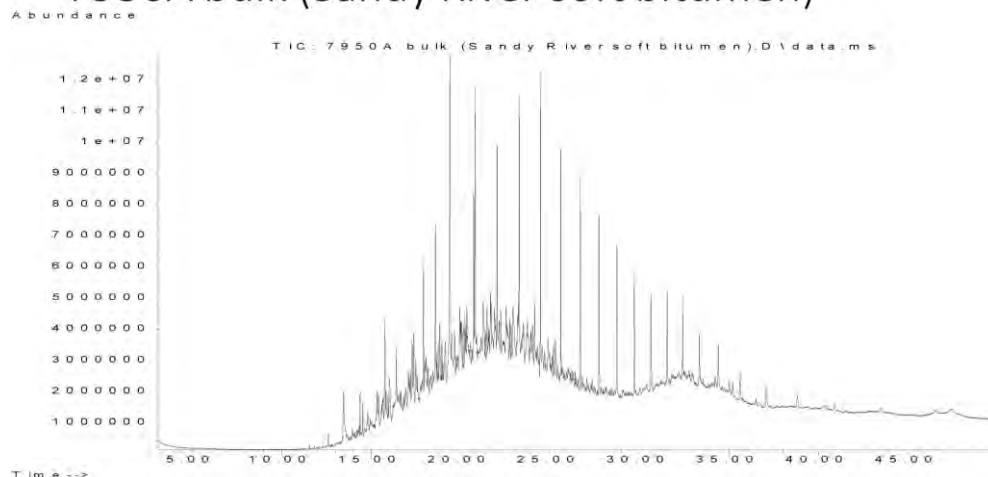
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7950A bulk (Sandy River soft bitumen)



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	4018484			Z
Aliph	nC15	16.4030	8160913			Z
Aliph	nC16	17.9160	14515645			Z
Aliph	nC17	19.3500	26878385			Z
Aliph	nC18	20.7170	25023412			Z
Aliph	nC19	22.0170	31999636			Z
Aliph	nC20	23.2570	39638300			Z
Aliph	nC21	24.4410	38522140			Z
Aliph	nC22	25.5760	33618116			Z
Aliph	nC23	26.6620	27804572			Z
Aliph	nC24	27.7060	23221678			Z
Aliph	nC25	28.7100	19199668			Z
Aliph	nC26	29.6680	16169126			Z
Aliph	nC27	30.6080	13930149			Z
Aliph	nC28	31.5080	11721521			Z
Aliph	nC29	32.3700	10823545			Z
Aliph	nC30	33.2910	8871695			Z
Aliph	nC31	34.3470	9153747			Z
Aliph	nC32	35.5720	6699924			Z
Aliph	nC33	37.0130	5908283			Z
Aliph	nC34	38.7280	3824575			Z
Aliph	nC35	40.8080	3446025			Z
Aliph	nC36	43.3510	2626951			Z
Aliph	nC37	46.4710	2411450			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	40244722			Z
Aliph	Phytane	20.7870	44463777			Z
Aliph	Pristane	19.3870	57187563			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 : W13/007950B

Beach K3: Sandy River Visit: 3

Comments:

Part B subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:28:26 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

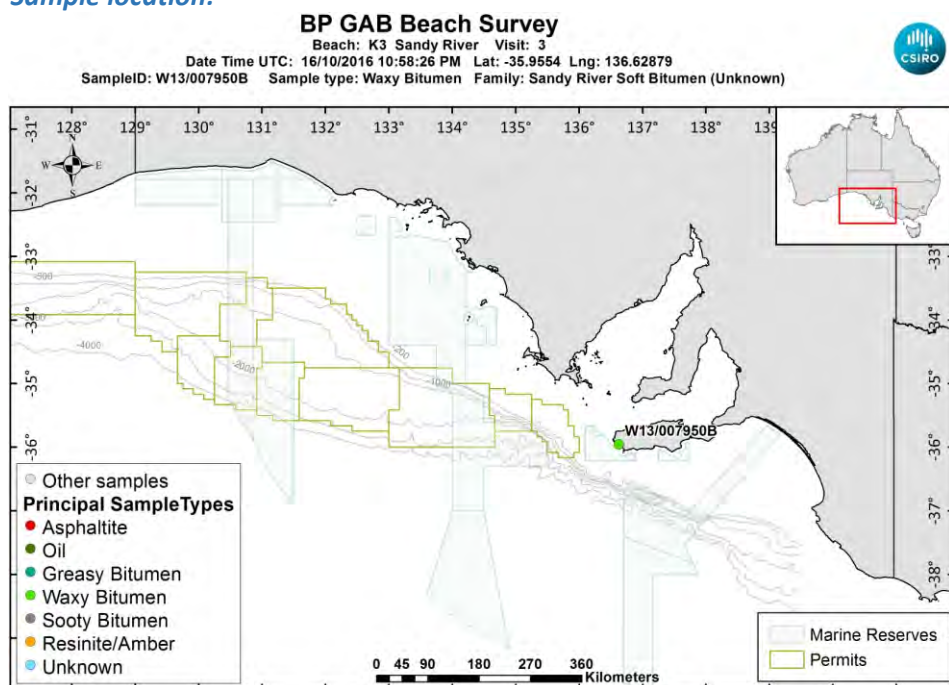
Size (cm): 1.6

Latitude (Y): -35.955405

Weight (gm): 0.29207

Longitude (X): 136.628787

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007950B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007950_ABCD_Photo02.jpg](#)

Sample ID : W13/007950B**Beach K3: Sandy River Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007950B_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:**

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

Data Sheet:*(default units ppb)*

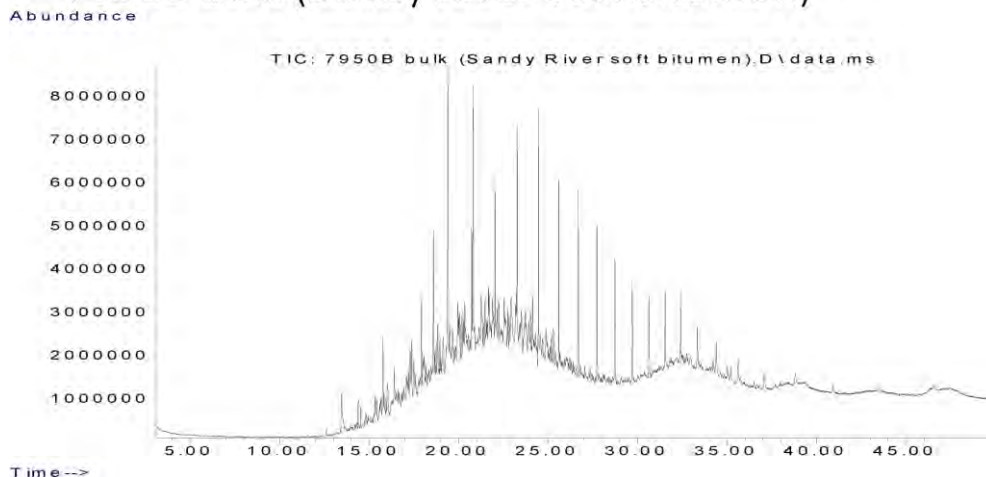
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			84.96	percent	Y
Inorg	Hydrogen			5.91647415506958	percent	Y
Inorg	Nitrogen			0.14	percent	Y
Inorg	Sulphur			1.77409855721859	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007950B_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_007950B_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

7950B 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	2101503			Z
Aliph	nC15	16.4030	3392570			Z
Aliph	nC16	17.9160	7062273			Z
Aliph	nC17	19.3500	14874578			Z
Aliph	nC18	20.7170	12467185			Z
Aliph	nC19	22.0170	17381950			Z
Aliph	nC20	23.2570	22705672			Z
Aliph	nC21	24.4410	21851903			Z
Aliph	nC22	25.5760	19624572			Z
Aliph	nC23	26.6620	16568629			Z
Aliph	nC24	27.7060	15435674			Z
Aliph	nC25	28.7100	11733132			Z
Aliph	nC26	29.6680	10157598			Z
Aliph	nC27	30.6080	8528392			Z
Aliph	nC28	31.5080	7057721			Z
Aliph	nC29	32.3700	6535690			Z
Aliph	nC30	33.2910	5184494			Z
Aliph	nC31	34.3470	4925826			Z
Aliph	nC32	35.5720	4077384			Z
Aliph	nC33	37.0130	3333425			Z
Aliph	nC34	38.7280	2245298			Z
Aliph	nC35	40.8080	2113709			Z
Aliph	nC36	43.3510	1673953			Z
Aliph	nC37	46.4710	1790878			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	27518947			Z
Aliph	Phytane	20.7870	33626171			Z
Aliph	Pristane	19.3870	32845902			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 : **W13/007950C**

Beach K3: Sandy River Visit: 3

Comments:

Part C subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:28:26 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

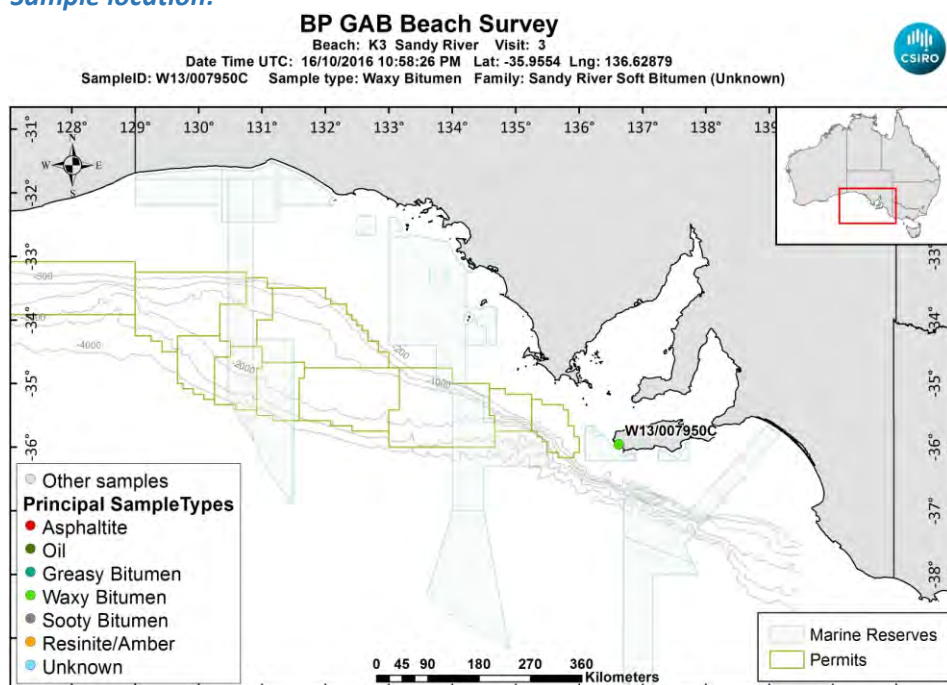
Size (cm): 1.6

Latitude (Y): -35.955405

Weight (gm): 0.24018

Longitude (X): 136.628787

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007950C_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007950_ABCD_Photo02.jpg](#)

Sample ID : W13/007950C**Beach K3: Sandy River Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID:** W13/007950C_SPE_ELEM-AN/01**Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:**

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

Data Sheet:*(default units ppb)*

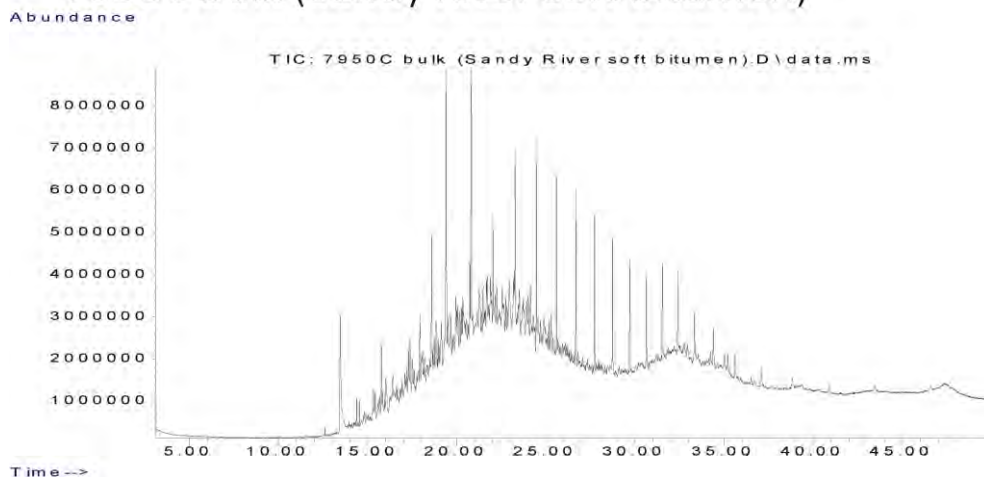
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			83.01	percent	Y
Inorg	Hydrogen			7.61708429423459	percent	Y
Inorg	Nitrogen			0.17	percent	Y
Inorg	Sulphur			3.06099881036845	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007950C_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_007950C_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

7950C 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	1839462			Z
Aliph	nC15	16.4030	2587217			Z
Aliph	nC16	17.9160	4652166			Z
Aliph	nC17	19.3500	2885542			Z
Aliph	nC18	20.7170	7556804			Z
Aliph	nC19	22.0170	11505862			Z
Aliph	nC20	23.2570	18368822			Z
Aliph	nC21	24.4410	19638044			Z
Aliph	nC22	25.5760	18544372			Z
Aliph	nC23	26.6620	16593376			Z
Aliph	nC24	27.7060	16013437			Z
Aliph	nC25	28.7100	14358192			Z
Aliph	nC26	29.6680	12018171			Z
Aliph	nC27	30.6080	10244122			Z
Aliph	nC28	31.5080	8470408			Z
Aliph	nC29	32.3700	7824877			Z
Aliph	nC30	33.2910	6403093			Z
Aliph	nC31	34.3470	6003867			Z
Aliph	nC32	35.5720	4227124			Z
Aliph	nC33	37.0130	4040007			Z
Aliph	nC34	38.7280	2707712			Z
Aliph	nC35	40.8080	2070843			Z
Aliph	nC36	43.3510	2064472			Z
Aliph	nC37	46.4710	1492376			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	25251091			Z
Aliph	Phytane	20.7870	33523673			Z
Aliph	Pristane	19.3870	33728244			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 : W13/007950D

Beach K3: Sandy River Visit: 3

Comments:

Part D subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:28:26 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

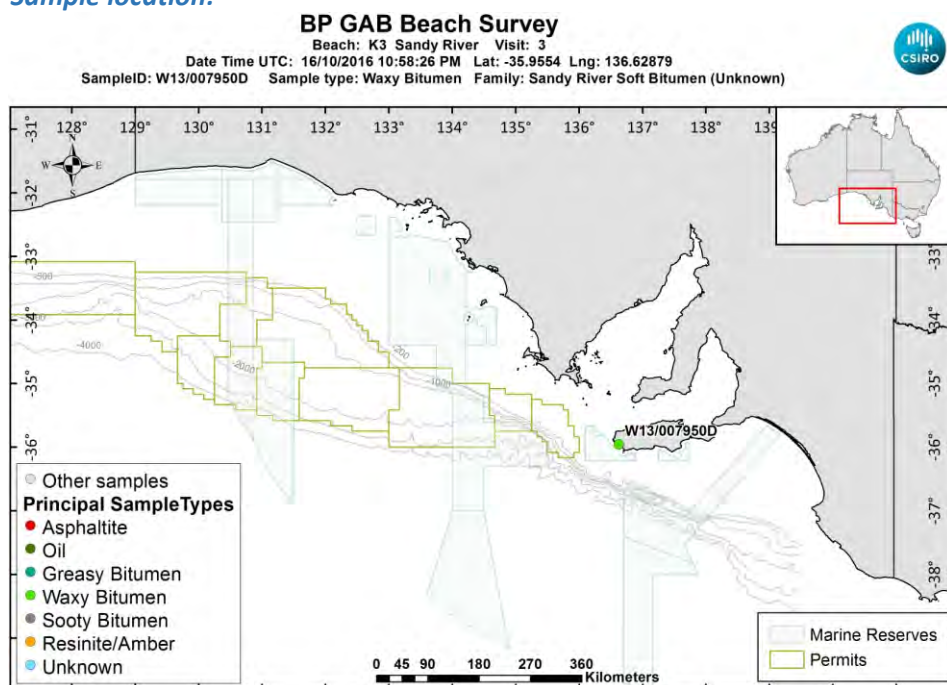
Size (cm): 1

Latitude (Y): -35.955405

Weight (gm): 0.15392

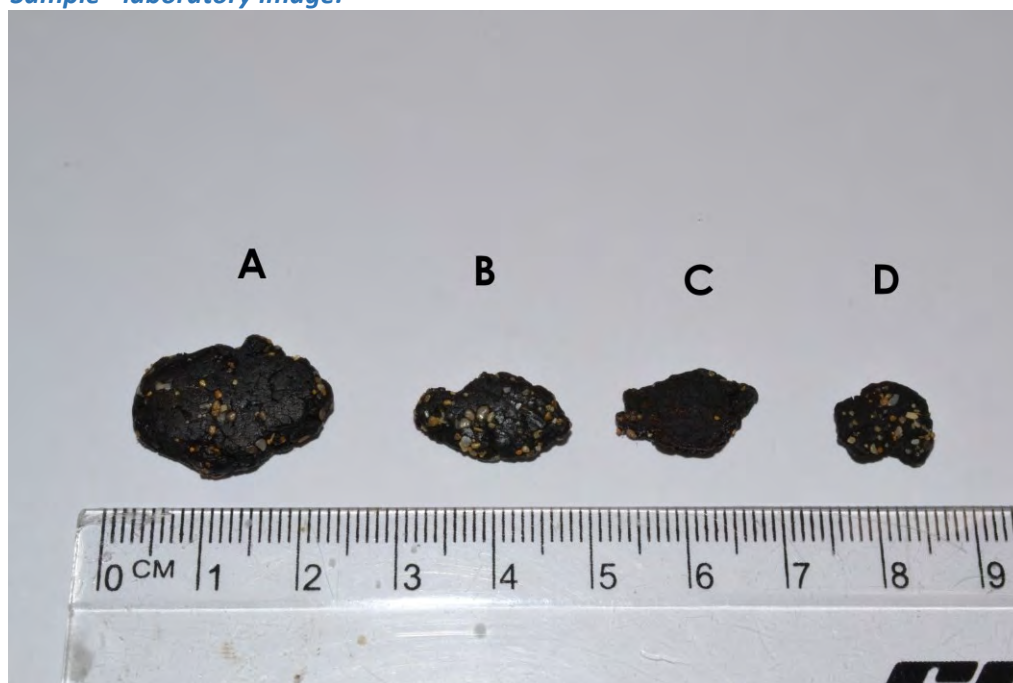
Longitude (X): 136.628787

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007950D_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007950_ABCD_Photo02.jpg](#)

Sample ID : W13/007950D

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: W13/007950D_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_007950D_bulk_WholeOil.jpg](#)

Sample Volume:

Volume Units:

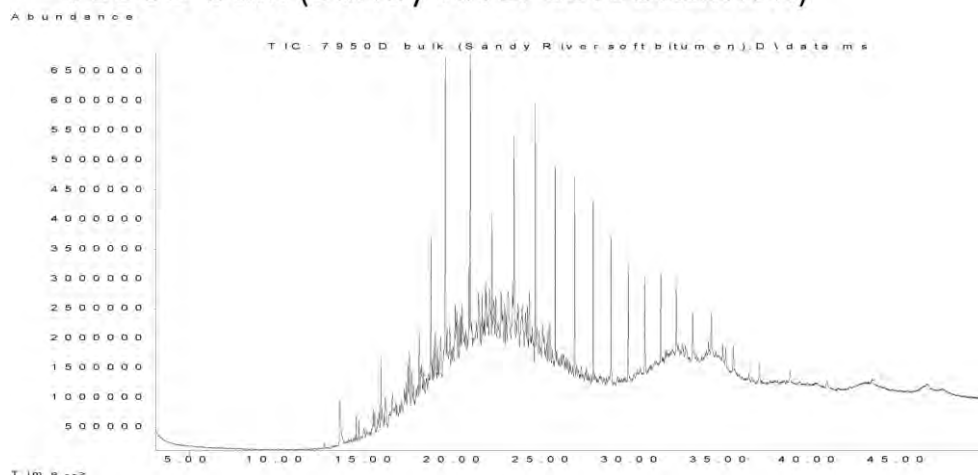
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7950D 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	1092360			Z
Aliph	nC15	16.4030	1474387			Z
Aliph	nC16	17.9160	3054827			Z
Aliph	nC17	19.3500	9424449			Z
Aliph	nC18	20.7170	5624724			Z
Aliph	nC19	22.0170	9091519			Z
Aliph	nC20	23.2570	14931512			Z
Aliph	nC21	24.4410	16030426			Z
Aliph	nC22	25.5760	15016230			Z
Aliph	nC23	26.6620	13291716			Z
Aliph	nC24	27.7060	12892705			Z
Aliph	nC25	28.7100	10483460			Z
Aliph	nC26	29.6680	8717969			Z
Aliph	nC27	30.6080	7390116			Z
Aliph	nC28	31.5080	6151658			Z
Aliph	nC29	32.3700	5453044			Z
Aliph	nC30	33.2910	4154522			Z
Aliph	nC31	34.3470	4832530			Z
Aliph	nC32	35.5720	3329550			Z
Aliph	nC33	37.0130	2528438			Z
Aliph	nC34	38.7280	2320123			Z
Aliph	nC35	40.8080	1732830			Z
Aliph	nC36	43.3510	1746453			Z
Aliph	nC37	46.4710	1957612			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	18967092			Z
Aliph	Phytane	20.7870	27162366			Z
Aliph	Pristane	19.3870	25816994			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 : **W13/007951**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:31:08 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

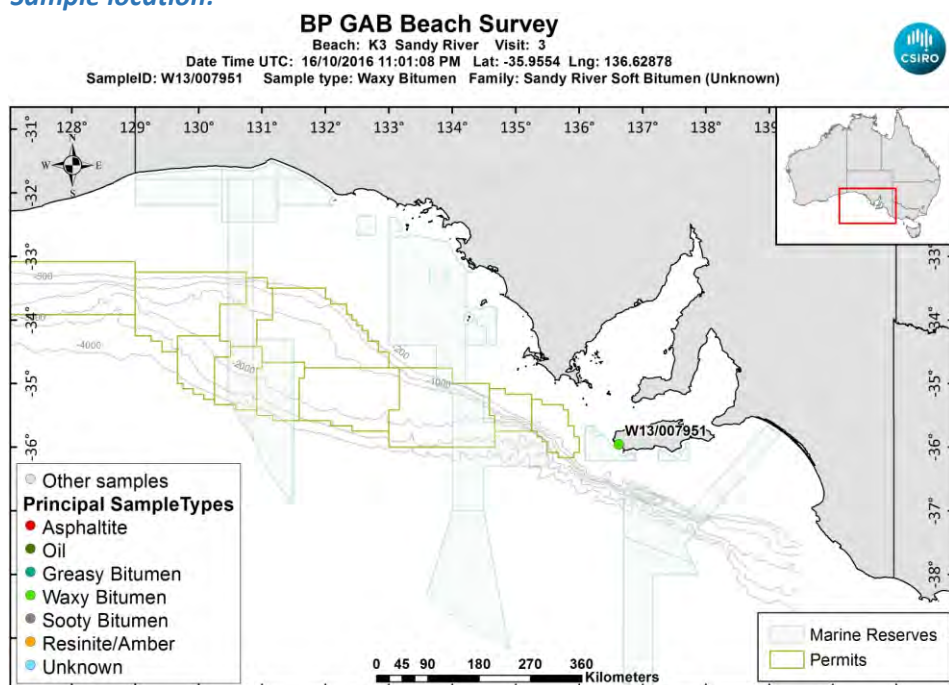
Size (cm): 1.3

Latitude (Y): -35.955400

Weight (gm): 0.32411

Longitude (X): 136.628785

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007951_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007951_146A6783.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007951_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: W13/007951_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			80.49	percent	Y
Inorg	Hydrogen			7.70412206759443	percent	Y
Inorg	Nitrogen			0.12	percent	Y
Inorg	Sulphur			2.32969964324715	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007951 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_007951_bulk_WholeOil.jpg](#)

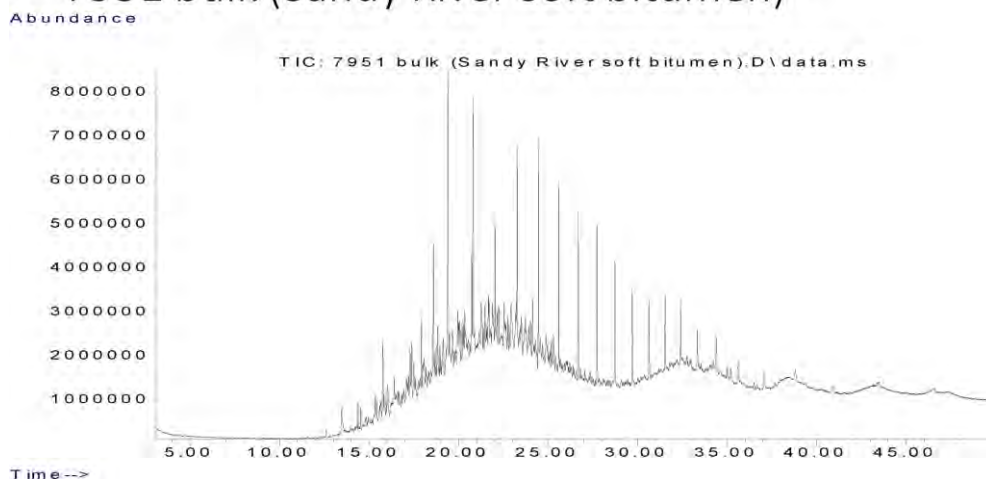
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7951 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	1390986			Z
Aliph	nC15	16.4030	2482811			Z
Aliph	nC16	17.9160	5183262			Z
Aliph	nC17	19.3500	13124768			Z
Aliph	nC18	20.7170	9574803			Z
Aliph	nC19	22.0170	13610656			Z
Aliph	nC20	23.2570	20025941			Z
Aliph	nC21	24.4410	20106715			Z
Aliph	nC22	25.5760	18749269			Z
Aliph	nC23	26.6620	16070861			Z
Aliph	nC24	27.7060	15167404			Z
Aliph	nC25	28.7100	11466941			Z
Aliph	nC26	29.6680	10022510			Z
Aliph	nC27	30.6080	8259760			Z
Aliph	nC28	31.5080	6769378			Z
Aliph	nC29	32.3700	6085464			Z
Aliph	nC30	33.2910	5134746			Z
Aliph	nC31	34.3470	5317042			Z
Aliph	nC32	35.5720	3858710			Z
Aliph	nC33	37.0130	3561116			Z
Aliph	nC34	38.7280	2790819			Z
Aliph	nC35	40.8080	1857171			Z
Aliph	nC36	43.3510	2104311			Z
Aliph	nC37	46.4710	1680676			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	25844138			Z
Aliph	Phytane	20.7870	31331413			Z
Aliph	Pristane	19.3870	31463987			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 : **W13/007952A**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. 4 pieces located close together. Part A

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:32:40 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

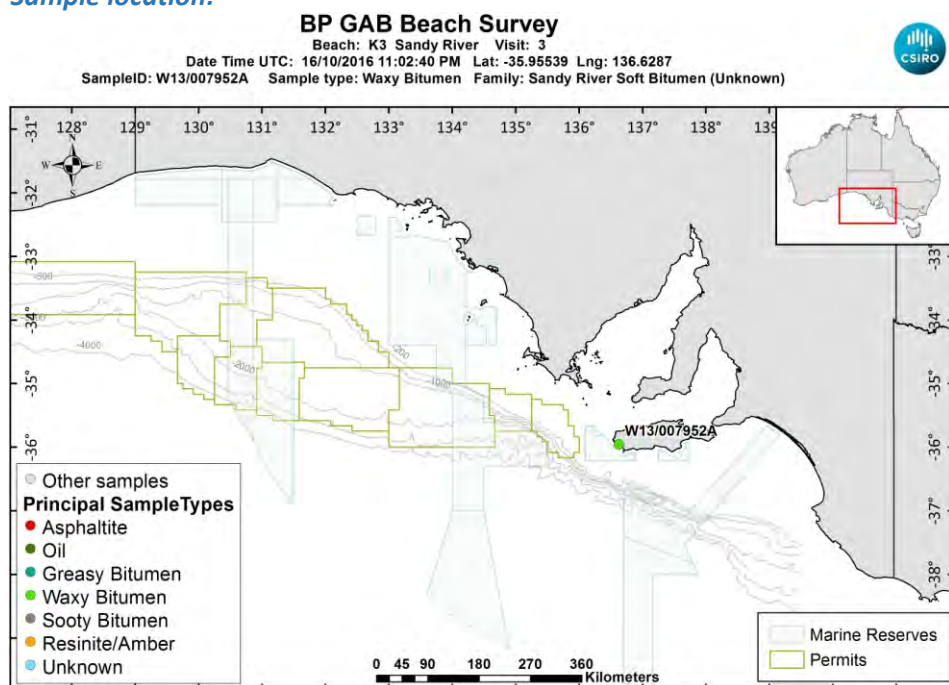
Size (cm): 2.2

Latitude (Y): -35.955387

Weight (gm): 1.53053

Longitude (X): 136.628705

Sample location:



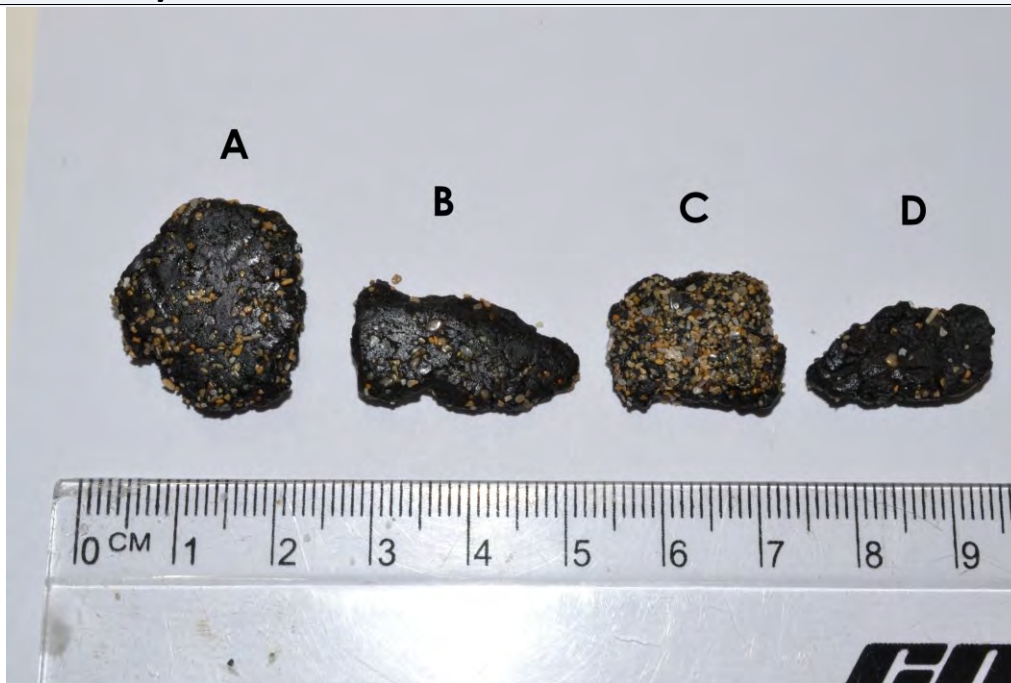
[LinkedFiles\GAB_BCH1\SampleLocations\W13_007952A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007952_146A6786.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007952_ABCD_Photo02.jpg](#)

Analyses Requested

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007952A_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			85.69	percent	Y
Inorg	Hydrogen			7.75778667992048	percent	Y
Inorg	Nitrogen			0.12	percent	Y
Inorg	Sulphur			2.36020352959218	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007952A 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_007952A_bulk_WholeOil.jpg](#)

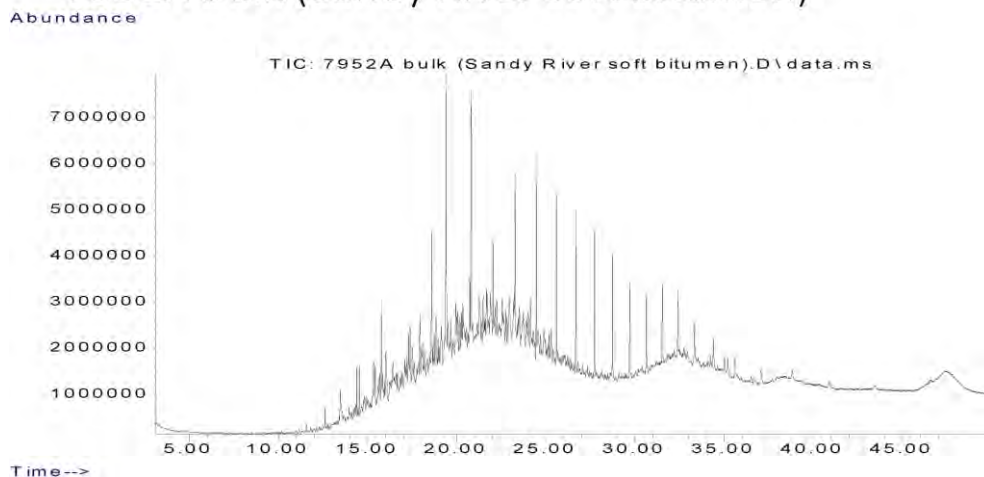
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7952A 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	2038722			Z
Aliph	nC15	16.4030	1946859			Z
Aliph	nC16	17.9160	3521570			Z
Aliph	nC17	19.3500	10903249			Z
Aliph	nC18	20.7170	6304758			Z
Aliph	nC19	22.0170	10017335			Z
Aliph	nC20	23.2570	15588562			Z
Aliph	nC21	24.4410	17514326			Z
Aliph	nC22	25.5760	16193396			Z
Aliph	nC23	26.6620	14429210			Z
Aliph	nC24	27.7060	13583141			Z
Aliph	nC25	28.7100	11325421			Z
Aliph	nC26	29.6680	9815036			Z
Aliph	nC27	30.6080	7727606			Z
Aliph	nC28	31.5080	6411142			Z
Aliph	nC29	32.3700	5732790			Z
Aliph	nC30	33.2910	4501455			Z
Aliph	nC31	34.3470	4276035			Z
Aliph	nC32	35.5720	3157677			Z
Aliph	nC33	37.0130	3057025			Z
Aliph	nC34	38.7280	1924799			Z
Aliph	nC35	40.8080	1421310			Z
Aliph	nC36	43.3510	1382812			Z
Aliph	nC37	46.4710	1940216			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	22491747			Z
Aliph	Phytane	20.7870	29882249			Z
Aliph	Pristane	19.3870	29391735			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 : **W13/007952B**

Beach K3: Sandy River Visit: 3

Comments:

Part B subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:32:40 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

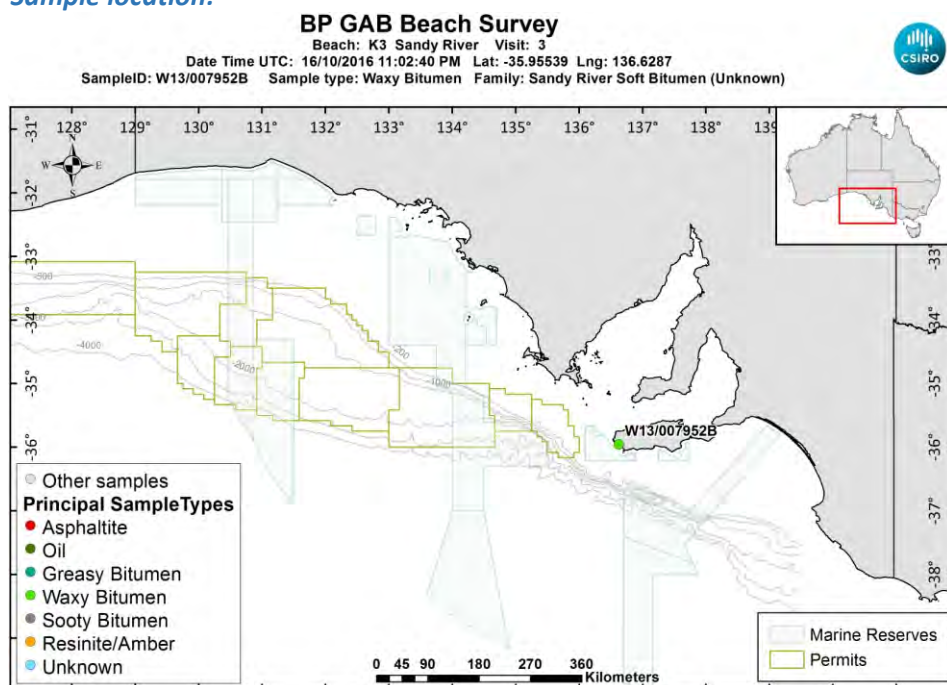
Size (cm): 2.4

Latitude (Y): -35.955387

Weight (gm): 0.75255

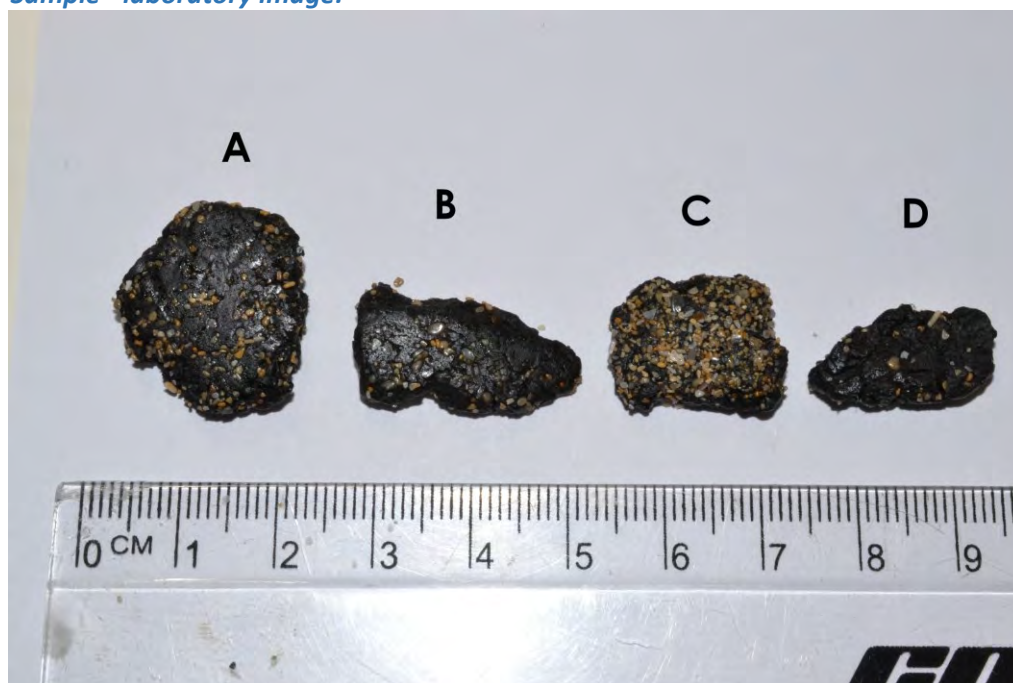
Longitude (X): 136.628705

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007952B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007952_ABCD_Photo02.jpg](#)

Sample ID : W13/007952B**Beach K3: Sandy River Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007952B_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:**

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

Data Sheet:*(default units ppb)*

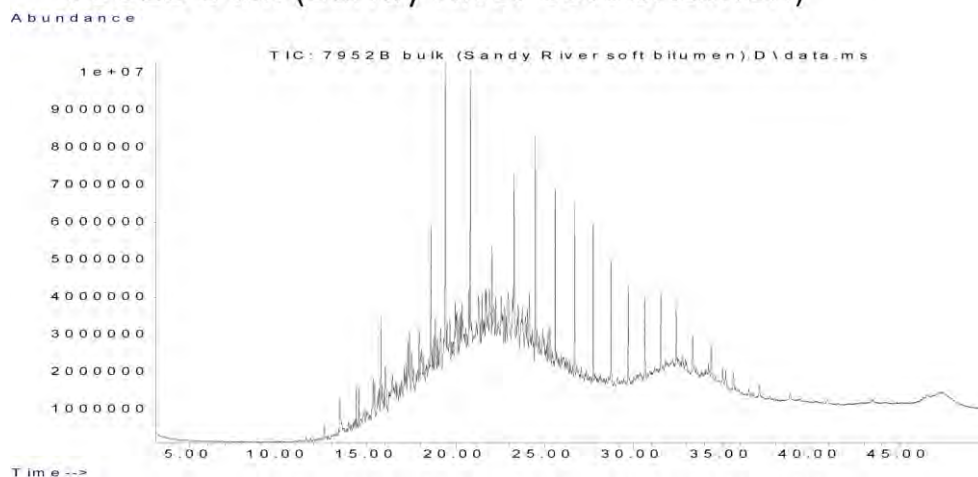
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.36	percent	Y
Inorg	Hydrogen		10.0441312127237		percent	Y
Inorg	Nitrogen		0.15		percent	Y
Inorg	Sulphur		3.18533201605487		percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007952B_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_007952B_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

7952B 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	1976519			Z
Aliph	nC15	16.4030	2159998			Z
Aliph	nC16	17.9160	3611639			Z
Aliph	nC17	19.3500	10532956			Z
Aliph	nC18	20.7170	5774386			Z
Aliph	nC19	22.0170	10851403			Z
Aliph	nC20	23.2570	20055021			Z
Aliph	nC21	24.4410	22743132			Z
Aliph	nC22	25.5760	21085491			Z
Aliph	nC23	26.6620	18533120			Z
Aliph	nC24	27.7060	17201743			Z
Aliph	nC25	28.7100	14546191			Z
Aliph	nC26	29.6680	12299514			Z
Aliph	nC27	30.6080	9585703			Z
Aliph	nC28	31.5080	8147092			Z
Aliph	nC29	32.3700	6953881			Z
Aliph	nC30	33.2910	5522234			Z
Aliph	nC31	34.3470	5555782			Z
Aliph	nC32	35.5720	4258173			Z
Aliph	nC33	37.0130	3222046			Z
Aliph	nC34	38.7280	2440147			Z
Aliph	nC35	40.8080	1834066			Z
Aliph	nC36	43.3510	1425137			Z
Aliph	nC37	46.4710	1672337			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	29936101			Z
Aliph	Phytane	20.7870	38783731			Z
Aliph	Pristane	19.3870	36825698			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 : **W13/007952C**

Beach K3: Sandy River Visit: 3

Comments:

Part C subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:32:40 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

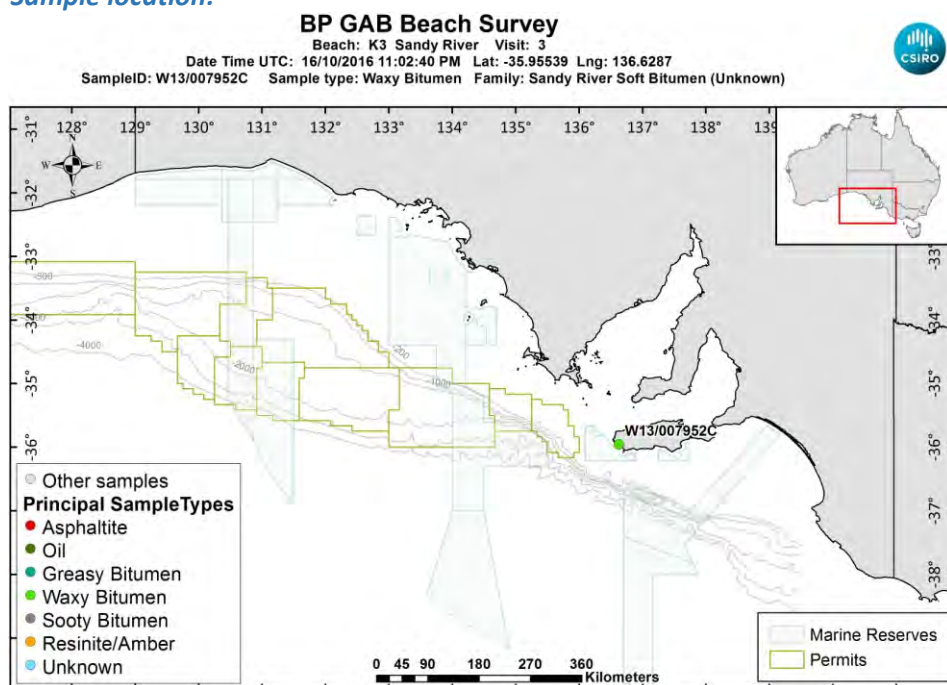
Size (cm): 2

Latitude (Y): -35.955387

Weight (gm): 0.77775

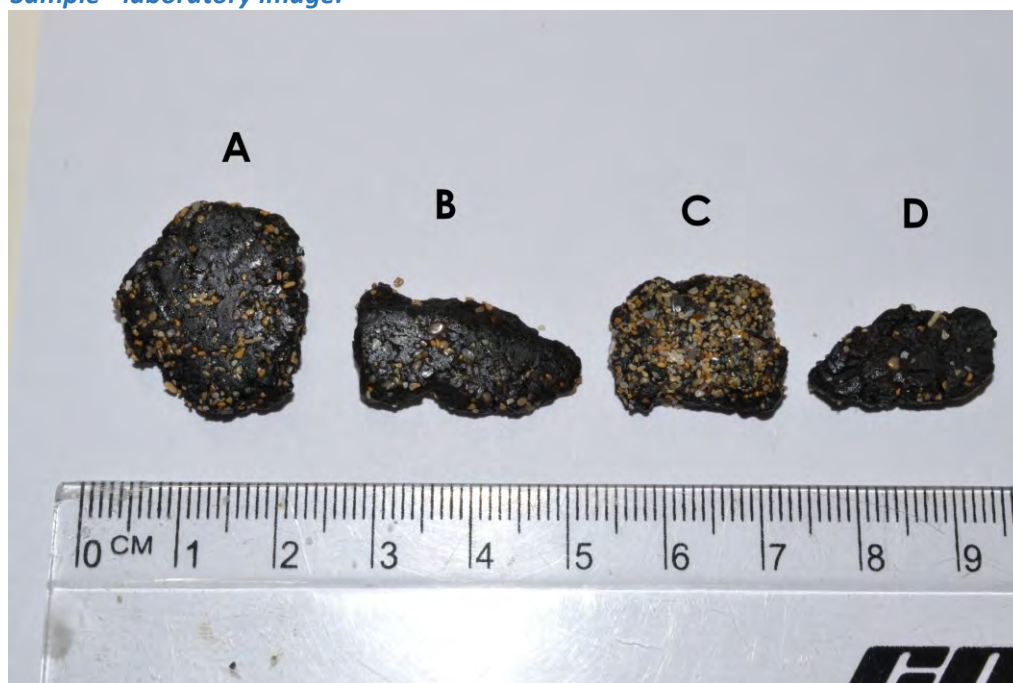
Longitude (X): 136.628705

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007952C_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007952_ABCD_Photo02.jpg](#)

Sample ID : W13/007952C**Beach K3: Sandy River Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID:** W13/007952C_SPE_ELEM-AN/01**Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:**

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

Data Sheet:*(default units ppb)*

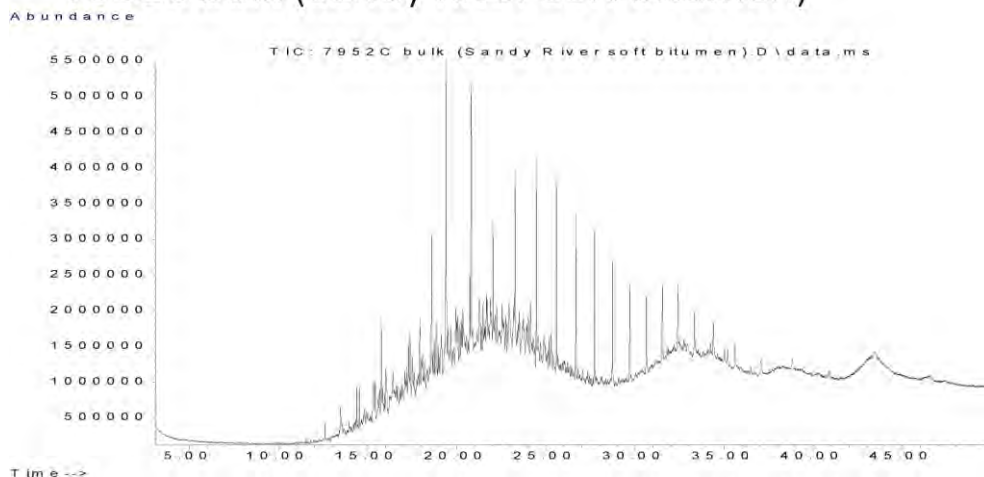
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.27	percent	Y
Inorg	Hydrogen			8.49705765407555	percent	Y
Inorg	Nitrogen			0.14	percent	Y
Inorg	Sulphur			2.65216408665077	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007952C_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_007952C_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

7952C 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	1174411			Z
Aliph	nC15	16.4030	1463287			Z
Aliph	nC16	17.9160	2849020			Z
Aliph	nC17	19.3500	7156154			Z
Aliph	nC18	20.7170	4892541			Z
Aliph	nC19	22.0170	7522858			Z
Aliph	nC20	23.2570	10634121			Z
Aliph	nC21	24.4410	11561970			Z
Aliph	nC22	25.5760	11042579			Z
Aliph	nC23	26.6620	9528210			Z
Aliph	nC24	27.7060	8628353			Z
Aliph	nC25	28.7100	7676422			Z
Aliph	nC26	29.6680	6279271			Z
Aliph	nC27	30.6080	5136350			Z
Aliph	nC28	31.5080	4347208			Z
Aliph	nC29	32.3700	3752488			Z
Aliph	nC30	33.2910	3225225			Z
Aliph	nC31	34.3470	3247695			Z
Aliph	nC32	35.5720	2647883			Z
Aliph	nC33	37.0130	1935718			Z
Aliph	nC34	38.7280	1405712			Z
Aliph	nC35	40.8080	1390381			Z
Aliph	nC36	43.3510	1874266			Z
Aliph	nC37	46.4710	913949			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	16026278			Z
Aliph	Phytane	20.7870	20396791			Z
Aliph	Pristane	19.3870	19707198			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 : W13/007952D

Beach K3: Sandy River Visit: 3

Comments:

Part D subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:32:40 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

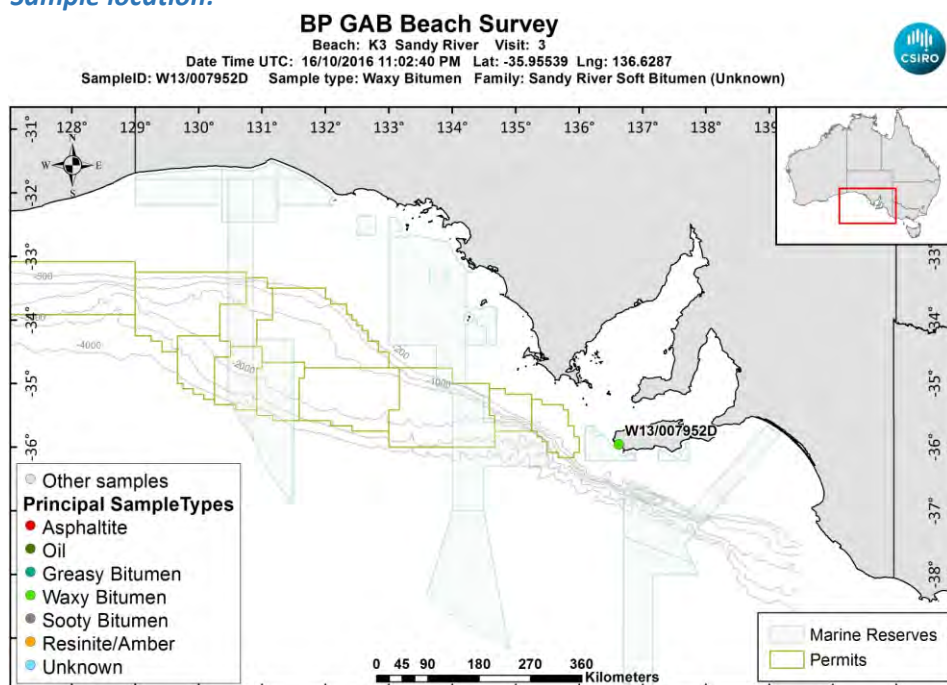
Size (cm): 2

Latitude (Y): -35.955387

Weight (gm): 0.40606

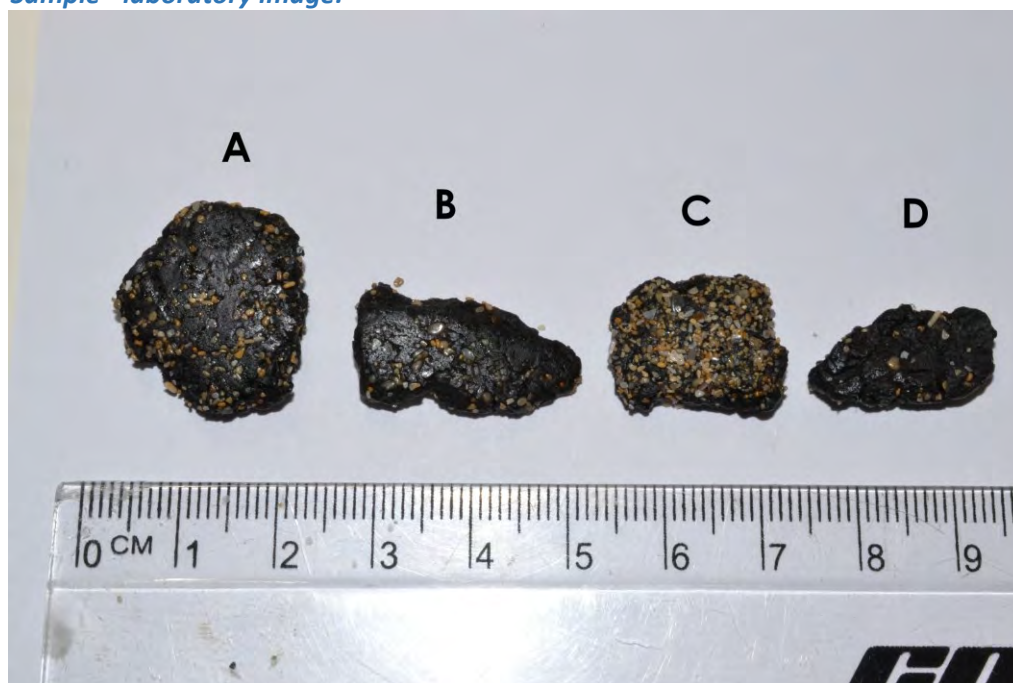
Longitude (X): 136.628705

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007952D_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007952_ABCD_Photo02.jpg](#)

Sample ID : W13/007952D**Beach K3: Sandy River Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007952D_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:**

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

Data Sheet:*(default units ppb)*

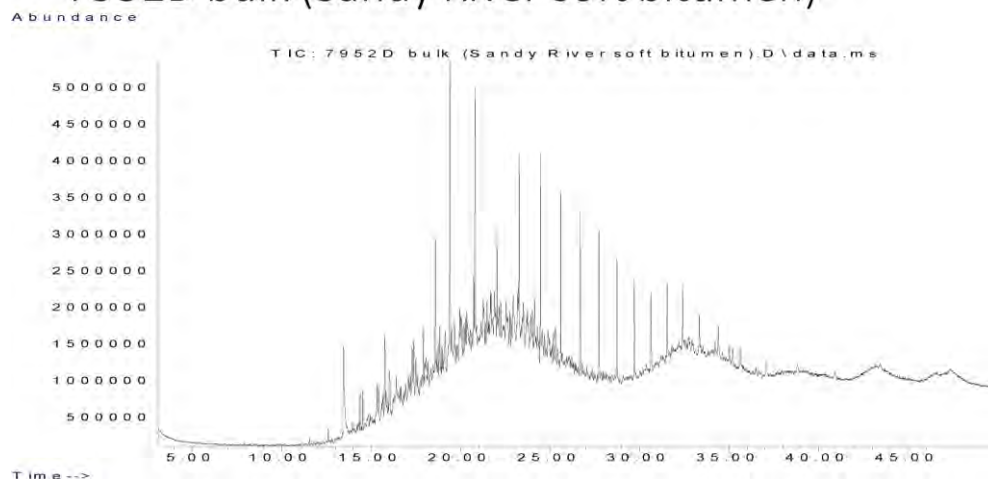
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			84.93	percent	Y
Inorg	Hydrogen			8.47028469184891	percent	Y
Inorg	Nitrogen			0.17	percent	Y
Inorg	Sulphur			2.86648627321852	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007952D_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_007952D_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

7952D 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	1097336			Z
Aliph	nC15	16.4030	1199193			Z
Aliph	nC16	17.9160	2393387			Z
Aliph	nC17	19.3500	1749259			Z
Aliph	nC18	20.7170	3958133			Z
Aliph	nC19	22.0170	6300041			Z
Aliph	nC20	23.2570	10008090			Z
Aliph	nC21	24.4410	10910122			Z
Aliph	nC22	25.5760	10297549			Z
Aliph	nC23	26.6620	9294204			Z
Aliph	nC24	27.7060	8549609			Z
Aliph	nC25	28.7100	7581668			Z
Aliph	nC26	29.6680	6168037			Z
Aliph	nC27	30.6080	5153530			Z
Aliph	nC28	31.5080	4233628			Z
Aliph	nC29	32.3700	3674806			Z
Aliph	nC30	33.2910	2938190			Z
Aliph	nC31	34.3470	2758554			Z
Aliph	nC32	35.5720	1988703			Z
Aliph	nC33	37.0130	1860335			Z
Aliph	nC34	38.7280	1642522			Z
Aliph	nC35	40.8080	916804			Z
Aliph	nC36	43.3510	881960			Z
Aliph	nC37	46.4710	1248084			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	14931073			Z
Aliph	Phytane	20.7870	19570344			Z
Aliph	Pristane	19.3870	19448807			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 : **W13/007953**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:34:42 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

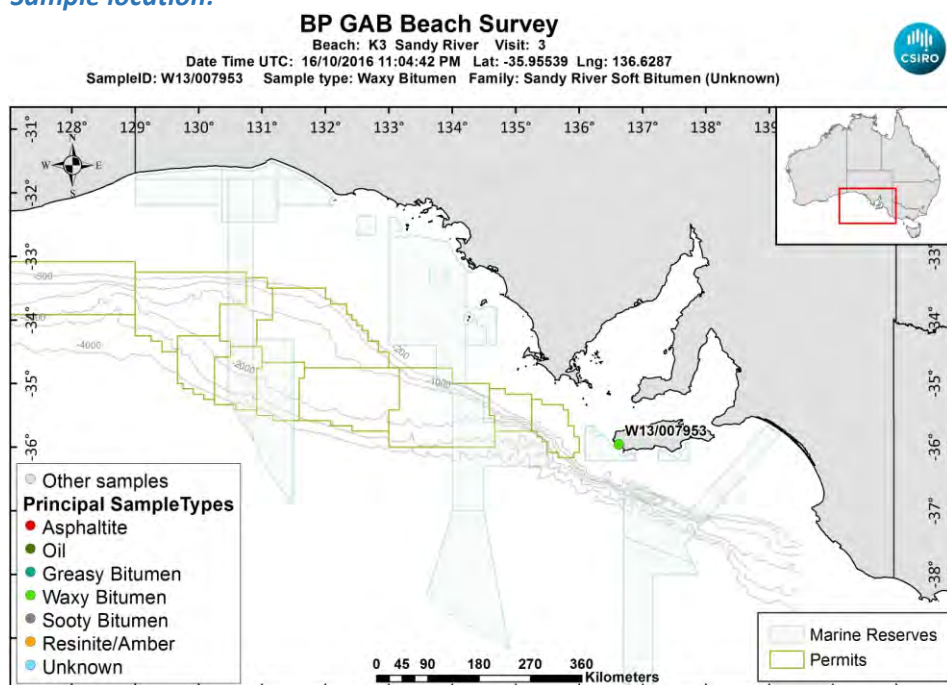
Size (cm): 5.5

Latitude (Y): -35.955390

Weight (gm): 12.70019

Longitude (X): 136.628697

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007953_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007953_146A6788.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007953_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: W13/007953 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:	Retention Time:	Target Response:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			33.0151756238232	ratio	Y
BiomRatio	% C27 abb 20(R+S)			35.1678705384401	ratio	Y
BiomRatio	% C28 aaa 20R			24.5853779475642	ratio	Y
BiomRatio	% C28 abb 20(R+S)			28.0847144016975	ratio	Y
BiomRatio	% C29 aaa 20R			42.3994464286125	ratio	Y
BiomRatio	% C29 abb 20(R+S)			36.7474150598624	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.148646626421371	ratio	Y
BiomRatio	25-Nor/C30H			0.203965212569182	ratio	Y
BiomRatio	C19t/C23t			0.229125768152971	ratio	Y
BiomRatio	C22t/C21t			0.757134242792348	ratio	Y
BiomRatio	C22t/C24t			0.390502273061227	ratio	Y
BiomRatio	C23t/C30H			0.217626612768748	ratio	Y
BiomRatio	C24t/C23t			0.473000158619431	ratio	Y
BiomRatio	C24Tet/C23t			0.345265465820924	ratio	Y
BiomRatio	C24Tet/C26t			0.498987209943645	ratio	Y
BiomRatio	C24Tet/C30H			7.51389538326314E-02	ratio	Y
BiomRatio	C26t/C25t			1.10695568002521	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.353264957781369	ratio	Y
BiomRatio	C27 Dia/Ster			0.321048752774434	ratio	Y
BiomRatio	C28BNH/C30H			9.77235391972901E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.04491442038538	ratio	Y
BiomRatio	C29H/C30H			0.569190828754741	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.210202686024717	ratio	Y
BiomRatio	C30DiaH/C30H			0.022008512844849	ratio	Y
BiomRatio	C30Ts/C30H			5.93479040954321E-02	ratio	Y
BiomRatio	C35 Homohopane Index			5.27433121404674E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.757049597574223	ratio	Y
BiomRatio	Gam/C30H			5.13463607258848E-02	ratio	Y
BiomRatio	Gam/C31HR			0.27698893856365	ratio	Y
BiomRatio	Ole/C30H			0.800560687077834	ratio	Y
BiomRatio	Sterane/hopane			0.232474521771381	ratio	Y
BiomRatio	Steranes/Terpanes			0.17805002091099	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.305669724619683	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007953_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:**

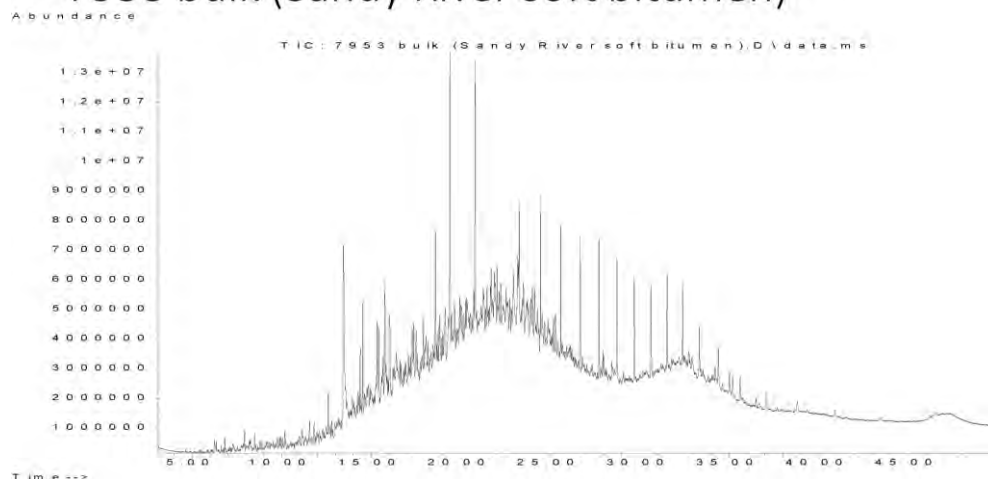
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			82.77	percent	Y
Inorg	Hydrogen			8.3080944333996	percent	Y
Inorg	Nitrogen			0.15	percent	Y
Inorg	Sulphur			2.55420932238488	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007953_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_007953_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7953 bulk (Sandy River soft bitumen)



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	4344034			Z
Aliph	nC15	16.4030	2852282			Z
Aliph	nC16	17.9160	4150869			Z
Aliph	nC17	19.3500	2075306			Z
Aliph	nC18	20.7170	5637613			Z
Aliph	nC19	22.0170	9408902			Z
Aliph	nC20	23.2570	16685812			Z
Aliph	nC21	24.4410	19646373			Z
Aliph	nC22	25.5760	19506600			Z
Aliph	nC23	26.6620	18773360			Z
Aliph	nC24	27.7060	19512435			Z
Aliph	nC25	28.7100	17916973			Z
Aliph	nC26	29.6680	16580899			Z
Aliph	nC27	30.6080	14125124			Z
Aliph	nC28	31.5080	12085508			Z
Aliph	nC29	32.3700	10851749			Z
Aliph	nC30	33.2910	8825244			Z
Aliph	nC31	34.3470	8421376			Z
Aliph	nC32	35.5720	5754672			Z
Aliph	nC33	37.0130	5397513			Z
Aliph	nC34	38.7280	4025988			Z
Aliph	nC35	40.8080	2706779			Z
Aliph	nC36	43.3510	1894958			Z
Aliph	nC37	46.4710	2254600			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	33889388			Z
Aliph	Phytane	20.7870	49188266			Z
Aliph	Pristane	19.3870	49490098			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 : **W13/007954A**

Beach K3: Sandy River Visit: 3

Comments:

Very soft. 3 pieces close together. Part A

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:36:34 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

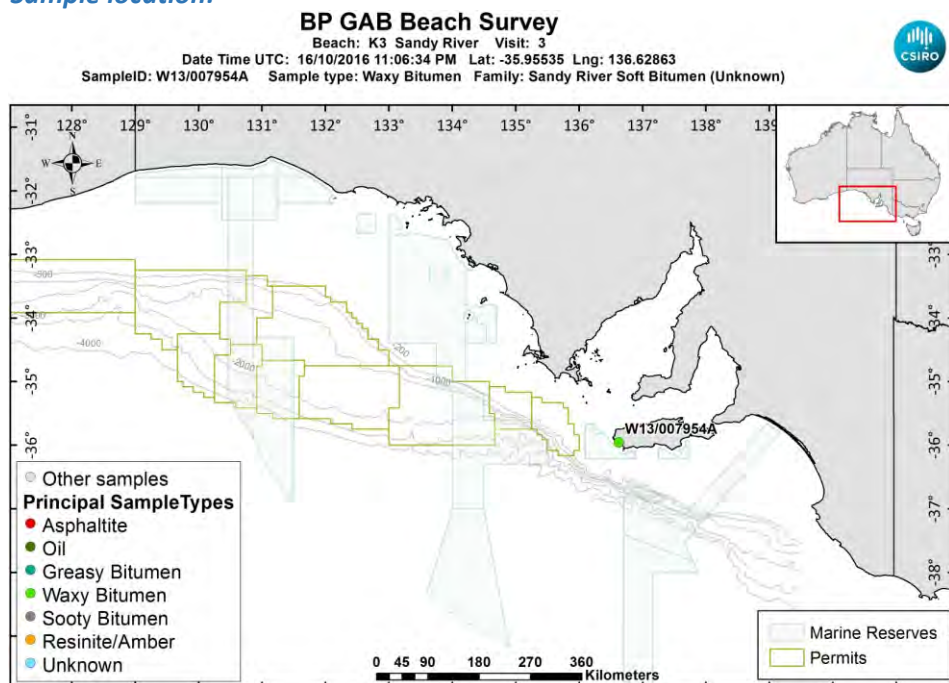
Size (cm): 1.6

Latitude (Y): -35.955352

Weight (gm): 0.49494

Longitude (X): 136.628633

Sample location:



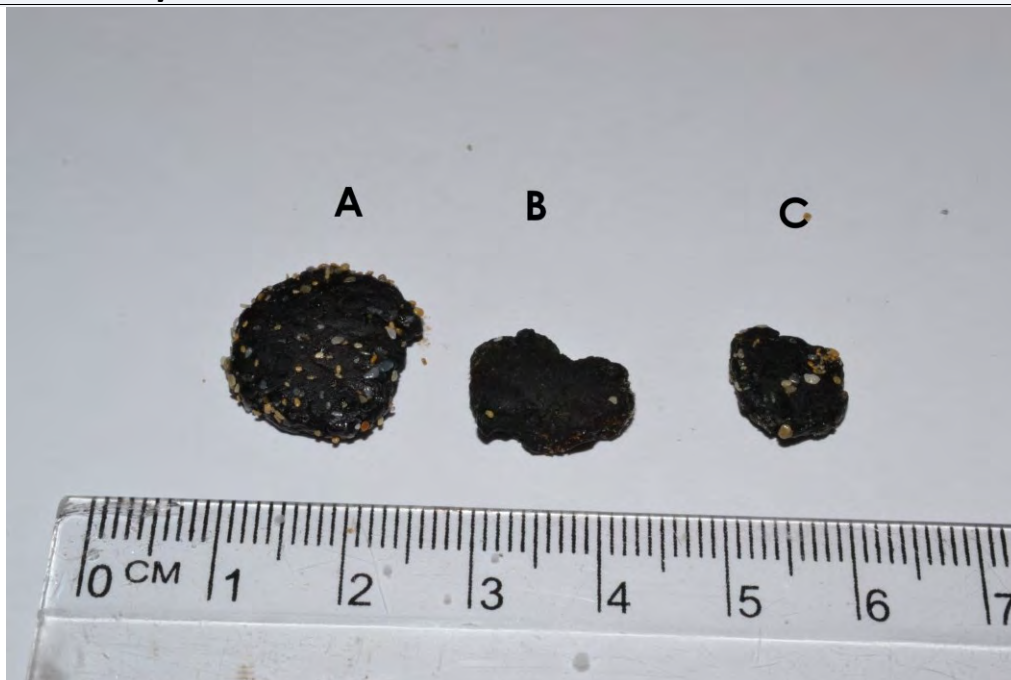
[LinkedFiles\GAB_BCH1\SampleLocations\W13_007954A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007954_146A6790.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007954_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: W13/007954A_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			82.32	percent	Y
Inorg	Hydrogen			10.8408964214712	percent	Y
Inorg	Nitrogen			0.17	percent	Y
Inorg	Sulphur			3.07161728541673	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007954A 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_007954A_bulk_WholeOil.jpg](#)

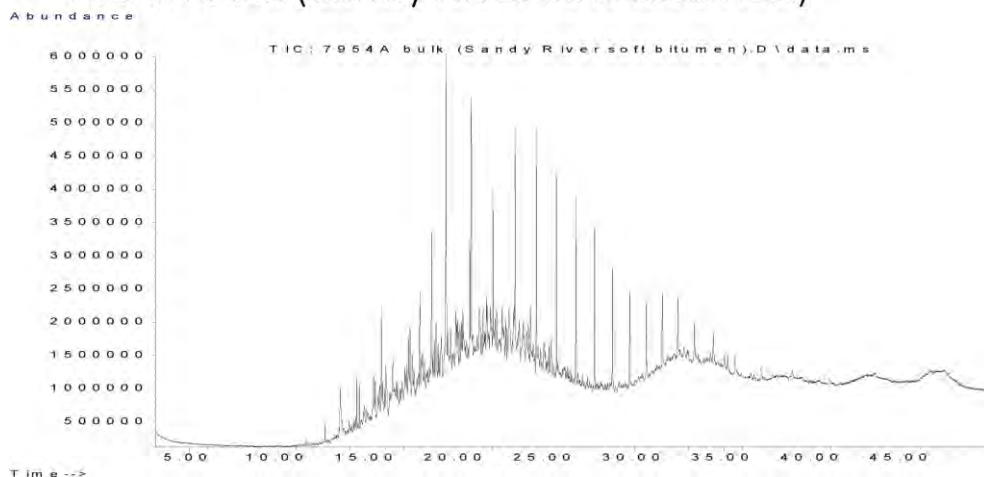
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7954A 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	2002647			Z
Aliph	nC15	16.4030	2426134			Z
Aliph	nC16	17.9160	4336701			Z
Aliph	nC17	19.3500	10020390			Z
Aliph	nC18	20.7170	7166496			Z
Aliph	nC19	22.0170	10626177			Z
Aliph	nC20	23.2570	14671318			Z
Aliph	nC21	24.4410	14666519			Z
Aliph	nC22	25.5760	12992351			Z
Aliph	nC23	26.6620	11223385			Z
Aliph	nC24	27.7060	9947221			Z
Aliph	nC25	28.7100	7468041			Z
Aliph	nC26	29.6680	6958416			Z
Aliph	nC27	30.6080	5543006			Z
Aliph	nC28	31.5080	4517424			Z
Aliph	nC29	32.3700	3956040			Z
Aliph	nC30	33.2910	3299358			Z
Aliph	nC31	34.3470	3098615			Z
Aliph	nC32	35.5720	2146025			Z
Aliph	nC33	37.0130	2018138			Z
Aliph	nC34	38.7280	1532722			Z
Aliph	nC35	40.8080	893228			Z
Aliph	nC36	43.3510	1305619			Z
Aliph	nC37	46.4710	1322321			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	17740260			Z
Aliph	Phytane	20.7870	21202481			Z
Aliph	Pristane	19.3870	24951730			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 : **W13/007954B**

Beach K3: Sandy River Visit: 3

Comments:

Part B subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:36:34 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

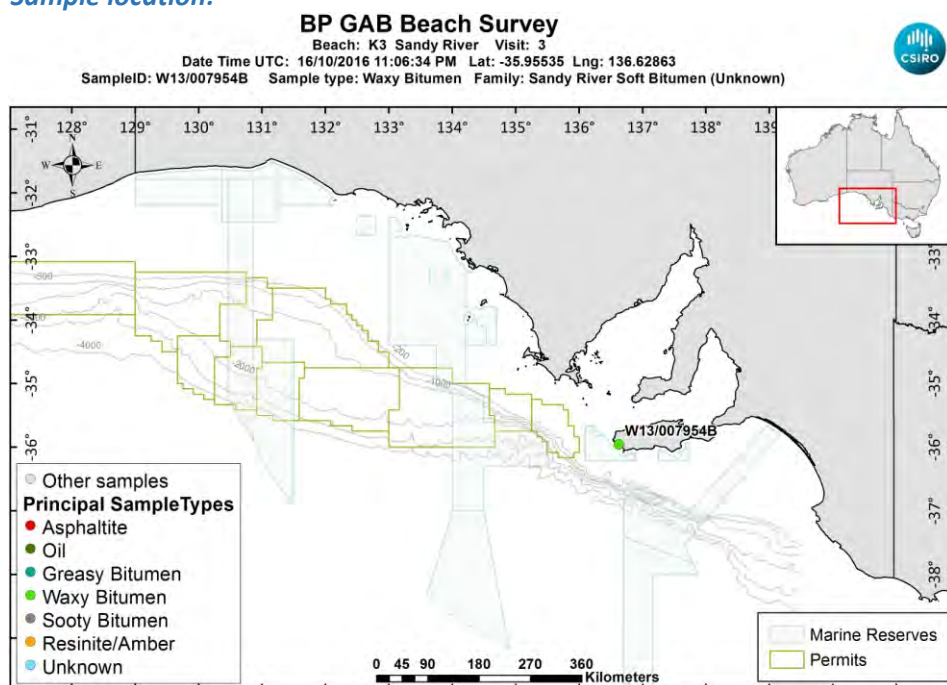
Size (cm): 1.3

Latitude (Y): -35.955352

Weight (gm): 0.28495

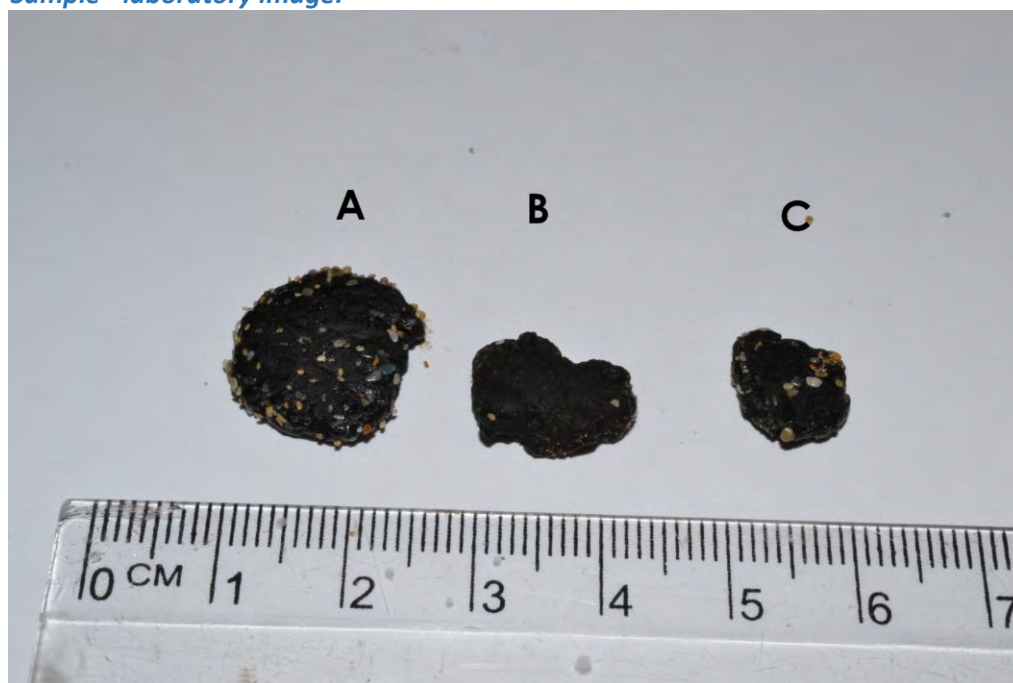
Longitude (X): 136.628633

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007954B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007954_ABC_Photo02.jpg](#)

Sample ID : W13/007954B**Beach K3: Sandy River Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007954B_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:**

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

Data Sheet:*(default units ppb)*

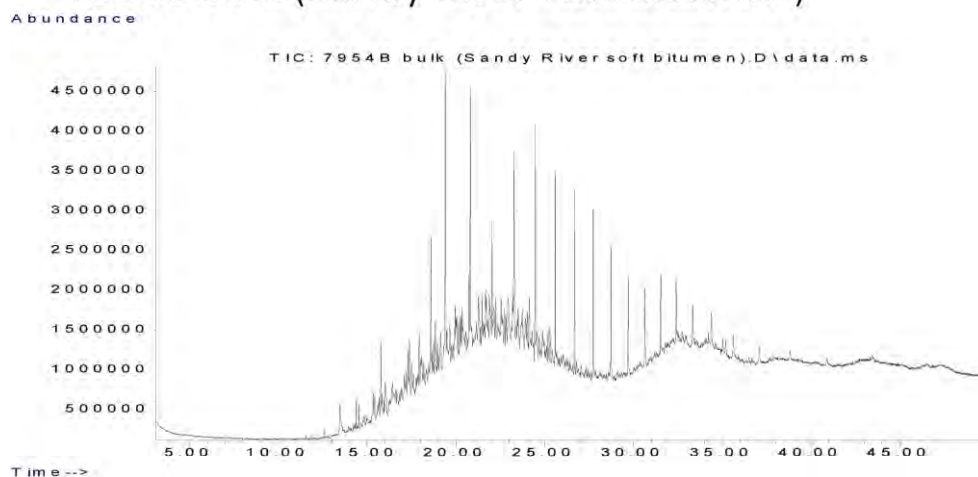
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			81.03	percent	Y
Inorg	Hydrogen			10.3827524850895	percent	Y
Inorg	Nitrogen			0.17	percent	Y
Inorg	Sulphur			3.05364757076551	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007954B_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_007954B_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

7954B 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	761749			Z
Aliph	nC15	16.4030	1021172			Z
Aliph	nC16	17.9160	1903368			Z
Aliph	nC17	19.3500	6228476			Z
Aliph	nC18	20.7170	3525742			Z
Aliph	nC19	22.0170	6053368			Z
Aliph	nC20	23.2570	10450827			Z
Aliph	nC21	24.4410	11314729			Z
Aliph	nC22	25.5760	10720950			Z
Aliph	nC23	26.6620	9650487			Z
Aliph	nC24	27.7060	9062653			Z
Aliph	nC25	28.7100	7501900			Z
Aliph	nC26	29.6680	6319941			Z
Aliph	nC27	30.6080	4967672			Z
Aliph	nC28	31.5080	4301753			Z
Aliph	nC29	32.3700	3634232			Z
Aliph	nC30	33.2910	2871707			Z
Aliph	nC31	34.3470	2743597			Z
Aliph	nC32	35.5720	2079837			Z
Aliph	nC33	37.0130	1895221			Z
Aliph	nC34	38.7280	1284593			Z
Aliph	nC35	40.8080	961934			Z
Aliph	nC36	43.3510	700719			Z
Aliph	nC37	46.4710	829816			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	13498674			Z
Aliph	Phytane	20.7870	18056175			Z
Aliph	Pristane	19.3870	18007286			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 : **W13/007954C**

Beach K3: Sandy River Visit: 3

Comments:

Part C subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:36:34 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

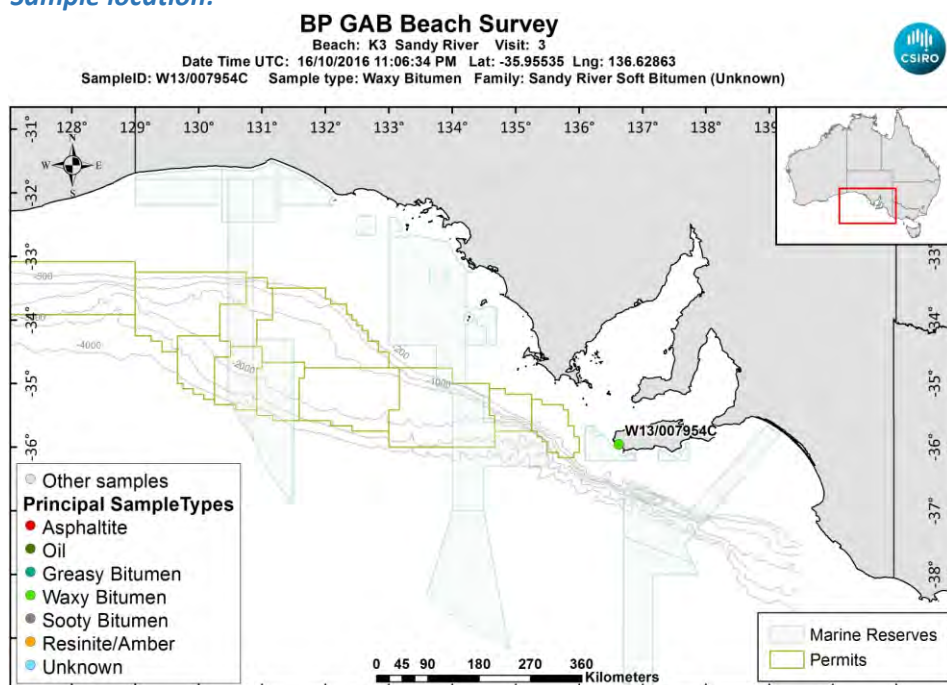
Size (cm): 1.2

Latitude (Y): -35.955352

Weight (gm): 0.14842

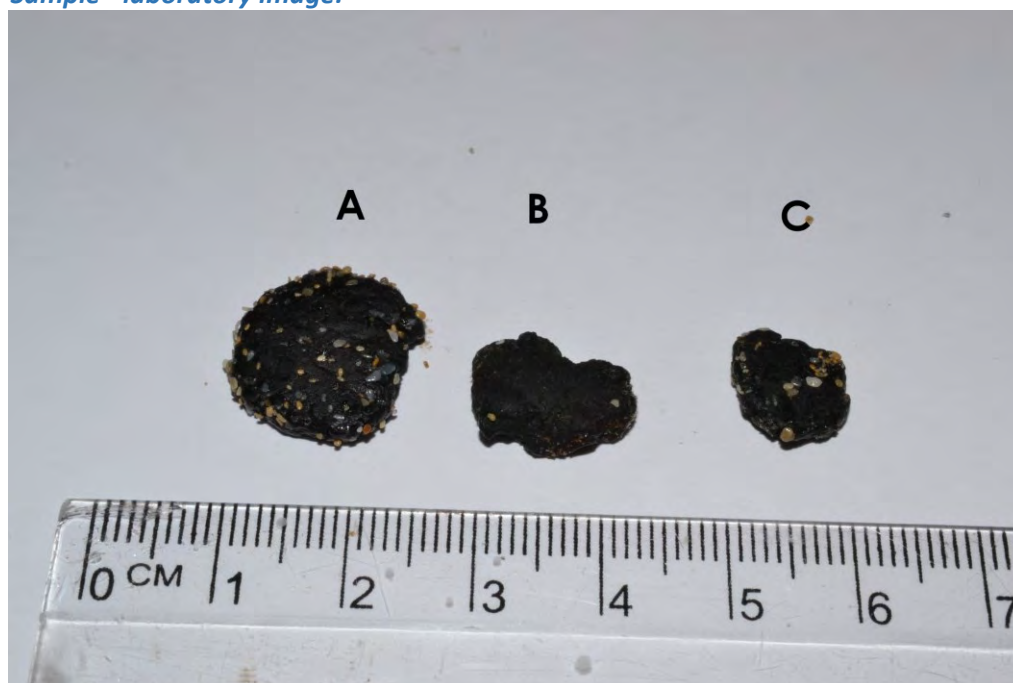
Longitude (X): 136.628633

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007954C_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007954_ABC_Photo02.jpg](#)

Sample ID : W13/007954C

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: W13/007954C_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_007954C_bulk_WholeOil.jpg](#)

Sample Volume:

Volume Units:

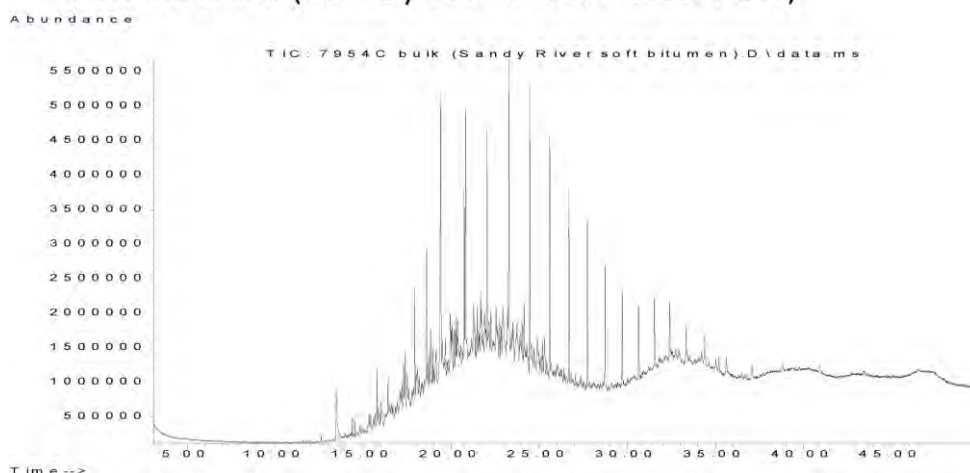
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7954C bulk (Sandy River soft bitumen)



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	846005			Z
Aliph	nC15	16.4030	2606758			Z
Aliph	nC16	17.9160	5641306			Z
Aliph	nC17	19.3500	4713748			Z
Aliph	nC18	20.7170	10860889			Z
Aliph	nC19	22.0170	14102058			Z
Aliph	nC20	23.2570	17163491			Z
Aliph	nC21	24.4410	17081438			Z
Aliph	nC22	25.5760	14260958			Z
Aliph	nC23	26.6620	11839379			Z
Aliph	nC24	27.7060	10546336			Z
Aliph	nC25	28.7100	8239783			Z
Aliph	nC26	29.6680	6725012			Z
Aliph	nC27	30.6080	5314110			Z
Aliph	nC28	31.5080	4389510			Z
Aliph	nC29	32.3700	3740068			Z
Aliph	nC30	33.2910	3072057			Z
Aliph	nC31	34.3470	2677520			Z
Aliph	nC32	35.5720	1877324			Z
Aliph	nC33	37.0130	1847134			Z
Aliph	nC34	38.7280	1243363			Z
Aliph	nC35	40.8080	885050			Z
Aliph	nC36	43.3510	935960			Z
Aliph	nC37	46.4710	847403			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	16084890			Z
Aliph	Phytane	20.7870	20461219			Z
Aliph	Pristane	19.3870	21955024			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 : **W13/007955**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:38:44 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

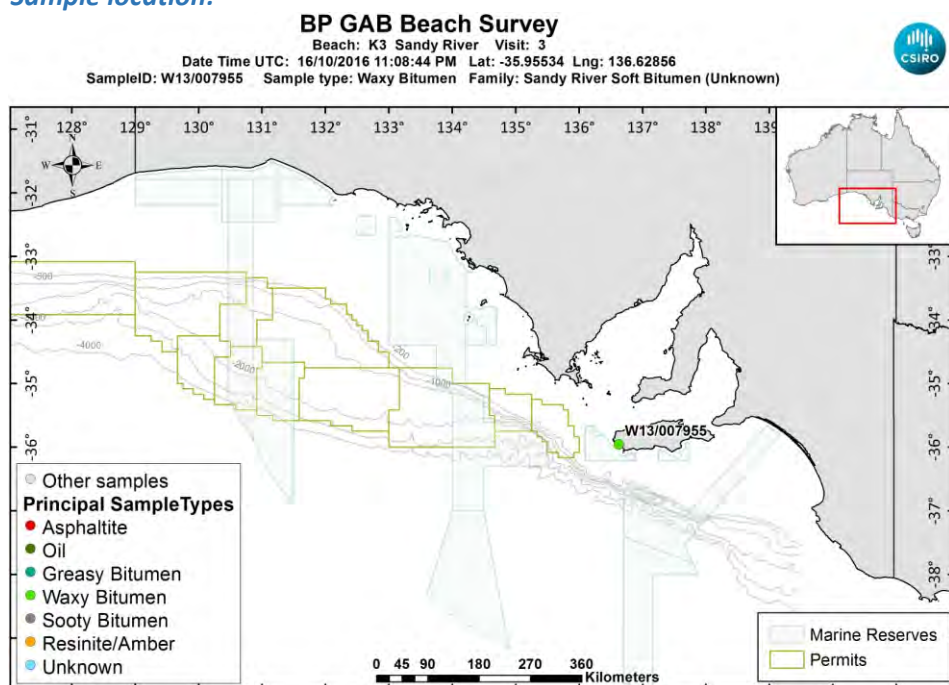
Size (cm): 1.2

Latitude (Y): -35.955335

Weight (gm): 0.33538

Longitude (X): 136.628563

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007955_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007955_146A6793.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007955_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: W13/007955_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			84.72	percent	Y
Inorg	Hydrogen			6.9864351888668	percent	Y
Inorg	Nitrogen			0.13	percent	Y
Inorg	Sulphur			1.95158979009396	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007955 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_007955_bulk_WholeOil.jpg](#)

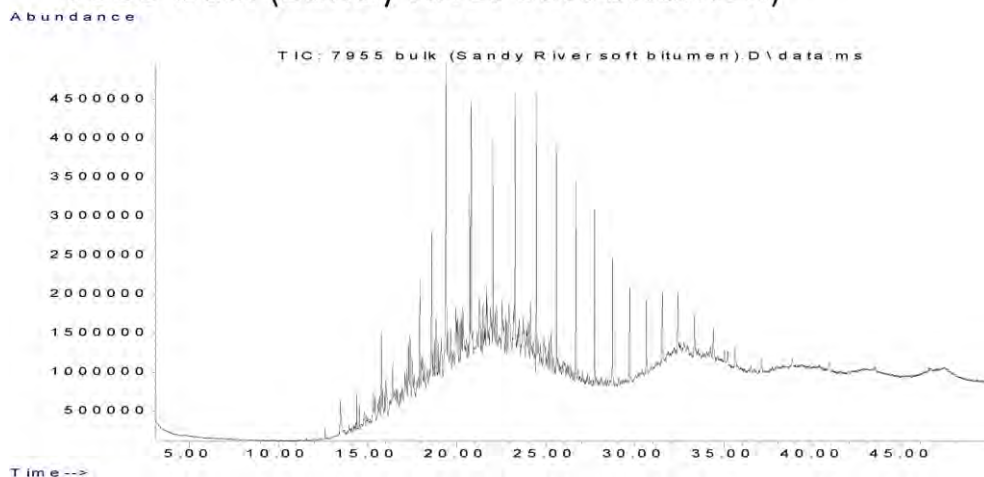
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7955 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	1330889			Z
Aliph	nC15	16.4030	2481492			Z
Aliph	nC16	17.9160	4652762			Z
Aliph	nC17	19.3500	10573164			Z
Aliph	nC18	20.7170	8244918			Z
Aliph	nC19	22.0170	11275174			Z
Aliph	nC20	23.2570	14033671			Z
Aliph	nC21	24.4410	14110279			Z
Aliph	nC22	25.5760	12468779			Z
Aliph	nC23	26.6620	10457603			Z
Aliph	nC24	27.7060	9461083			Z
Aliph	nC25	28.7100	7766296			Z
Aliph	nC26	29.6680	6051802			Z
Aliph	nC27	30.6080	4694752			Z
Aliph	nC28	31.5080	4187957			Z
Aliph	nC29	32.3700	3579429			Z
Aliph	nC30	33.2910	2817928			Z
Aliph	nC31	34.3470	2745635			Z
Aliph	nC32	35.5720	1824062			Z
Aliph	nC33	37.0130	1530600			Z
Aliph	nC34	38.7280	1209578			Z
Aliph	nC35	40.8080	837479			Z
Aliph	nC36	43.3510	642070			Z
Aliph	nC37	46.4710	864052			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	14648329			Z
Aliph	Phytane	20.7870	18217596			Z
Aliph	Pristane	19.3870	19342850			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 : **W13/007956A**

Beach K3: Sandy River Visit: 3

Comments:

Very soft 2 pieces. Part A

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:40:15 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

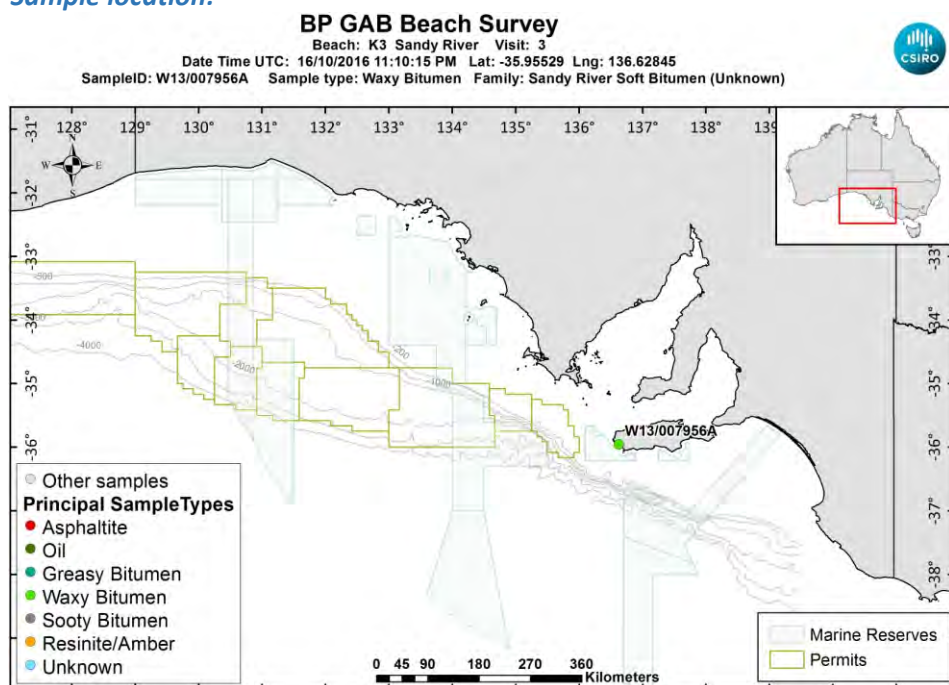
Size (cm): 2.6

Latitude (Y): -35.955288

Weight (gm): 1.21916

Longitude (X): 136.628453

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007956A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007956_146A6795.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007956_AB_Photo02.jpg](#)

Analyses Requested

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007956A_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			85.95	percent	Y
Inorg	Hydrogen			9.29890755467197	percent	Y
Inorg	Nitrogen			0.18	percent	Y
Inorg	Sulphur			2.91078275080174	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007956A 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_007956A_bulk_WholeOil.jpg](#)

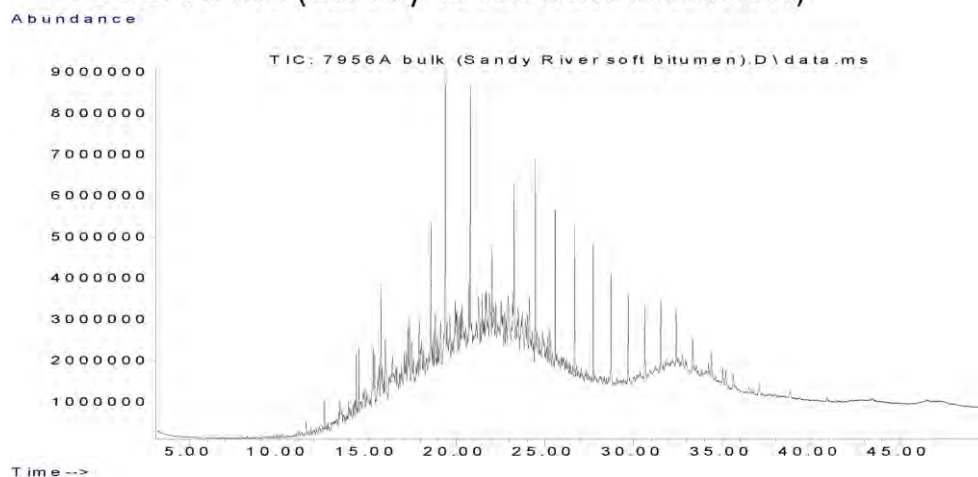
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7956A 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	2659702			Z
Aliph	nC15	16.4030	2365854			Z
Aliph	nC16	17.9160	3524439			Z
Aliph	nC17	19.3500	10637270			Z
Aliph	nC18	20.7170	6225235			Z
Aliph	nC19	22.0170	10109419			Z
Aliph	nC20	23.2570	16370255			Z
Aliph	nC21	24.4410	17992078			Z
Aliph	nC22	25.5760	17212731			Z
Aliph	nC23	26.6620	15221857			Z
Aliph	nC24	27.7060	14576051			Z
Aliph	nC25	28.7100	12861236			Z
Aliph	nC26	29.6680	10362998			Z
Aliph	nC27	30.6080	8249270			Z
Aliph	nC28	31.5080	6682204			Z
Aliph	nC29	32.3700	5805554			Z
Aliph	nC30	33.2910	4418408			Z
Aliph	nC31	34.3470	4163285			Z
Aliph	nC32	35.5720	2713095			Z
Aliph	nC33	37.0130	2113639			Z
Aliph	nC34	38.7280	1588364			Z
Aliph	nC35	40.8080	1147681			Z
Aliph	nC36	43.3510	991613			Z
Aliph	nC37	46.4710	1056567			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	27502981			Z
Aliph	Phytane	20.7870	34880607			Z
Aliph	Pristane	19.3870	37374535			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 : **W13/007956B**

Beach K3: Sandy River Visit: 3

Comments:

Part B subsample

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:40:15 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

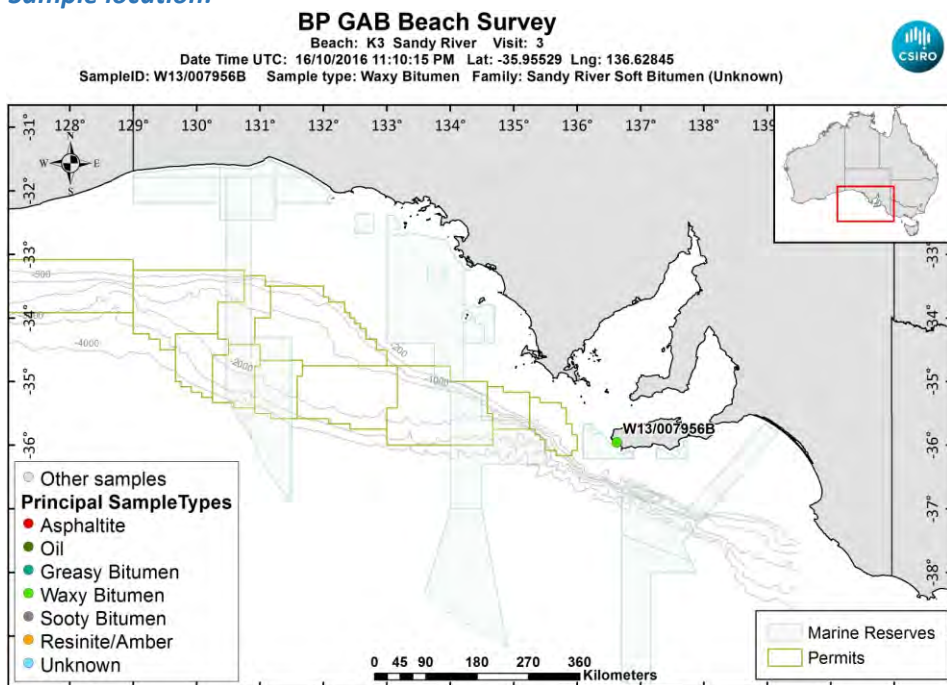
Size (cm): 1.3

Latitude (Y): -35.955288

Weight (gm): 0.153551

Longitude (X): 136.628453

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007956B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007956_AB_Photo02.jpg](#)

Sample ID : W13/007956B

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: W13/007956B_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_007956B_bulk_WholeOil.jpg](#)

Sample Volume:

Volume Units:

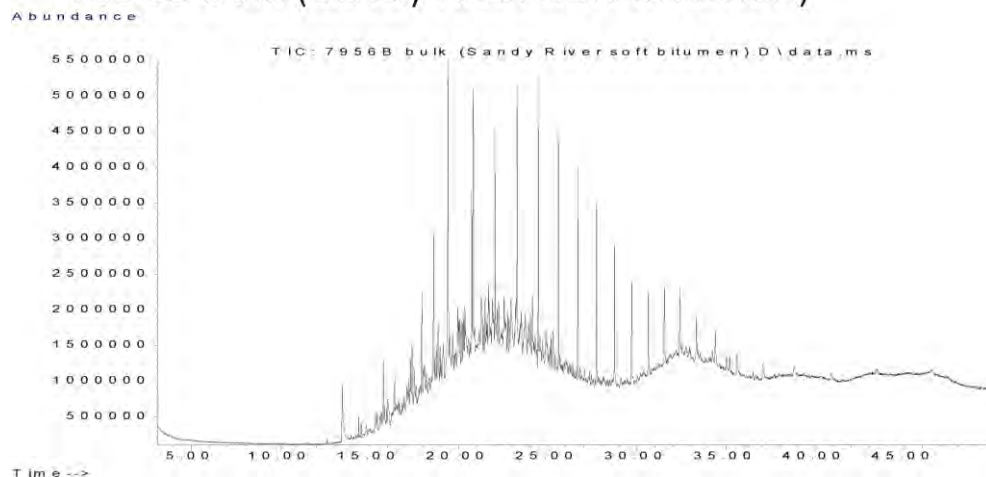
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7956B 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	1003712			Z
Aliph	nC15	16.4030	2233184			Z
Aliph	nC16	17.9160	4935496			Z
Aliph	nC17	19.3500	4146235			Z
Aliph	nC18	20.7170	9490772			Z
Aliph	nC19	22.0170	12972366			Z
Aliph	nC20	23.2570	16641180			Z
Aliph	nC21	24.4410	16623922			Z
Aliph	nC22	25.5760	14274872			Z
Aliph	nC23	26.6620	12018834			Z
Aliph	nC24	27.7060	10977556			Z
Aliph	nC25	28.7100	8778745			Z
Aliph	nC26	29.6680	7300768			Z
Aliph	nC27	30.6080	5961335			Z
Aliph	nC28	31.5080	4786386			Z
Aliph	nC29	32.3700	4059413			Z
Aliph	nC30	33.2910	3226485			Z
Aliph	nC31	34.3470	3070313			Z
Aliph	nC32	35.5720	2169663			Z
Aliph	nC33	37.0130	2085923			Z
Aliph	nC34	38.7280	1789981			Z
Aliph	nC35	40.8080	1319054			Z
Aliph	nC36	43.3510	1453507			Z
Aliph	nC37	46.4710	1269188			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	16907619			Z
Aliph	Phytane	20.7870	21353840			Z
Aliph	Pristane	19.3870	23153982			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 : **W13/007957**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:41:36 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

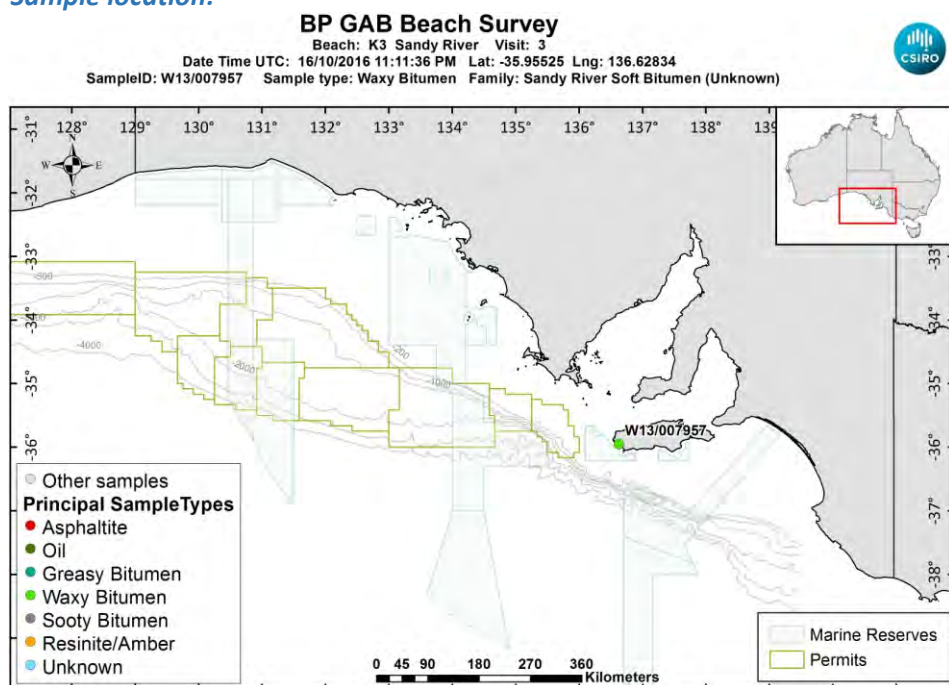
Size (cm): 1.6

Latitude (Y): -35.955252

Weight (gm): 0.32407

Longitude (X): 136.628337

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007957_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007957_146A6797.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007957_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: W13/007957_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			80.88	percent	Y
Inorg	Hydrogen			8.6486069582505	percent	Y
Inorg	Nitrogen			0.16	percent	Y
Inorg	Sulphur			2.50077482007884	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007957 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_007957_bulk_WholeOil.jpg](#)

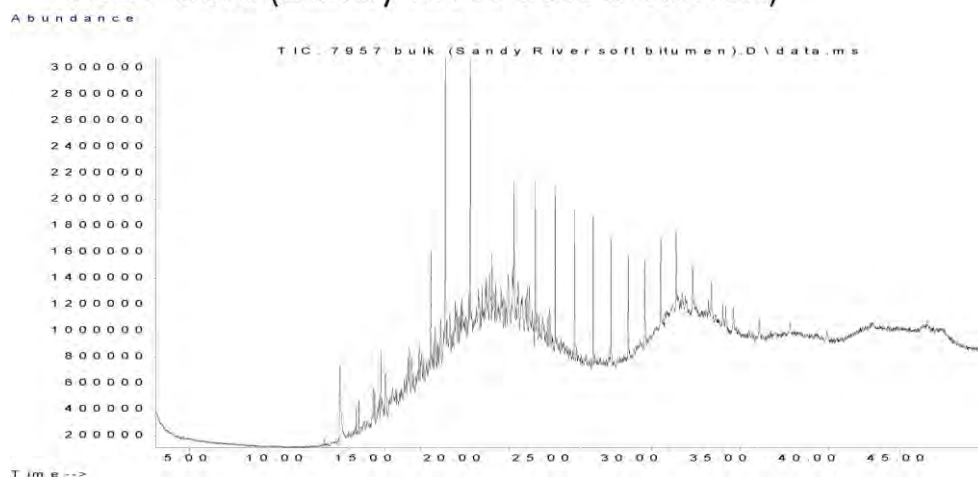
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7957 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	386919			Z
Aliph	nC15	16.4030	386926			Z
Aliph	nC16	17.9160	652589			Z
Aliph	nC17	19.3500	421243			Z
Aliph	nC18	20.7170	1107084			Z
Aliph	nC19	22.0170	2166875			Z
Aliph	nC20	23.2570	3992826			Z
Aliph	nC21	24.4410	5142306			Z
Aliph	nC22	25.5760	4820189			Z
Aliph	nC23	26.6620	4658084			Z
Aliph	nC24	27.7060	4417085			Z
Aliph	nC25	28.7100	4194625			Z
Aliph	nC26	29.6680	3991848			Z
Aliph	nC27	30.6080	3224599			Z
Aliph	nC28	31.5080	2850323			Z
Aliph	nC29	32.3700	2567073			Z
Aliph	nC30	33.2910	1892868			Z
Aliph	nC31	34.3470	1748803			Z
Aliph	nC32	35.5720	1395954			Z
Aliph	nC33	37.0130	1160779			Z
Aliph	nC34	38.7280	894448			Z
Aliph	nC35	40.8080	776829			Z
Aliph	nC36	43.3510	657717			Z
Aliph	nC37	46.4710	740697			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	6936663			Z
Aliph	Phytane	20.7870	11196451			Z
Aliph	Pristane	19.3870	10077619			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 : **W13/007958**

Beach K3: Sandy River Visit: 3

Comments:

Very soft

Location: Upper Intertidal

Local Date Time: 17/10/2016 9:42:54 AM

Type: Waxy Bitumen

Family: Sandy River Soft Bitumen (Unknown)

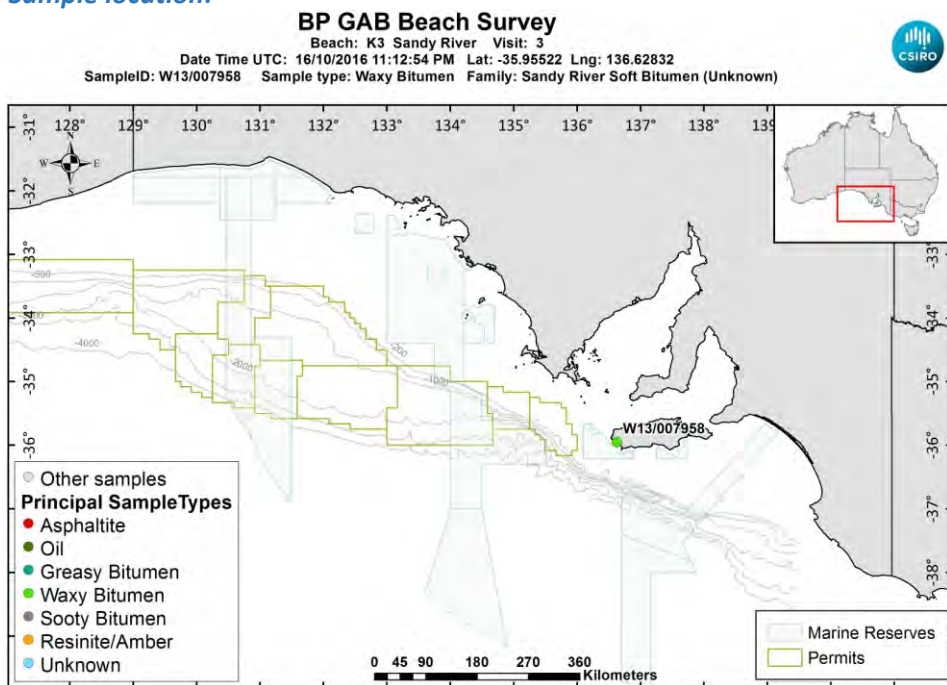
Size (cm): 1

Latitude (Y): -35.955218

Weight (gm): 0.10125

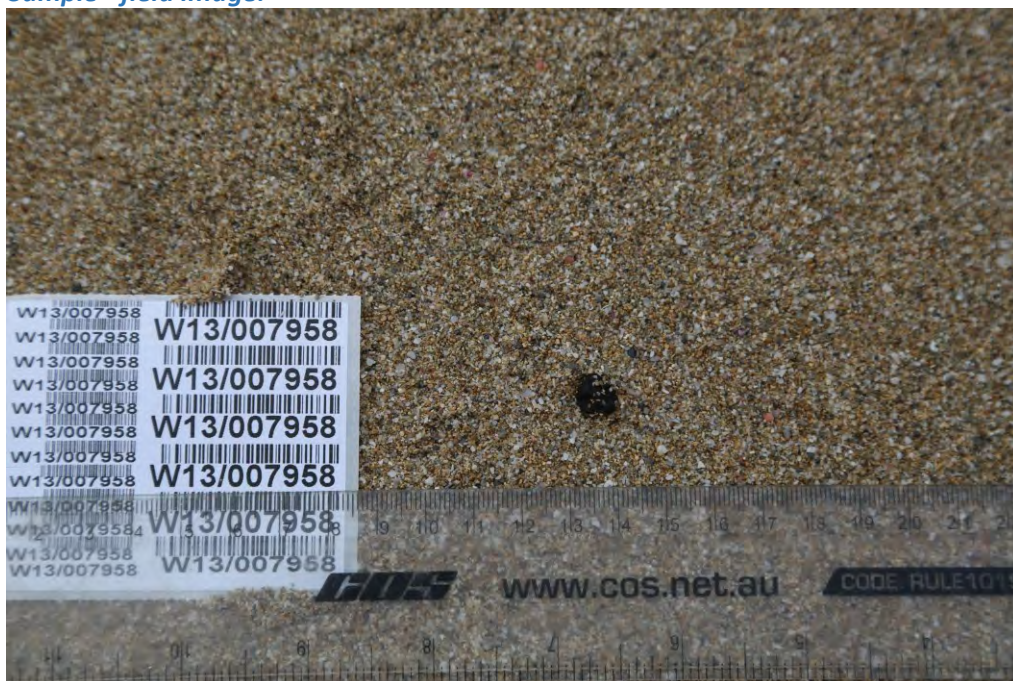
Longitude (X): 136.628325

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007958_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007958_146A6799.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007958_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: W13/007958 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_007958_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

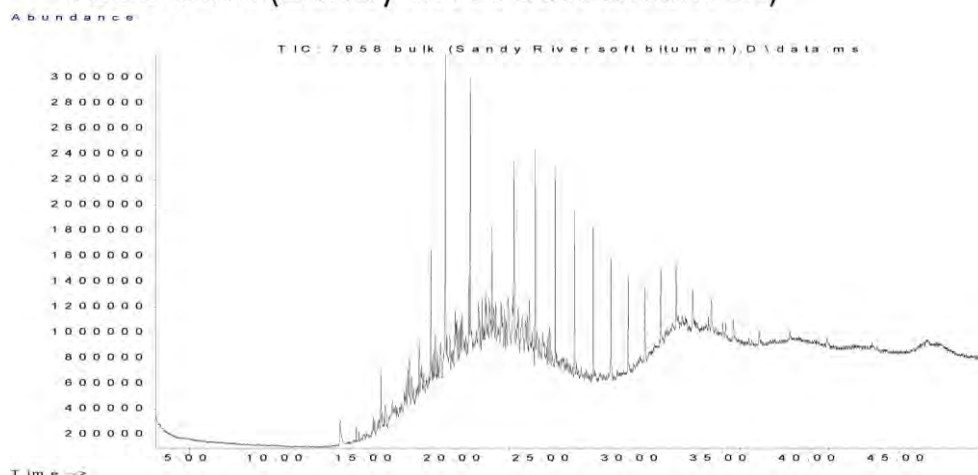
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7958 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	339732			Z
Aliph	nC15	16.4030	554804			Z
Aliph	nC16	17.9160	1236509			Z
Aliph	nC17	19.3500	4124305			Z
Aliph	nC18	20.7170	2367434			Z
Aliph	nC19	22.0170	3866562			Z
Aliph	nC20	23.2570	5738126			Z
Aliph	nC21	24.4410	6674047			Z
Aliph	nC22	25.5760	6107309			Z
Aliph	nC23	26.6620	5466652			Z
Aliph	nC24	27.7060	5284978			Z
Aliph	nC25	28.7100	4020375			Z
Aliph	nC26	29.6680	3786737			Z
Aliph	nC27	30.6080	2846619			Z
Aliph	nC28	31.5080	2571017			Z
Aliph	nC29	32.3700	2008840			Z
Aliph	nC30	33.2910	1690406			Z
Aliph	nC31	34.3470	1597806			Z
Aliph	nC32	35.5720	1178187			Z
Aliph	nC33	37.0130	1081732			Z
Aliph	nC34	38.7280	1104249			Z
Aliph	nC35	40.8080	558872			Z
Aliph	nC36	43.3510	620761			Z
Aliph	nC37	46.4710	515753			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	8210957			Z
Aliph	Phytane	20.7870	11554856			Z
Aliph	Pristane	19.3870	11278992			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 : **W13/007815**

Beach W7: Scott Bav Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 7/10/2016 9:34:41 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

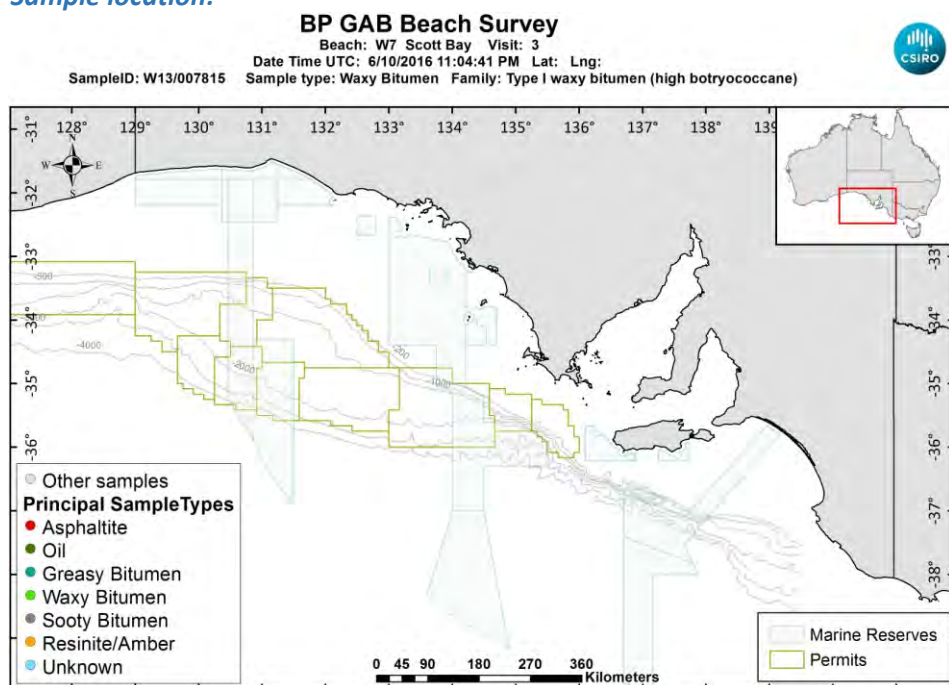
Size (cm): 3

Latitude (Y):

Weight (gm): 9.63425

Longitude (X):

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007815_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007815_146A6507.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007815_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

Analyses Completed:

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

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007815_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			87.03	percent	Y
Inorg	Hydrogen			9.30981491053677	percent	Y
Inorg	Nitrogen			0.25	percent	Y
Inorg	Sulphur			1.22495275145117	percent	Y

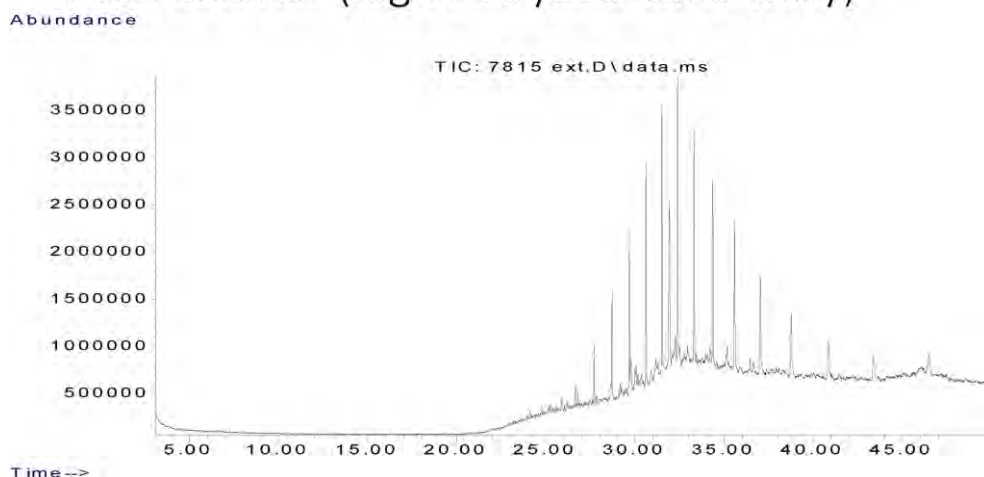
Results for: GCMS with Full Scan

Unique ID: W13/007815_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007815_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7815 exterior (high botryococcane waxy)



Data Sheet:

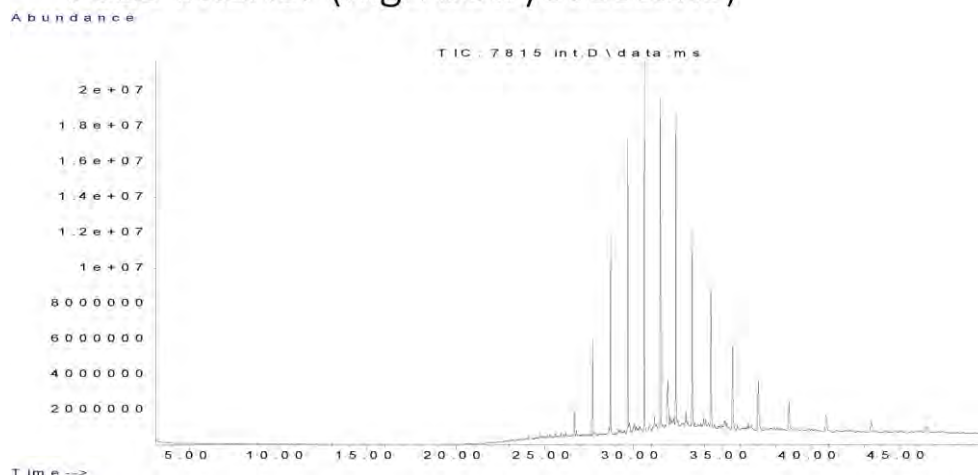
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	13843448			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	238638			Z
Aliph	nC23	26.6620	991856			Z
Aliph	nC24	27.7060	2630644			Z
Aliph	nC25	28.7100	4669408			Z
Aliph	nC26	29.6680	7249390			Z
Aliph	nC27	30.6080	11580440			Z
Aliph	nC28	31.5080	13003444			Z
Aliph	nC29	32.3700	14124880			Z
Aliph	nC30	33.2910	12942408			Z
Aliph	nC31	34.3470	13148310			Z
Aliph	nC32	35.5720	11979824			Z
Aliph	nC33	37.0130	9088832			Z
Aliph	nC34	38.7280	7095058			Z
Aliph	nC35	40.8080	5082296			Z
Aliph	nC36	43.3510	3744773			Z
Aliph	nC37	46.4710	3267966			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007815 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_007815_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7815 interior (high botryococcane)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	21427738			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	1030507			Z
Aliph	nC23	26.6620	6642001			Z
Aliph	nC24	27.7060	24002308			Z
Aliph	nC25	28.7100	50536892			Z
Aliph	nC26	29.6680	69681261			Z
Aliph	nC27	30.6080	88407248			Z
Aliph	nC28	31.5080	80258342			Z
Aliph	nC29	32.3700	73242766			Z
Aliph	nC30	33.2910	58194809			Z
Aliph	nC31	34.3470	48408187			Z
Aliph	nC32	35.5720	34610426			Z
Aliph	nC33	37.0130	25025594			Z
Aliph	nC34	38.7280	16052809			Z
Aliph	nC35	40.8080	11499934			Z
Aliph	nC36	43.3510	8507065			Z
Aliph	nC37	46.4710	6475234			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 : **W13/007489**

Beach W21: Sheringah Beach Visit: 1

Comments:

Location: Mid Intertidal

Local Date Time: 13/11/2014 1:12:37 PM

Type: Rock

Family: Not bitumen (false sample)

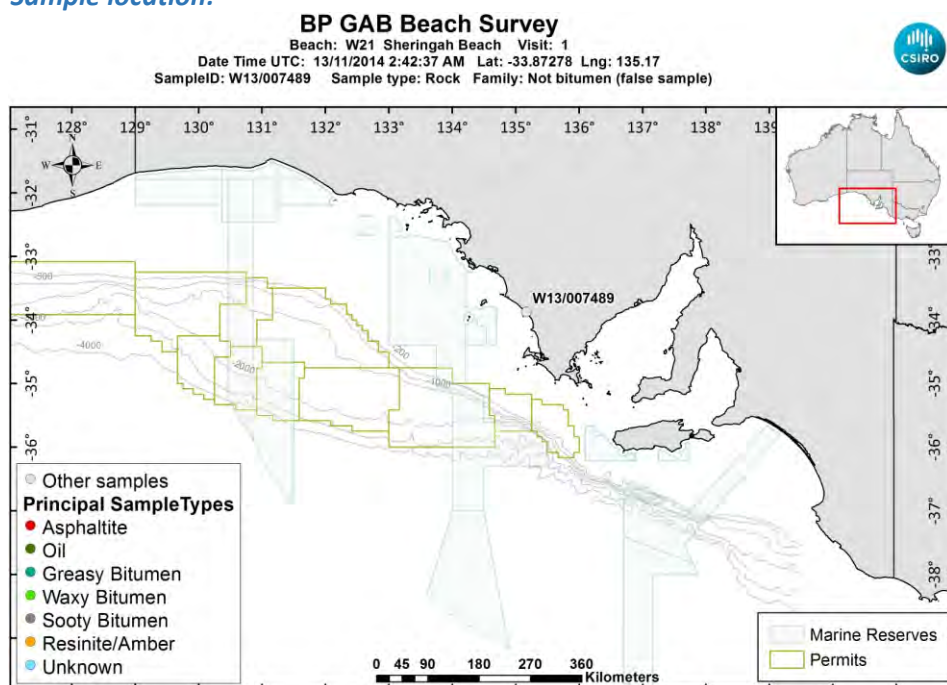
Size (cm): 4

Latitude (Y): -33.872778

Weight (gm): 10.43092

Longitude (X): 135.170000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007489_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007489_146A0373.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007489_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 : **W13/007490**

Beach W21: Sheringah Beach Visit: 1

Comments:

Location: Mid Intertidal

Local Date Time: 13/11/2014 1:34:15 PM

Type: Asphaltite

Family: Unknown

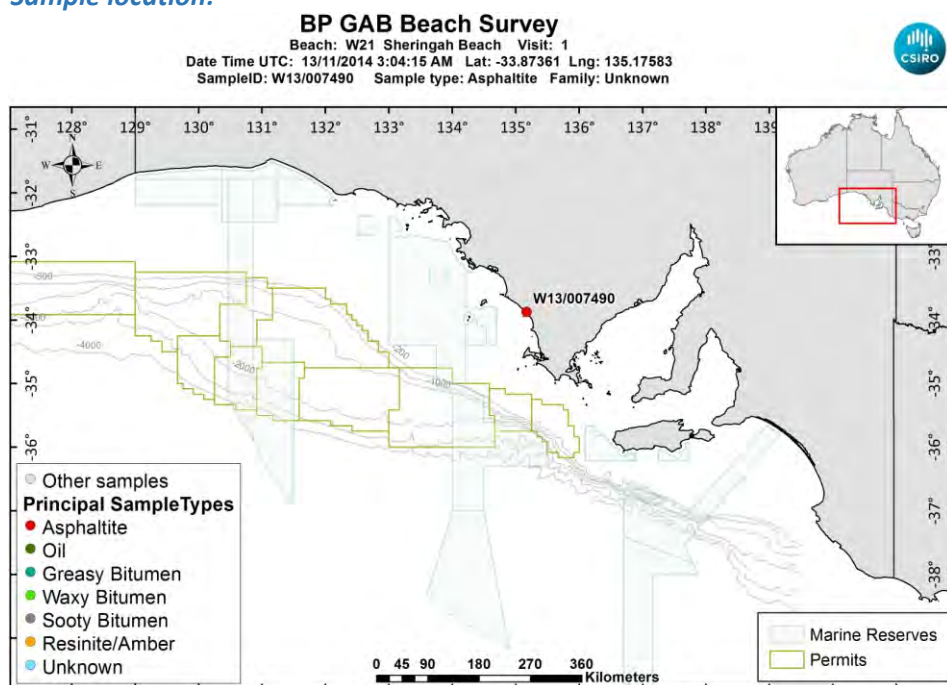
Size (cm): 15

Latitude (Y): -33.873611

Weight (gm): 495

Longitude (X): 135.175833

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007490_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007490_146A0379.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007490_Photo01.JPG](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007490_UNK_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date:

Linked Image: [None available](#)

Preparation: Unknown

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk d34 S Low sulphur response peak. May not be representative. Especially considering the difference compared to other asphaltites. Bulk d34 S Low sulphur response peak. May not be representative. Especially considering the difference compared to other asphaltites.

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.99	percent	Y
Inorg	delta13 Carbon			-27.7106162952731	per mille	Y
Inorg	delta34 Sulphur			-3.42300615695276	per mille	Y
Inorg	Hydrogen			7.805	percent	Y
Inorg	Nitrogen			0.475	percent	Y
Inorg	Sulphur			1.735	percent	Y

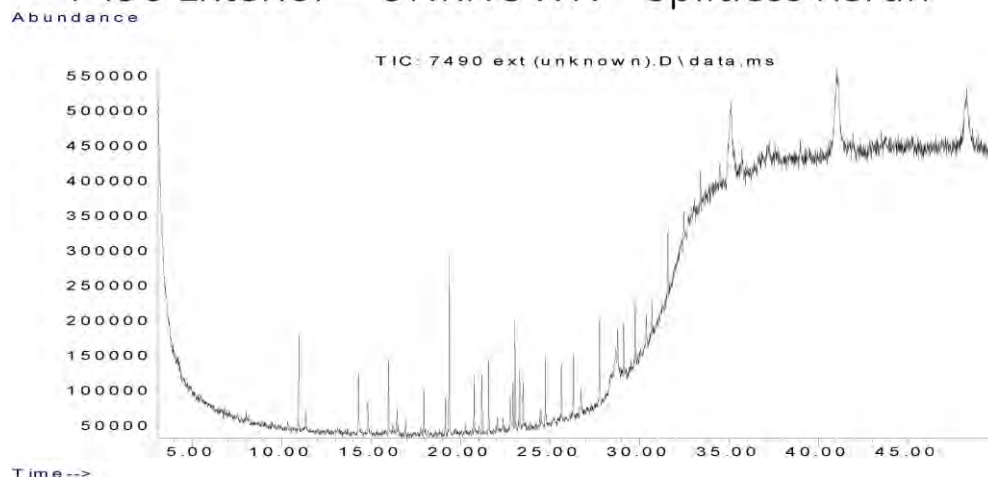
Results for: GCMS with Full Scan

Unique ID: W13/007490_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_007490_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior - Splitless Rerun

Results for: GCMS with Full Scan

7490 Exterior – UNKNOWN – Splitless Rerun



Data Sheet:

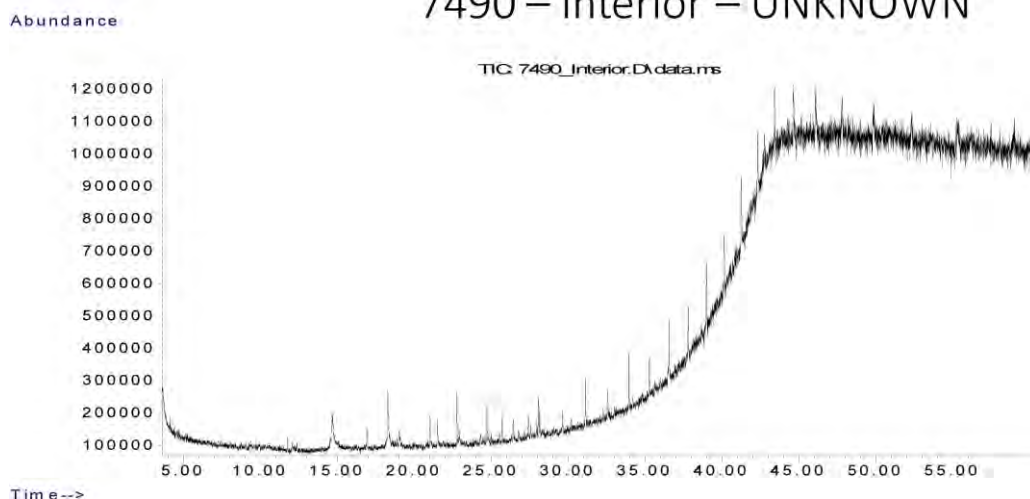
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300	83802		ug/L	Z
Aliph	nC20	28.0680	104836		ug/L	Z
Aliph	nC21	29.6330	104083		ug/L	Z
Aliph	nC22	31.1340	209040		ug/L	Z
Aliph	nC23	32.5720	71784		ug/L	Z
Aliph	nC24	33.9520	178148		ug/L	Z
Aliph	nC25	35.2810	170467		ug/L	Z
Aliph	nC26	36.5600	192880		ug/L	Z
Aliph	nC27	37.7930	207690		ug/L	Z
Aliph	nC28	38.9870	230283		ug/L	Z
Aliph	nC29	40.1370	302618		ug/L	Z
Aliph	nC30	41.2480	248342		ug/L	Z
Aliph	nC31	42.3270	290601		ug/L	Z
Aliph	nC32	43.4130			ug/L	U
Aliph	nC33	44.6430			ug/L	U
Aliph	nC34	46.0860			ug/L	U
Aliph	nC35	47.8060			ug/L	U
Aliph	nC36	49.8090			ug/L	U
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007490 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_007490_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7490 – Interior – UNKNOWN



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200	466578		ug/L	Z
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150	550529		ug/L	Z
Aliph	nC19	26.4300	292342		ug/L	Z
Aliph	nC20	28.0680	713963		ug/L	Z
Aliph	nC21	29.6330	254938		ug/L	Z
Aliph	nC22	31.1340	711375		ug/L	Z
Aliph	nC23	32.5720	383027		ug/L	Z
Aliph	nC24	33.9520	787038		ug/L	Z
Aliph	nC25	35.2810	604110		ug/L	Z
Aliph	nC26	36.5600	336535		ug/L	Z
Aliph	nC27	37.7930	802661		ug/L	Z
Aliph	nC28	38.9870	937998		ug/L	Z
Aliph	nC29	40.1370	807866		ug/L	Z
Aliph	nC30	41.2480	1177978		ug/L	Z
Aliph	nC31	42.3270	1032198		ug/L	Z
Aliph	nC32	43.4130	1226138		ug/L	Z
Aliph	nC33	44.6430	1109503		ug/L	Z
Aliph	nC34	46.0860	1022000		ug/L	Z
Aliph	nC35	47.8060	1139259		ug/L	Z
Aliph	nC36	49.8090	49768		ug/L	Z
Aliph	nC37	52.2960	326153		ug/L	Z
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

Results for: GCMS with Full Scan**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 : **W13/007650**

Beach W21: Sheringah Beach Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 20/09/2015 10:19:25 AM

Type: Resinite/Amber

Family: Resin/Amber

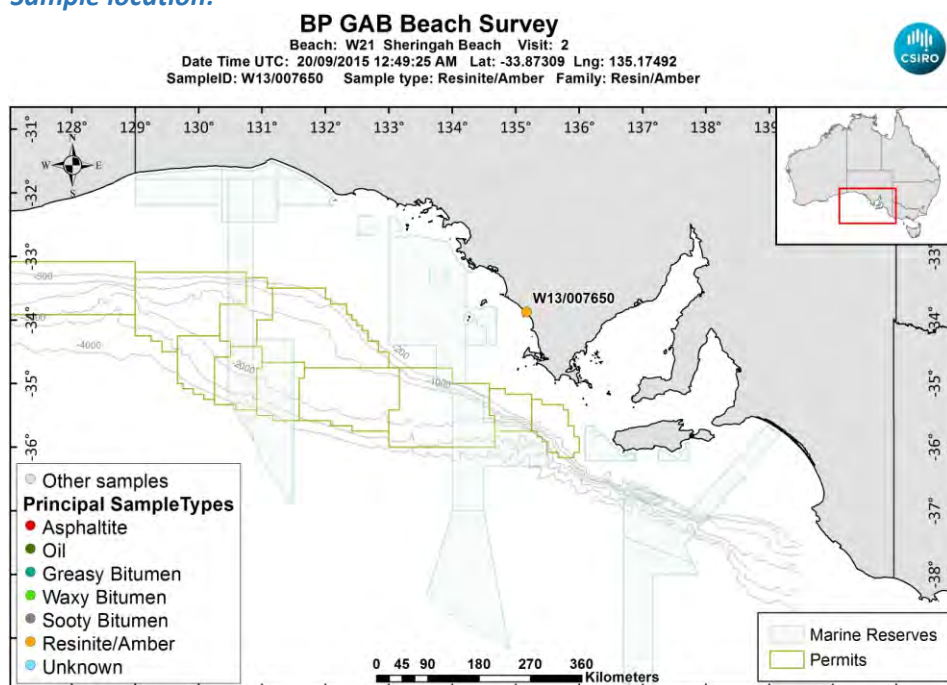
Size (cm): 4.1

Latitude (Y): -33.873087

Weight (gm): 11.4

Longitude (X): 135.174922

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007650_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007650_146A1738.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007650_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 : **W13/007651**

Beach W21: Sheringah Beach Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 20/09/2015 10:27:42 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

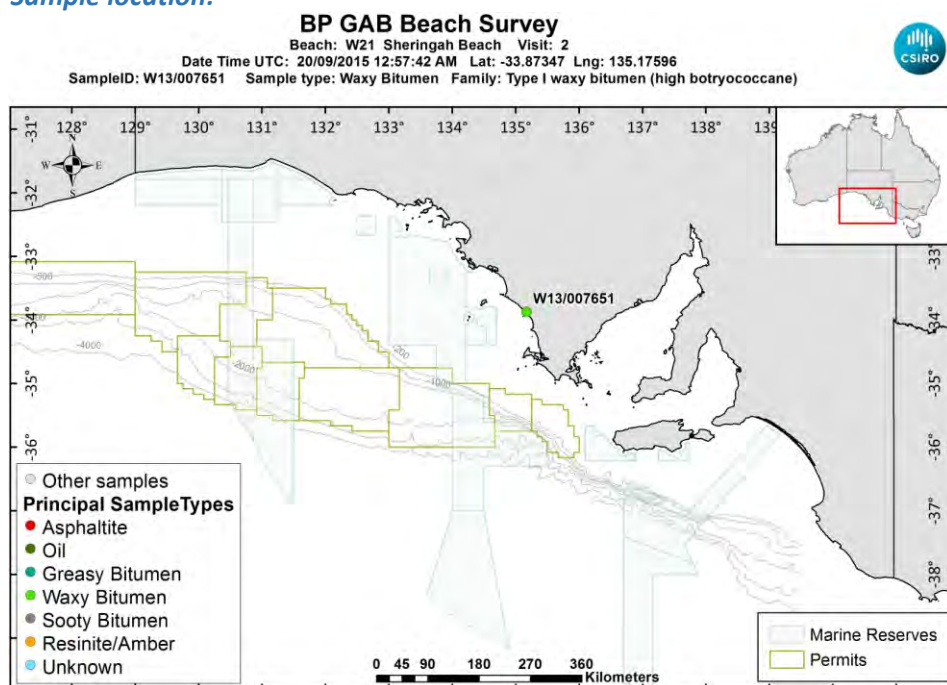
Size (cm): 1.9

Latitude (Y): -33.873465

Weight (gm): 0.8

Longitude (X): 135.175965

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007651_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007651_146A1740.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007651_Photo02.JPG](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007651_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			86.07	percent	Y
Inorg	Hydrogen			10.4154691133201	percent	Y
Inorg	Nitrogen			0.327255526992288	percent	Y
Inorg	Sulphur			1.57124825682753	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007651 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 18/11/2016

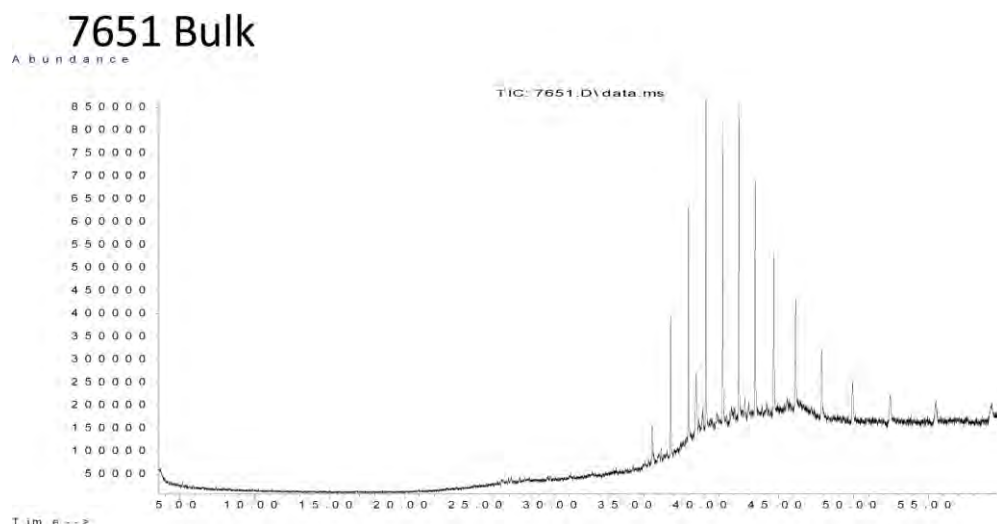
Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007651_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	1133990		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	451417		ug/L	Z
Aliph	nC27	37.7300	1482374		ug/L	Z
Aliph	nC28	38.9260	2688695		ug/L	Z
Aliph	nC29	40.0740	3654421		ug/L	Z
Aliph	nC30	41.1930	3687354		ug/L	Z
Aliph	nC31	42.2750	3576450		ug/L	Z
Aliph	nC32	43.3560	3170734		ug/L	Z
Aliph	nC33	44.5840	2461442		ug/L	Z
Aliph	nC34	46.0130	1925195		ug/L	Z
Aliph	nC35	47.7140	1496315		ug/L	Z
Aliph	nC36	49.7870	1215392		ug/L	Z
Aliph	nC37	52.2630	918169		ug/L	Z
Aliph	nC38	55.2360	766217		ug/L	Z
Aliph	nC39	58.9110	795130		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 : **W13/007652**

Beach W21: Sheringah Beach Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 20/09/2015 10:37:56 AM

Type: Resinite/Amber

Family: Resin/Amber

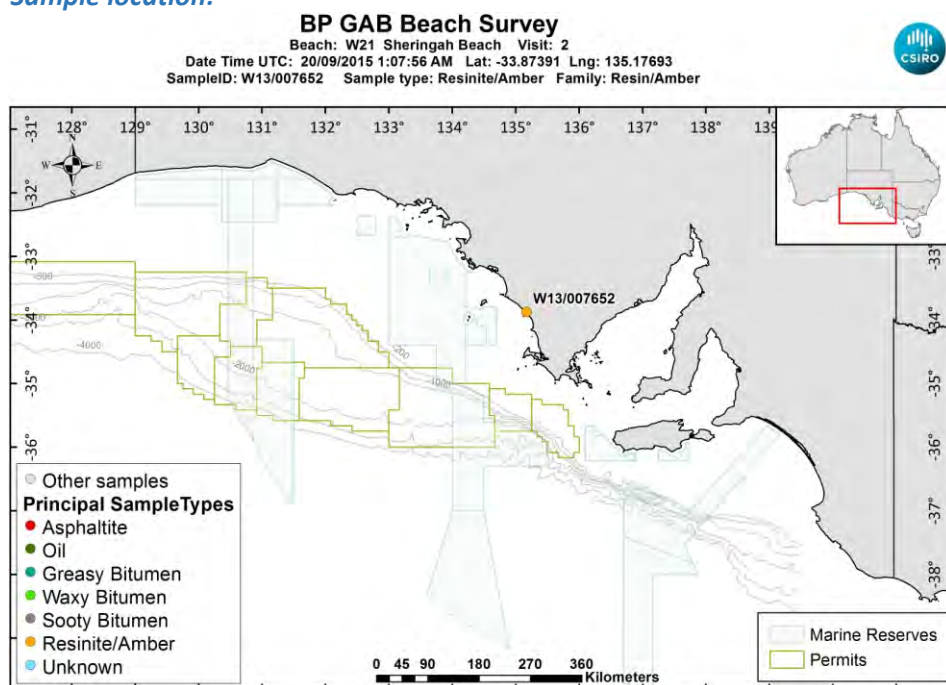
Size (cm): 3.5

Latitude (Y): -33.873908

Weight (gm): 5.2

Longitude (X): 135.176935

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007652_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007652_146A1741.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007652_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 : **W13/007653**

Beach W21: Sheringah Beach Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 20/09/2015 10:44:06 AM

Type: Resinite/Amber

Family: Resin/Amber

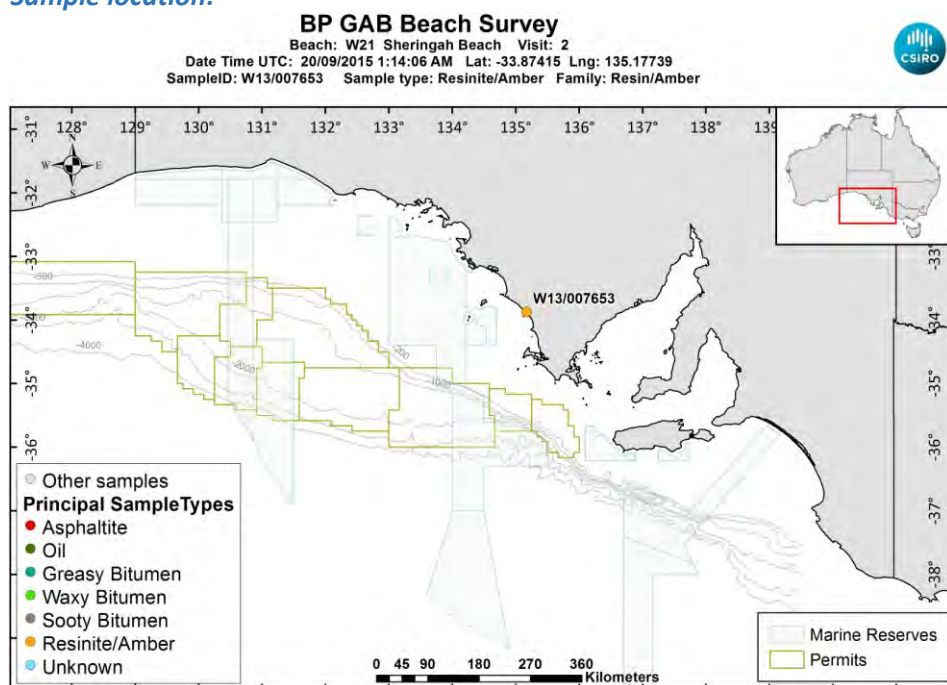
Size (cm): 3.6

Latitude (Y): -33.874152

Weight (gm): 6

Longitude (X): 135.177390

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007653_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007653_146A1742.JPG](#)

Sample - laboratory image:



LinkedFiles\GAB_BCH1\Samples\W13_007653_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 : **W13/007654**

Beach W21: Sheringah Beach Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 20/09/2015 10:49:49 AM

Type: Resinite/Amber

Family: Resin/Amber

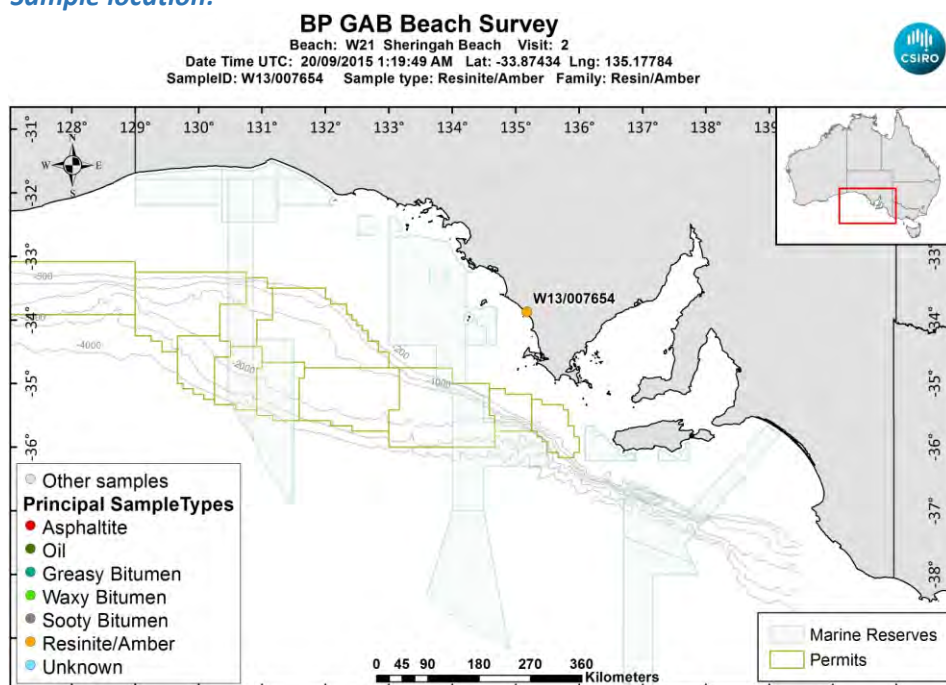
Size (cm): 2.7

Latitude (Y): -33.874342

Weight (gm): 4.9

Longitude (X): 135.177845

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007654_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007654_146A1743.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007654_Photo03.JPG](#)

Analyses Requested

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

Analyses Completed:

Sample Analyses Completed:

No results to date

Qualifier codes:

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

Sample ID : **W13/007655**

Beach W21: Sheringah Beach Visit: 2

Comments:

found in tidal backwash in dunes

Location: Shore Upper

Local Date Time: 20/09/2015 11:24:20 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

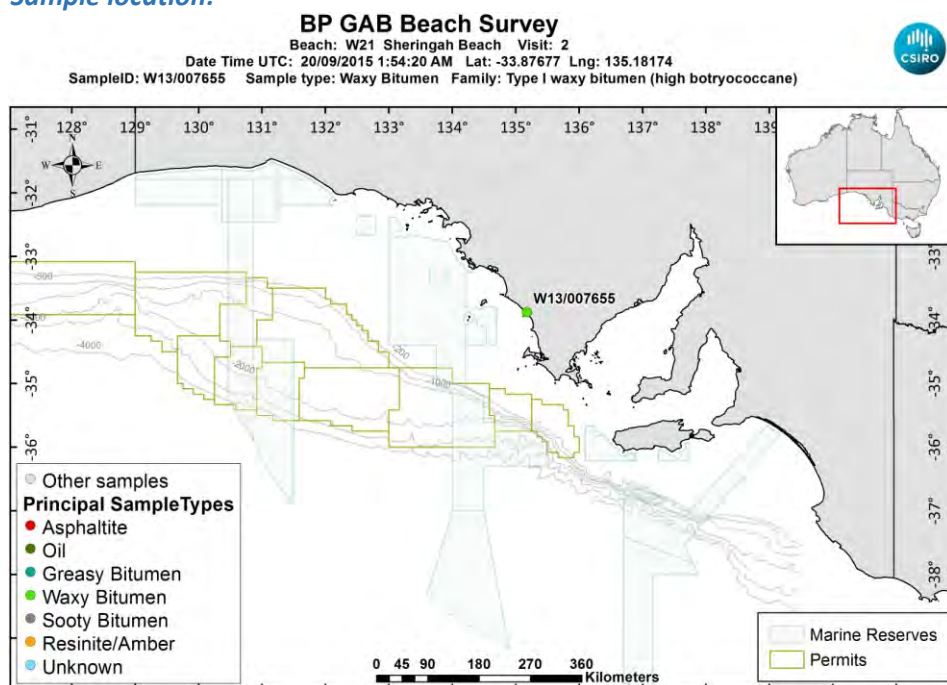
Size (cm): 6.1

Latitude (Y): -33.876772

Weight (gm): 21.6

Longitude (X): 135.181740

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007655_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007655_146A1744.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007655_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: W13/007655_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:

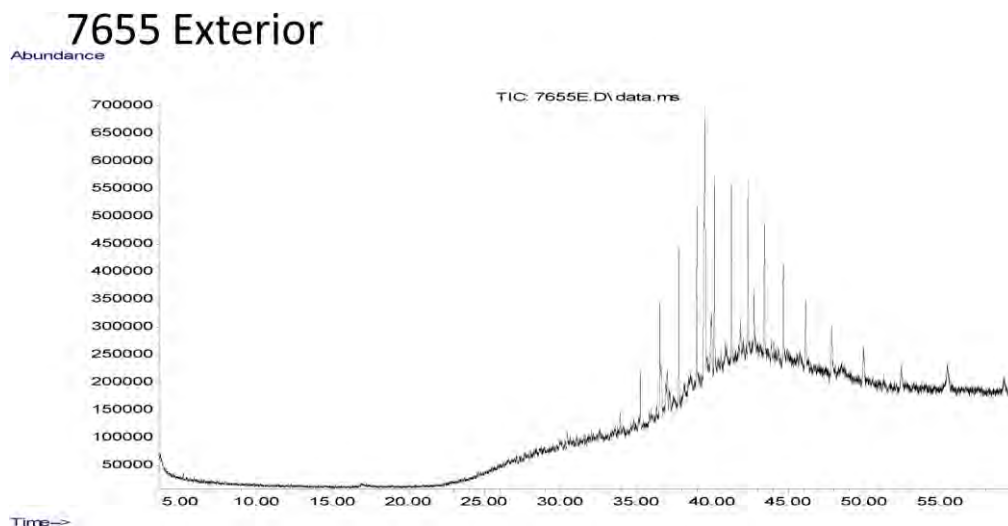
Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			87.95	percent	Y
Inorg	Hydrogen			9.42603836978131	percent	Y
Inorg	Nitrogen			0.236566923736075	percent	Y
Inorg	Sulphur			2.13269684845156	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007655_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_007655_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



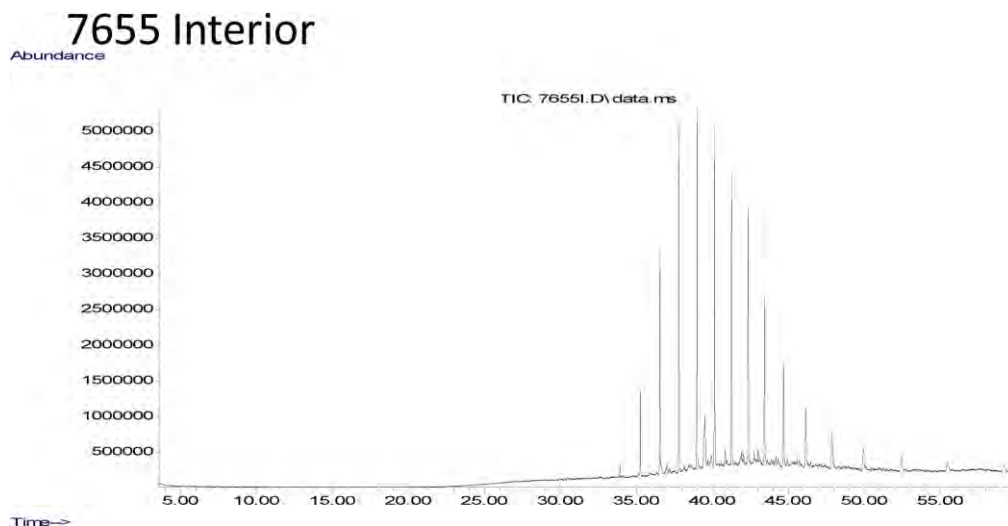
Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	4594717		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	161048		ug/L	Z
Aliph	nC25	35.2120	526832		ug/L	Z
Aliph	nC26	36.4960	936590		ug/L	Z
Aliph	nC27	37.7300	1475280		ug/L	Z
Aliph	nC28	38.9260	1692510		ug/L	Z
Aliph	nC29	40.0740	1910384		ug/L	Z
Aliph	nC30	41.1930	1699213		ug/L	Z
Aliph	nC31	42.2750	1683935		ug/L	Z
Aliph	nC32	43.3560	1384480		ug/L	Z
Aliph	nC33	44.5840	1196299		ug/L	Z
Aliph	nC34	46.0130	946110		ug/L	Z
Aliph	nC35	47.7140	950662		ug/L	Z
Aliph	nC36	49.7870	692837		ug/L	Z
Aliph	nC37	52.2630	471260		ug/L	Z
Aliph	nC38	55.2360	529748		ug/L	Z
Aliph	nC39	58.9110	587205		ug/L	Z
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007655 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_007655_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	6802445		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	895285		ug/L	Z
Aliph	nC25	35.2120	5918622		ug/L	Z
Aliph	nC26	36.4960	15705484		ug/L	Z
Aliph	nC27	37.7300	24939445		ug/L	Z
Aliph	nC28	38.9260	25667301		ug/L	Z
Aliph	nC29	40.0740	25353816		ug/L	Z
Aliph	nC30	41.1930	21008234		ug/L	Z
Aliph	nC31	42.2750	18190341		ug/L	Z
Aliph	nC32	43.3560	13972815		ug/L	Z
Aliph	nC33	44.5840	10252760		ug/L	Z
Aliph	nC34	46.0130	7554687		ug/L	Z
Aliph	nC35	47.7140	4863987		ug/L	Z
Aliph	nC36	49.7870	3248214		ug/L	Z
Aliph	nC37	52.2630	2491026		ug/L	Z
Aliph	nC38	55.2360	2049235		ug/L	Z
Aliph	nC39	58.9110	1810397		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 : **W13/007840**

Beach W21: Sheringah Beach Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 11/10/2016 8:35:32 AM

Type: Resinite/Amber

Family: Resin/Amber

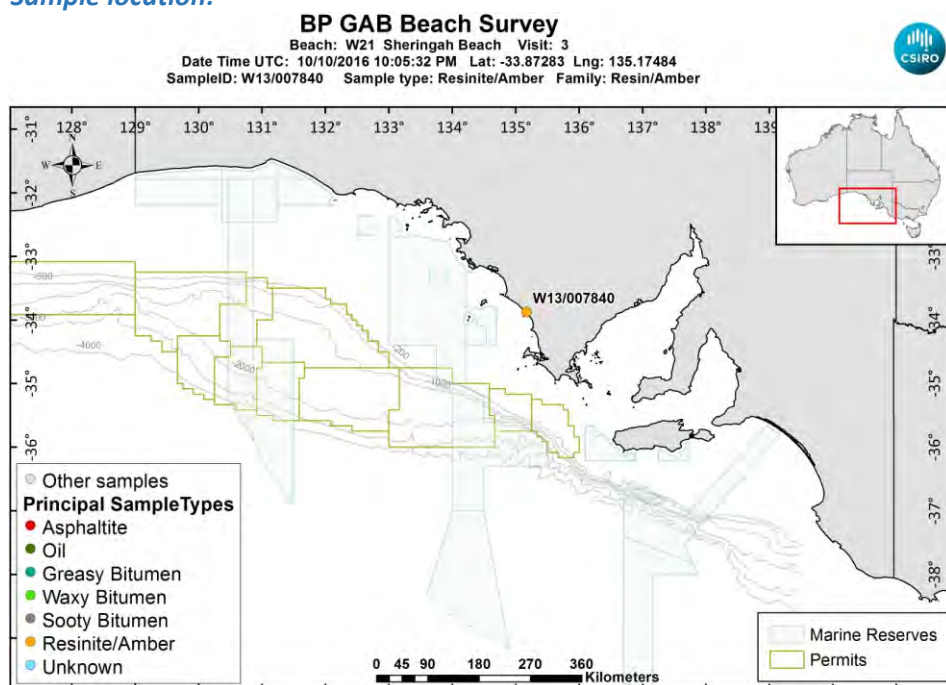
Size (cm): 6

Latitude (Y): -33.872830

Weight (gm): 59.7247

Longitude (X): 135.174845

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007840_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007840_146A6606.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007840_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

Analyses Completed:

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

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

Unique ID: W13/007840 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 : **W13/007841**

Beach W21: Sheringah Beach Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 11/10/2016 8:28:21 AM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

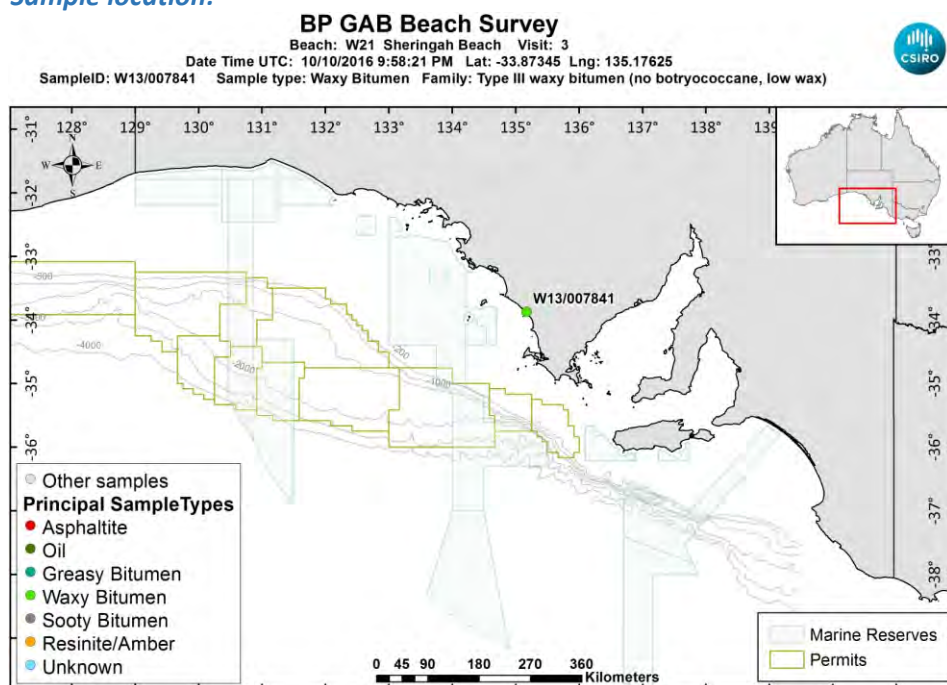
Size (cm): 2.5

Latitude (Y): -33.873453

Weight (gm): 2.68543

Longitude (X): 135.176248

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007841_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007841_146A6608.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007841_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: **W13/007841_UNK_ELEM-AN/01**

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Unknown

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			82.23	percent	Y
Inorg	Hydrogen			9.56414433399602	percent	Y
Inorg	Nitrogen			0.46520471293916	percent	Y
Inorg	Sulphur			2.13218814627137	percent	Y

Results for: GCMS with Full Scan

Unique ID: **W13/007841 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_007841_bulk_WholeOil.jpg](#)

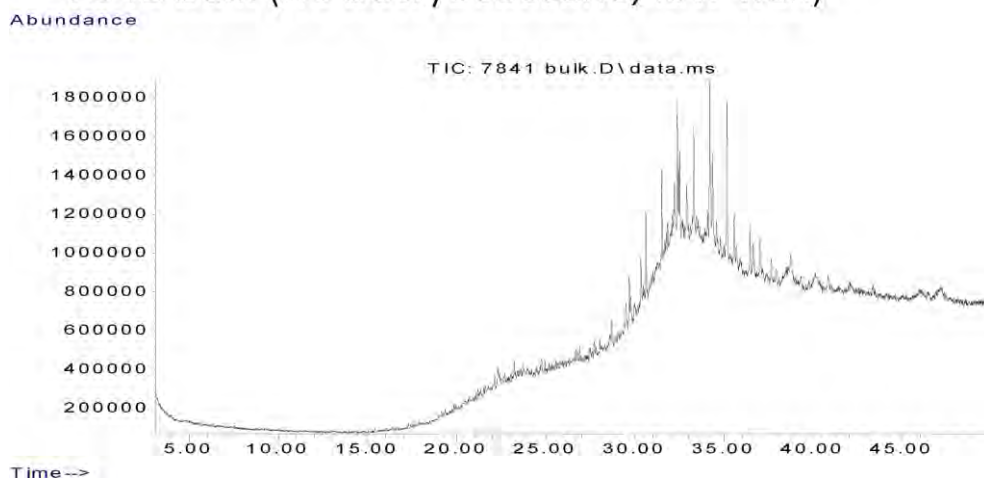
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7841 bulk (no botryococcane, low wax)



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	673602			Z
Aliph	nC26	29.6680	1087865			Z
Aliph	nC27	30.6080	2169029			Z
Aliph	nC28	31.5080	2841745			Z
Aliph	nC29	32.3700	3525203			Z
Aliph	nC30	33.2910	2704802			Z
Aliph	nC31	34.3470	2590863			Z
Aliph	nC32	35.5720	1848677			Z
Aliph	nC33	37.0130	1669513			Z
Aliph	nC34	38.7280	1411493			Z
Aliph	nC35	40.8080	810200			Z
Aliph	nC36	43.3510	769139			Z
Aliph	nC37	46.4710	601166			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 : **W13/007842**

Beach W21: Sheringah Beach Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 11/10/2016 8:31:47 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

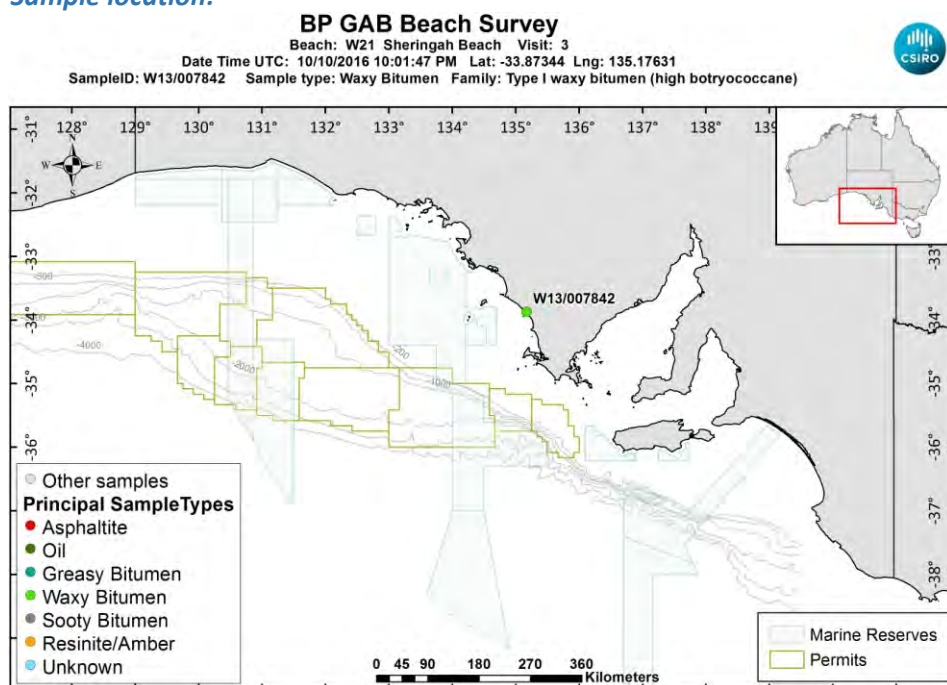
Size (cm): 1.6

Latitude (Y): -33.873442

Weight (gm): 0.43796

Longitude (X): 135.176313

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007842_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007842_146A6610.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007842_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: W13/007842 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_007842_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

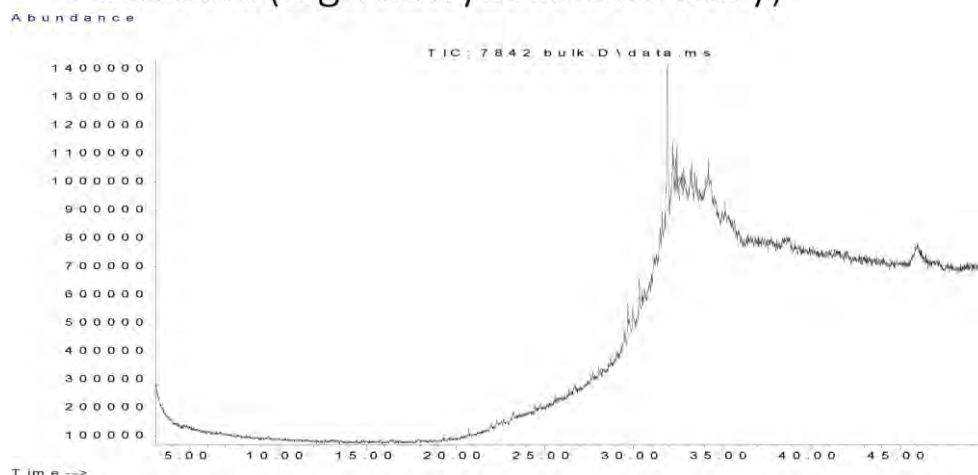
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7842 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	4857276			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 : **W13/007843**

Beach W21: Sheringah Beach Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 11/10/2016 8:33:45 AM

Type: Resinite/Amber

Family: Resin/Amber

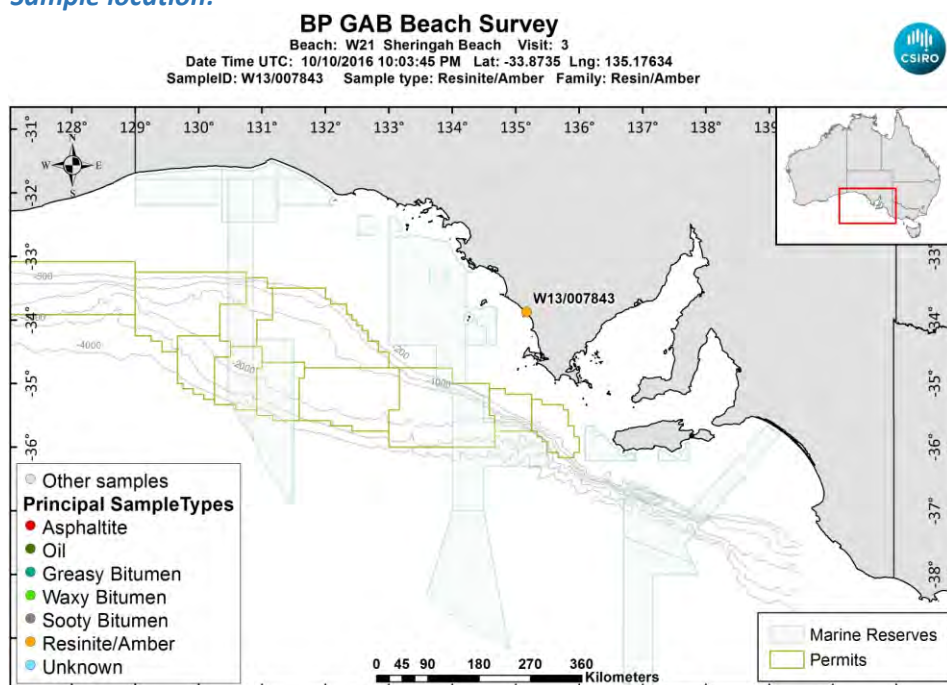
Size (cm): 6.3

Latitude (Y): -33.873503

Weight (gm): 38.51157

Longitude (X): 135.176342

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007843_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007843_146A6612.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007843_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

Analyses Completed:

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

Sample Analyses Completed:

Results for: GCMS with Full Scan

Unique ID: W13/007843 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 : **W13/007844**

Beach W21: Sheringah Beach Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 11/10/2016 8:39:53 AM

Type: Unknown

Family: Not bitumen (false sample)

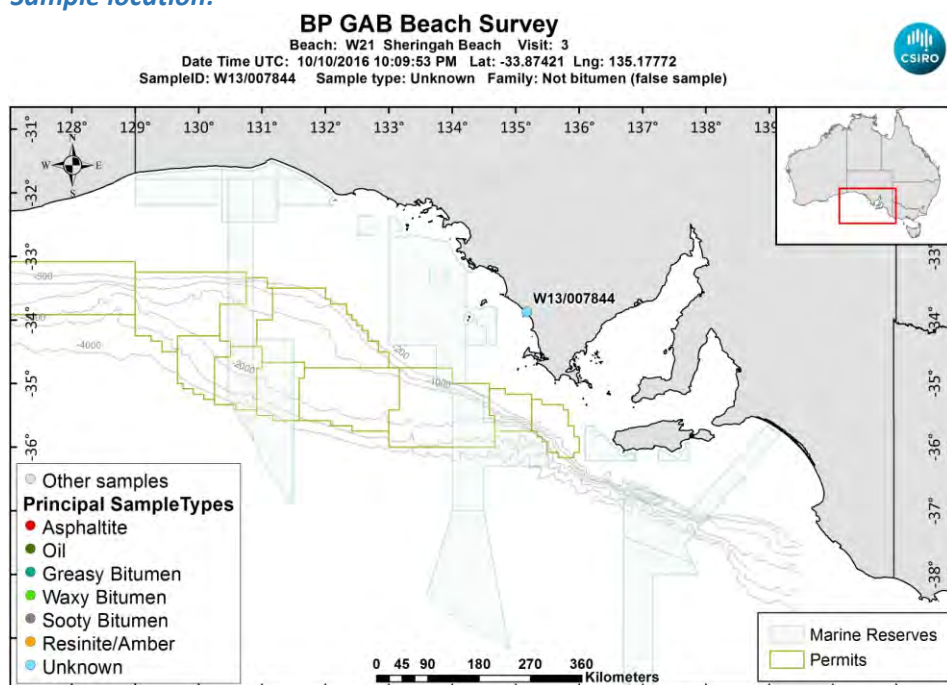
Size (cm): 1.3

Latitude (Y): -33.874205

Weight (gm): 0.26457

Longitude (X): 135.177718

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007844_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007844_146A6614.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007844_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

Analyses Completed:

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

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

Unique ID: W13/007844 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 : **W13/007845**

Beach W21: Sheringah Beach Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 11/10/2016 8:43:44 AM

Type: Asphaltite

Family: Asphaltite

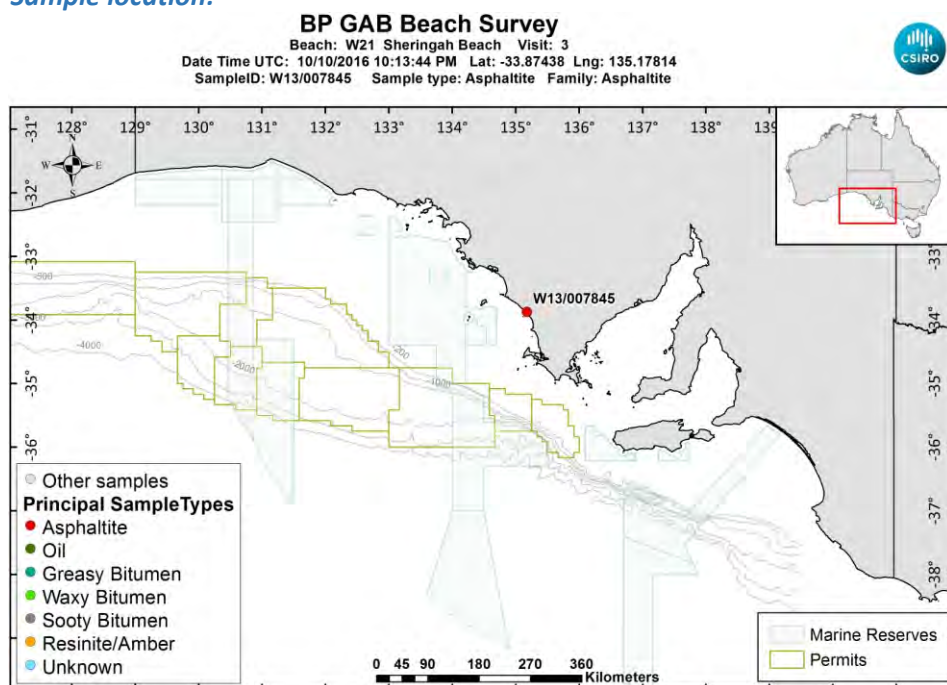
Size (cm): 15.6

Latitude (Y): -33.874380

Weight (gm): 500

Longitude (X): 135.178140

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007845_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007845_146A6616.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007845_Photo02.JPG](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007845 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Analysis Date: 18/07/2017

Linked Image: [None available](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: External Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			41.6558174448784	ratio	Y
BiomRatio	% C27 abb 20(R+S)			38.1744201521609	ratio	Y
BiomRatio	% C28 aaa 20R			19.725867951706	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.2931935540104	ratio	Y
BiomRatio	% C29 aaa 20R			38.6183146034156	ratio	Y
BiomRatio	% C29 abb 20(R+S)			36.5323862938287	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.106557940426389	ratio	Y
BiomRatio	25-Nor/C30H			2.48751224192592E-02	ratio	Y
BiomRatio	C19t/C23t			0.256870519676175	ratio	Y
BiomRatio	C22t/C21t			0.299783479026694	ratio	Y
BiomRatio	C22t/C24t			0.276139362700817	ratio	Y
BiomRatio	C23t/C30H			7.11329314541943E-02	ratio	Y
BiomRatio	C24t/C23t			0.584170074334056	ratio	Y
BiomRatio	C24Tet/C23t			0.944197721967452	ratio	Y
BiomRatio	C24Tet/C26t			1.90922519416176	ratio	Y
BiomRatio	C24Tet/C30H			6.71635518359172E-02	ratio	Y
BiomRatio	C26t/C25t			0.770239346101037	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.430680665751954	ratio	Y
BiomRatio	C27 Dia/Ster			0.424336283933549	ratio	Y
BiomRatio	C28BNH/C30H			4.38688210199149E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.956986017029539	ratio	Y
BiomRatio	C29H/C30H			0.65005263310523	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.179944311626109	ratio	Y
BiomRatio	C30DiaH/C30H			9.37375657877014E-02	ratio	Y
BiomRatio	C30Ts/C30H			4.18142824947047E-02	ratio	Y
BiomRatio	C35 Homohopane Index			7.60726155414478E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.878046709016812	ratio	Y
BiomRatio	Gam/C30H			5.91556063052561E-02	ratio	Y
BiomRatio	Gam/C31HR			0.179018766591218	ratio	Y
BiomRatio	Ole/C30H			7.89606982104155E-04	ratio	Y
BiomRatio	Sterane/hopane			0.342402787465728	ratio	Y
BiomRatio	Steranes/Terpanes			0.311224148596459	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.100180654392908	ratio	Y

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007845 DISS GC-MS/02

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 2

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			39.0374408947953	ratio	Y
BiomRatio	% C27 abb 20(R+S)			38.9072523823747	ratio	Y
BiomRatio	% C28 aaa 20R			26.9712228029219	ratio	Y
BiomRatio	% C28 abb 20(R+S)			26.054260013399	ratio	Y
BiomRatio	% C29 aaa 20R			33.9913363022829	ratio	Y
BiomRatio	% C29 abb 20(R+S)			35.0384876042263	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.141436718349213	ratio	Y
BiomRatio	25-Nor/C30H			2.95041214367465E-02	ratio	Y
BiomRatio	C19t/C23t			0.217523355503441	ratio	Y
BiomRatio	C22t/C21t			0.353690191671547	ratio	Y
BiomRatio	C22t/C24t			0.208167789955146	ratio	Y
BiomRatio	C23t/C30H			0.110068131571145	ratio	Y
BiomRatio	C24t/C23t			0.550272320684838	ratio	Y
BiomRatio	C24Tet/C23t			0.845655043379083	ratio	Y
BiomRatio	C24Tet/C26t			1.87267650080311	ratio	Y
BiomRatio	C24Tet/C30H			9.30796705784512E-02	ratio	Y
BiomRatio	C26t/C25t			0.859462729086483	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.457680063998235	ratio	Y
BiomRatio	C27 Dia/Ster			0.470171575036916	ratio	Y
BiomRatio	C28BNH/C30H			6.66736441038728E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.900564431018497	ratio	Y
BiomRatio	C29H/C30H			0.635477052177595	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.188484150026173	ratio	Y
BiomRatio	C30DiaH/C30H			9.14172162338822E-02	ratio	Y
BiomRatio	C30Ts/C30H			2.98561905054758E-02	ratio	Y
BiomRatio	C35 Homohopane Index			7.19946678057855E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.819874578161378	ratio	Y
BiomRatio	Gam/C30H			7.77212216683842E-02	ratio	Y
BiomRatio	Gam/C31HR			0.258757021818943	ratio	Y
BiomRatio	Ole/C30H			6.07178090245345E-03	ratio	Y
BiomRatio	Sterane/hopane			0.46228613104045	ratio	Y
BiomRatio	Steranes/Terpanes			0.406905797042841	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.136101118244276	ratio	Y

Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007845_PTE_CSIA-C13/03

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

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d13C

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: External Final d13C

Results for: Compound Specific Isotope Analysis d13C

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	nC13			-30.822	value	Y
Aliph	nC14			-31.393	value	Y
Aliph	nC15			-31.608	value	Y
Aliph	nC16			-31.697	value	Y
Aliph	nC17			-31.894	value	Y
Aliph	nC18			-32.257	value	Y
Aliph	nC19			-31.784	value	Y
Aliph	nC20			-32.368	value	Y
Aliph	nC21			-32.998	value	Y
Aliph	nC22			-32.977	value	Y
Aliph	nC23			-33.135	value	Y
Aliph	nC24			-32.775	value	Y
Aliph	nC25			-32.523	value	Y
Aliph	nC26			-32.408	value	Y
Aliph	nC27			-32.505	value	Y
Aliph	nC28			-32.064	value	Y
Aliph	nC29			-31.98	value	Y
Aliph	nC30			-31.851	value	Y
Aliph	nC31			-31.625	value	Y
Aliph	nC32			-32.526	value	Y
Aliph	nC33			-31.597	value	Y
Aliph	nC34			-31.016	value	Y
Aliph	nC35			-31.061	value	Y
Aliph	nC36			-31.55	value	Y
Aliph	nC37			-31.643	value	Y
Aliph	nC38			-29.236	value	Y
Aliph	nC39			-26.963	value	Y

Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007845_PTE_CSIA-C13/04

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

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d13C

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Final d13C

Results for: Compound Specific Isotope Analysis d13C

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	nC13			-30.081	value	Y
Aliph	nC14			-31.845	value	Y
Aliph	nC15			-31.72	value	Y
Aliph	nC16			-31.829	value	Y
Aliph	nC17			-31.935	value	Y
Aliph	nC18			-32.443	value	Y
Aliph	nC19			-31.873	value	Y
Aliph	nC20			-31.85	value	Y
Aliph	nC21			-32.047	value	Y
Aliph	nC22			-32.564	value	Y
Aliph	nC23			-33.258	value	Y
Aliph	nC24			-32.54	value	Y
Aliph	nC25			-32.399	value	Y
Aliph	nC26			-32.165	value	Y
Aliph	nC27			-32.208	value	Y
Aliph	nC28			-32.028	value	Y
Aliph	nC29			-32.108	value	Y
Aliph	nC30			-31.59	value	Y
Aliph	nC31			-31.763	value	Y
Aliph	nC32			-32.212	value	Y
Aliph	nC33			-31.246	value	Y
Aliph	nC34			-30.085	value	Y
Aliph	nC35			-31.984	value	Y
Aliph	nC36			-31.646	value	Y
Aliph	nC37			-34.124	value	Y
Aliph	nC38			-32.277	value	Y
Aliph	nC39				value	U

Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007845_PTE_CSIA/01

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

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

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

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: External 2H analysis

Results for: Compound Specific Isotope Analysis d2H

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	nC13			-130.5555	value	Y
Aliph	nC14			-133.3095	value	Y
Aliph	nC15			-129.8685	value	Y
Aliph	nC16			-133.3615	value	Y
Aliph	nC17			-134.6525	value	Y
Aliph	nC18			-130.6235	value	Y
Aliph	nC19			-132.72	value	Y
Aliph	nC20				value	U
Aliph	nC21				value	U
Aliph	nC22				value	U
Aliph	nC23				value	U
Aliph	nC24				value	U
Aliph	nC25			-135.316	value	Y
Aliph	nC26			-133.7465	value	Y
Aliph	nC27			-134.938	value	Y
Aliph	nC28			-132.015	value	Y
Aliph	nC29			-133.652	value	Y
Aliph	nC30			-128.786	value	Y
Aliph	nC31			-145.2915	value	Y
Aliph	nC32			-106.447	value	Y
Aliph	nC33			-105.405	value	Y
Aliph	nC34			-105.3495	value	Y
Aliph	nC35				value	U
Aliph	nC36				value	U
Aliph	nC37				value	U
Aliph	nC38				value	U
Aliph	nC39				value	U

Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007845_PTE_CSIA/02

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

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

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

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal 2H analysis

Results for: Compound Specific Isotope Analysis d2H

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	nC13				value	U
Aliph	nC14			-108.9995	value	Y
Aliph	nC15			-126.0815	value	Y
Aliph	nC16			-126.4175	value	Y
Aliph	nC17			-128.8305	value	Y
Aliph	nC18			-121.6025	value	Y
Aliph	nC19			-125.656	value	Y
Aliph	nC20			-124.669	value	Y
Aliph	nC21			-129.43	value	Y
Aliph	nC22			-124.882	value	Y
Aliph	nC23			-124.0455	value	Y
Aliph	nC24			-121.0455	value	Y
Aliph	nC25			-127.964	value	Y
Aliph	nC26			-126.273	value	Y
Aliph	nC27			-127.6735	value	Y
Aliph	nC28			-121.2365	value	Y
Aliph	nC29			-124.89	value	Y
Aliph	nC30			-142.9085	value	Y
Aliph	nC31			-115.92	value	Y
Aliph	nC32			-104.9075	value	Y
Aliph	nC33			-107.788	value	Y
Aliph	nC34			-95.935	value	Y
Aliph	nC35				value	U
Aliph	nC36				value	U
Aliph	nC37				value	U
Aliph	nC38				value	U
Aliph	nC39				value	U

Results for: Elemental Analyser

Unique ID: W13/007845_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)

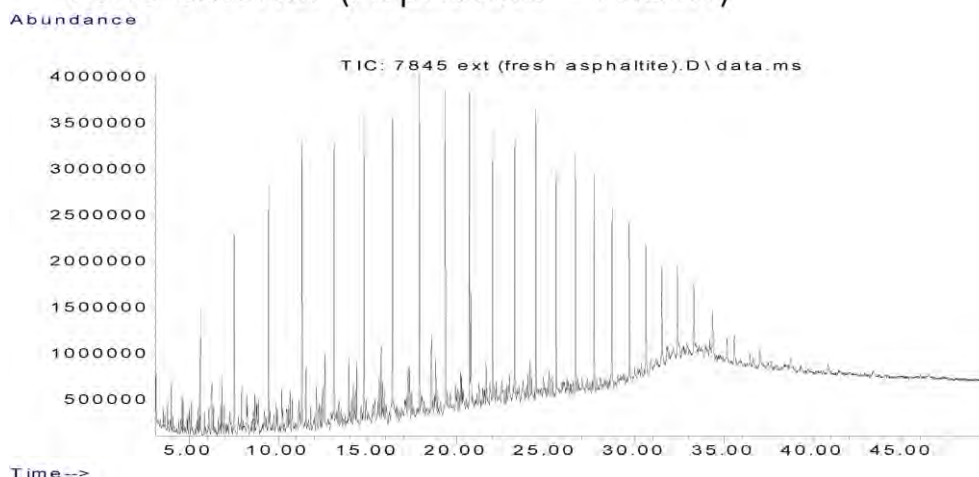
Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Inorg	Carbon			81	percent	Y
Inorg	Hydrogen			6.9748675944334	percent	Y
Inorg	Nitrogen			0.791349100257069	percent	Y
Inorg	Sulphur			4.56997451404092	percent	Y

Results for: GCMS with Full Scan

Results for: GCMS with Full Scan**Unique ID:** W13/007845 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 007845 ext WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7845 exterior (Asphaltite – FRESH)



Data Sheet:

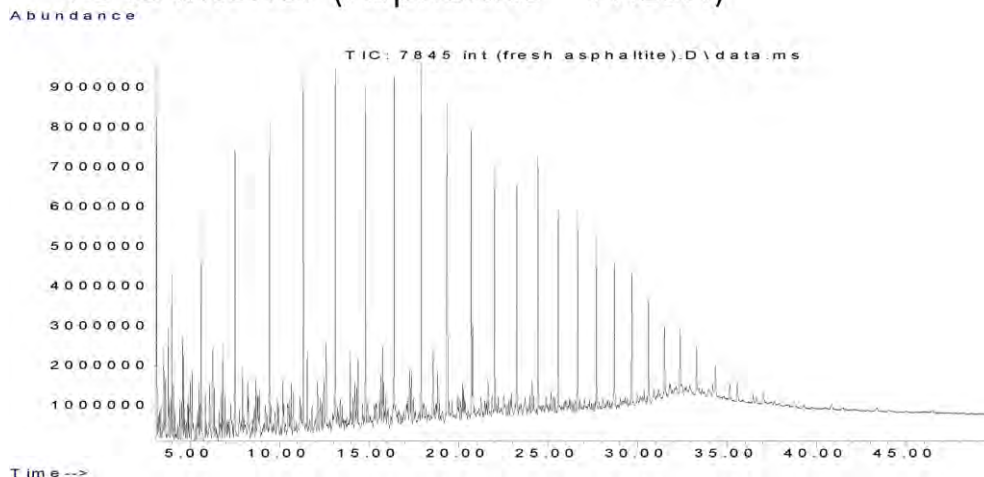
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110	12022779			Z
Aliph	nC11	9.4450	14822697			Z
Aliph	nC12	11.3220	16602796			Z
Aliph	nC13	13.1110	17365200			Z
Aliph	nC14	14.8030	18251633			Z
Aliph	nC15	16.4030	17580921			Z
Aliph	nC16	17.9160	16624489			Z
Aliph	nC17	19.3500	17034815			Z
Aliph	nC18	20.7170	15847974			Z
Aliph	nC19	22.0170	14404650			Z
Aliph	nC20	23.2570	13611944			Z
Aliph	nC21	24.4410	13193369			Z
Aliph	nC22	25.5760	11523514			Z
Aliph	nC23	26.6620	11212338			Z
Aliph	nC24	27.7060	10407778			Z
Aliph	nC25	28.7100	10599424			Z
Aliph	nC26	29.6680	9191112			Z
Aliph	nC27	30.6080	7325844			Z
Aliph	nC28	31.5080	6006425			Z
Aliph	nC29	32.3700	5807239			Z
Aliph	nC30	33.2910	4458271			Z
Aliph	nC31	34.3470	3556163			Z
Aliph	nC32	35.5720	2247172			Z
Aliph	nC33	37.0130	1878798			Z
Aliph	nC34	38.7280	1571216			Z
Aliph	nC35	40.8080	1067315			Z
Aliph	nC36	43.3510	883205			Z
Aliph	nC37	46.4710	1245079			Z
Aliph	nC8	4.0300	1749950			Z
Aliph	nC9	5.6200	7300743			Z
Aliph	Norpristane	18.5830	6907614			Z
Aliph	Phytane	20.7870	6573943			Z
Aliph	Pristane	19.3870	5547048			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007845 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_007845_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7845 interior (Asphaltite – FRESH)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110	38893946			Z
Aliph	nC11	9.4450	44965632			Z
Aliph	nC12	11.3220	47875589			Z
Aliph	nC13	13.1110	47352861			Z
Aliph	nC14	14.8030	48045671			Z
Aliph	nC15	16.4030	44432659			Z
Aliph	nC16	17.9160	38884309			Z
Aliph	nC17	19.3500	36714848			Z
Aliph	nC18	20.7170	33688420			Z
Aliph	nC19	22.0170	30897028			Z
Aliph	nC20	23.2570	28864977			Z
Aliph	nC21	24.4410	27644734			Z
Aliph	nC22	25.5760	23346587			Z
Aliph	nC23	26.6620	22743162			Z
Aliph	nC24	27.7060	20178494			Z
Aliph	nC25	28.7100	18242716			Z
Aliph	nC26	29.6680	17121488			Z
Aliph	nC27	30.6080	12802178			Z
Aliph	nC28	31.5080	9929559			Z
Aliph	nC29	32.3700	8297492			Z
Aliph	nC30	33.2910	7255361			Z
Aliph	nC31	34.3470	5535444			Z
Aliph	nC32	35.5720	4064227			Z
Aliph	nC33	37.0130	3099170			Z
Aliph	nC34	38.7280	2362033			Z
Aliph	nC35	40.8080	1871302			Z
Aliph	nC36	43.3510	1144268			Z
Aliph	nC37	46.4710	889572			Z
Aliph	nC8	4.0300	11406842			Z
Aliph	nC9	5.6200	29051237			Z
Aliph	Norpristane	18.5830	15005591			Z
Aliph	Phytane	20.7870	12648259			Z
Aliph	Pristane	19.3870	11162942			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 : **W13/007846**

Beach W21: Sheringah Beach Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 11/10/2016 8:48:26 AM

Type: Asphaltite

Family: Unknown

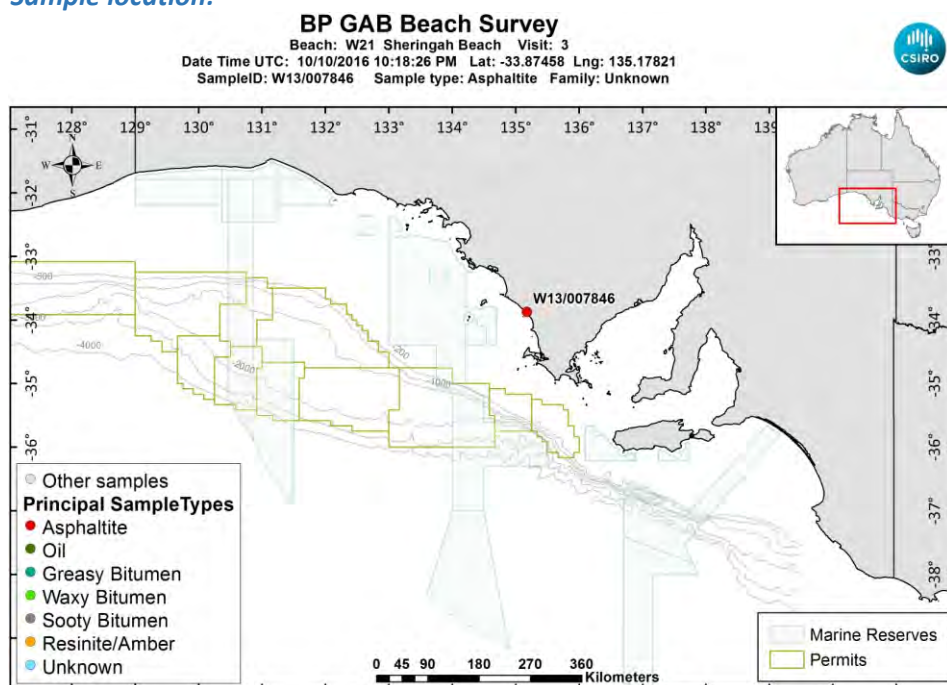
Size (cm): 12

Latitude (Y): -33.874578

Weight (gm): 242

Longitude (X): 135.178207

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007846_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007846_146A6619.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007846_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
5	CSIA	YES
6	CSIA	YES

Analyses Completed:

Analysis:	Instrument/Type:
CSIA	Compound Specific Isotope Analysis d13C Run: 4
CSIA	Compound Specific Isotope Analysis d13C Run: 3
CSIA	Compound Specific Isotope Analysis d2H Run: 2
Elemental CHNS	Elemental Analyser Run: 1
Whole Oils	GCMS with Full Scan Run: 2
Whole Oils	GCMS with Full Scan Run: 1

Sample Analyses Completed:

Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007846_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: External Final d13C

Results for: Compound Specific Isotope Analysis d13C

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	nC13			-25.092	value	Y
Aliph	nC14				value	U
Aliph	nC15			-37.763	value	Y
Aliph	nC16				value	U
Aliph	nC17				value	U
Aliph	nC18				value	U
Aliph	nC19				value	U
Aliph	nC20				value	U
Aliph	nC21				value	U
Aliph	nC22				value	U
Aliph	nC23			-29.879	value	Y
Aliph	nC24			-29.439	value	Y
Aliph	nC25			-30.767	value	Y
Aliph	nC26			-30.404	value	Y
Aliph	nC27			-35.22	value	Y
Aliph	nC28			-30.703	value	Y
Aliph	nC29			-30.185	value	Y
Aliph	nC30			-30.159	value	Y
Aliph	nC31			-31.257	value	Y
Aliph	nC32			-29.736	value	Y
Aliph	nC33			-31.701	value	Y
Aliph	nC34			-30.723	value	Y
Aliph	nC35			-30.293	value	Y
Aliph	nC36			-31.422	value	Y
Aliph	nC37			-30.078	value	Y
Aliph	nC38			-31.604	value	Y
Aliph	nC39			-31.727	value	Y

Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007846_PTE_CSIA-C13/04

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

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

Method ID/s: Final d13C

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Final d13C

Results for: Compound Specific Isotope Analysis d13C

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	nC13			-24.714	value	Y
Aliph	nC14			-23.174	value	Y
Aliph	nC15			-32.443	value	Y
Aliph	nC16			-29.066	value	Y
Aliph	nC17			-30.623	value	Y
Aliph	nC18			-30.379	value	Y
Aliph	nC19			-31.552	value	Y
Aliph	nC20			-31.711	value	Y
Aliph	nC21			-30.625	value	Y
Aliph	nC22			-31.564	value	Y
Aliph	nC23			-31.296	value	Y
Aliph	nC24			-30.997	value	Y
Aliph	nC25			-30.626	value	Y
Aliph	nC26			-30.645	value	Y
Aliph	nC27			-30.357	value	Y
Aliph	nC28			-30.492	value	Y
Aliph	nC29			-30.134	value	Y
Aliph	nC30			-30.398	value	Y
Aliph	nC31			-29.943	value	Y
Aliph	nC32			-30.109	value	Y
Aliph	nC33			-31.634	value	Y
Aliph	nC34			-30.439	value	Y
Aliph	nC35			-29.688	value	Y
Aliph	nC36			-29.849	value	Y
Aliph	nC37			-30.146	value	Y
Aliph	nC38			-30.521	value	Y
Aliph	nC39			-31.45	value	Y

Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007846_PTE_CSIA/02

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

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

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

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal 2H analysis

Results for: Compound Specific Isotope Analysis d2H

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	nC13			-52.0605	value	Y
Aliph	nC14				value	U
Aliph	nC15				value	U
Aliph	nC16				value	U
Aliph	nC17				value	U
Aliph	nC18				value	U
Aliph	nC19				value	U
Aliph	nC20				value	U
Aliph	nC21				value	U
Aliph	nC22				value	U
Aliph	nC23				value	U
Aliph	nC24			-113.081	value	Y
Aliph	nC25			-95.0605	value	Y
Aliph	nC26			-80.4615	value	Y
Aliph	nC27			-97.4065	value	Y
Aliph	nC28			-94.255	value	Y
Aliph	nC29			-84.295	value	Y
Aliph	nC30				value	U
Aliph	nC31				value	U
Aliph	nC32				value	U
Aliph	nC33				value	U
Aliph	nC34				value	U
Aliph	nC35				value	U
Aliph	nC36				value	U
Aliph	nC37				value	U
Aliph	nC38				value	U
Aliph	nC39				value	U

Results for: Elemental Analyser

Unique ID: W13/007846_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)

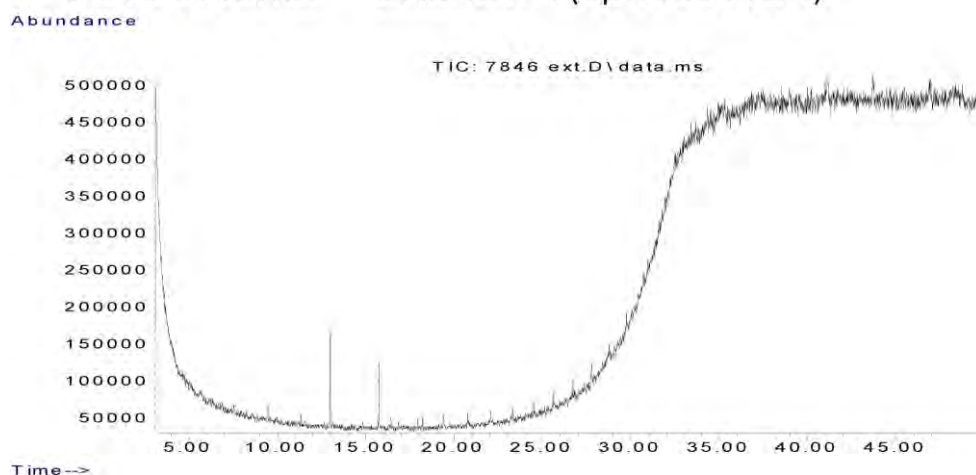
Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Inorg	Carbon			88.18	percent	Y
Inorg	Hydrogen			7.24697117296223	percent	Y
Inorg	Nitrogen			0.743529562982005	percent	Y
Inorg	Sulphur			2.258759420184	percent	Y

Results for: GCMS with Full Scan

Results for: GCMS with Full Scan**Unique ID:** W13/007846 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 007846 ext WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** ext (splitless) Conchoidal fracture - Asphaltite? No response in GC except minor contaminant (also present in blank)

Results for: GCMS with Full Scan

7846 exterior – Unknown (splitless run)



Data Sheet:

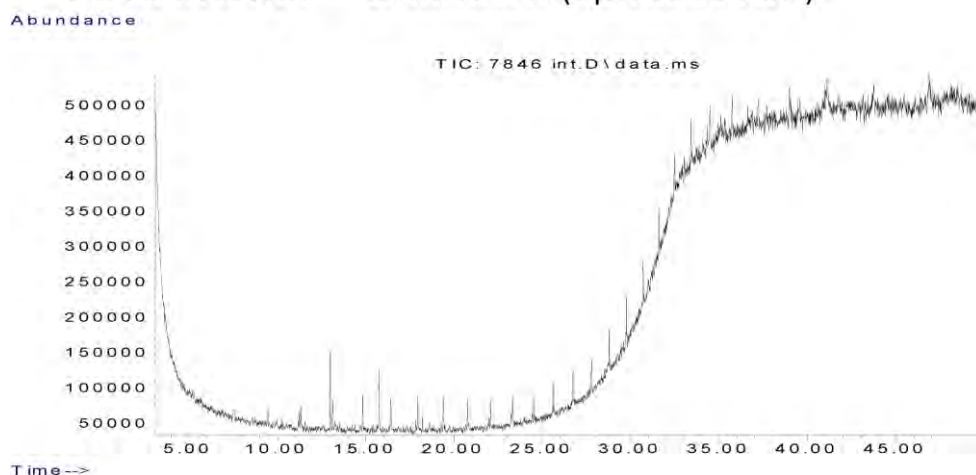
(default units ppb)

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

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007846 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_007846_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** int (splitless) Conchoidal fracture - Asphaltite? No response in GC except minor contaminant (also present in blank)

Results for: GCMS with Full Scan

7846 interior – Unknown (splitless run)



Data Sheet:

(default units ppb)

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

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

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

Sample ID : **W13/007847**

Beach W21: Sheringah Beach Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 11/10/2016 8:58:44 AM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

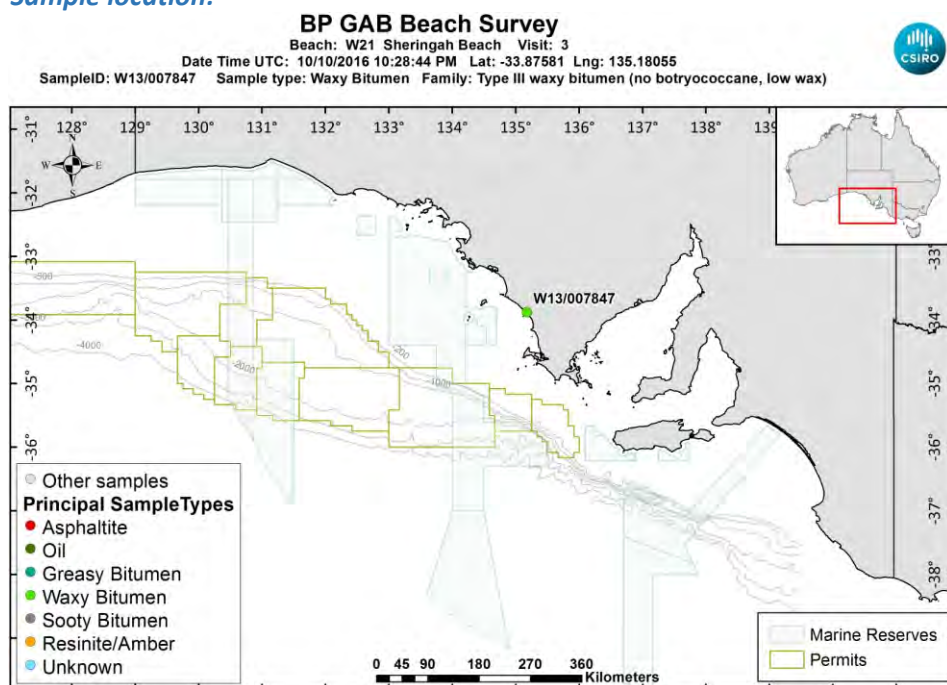
Size (cm): 3.4

Latitude (Y): -33.875813

Weight (gm): 10.91458

Longitude (X): 135.180547

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007847_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007847_146A6621.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007847_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: W13/007847_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:	Retention Time:	Target Response:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			27.4097761534947	ratio	Y
BiomRatio	% C27 abb 20(R+S)			34.3840649777606	ratio	Y
BiomRatio	% C28 aaa 20R			23.2983097304705	ratio	Y
BiomRatio	% C28 abb 20(R+S)			23.4770837362212	ratio	Y
BiomRatio	% C29 aaa 20R			49.2919141160347	ratio	Y
BiomRatio	% C29 abb 20(R+S)			42.1388512860182	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			5.73804007087365E-02	ratio	Y
BiomRatio	25-Nor/C30H			3.48693021179505E-02	ratio	Y
BiomRatio	C19t/C23t			0.113643871820284	ratio	Y
BiomRatio	C22t/C21t			0.218014916810098	ratio	Y
BiomRatio	C22t/C24t			0.165361183637946	ratio	Y
BiomRatio	C23t/C30H			7.50706810178067E-02	ratio	Y
BiomRatio	C24t/C23t			0.759167492566898	ratio	Y
BiomRatio	C24Tet/C23t			0.19590353485299	ratio	Y
BiomRatio	C24Tet/C26t			0.237389911929544	ratio	Y
BiomRatio	C24Tet/C30H			1.47066117752096E-02	ratio	Y
BiomRatio	C26t/C25t			1.97939778129952	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.524761472058155	ratio	Y
BiomRatio	C27 Dia/Ster			0.499178840003457	ratio	Y
BiomRatio	C28BNH/C30H			2.24691235553792E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.22553430821147	ratio	Y
BiomRatio	C29H/C30H			0.604062298497098	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.177406281661601	ratio	Y
BiomRatio	C30DiaH/C30H			7.24914438767918E-02	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			2.99124343257443E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.137121680049413	ratio	Y
BiomRatio	Gam/C30H			4.03749813997322E-02	ratio	Y
BiomRatio	Gam/C31HR			0.208610968733983	ratio	Y
BiomRatio	Ole/C30H			5.40151778185606E-02	ratio	Y
BiomRatio	Sterane/hopane			6.75672006516427E-02	ratio	Y
BiomRatio	Steranes/Terpanes			5.99281151602358E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.127470811838175	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007847_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:**

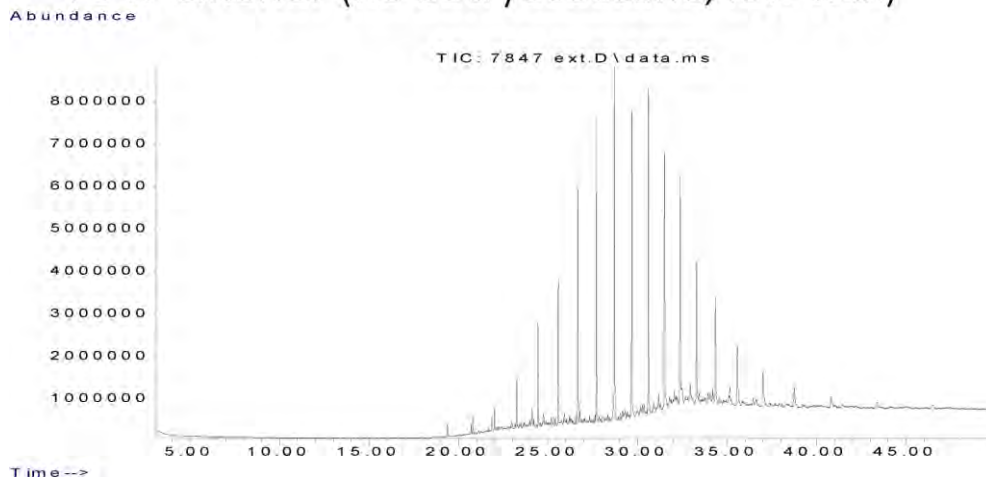
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			85.83	percent	Y
Inorg	Hydrogen			9.07250178926441	percent	Y
Inorg	Nitrogen			0.19	percent	Y
Inorg	Sulphur			1.39723772390049	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007847_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_007847_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7847 exterior (no botryococcane, low wax)



Data Sheet:

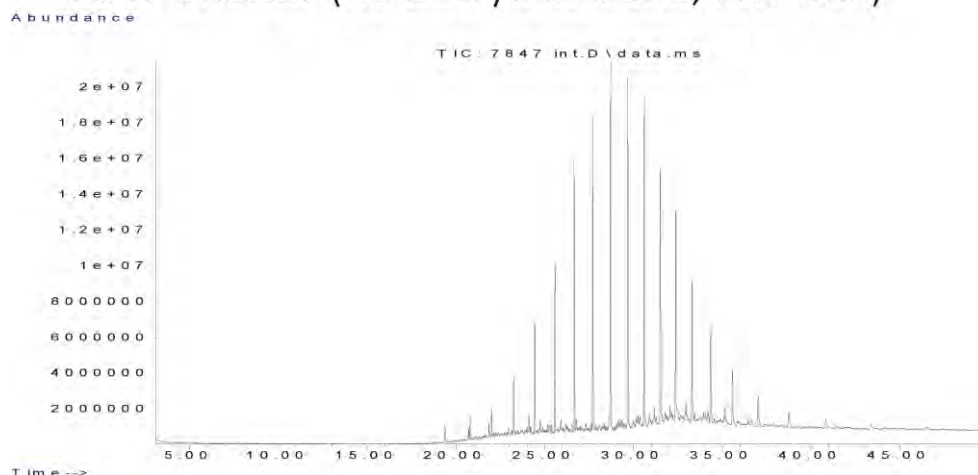
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170	982602			Z
Aliph	nC19	22.0170	2745338			Z
Aliph	nC20	23.2570	5422407			Z
Aliph	nC21	24.4410	10656060			Z
Aliph	nC22	25.5760	17646184			Z
Aliph	nC23	26.6620	26103563			Z
Aliph	nC24	27.7060	31211157			Z
Aliph	nC25	28.7100	36129808			Z
Aliph	nC26	29.6680	37128645			Z
Aliph	nC27	30.6080	37896459			Z
Aliph	nC28	31.5080	31041215			Z
Aliph	nC29	32.3700	26545527			Z
Aliph	nC30	33.2910	19754739			Z
Aliph	nC31	34.3470	16430766			Z
Aliph	nC32	35.5720	11532558			Z
Aliph	nC33	37.0130	8050238			Z
Aliph	nC34	38.7280	4709076			Z
Aliph	nC35	40.8080	3307563			Z
Aliph	nC36	43.3510	1976198			Z
Aliph	nC37	46.4710	1730486			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	280292			Z
Aliph	Phytane	20.7870	2253067			Z
Aliph	Pristane	19.3870	1924746			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007847 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_007847_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7847 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170	2527042			Z
Aliph	nC19	22.0170	7567458			Z
Aliph	nC20	23.2570	15143618			Z
Aliph	nC21	24.4410	28350395			Z
Aliph	nC22	25.5760	45804394			Z
Aliph	nC23	26.6620	67371797			Z
Aliph	nC24	27.7060	77907024			Z
Aliph	nC25	28.7100	89453762			Z
Aliph	nC26	29.6680	89444705			Z
Aliph	nC27	30.6080	89654180			Z
Aliph	nC28	31.5080	71069873			Z
Aliph	nC29	32.3700	58109120			Z
Aliph	nC30	33.2910	43547720			Z
Aliph	nC31	34.3470	34845798			Z
Aliph	nC32	35.5720	23617450			Z
Aliph	nC33	37.0130	15482240			Z
Aliph	nC34	38.7280	9796941			Z
Aliph	nC35	40.8080	5569487			Z
Aliph	nC36	43.3510	4406158			Z
Aliph	nC37	46.4710	2998237			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	878148			Z
Aliph	Phytane	20.7870	7020972			Z
Aliph	Pristane	19.3870	6326842			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 : **W13/007848**

Beach W21: Sheringah Beach Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 11/10/2016 9:01:46 AM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

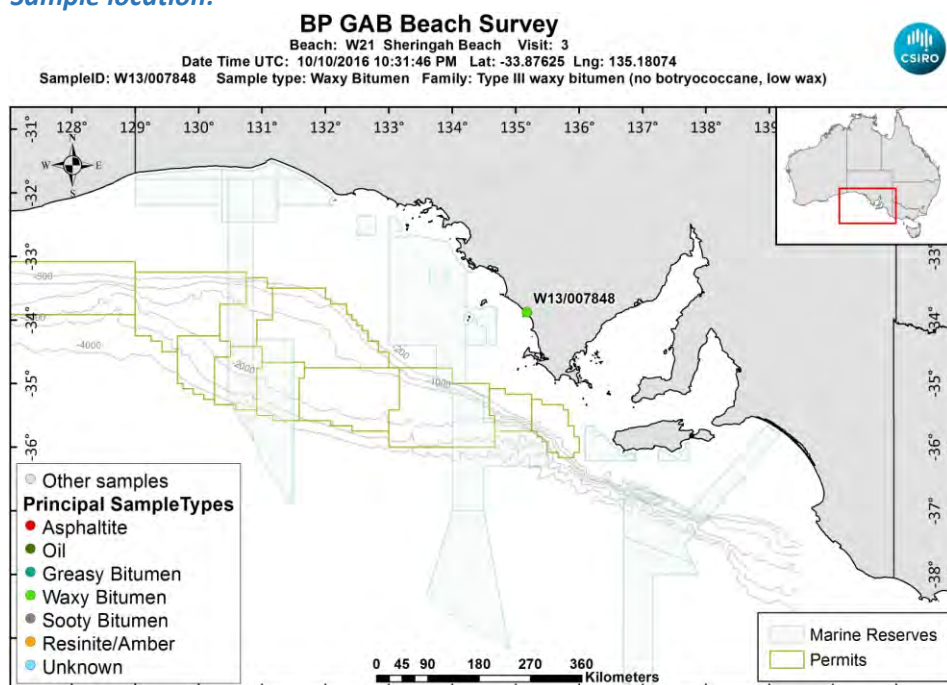
Size (cm): 3.9

Latitude (Y): -33.876253

Weight (gm): 15.29632

Longitude (X): 135.180745

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007848_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007848_146A6623.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007848_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: W13/007848_DISS_GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Analysis Date: 18/07/2017

Linked Image: [None available](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			47.950416181867	ratio	Y
BiomRatio	% C27 abb 20(R+S)			42.5017414817201	ratio	Y
BiomRatio	% C28 aaa 20R			12.9752279801506	ratio	Y
BiomRatio	% C28 abb 20(R+S)			19.5597983626327	ratio	Y
BiomRatio	% C29 aaa 20R			39.0743558379824	ratio	Y
BiomRatio	% C29 abb 20(R+S)			37.9384601556473	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.15076357126819	ratio	Y
BiomRatio	25-Nor/C30H			6.65360602570292E-02	ratio	Y
BiomRatio	C19t/C23t			0.131408387715763	ratio	Y
BiomRatio	C22t/C21t			4.75979348365079E-02	ratio	Y
BiomRatio	C22t/C24t			3.99301381637104E-02	ratio	Y
BiomRatio	C23t/C30H			0.1286696151927	ratio	Y
BiomRatio	C24t/C23t			0.792892918917713	ratio	Y
BiomRatio	C24Tet/C23t			0.296472118717483	ratio	Y
BiomRatio	C24Tet/C26t			0.35154284596847	ratio	Y
BiomRatio	C24Tet/C30H			3.81469534307431E-02	ratio	Y
BiomRatio	C26t/C25t			1.70078834127479	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.593425565762734	ratio	Y
BiomRatio	C27 Dia/Ster			0.79623592961693	ratio	Y
BiomRatio	C28BNH/C30H			3.60562314891471E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.892633074152139	ratio	Y
BiomRatio	C29H/C30H			0.708383452346812	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.175371337518349	ratio	Y
BiomRatio	C30DiaH/C30H			8.37289232554199E-02	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			3.46493660041868E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.384089622934927	ratio	Y
BiomRatio	Gam/C30H			7.22105738142054E-02	ratio	Y
BiomRatio	Gam/C31HR			0.477164122290092	ratio	Y
BiomRatio	Ole/C30H			5.58915338524512E-02	ratio	Y
BiomRatio	Sterane/hopane			4.85186152338127E-02	ratio	Y
BiomRatio	Steranes/Terpanes			3.95677740603735E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.226215433796752	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007848_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:**

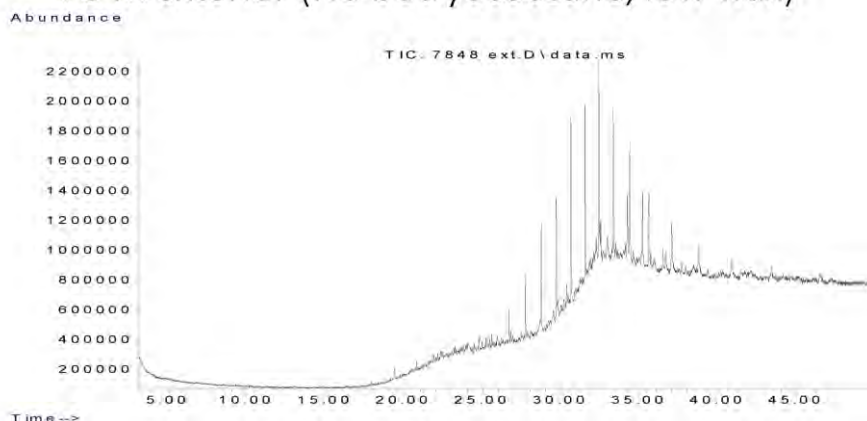
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			86.37	percent	Y
Inorg	Hydrogen			10.2356357852883	percent	Y
Inorg	Nitrogen			0.11	percent	Y
Inorg	Sulphur			1.7690229354859	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007848_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_007848_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7848 exterior (No botryococcane, low wax)



Data Sheet:

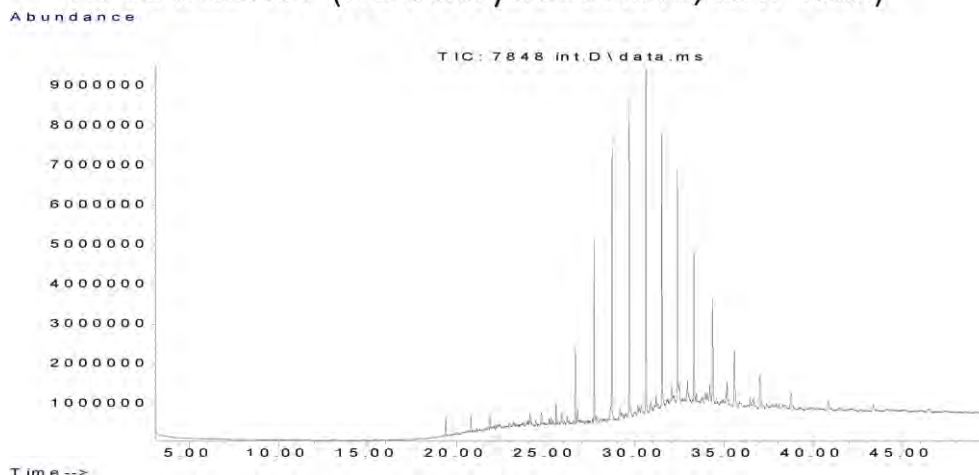
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410	272702			Z
Aliph	nC22	25.5760	396405			Z
Aliph	nC23	26.6620	1017082			Z
Aliph	nC24	27.7060	2022781			Z
Aliph	nC25	28.7100	2977441			Z
Aliph	nC26	29.6680	3955431			Z
Aliph	nC27	30.6080	6324430			Z
Aliph	nC28	31.5080	5971851			Z
Aliph	nC29	32.3700	6396664			Z
Aliph	nC30	33.2910	5541983			Z
Aliph	nC31	34.3470	4760175			Z
Aliph	nC32	35.5720	3460446			Z
Aliph	nC33	37.0130	2700144			Z
Aliph	nC34	38.7280	1585021			Z
Aliph	nC35	40.8080	1527046			Z
Aliph	nC36	43.3510	1196933			Z
Aliph	nC37	46.4710	1003041			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870	425859			Z
Aliph	Pristane	19.3870	377239			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007848 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_007848_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7848 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410	797991			Z
Aliph	nC22	25.5760	2660681			Z
Aliph	nC23	26.6620	8324938			Z
Aliph	nC24	27.7060	19860214			Z
Aliph	nC25	28.7100	32198732			Z
Aliph	nC26	29.6680	39786761			Z
Aliph	nC27	30.6080	42862745			Z
Aliph	nC28	31.5080	35148269			Z
Aliph	nC29	32.3700	28126230			Z
Aliph	nC30	33.2910	21233461			Z
Aliph	nC31	34.3470	17366636			Z
Aliph	nC32	35.5720	11592949			Z
Aliph	nC33	37.0130	7377029			Z
Aliph	nC34	38.7280	4664486			Z
Aliph	nC35	40.8080	3147117			Z
Aliph	nC36	43.3510	2086769			Z
Aliph	nC37	46.4710	1937765			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	433190			Z
Aliph	Phytane	20.7870	2711622			Z
Aliph	Pristane	19.3870	2872135			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 : **W13/007849**

Beach W21: Sheringah Beach Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 11/10/2016 9:06:09 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

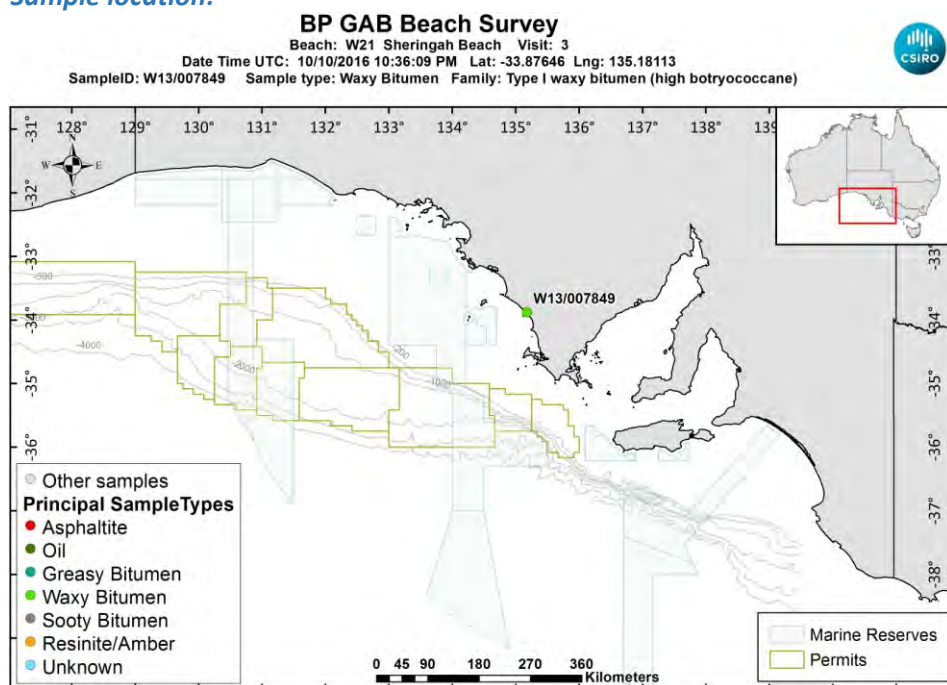
Size (cm): 2.9

Latitude (Y): -33.876462

Weight (gm): 3.65672

Longitude (X): 135.181132

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007849_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007849_146A6625.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007849_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: W13/007849_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			86.78	percent	Y
Inorg	Hydrogen			12.1364803180915	percent	Y
Inorg	Nitrogen			0.22	percent	Y
Inorg	Sulphur			2.83684291777492	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007849 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_007849_bulk_WholeOil.jpg](#)

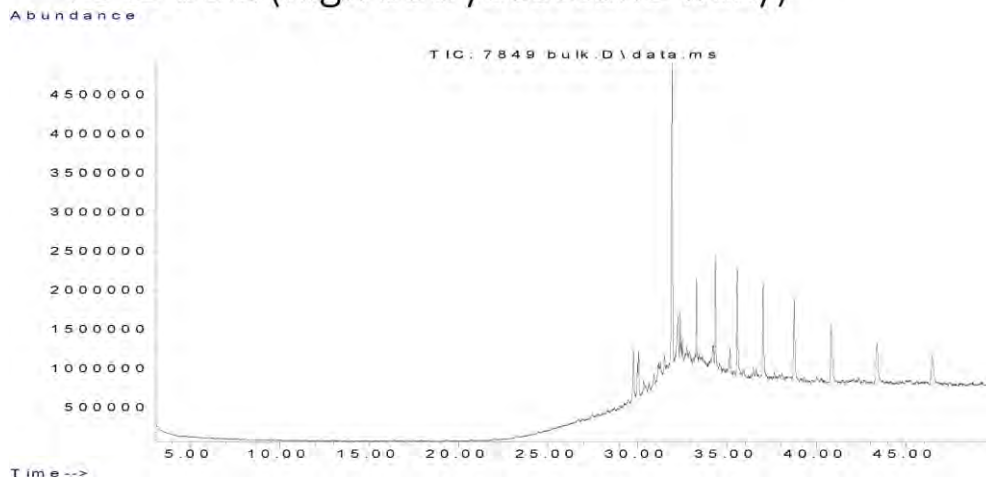
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7849 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	30655786			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	1484035			Z
Aliph	nC29	32.3700	2623460			Z
Aliph	nC30	33.2910	5396730			Z
Aliph	nC31	34.3470	9399656			Z
Aliph	nC32	35.5720	10900355			Z
Aliph	nC33	37.0130	11442599			Z
Aliph	nC34	38.7280	10871250			Z
Aliph	nC35	40.8080	9422204			Z
Aliph	nC36	43.3510	7288483			Z
Aliph	nC37	46.4710	5499342			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 : **W13/007850**

Beach W21: Sheringah Beach Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 11/10/2016 9:16:15 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

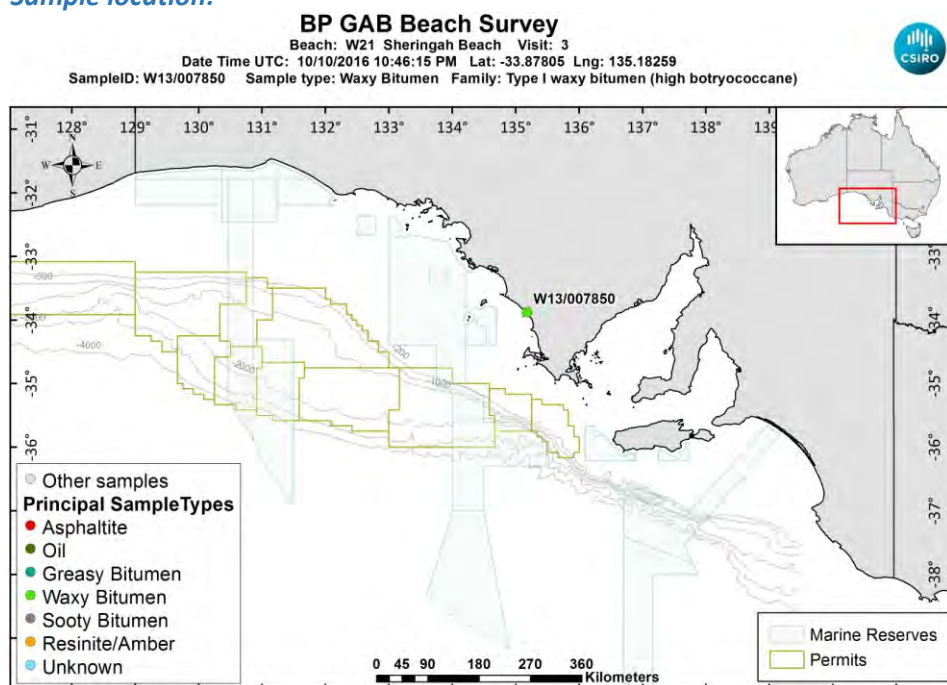
Size (cm): 9

Latitude (Y): -33.878050

Weight (gm): 114.7201

Longitude (X): 135.182593

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007850_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007850_146A6628.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007850_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

Analyses Completed:

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

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007850_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			84.08	percent	Y
Inorg	Hydrogen			9.96567793240557	percent	Y
Inorg	Nitrogen			0.16	percent	Y
Inorg	Sulphur			1.99690643539648	percent	Y

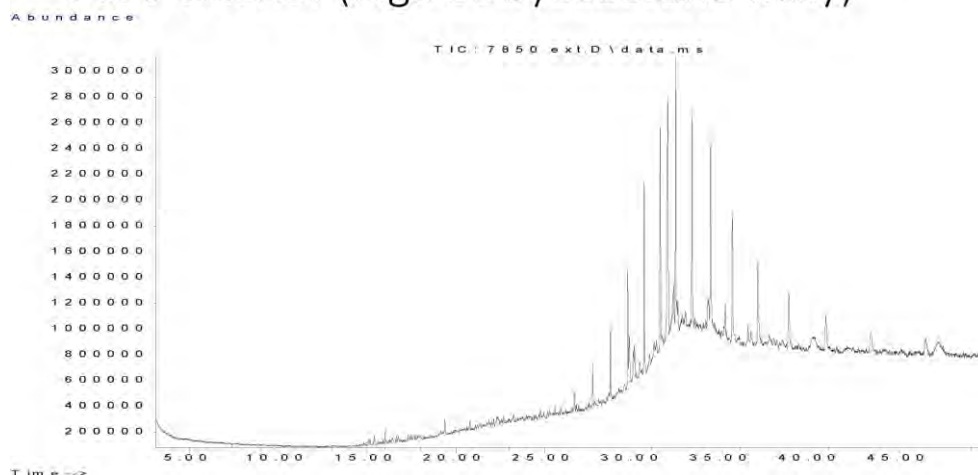
Results for: GCMS with Full Scan

Unique ID: W13/007850_DISS_GCMS-Scan/01

Results for: GCMS with Full Scan**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007850_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7850 exterior (high botryococcane waxy)



Data Sheet:

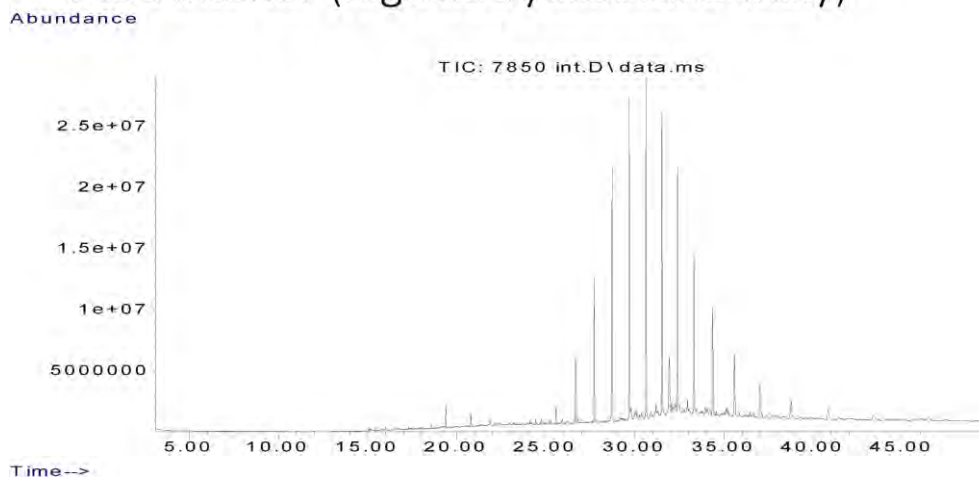
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	15370065			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	190242			Z
Aliph	nC22	25.5760	336002			Z
Aliph	nC23	26.6620	820416			Z
Aliph	nC24	27.7060	1486707			Z
Aliph	nC25	28.7100	3172060			Z
Aliph	nC26	29.6680	4314398			Z
Aliph	nC27	30.6080	7617962			Z
Aliph	nC28	31.5080	9353538			Z
Aliph	nC29	32.3700	10366290			Z
Aliph	nC30	33.2910	9842340			Z
Aliph	nC31	34.3470	11034478			Z
Aliph	nC32	35.5720	8000089			Z
Aliph	nC33	37.0130	6036851			Z
Aliph	nC34	38.7280	4593708			Z
Aliph	nC35	40.8080	3508915			Z
Aliph	nC36	43.3510	2326324			Z
Aliph	nC37	46.4710	1747415			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870	444839			Z
Aliph	Pristane	19.3870	727222			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007850 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_007850_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7850 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	36474201			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	1923369			Z
Aliph	nC22	25.5760	7214931			Z
Aliph	nC23	26.6620	23450488			Z
Aliph	nC24	27.7060	53208023			Z
Aliph	nC25	28.7100	89916218			Z
Aliph	nC26	29.6680	106765370			Z
Aliph	nC27	30.6080	124624009			Z
Aliph	nC28	31.5080	106181482			Z
Aliph	nC29	32.3700	93117574			Z
Aliph	nC30	33.2910	68928021			Z
Aliph	nC31	34.3470	55702316			Z
Aliph	nC32	35.5720	39063707			Z
Aliph	nC33	37.0130	26426810			Z
Aliph	nC34	38.7280	15693479			Z
Aliph	nC35	40.8080	10164866			Z
Aliph	nC36	43.3510	6020178			Z
Aliph	nC37	46.4710	4823552			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	2076905			Z
Aliph	Phytane	20.7870	5903066			Z
Aliph	Pristane	19.3870	9931641			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 : **W13/007851A**

Beach W21: Sheringah Beach Visit: 3

Comments:

3 pieces. Part A

Location: Mid Intertidal

Local Date Time: 11/10/2016 9:21:37 AM

Type: Waxy Bitumen

Family: Unclassified high wax bitumen

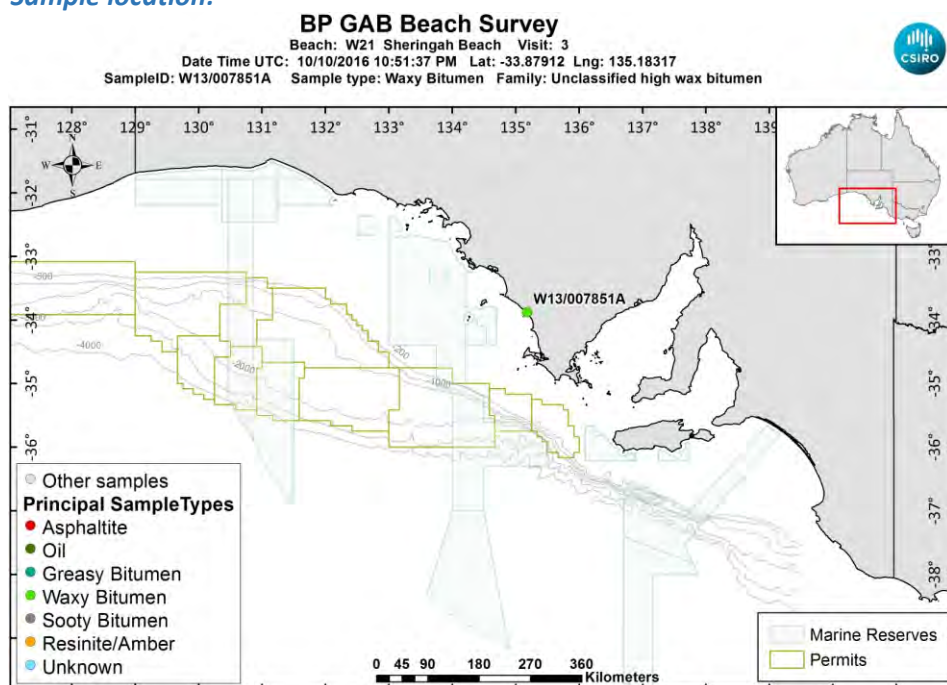
Size (cm): 2.3

Latitude (Y): -33.879125

Weight (gm): 1.99001

Longitude (X): 135.183170

Sample location:



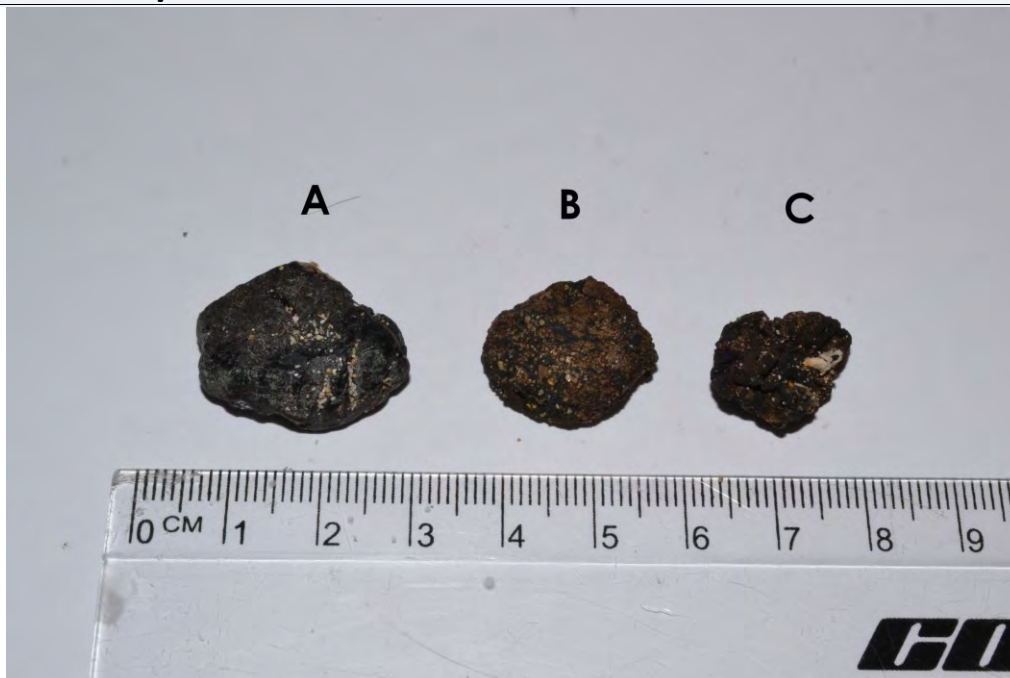
[LinkedFiles\GAB_BCH1\SampleLocations\W13_007851A_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007851_146A6630.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007851_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: W13/007851A_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			79.1	percent	Y
Inorg	Hydrogen			8.6375745526839	percent	Y
Inorg	Nitrogen			0.21	percent	Y
Inorg	Sulphur			4.46625787835585	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007851A 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_007851A_bulk_WholeOil.jpg](#)

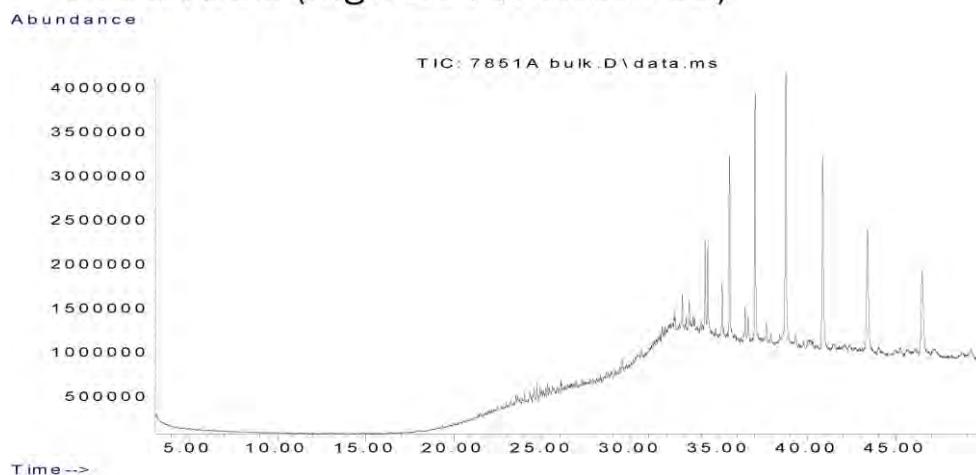
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7851A 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	1474454			Z
Aliph	nC31	34.3470	6606415			Z
Aliph	nC32	35.5720	16611611			Z
Aliph	nC33	37.0130	25377113			Z
Aliph	nC34	38.7280	30968279			Z
Aliph	nC35	40.8080	25257547			Z
Aliph	nC36	43.3510	19685414			Z
Aliph	nC37	46.4710	15106662			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 : **W13/007851B**

Beach W21: Sheringah Beach Visit: 3

Comments:

Part B subsample

Location: Mid Intertidal

Local Date Time: 11/10/2016 9:21:37 AM

Type: Unknown

Family: Not bitumen (false sample)

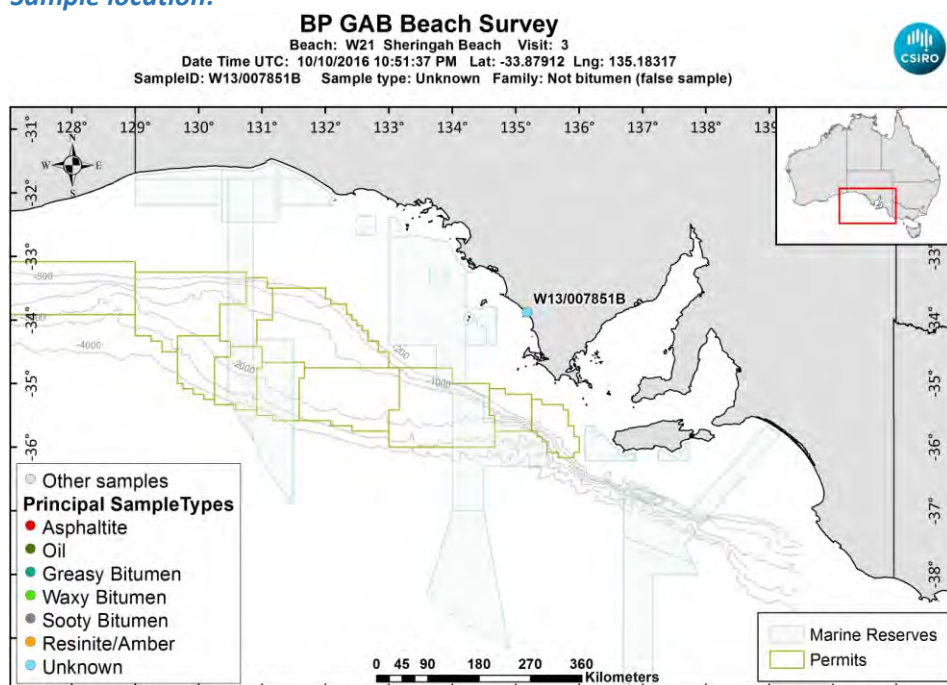
Size (cm): 2

Latitude (Y): -33.879125

Weight (gm): 0.72473

Longitude (X): 135.183170

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007851B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007851_ABC_Photo02.jpg](#)

Sample ID : W13/007851B

Beach W21: Sheringah Beach Visit: 3

Analyses Requested

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:

Results for: GCMS with Full Scan

Unique ID: W13/007851B_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 : **W13/007851C**

Beach W21: Sheringah Beach Visit: 3

Comments:

Part C subsample

Location: Mid Intertidal

Local Date Time: 11/10/2016 9:21:37 AM

Type: Unknown

Family: Not bitumen (false sample)

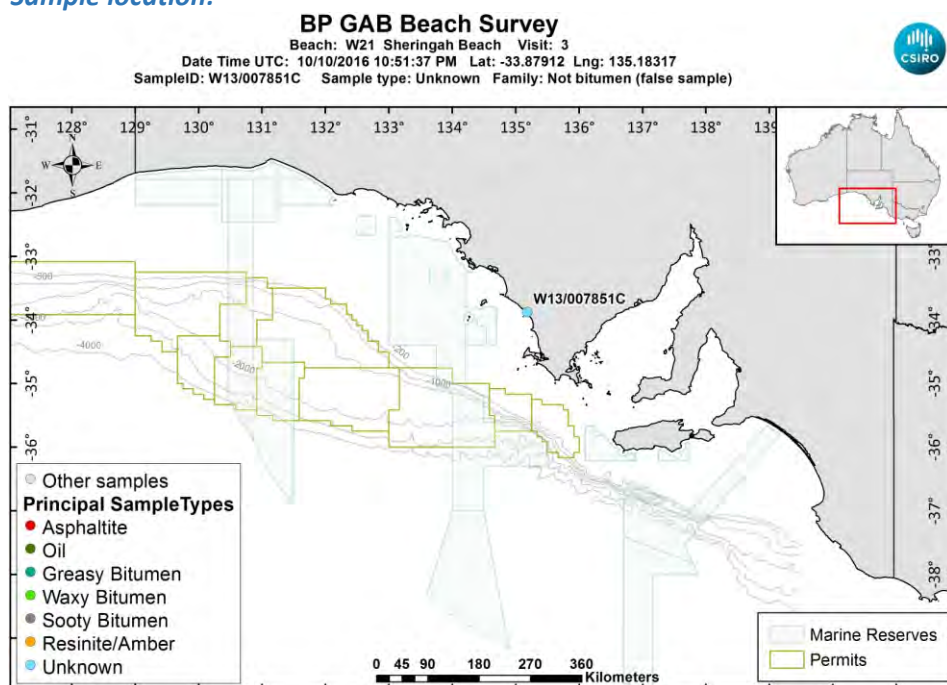
Size (cm): 1.6

Latitude (Y): -33.879125

Weight (gm): 0.68994

Longitude (X): 135.183170

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007851C_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007851_ABC_Photo02.jpg](#)

Sample ID : W13/007851C

Beach W21: Sheringah Beach Visit: 3

Analyses Requested

Split: Analysis: Sent:
1 Bitumen Determination NO

Analyses Completed:

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

Sample Analyses Completed:

Results for: GCMS with Full Scan

Unique ID: W13/007851C_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 : **W13/007491**

Beach W24: Sleaford Bay Visit: 1

Comments:

Location: Mid Intertidal

Local Date Time: 15/11/2014 9:30:16 AM

Type: Waxy Bitumen

Family: Type IV waxy bitumen (no botryococcane, hig

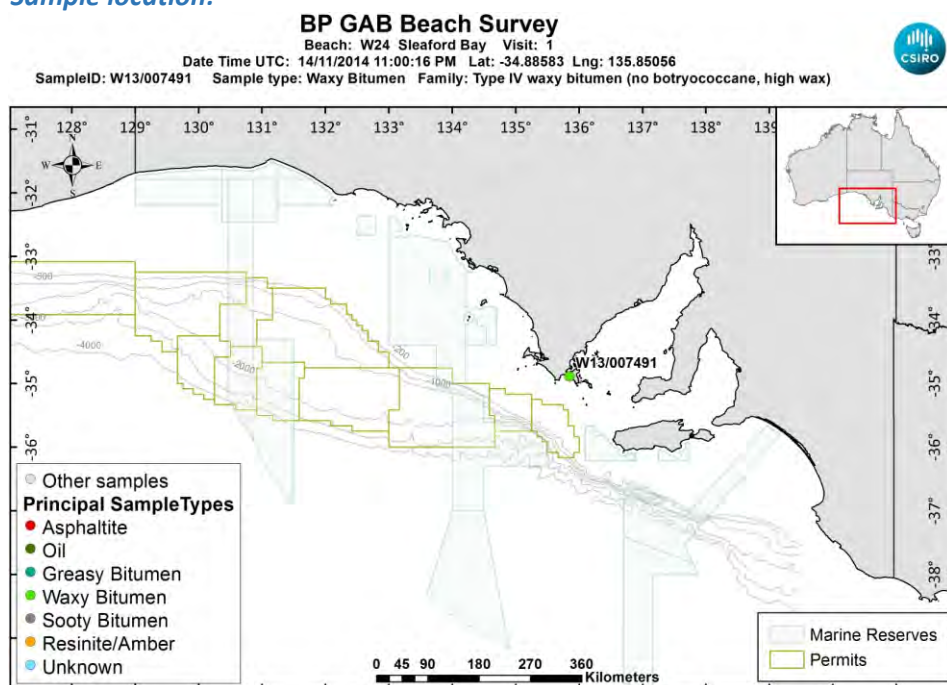
Size (cm): 4

Latitude (Y): -34.885833

Weight (gm): 16.9454

Longitude (X): 135.850556

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007491_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007491_146A0421.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007491_Photo01.JPG](#)

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007491 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Analysis Date: 18/07/2017

Linked Image: [None available](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: External Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retention Time:	Target Response:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			33.0042282522862	ratio	Y
BiomRatio	% C27 abb 20(R+S)			25.9870957945814	ratio	Y
BiomRatio	% C28 aaa 20R			22.1820818577661	ratio	Y
BiomRatio	% C28 abb 20(R+S)			30.5045781363675	ratio	Y
BiomRatio	% C29 aaa 20R			44.8136898899477	ratio	Y
BiomRatio	% C29 abb 20(R+S)			43.5083260690511	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			9.60482200243789E-02	ratio	Y
BiomRatio	25-Nor/C30H			2.50817291996336E-02	ratio	Y
BiomRatio	C19t/C23t			0.307815177591755	ratio	Y
BiomRatio	C22t/C21t			0.152840770358675	ratio	Y
BiomRatio	C22t/C24t			0.133003863146202	ratio	Y
BiomRatio	C23t/C30H			6.28360415978035E-02	ratio	Y
BiomRatio	C24t/C23t			0.699893204541812	ratio	Y
BiomRatio	C24Tet/C23t			0.870188810671532	ratio	Y
BiomRatio	C24Tet/C26t			1.61516282661861	ratio	Y
BiomRatio	C24Tet/C30H			5.46792203052996E-02	ratio	Y
BiomRatio	C26t/C25t			0.876644625488028	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.431508380824241	ratio	Y
BiomRatio	C27 Dia/Ster			0.370954022635121	ratio	Y
BiomRatio	C28BNH/C30H			0	ratio	U
BiomRatio	C29/C27 abb Sterane Ratio			1.67422810201527	ratio	Y
BiomRatio	C29H/C30H			0.759943108023437	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.163230741607077	ratio	Y
BiomRatio	C30DiaH/C30H			2.47965043273469E-02	ratio	Y
BiomRatio	C30Ts/C30H			2.71006719851511E-02	ratio	Y
BiomRatio	C35 Homohopane Index			5.22486339474185E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.570219569937121	ratio	Y
BiomRatio	Gam/C30H			5.05112381068951E-02	ratio	Y
BiomRatio	Gam/C31HR			0.288365172497574	ratio	Y
BiomRatio	Ole/C30H			0	ratio	U
BiomRatio	Sterane/hopane			0.243514937092432	ratio	Y
BiomRatio	Steranes/Terpanes			0.220257286250296	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.105593105399956	ratio	Y

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007491 DISS GC-MS/02

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 2

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			38.1340978847031	ratio	Y
BiomRatio	% C27 abb 20(R+S)			40.2338511830423	ratio	Y
BiomRatio	% C28 aaa 20R			26.0552163272158	ratio	Y
BiomRatio	% C28 abb 20(R+S)			24.6048110684816	ratio	Y
BiomRatio	% C29 aaa 20R			35.8106857880812	ratio	Y
BiomRatio	% C29 abb 20(R+S)			35.161337748476	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.114684120288048	ratio	Y
BiomRatio	25-Nor/C30H			2.25326034322858E-02	ratio	Y
BiomRatio	C19t/C23t			0.231471212947125	ratio	Y
BiomRatio	C22t/C21t			0.298211486214737	ratio	Y
BiomRatio	C22t/C24t			0.276589751592987	ratio	Y
BiomRatio	C23t/C30H			6.98617072790394E-02	ratio	Y
BiomRatio	C24t/C23t			0.617267532565177	ratio	Y
BiomRatio	C24Tet/C23t			0.894414578673333	ratio	Y
BiomRatio	C24Tet/C26t			1.39635971476362	ratio	Y
BiomRatio	C24Tet/C30H			6.24853294813818E-02	ratio	Y
BiomRatio	C26t/C25t			1.25026829201178	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.491788565887474	ratio	Y
BiomRatio	C27 Dia/Ster			0.495932965243532	ratio	Y
BiomRatio	C28BNH/C30H			7.80348481242254E-03	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.873924238286584	ratio	Y
BiomRatio	C29H/C30H			0.667186132974401	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.174436062736878	ratio	Y
BiomRatio	C30DiaH/C30H			3.77206733255091E-02	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			4.58229601023834E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.526396987684021	ratio	Y
BiomRatio	Gam/C30H			0.040368999450112	ratio	Y
BiomRatio	Gam/C31HR			0.25744810923754	ratio	Y
BiomRatio	Ole/C30H			9.17738401057098E-03	ratio	Y
BiomRatio	Sterane/hopane			0.332412163047043	ratio	Y
BiomRatio	Steranes/Terpanes			0.293573193591445	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.132297397389927	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007491_UNK_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

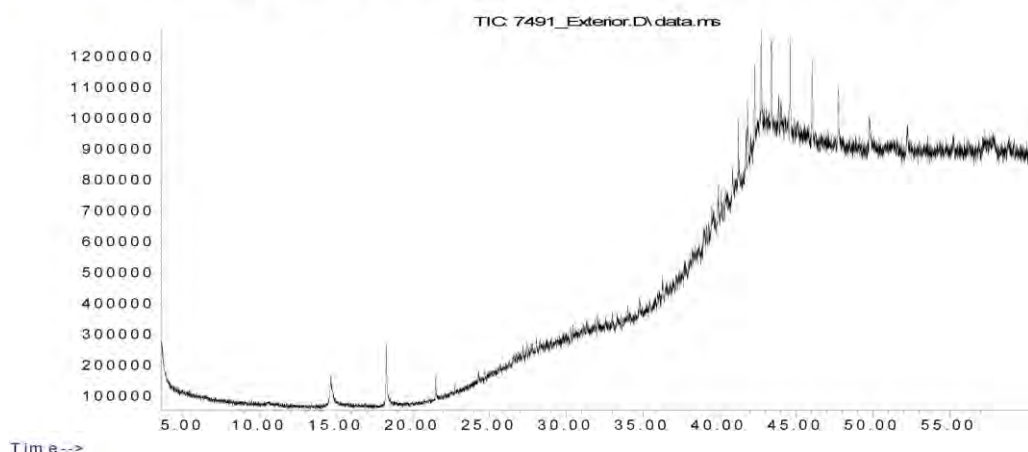
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			84.1	percent	Y
Inorg	delta13 Carbon			-30.18	per mille	Y
Inorg	delta34 Sulphur			2.03	per mille	Y
Inorg	Hydrogen			6.22	percent	Y
Inorg	Nitrogen			0.19	percent	Y
Inorg	Sulphur			0.78	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007491_DISS_GCMS-Scan/01**Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007491_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7491 – Exterior – No botryococcane, high wax



Data Sheet:

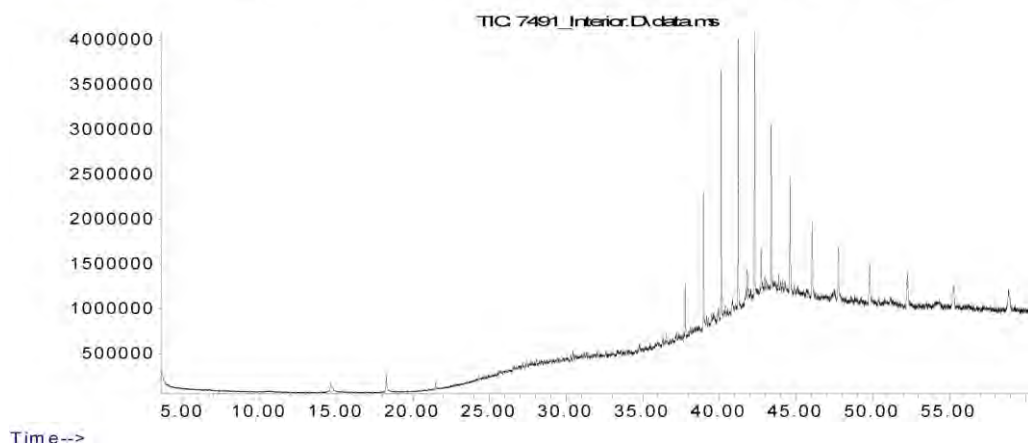
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720			ug/L	U
Aliph	nC24	33.9520			ug/L	U
Aliph	nC25	35.2810			ug/L	U
Aliph	nC26	36.5600			ug/L	U
Aliph	nC27	37.7930			ug/L	U
Aliph	nC28	38.9870			ug/L	U
Aliph	nC29	40.1370			ug/L	U
Aliph	nC30	41.2480	661797		ug/L	Z
Aliph	nC31	42.3270	1179620		ug/L	Z
Aliph	nC32	43.4130	1400372		ug/L	Z
Aliph	nC33	44.6430	1666246		ug/L	Z
Aliph	nC34	46.0860	1763986		ug/L	Z
Aliph	nC35	47.8060	1412563		ug/L	Z
Aliph	nC36	49.8090	433342		ug/L	Z
Aliph	nC37	52.2960	369213		ug/L	Z
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007491 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_007491_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7491 – Interior – No botryococcane, high wax



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720			ug/L	U
Aliph	nC24	33.9520			ug/L	U
Aliph	nC25	35.2810			ug/L	U
Aliph	nC26	36.5600			ug/L	U
Aliph	nC27	37.7930	2896379		ug/L	Z
Aliph	nC28	38.9870	7994142		ug/L	Z
Aliph	nC29	40.1370	14861338		ug/L	Z
Aliph	nC30	41.2480	15280086		ug/L	Z
Aliph	nC31	42.3270	14732979		ug/L	Z
Aliph	nC32	43.4130	10844145		ug/L	Z
Aliph	nC33	44.6430	8455058		ug/L	Z
Aliph	nC34	46.0860	6492506		ug/L	Z
Aliph	nC35	47.8060	5557253		ug/L	Z
Aliph	nC36	49.8090	4442869		ug/L	Z
Aliph	nC37	52.2960	3969091		ug/L	Z
Aliph	nC38	55.2370	4127932		ug/L	Z
Aliph	nC39	58.8850	592915		ug/L	Z
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

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

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 : **W13/007492**

Beach W24: Sleaford Bay Visit: 1

Comments:

Location: Mid Intertidal

Local Date Time: 15/11/2014 10:00:29 AM

Type: Unknown

Family: Not bitumen (false sample)

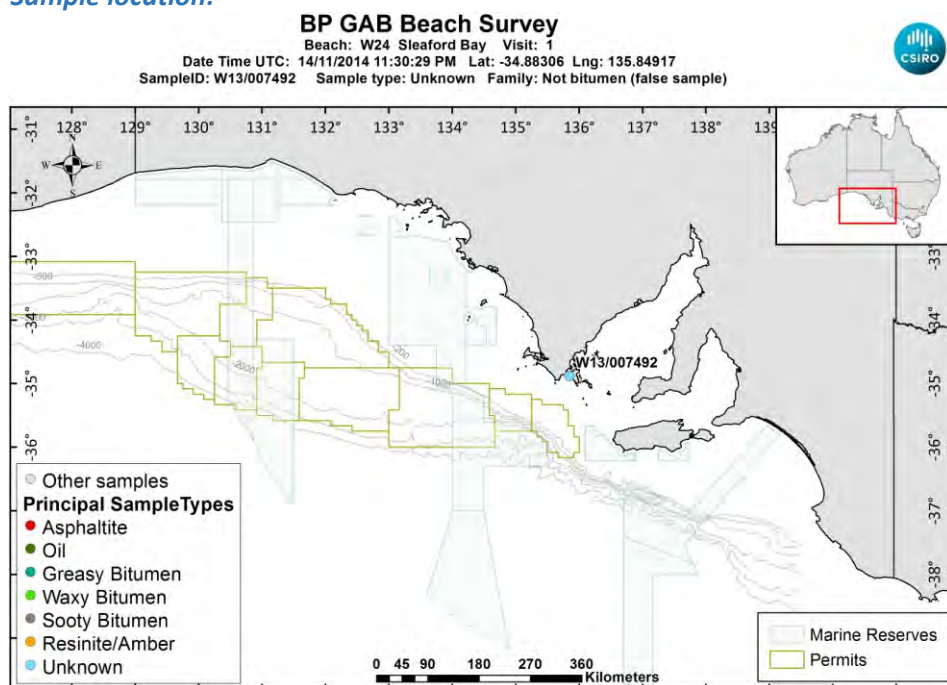
Size (cm): 3

Latitude (Y): -34.883056

Weight (gm): 5.0417

Longitude (X): 135.849167

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007492_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007492_146A0425.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007492_Photo01.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES
3	Elemental CHNS	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 : **W13/007644**

Beach W24: Sleaford Bay Visit: 2

Comments:

Location: Upper Intertidal

Local Date Time: 18/09/2015 1:05:53 PM

Type: Resinite/Amber

Family: Resin/Amber

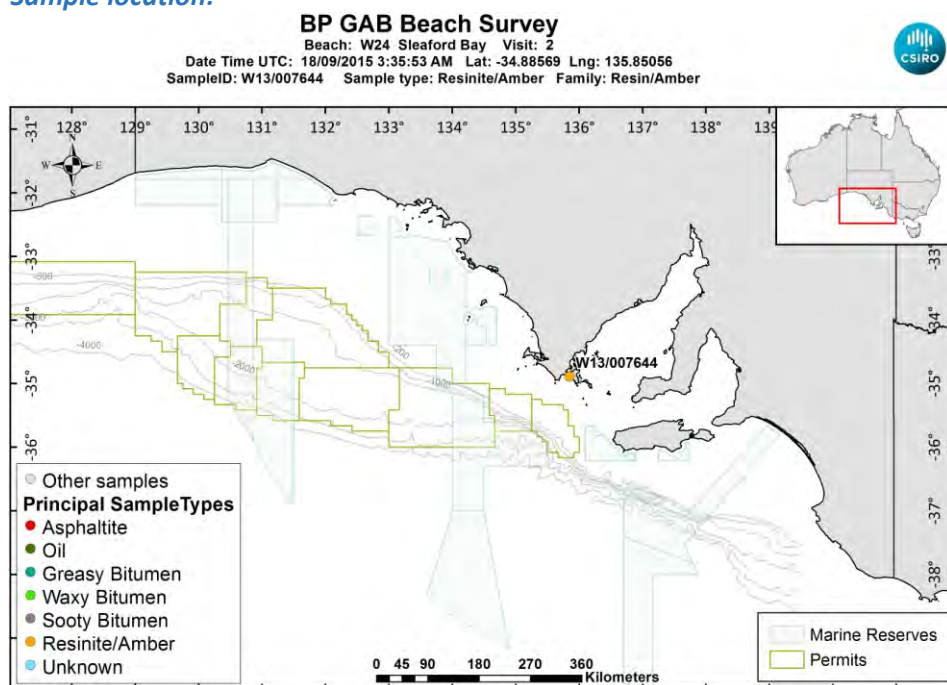
Size (cm): 10.4

Latitude (Y): -34.885687

Weight (gm): 170.3

Longitude (X): 135.850557

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007644_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007644_146A1707.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007644_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 : **W13/007645**

Beach W24: Sleaford Bay Visit: 2

Comments:

Location: Mid Intertidal

Local Date Time: 18/09/2015 2:12:58 PM

Type: Resinite/Amber

Family: Resin/Amber

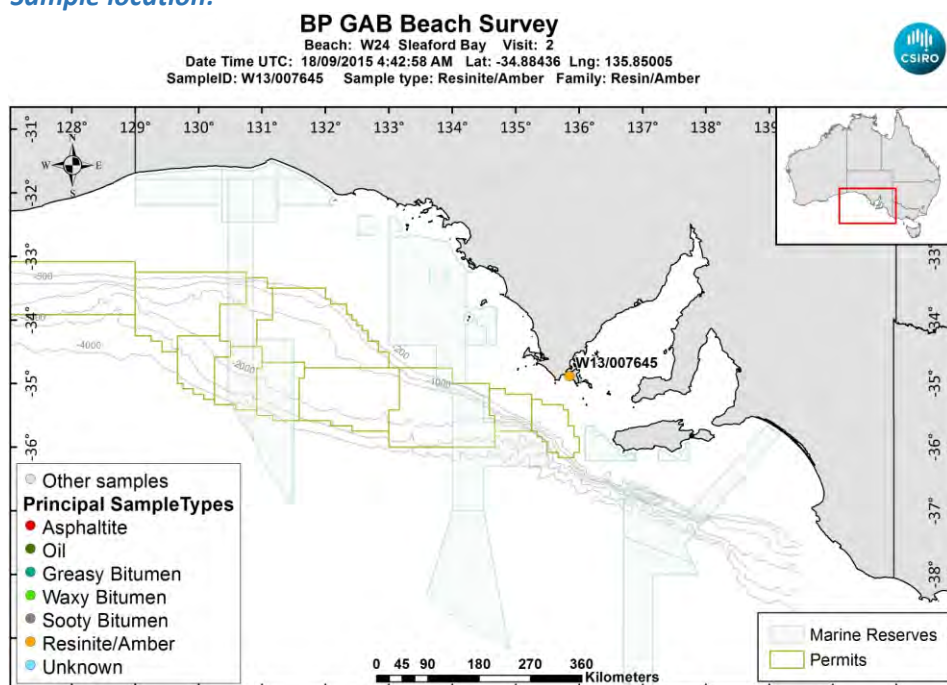
Size (cm): 7.8

Latitude (Y): -34.884355

Weight (gm): 59

Longitude (X): 135.850053

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007645_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007645_146A1710.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007645_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 : **W13/007646**

Beach W24: Sleaford Bav Visit: 2

Comments:

Location: Mid Intertidal

Local Date Time: 18/09/2015 2:19:05 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

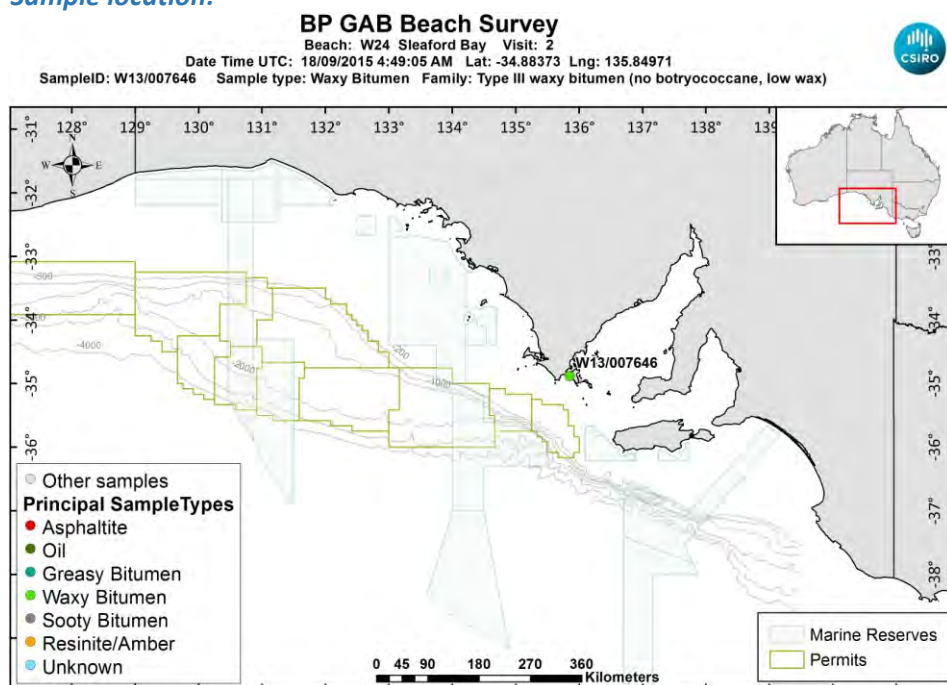
Size (cm): 3.3

Latitude (Y): -34.883728

Weight (gm): 5.8

Longitude (X): 135.849712

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007646_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007646_146A1711.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007646_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

Sample Analyses Completed:

Results for: Elemental Analyser

Unique ID: W13/007646_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			86.11	percent	Y
Inorg	Hydrogen			14.8715774353877	percent	Y
Inorg	Nitrogen			0.101652099400171	percent	Y
Inorg	Sulphur			2.63078765093283	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007646 DISS GCMS-Scan/02

Instrument / Type: GCMS with Full Scan Run: 2

for Analysis: Whole Oils

Analysis Date: 18/11/2016

Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007646_int_WholeOil.jpg](#)

Preparation: Dissolved in solvent

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

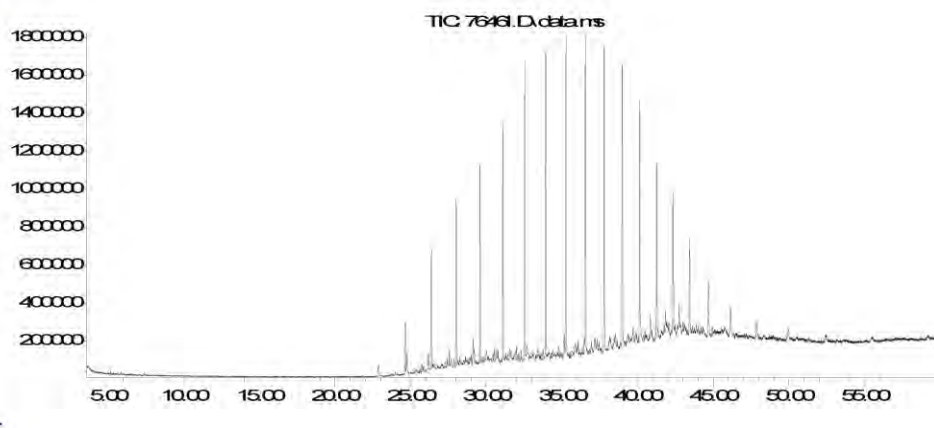
Dilution Factor:

Comment: Interior

Results for: GCMS with Full Scan

7646 Interior

Abundance



Time-->

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	nC17/nC29		4.01025724073983E-02		ug/L	Y
Ratio	nC17/nC35		0.258523138445774		ug/L	Y
Ratio	nC17/Pristane		0.610377752030964		ug/L	Y
Ratio	nC18/Phytane		2.12722490584621		ug/L	Y
Ratio	Pristane/Phytane		0.561989358208637		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	242174		ug/L	Z
Aliph	nC18	24.6230	1501808		ug/L	Z
Aliph	nC19	26.3410	3137702		ug/L	Z
Aliph	nC20	27.9810	4199821		ug/L	Z
Aliph	nC21	29.5510	5284560		ug/L	Z
Aliph	nC22	31.0540	6450792		ug/L	Z
Aliph	nC23	32.4960	7651274		ug/L	Z
Aliph	nC24	33.8800	7923507		ug/L	Z
Aliph	nC25	35.2120	8354676		ug/L	Z
Aliph	nC26	36.4960	8271592		ug/L	Z
Aliph	nC27	37.7300	8441841		ug/L	Z
Aliph	nC28	38.9260	7006065		ug/L	Z
Aliph	nC29	40.0740	6038868		ug/L	Z
Aliph	nC30	41.1930	4491072		ug/L	Z
Aliph	nC31	42.2750	3871141		ug/L	Z
Aliph	nC32	43.3560	2790300		ug/L	Z
Aliph	nC33	44.5840	1991914		ug/L	Z
Aliph	nC34	46.0130	1330318		ug/L	Z
Aliph	nC35	47.7140	936760		ug/L	Z
Aliph	nC36	49.7870	689449		ug/L	Z
Aliph	nC37	52.2630	528185		ug/L	Z

Results for: GCMS with Full Scan

Aliph	nC38	55.2360	402798	ug/L	Z
Aliph	nC39	58.9110	343499	ug/L	Z
Aliph	Norpristane	21.8010		ug/L	U
Aliph	Phytane	24.7190	705994	ug/L	Z
Aliph	Pristane	22.8660	396761	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 : **W13/007868**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 1:35:21 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

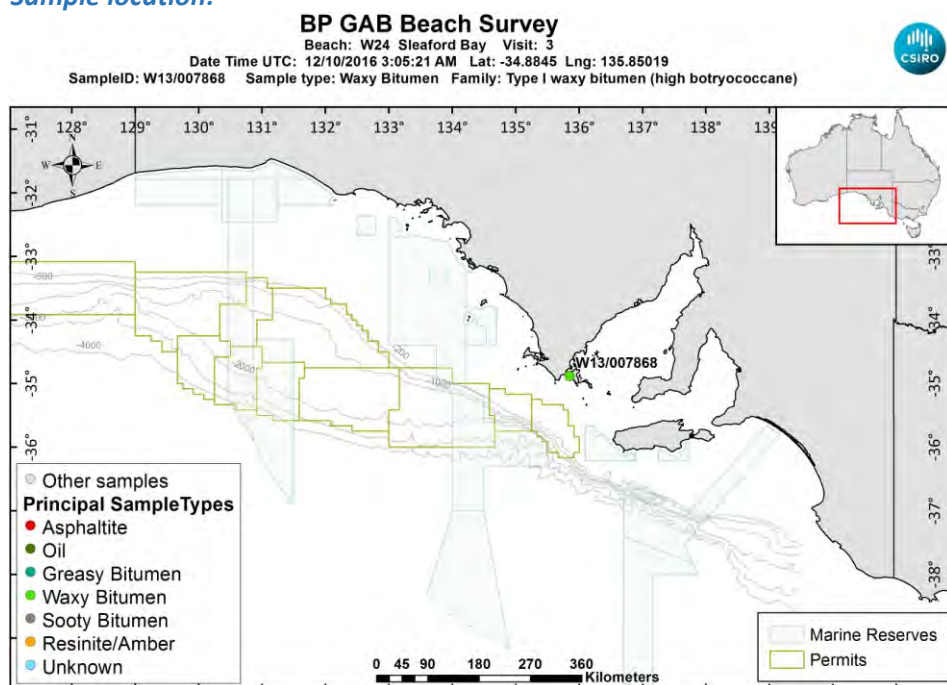
Size (cm): 2

Latitude (Y): -34.884503

Weight (gm): 1.08497

Longitude (X): 135.850185

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007868_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007868_146A6692.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB BCH1\Samples\W13_007868_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: W13/007868 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			61.3393647779283	ratio	Y
BiomRatio	% C27 abb 20(R+S)			53.1353319836011	ratio	Y
BiomRatio	% C28 aaa 20R			5.71209098377271	ratio	Y
BiomRatio	% C28 abb 20(R+S)			17.6270158624004	ratio	Y
BiomRatio	% C29 aaa 20R			32.948544238299	ratio	Y
BiomRatio	% C29 abb 20(R+S)			29.2376521539985	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			1.79032746212302E-02	ratio	Y
BiomRatio	25-Nor/C30H			0.052296265055388	ratio	Y
BiomRatio	C19t/C23t			2.91756704729307E-03	ratio	Y
BiomRatio	C22t/C21t			0	ratio	U
BiomRatio	C22t/C24t			0	ratio	U
BiomRatio	C23t/C30H			5.06990673498196E-02	ratio	Y
BiomRatio	C24t/C23t			1.10019205647306	ratio	Y
BiomRatio	C24Tet/C23t			0.199355954307028	ratio	Y
BiomRatio	C24Tet/C26t			7.86493178106727E-02	ratio	Y
BiomRatio	C24Tet/C30H			1.01071609539996E-02	ratio	Y
BiomRatio	C26t/C25t			3.08239808828425	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.680400214592275	ratio	Y
BiomRatio	C27 Dia/Ster			1.15866635872826	ratio	Y
BiomRatio	C28BNH/C30H			2.80600648334095E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.550248790447418	ratio	Y
BiomRatio	C29H/C30H			0.600514068394046	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.271286551228883	ratio	Y
BiomRatio	C30DiaH/C30H			0.142991730925216	ratio	Y
BiomRatio	C30Ts/C30H			0.75309473979702	ratio	Y
BiomRatio	C35 Homohopane Index			3.96960695548638E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.411781636074515	ratio	Y
BiomRatio	Gam/C30H			0.042430218222383	ratio	Y
BiomRatio	Gam/C31HR			0.288892473861707	ratio	Y
BiomRatio	Ole/C30H			0.085257817789709	ratio	Y
BiomRatio	Sterane/hopane			5.46546309261625E-02	ratio	Y
BiomRatio	Steranes/Terpanes			4.89565181239903E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.116391300291021	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007868_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

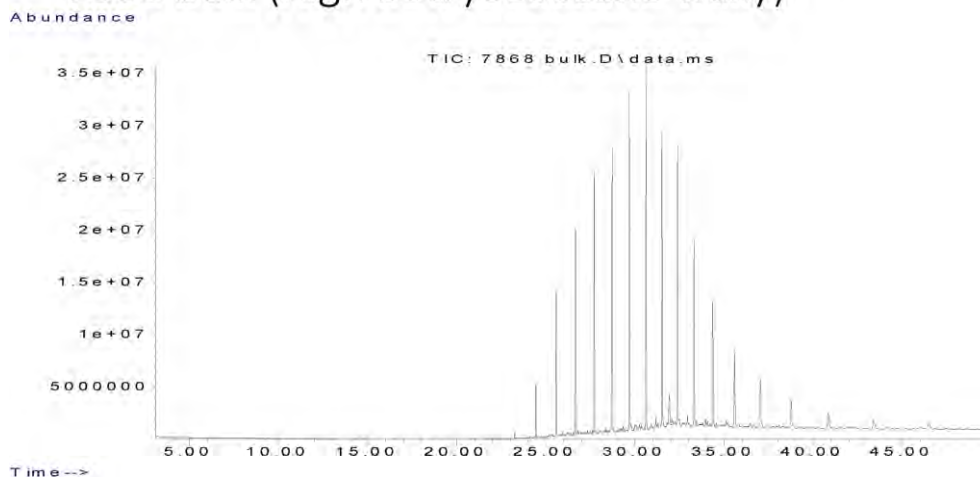
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			87.26	percent	Y
Inorg	Hydrogen			8.55701789264413	percent	Y
Inorg	Nitrogen			0.2	percent	Y
Inorg	Sulphur			1.97987338311757	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007868_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_007868_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7868 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	24070014			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	2756888			Z
Aliph	nC21	24.4410	24691079			Z
Aliph	nC22	25.5760	60369762			Z
Aliph	nC23	26.6620	95747507			Z
Aliph	nC24	27.7060	114785090			Z
Aliph	nC25	28.7100	130627857			Z
Aliph	nC26	29.6680	130672423			Z
Aliph	nC27	30.6080	143225807			Z
Aliph	nC28	31.5080	126590774			Z
Aliph	nC29	32.3700	114717772			Z
Aliph	nC30	33.2910	90426241			Z
Aliph	nC31	34.3470	75506220			Z
Aliph	nC32	35.5720	56509415			Z
Aliph	nC33	37.0130	40951403			Z
Aliph	nC34	38.7280	26480363			Z
Aliph	nC35	40.8080	18303447			Z
Aliph	nC36	43.3510	15300174			Z
Aliph	nC37	46.4710	9752794			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 : **W13/007869**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 1:40:30 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

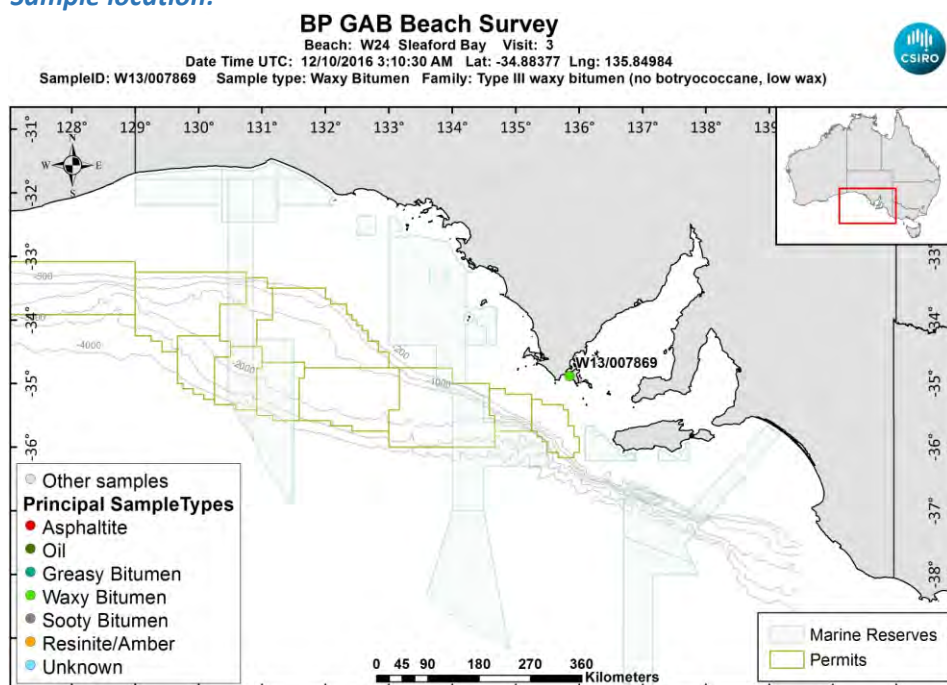
Size (cm): 1.7

Latitude (Y): -34.883770

Weight (gm): 0.95654

Longitude (X): 135.849835

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007869_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007869_146A6694.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007869_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: W13/007869 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			30.8153891421964	ratio	Y
BiomRatio	% C27 abb 20(R+S)			21.6691711987341	ratio	Y
BiomRatio	% C28 aaa 20R			10.5752393484294	ratio	Y
BiomRatio	% C28 abb 20(R+S)			15.412690057185	ratio	Y
BiomRatio	% C29 aaa 20R			58.6093715093742	ratio	Y
BiomRatio	% C29 abb 20(R+S)			62.9181387440809	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			5.02009772011897E-02	ratio	Y
BiomRatio	25-Nor/C30H			0.266119771794869	ratio	Y
BiomRatio	C19t/C23t			0.995664967772458	ratio	Y
BiomRatio	C22t/C21t			1.06844991869455	ratio	Y
BiomRatio	C22t/C24t			0.609407797321705	ratio	Y
BiomRatio	C23t/C30H			3.42920964919628E-02	ratio	Y
BiomRatio	C24t/C23t			0.824823763492452	ratio	Y
BiomRatio	C24Tet/C23t			1.74774440757356	ratio	Y
BiomRatio	C24Tet/C26t			1.13482226889292	ratio	Y
BiomRatio	C24Tet/C30H			5.99338198678008E-02	ratio	Y
BiomRatio	C26t/C25t			1.2197797525405	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.278380971953342	ratio	Y
BiomRatio	C27 Dia/Ster			0.268017215636398	ratio	Y
BiomRatio	C28BNH/C30H			8.94432230200729E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			2.90357846024847	ratio	Y
BiomRatio	C29H/C30H			0.5966602954185	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.128649686626317	ratio	Y
BiomRatio	C30DiaH/C30H			6.41908622217968E-02	ratio	Y
BiomRatio	C30Ts/C30H			3.31173352872032E-02	ratio	Y
BiomRatio	C35 Homohopane Index			2.62378873897311E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.433730122077869	ratio	Y
BiomRatio	Gam/C30H			6.64889528724004E-02	ratio	Y
BiomRatio	Gam/C31HR			0.230139613720505	ratio	Y
BiomRatio	Ole/C30H			0.855241402496891	ratio	Y
BiomRatio	Sterane/hopane			0.112740835964607	ratio	Y
BiomRatio	Steranes/Terpanes			0.102897504940779	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			9.56615131678112E-02	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007869_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:**

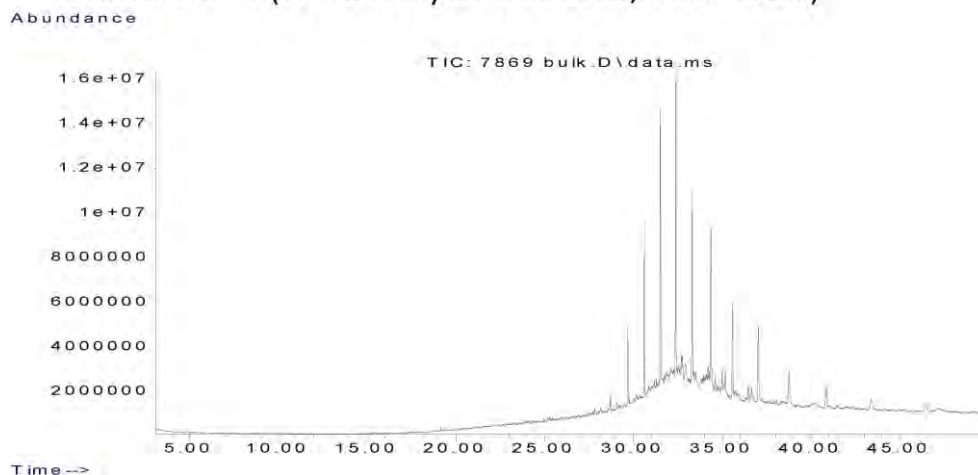
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			84.69	percent	Y
Inorg	Hydrogen			9.22328031809145	percent	Y
Inorg	Nitrogen			0.14	percent	Y
Inorg	Sulphur			2.06424410580646	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007869_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_007869_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7869 bulk (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060	638953			Z
Aliph	nC25	28.7100	3981972			Z
Aliph	nC26	29.6680	16124940			Z
Aliph	nC27	30.6080	36418060			Z
Aliph	nC28	31.5080	47755762			Z
Aliph	nC29	32.3700	54075735			Z
Aliph	nC30	33.2910	45157700			Z
Aliph	nC31	34.3470	47010961			Z
Aliph	nC32	35.5720	31678068			Z
Aliph	nC33	37.0130	29914618			Z
Aliph	nC34	38.7280	15691136			Z
Aliph	nC35	40.8080	11801089			Z
Aliph	nC36	43.3510	7226638			Z
Aliph	nC37	46.4710	5938823			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 : **W13/007870**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 1:43:23 PM

Type: Resinite/Amber

Family: Resin/Amber

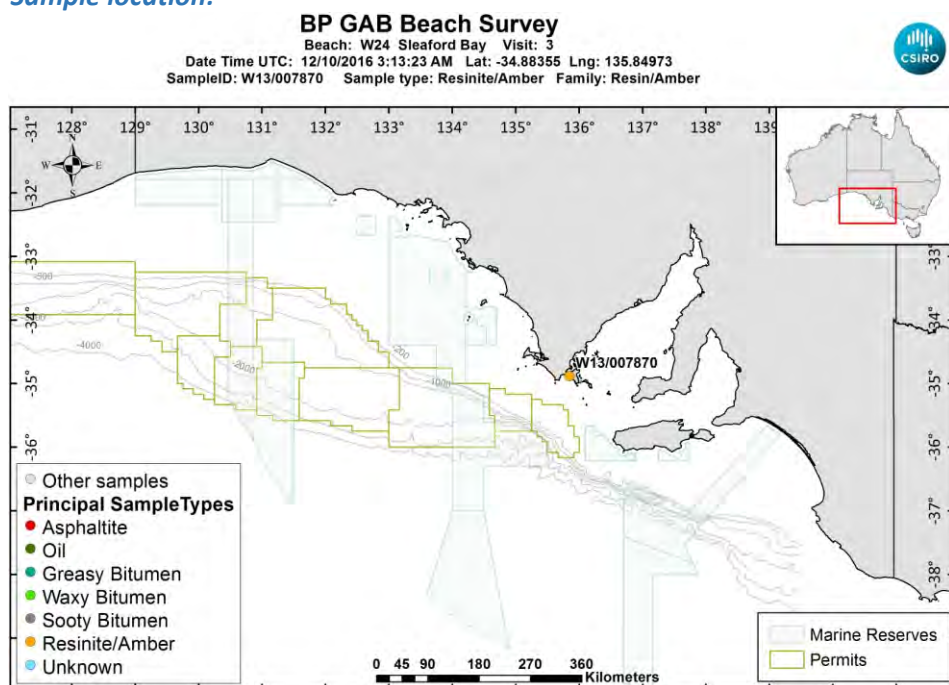
Size (cm): 2

Latitude (Y): -34.883548

Weight (gm): 0.58488

Longitude (X): 135.849733

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007870_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007870_146A6696.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007870_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: W13/007870_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			66.52	percent	Y
Inorg	Hydrogen			6.44867952286282	percent	Y
Inorg	Nitrogen			0.72	percent	Y
Inorg	Sulphur			1.32442910153754	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007870 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_007870_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

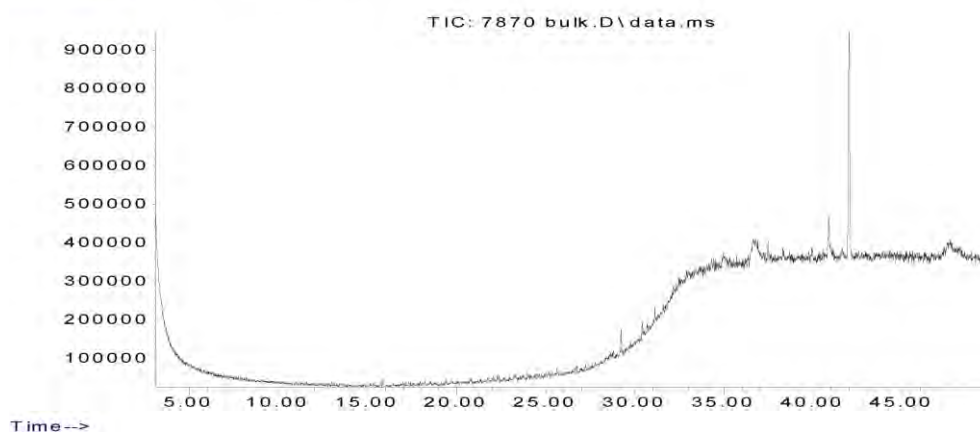
Method ID/s:

Sample Volume: Volume Units: Extract Volume: Dilution Factor:
Comment: Bulk (splitless)

Results for: GCMS with Full Scan

7870 bulk – Resin

Abundance



Data Sheet:

(default units ppb)

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

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

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

Sample ID : **W13/007871**

Beach W24: Sleaford Bay Visit: 3

Comments:

Possibly dislodged from dune?

Location: Shore Upper

Local Date Time: 12/10/2016 2:06:12 PM

Type: Unknown

Family: Unknown

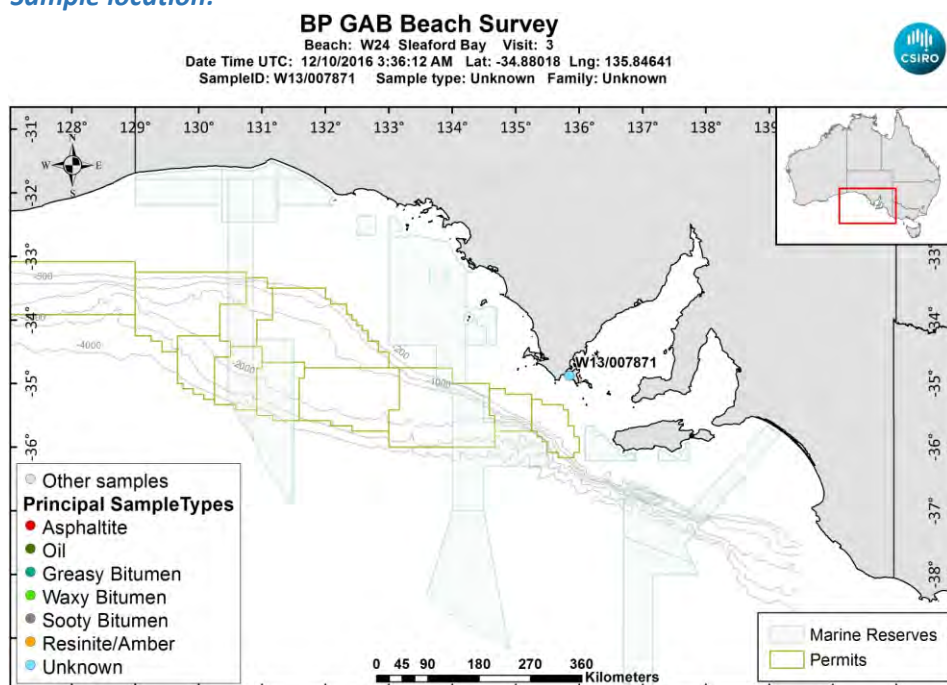
Size (cm): 20

Latitude (Y): -34.880185

Weight (gm): 174

Longitude (X): 135.846410

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007871_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007871_146A6703.JPG](#)

Sample - laboratory image:



LinkedFiles\GAB_BCH1\Samples\W13_007871_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: W13/007871_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			54.37	percent	Y
Inorg	Hydrogen			5.76432047713718	percent	Y
Inorg	Nitrogen			0.55	percent	Y
Inorg	Sulphur			16.1940033779489	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007871 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_007871_bulk_WholeOil.jpg](#)

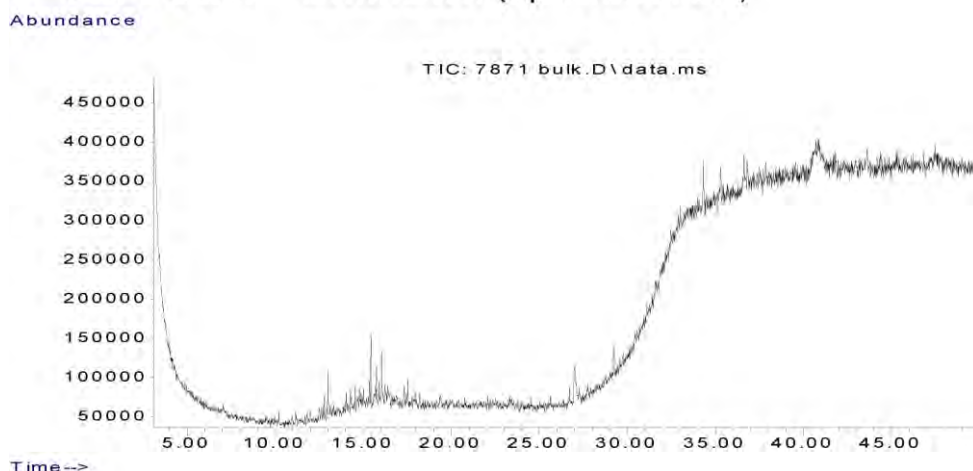
Preparation: Dissolved in solvent

Method ID/s:

Sample Volume: Volume Units: Extract Volume: Dilution Factor:
Comment: Bulk (splitless)

Results for: GCMS with Full Scan

7871 bulk – Unknown (splitless run)



Data Sheet:

(default units ppb)

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

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

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

Sample ID : **W13/007872**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 2:10:29 PM

Type: Waxy Bitumen

Family: Unclassified high wax bitumen

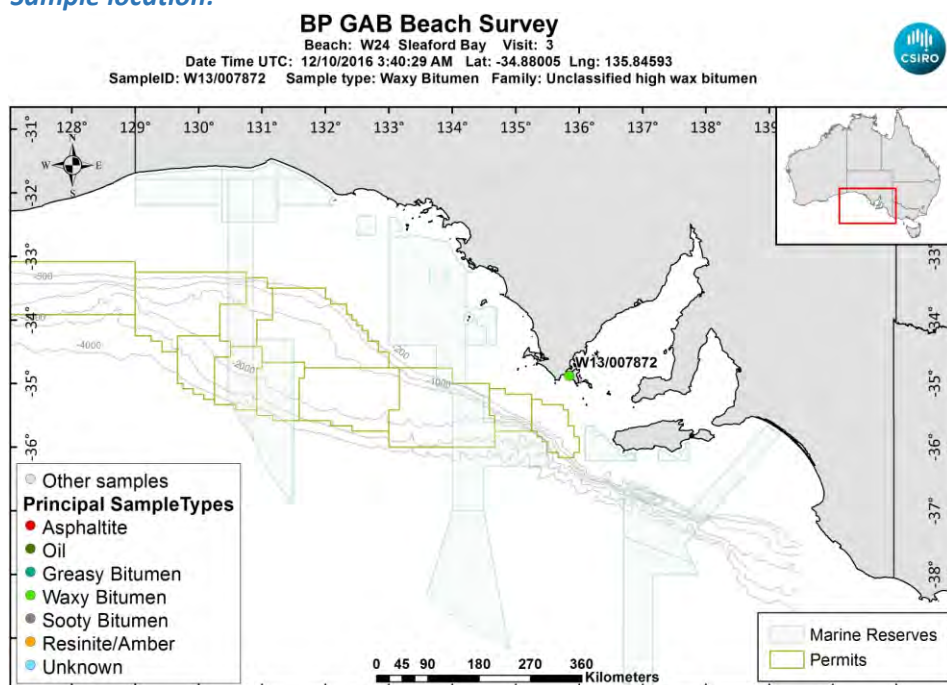
Size (cm): 2.6

Latitude (Y): -34.880047

Weight (gm): 1.1377

Longitude (X): 135.845932

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007872_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007872_146A6705.JPG](#)

Sample - laboratory image:

[LinkedFiles\GAB_BCH1\Samples\W13_007872_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:** W13/007872_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)

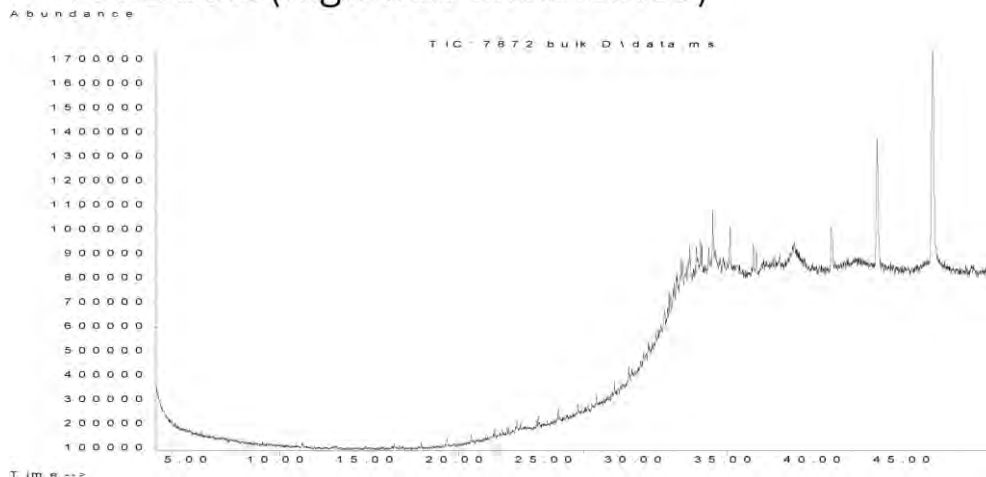
Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			82.55	percent	Y
Inorg	Hydrogen			7.37417574552684	percent	Y
Inorg	Nitrogen			0.35	percent	Y
Inorg	Sulphur			2.75474260463768	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007872 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_007872_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

7872 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				U
Aliph	nC35	40.8080	2357163			Z
Aliph	nC36	43.3510	7123881			Z
Aliph	nC37	46.4710	13851202			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 : **W13/007873**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 12/10/2016 2:13:26 PM

Type: Unknown

Family: Unknown

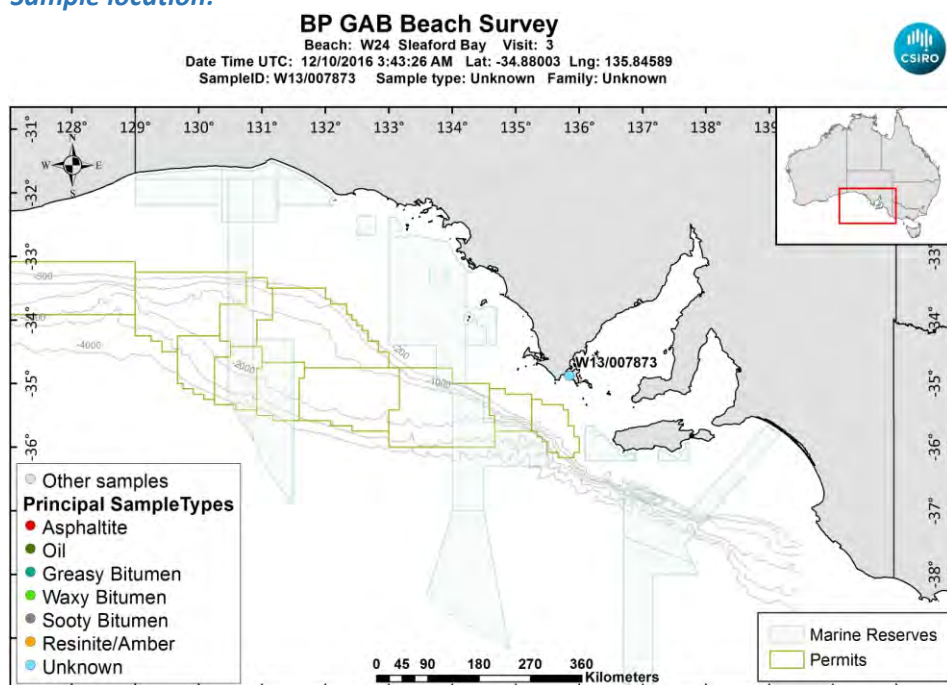
Size (cm): 7.3

Latitude (Y): -34.880030

Weight (gm): 29.84728

Longitude (X): 135.845892

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007873_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007873_146A6708.JPG](#)

Sample - laboratory image:

[LinkedFiles\GAB_BCH1\Samples\W13_007873_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:** W13/007873_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:

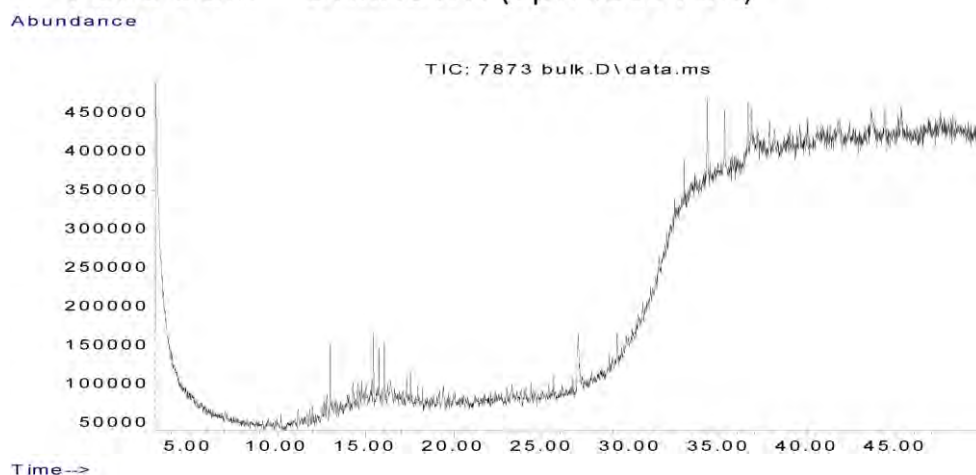
Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			75.3	percent	Y
Inorg	Hydrogen			9.103	percent	Y
Inorg	Nitrogen			0.41	percent	Y
Inorg	Sulphur			6.37721884305916	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007873 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_007873_bulk_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:**

Sample Volume: **Volume Units:** **Extract Volume:** **Dilution Factor:**
Comment: Bulk (splitless)

Results for: GCMS with Full Scan

7873 bulk – Unknown (splitless run)



Data Sheet:

(default units ppb)

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

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

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

Sample ID : **W13/007874**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 2:18:04 PM

Type: Waxy Bitumen

Family: Unclassified high wax bitumen

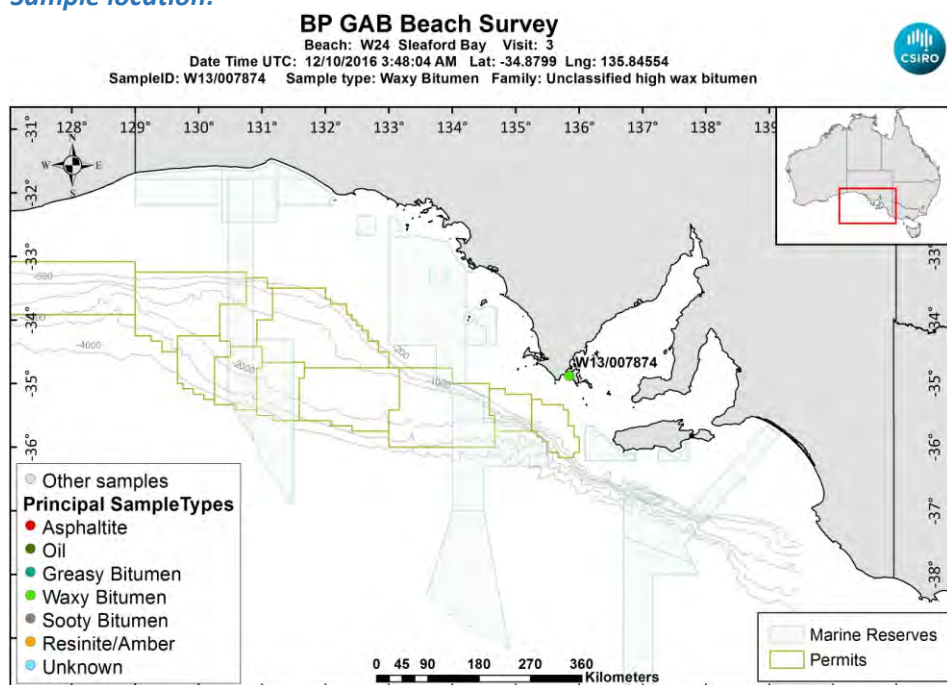
Size (cm): 1.3

Latitude (Y): -34.879905

Weight (gm): 0.32259

Longitude (X): 135.845538

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007874_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007874_146A6709.JPG](#)

Sample - laboratory image:

[LinkedFiles\GAB_BCH1\Samples\W13_007874_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
Whole Oils	GCMS with Full Scan Run: 3

Sample Analyses Completed:**Results for: Gas Chromatography Mass Spectrometry****Unique ID:** W13/007874_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			40.942921212288	ratio	Y
BiomRatio	% C27 abb 20(R+S)			3.22250108928415	ratio	Y
BiomRatio	% C28 aaa 20R			13.1006754804716	ratio	Y
BiomRatio	% C28 abb 20(R+S)			19.7864306538104	ratio	Y
BiomRatio	% C29 aaa 20R			45.9564033072404	ratio	Y
BiomRatio	% C29 abb 20(R+S)			76.9910682569054	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			1.97762040490678E-02	ratio	Y
BiomRatio	25-Nor/C30H			8.20246209565367E-03	ratio	Y
BiomRatio	C19t/C23t			1.3698175787728	ratio	Y
BiomRatio	C22t/C21t			0.817582676238672	ratio	Y
BiomRatio	C22t/C24t			0.243301929744685	ratio	Y
BiomRatio	C23t/C30H			9.54667072768957E-03	ratio	Y
BiomRatio	C24t/C23t			9.01934770591487	ratio	Y
BiomRatio	C24Tet/C23t			14.423833214878	ratio	Y
BiomRatio	C24Tet/C26t			96.8446447507953	ratio	Y
BiomRatio	C24Tet/C30H			0.137699586333552	ratio	Y
BiomRatio	C26t/C25t			0.032878909382518	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			5.42705646316996E-02	ratio	Y
BiomRatio	C27 Dia/Ster			2.97271647569429E-02	ratio	Y
BiomRatio	C28BNH/C30H			1.32830128367024E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			23.8917120968323	ratio	Y
BiomRatio	C29H/C30H			1.2469024020096	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			4.31492021470465E-02	ratio	Y
BiomRatio	C30DiaH/C30H			5.54842279771809E-02	ratio	Y
BiomRatio	C30Ts/C30H			5.35316198128663E-02	ratio	Y
BiomRatio	C35 Homohopane Index			8.85991784903157E-03	ratio	Y
BiomRatio	C35HS/C34HS			0.39708516922481	ratio	Y
BiomRatio	Gam/C30H			0.129423241766816	ratio	Y
BiomRatio	Gam/C31HR			0.430835138194202	ratio	Y
BiomRatio	Ole/C30H			8.76110404536685E-03	ratio	Y
BiomRatio	Sterane/hopane			0.486681645013188	ratio	Y
BiomRatio	Steranes/Terpanes			0.438176008023508	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.110698979637145	ratio	Y

Results for: GCMS with Full Scan

Unique ID: W13/007874 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_007874_bulk_WholeOil.jpg](#)

Sample Volume:

Volume Units:

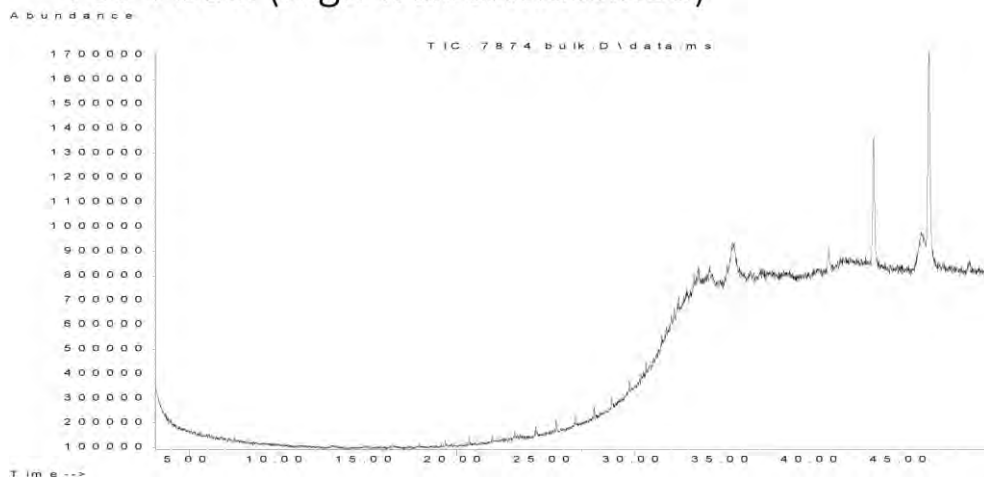
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7874 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				U
Aliph	nC35	40.8080	1121729			Z
Aliph	nC36	43.3510	6777782			Z
Aliph	nC37	46.4710	12770232			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 : **W13/007875**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Mid Intertidal

Local Date Time: 12/10/2016 2:29:49 PM

Type: Resinite/Amber

Family: Resin/Amber

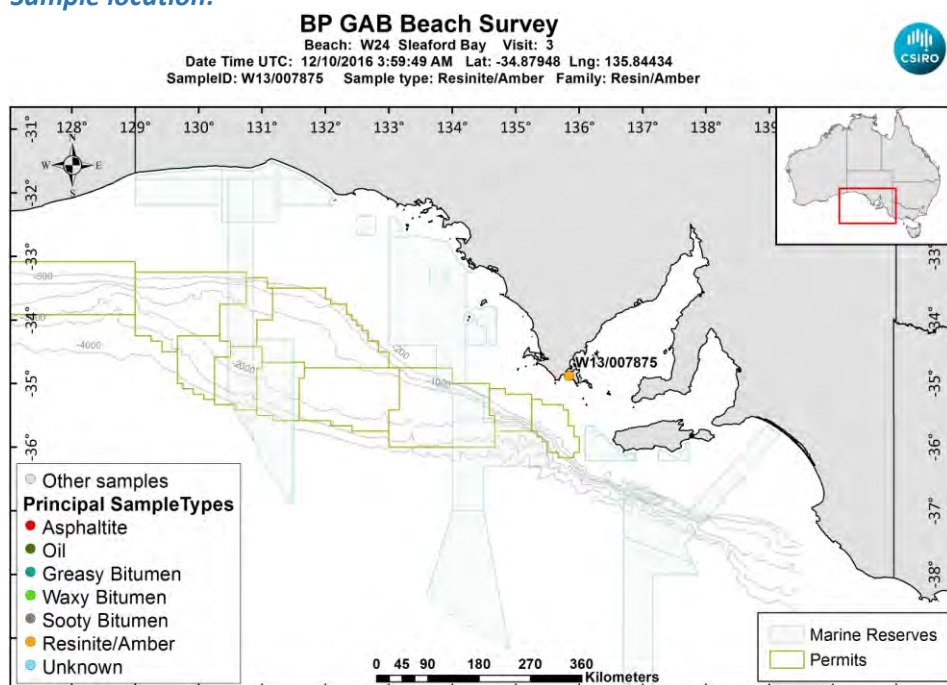
Size (cm): 4

Latitude (Y): -34.879475

Weight (gm): 11.44102

Longitude (X): 135.844343

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007875_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007875_146A6711.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007875_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

Analyses Completed:

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

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

Unique ID: W13/007875 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 : **W13/007882**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 4:47:30 PM

Type: Asphaltite

Family: Unknown

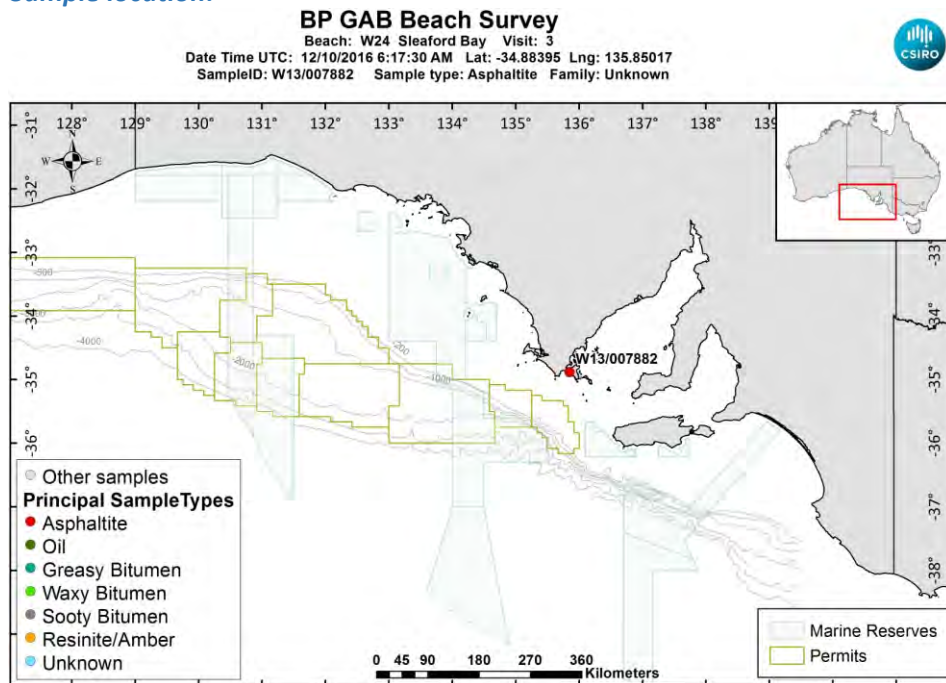
Size (cm): 9

Latitude (Y): -34.883947

Weight (gm): 96.0363

Longitude (X): 135.850172

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007882_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007882_Photo02.JPG](#)

Sample ID : W13/007882**Beach W24: Sleaford Bay Visit: 3****Analyses Requested**

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

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 2
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
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: W13/007882_DISS_GC-MS/01****Instrument / Type:** Gas Chromatography Mass Spectrometry Run: 1**for Analysis:** Biomarkers**Analysis Date:** 18/07/2017**Linked Image:** [None available](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** External Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			30.0555528418933	ratio	Y
BiomRatio	% C27 abb 20(R+S)			37.1984237039296	ratio	Y
BiomRatio	% C28 aaa 20R			28.1263268243012	ratio	Y
BiomRatio	% C28 abb 20(R+S)			27.3473579739827	ratio	Y
BiomRatio	% C29 aaa 20R			41.8181203338055	ratio	Y
BiomRatio	% C29 abb 20(R+S)			35.4542183220877	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			6.75265199167886E-02	ratio	Y
BiomRatio	25-Nor/C30H			0.10368832148419	ratio	Y
BiomRatio	C19t/C23t			0.068076947657698	ratio	Y
BiomRatio	C22t/C21t			5.70164580754596E-02	ratio	Y
BiomRatio	C22t/C24t			4.86780563220415E-02	ratio	Y
BiomRatio	C23t/C30H			0.272527576137729	ratio	Y
BiomRatio	C24t/C23t			0.653147568223941	ratio	Y
BiomRatio	C24Tet/C23t			0.128044140516819	ratio	Y
BiomRatio	C24Tet/C26t			0.16653478031502	ratio	Y
BiomRatio	C24Tet/C30H			3.48955592536875E-02	ratio	Y
BiomRatio	C26t/C25t			1.32211123533437	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.653846388359967	ratio	Y
BiomRatio	C27 Dia/Ster			0.717875512986476	ratio	Y
BiomRatio	C28BNH/C30H			7.66075301004766E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.953110771689564	ratio	Y
BiomRatio	C29H/C30H			0.607977375235655	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.261956358414338	ratio	Y
BiomRatio	C30DiaH/C30H			0.128689029785341	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			9.42933748412451E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.683011489619028	ratio	Y
BiomRatio	Gam/C30H			0.147968058172657	ratio	Y
BiomRatio	Gam/C31HR			0.456423040279658	ratio	Y
BiomRatio	Ole/C30H			2.36602774032426E-02	ratio	Y
BiomRatio	Sterane/hopane			0.45936629562979	ratio	Y
BiomRatio	Steranes/Terpanes			0.346646057094323	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.325173866047452	ratio	Y

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007882 DISS GC-MS/02

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 2

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			39.1351297412303	ratio	Y
BiomRatio	% C27 abb 20(R+S)			38.5195410292846	ratio	Y
BiomRatio	% C28 aaa 20R			25.574186466712	ratio	Y
BiomRatio	% C28 abb 20(R+S)			26.3060872453638	ratio	Y
BiomRatio	% C29 aaa 20R			35.2906837920576	ratio	Y
BiomRatio	% C29 abb 20(R+S)			35.1743717253516	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			7.47225856170237E-02	ratio	Y
BiomRatio	25-Nor/C30H			5.75774182641365E-02	ratio	Y
BiomRatio	C19t/C23t			0.081585931886898	ratio	Y
BiomRatio	C22t/C21t			4.61887733785544E-02	ratio	Y
BiomRatio	C22t/C24t			4.05271357948818E-02	ratio	Y
BiomRatio	C23t/C30H			0.170134467766324	ratio	Y
BiomRatio	C24t/C23t			0.685205467813521	ratio	Y
BiomRatio	C24Tet/C23t			0.120389233556757	ratio	Y
BiomRatio	C24Tet/C26t			0.134822385213316	ratio	Y
BiomRatio	C24Tet/C30H			2.04823581759745E-02	ratio	Y
BiomRatio	C26t/C25t			1.44876193786765	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.625125578043845	ratio	Y
BiomRatio	C27 Dia/Ster			0.745813587313759	ratio	Y
BiomRatio	C28BNH/C30H			7.23567116358988E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.913156563797326	ratio	Y
BiomRatio	C29H/C30H			0.546401780585509	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.220541421081851	ratio	Y
BiomRatio	C30DiaH/C30H			0.086290710813858	ratio	Y
BiomRatio	C30Ts/C30H			0.013101745768187	ratio	Y
BiomRatio	C35 Homohopane Index			9.62758963445445E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.879355800775425	ratio	Y
BiomRatio	Gam/C30H			0.143101708059896	ratio	Y
BiomRatio	Gam/C31HR			0.515784281579465	ratio	Y
BiomRatio	Ole/C30H			6.29257108955594E-03	ratio	Y
BiomRatio	Sterane/hopane			0.36583351469361	ratio	Y
BiomRatio	Steranes/Terpanes			0.28839081835591	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.268533848543427	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007882_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

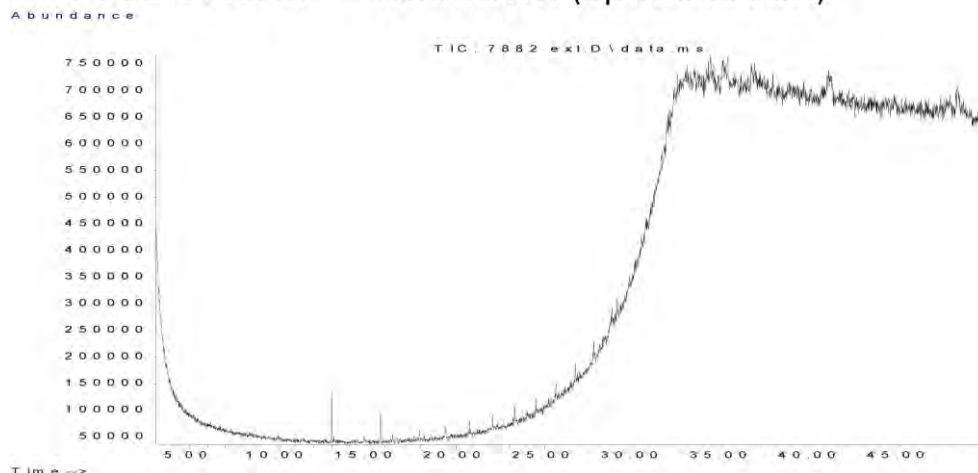
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			87.3270162054018	percent	Y
Inorg	Hydrogen			9.10840357852883	percent	Y
Inorg	Nitrogen			0.68	percent	Y
Inorg	Sulphur			3.09398608507318	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007882_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_007882_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior (splitless)

Results for: GCMS with Full Scan

7882 exterior – Unknown (splitless run)



Data Sheet:

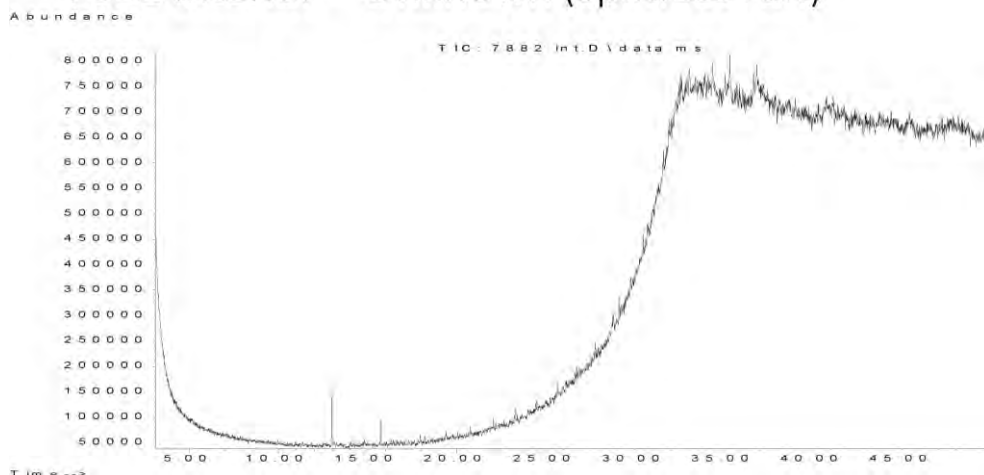
(default units ppb)

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

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007882 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_007882_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior (splitless)

Results for: GCMS with Full Scan

7882 interior – Unknown (splitless run)



Data Sheet:

(default units ppb)

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

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

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

Sample ID : **W13/007883**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 4:47:58 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

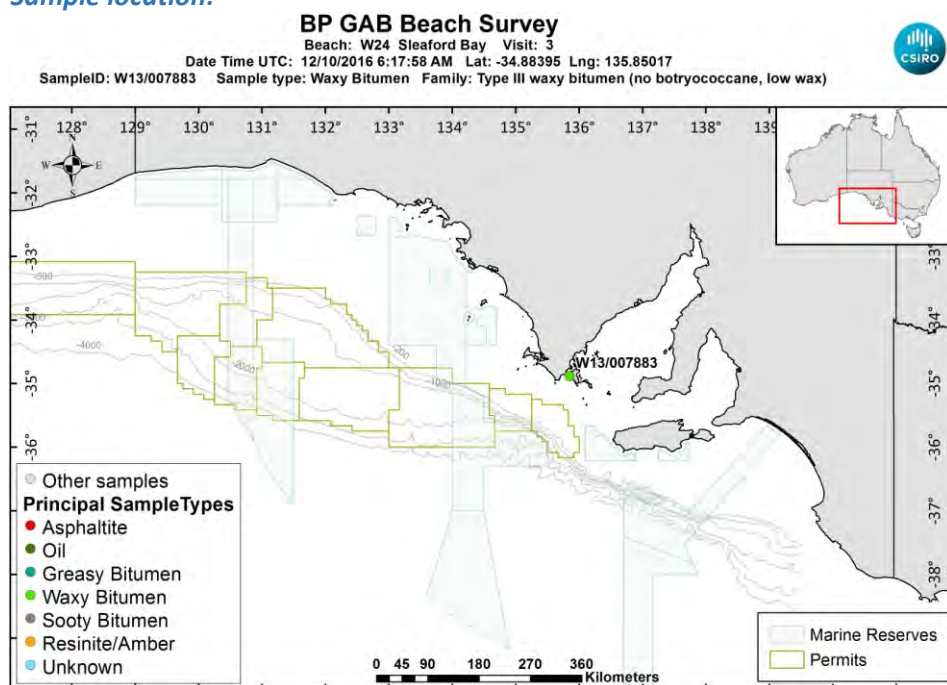
Size (cm): 4

Latitude (Y): -34.883947

Weight (gm): 14.04316

Longitude (X): 135.850172

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007883_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007883_Photo02.JPG](#)

Sample ID : W13/007883**Beach W24: Sleaford Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

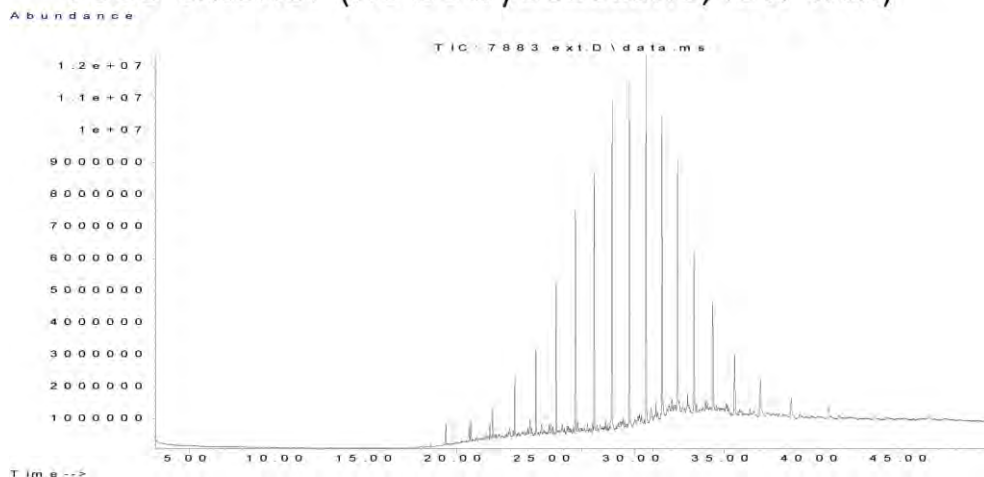
Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007883_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.1419426142047	percent	Y
Inorg	Hydrogen			8.52905188866799	percent	Y
Inorg	Nitrogen			0.07	percent	Y
Inorg	Sulphur			1.70095841613367	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007883_DISS_GCMS-Scan/01****Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007883_ext_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7883 exterior (no botryococcane, low wax)



Data Sheet:

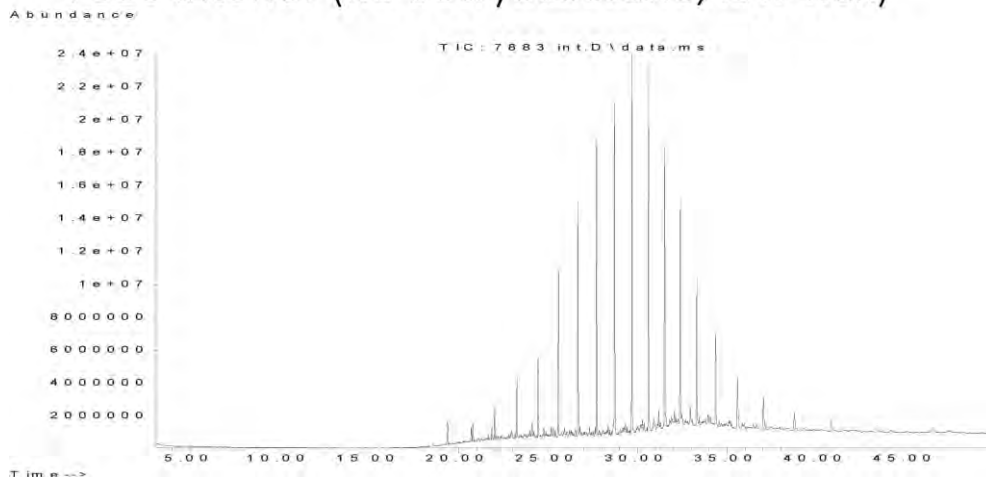
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500	368374			Z
Aliph	nC18	20.7170	2174713			Z
Aliph	nC19	22.0170	4687084			Z
Aliph	nC20	23.2570	7960151			Z
Aliph	nC21	24.4410	12565594			Z
Aliph	nC22	25.5760	21498103			Z
Aliph	nC23	26.6620	32477237			Z
Aliph	nC24	27.7060	41064355			Z
Aliph	nC25	28.7100	48295023			Z
Aliph	nC26	29.6680	49491370			Z
Aliph	nC27	30.6080	51869907			Z
Aliph	nC28	31.5080	43940711			Z
Aliph	nC29	32.3700	37918568			Z
Aliph	nC30	33.2910	26641731			Z
Aliph	nC31	34.3470	22587075			Z
Aliph	nC32	35.5720	15143352			Z
Aliph	nC33	37.0130	10945175			Z
Aliph	nC34	38.7280	6454864			Z
Aliph	nC35	40.8080	4110373			Z
Aliph	nC36	43.3510	3240023			Z
Aliph	nC37	46.4710	2834336			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	780943			Z
Aliph	Phytane	20.7870	3553574			Z
Aliph	Pristane	19.3870	3583934			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007883 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_007883_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7883 interior (no botryococcane, low wax)



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	2746655			Z
Aliph	nC18	20.7170	4154163			Z
Aliph	nC19	22.0170	9260435			Z
Aliph	nC20	23.2570	16009025			Z
Aliph	nC21	24.4410	25152481			Z
Aliph	nC22	25.5760	44550858			Z
Aliph	nC23	26.6620	67197098			Z
Aliph	nC24	27.7060	84647685			Z
Aliph	nC25	28.7100	98355979			Z
Aliph	nC26	29.6680	98281189			Z
Aliph	nC27	30.6080	95620421			Z
Aliph	nC28	31.5080	76423793			Z
Aliph	nC29	32.3700	61212832			Z
Aliph	nC30	33.2910	45225201			Z
Aliph	nC31	34.3470	37442771			Z
Aliph	nC32	35.5720	25512304			Z
Aliph	nC33	37.0130	17365255			Z
Aliph	nC34	38.7280	10618810			Z
Aliph	nC35	40.8080	7938850			Z
Aliph	nC36	43.3510	5211413			Z
Aliph	nC37	46.4710	5871914			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870	7066296			Z
Aliph	Pristane	19.3870	7597952			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 : **W13/007884**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 4:48:56 PM

Type: Waxy Bitumen

Family: Unclassified high wax bitumen

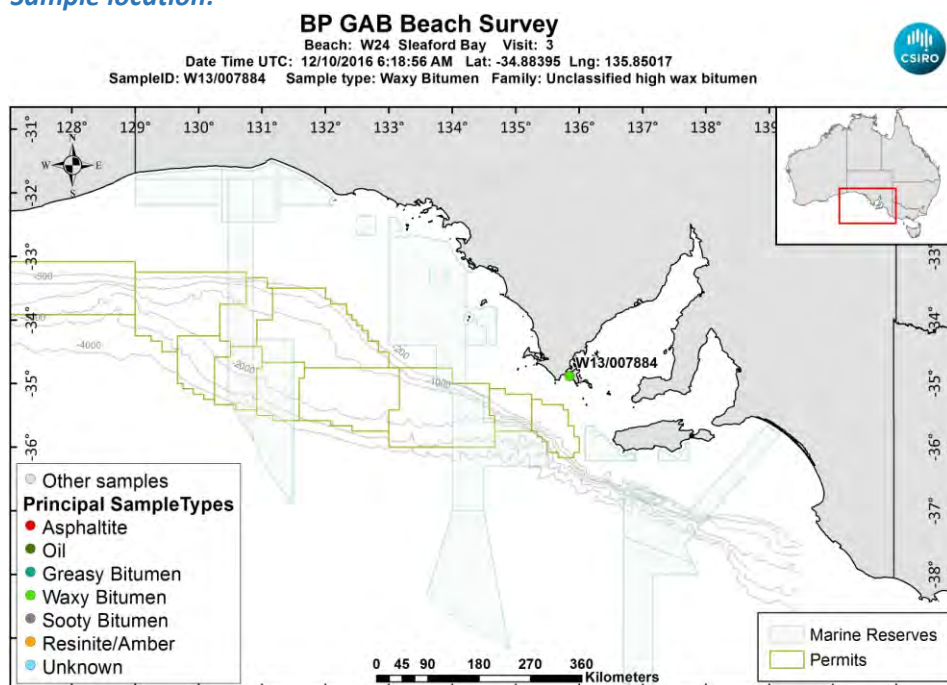
Size (cm): 5.1

Latitude (Y): -34.883947

Weight (gm): 22.08063

Longitude (X): 135.850172

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007884_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007884_Photo02.JPG](#)

Sample ID : W13/007884**Beach W24: Sleaford Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

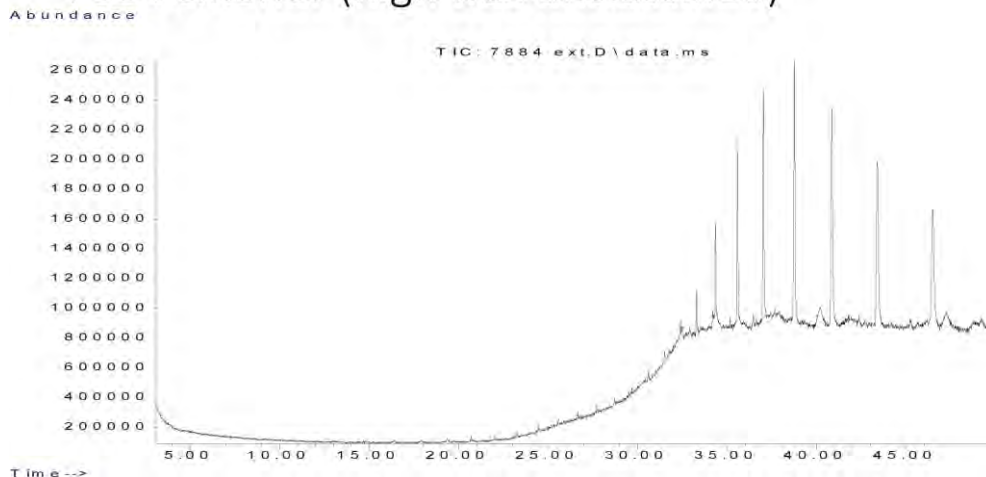
Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007884_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			81.6286709569857	percent	Y
Inorg	Hydrogen			7.74425447316103	percent	Y
Inorg	Nitrogen			0.01	percent	Y
Inorg	Sulphur			2.12619196791858	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007884 DISS GCMS-Scan/01****Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007884_ext_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7884 exterior (high wax unclassified)



Data Sheet:

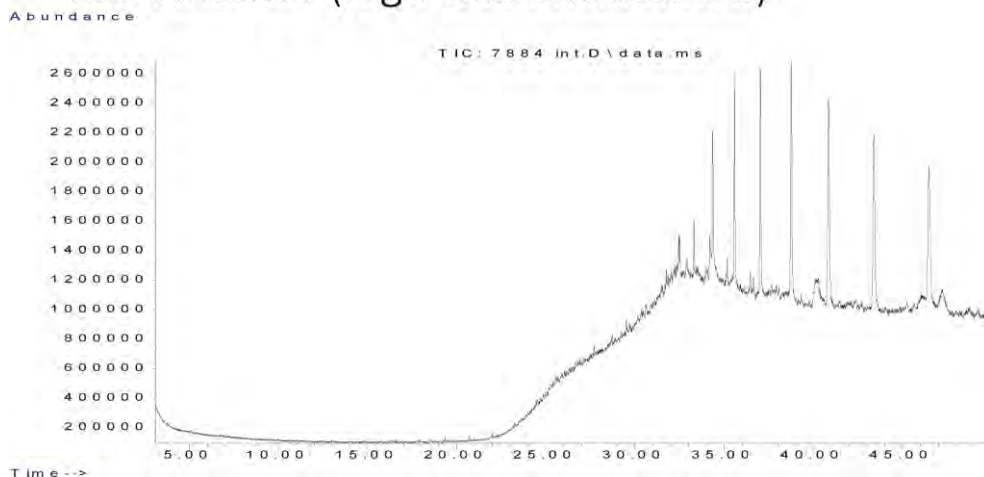
(default units ppb)

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	593527			Z
Aliph	nC30	33.2910	1601970			Z
Aliph	nC31	34.3470	5210064			Z
Aliph	nC32	35.5720	9688323			Z
Aliph	nC33	37.0130	14570939			Z
Aliph	nC34	38.7280	18122398			Z
Aliph	nC35	40.8080	18039010			Z
Aliph	nC36	43.3510	17167111			Z
Aliph	nC37	46.4710	14939916			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007884 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_007884_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7884 interior (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	360860			Z
Aliph	nC30	33.2910	1842043			Z
Aliph	nC31	34.3470	6644455			Z
Aliph	nC32	35.5720	10617276			Z
Aliph	nC33	37.0130	14083482			Z
Aliph	nC34	38.7280	17464702			Z
Aliph	nC35	40.8080	16962554			Z
Aliph	nC36	43.3510	17623275			Z
Aliph	nC37	46.4710	17559989			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 : **W13/007885**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 4:49:49 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

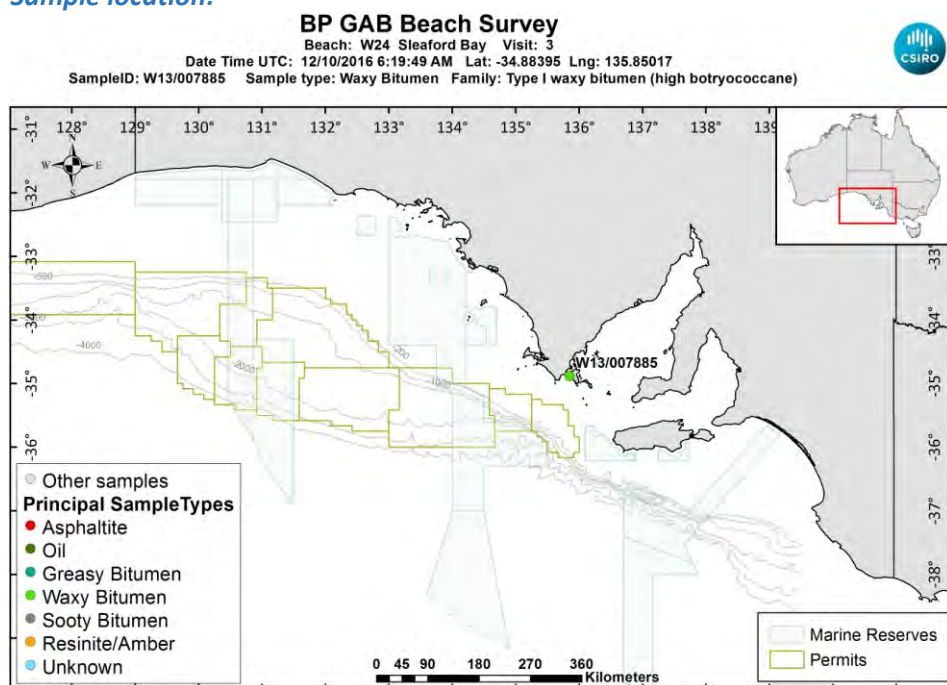
Size (cm): 3.5

Latitude (Y): -34.883947

Weight (gm): 7.63894

Longitude (X): 135.850172

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007885_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007885_Photo02.JPG](#)

Sample ID : W13/007885**Beach W24: Sleaford Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

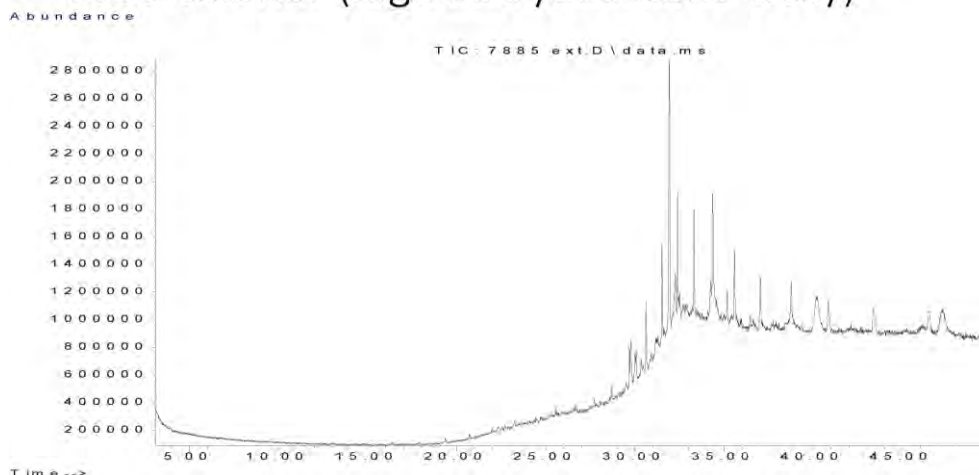
Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007885_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			82.7182040680227	percent	Y
Inorg	Hydrogen			8.84548508946322	percent	Y
Inorg	Nitrogen			0.22	percent	Y
Inorg	Sulphur			2.09799712927797	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007885 DISS GCMS-Scan/01****Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007885_ext_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7885 exterior (high botryococcane waxy)



Data Sheet:

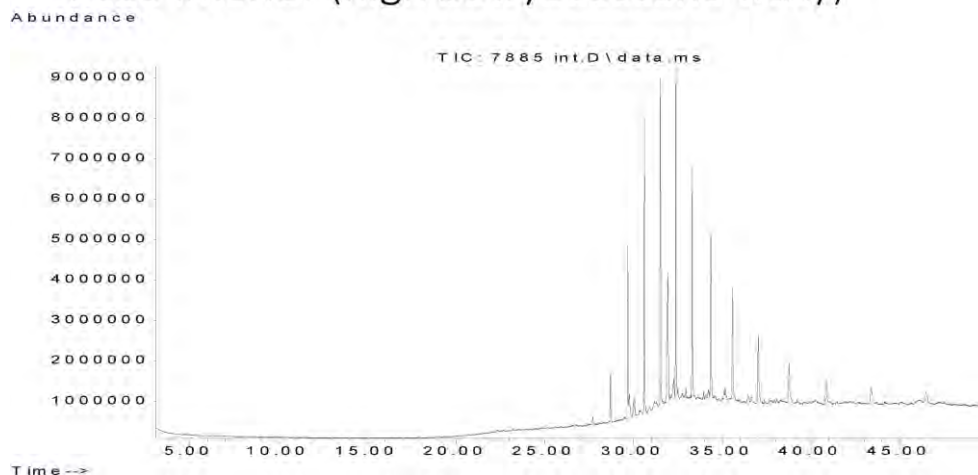
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	15885774			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	304560			Z
Aliph	nC25	28.7100	633868			Z
Aliph	nC26	29.6680	906701			Z
Aliph	nC27	30.6080	2487688			Z
Aliph	nC28	31.5080	3949076			Z
Aliph	nC29	32.3700	4149295			Z
Aliph	nC30	33.2910	4255888			Z
Aliph	nC31	34.3470	5751269			Z
Aliph	nC32	35.5720	3844377			Z
Aliph	nC33	37.0130	3208376			Z
Aliph	nC34	38.7280	3160578			Z
Aliph	nC35	40.8080	2828612			Z
Aliph	nC36	43.3510	2978829			Z
Aliph	nC37	46.4710	2764006			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007885 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_007885_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7885 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	25909372			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	952723			Z
Aliph	nC25	28.7100	6550810			Z
Aliph	nC26	29.6680	18048872			Z
Aliph	nC27	30.6080	33583843			Z
Aliph	nC28	31.5080	37892920			Z
Aliph	nC29	32.3700	37924786			Z
Aliph	nC30	33.2910	30734876			Z
Aliph	nC31	34.3470	27289923			Z
Aliph	nC32	35.5720	20769060			Z
Aliph	nC33	37.0130	14893026			Z
Aliph	nC34	38.7280	10561808			Z
Aliph	nC35	40.8080	7686322			Z
Aliph	nC36	43.3510	4915060			Z
Aliph	nC37	46.4710	4477099			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 : **W13/007886**

Beach W24: Sleaford Bav Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 4:50:40 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

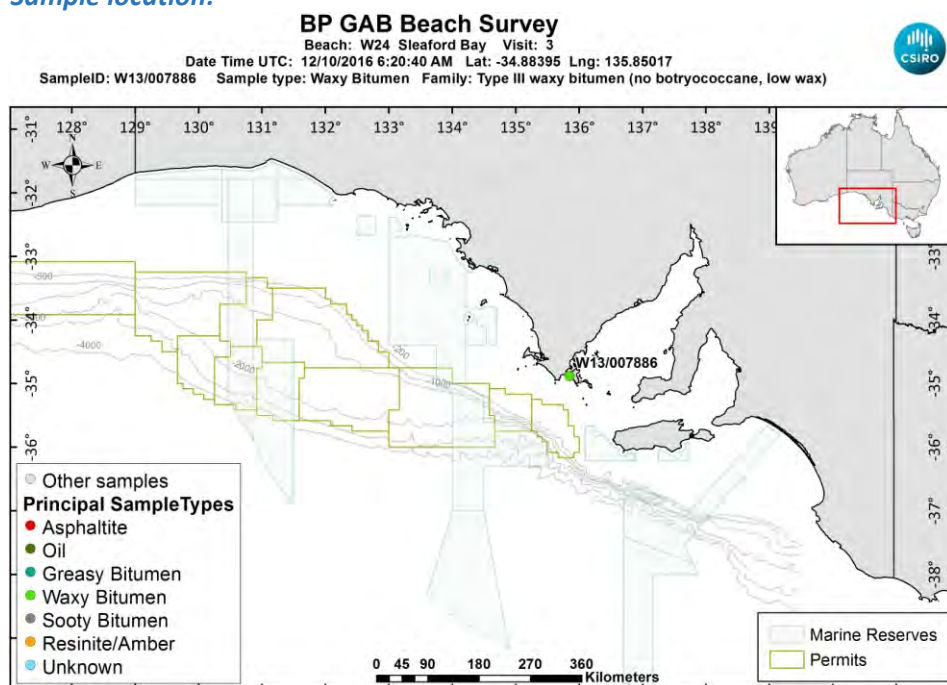
Size (cm): 3.4

Latitude (Y): -34.883947

Weight (gm): 10.31384

Longitude (X): 135.850172

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007886_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007886_Photo02.JPG](#)

Sample ID : W13/007886**Beach W24: Sleaford Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

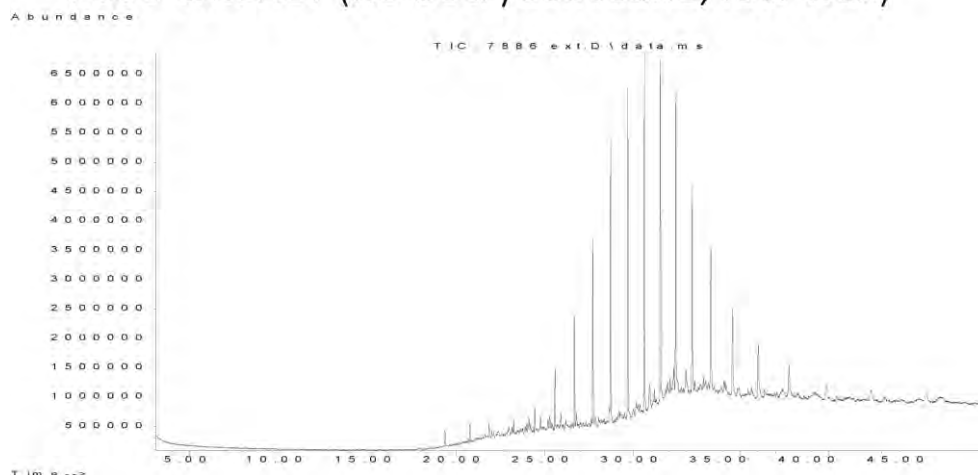
Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007886_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.1398537845949	percent	Y
Inorg	Hydrogen			6.78093041749503	percent	Y
Inorg	Nitrogen			0.03	percent	Y
Inorg	Sulphur			1.22426201640352	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007886_DISS_GCMS-Scan/01****Instrument / Type:** GCMS with Full Scan Run: 1**for Analysis:** Whole Oils**Analysis Date:** 30/10/2017**Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007886_ext_WholeOil.jpg](#)**Preparation:** Dissolved in solvent**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7886 exterior (no botryococcane, low wax)



Data Sheet:

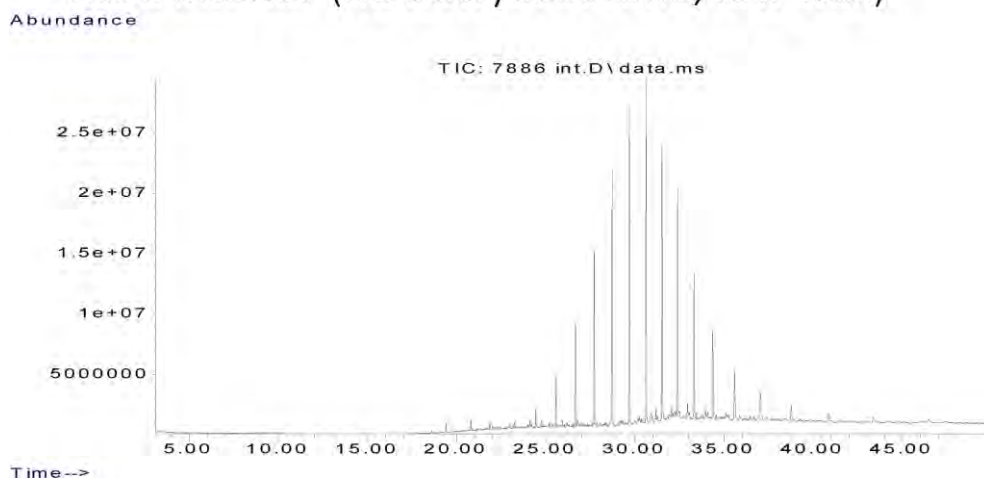
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170	322503			Z
Aliph	nC19	22.0170	484635			Z
Aliph	nC20	23.2570	449800			Z
Aliph	nC21	24.4410	2122568			Z
Aliph	nC22	25.5760	4613008			Z
Aliph	nC23	26.6620	9556698			Z
Aliph	nC24	27.7060	15552515			Z
Aliph	nC25	28.7100	22316981			Z
Aliph	nC26	29.6680	26207601			Z
Aliph	nC27	30.6080	29317442			Z
Aliph	nC28	31.5080	27235265			Z
Aliph	nC29	32.3700	24661055			Z
Aliph	nC30	33.2910	18663195			Z
Aliph	nC31	34.3470	17314352			Z
Aliph	nC32	35.5720	11382758			Z
Aliph	nC33	37.0130	8031441			Z
Aliph	nC34	38.7280	5733907			Z
Aliph	nC35	40.8080	3779867			Z
Aliph	nC36	43.3510	3265493			Z
Aliph	nC37	46.4710	2472300			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	424746			Z
Aliph	Phytane	20.7870	1781122			Z
Aliph	Pristane	19.3870	1752533			Z

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007886 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_007886_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7886 interior (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170	600562			Z
Aliph	nC19	22.0170	1303682			Z
Aliph	nC20	23.2570	1035392			Z
Aliph	nC21	24.4410	7406413			Z
Aliph	nC22	25.5760	18550143			Z
Aliph	nC23	26.6620	41770099			Z
Aliph	nC24	27.7060	71368918			Z
Aliph	nC25	28.7100	100709690			Z
Aliph	nC26	29.6680	115887791			Z
Aliph	nC27	30.6080	122056580			Z
Aliph	nC28	31.5080	101662873			Z
Aliph	nC29	32.3700	86706976			Z
Aliph	nC30	33.2910	60360252			Z
Aliph	nC31	34.3470	47977259			Z
Aliph	nC32	35.5720	32673028			Z
Aliph	nC33	37.0130	21505992			Z
Aliph	nC34	38.7280	13268355			Z
Aliph	nC35	40.8080	9589805			Z
Aliph	nC36	43.3510	7490722			Z
Aliph	nC37	46.4710	4700957			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	1213312			Z
Aliph	Phytane	20.7870	4970448			Z
Aliph	Pristane	19.3870	4743313			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 : **W13/007887**

Beach W24: Sleaford Bay Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 12/10/2016 4:51:30 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

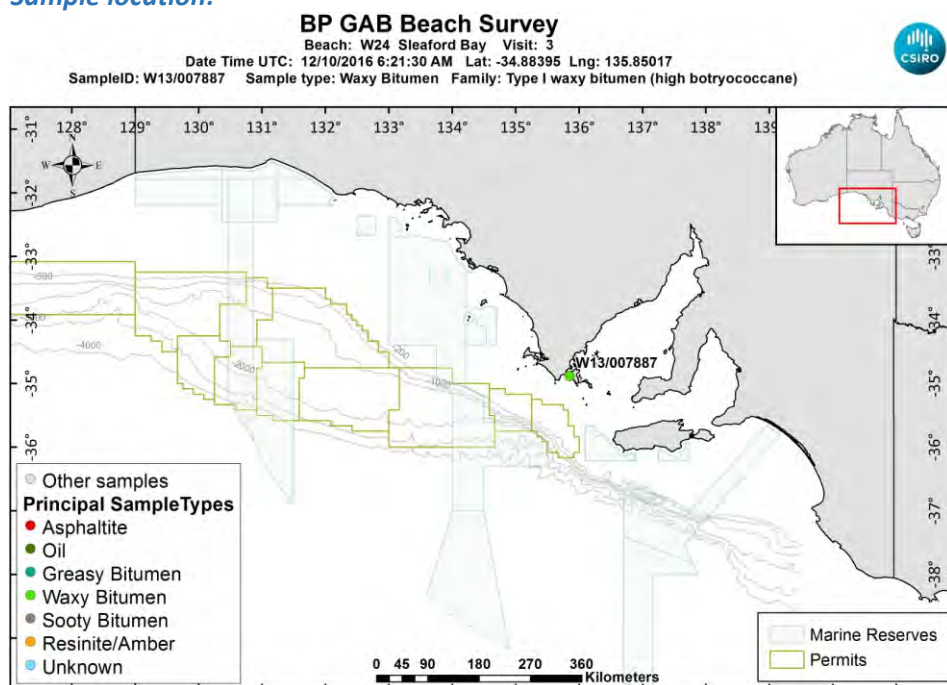
Size (cm): 4.3

Latitude (Y): -34.883947

Weight (gm): 14.52705

Longitude (X): 135.850172

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007887_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007887_Photo02.JPG](#)