

Sample ID : W13/007908**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID:** W13/007908_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)*

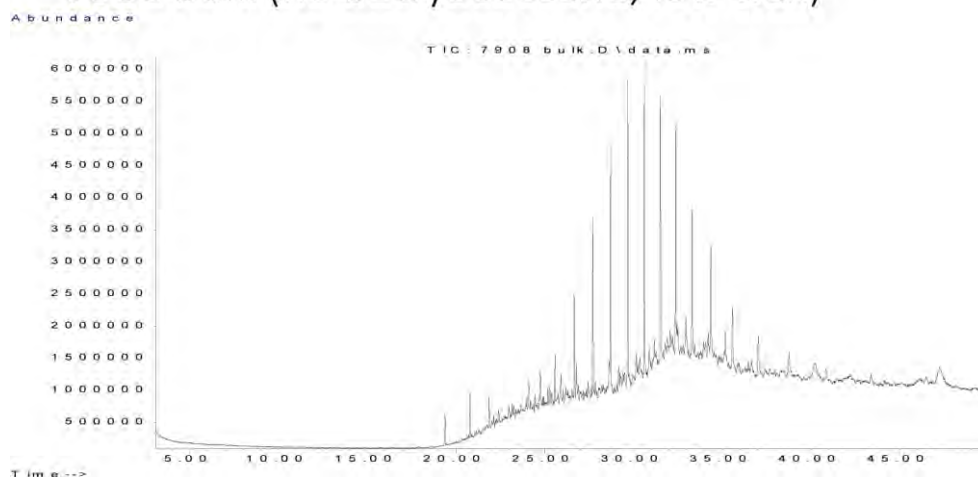
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			84.64	percent	Y
Inorg	Hydrogen			9.03020874751492	percent	Y
Inorg	Nitrogen			0.493902313624679	percent	Y
Inorg	Sulphur			2.10852930517446	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007908_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_007908_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

7908 bulk (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500	154079			Z
Aliph	nC18	20.7170	199198			Z
Aliph	nC19	22.0170	334214			Z
Aliph	nC20	23.2570	825607			Z
Aliph	nC21	24.4410	1272954			Z
Aliph	nC22	25.5760	3531810			Z
Aliph	nC23	26.6620	7977723			Z
Aliph	nC24	27.7060	13597384			Z
Aliph	nC25	28.7100	18902363			Z
Aliph	nC26	29.6680	22873946			Z
Aliph	nC27	30.6080	23864118			Z
Aliph	nC28	31.5080	19504449			Z
Aliph	nC29	32.3700	16641971			Z
Aliph	nC30	33.2910	12902414			Z
Aliph	nC31	34.3470	11660322			Z
Aliph	nC32	35.5720	7816079			Z
Aliph	nC33	37.0130	5567809			Z
Aliph	nC34	38.7280	4212147			Z
Aliph	nC35	40.8080	2485629			Z
Aliph	nC36	43.3510	1824286			Z
Aliph	nC37	46.4710	2612751			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	248787			Z
Aliph	Phytane	20.7870	4145020			Z
Aliph	Pristane	19.3870	2813965			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 : **W13/007909**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:15:02 PM

Type: Waxy Bitumen

Family: Type IV waxy bitumen (no botryococcane, hig

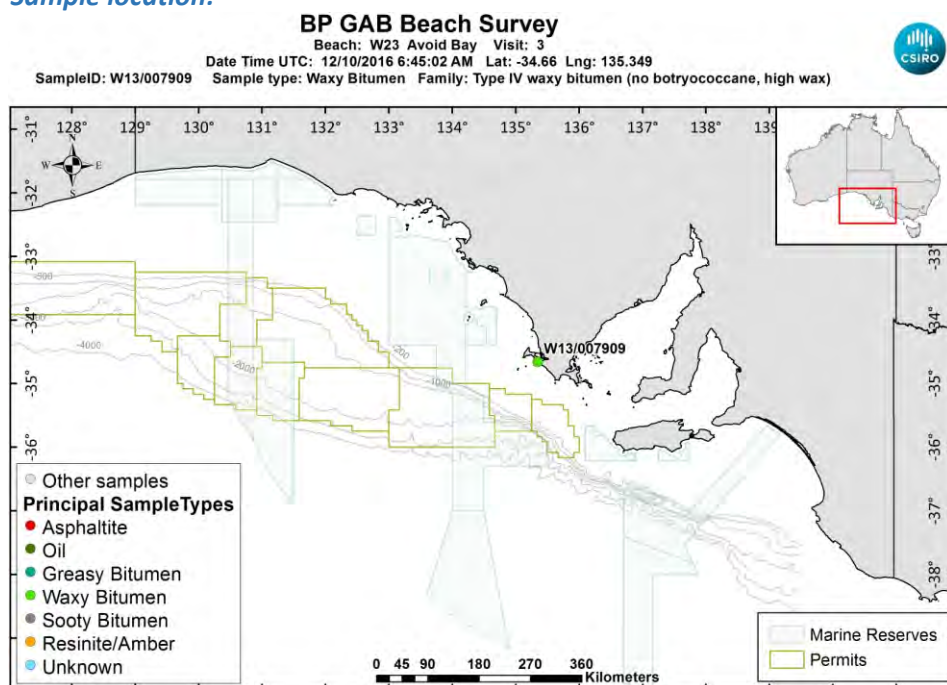
Size (cm): 2.9

Latitude (Y): -34.660000

Weight (gm): 5.05494

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007909_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007909_Photo02.JPG](#)

Sample ID : W13/007909

Beach W23: Avoid Bay Visit: 3

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007909 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			38.1937779285654	ratio	Y
BiomRatio	% C27 abb 20(R+S)			31.4281173892316	ratio	Y
BiomRatio	% C28 aaa 20R			18.3023896361307	ratio	Y
BiomRatio	% C28 abb 20(R+S)			28.0589237472606	ratio	Y
BiomRatio	% C29 aaa 20R			43.5038324353039	ratio	Y
BiomRatio	% C29 abb 20(R+S)			40.5129588635079	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.15147066840287	ratio	Y
BiomRatio	25-Nor/C30H			0.227979788505926	ratio	Y
BiomRatio	C19t/C23t			0.121644891890145	ratio	Y
BiomRatio	C22t/C21t			0.478876429946766	ratio	Y
BiomRatio	C22t/C24t			0.316768524365575	ratio	Y
BiomRatio	C23t/C30H			0.183433215716841	ratio	Y
BiomRatio	C24t/C23t			0.54910638197836	ratio	Y
BiomRatio	C24Tet/C23t			0.829786483770298	ratio	Y
BiomRatio	C24Tet/C26t			1.92163160867524	ratio	Y
BiomRatio	C24Tet/C30H			0.152210403076356	ratio	Y
BiomRatio	C26t/C25t			0.794956964874032	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.396484274938061	ratio	Y
BiomRatio	C27 Dia/Ster			0.373121577125022	ratio	Y
BiomRatio	C28BNH/C30H			7.27605162188939E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.28906731388846	ratio	Y
BiomRatio	C29H/C30H			0.727588452238109	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.172473049457556	ratio	Y
BiomRatio	C30DiaH/C30H			4.74772825523318E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.045023614933737	ratio	Y
BiomRatio	C35 Homohopane Index			0.064067806092919	ratio	Y
BiomRatio	C35HS/C34HS			0.841058405159424	ratio	Y
BiomRatio	Gam/C30H			5.60074429355179E-02	ratio	Y
BiomRatio	Gam/C31HR			0.236817693862806	ratio	Y
BiomRatio	Ole/C30H			0.816615836074304	ratio	Y
BiomRatio	Sterane/hopane			0.264092162168462	ratio	Y
BiomRatio	Steranes/Terpanes			0.221454728050959	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.192533410746108	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007909_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:**

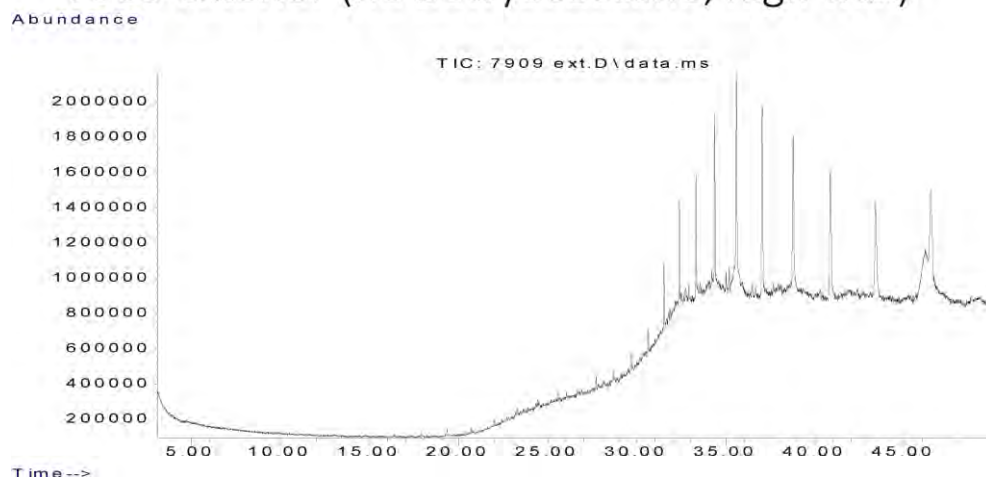
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			86.11	percent	Y
Inorg	Hydrogen			7.75729622266401	percent	Y
Inorg	Nitrogen			0.559593487574979	percent	Y
Inorg	Sulphur			2.15609821650556	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007909_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_007909_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7909 exterior (no botryococcane, high wax)



Data Sheet:

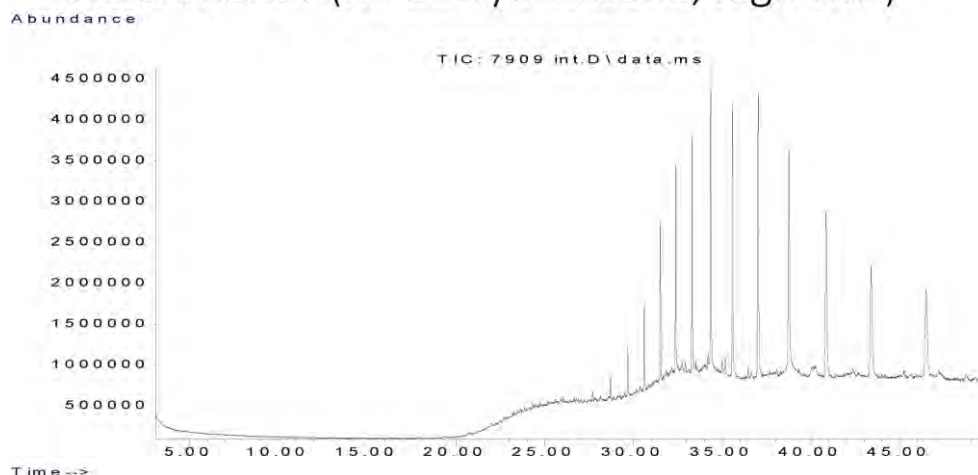
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620	184970			Z
Aliph	nC24	27.7060	244700			Z
Aliph	nC25	28.7100	347900			Z
Aliph	nC26	29.6680	426789			Z
Aliph	nC27	30.6080	886495			Z
Aliph	nC28	31.5080	1382239			Z
Aliph	nC29	32.3700	2367050			Z
Aliph	nC30	33.2910	4121715			Z
Aliph	nC31	34.3470	6649152			Z
Aliph	nC32	35.5720	8993890			Z
Aliph	nC33	37.0130	9984322			Z
Aliph	nC34	38.7280	9731817			Z
Aliph	nC35	40.8080	8984189			Z
Aliph	nC36	43.3510	8221692			Z
Aliph	nC37	46.4710	7457405			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:** W13/007909 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_007909_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7909 interior (no botryococcane, high wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620	190207			Z
Aliph	nC24	27.7060	587071			Z
Aliph	nC25	28.7100	1378472			Z
Aliph	nC26	29.6680	3172707			Z
Aliph	nC27	30.6080	5890093			Z
Aliph	nC28	31.5080	9346393			Z
Aliph	nC29	32.3700	13313269			Z
Aliph	nC30	33.2910	16790536			Z
Aliph	nC31	34.3470	25156335			Z
Aliph	nC32	35.5720	26149641			Z
Aliph	nC33	37.0130	31206202			Z
Aliph	nC34	38.7280	28911286			Z
Aliph	nC35	40.8080	25069177			Z
Aliph	nC36	43.3510	20761924			Z
Aliph	nC37	46.4710	19540893			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 : **W13/007910**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:15:20 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

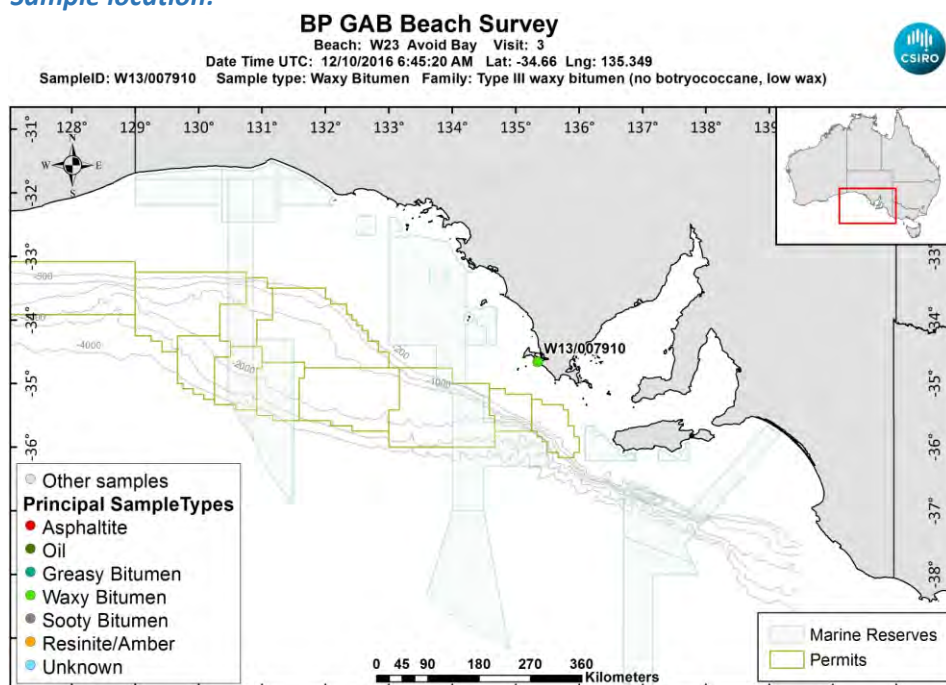
Size (cm): 3.5

Latitude (Y): -34.660000

Weight (gm): 4.64371

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007910_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007910_Photo02.JPG](#)

Sample ID : W13/007910

Beach W23: Avoid Bay Visit: 3

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007910_DISS_GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			29.1879167600842	ratio	Y
BiomRatio	% C27 abb 20(R+S)			21.3599887872296	ratio	Y
BiomRatio	% C28 aaa 20R			11.0167371028353	ratio	Y
BiomRatio	% C28 abb 20(R+S)			15.6319060905076	ratio	Y
BiomRatio	% C29 aaa 20R			59.7953461370805	ratio	Y
BiomRatio	% C29 abb 20(R+S)			63.0081051222628	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			3.35672856154903E-02	ratio	Y
BiomRatio	25-Nor/C30H			0.240223762003226	ratio	Y
BiomRatio	C19t/C23t			1.27967562450321	ratio	Y
BiomRatio	C22t/C21t			8.46220423163473E-02	ratio	Y
BiomRatio	C22t/C24t			6.34812818520168E-02	ratio	Y
BiomRatio	C23t/C30H			1.92126777832027E-02	ratio	Y
BiomRatio	C24t/C23t			0.894099259616501	ratio	Y
BiomRatio	C24Tet/C23t			2.05603872500424	ratio	Y
BiomRatio	C24Tet/C26t			1.03101566054839	ratio	Y
BiomRatio	C24Tet/C30H			3.95020095332933E-02	ratio	Y
BiomRatio	C26t/C25t			1.21371000180463	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.337112249897603	ratio	Y
BiomRatio	C27 Dia/Ster			0.342354427748213	ratio	Y
BiomRatio	C28BNH/C30H			0.100273194123425	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			2.94981920402192	ratio	Y
BiomRatio	C29H/C30H			0.495582280087001	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.154596087640625	ratio	Y
BiomRatio	C30DiaH/C30H			7.42241943395243E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.048301587204081	ratio	Y
BiomRatio	C35 Homohopane Index			2.86912590097482E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.43394858516304	ratio	Y
BiomRatio	Gam/C30H			6.25230079748167E-02	ratio	Y
BiomRatio	Gam/C31HR			0.197955383871854	ratio	Y
BiomRatio	Ole/C30H			0.78237275892845	ratio	Y
BiomRatio	Sterane/hopane			8.72113309879997E-02	ratio	Y
BiomRatio	Steranes/Terpanes			8.04099625433975E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.08458365393382	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007910_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:**

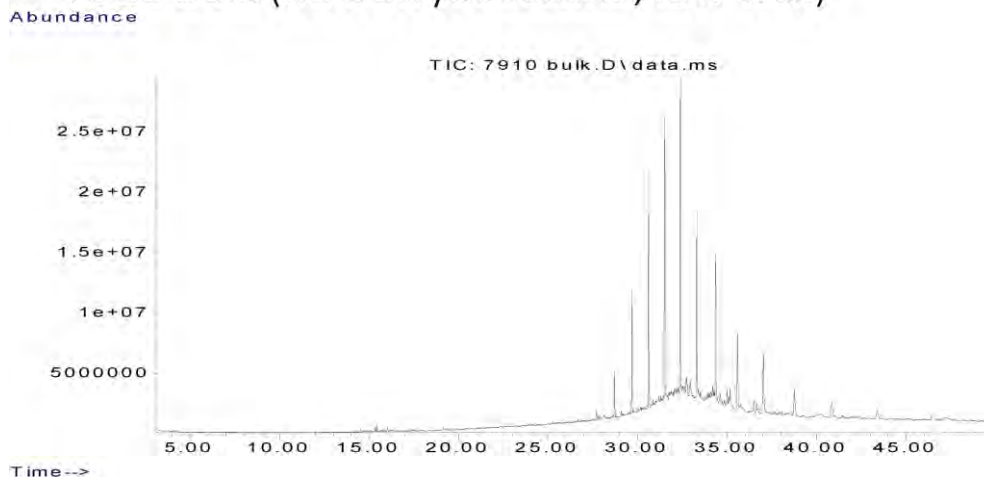
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			75.61	percent	Y
Inorg	Hydrogen			5.80042942345925	percent	Y
Inorg	Nitrogen			0.442793487574979	percent	Y
Inorg	Sulphur			1.06471766048259	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007910_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_007910_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7910 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	323091			Z
Aliph	nC23	26.6620	718401			Z
Aliph	nC24	27.7060	3848381			Z
Aliph	nC25	28.7100	17500469			Z
Aliph	nC26	29.6680	45729376			Z
Aliph	nC27	30.6080	83683491			Z
Aliph	nC28	31.5080	95572824			Z
Aliph	nC29	32.3700	101629482			Z
Aliph	nC30	33.2910	79802890			Z
Aliph	nC31	34.3470	78349678			Z
Aliph	nC32	35.5720	50457463			Z
Aliph	nC33	37.0130	43694973			Z
Aliph	nC34	38.7280	21076459			Z
Aliph	nC35	40.8080	16014579			Z
Aliph	nC36	43.3510	10096239			Z
Aliph	nC37	46.4710	9714311			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 : **W13/007911**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:15:59 PM

Type: Waxy Bitumen

Family: Type IV waxy bitumen (no botryococcane, hig

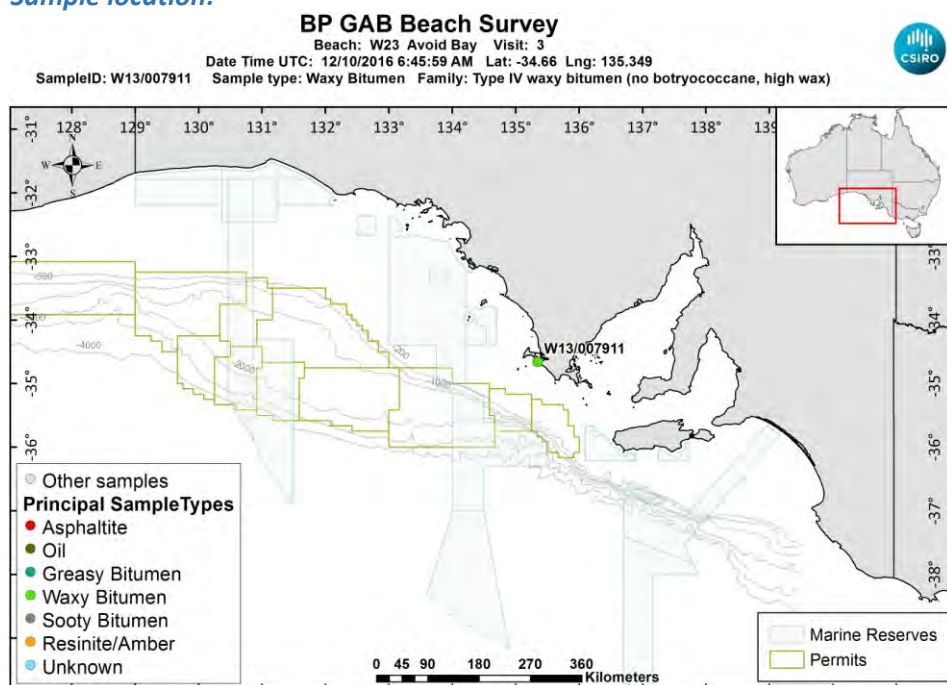
Size (cm): 2.7

Latitude (Y): -34.660000

Weight (gm): 6.13425

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007911_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007911_Photo02.JPG](#)

Sample ID : W13/007911

Beach W23: Avoid Bay Visit: 3

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007911 DISS GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retention Time:	Target Response:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			39.546325445225	ratio	Y
BiomRatio	% C27 abb 20(R+S)			43.0476253937749	ratio	Y
BiomRatio	% C28 aaa 20R			25.4209220439375	ratio	Y
BiomRatio	% C28 abb 20(R+S)			23.9889984347088	ratio	Y
BiomRatio	% C29 aaa 20R			35.0327525108374	ratio	Y
BiomRatio	% C29 abb 20(R+S)			32.9633761715163	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.128348623300641	ratio	Y
BiomRatio	25-Nor/C30H			2.89783088315151E-02	ratio	Y
BiomRatio	C19t/C23t			0.249976948138434	ratio	Y
BiomRatio	C22t/C21t			0.279844064852628	ratio	Y
BiomRatio	C22t/C24t			0.22503668479327	ratio	Y
BiomRatio	C23t/C30H			8.07663226792746E-02	ratio	Y
BiomRatio	C24t/C23t			0.652813351638219	ratio	Y
BiomRatio	C24Tet/C23t			0.884297584164908	ratio	Y
BiomRatio	C24Tet/C26t			1.61502802024568	ratio	Y
BiomRatio	C24Tet/C30H			7.14214640271659E-02	ratio	Y
BiomRatio	C26t/C25t			1.29473684210526	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.480927600093434	ratio	Y
BiomRatio	C27 Dia/Ster			0.503740115329035	ratio	Y
BiomRatio	C28BNH/C30H			0.031566230416043	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.76574203269022	ratio	Y
BiomRatio	C29H/C30H			0.639659743131716	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.149979245070361	ratio	Y
BiomRatio	C30DiaH/C30H			0.051065423112767	ratio	Y
BiomRatio	C30Ts/C30H			5.6609491735097E-03	ratio	Y
BiomRatio	C35 Homohopane Index			5.09446394041395E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.52644711802988	ratio	Y
BiomRatio	Gam/C30H			5.01055545154681E-02	ratio	Y
BiomRatio	Gam/C31HR			0.311961865460086	ratio	Y
BiomRatio	Ole/C30H			9.62164834676081E-03	ratio	Y
BiomRatio	Sterane/hopane			0.398599136809722	ratio	Y
BiomRatio	Steranes/Terpanes			0.349307742808726	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.141111655884439	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007911_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:**

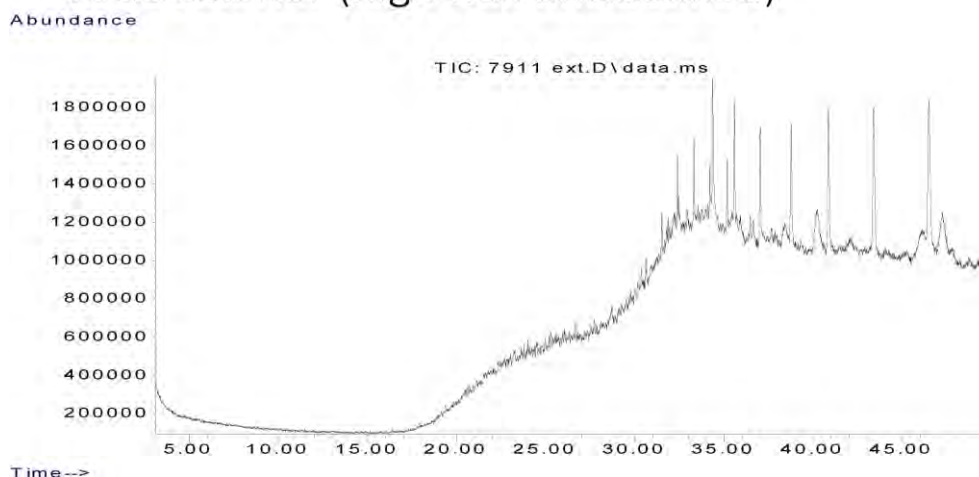
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			85.56	percent	Y
Inorg	Hydrogen			4.93051491053678	percent	Y
Inorg	Nitrogen			0.416999143101971	percent	Y
Inorg	Sulphur			0.843865046225634	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007911_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_007911_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7911 exterior (high wax unclassified)



Data Sheet:

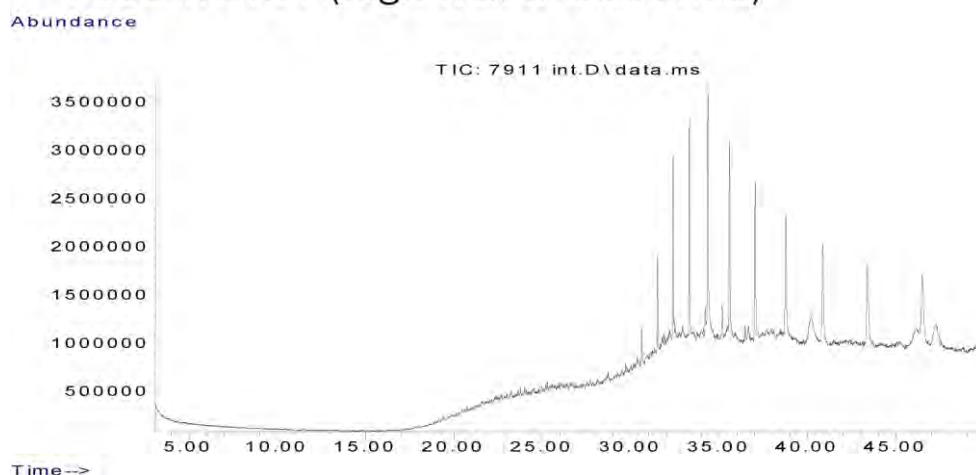
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	83812			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	771688			Z
Aliph	nC28	31.5080	787355			Z
Aliph	nC29	32.3700	1768881			Z
Aliph	nC30	33.2910	2678188			Z
Aliph	nC31	34.3470	6563567			Z
Aliph	nC32	35.5720	4953859			Z
Aliph	nC33	37.0130	6123003			Z
Aliph	nC34	38.7280	7091883			Z
Aliph	nC35	40.8080	8785239			Z
Aliph	nC36	43.3510	10530969			Z
Aliph	nC37	46.4710	11886839			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:** W13/007911 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_007911_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7911 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	811023			Z
Aliph	nC27	30.6080	1909285			Z
Aliph	nC28	31.5080	4714333			Z
Aliph	nC29	32.3700	10695793			Z
Aliph	nC30	33.2910	12582864			Z
Aliph	nC31	34.3470	18666596			Z
Aliph	nC32	35.5720	15248153			Z
Aliph	nC33	37.0130	14563291			Z
Aliph	nC34	38.7280	13556570			Z
Aliph	nC35	40.8080	12550435			Z
Aliph	nC36	43.3510	12650710			Z
Aliph	nC37	46.4710	10574637			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 : **W13/007912**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:16:56 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

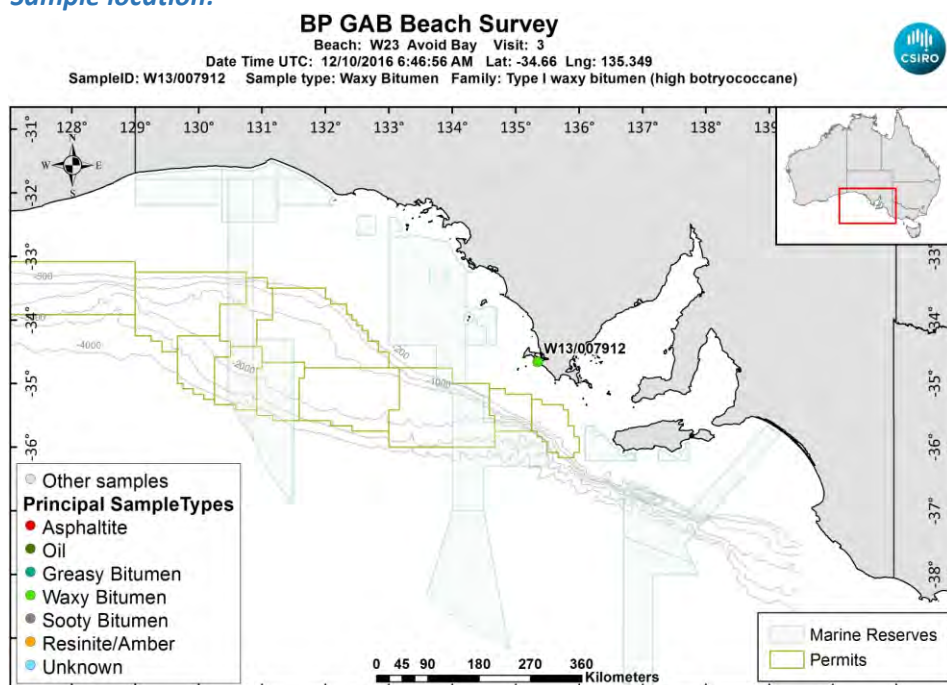
Size (cm): 2.9

Latitude (Y): -34.660000

Weight (gm): 5.55696

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007912_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007912_Photo02.JPG](#)

Sample ID : W13/007912**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

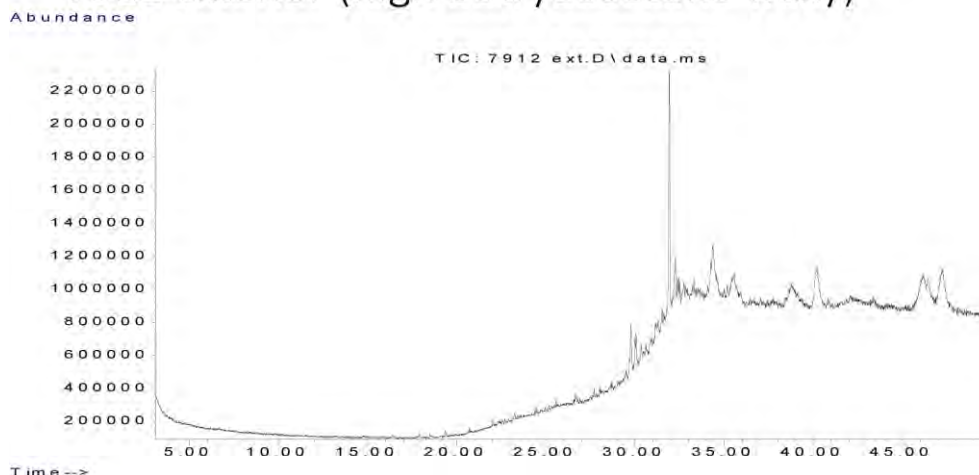
Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007912_SPE_ELEM-AN/01****Instrument / Type:** Elemental Analyser Run: 1**for Analysis:** Elemental CHNS**Analysis Date:** 30/10/2017**Linked Image:** [None available](#)**Preparation:** Solid Phase Extract**Method ID/s:****Sample Volume:** **Volume Units:** **Extract Volume:** **Dilution Factor:****Comment:****Data Sheet:***(default units ppb)*

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			87.81	percent	Y
Inorg	Hydrogen			7.2444731610338	percent	Y
Inorg	Nitrogen			0.531740874035989	percent	Y
Inorg	Sulphur			1.74481930402821	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007912_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_007912_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

7912 exterior (high botryococcane waxy)



Data Sheet:

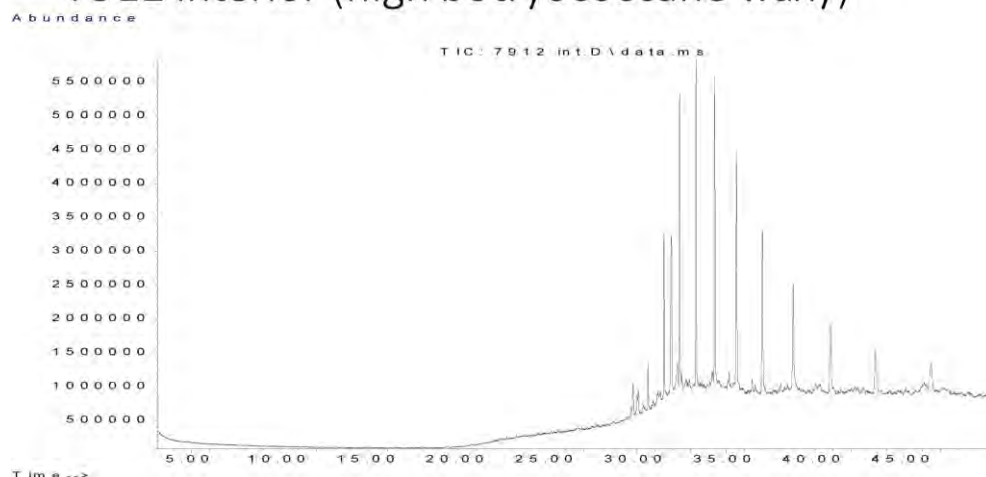
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	11928305			Z
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100				U
Aliph	nC26	29.6680				U
Aliph	nC27	30.6080				U
Aliph	nC28	31.5080				U
Aliph	nC29	32.3700				U
Aliph	nC30	33.2910				U
Aliph	nC31	34.3470				U
Aliph	nC32	35.5720				U
Aliph	nC33	37.0130				U
Aliph	nC34	38.7280				U
Aliph	nC35	40.8080				U
Aliph	nC36	43.3510				U
Aliph	nC37	46.4710				U
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830				U
Aliph	Phytane	20.7870				U
Aliph	Pristane	19.3870				U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007912 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_007912_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7912 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	20332964			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	572126			Z
Aliph	nC27	30.6080	3700029			Z
Aliph	nC28	31.5080	12024624			Z
Aliph	nC29	32.3700	21999883			Z
Aliph	nC30	33.2910	26393744			Z
Aliph	nC31	34.3470	30299878			Z
Aliph	nC32	35.5720	26577358			Z
Aliph	nC33	37.0130	21714990			Z
Aliph	nC34	38.7280	16781704			Z
Aliph	nC35	40.8080	12142085			Z
Aliph	nC36	43.3510	9850460			Z
Aliph	nC37	46.4710	6373383			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 : **W13/007913**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:17:22 PM

Type: Unknown

Family: Not bitumen (false sample)

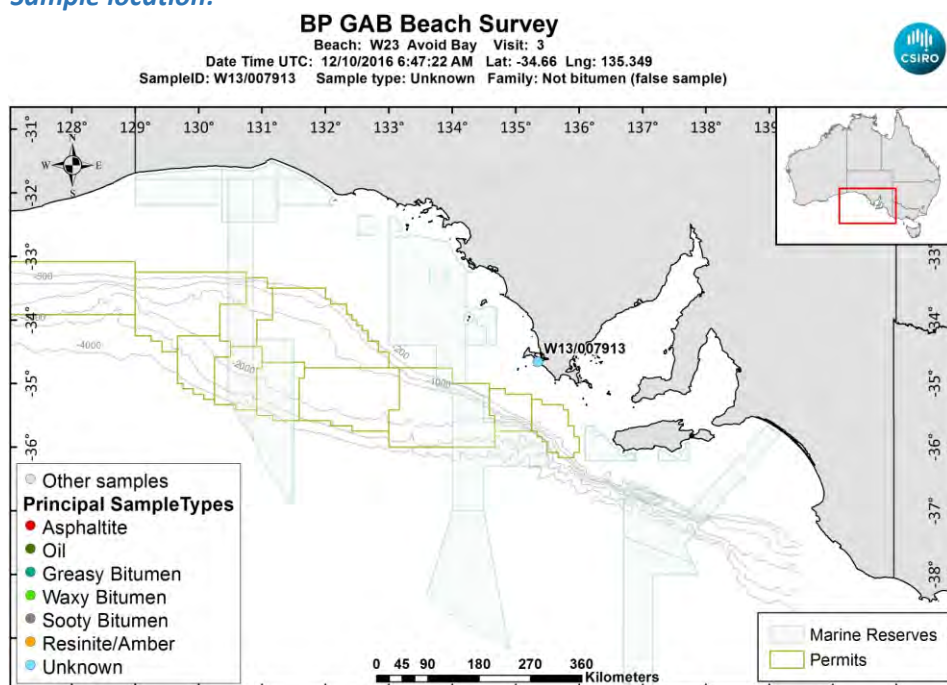
Size (cm): 2.9

Latitude (Y): -34.660000

Weight (gm): 2.58272

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007913_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007913_Photo02.JPG](#)

Sample ID : W13/007913

Beach W23: Avoid Bay Visit: 3

Analyses Requested

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

Sample Analyses Completed:

Results for: GCMS with Full Scan

Unique ID: W13/007913_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 : **W13/007914**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:21:57 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

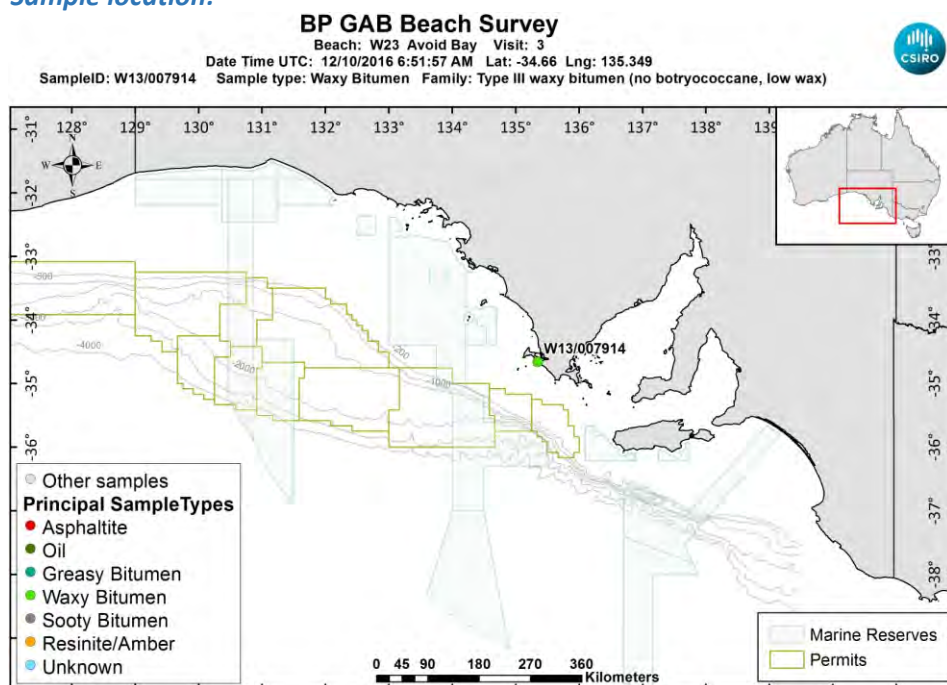
Size (cm): 2.4

Latitude (Y): -34.660000

Weight (gm): 2.40648

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007914_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007914_Photo02.JPG](#)

Sample ID : W13/007914**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID:** W13/007914_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)*

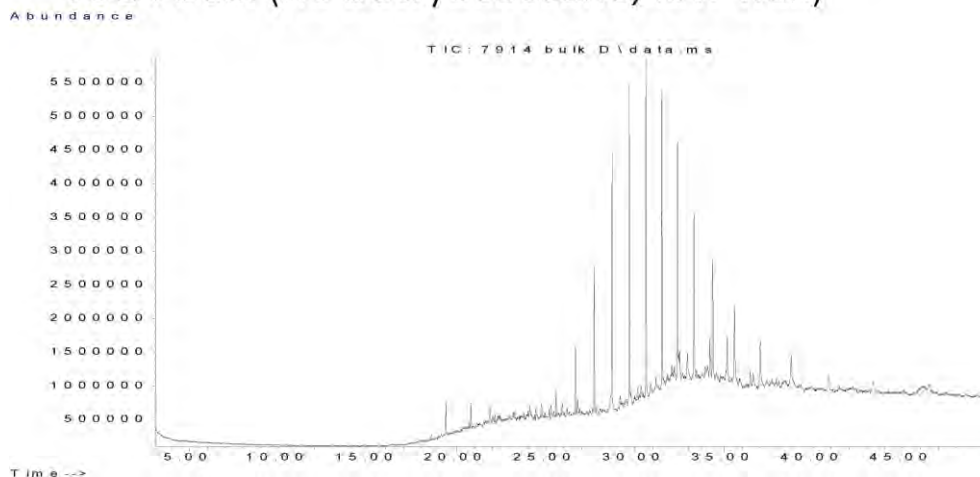
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			84.99	percent	Y
Inorg	Hydrogen			8.23971292246521	percent	Y
Inorg	Nitrogen			0.399652442159382	percent	Y
Inorg	Sulphur			1.97376232836071	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007914_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_007914_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

7914 bulk (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030	225460			Z
Aliph	nC16	17.9160	322791			Z
Aliph	nC17	19.3500	457979			Z
Aliph	nC18	20.7170	413417			Z
Aliph	nC19	22.0170	389022			Z
Aliph	nC20	23.2570	593015			Z
Aliph	nC21	24.4410	822477			Z
Aliph	nC22	25.5760	1802707			Z
Aliph	nC23	26.6620	4918601			Z
Aliph	nC24	27.7060	10191783			Z
Aliph	nC25	28.7100	17461509			Z
Aliph	nC26	29.6680	22900698			Z
Aliph	nC27	30.6080	25251248			Z
Aliph	nC28	31.5080	21475211			Z
Aliph	nC29	32.3700	19723450			Z
Aliph	nC30	33.2910	14010037			Z
Aliph	nC31	34.3470	12113391			Z
Aliph	nC32	35.5720	9029884			Z
Aliph	nC33	37.0130	6394788			Z
Aliph	nC34	38.7280	4751016			Z
Aliph	nC35	40.8080	2910733			Z
Aliph	nC36	43.3510	2124206			Z
Aliph	nC37	46.4710	2134824			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	662103			Z
Aliph	Phytane	20.7870	2300465			Z
Aliph	Pristane	19.3870	2497232			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 : **W13/007915**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:22:20 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

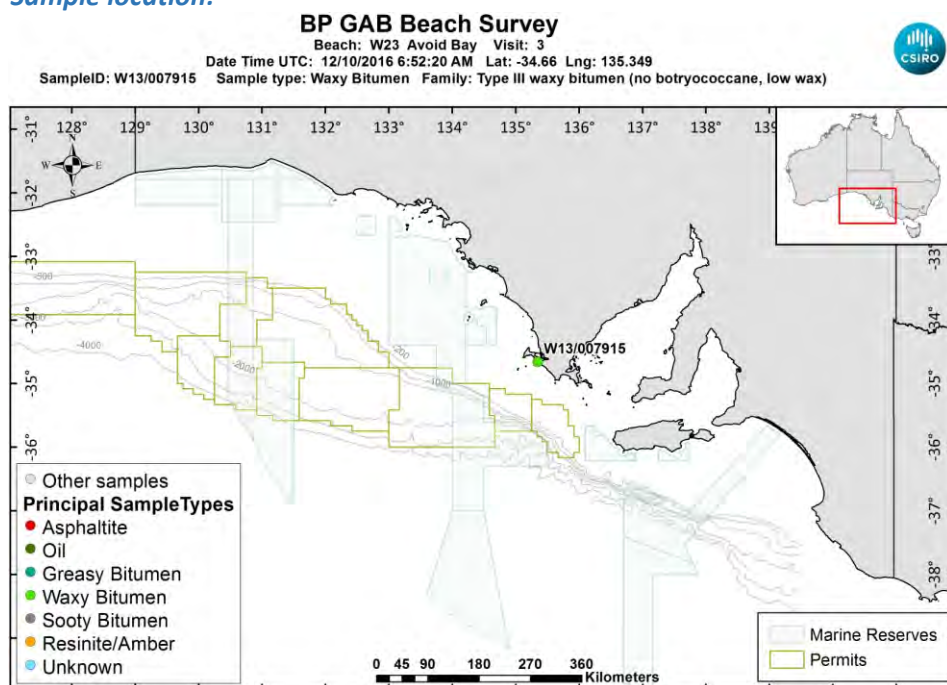
Size (cm): 3.2

Latitude (Y): -34.660000

Weight (gm): 3.84604

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007915_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007915_Photo02.JPG](#)

Sample ID : W13/007915**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID: W13/007915_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)*

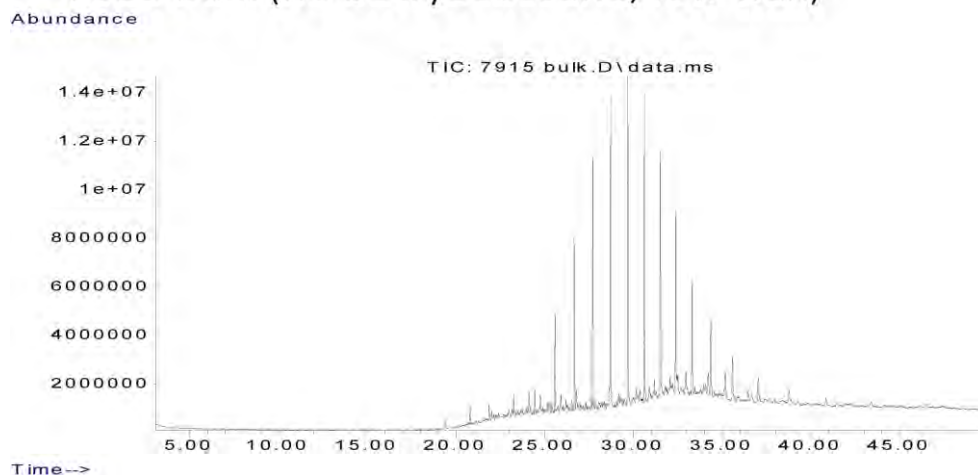
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.42	percent	Y
Inorg	Hydrogen			7.0965435387674	percent	Y
Inorg	Nitrogen			0.12	percent	Y
Inorg	Sulphur			1.48456439098832	percent	Y

Results for: GCMS with Full Scan**Unique ID: W13/007915_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_007915_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

7915 bulk (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030	170145			Z
Aliph	nC16	17.9160	374598			Z
Aliph	nC17	19.3500	489103			Z
Aliph	nC18	20.7170	494411			Z
Aliph	nC19	22.0170	1481562			Z
Aliph	nC20	23.2570	4277854			Z
Aliph	nC21	24.4410	4907779			Z
Aliph	nC22	25.5760	18253877			Z
Aliph	nC23	26.6620	33470770			Z
Aliph	nC24	27.7060	51105816			Z
Aliph	nC25	28.7100	59022030			Z
Aliph	nC26	29.6680	56931766			Z
Aliph	nC27	30.6080	58788151			Z
Aliph	nC28	31.5080	46048246			Z
Aliph	nC29	32.3700	35860053			Z
Aliph	nC30	33.2910	25679127			Z
Aliph	nC31	34.3470	21084681			Z
Aliph	nC32	35.5720	14279079			Z
Aliph	nC33	37.0130	8421981			Z
Aliph	nC34	38.7280	6315461			Z
Aliph	nC35	40.8080	4112069			Z
Aliph	nC36	43.3510	3179052			Z
Aliph	nC37	46.4710	2543467			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	276815			Z
Aliph	Phytane	20.7870	4554376			Z
Aliph	Pristane	19.3870	2032968			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 : **W13/007916**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:22:37 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

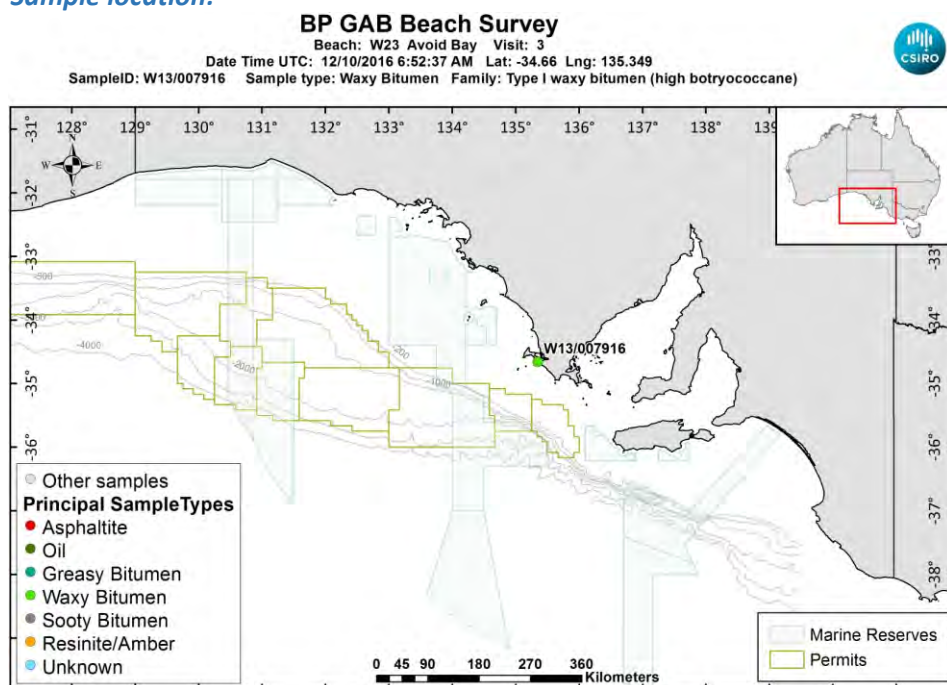
Size (cm): 2.2

Latitude (Y): -34.660000

Weight (gm): 2.16323

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007916_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007916_Photo02.JPG](#)

Sample ID : W13/007916**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID:** W13/007916_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)*

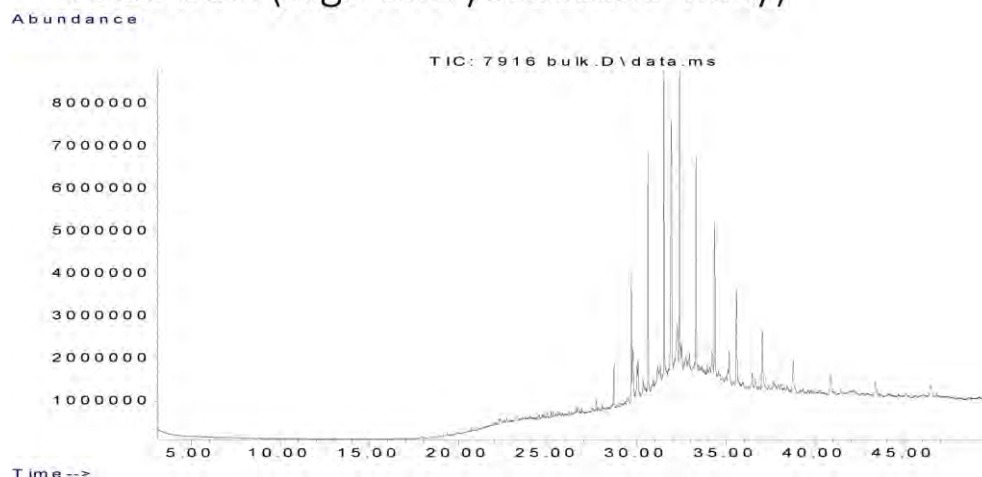
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.7	percent	Y
Inorg	Hydrogen			7.04752485089464	percent	Y
Inorg	Nitrogen			0.28	percent	Y
Inorg	Sulphur			1.68431927613643	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007916_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_007916_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

7916 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	48302207			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	1190162			Z
Aliph	nC25	28.7100	5002978			Z
Aliph	nC26	29.6680	12368771			Z
Aliph	nC27	30.6080	26993025			Z
Aliph	nC28	31.5080	33767411			Z
Aliph	nC29	32.3700	33587559			Z
Aliph	nC30	33.2910	27722602			Z
Aliph	nC31	34.3470	23475041			Z
Aliph	nC32	35.5720	17510453			Z
Aliph	nC33	37.0130	12327127			Z
Aliph	nC34	38.7280	8325509			Z
Aliph	nC35	40.8080	6248659			Z
Aliph	nC36	43.3510	5571459			Z
Aliph	nC37	46.4710	4396847			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 : **W13/007917**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:22:54 PM

Type: Waxy Bitumen

Family: Unknown

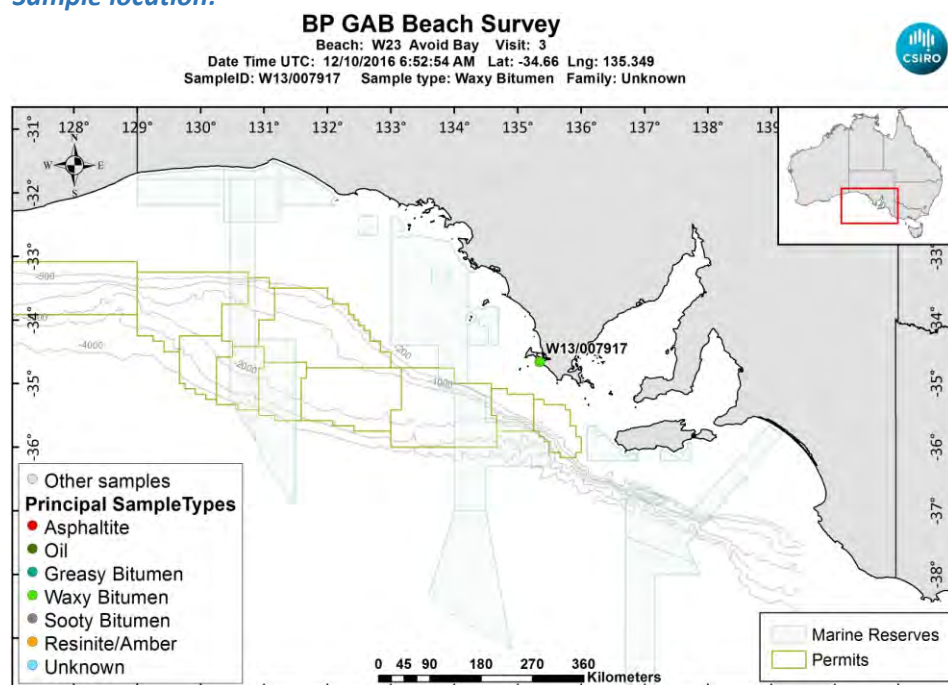
Size (cm): 2.2

Latitude (Y): -34.660000

Weight (gm): 2.22084

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007917_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007917_Photo02.JPG](#)

Sample ID : W13/007917**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID:** W13/007917_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)*

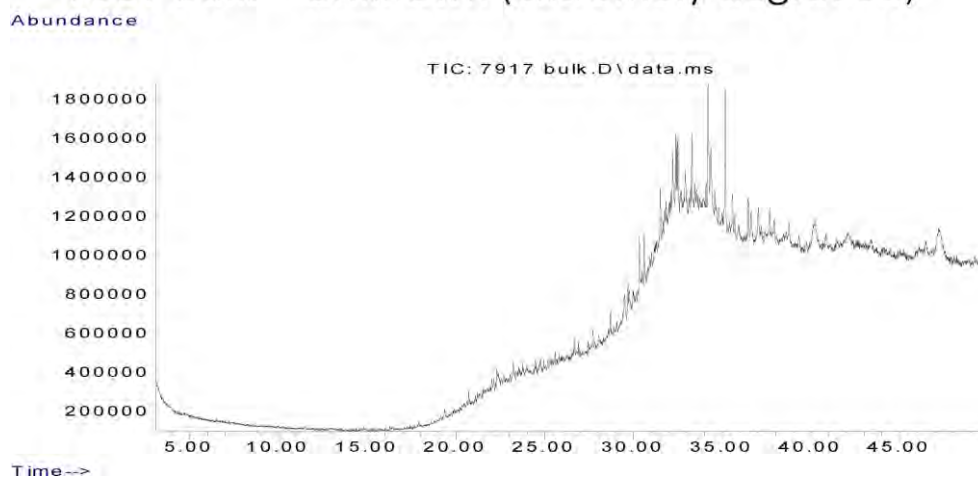
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			82.398445315105	percent	Y
Inorg	Hydrogen			7.07166600397607	percent	Y
Inorg	Nitrogen			0.2	percent	Y
Inorg	Sulphur			1.26485054639632	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007917_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_007917_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

7917 bulk – Unknown (extremely degraded)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030	87202			Z
Aliph	nC16	17.9160	219313			Z
Aliph	nC17	19.3500	343238			Z
Aliph	nC18	20.7170	255226			Z
Aliph	nC19	22.0170	304715			Z
Aliph	nC20	23.2570	386740			Z
Aliph	nC21	24.4410	330195			Z
Aliph	nC22	25.5760	328262			Z
Aliph	nC23	26.6620	453119			Z
Aliph	nC24	27.7060	451100			Z
Aliph	nC25	28.7100	472713			Z
Aliph	nC26	29.6680	488953			Z
Aliph	nC27	30.6080	970847			Z
Aliph	nC28	31.5080	1403787			Z
Aliph	nC29	32.3700	1954438			Z
Aliph	nC30	33.2910	1703839			Z
Aliph	nC31	34.3470	2675329			Z
Aliph	nC32	35.5720	1413113			Z
Aliph	nC33	37.0130	1604264			Z
Aliph	nC34	38.7280	1029865			Z
Aliph	nC35	40.8080	942251			Z
Aliph	nC36	43.3510	886640			Z
Aliph	nC37	46.4710	989169			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	73744			Z
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 : **W13/007918**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:23:11 PM

Type: Waxy Bitumen

Family: Unclassified high wax bitumen

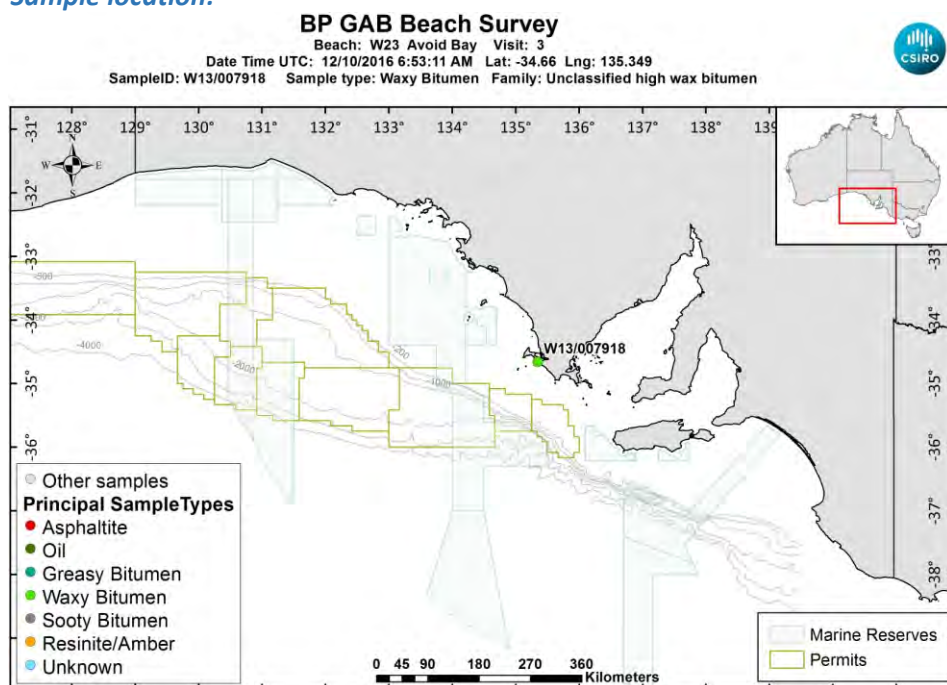
Size (cm): 1.9

Latitude (Y): -34.660000

Weight (gm): 1.15803

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007918_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007918_Photo02.JPG](#)

Sample ID : W13/007918**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID:** W13/007918_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)*

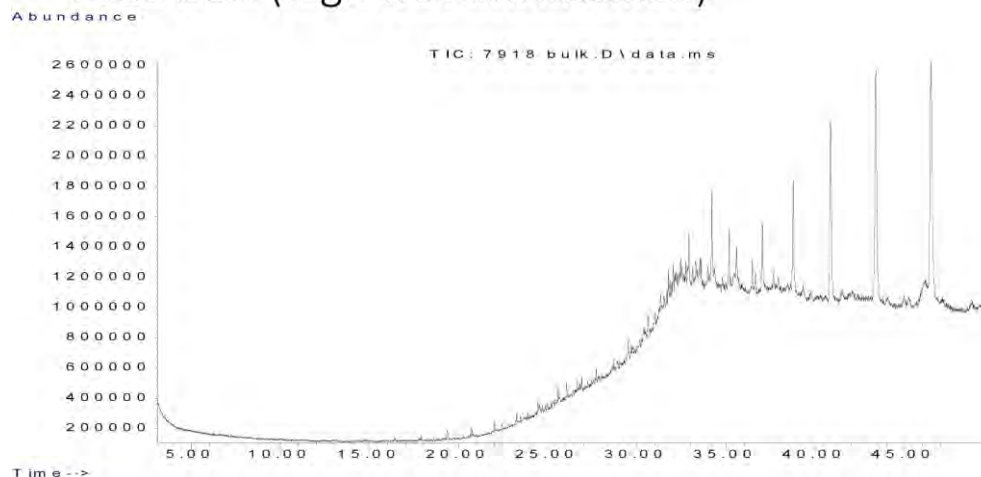
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			84.3908020673558	percent	Y
Inorg	Hydrogen			10.4005805168985	percent	Y
Inorg	Nitrogen			0.18	percent	Y
Inorg	Sulphur			4.07014250150886	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007918_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_007918_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

7918 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	748800			Z
Aliph	nC32	35.5720	2091237			Z
Aliph	nC33	37.0130	3939060			Z
Aliph	nC34	38.7280	9107863			Z
Aliph	nC35	40.8080	16169929			Z
Aliph	nC36	43.3510	22611118			Z
Aliph	nC37	46.4710	27824026			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 : **W13/007919**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:23:11 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

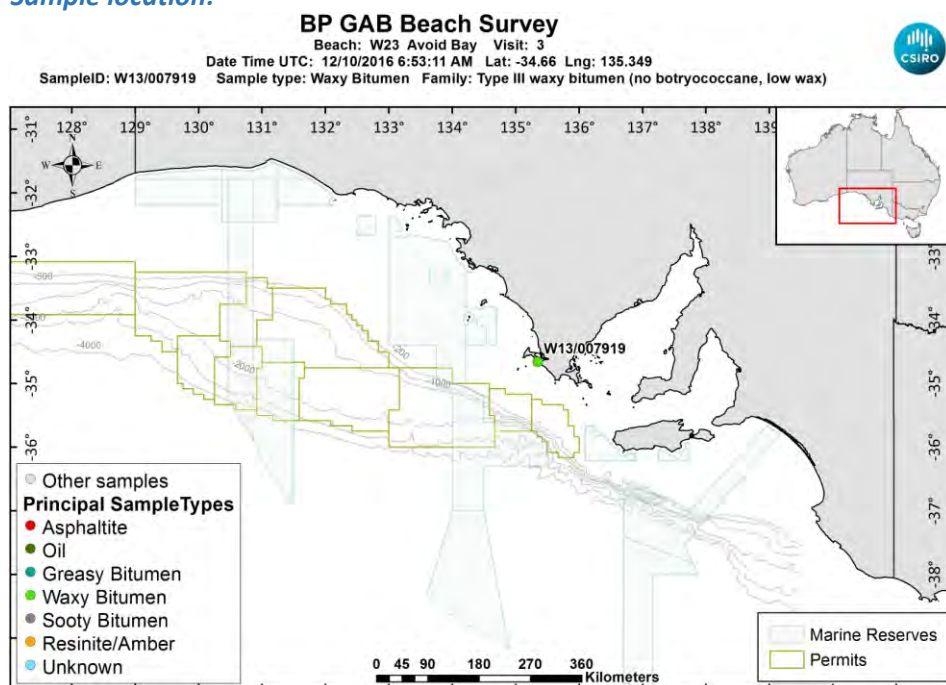
Size (cm): 2.2

Latitude (Y): -34.660000

Weight (gm): 1.56032

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007919_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007919_Photo02.JPG](#)

Sample ID : W13/007919**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

Split: Analysis: Sent:
1 Bitumen Determination YES

Analyses Completed:

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

Sample Analyses Completed:**Results for: Elemental Analyser****Unique ID:** W13/007919_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)*

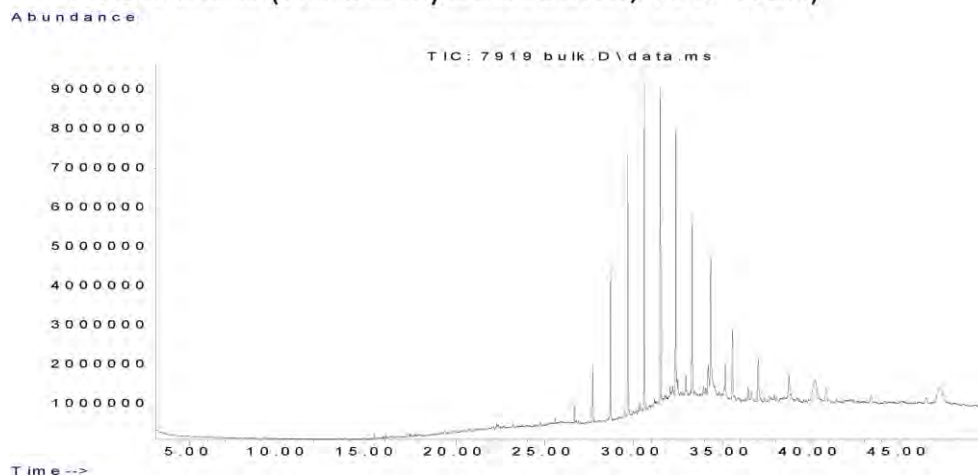
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.403282660887	percent	Y
Inorg	Hydrogen			8.8746763419483	percent	Y
Inorg	Nitrogen			0.1	percent	Y
Inorg	Sulphur			1.79274255589583	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007919_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_007919_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

7919 bulk (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160	121069			Z
Aliph	nC17	19.3500	112747			Z
Aliph	nC18	20.7170	312241			Z
Aliph	nC19	22.0170	287153			Z
Aliph	nC20	23.2570	306318			Z
Aliph	nC21	24.4410	322386			Z
Aliph	nC22	25.5760	686698			Z
Aliph	nC23	26.6620	2004290			Z
Aliph	nC24	27.7060	7416893			Z
Aliph	nC25	28.7100	18596692			Z
Aliph	nC26	29.6680	30639512			Z
Aliph	nC27	30.6080	40353610			Z
Aliph	nC28	31.5080	37150433			Z
Aliph	nC29	32.3700	35029035			Z
Aliph	nC30	33.2910	25154964			Z
Aliph	nC31	34.3470	24891295			Z
Aliph	nC32	35.5720	14135684			Z
Aliph	nC33	37.0130	9952075			Z
Aliph	nC34	38.7280	6451332			Z
Aliph	nC35	40.8080	4268054			Z
Aliph	nC36	43.3510	3266535			Z
Aliph	nC37	46.4710	1779953			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	135566			Z
Aliph	Phytane	20.7870	332855			Z
Aliph	Pristane	19.3870	526252			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 : **W13/007920**

Beach W23: Avoid Bav Visit: 3

Comments:

Gifted from S. Valladares

Location: Upper Intertidal

Local Date Time: 12/10/2016 5:25:39 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

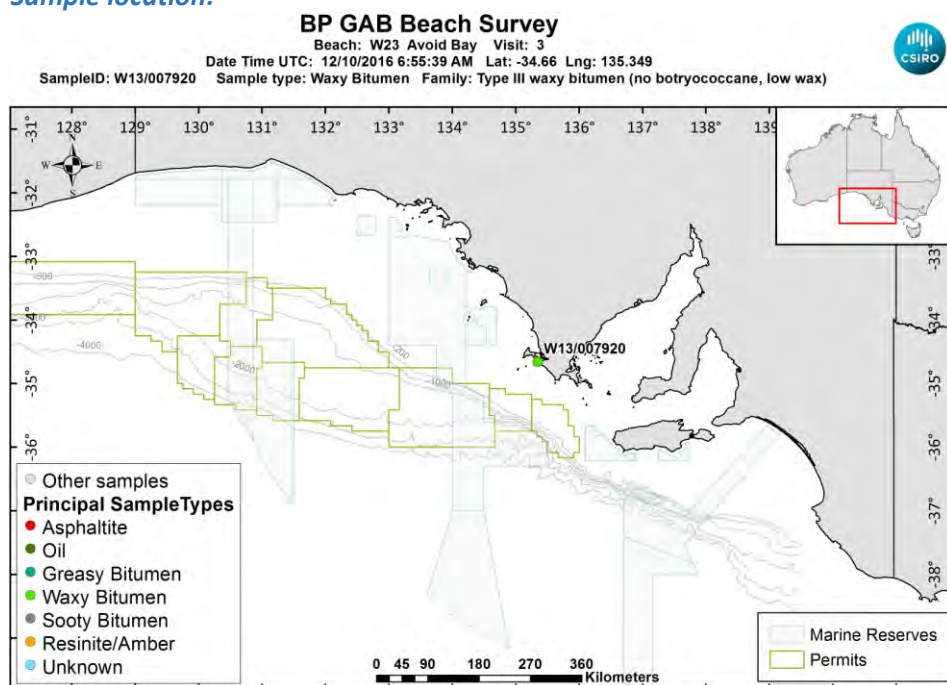
Size (cm): 1.7

Latitude (Y): -34.660000

Weight (gm): 0.95987

Longitude (X): 135.349000

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007920_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007920_Photo02.JPG](#)

Sample ID : W13/007920**Beach W23: Avoid Bay Visit: 3****Analyses Requested**

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

Analyses Completed:

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

Sample Analyses Completed:**Results for: Gas Chromatography Mass Spectrometry****Unique ID: W13/007920_DISS_GC-MS/01****Instrument / Type:** Gas Chromatography Mass Spectrometry Run: 1**for Analysis:** Biomarkers**Preparation:** Dissolved in solvent**Analysis Date:** 18/07/2017**Method ID/s:****Linked Image:** [None available](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			43.2247392866532	ratio	Y
BiomRatio	% C27 abb 20(R+S)			39.0716350991606	ratio	Y
BiomRatio	% C28 aaa 20R			13.1474016300061	ratio	Y
BiomRatio	% C28 abb 20(R+S)			22.601867301838	ratio	Y
BiomRatio	% C29 aaa 20R			43.6278590833406	ratio	Y
BiomRatio	% C29 abb 20(R+S)			38.3264975990014	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.109018422535834	ratio	Y
BiomRatio	25-Nor/C30H			0.181358818412432	ratio	Y
BiomRatio	C19t/C23t			4.28365263828271E-02	ratio	Y
BiomRatio	C22t/C21t			0.150341945741996	ratio	Y
BiomRatio	C22t/C24t			0.114107623515595	ratio	Y
BiomRatio	C23t/C30H			0.389952058268274	ratio	Y
BiomRatio	C24t/C23t			0.903426758514312	ratio	Y
BiomRatio	C24Tet/C23t			0.125017966380957	ratio	Y
BiomRatio	C24Tet/C26t			0.11835192734232	ratio	Y
BiomRatio	C24Tet/C30H			4.87510133107682E-02	ratio	Y
BiomRatio	C26t/C25t			1.56365570566155	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.445059300705759	ratio	Y
BiomRatio	C27 Dia/Ster			0.450769067671095	ratio	Y
BiomRatio	C28BNH/C30H			0.15799901482726	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.980928939926161	ratio	Y
BiomRatio	C29H/C30H			0.759821083152316	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.231593718030249	ratio	Y
BiomRatio	C30DiaH/C30H			0.102382322665489	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			6.28434708352525E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.464821549863723	ratio	Y
BiomRatio	Gam/C30H			7.33971918475817E-02	ratio	Y
BiomRatio	Gam/C31HR			0.503556121061303	ratio	Y
BiomRatio	Ole/C30H			0.116469108090583	ratio	Y
BiomRatio	Sterane/hopane			0.054854804281865	ratio	Y
BiomRatio	Steranes/Terpanes			3.25389356762634E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.685820483731453	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007920_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:**

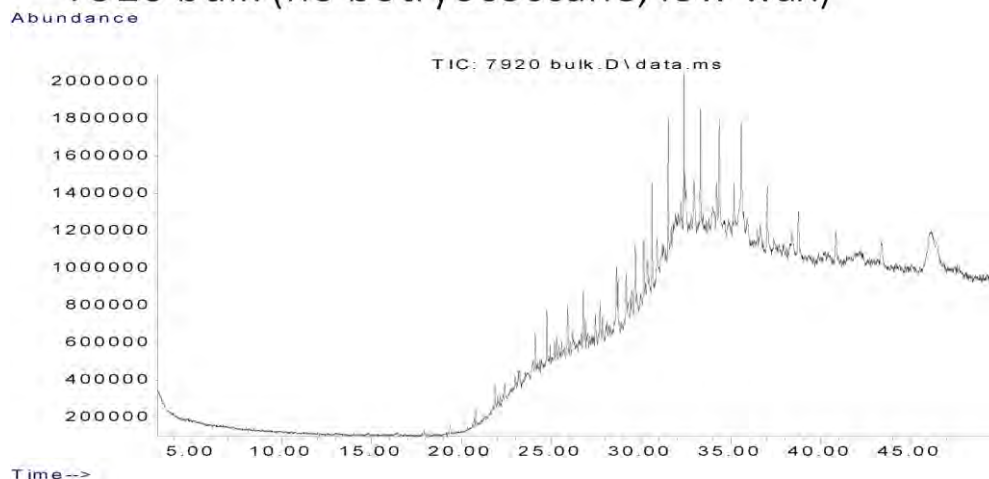
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			84.6248594198066	percent	Y
Inorg	Hydrogen			9.99090337972158	percent	Y
Inorg	Nitrogen			0.09	percent	Y
Inorg	Sulphur			2.07410715448462	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007920_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_007920_bulk_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

7920 bulk (no botryococcane, low wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160	181828			Z
Aliph	nC17	19.3500	217348			Z
Aliph	nC18	20.7170	270132			Z
Aliph	nC19	22.0170	208949			Z
Aliph	nC20	23.2570	239922			Z
Aliph	nC21	24.4410	330380			Z
Aliph	nC22	25.5760	433820			Z
Aliph	nC23	26.6620	507605			Z
Aliph	nC24	27.7060	774812			Z
Aliph	nC25	28.7100	1190025			Z
Aliph	nC26	29.6680	1881301			Z
Aliph	nC27	30.6080	3051332			Z
Aliph	nC28	31.5080	3708929			Z
Aliph	nC29	32.3700	4246493			Z
Aliph	nC30	33.2910	3636217			Z
Aliph	nC31	34.3470	3595047			Z
Aliph	nC32	35.5720	4547639			Z
Aliph	nC33	37.0130	2907335			Z
Aliph	nC34	38.7280	2393355			Z
Aliph	nC35	40.8080	2094039			Z
Aliph	nC36	43.3510	1818388			Z
Aliph	nC37	46.4710	1529491			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	82713			Z
Aliph	Phytane	20.7870	586017			Z
Aliph	Pristane	19.3870	183851			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 : **W13/007500**

Beach K6: Bales Beach Visit: 1

Comments:

Location: Upper Intertidal

Local Date Time: 21/11/2014 10:34:03 AM

Type: Asphaltite

Family: Unknown

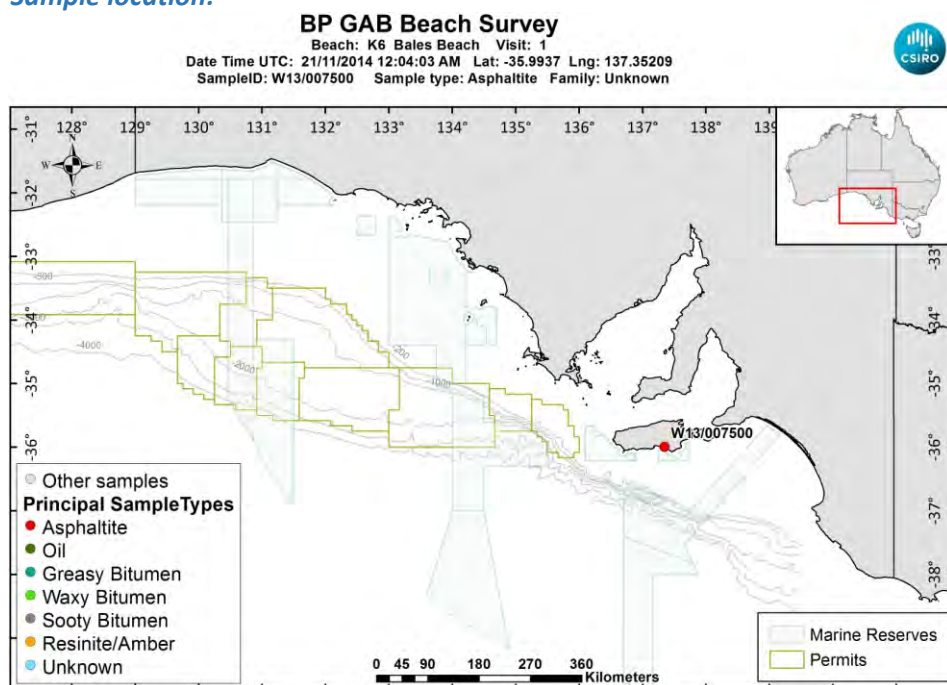
Size (cm): 3

Latitude (Y): -35.993704

Weight (gm): 10.18563

Longitude (X): 137.352087

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007500_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007500_146A0486.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007500_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: W13/007500_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: Maybe. Need to rerun in splitless. The chromatogram is no good and it's small so visual identification is not that good.
Maybe. Need to rerun in splitless. The chromatogram is no good and it's small so visual identification is not that good.

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			87.99	percent	Y
Inorg	delta13 Carbon			-28.7077142884775	per mille	Y
Inorg	delta34 Sulphur			5.66352294176574	per mille	Y
Inorg	Hydrogen			10.5	percent	Y
Inorg	Nitrogen			0.79	percent	Y
Inorg	Sulphur			1.67	percent	Y

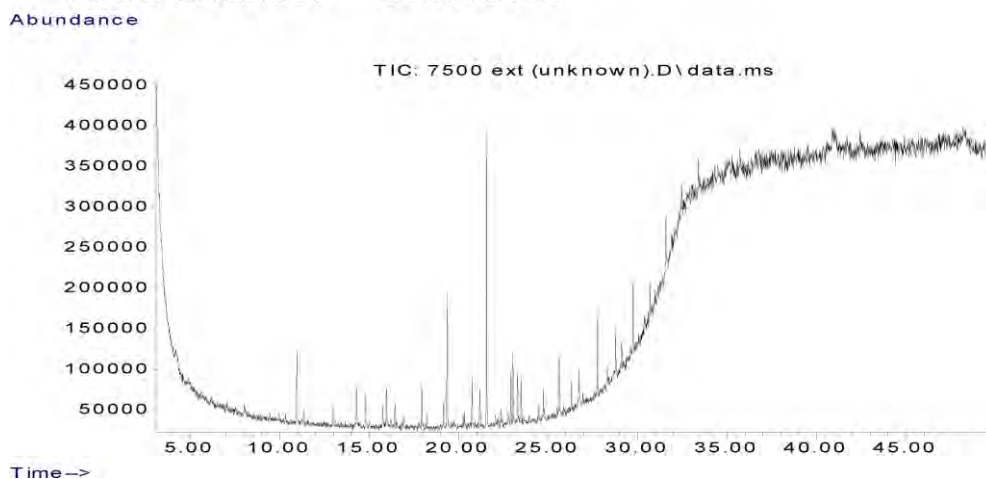
Results for: GCMS with Full Scan

Unique ID: W13/007500_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_007500_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7500 Exterior – Unknown



Data Sheet:

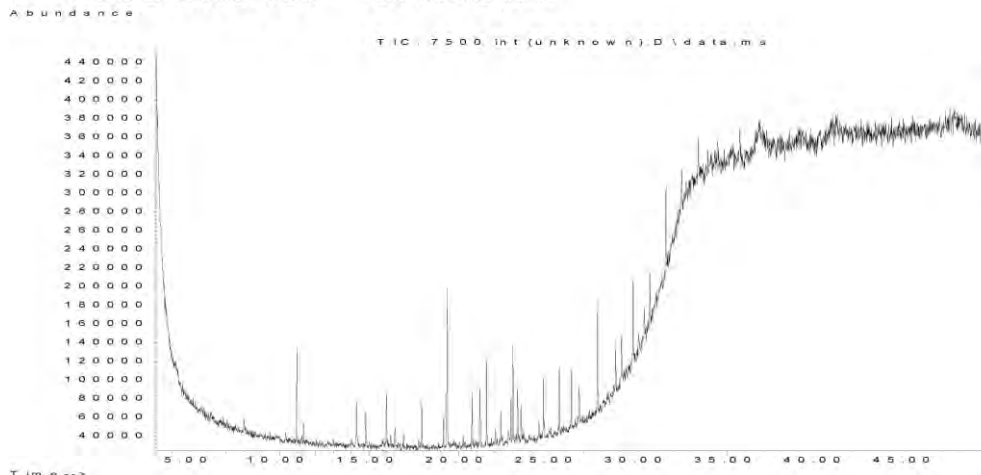
(default units ppb)

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			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	89546		ug/L	Z
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	160760		ug/L	Z
Aliph	nC27	37.7930	133815		ug/L	Z
Aliph	nC28	38.9870	128933		ug/L	Z
Aliph	nC29	40.1370	210864		ug/L	Z
Aliph	nC30	41.2480	225359		ug/L	Z
Aliph	nC31	42.3270	192517		ug/L	Z
Aliph	nC32	43.4130			ug/L	U
Aliph	nC33	44.6430			ug/L	U
Aliph	nC34	46.0860	44068		ug/L	Z
Aliph	nC35	47.8060			ug/L	U
Aliph	nC36	49.8090			ug/L	U
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
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:** W13/007500 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_007500_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7500 Interior – Unknown



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
Ratio	nC17/nC29			0.231413769189976	ug/L	Y
Ratio	nC17/Pristane			1.57478624569715	ug/L	Y
Aliph	Botryococcane	39.4780			ug/L	U
Aliph	nC10	7.5100	27756		ug/L	Z
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	101925		ug/L	Z
Aliph	nC17	22.9150	85092		ug/L	Z
Aliph	nC18	24.7150	111207		ug/L	Z
Aliph	nC19	26.4300	51981		ug/L	Z
Aliph	nC20	28.0680	121711		ug/L	Z
Aliph	nC21	29.6330	137532		ug/L	Z
Aliph	nC22	31.1340	262812		ug/L	Z
Aliph	nC23	32.5720	205886		ug/L	Z
Aliph	nC24	33.9520	316009		ug/L	Z
Aliph	nC25	35.2810	354200		ug/L	Z
Aliph	nC26	36.5600	383598		ug/L	Z
Aliph	nC27	37.7930	394331		ug/L	Z
Aliph	nC28	38.9870	430994		ug/L	Z
Aliph	nC29	40.1370	367705		ug/L	Z
Aliph	nC30	41.2480	509770		ug/L	Z
Aliph	nC31	42.3270	510466		ug/L	Z
Aliph	nC32	43.4130	510652		ug/L	Z
Aliph	nC33	44.6430	314156		ug/L	Z
Aliph	nC34	46.0860	392521		ug/L	Z
Aliph	nC35	47.8060			ug/L	U
Aliph	nC36	49.8090			ug/L	U
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370	34287		ug/L	Z
Aliph	nC39	58.8850	26894		ug/L	Z
Aliph	Norpristane	21.9070			ug/L	U

Results for: GCMS with Full Scan

Aliph	Phytane	24.8210		ug/L	U
Aliph	Pristane	22.9640	54034	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 : **W13/007501**

Beach K6: Bales Beach Visit: 1

Comments:

Location: Mid Intertidal

Local Date Time: 21/11/2014 10:57:07 AM

Type: Unknown

Family: Not bitumen (false sample)

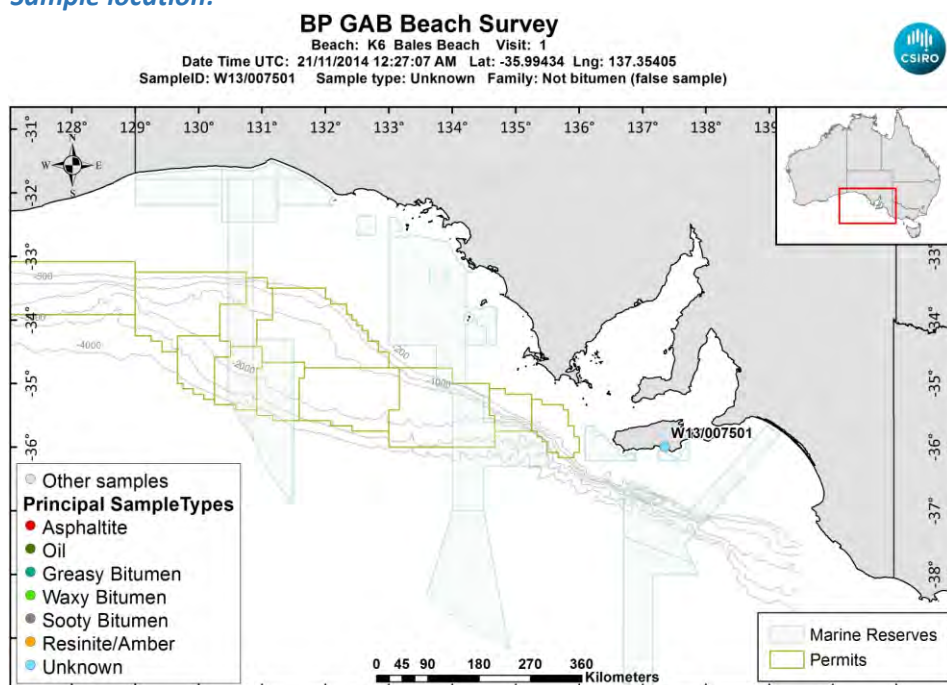
Size (cm): 3

Latitude (Y): -35.994339

Weight (gm): 5.04258

Longitude (X): 137.354048

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007501_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007501_146A0488.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007501_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 : **W13/007584**

Beach K6: Bales Beach Visit: 2

Comments:

was touched to stop blowing away

Location: Mid Intertidal

Local Date Time: 6/09/2015 10:47:06 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

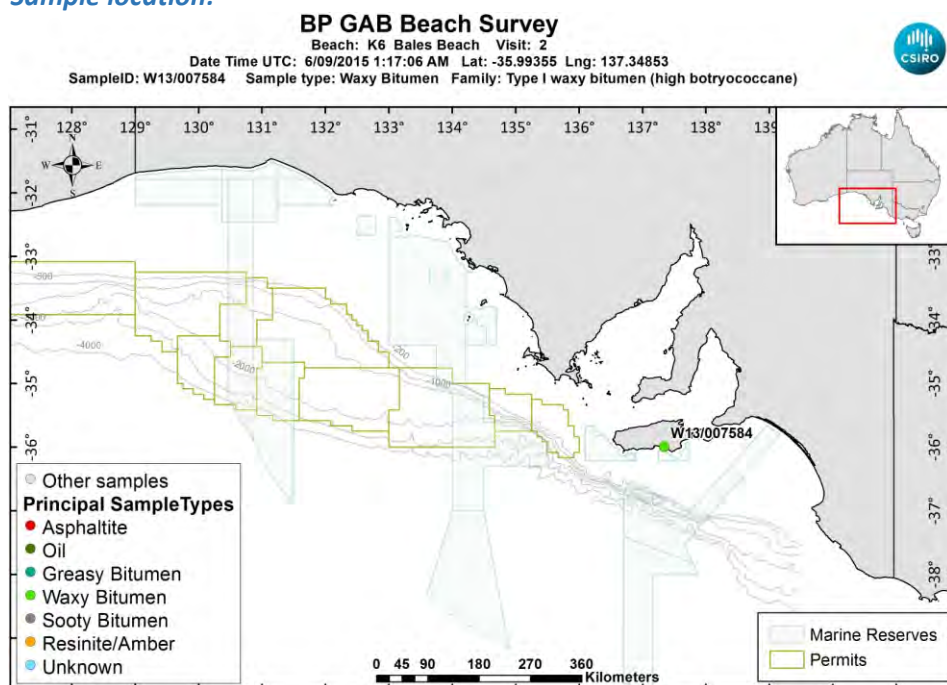
Size (cm): 2

Latitude (Y): -35.993550

Weight (gm): 0.5

Longitude (X): 137.348530

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007584_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007584_146A1453.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007584_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: W13/007584_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			83.19	percent	Y
Inorg	Hydrogen			13.6750505367793	percent	Y
Inorg	Nitrogen			0.228639588688946	percent	Y
Inorg	Sulphur			3.09138362188608	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007584 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_007584_bulk_WholeOil.jpg](#)

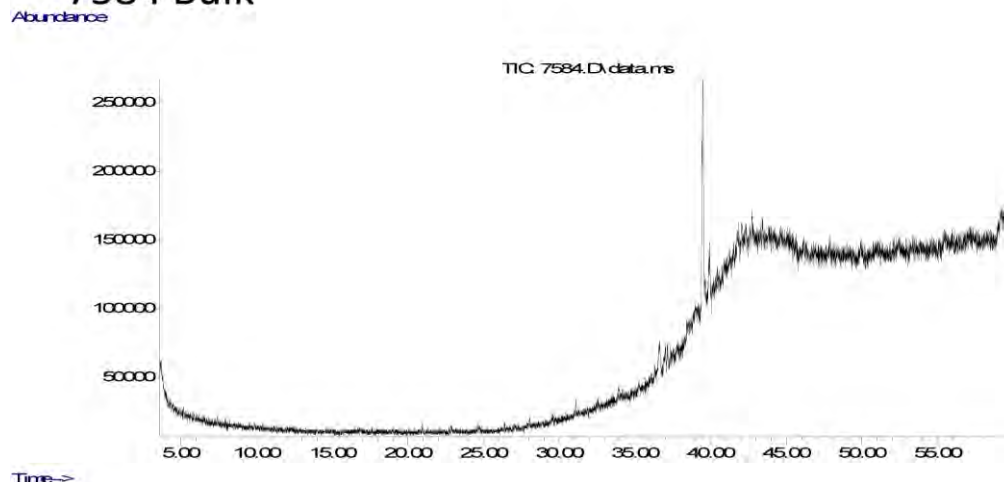
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7584 Bulk



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	1614339		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300			ug/L	U
Aliph	nC28	38.9260			ug/L	U
Aliph	nC29	40.0740			ug/L	U
Aliph	nC30	41.1930			ug/L	U
Aliph	nC31	42.2750			ug/L	U
Aliph	nC32	43.3560			ug/L	U
Aliph	nC33	44.5840			ug/L	U
Aliph	nC34	46.0130			ug/L	U
Aliph	nC35	47.7140			ug/L	U
Aliph	nC36	49.7870			ug/L	U
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**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 : **W13/007585**

Beach K6: Bales Beach Visit: 2

Comments:

Location: Upper Intertidal

Local Date Time: 6/09/2015 11:04:39 AM

Type: Resinite/Amber

Family: Resin/Amber

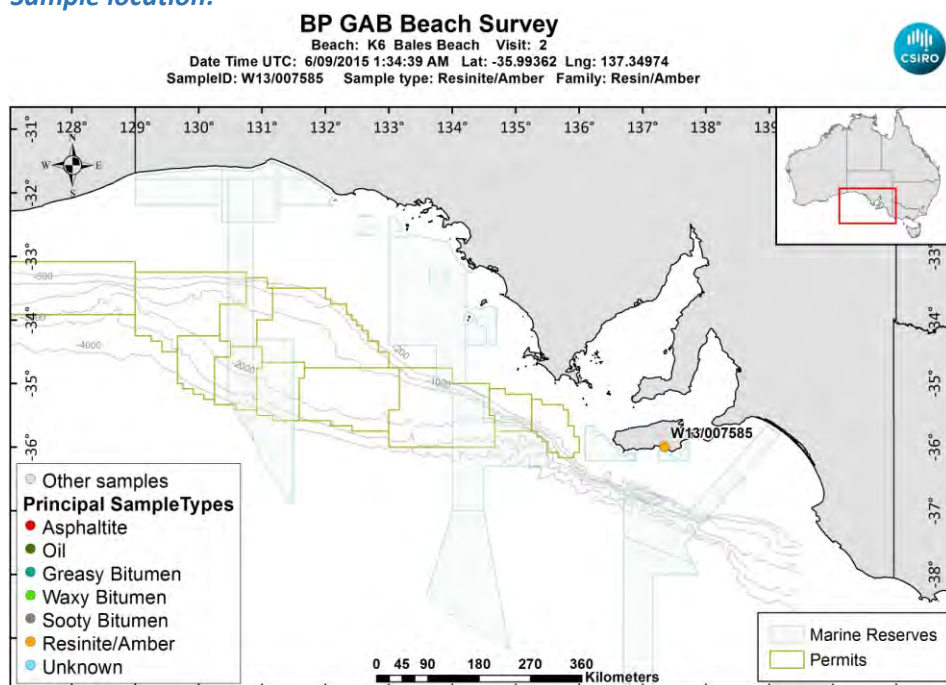
Size (cm): 4

Latitude (Y): -35.993615

Weight (gm): 12.5

Longitude (X): 137.349735

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007585_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007585_146A1454.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007585_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

Analyses Completed:

Sample Analyses Completed:

No results to date

Qualifier codes:

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

Sample ID : **W13/007586**

Beach K6: Bales Beach Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 6/09/2015 11:22:20 AM

Type: Resinite/Amber

Family: Resin/Amber

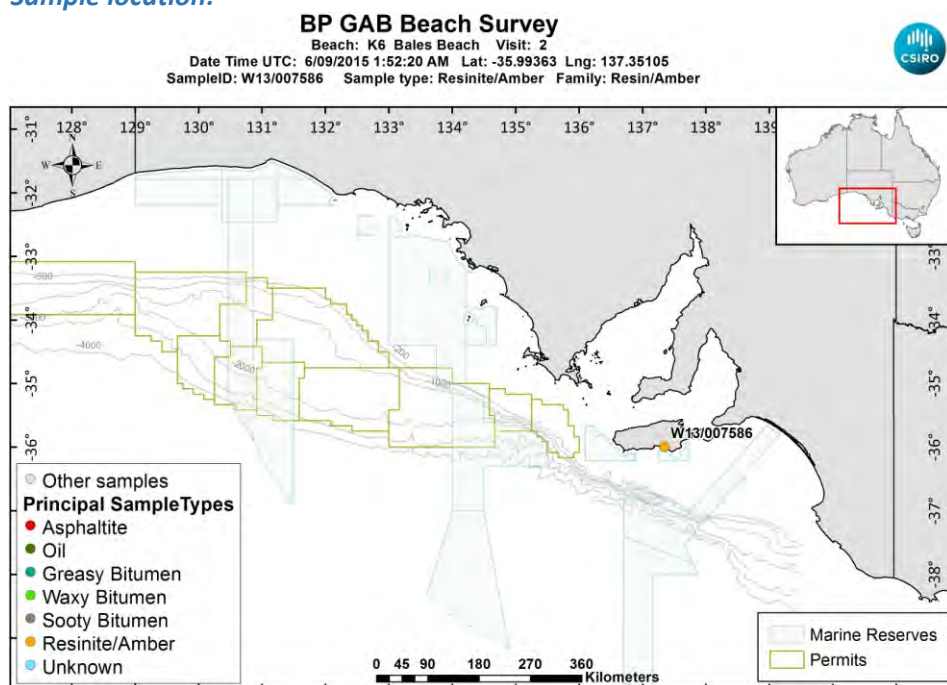
Size (cm): 3

Latitude (Y): -35.993635

Weight (gm): 3

Longitude (X): 137.351047

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007586_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007586_146A1457.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007586_Photo02.JPG](#)

Analyses Requested

Split:	Analysis:	Sent:
1	Bitumen Determination	YES

Analyses Completed:

Sample Analyses Completed:

No results to date

Qualifier codes:

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

Sample ID : **W13/007961**

Beach K6: Bales Beach Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 18/10/2016 9:31:56 AM

Type: Waxy Bitumen

Family: Unknown

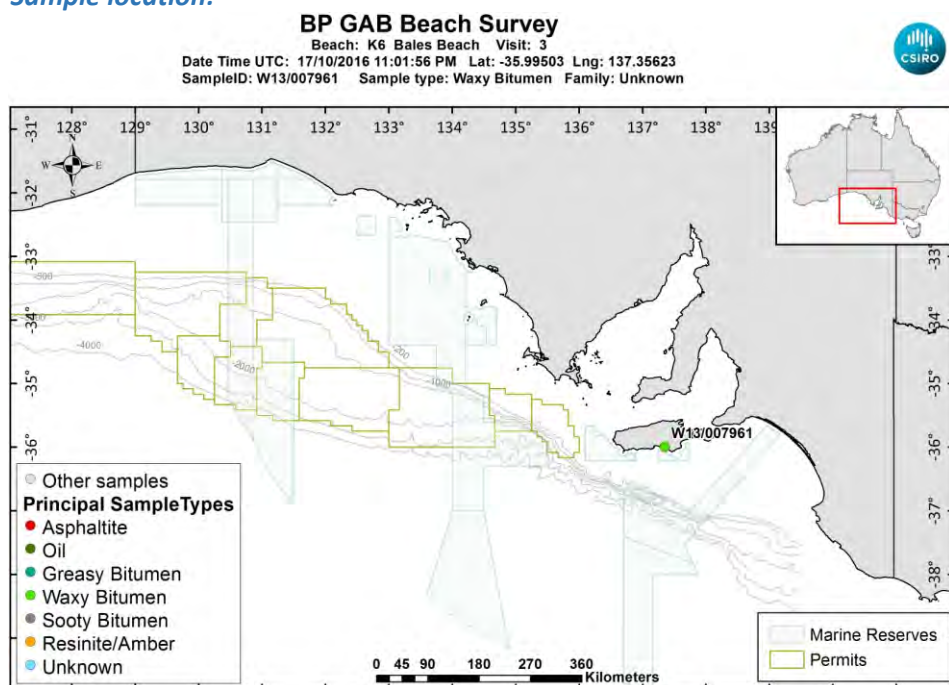
Size (cm): 2

Latitude (Y): -35.995030

Weight (gm): 0.53176

Longitude (X): 137.356232

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007961_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007961_146A6822.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007961_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: W13/007961_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			82.54	percent	Y
Inorg	Hydrogen			6.0914097415507	percent	Y
Inorg	Nitrogen			0.42	percent	Y
Inorg	Sulphur			0.943224910578889	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007961 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_007961_bulk_WholeOil.jpg](#)

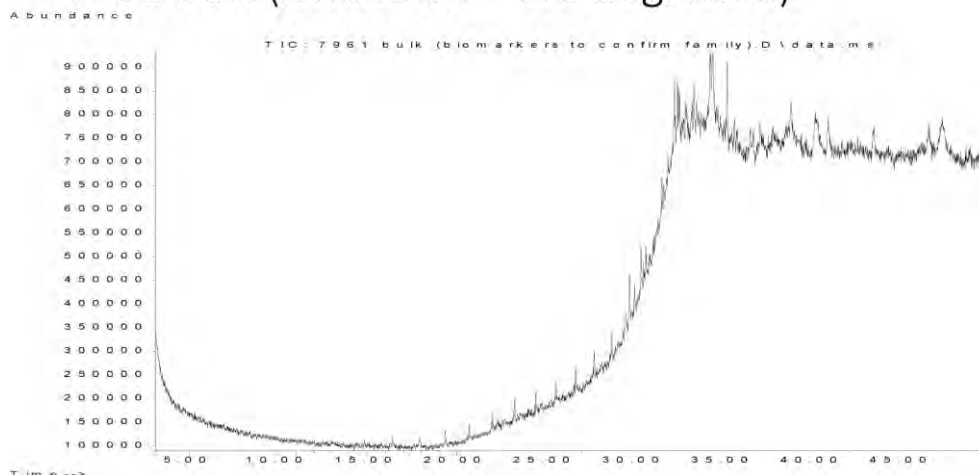
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7961 bulk (Unknown – too degraded)



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	143571			Z
Aliph	nC16	17.9160	269003			Z
Aliph	nC17	19.3500	252189			Z
Aliph	nC18	20.7170	203259			Z
Aliph	nC19	22.0170	230865			Z
Aliph	nC20	23.2570	226070			Z
Aliph	nC21	24.4410	260186			Z
Aliph	nC22	25.5760	275317			Z
Aliph	nC23	26.6620	365629			Z
Aliph	nC24	27.7060	312623			Z
Aliph	nC25	28.7100	326387			Z
Aliph	nC26	29.6680	296429			Z
Aliph	nC27	30.6080	235337			Z
Aliph	nC28	31.5080	339817			Z
Aliph	nC29	32.3700	336264			Z
Aliph	nC30	33.2910	322542			Z
Aliph	nC31	34.3470	1064783			Z
Aliph	nC32	35.5720	468588			Z
Aliph	nC33	37.0130	395549			Z
Aliph	nC34	38.7280	741027			Z
Aliph	nC35	40.8080	1086699			Z
Aliph	nC36	43.3510	1046617			Z
Aliph	nC37	46.4710	1126874			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 : **W13/007962**

Beach K6: Bales Beach Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 18/10/2016 9:35:52 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

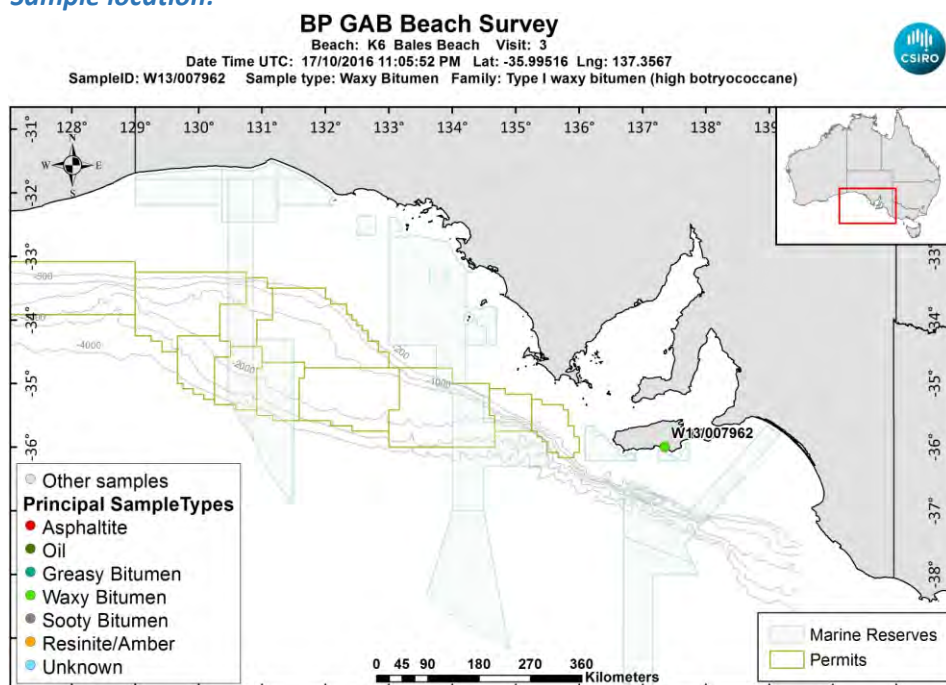
Size (cm): 3.9

Latitude (Y): -35.995162

Weight (gm): 7.12089

Longitude (X): 137.356697

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007962_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007962_146A6824.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007962_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: W13/007962_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			63.8708658704639	ratio	Y
BiomRatio	% C27 abb 20(R+S)			19.5920672317894	ratio	Y
BiomRatio	% C28 aaa 20R			7.16725999081305	ratio	Y
BiomRatio	% C28 abb 20(R+S)			27.3384178183673	ratio	Y
BiomRatio	% C29 aaa 20R			28.961874138723	ratio	Y
BiomRatio	% C29 abb 20(R+S)			53.0695149498433	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			6.77334377268316E-02	ratio	Y
BiomRatio	25-Nor/C30H			7.87915803673012E-02	ratio	Y
BiomRatio	C19t/C23t			0.394086589229145	ratio	Y
BiomRatio	C22t/C21t			0.614304763315801	ratio	Y
BiomRatio	C22t/C24t			0.205738599712202	ratio	Y
BiomRatio	C23t/C30H			4.91828480140932E-02	ratio	Y
BiomRatio	C24t/C23t			1.1349806406195	ratio	Y
BiomRatio	C24Tet/C23t			0.639352340725097	ratio	Y
BiomRatio	C24Tet/C26t			0.497889370100323	ratio	Y
BiomRatio	C24Tet/C30H			3.14451690013372E-02	ratio	Y
BiomRatio	C26t/C25t			1.55311286697091	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.265498392759269	ratio	Y
BiomRatio	C27 Dia/Ster			0.233096201115865	ratio	Y
BiomRatio	C28BNH/C30H			3.96094179008255E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			2.7087246242058	ratio	Y
BiomRatio	C29H/C30H			0.5424018126156	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.368389434707161	ratio	Y
BiomRatio	C30DiaH/C30H			0.313125605480503	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			3.59953723460785E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.487591835835527	ratio	Y
BiomRatio	Gam/C30H			3.05110238134313E-02	ratio	Y
BiomRatio	Gam/C31HR			0.173340204887721	ratio	Y
BiomRatio	Ole/C30H			0.176153191501148	ratio	Y
BiomRatio	Sterane/hopane			0.053571354915759	ratio	Y
BiomRatio	Steranes/Terpanes			4.86540022323915E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.101067794174059	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007962_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:**

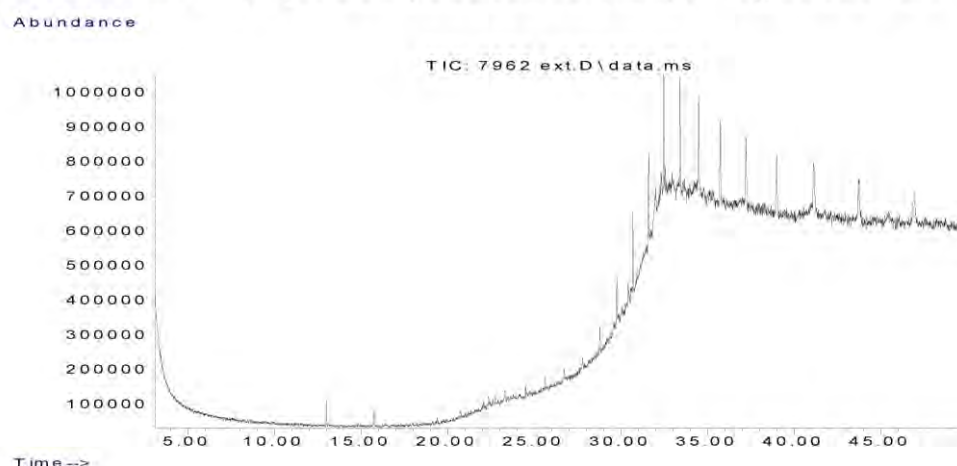
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			85.98	percent	Y
Inorg	Hydrogen			11.6542580516899	percent	Y
Inorg	Nitrogen			0.26	percent	Y
Inorg	Sulphur			2.48633291117209	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007962_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_007962_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7962 exterior (high botryococcane waxy) – splitless run



Data Sheet:

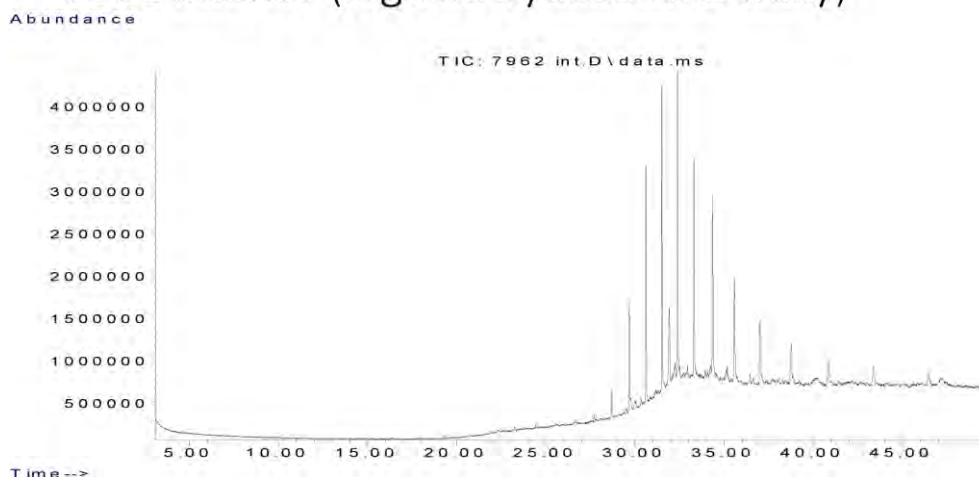
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	1750479			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	371716			Z
Aliph	nC25	28.7100	632105			Z
Aliph	nC26	29.6680	1045806			Z
Aliph	nC27	30.6080	1754322			Z
Aliph	nC28	31.5080	2480504			Z
Aliph	nC29	32.3700	3312514			Z
Aliph	nC30	33.2910	3196142			Z
Aliph	nC31	34.3470	4156032			Z
Aliph	nC32	35.5720	3825817			Z
Aliph	nC33	37.0130	3775903			Z
Aliph	nC34	38.7280	3896830			Z
Aliph	nC35	40.8080	3585667			Z
Aliph	nC36	43.3510	4159430			Z
Aliph	nC37	46.4710	3287704			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:** W13/007962 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_007962_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7962 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	7502985			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	366386			Z
Aliph	nC25	28.7100	1712380			Z
Aliph	nC26	29.6680	7062628			Z
Aliph	nC27	30.6080	15432688			Z
Aliph	nC28	31.5080	18723648			Z
Aliph	nC29	32.3700	19551751			Z
Aliph	nC30	33.2910	16239788			Z
Aliph	nC31	34.3470	15266573			Z
Aliph	nC32	35.5720	10099889			Z
Aliph	nC33	37.0130	7467265			Z
Aliph	nC34	38.7280	5866308			Z
Aliph	nC35	40.8080	3627631			Z
Aliph	nC36	43.3510	3127635			Z
Aliph	nC37	46.4710	2443027			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 : **W13/007963**

Beach K6: Bales Beach Visit: 3

Comments:

In wash up valley in back shore dunes

Location: Shore Upper

Local Date Time: 18/10/2016 9:46:37 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

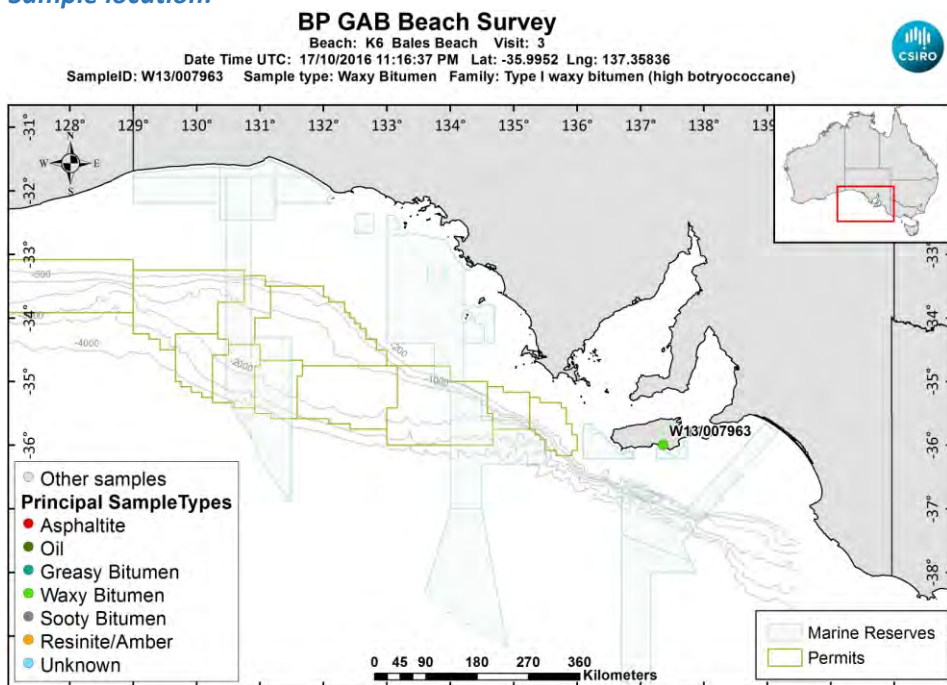
Size (cm): 6.4

Latitude (Y): -35.995203

Weight (gm): 16.62725

Longitude (X): 137.358358

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007963_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007963_146A6826.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007963_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: W13/007963_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			86.22	percent	Y
Inorg	Hydrogen			10.9856781312127	percent	Y
Inorg	Nitrogen			0.44	percent	Y
Inorg	Sulphur			2.46770133737833	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007963 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_007963_bulk_WholeOil.jpg](#)

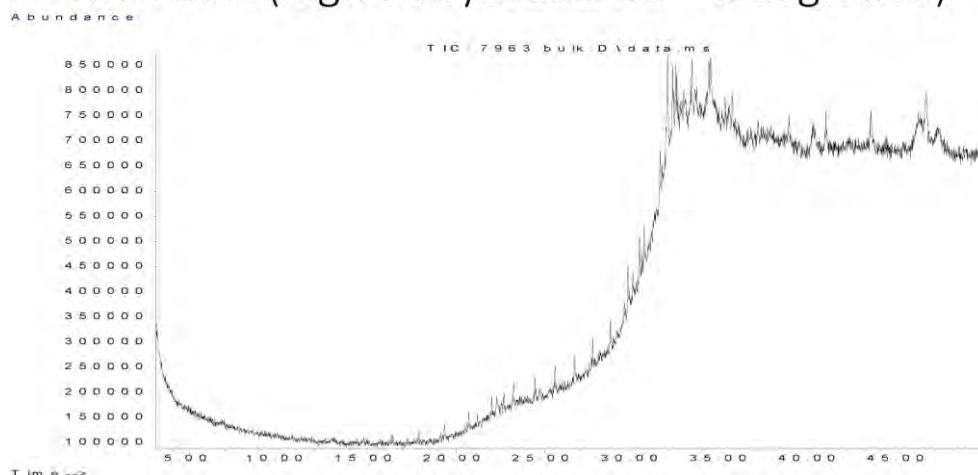
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7963 bulk (high botryococcane – v. degraded)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	1634330			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	300676			Z
Aliph	nC27	30.6080	301553			Z
Aliph	nC28	31.5080	493410			Z
Aliph	nC29	32.3700	674233			Z
Aliph	nC30	33.2910	518223			Z
Aliph	nC31	34.3470	1360125			Z
Aliph	nC32	35.5720	532713			Z
Aliph	nC33	37.0130	543179			Z
Aliph	nC34	38.7280	608080			Z
Aliph	nC35	40.8080	705404			Z
Aliph	nC36	43.3510	982924			Z
Aliph	nC37	46.4710	1074127			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 : **W13/007964**

Beach K6: Bales Beach Visit: 3

Comments:

In wash up valley in back shore dunes

Location: Shore Upper

Local Date Time: 18/10/2016 9:49:57 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

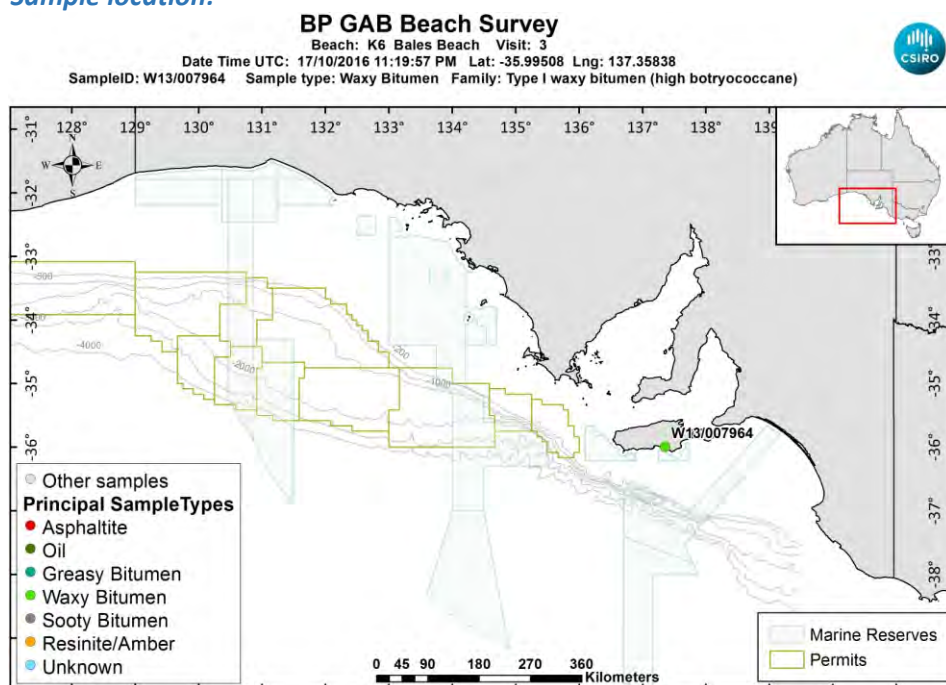
Size (cm): 2.7

Latitude (Y): -35.995078

Weight (gm): 4.22739

Longitude (X): 137.358383

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007964_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007964_146A6828.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007964_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: W13/007964_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			86.65	percent	Y
Inorg	Hydrogen			5.73226640159046	percent	Y
Inorg	Nitrogen			0.36	percent	Y
Inorg	Sulphur			0.684926880346415	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007964 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_007964_bulk_WholeOil.jpg](#)

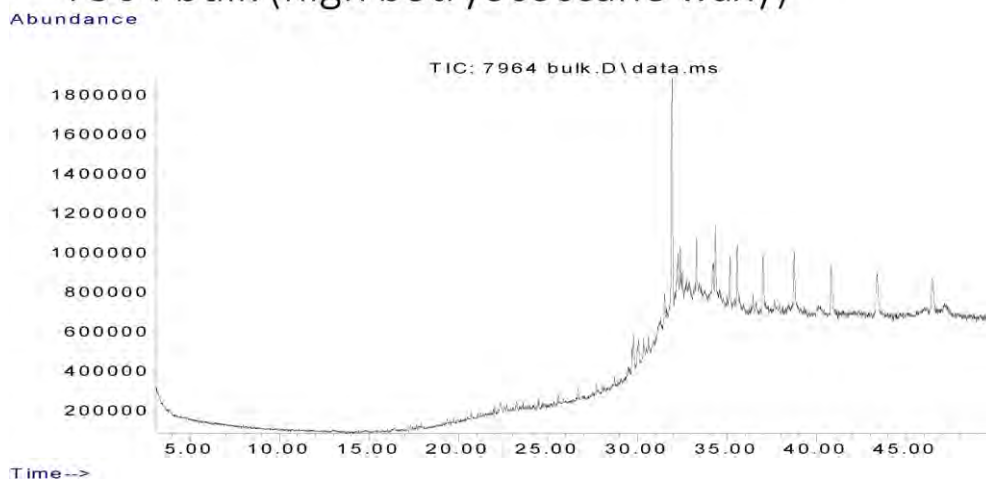
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7964 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	10059787			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	430579			Z
Aliph	nC27	30.6080	504386			Z
Aliph	nC28	31.5080	904288			Z
Aliph	nC29	32.3700	1095431			Z
Aliph	nC30	33.2910	1656815			Z
Aliph	nC31	34.3470	2573072			Z
Aliph	nC32	35.5720	2577250			Z
Aliph	nC33	37.0130	3006235			Z
Aliph	nC34	38.7280	3210891			Z
Aliph	nC35	40.8080	3015231			Z
Aliph	nC36	43.3510	2976402			Z
Aliph	nC37	46.4710	2849431			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 : **W13/007965**

Beach K6: Bales Beach Visit: 3

Comments:

Location: Mid Intertidal

Local Date Time: 18/10/2016 10:02:13 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

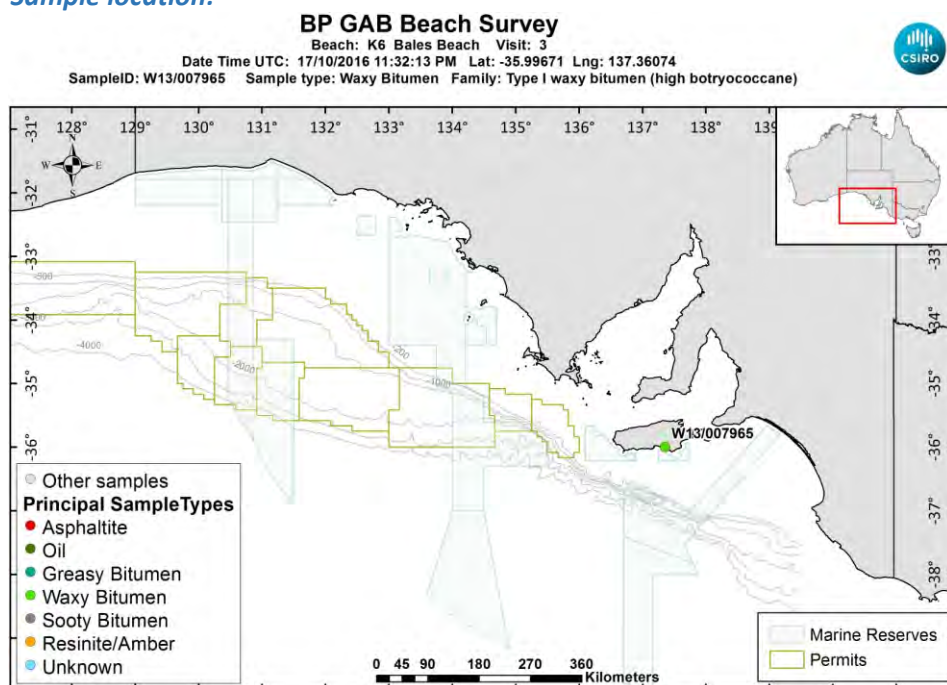
Size (cm): 1.4

Latitude (Y): -35.996713

Weight (gm): 0.33274

Longitude (X): 137.360743

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007965_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007965_146A6830.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007965_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: W13/007965_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			53.124731367661	ratio	Y
BiomRatio	% C27 abb 20(R+S)			49.0735166231855	ratio	Y
BiomRatio	% C28 aaa 20R			8.149230636981	ratio	Y
BiomRatio	% C28 abb 20(R+S)			21.8810622784133	ratio	Y
BiomRatio	% C29 aaa 20R			38.726037995358	ratio	Y
BiomRatio	% C29 abb 20(R+S)			29.0454210984012	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			3.67165818257372E-02	ratio	Y
BiomRatio	25-Nor/C30H			6.49694789004575E-02	ratio	Y
BiomRatio	C19t/C23t			0.169145495654497	ratio	Y
BiomRatio	C22t/C21t			0.474781576360162	ratio	Y
BiomRatio	C22t/C24t			0.315749867383822	ratio	Y
BiomRatio	C23t/C30H			8.37390963262039E-02	ratio	Y
BiomRatio	C24t/C23t			0.773327863691436	ratio	Y
BiomRatio	C24Tet/C23t			0.365031816143712	ratio	Y
BiomRatio	C24Tet/C26t			0.415130572522811	ratio	Y
BiomRatio	C24Tet/C30H			3.05674344141874E-02	ratio	Y
BiomRatio	C26t/C25t			1.70399881680871	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.891303342734292	ratio	Y
BiomRatio	C27 Dia/Ster			3.88551849239141	ratio	Y
BiomRatio	C28BNH/C30H			3.50123865894099E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.591875681570338	ratio	Y
BiomRatio	C29H/C30H			0.489924961474152	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.36374445075005	ratio	Y
BiomRatio	C30DiaH/C30H			0.207239104714413	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			4.80151662308996E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.441776217508216	ratio	Y
BiomRatio	Gam/C30H			4.12348403084624E-02	ratio	Y
BiomRatio	Gam/C31HR			0.216916786088009	ratio	Y
BiomRatio	Ole/C30H			0.11579883316011	ratio	Y
BiomRatio	Sterane/hopane			3.78933417293311E-02	ratio	Y
BiomRatio	Steranes/Terpanes			3.33288913921493E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.136951760065352	ratio	Y

Results for: GCMS with Full Scan

Unique ID: W13/007965 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_007965_bulk_WholeOil.jpg](#)

Sample Volume:

Volume Units:

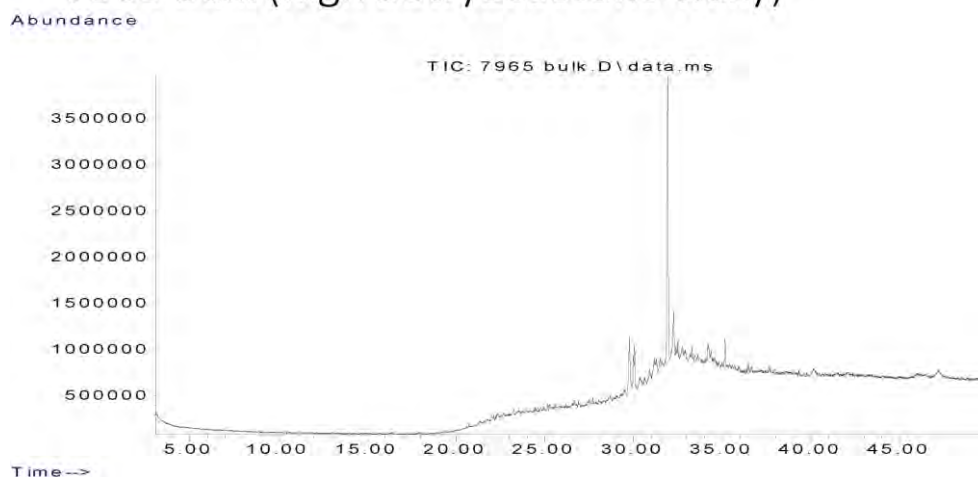
Extract Volume:

Dilution Factor:

Comment: Bulk

Results for: GCMS with Full Scan

7965 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	26674993			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 : **W13/007966**

Beach K6: Bales Beach Visit: 3

Comments:

Location: Mid Intertidal

Local Date Time: 18/10/2016 10:05:49 AM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

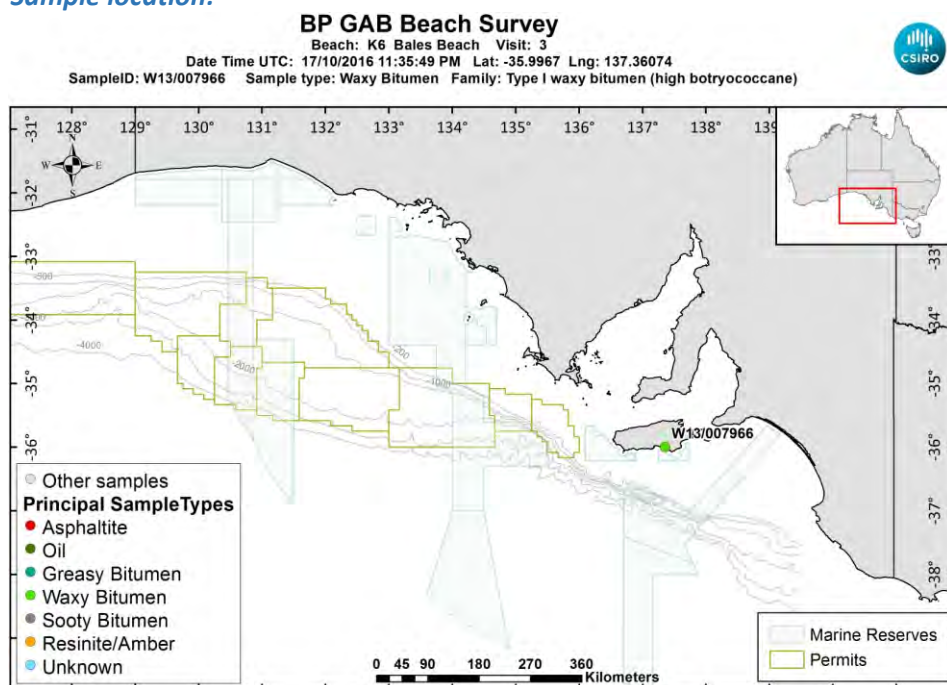
Size (cm): 2.9

Latitude (Y): -35.996705

Weight (gm): 1.56375

Longitude (X): 137.360740

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007966_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007966_146A6832.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007966_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: W13/007966_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			82.69	percent	Y
Inorg	Hydrogen			9.93727395626243	percent	Y
Inorg	Nitrogen			0.55	percent	Y
Inorg	Sulphur			2.0217575588276	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007966 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_007966_bulk_WholeOil.jpg](#)

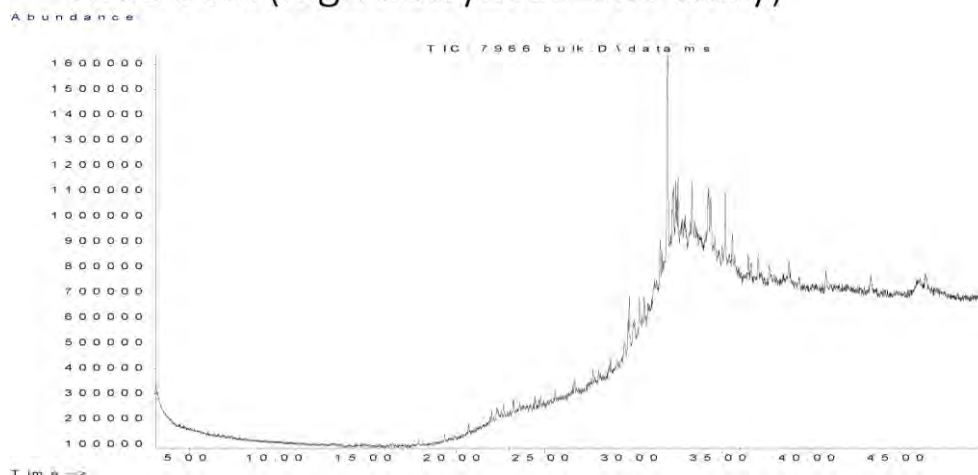
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

7966 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	6818179			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	254382			Z
Aliph	nC27	30.6080	519037			Z
Aliph	nC28	31.5080	652639			Z
Aliph	nC29	32.3700	793277			Z
Aliph	nC30	33.2910	1024365			Z
Aliph	nC31	34.3470	1356140			Z
Aliph	nC32	35.5720	870976			Z
Aliph	nC33	37.0130	772364			Z
Aliph	nC34	38.7280	1042086			Z
Aliph	nC35	40.8080	1184506			Z
Aliph	nC36	43.3510	597113			Z
Aliph	nC37	46.4710	1393239			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 : **W13/007521**

Beach E7: Beachport Conservation Park Visit: 1

Comments:

Location: Shore Upper

Local Date Time: 24/11/2014 2:13:49 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

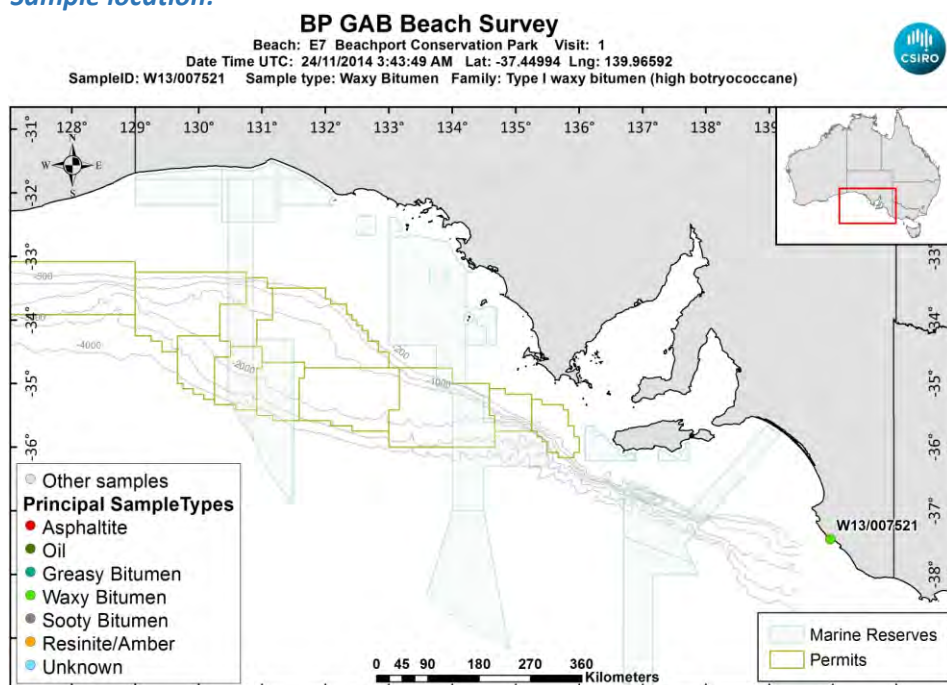
Size (cm): 3

Latitude (Y): -37.449937

Weight (gm): 5.96117

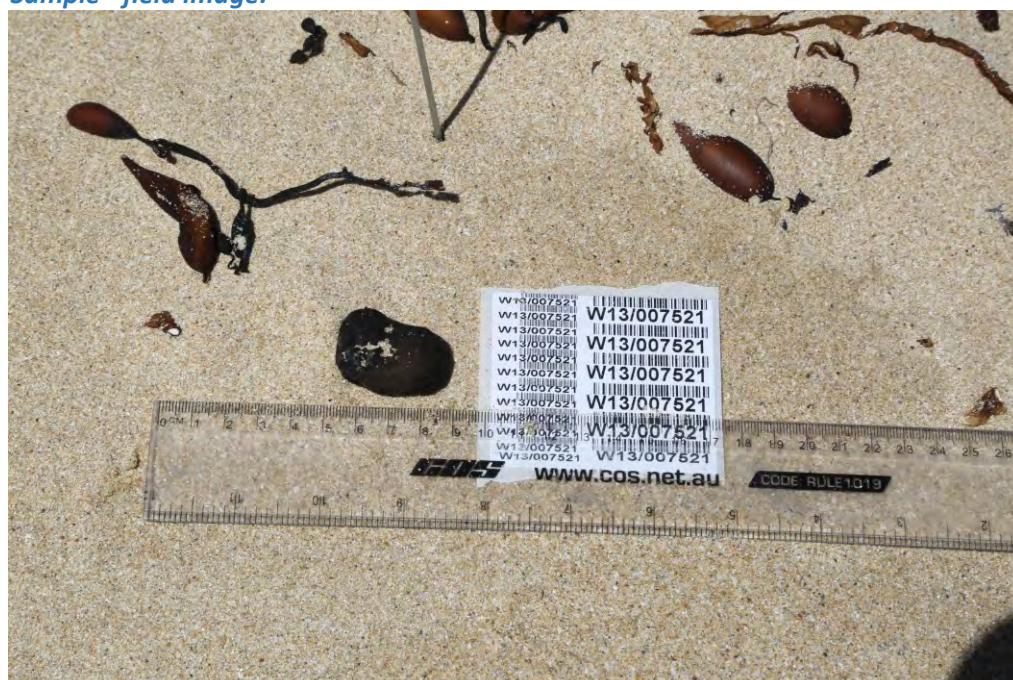
Longitude (X): 139.965916

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007521_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007521_146A0638.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007521_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: 4

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007521_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			60.2759570627909	ratio	Y
BiomRatio	% C27 abb 20(R+S)			24.1686218504539	ratio	Y
BiomRatio	% C28 aaa 20R			13.2801367911086	ratio	Y
BiomRatio	% C28 abb 20(R+S)			29.0357543609099	ratio	Y
BiomRatio	% C29 aaa 20R			26.4439061461005	ratio	Y
BiomRatio	% C29 abb 20(R+S)			46.7956237886361	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			1.34657037418142E-02	ratio	Y
BiomRatio	25-Nor/C30H			0.132879810723727	ratio	Y
BiomRatio	C19t/C23t			0.420321790835957	ratio	Y
BiomRatio	C22t/C21t			1.16361391232764	ratio	Y
BiomRatio	C22t/C24t			0.297602442298076	ratio	Y
BiomRatio	C23t/C30H			3.30770699199972E-02	ratio	Y
BiomRatio	C24t/C23t			1.32903112976565	ratio	Y
BiomRatio	C24Tet/C23t			0.599860090940888	ratio	Y
BiomRatio	C24Tet/C26t			0.524512952258617	ratio	Y
BiomRatio	C24Tet/C30H			1.98416141702677E-02	ratio	Y
BiomRatio	C26t/C25t			0.613843727706229	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.261119992991831	ratio	Y
BiomRatio	C27 Dia/Ster			0.185688744362214	ratio	Y
BiomRatio	C28BNH/C30H			6.30778219345285E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.93621399176955	ratio	Y
BiomRatio	C29H/C30H			0.473934597874691	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.509405468069792	ratio	Y
BiomRatio	C30DiaH/C30H			0.32576691020368	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			1.66900470120924E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.344303680200107	ratio	Y
BiomRatio	Gam/C30H			4.67764607882269E-02	ratio	Y
BiomRatio	Gam/C31HR			0.265316166627294	ratio	Y
BiomRatio	Ole/C30H			0.378612706731687	ratio	Y
BiomRatio	Sterane/hopane			5.69438988492743E-02	ratio	Y
BiomRatio	Steranes/Terpanes			0.050867116390011	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.119463867632501	ratio	Y

Results for: Gas Chromatography Mass Spectrometry

Unique ID: W13/007521 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			27.518315018315	ratio	Y
BiomRatio	% C27 abb 20(R+S)			31.6078618712892	ratio	Y
BiomRatio	% C28 aaa 20R			20.7417582417582	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.875247389613	ratio	Y
BiomRatio	% C29 aaa 20R			51.7399267399267	ratio	Y
BiomRatio	% C29 abb 20(R+S)			42.5168907390978	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			3.64519400117415E-02	ratio	Y
BiomRatio	25-Nor/C30H			7.15749710139507E-02	ratio	Y
BiomRatio	C19t/C23t			0.192991115498519	ratio	Y
BiomRatio	C22t/C21t			0.525230364194822	ratio	Y
BiomRatio	C22t/C24t			0.186463120180699	ratio	Y
BiomRatio	C23t/C30H			3.03100572240715E-02	ratio	Y
BiomRatio	C24t/C23t			1.58427936821323	ratio	Y
BiomRatio	C24Tet/C23t			0.560093780848963	ratio	Y
BiomRatio	C24Tet/C26t			0.23369201462184	ratio	Y
BiomRatio	C24Tet/C30H			1.69764745483787E-02	ratio	Y
BiomRatio	C26t/C25t			1.74620156432617	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.700687901899207	ratio	Y
BiomRatio	C27 Dia/Ster			0.910743094835462	ratio	Y
BiomRatio	C28BNH/C30H			3.10281632195085E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.34513656482781	ratio	Y
BiomRatio	C29H/C30H			0.590814227475035	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.417015732891449	ratio	Y
BiomRatio	C30DiaH/C30H			0.259812245203276	ratio	Y
BiomRatio	C30Ts/C30H			1.34009051127651E-02	ratio	Y
BiomRatio	C35 Homohopane Index			4.64883205303353E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.419779482664654	ratio	Y
BiomRatio	Gam/C30H			3.72517485132962E-02	ratio	Y
BiomRatio	Gam/C31HR			0.235171892708727	ratio	Y
BiomRatio	Ole/C30H			0.170183640647791	ratio	Y
BiomRatio	Sterane/hopane			4.85133046507137E-02	ratio	Y
BiomRatio	Steranes/Terpanes			4.45279706732403E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			8.95018101480301E-02	ratio	Y

Results for: Elemental Analyser

Unique ID: W13/007521_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:

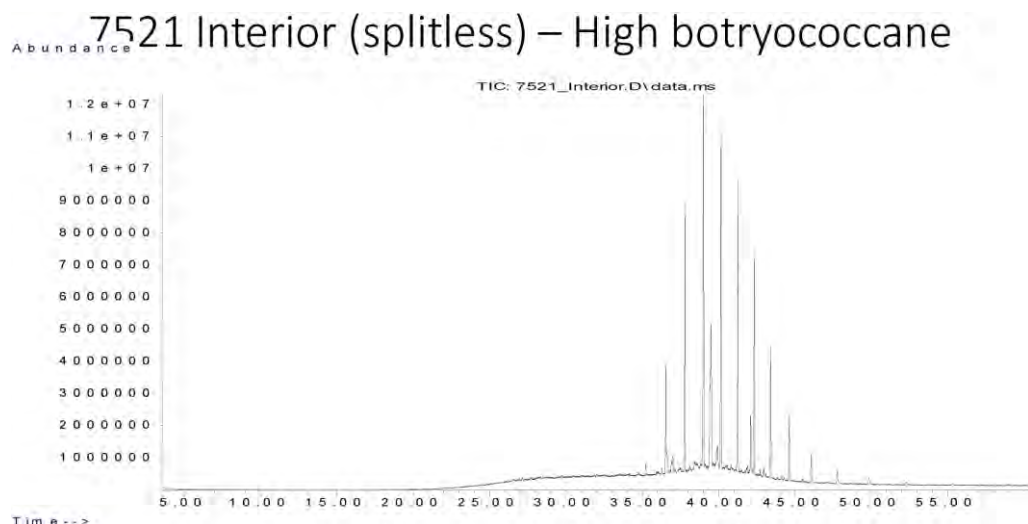
Results for: Elemental Analyser**Data Sheet:**

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			85.08	percent	Y
Inorg	delta13 Carbon			-25.8874108351909	per mille	Y
Inorg	delta34 Sulphur			2.62253239839654	per mille	Y
Inorg	Hydrogen			6.83	percent	Y
Inorg	Nitrogen			0.33	percent	Y
Inorg	Sulphur			0.88	percent	Y

Results for: GCMS with Full Scan**Unique ID:** W13/007521_DISS_GCMS-Scan/04**Instrument / Type:** GCMS with Full Scan Run: 4**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 18/11/2016**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\W13_007521_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior - Splitless

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780	35170964		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720			ug/L	U
Aliph	nC24	33.9520			ug/L	U
Aliph	nC25	35.2810	1802800		ug/L	Z
Aliph	nC26	36.5600	14557256		ug/L	Z
Aliph	nC27	37.7930	40341374		ug/L	Z
Aliph	nC28	38.9870	56465206		ug/L	Z
Aliph	nC29	40.1370	57108226		ug/L	Z
Aliph	nC30	41.2480	43573121		ug/L	Z
Aliph	nC31	42.3270	31707479		ug/L	Z
Aliph	nC32	43.4130	19576064		ug/L	Z
Aliph	nC33	44.6430	11393141		ug/L	Z
Aliph	nC34	46.0860	6219932		ug/L	Z
Aliph	nC35	47.8060	3536658		ug/L	Z
Aliph	nC36	49.8090	1826283		ug/L	Z
Aliph	nC37	52.2960	1066302		ug/L	Z
Aliph	nC38	55.2370	680703		ug/L	Z
Aliph	nC39	58.8850	463492		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 : **W13/007522**

Beach E7: Beachport Conservation Park Visit: 1

Comments:

Location: Shore Upper

Local Date Time: 24/11/2014 3:31:35 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

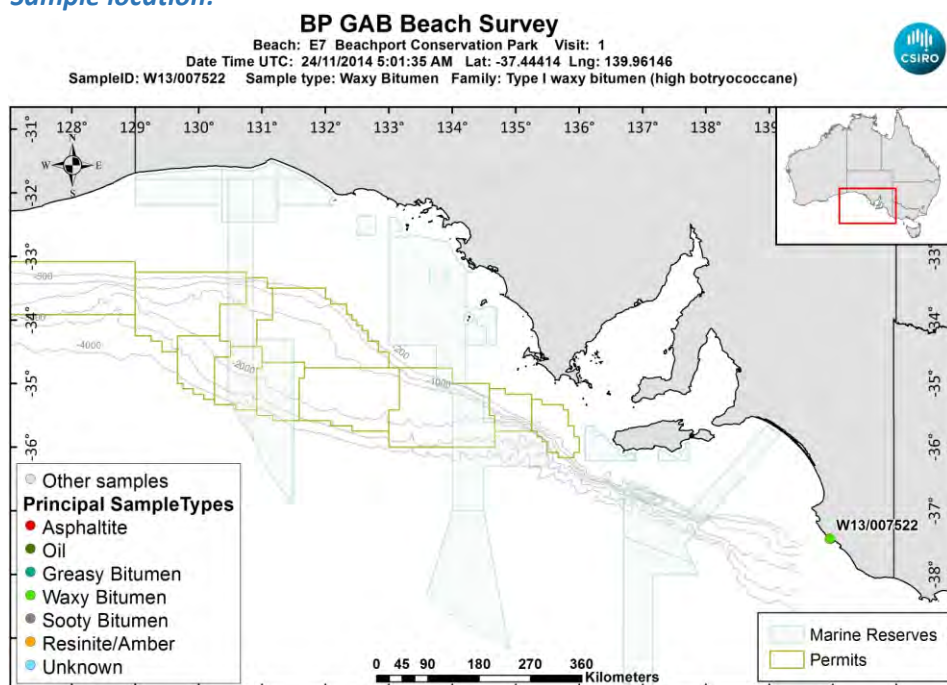
Size (cm): 2

Latitude (Y): -37.444142

Weight (gm): 1.53836

Longitude (X): 139.961455

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007522_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007522_146A0650.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007522_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: W13/007522_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:

Data Sheet:

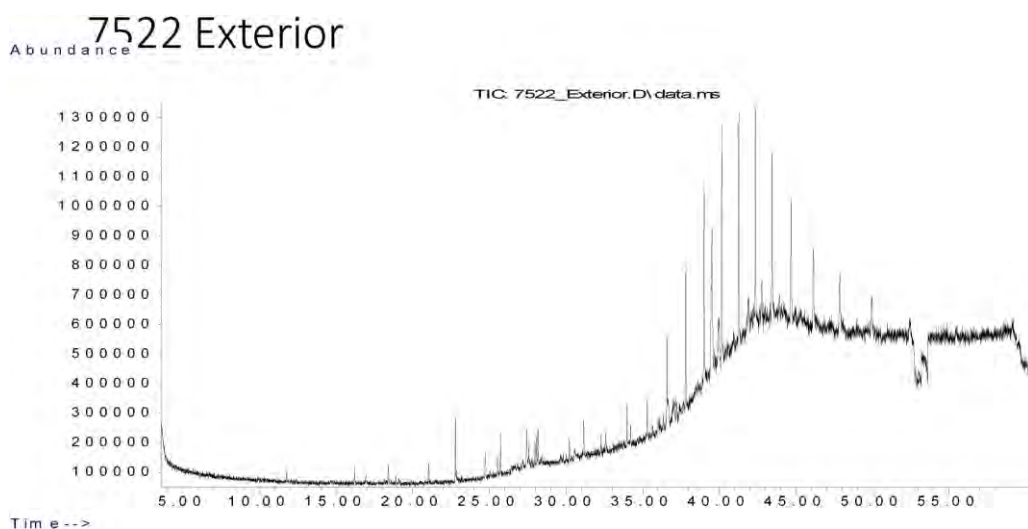
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.2	percent	Y
Inorg	delta13 Carbon			-25.9622363068002	per mille	Y
Inorg	delta34 Sulphur			-3.72199508669005	per mille	Y
Inorg	Hydrogen			6.78	percent	Y
Inorg	Nitrogen			0.28	percent	Y
Inorg	Sulphur			0.87	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007522_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_007522_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



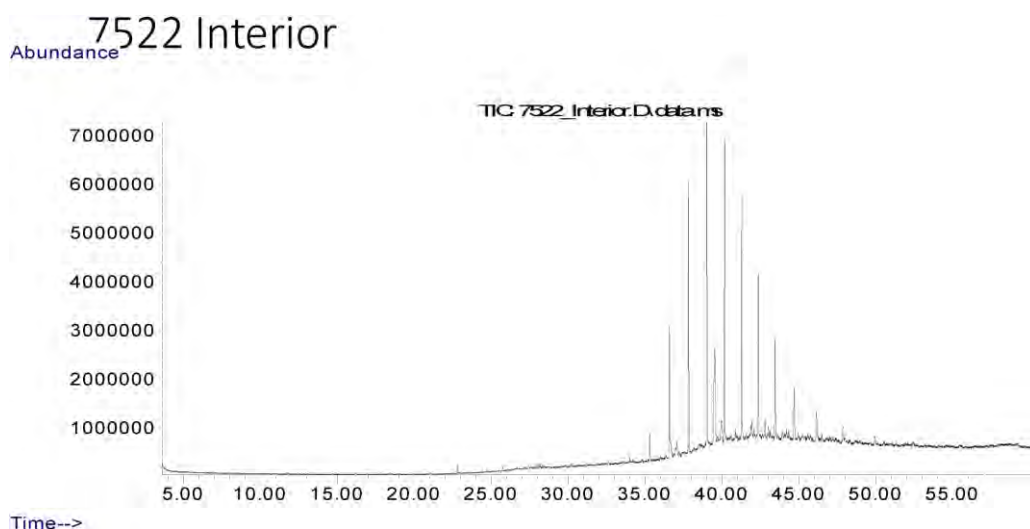
Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780	4372852		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340	609591		ug/L	Z
Aliph	nC23	32.5720	296164		ug/L	Z
Aliph	nC24	33.9520	742036		ug/L	Z
Aliph	nC25	35.2810	579265		ug/L	Z
Aliph	nC26	36.5600	1529655		ug/L	Z
Aliph	nC27	37.7930	2561355		ug/L	Z
Aliph	nC28	38.9870	3769196		ug/L	Z
Aliph	nC29	40.1370	4050182		ug/L	Z
Aliph	nC30	41.2480	4191632		ug/L	Z
Aliph	nC31	42.3270	4229761		ug/L	Z
Aliph	nC32	43.4130	3332426		ug/L	Z
Aliph	nC33	44.6430	2931495		ug/L	Z
Aliph	nC34	46.0860	2475053		ug/L	Z
Aliph	nC35	47.8060	2234689		ug/L	Z
Aliph	nC36	49.8090	1810376		ug/L	Z
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007522 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_007522_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780	14423292		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720			ug/L	U
Aliph	nC24	33.9520	684104		ug/L	Z
Aliph	nC25	35.2810	2834819		ug/L	Z
Aliph	nC26	36.5600	12605178		ug/L	Z
Aliph	nC27	37.7930	28837710		ug/L	Z
Aliph	nC28	38.9870	33567050		ug/L	Z
Aliph	nC29	40.1370	32836588		ug/L	Z
Aliph	nC30	41.2480	24391747		ug/L	Z
Aliph	nC31	42.3270	17645992		ug/L	Z
Aliph	nC32	43.4130	12483285		ug/L	Z
Aliph	nC33	44.6430	7366542		ug/L	Z
Aliph	nC34	46.0860	5648336		ug/L	Z
Aliph	nC35	47.8060	3105635		ug/L	Z
Aliph	nC36	49.8090	2202227		ug/L	Z
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

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

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

Sample ID : **W13/007523**

Beach E7: Beachport Conservation Park Visit: 1

Comments:

Location: Shore Upper

Local Date Time: 24/11/2014 3:33:58 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

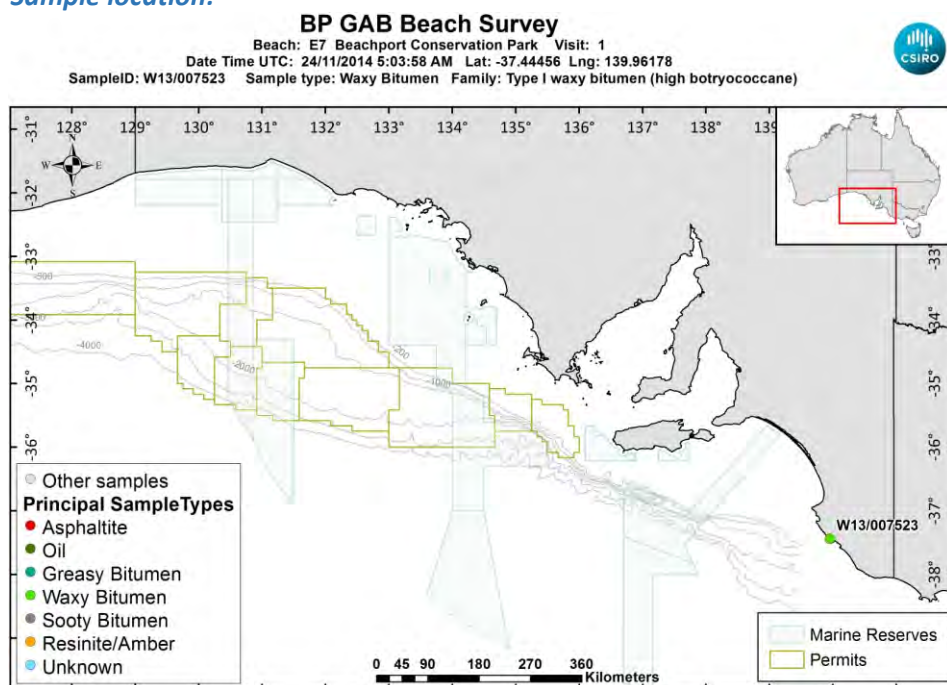
Size (cm): 3

Latitude (Y): -37.444562

Weight (gm): 3.59007

Longitude (X): 139.961781

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007523_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007523_146A0652.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007523_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: W13/007523_UNK_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Preparation: Unknown

Analysis Date:

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

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

Data Sheet:

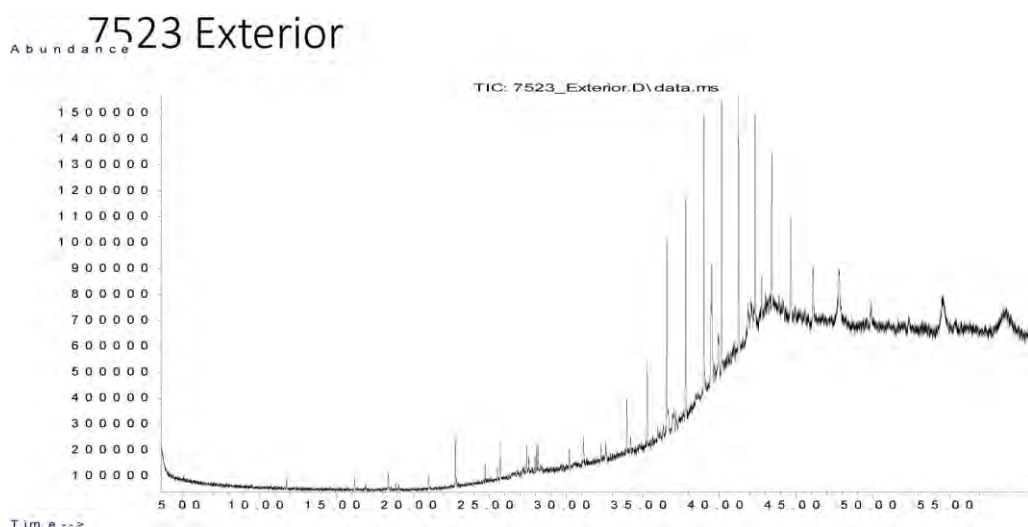
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.5	percent	Y
Inorg	delta13 Carbon			-25.8269609629239	per mille	Y
Inorg	delta34 Sulphur			6.41405090866028	per mille	Y
Inorg	Hydrogen			7.62	percent	Y
Inorg	Nitrogen			0.26	percent	Y
Inorg	Sulphur			0.99	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007523_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_007523_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



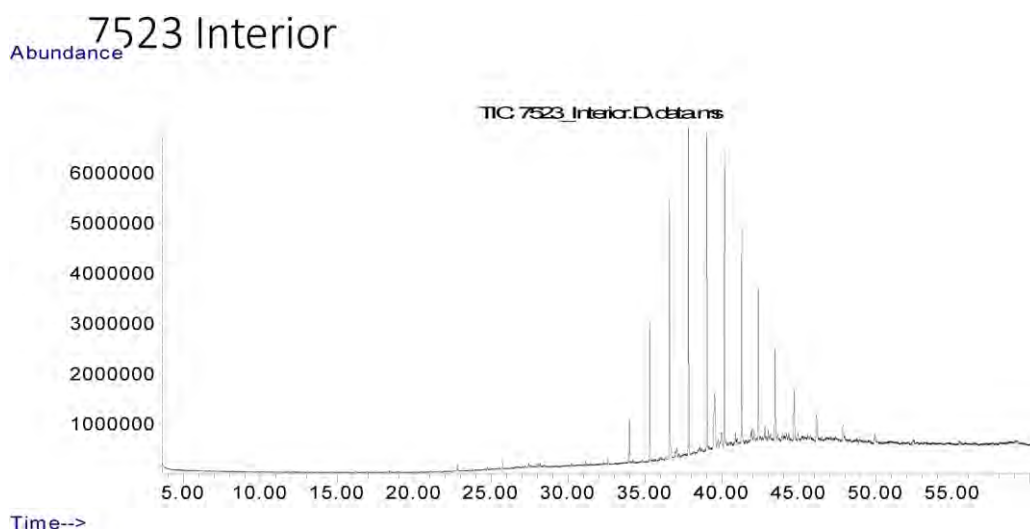
Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780	4312016		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720			ug/L	U
Aliph	nC24	33.9520	1110830		ug/L	Z
Aliph	nC25	35.2810	1812261		ug/L	Z
Aliph	nC26	36.5600	3499019		ug/L	Z
Aliph	nC27	37.7930	4493206		ug/L	Z
Aliph	nC28	38.9870	5378458		ug/L	Z
Aliph	nC29	40.1370	5199095		ug/L	Z
Aliph	nC30	41.2480	4772691		ug/L	Z
Aliph	nC31	42.3270	4358057		ug/L	Z
Aliph	nC32	43.4130	3395490		ug/L	Z
Aliph	nC33	44.6430	2584057		ug/L	Z
Aliph	nC34	46.0860	1905233		ug/L	Z
Aliph	nC35	47.8060	1870493		ug/L	Z
Aliph	nC36	49.8090	1251052		ug/L	Z
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007523 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_007523_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retention Time:	Target Response:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4780	11395558		ug/L	Z
Aliph	nC10	7.5100			ug/L	U
Aliph	nC11	9.9450			ug/L	U
Aliph	nC12	12.3690			ug/L	U
Aliph	nC13	14.7030			ug/L	U
Aliph	nC14	16.9230			ug/L	U
Aliph	nC15	19.0270			ug/L	U
Aliph	nC16	21.0200			ug/L	U
Aliph	nC17	22.9150			ug/L	U
Aliph	nC18	24.7150			ug/L	U
Aliph	nC19	26.4300			ug/L	U
Aliph	nC20	28.0680			ug/L	U
Aliph	nC21	29.6330			ug/L	U
Aliph	nC22	31.1340			ug/L	U
Aliph	nC23	32.5720			ug/L	U
Aliph	nC24	33.9520	4473671		ug/L	Z
Aliph	nC25	35.2810	14027988		ug/L	Z
Aliph	nC26	36.5600	25572554		ug/L	Z
Aliph	nC27	37.7930	34626385		ug/L	Z
Aliph	nC28	38.9870	32715521		ug/L	Z
Aliph	nC29	40.1370	28307215		ug/L	Z
Aliph	nC30	41.2480	22118091		ug/L	Z
Aliph	nC31	42.3270	16463625		ug/L	Z
Aliph	nC32	43.4130	11136378		ug/L	Z
Aliph	nC33	44.6430	8077475		ug/L	Z
Aliph	nC34	46.0860	4975697		ug/L	Z
Aliph	nC35	47.8060	1322849		ug/L	Z
Aliph	nC36	49.8090	2407574		ug/L	Z
Aliph	nC37	52.2960			ug/L	U
Aliph	nC38	55.2370			ug/L	U
Aliph	nC39	58.8850			ug/L	U
Aliph	Norpristane	21.9070			ug/L	U
Aliph	Phytane	24.8210			ug/L	U
Aliph	Pristane	22.9640			ug/L	U

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

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

Sample ID : **W13/007609**

Beach E7: Beachport Conservation Park Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 9/09/2015 2:11:21 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

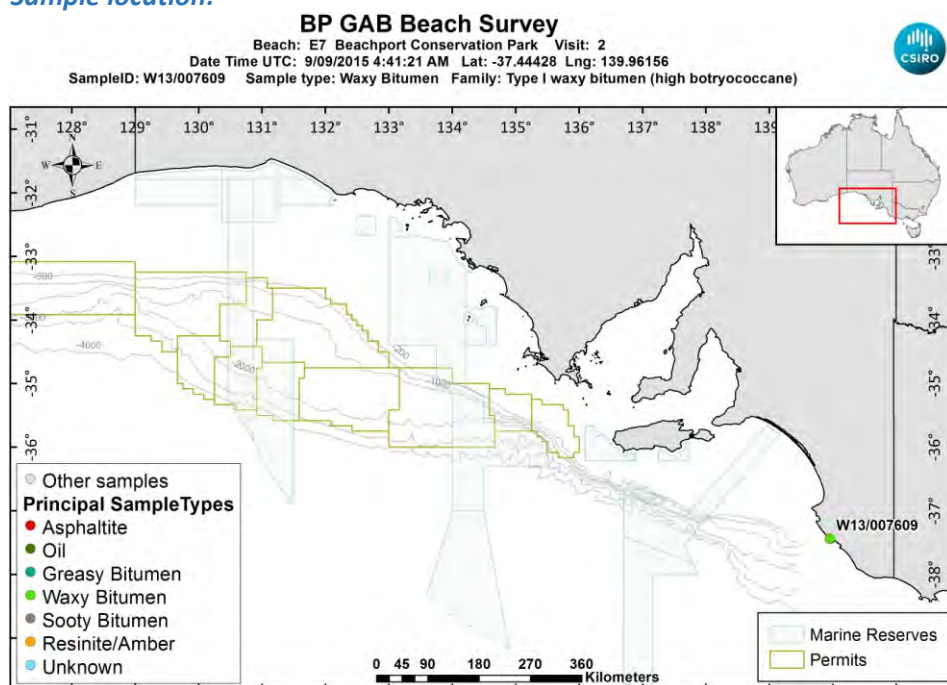
Size (cm): 2.6

Latitude (Y): -37.444283

Weight (gm): 2.9

Longitude (X): 139.961563

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007609_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007609_146A1543.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007609_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: W13/007609_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

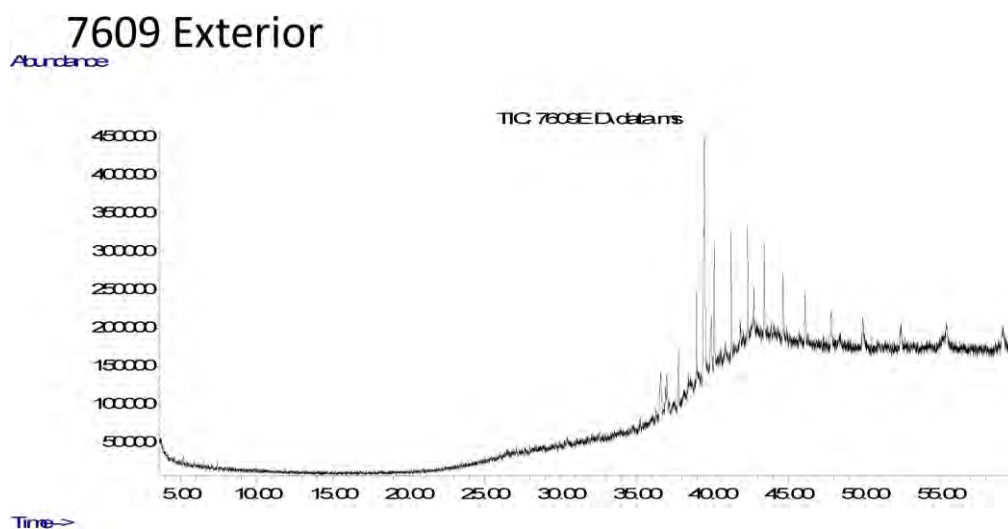
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.64	percent	Y
Inorg	Hydrogen			7.78717992047714	percent	Y
Inorg	Nitrogen			0.46898851756641	percent	Y
Inorg	Sulphur			1.51363053307927	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007609_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_007609_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



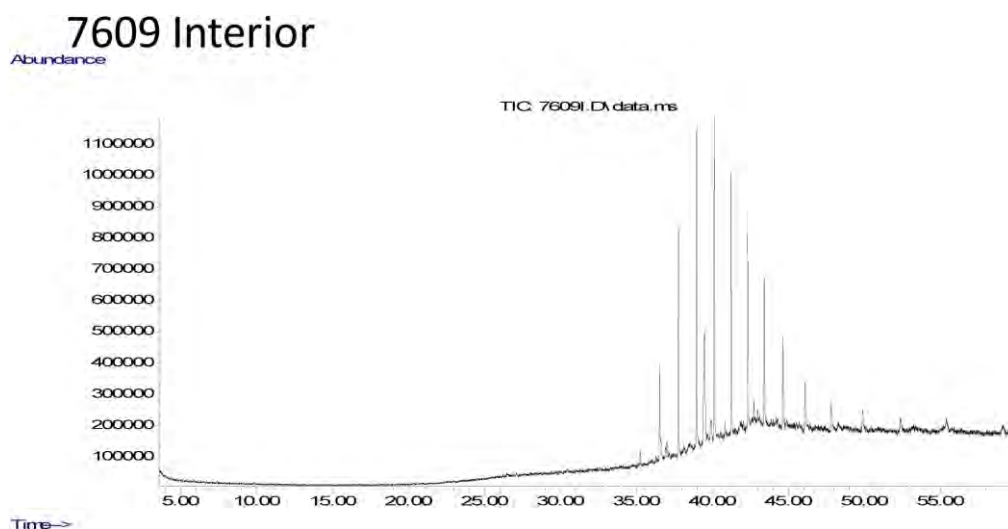
Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	2847288		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	166680		ug/L	Z
Aliph	nC27	37.7300	371923		ug/L	Z
Aliph	nC28	38.9260	625046		ug/L	Z
Aliph	nC29	40.0740	781853		ug/L	Z
Aliph	nC30	41.1930	793144		ug/L	Z
Aliph	nC31	42.2750	725686		ug/L	Z
Aliph	nC32	43.3560	649445		ug/L	Z
Aliph	nC33	44.5840	538618		ug/L	Z
Aliph	nC34	46.0130	534088		ug/L	Z
Aliph	nC35	47.7140	420948		ug/L	Z
Aliph	nC36	49.7870	399243		ug/L	Z
Aliph	nC37	52.2630	358238		ug/L	Z
Aliph	nC38	55.2360	374277		ug/L	Z
Aliph	nC39	58.9110	275657		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:** W13/007609 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_007609_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	3258428		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	227433		ug/L	Z
Aliph	nC26	36.4960	1457846		ug/L	Z
Aliph	nC27	37.7300	3538562		ug/L	Z
Aliph	nC28	38.9260	4566853		ug/L	Z
Aliph	nC29	40.0740	4940589		ug/L	Z
Aliph	nC30	41.1930	3996199		ug/L	Z
Aliph	nC31	42.2750	3422010		ug/L	Z
Aliph	nC32	43.3560	2636472		ug/L	Z
Aliph	nC33	44.5840	1843442		ug/L	Z
Aliph	nC34	46.0130	1330912		ug/L	Z
Aliph	nC35	47.7140	896611		ug/L	Z
Aliph	nC36	49.7870	609749		ug/L	Z
Aliph	nC37	52.2630	545288		ug/L	Z
Aliph	nC38	55.2360	411214		ug/L	Z
Aliph	nC39	58.9110	337254		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 : **W13/007610**

Beach E7: Beachport Conservation Park Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 9/09/2015 2:16:25 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

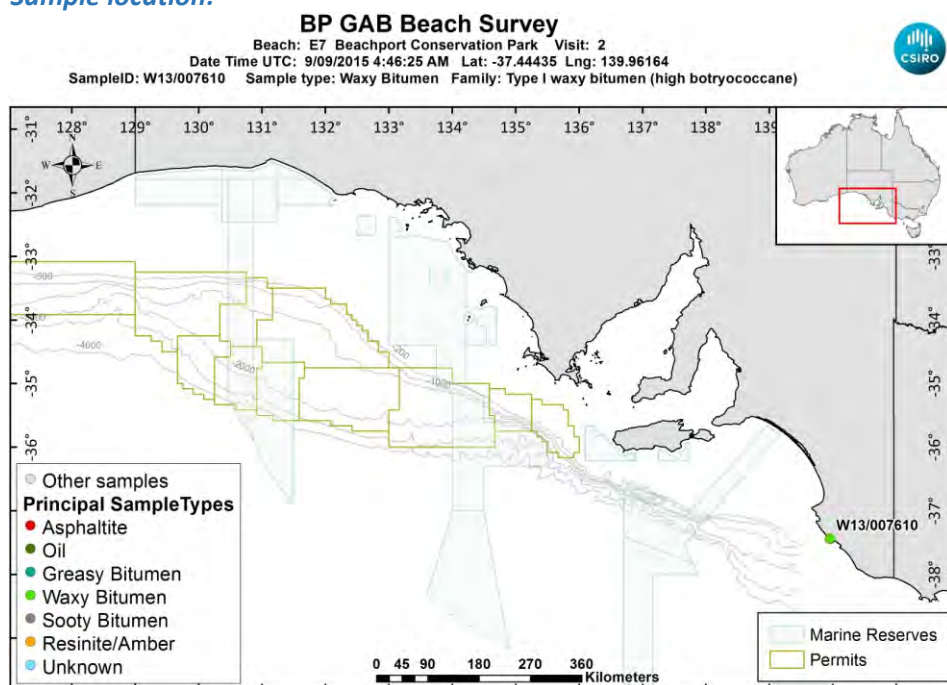
Size (cm): 1.6

Latitude (Y): -37.444348

Weight (gm): 1

Longitude (X): 139.961638

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007610_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007610_146A1545.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007610_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: W13/007610_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			86.2439345115038	percent	Y
Inorg	Hydrogen			9.78166222664016	percent	Y
Inorg	Nitrogen			0.379309682947729	percent	Y
Inorg	Sulphur			1.47396386252475	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007610 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_007610_bulk_WholeOil.jpg](#)

Preparation: Dissolved in solvent

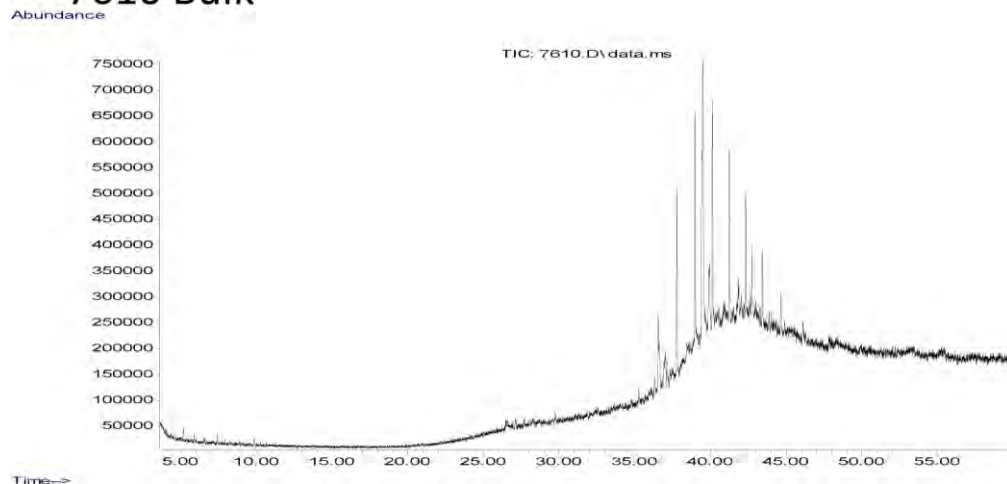
Method ID/s:

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

Comment: Bulk

Results for: GCMS with Full Scan

7610 Bulk



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	4917796		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	136882		ug/L	Z
Aliph	nC26	36.4960	718650		ug/L	Z
Aliph	nC27	37.7300	1784328		ug/L	Z
Aliph	nC28	38.9260	2358929		ug/L	Z
Aliph	nC29	40.0740	2253427		ug/L	Z
Aliph	nC30	41.1930	1687898		ug/L	Z
Aliph	nC31	42.2750	1291958		ug/L	Z
Aliph	nC32	43.3560	829082		ug/L	Z
Aliph	nC33	44.5840	549507		ug/L	Z
Aliph	nC34	46.0130	336687		ug/L	Z
Aliph	nC35	47.7140	186392		ug/L	Z
Aliph	nC36	49.7870	99002		ug/L	Z
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

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

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

Sample ID : **W13/007611**

Beach E7: Beachport Conservation Park Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 9/09/2015 2:18:54 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

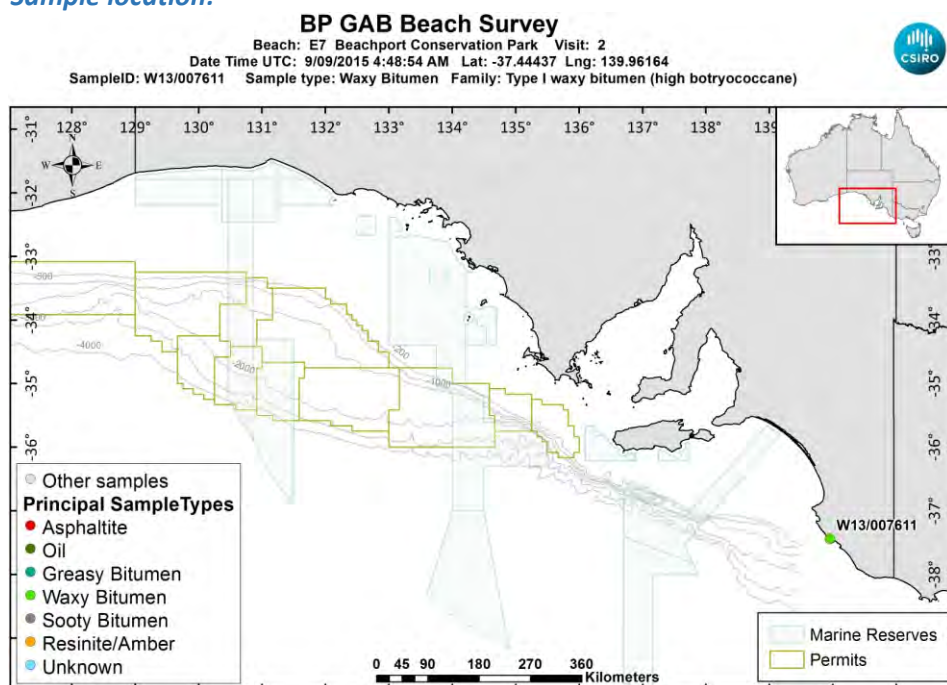
Size (cm): 3

Latitude (Y): -37.444367

Weight (gm): 3

Longitude (X): 139.961643

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007611_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007611_146A1547.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007611_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: W13/007611_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			85.312197399133	percent	Y
Inorg	Hydrogen			8.10813061630219	percent	Y
Inorg	Nitrogen			0.309256212510711	percent	Y
Inorg	Sulphur			1.08985845750602	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007611 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 18/11/2016

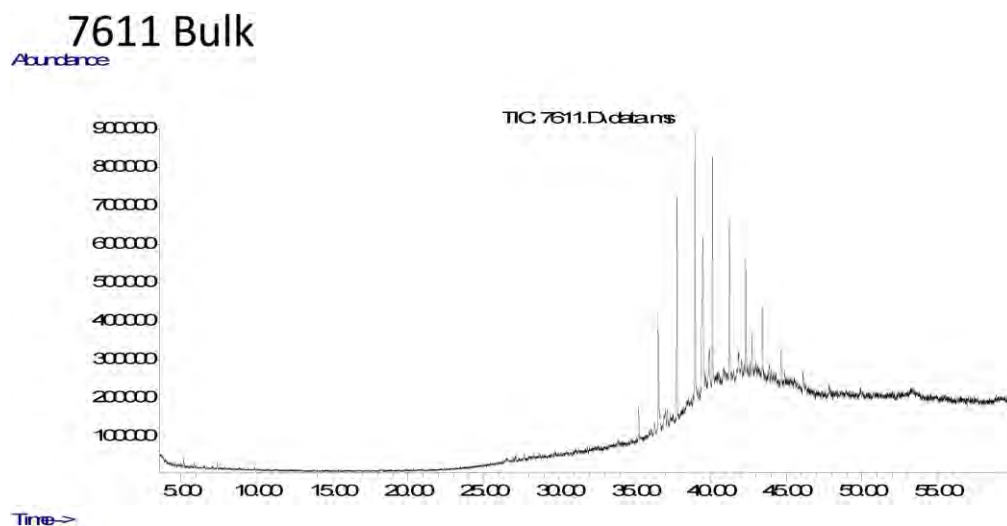
Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007611_bulk_WholeOil.jpg](#)

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	3371782		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	386210		ug/L	Z
Aliph	nC26	36.4960	1384467		ug/L	Z
Aliph	nC27	37.7300	2886320		ug/L	Z
Aliph	nC28	38.9260	3369357		ug/L	Z
Aliph	nC29	40.0740	2998697		ug/L	Z
Aliph	nC30	41.1930	2232709		ug/L	Z
Aliph	nC31	42.2750	1520203		ug/L	Z
Aliph	nC32	43.3560	969740		ug/L	Z
Aliph	nC33	44.5840	755556		ug/L	Z
Aliph	nC34	46.0130	398855		ug/L	Z
Aliph	nC35	47.7140	170378		ug/L	Z
Aliph	nC36	49.7870	151816		ug/L	Z
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

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

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

Sample ID : **W13/007612**

Beach E7: Beachport Conservation Park Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 9/09/2015 2:23:24 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

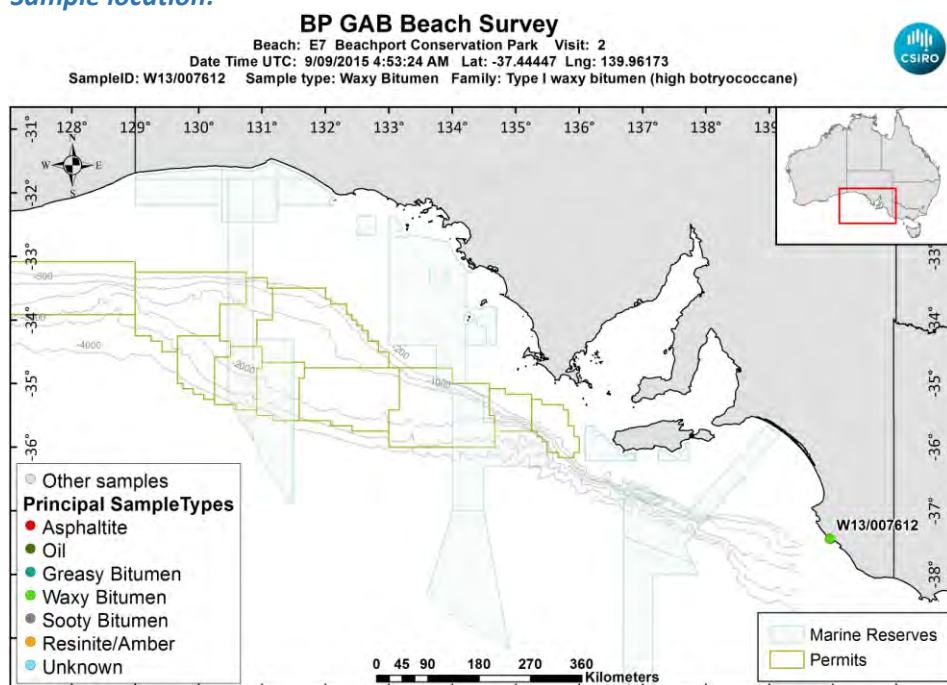
Size (cm): 1.5

Latitude (Y): -37.444468

Weight (gm): 0.4

Longitude (X): 139.961727

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007612_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007612_146A1550.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007612_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: W13/007612_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			85.1026412137379	percent	Y
Inorg	Hydrogen			8.4583986083499	percent	Y
Inorg	Nitrogen			0.29947557840617	percent	Y
Inorg	Sulphur			1.29541835712808	percent	Y

Results for: GCMS with Full Scan

Unique ID: W13/007612 DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 18/11/2016

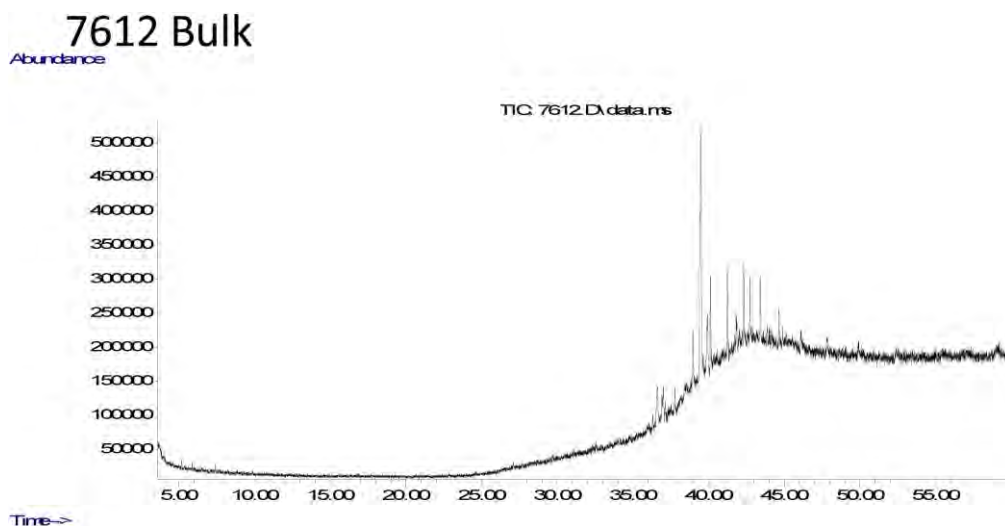
Linked Image: [LinkedFiles\GAB_BCH1\GCMS\W13_007612_bulk_WholeOil.jpg](#)

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	3272576		ug/L	Z
Aliph	nC10	0.0000			ug/L	U
Aliph	nC11	0.0000			ug/L	U
Aliph	nC12	12.2580			ug/L	U
Aliph	nC13	14.5950			ug/L	U
Aliph	nC14	16.8180			ug/L	U
Aliph	nC15	18.9260			ug/L	U
Aliph	nC16	20.9240			ug/L	U
Aliph	nC17	22.8190			ug/L	U
Aliph	nC18	24.6230			ug/L	U
Aliph	nC19	26.3410			ug/L	U
Aliph	nC20	27.9810			ug/L	U
Aliph	nC21	29.5510			ug/L	U
Aliph	nC22	31.0540			ug/L	U
Aliph	nC23	32.4960			ug/L	U
Aliph	nC24	33.8800			ug/L	U
Aliph	nC25	35.2120			ug/L	U
Aliph	nC26	36.4960			ug/L	U
Aliph	nC27	37.7300	177181		ug/L	Z
Aliph	nC28	38.9260	414606		ug/L	Z
Aliph	nC29	40.0740	631223		ug/L	Z
Aliph	nC30	41.1930	600296		ug/L	Z
Aliph	nC31	42.2750	572928		ug/L	Z
Aliph	nC32	43.3560	440206		ug/L	Z
Aliph	nC33	44.5840	423540		ug/L	Z
Aliph	nC34	46.0130	294163		ug/L	Z
Aliph	nC35	47.7140	188383		ug/L	Z
Aliph	nC36	49.7870	148486		ug/L	Z
Aliph	nC37	52.2630			ug/L	U
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

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

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

Sample ID : **W13/007613**

Beach E7: Beachport Conservation Park Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 9/09/2015 2:24:34 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

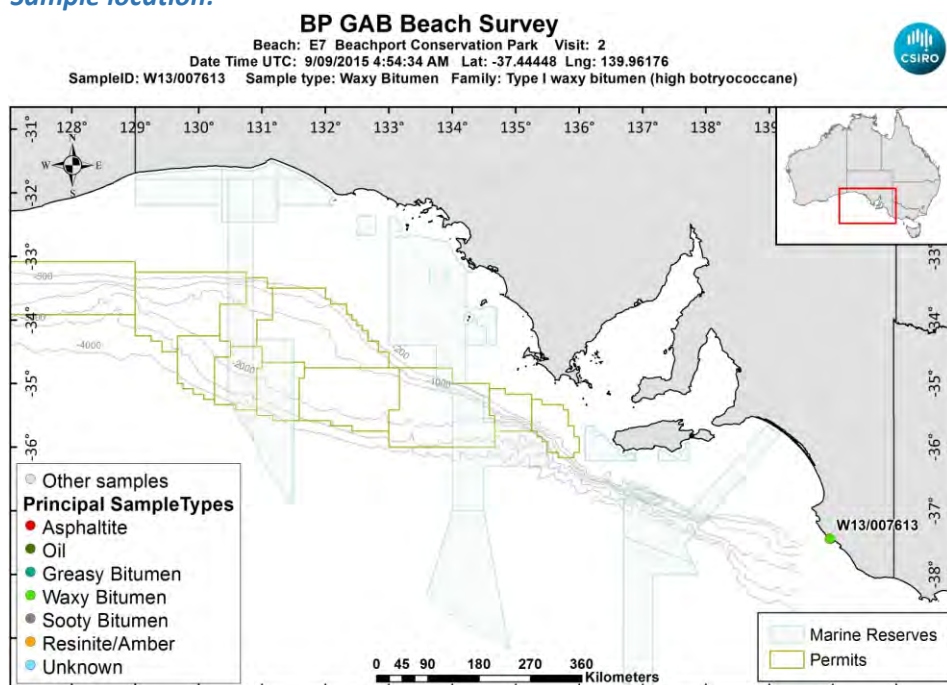
Size (cm): 3.9

Latitude (Y): -37.444477

Weight (gm): 7

Longitude (X): 139.961758

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007613_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007613_146A1552.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007613_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: W13/007613_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			85.3244016672224	percent	Y
Inorg	Hydrogen			5.91607574552684	percent	Y
Inorg	Nitrogen			0.320043873179092	percent	Y
Inorg	Sulphur			0.60898446654105	percent	Y

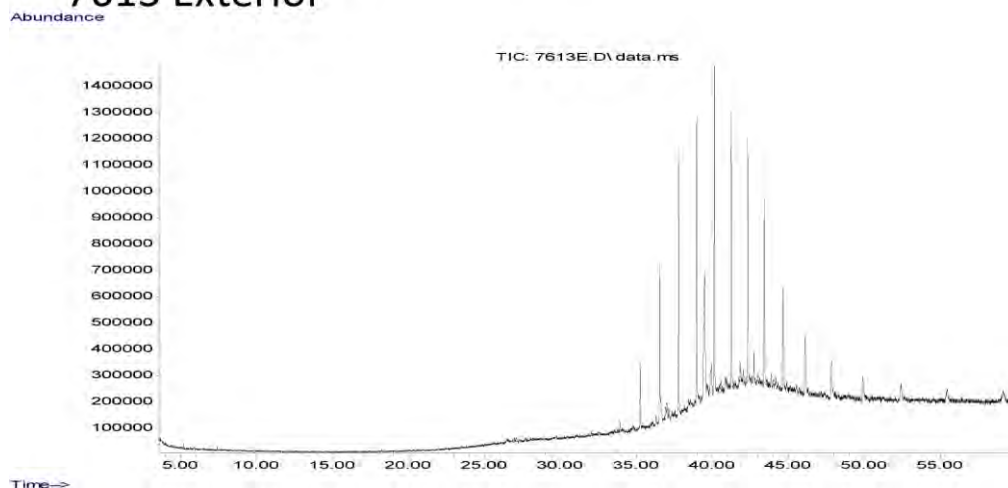
Results for: GCMS with Full Scan

Unique ID: W13/007613_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_007613_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7613 Exterior



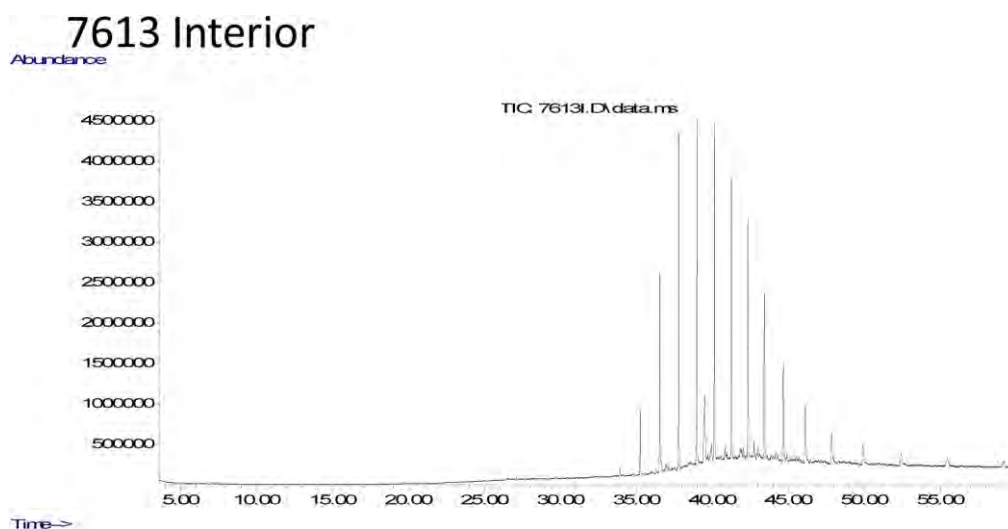
Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	4113852		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	194530		ug/L	Z
Aliph	nC25	35.2120	1138730		ug/L	Z
Aliph	nC26	36.4960	2879512		ug/L	Z
Aliph	nC27	37.7300	4817634		ug/L	Z
Aliph	nC28	38.9260	5572133		ug/L	Z
Aliph	nC29	40.0740	5972494		ug/L	Z
Aliph	nC30	41.1930	5247730		ug/L	Z
Aliph	nC31	42.2750	4706627		ug/L	Z
Aliph	nC32	43.3560	3706243		ug/L	Z
Aliph	nC33	44.5840	2718191		ug/L	Z
Aliph	nC34	46.0130	1823397		ug/L	Z
Aliph	nC35	47.7140	1372352		ug/L	Z
Aliph	nC36	49.7870	938730		ug/L	Z
Aliph	nC37	52.2630	739878		ug/L	Z
Aliph	nC38	55.2360	749750		ug/L	Z
Aliph	nC39	58.9110	552610		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:** W13/007613 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_007613_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	7118229		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	510625		ug/L	Z
Aliph	nC25	35.2120	4077740		ug/L	Z
Aliph	nC26	36.4960	10963491		ug/L	Z
Aliph	nC27	37.7300	19451061		ug/L	Z
Aliph	nC28	38.9260	19763989		ug/L	Z
Aliph	nC29	40.0740	21222671		ug/L	Z
Aliph	nC30	41.1930	17128802		ug/L	Z
Aliph	nC31	42.2750	14607842		ug/L	Z
Aliph	nC32	43.3560	11190334		ug/L	Z
Aliph	nC33	44.5840	8061403		ug/L	Z
Aliph	nC34	46.0130	5536003		ug/L	Z
Aliph	nC35	47.7140	3488722		ug/L	Z
Aliph	nC36	49.7870	2543098		ug/L	Z
Aliph	nC37	52.2630	1819592		ug/L	Z
Aliph	nC38	55.2360	1433976		ug/L	Z
Aliph	nC39	58.9110	1149275		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 : **W13/007614**

Beach E7: Beachport Conservation Park Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 9/09/2015 2:30:40 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

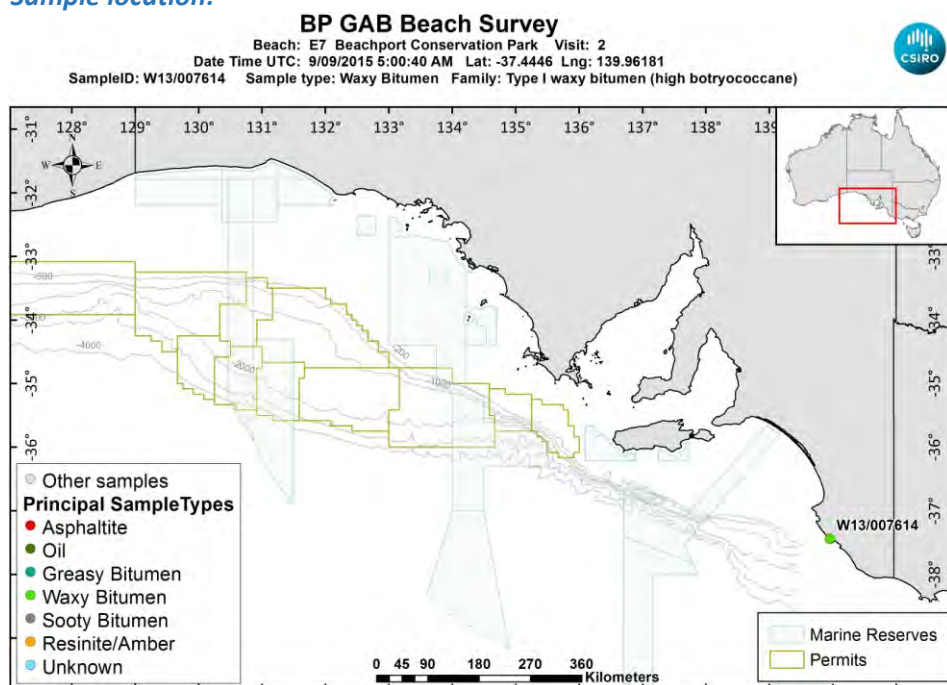
Size (cm): 5

Latitude (Y): -37.444597

Weight (gm): 13

Longitude (X): 139.961808

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007614_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007614_146A1554.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007614_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: W13/007614_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			85.4551586528843	percent	Y
Inorg	Hydrogen			6.89537514910537	percent	Y
Inorg	Nitrogen			0.250814053127678	percent	Y
Inorg	Sulphur			0.955975718685132	percent	Y

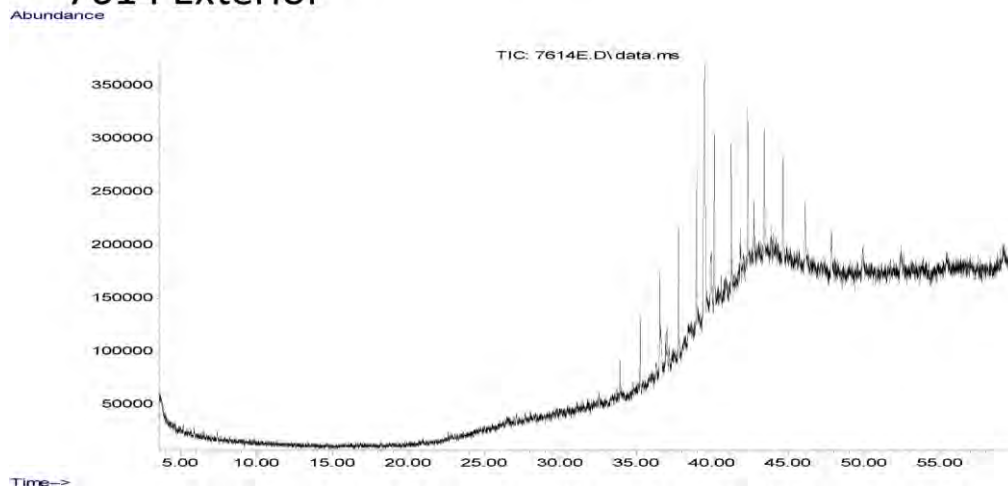
Results for: GCMS with Full Scan

Unique ID: W13/007614_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_007614_ext_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7614 Exterior



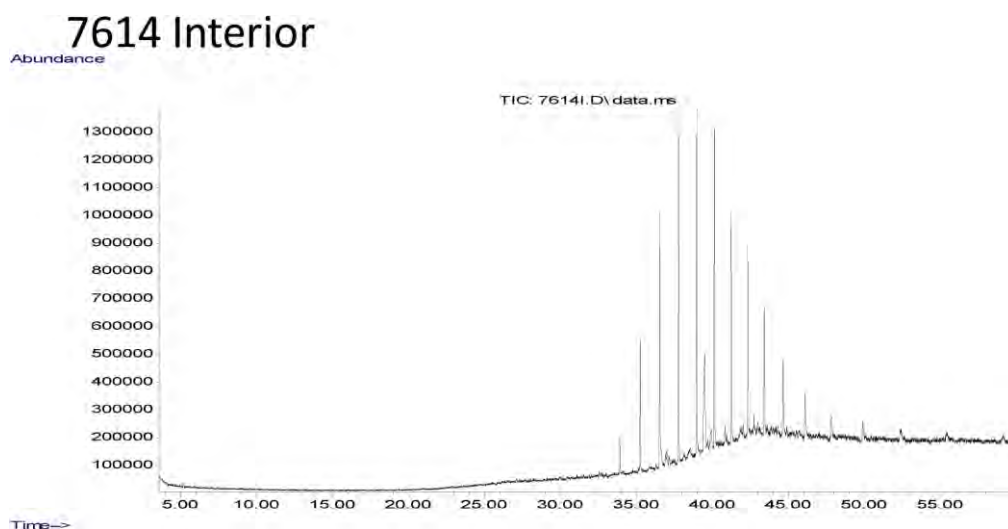
Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	39.4290	2125397		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	148995		ug/L	Z
Aliph	nC25	35.2120	304240		ug/L	Z
Aliph	nC26	36.4960	509424		ug/L	Z
Aliph	nC27	37.7300	608090		ug/L	Z
Aliph	nC28	38.9260	672385		ug/L	Z
Aliph	nC29	40.0740	751176		ug/L	Z
Aliph	nC30	41.1930	719277		ug/L	Z
Aliph	nC31	42.2750	732406		ug/L	Z
Aliph	nC32	43.3560	692387		ug/L	Z
Aliph	nC33	44.5840	577000		ug/L	Z
Aliph	nC34	46.0130	487214		ug/L	Z
Aliph	nC35	47.7140	302496		ug/L	Z
Aliph	nC36	49.7870	272632		ug/L	Z
Aliph	nC37	52.2630	253587		ug/L	Z
Aliph	nC38	55.2360			ug/L	U
Aliph	nC39	58.9110			ug/L	U
Aliph	Norpristane	21.8010			ug/L	U
Aliph	Phytane	24.7190			ug/L	U
Aliph	Pristane	22.8660			ug/L	U

Results for: GCMS with Full Scan**Results for: GCMS with Full Scan****Unique ID:** W13/007614 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_007614_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	3115544		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	652485		ug/L	Z
Aliph	nC25	35.2120	2323547		ug/L	Z
Aliph	nC26	36.4960	4469346		ug/L	Z
Aliph	nC27	37.7300	6150846		ug/L	Z
Aliph	nC28	38.9260	5729277		ug/L	Z
Aliph	nC29	40.0740	5528260		ug/L	Z
Aliph	nC30	41.1930	4216110		ug/L	Z
Aliph	nC31	42.2750	3526076		ug/L	Z
Aliph	nC32	43.3560	2584738		ug/L	Z
Aliph	nC33	44.5840	1834457		ug/L	Z
Aliph	nC34	46.0130	1263400		ug/L	Z
Aliph	nC35	47.7140	826807		ug/L	Z
Aliph	nC36	49.7870	646521		ug/L	Z
Aliph	nC37	52.2630	537260		ug/L	Z
Aliph	nC38	55.2360	462696		ug/L	Z
Aliph	nC39	58.9110	455866		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 : **W13/007615**

Beach E7: Beachport Conservation Park Visit: 2

Comments:

Location: Shore Upper

Local Date Time: 9/09/2015 2:48:03 PM

Type: Waxy Bitumen

Family: Type II waxy bitumen (low botryococcane)

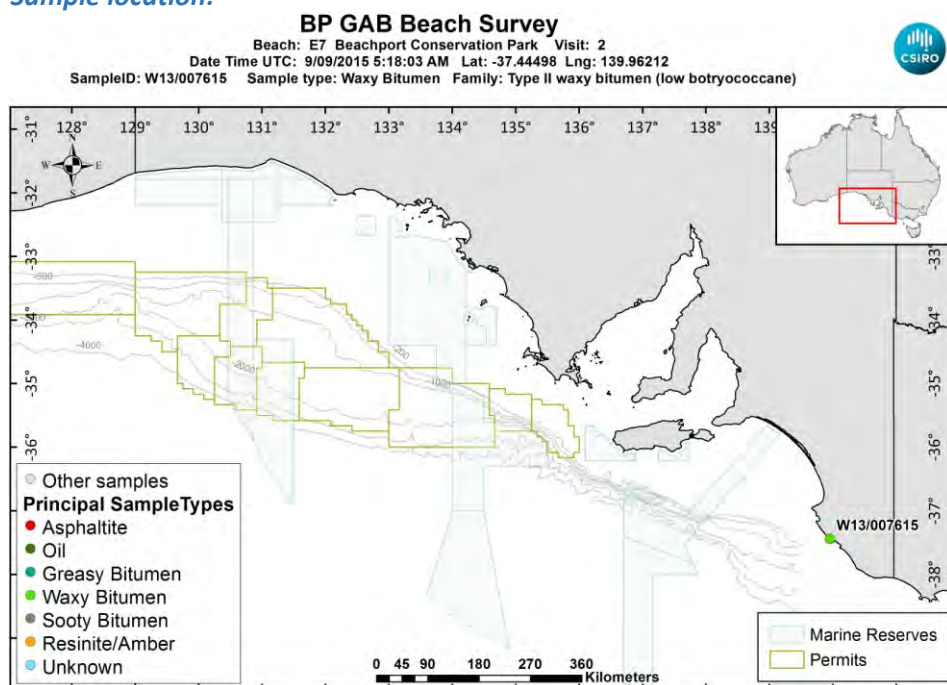
Size (cm): 16

Latitude (Y): -37.444982

Weight (gm): 154.3

Longitude (X): 139.962122

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\W13_007615_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\W13_007615_146A1556.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\W13_007615_Photo02.JPG](#)

Analyses Requested

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

Analyses Completed:

Analysis:	Instrument/Type:
Biomarkers	Gas Chromatography Mass Spectrometry Run: 1
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: Gas Chromatography Mass Spectrometry

Unique ID: W13/007615_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			39.7207940338451	ratio	Y
BiomRatio	% C27 abb 20(R+S)			35.0700527742363	ratio	Y
BiomRatio	% C28 aaa 20R			23.9686290825047	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.4571090622327	ratio	Y
BiomRatio	% C29 aaa 20R			36.3105768836502	ratio	Y
BiomRatio	% C29 abb 20(R+S)			39.472838163531	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.128840234289319	ratio	Y
BiomRatio	25-Nor/C30H			3.97855838467056E-02	ratio	Y
BiomRatio	C19t/C23t			0.130935570177578	ratio	Y
BiomRatio	C22t/C21t			0.637487194467187	ratio	Y
BiomRatio	C22t/C24t			0.387426582553839	ratio	Y
BiomRatio	C23t/C30H			0.196472333523981	ratio	Y
BiomRatio	C24t/C23t			0.475784241763811	ratio	Y
BiomRatio	C24Tet/C23t			0.754755296583705	ratio	Y
BiomRatio	C24Tet/C26t			1.86545936759405	ratio	Y
BiomRatio	C24Tet/C30H			0.148288534359385	ratio	Y
BiomRatio	C26t/C25t			1.01369283227622	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.380189752632557	ratio	Y
BiomRatio	C27 Dia/Ster			0.334396702434102	ratio	Y
BiomRatio	C28BNH/C30H			3.76985930985093E-03	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.12554259378045	ratio	Y
BiomRatio	C29H/C30H			1.05437184710485	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.151654486954177	ratio	Y
BiomRatio	C30DiaH/C30H			5.76548431905412E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.121445612142271	ratio	Y
BiomRatio	C35 Homohopane Index			7.57970770000264E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.906821360244347	ratio	Y
BiomRatio	Gam/C30H			6.27878260353323E-02	ratio	Y
BiomRatio	Gam/C31HR			0.195320287841343	ratio	Y
BiomRatio	Ole/C30H			0.038912829512092	ratio	Y
BiomRatio	Sterane/hopane			0.2339090365847	ratio	Y
BiomRatio	Steranes/Terpanes			0.198110812271576	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.180697983631762	ratio	Y

Results for: Compound Specific Isotope Analysis d13C

Unique ID: W13/007615_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: Internal 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			-27.231	value	Y
Aliph	nC14				value	U
Aliph	nC15			-28.779	value	Y
Aliph	nC16			-31.513	value	Y
Aliph	nC17			-26.571	value	Y
Aliph	nC18			-28.068	value	Y
Aliph	nC19			-26.214	value	Y
Aliph	nC20			-25.903	value	Y
Aliph	nC21			-26.875	value	Y
Aliph	nC22			-26.115	value	Y
Aliph	nC23			-26.699	value	Y
Aliph	nC24			-27.132	value	Y
Aliph	nC25			-26.885	value	Y
Aliph	nC26			-26.855	value	Y
Aliph	nC27			-27.722	value	Y
Aliph	nC28			-27.555	value	Y
Aliph	nC29			-27.638	value	Y
Aliph	nC30			-27.607	value	Y
Aliph	nC31			-27.736	value	Y
Aliph	nC32			-27.951	value	Y
Aliph	nC33			-28.355	value	Y
Aliph	nC34			-28.124	value	Y
Aliph	nC35			-28.577	value	Y
Aliph	nC36			-28.25	value	Y
Aliph	nC37			-28.38	value	Y
Aliph	nC38			-28.717	value	Y
Aliph	nC39			-29.007	value	Y

Results for: Compound Specific Isotope Analysis d2H

Unique ID: W13/007615_PTE_CSIA/02

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

for Analysis: CSIA

Preparation: Pentane Extraction

Analysis Date: 17/07/2017

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

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Internal 2H analysis

Results for: Compound Specific Isotope Analysis d2H

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	nC13			-43.535	value	Y
Aliph	nC14				value	U
Aliph	nC15				value	U
Aliph	nC16				value	U
Aliph	nC17				value	U
Aliph	nC18			-64.545	value	Y
Aliph	nC19				value	U
Aliph	nC20				value	U
Aliph	nC21			-84.739	value	Y
Aliph	nC22			-97.239	value	Y
Aliph	nC23			-105.7425	value	Y
Aliph	nC24			-108.9475	value	Y
Aliph	nC25			-117.4395	value	Y
Aliph	nC26			-118.3065	value	Y
Aliph	nC27			-116.772	value	Y
Aliph	nC28			-110.153	value	Y
Aliph	nC29			-99.933	value	Y
Aliph	nC30			-91.7495	value	Y
Aliph	nC31			-81.121	value	Y
Aliph	nC32			-74.8815	value	Y
Aliph	nC33			-71.7025	value	Y
Aliph	nC34			-66.7775	value	Y
Aliph	nC35			-59.225	value	Y
Aliph	nC36			-52.5175	value	Y
Aliph	nC37			-53.4475	value	Y
Aliph	nC38				value	U
Aliph	nC39				value	U

Results for: Elemental Analyser

Unique ID: W13/007615_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)

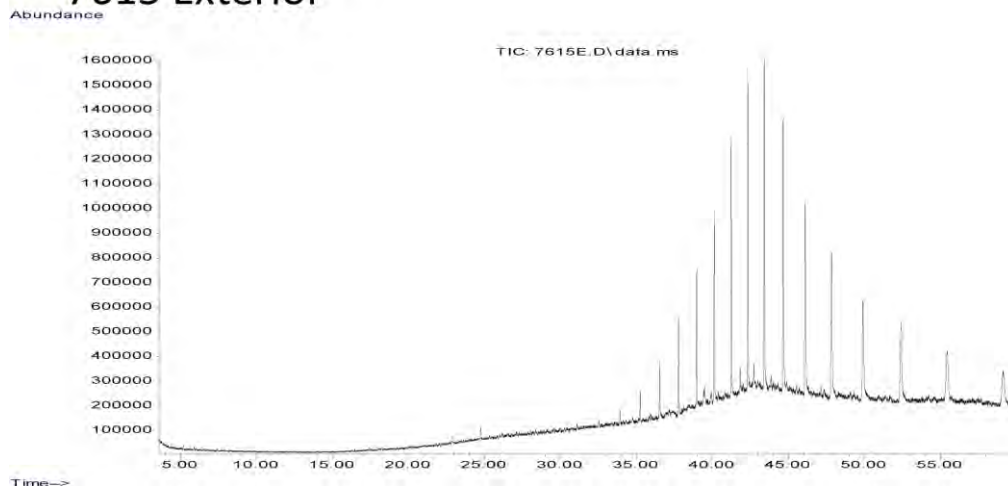
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			80.5979326442147	percent	Y
Inorg	Hydrogen			7.48656799204771	percent	Y
Inorg	Nitrogen			0.283694944301628	percent	Y
Inorg	Sulphur			3.22512134846438	percent	Y

Results for: GCMS with Full Scan

Results for: GCMS with Full Scan**Unique ID:** W13/007615 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 007615 ext WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

7615 Exterior



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			0.995331296168135	ug/L	Y
Aliph	Botryococcane	39.4290	519251		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	96630		ug/L	Z
Aliph	nC23	32.4960	158917		ug/L	Z
Aliph	nC24	33.8800	288752		ug/L	Z
Aliph	nC25	35.2120	538204		ug/L	Z
Aliph	nC26	36.4960	1079941		ug/L	Z
Aliph	nC27	37.7300	1891039		ug/L	Z
Aliph	nC28	38.9260	2660507		ug/L	Z
Aliph	nC29	40.0740	3694393		ug/L	Z
Aliph	nC30	41.1930	5122358		ug/L	Z
Aliph	nC31	42.2750	6363779		ug/L	Z
Aliph	nC32	43.3560	7152711		ug/L	Z
Aliph	nC33	44.5840	7264569		ug/L	Z
Aliph	nC34	46.0130	6498691		ug/L	Z
Aliph	nC35	47.7140	5489446		ug/L	Z
Aliph	nC36	49.7870	4544027		ug/L	Z
Aliph	nC37	52.2630	3972200		ug/L	Z
Aliph	nC38	55.2360	3293850		ug/L	Z
Aliph	nC39	58.9110	2504254		ug/L	Z
Aliph	Norpristane	21.8010	83916		ug/L	Z
Aliph	Phytane	24.7190	266331		ug/L	Z

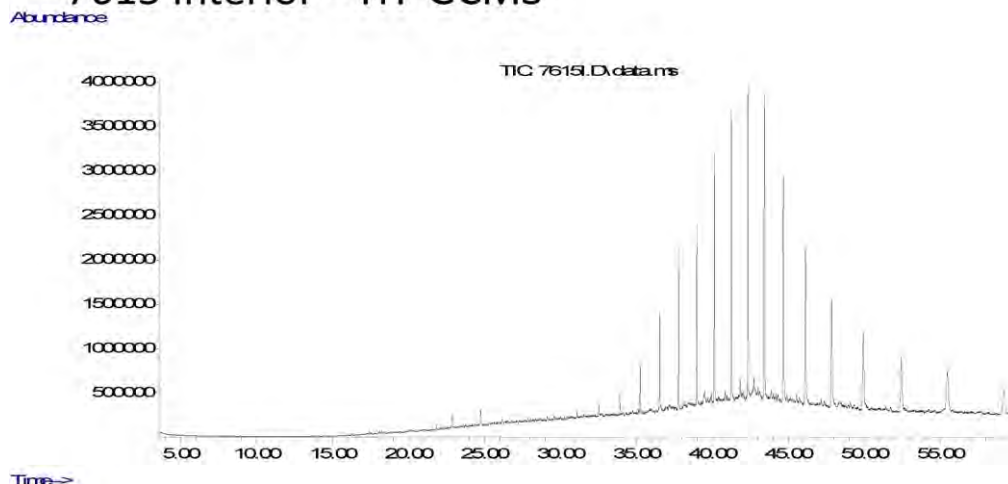
Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	265087	ug/L	Z
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Results for: GCMS with Full Scan**Unique ID:** W13/007615 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_007615_int_WholeOil.jpg](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

7615 Interior – HT-GCMS



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Ratio	Pristane/Phytane			0.871737269362575	ug/L	Y
Aliph	Botryococcane	39.4290	1636597		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	402264		ug/L	Z
Aliph	nC23	32.4960	640338		ug/L	Z
Aliph	nC24	33.8800	1258037		ug/L	Z
Aliph	nC25	35.2120	2714917		ug/L	Z
Aliph	nC26	36.4960	5199934		ug/L	Z
Aliph	nC27	37.7300	8471155		ug/L	Z
Aliph	nC28	38.9260	10756513		ug/L	Z
Aliph	nC29	40.0740	13411739		ug/L	Z
Aliph	nC30	41.1930	16155509		ug/L	Z
Aliph	nC31	42.2750	18273240		ug/L	Z
Aliph	nC32	43.3560	19359781		ug/L	Z
Aliph	nC33	44.5840	16379819		ug/L	Z
Aliph	nC34	46.0130	15045106		ug/L	Z
Aliph	nC35	47.7140	11837833		ug/L	Z
Aliph	nC36	49.7870	9997428		ug/L	Z
Aliph	nC37	52.2630	8535594		ug/L	Z
Aliph	nC38	55.2360	7070253		ug/L	Z
Aliph	nC39	58.9110	5027874		ug/L	Z
Aliph	Norpristane	21.8010	474891		ug/L	Z
Aliph	Phytane	24.7190	1236945		ug/L	Z

Results for: GCMS with Full Scan

Aliph	Pristane	22.8660	1078291	ug/L	Z
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Qualifier codes:

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

Sample ID : /001012

Beach E7: Beachport Conservation Park Visit: 3

Comments:
Segment 0

Location: Shore Upper

Local Date Time: 21/10/2016 2:15:00 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

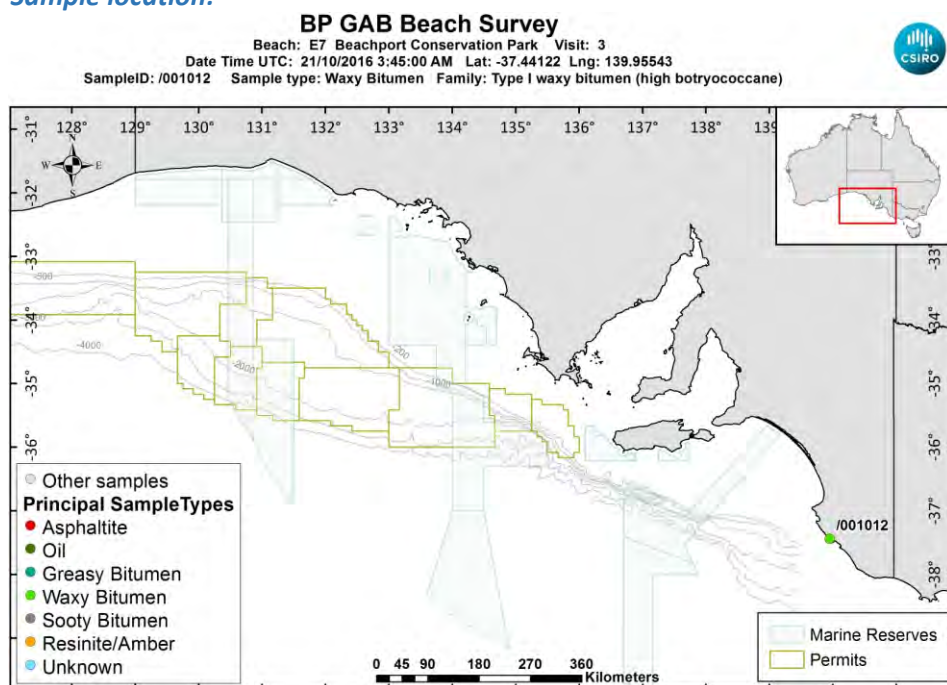
Size (cm): 1.9

Latitude (Y): -37.441220

Weight (gm): 1.63313

Longitude (X): 139.955430

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001012 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001012_146A7046.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001012_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: /001012_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			85.05	percent	Y
Inorg	Hydrogen			7.3153717693837	percent	Y
Inorg	Nitrogen			0.257321336760925	percent	Y
Inorg	Sulphur			1.23347932703968	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001012_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\ 001012_bulk_WholeOil.JPG](#)

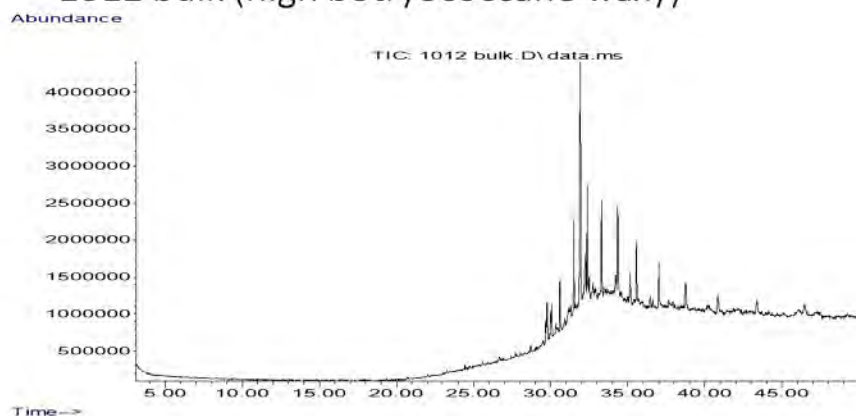
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1012 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	26151567			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	604737			Z
Aliph	nC26	29.6680	1349929			Z
Aliph	nC27	30.6080	3650921			Z
Aliph	nC28	31.5080	6309185			Z
Aliph	nC29	32.3700	7106291			Z
Aliph	nC30	33.2910	7343195			Z
Aliph	nC31	34.3470	8087389			Z
Aliph	nC32	35.5720	6472017			Z
Aliph	nC33	37.0130	5101350			Z
Aliph	nC34	38.7280	4128658			Z
Aliph	nC35	40.8080	2881782			Z
Aliph	nC36	43.3510	3068628			Z
Aliph	nC37	46.4710	2560155			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 : /001013

Beach E7: Beachport Conservation Park Visit: 3

Comments:
Segment 0

Location: Shore Upper

Local Date Time: 21/10/2016 2:15:31 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

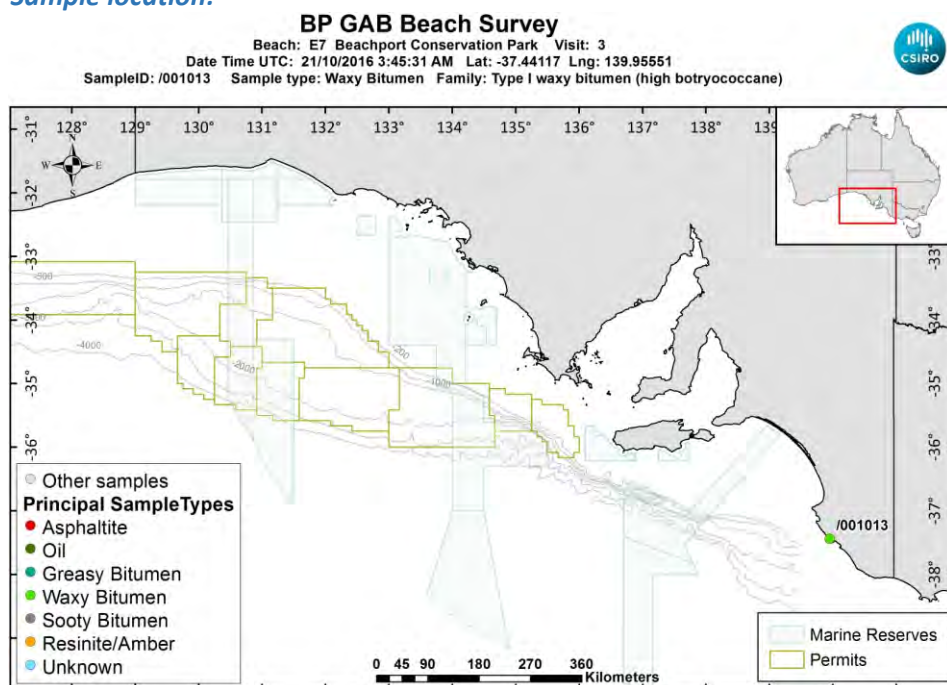
Size (cm): 2.6

Latitude (Y): -37.441170

Weight (gm): 1.63475

Longitude (X): 139.955510

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001013 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001013_146A7048.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001013_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: /001013_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			86.13	percent	Y
Inorg	Hydrogen			8.69912842942346	percent	Y
Inorg	Nitrogen			0.227547557840617	percent	Y
Inorg	Sulphur			1.66513199056949	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001013_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\ 001013_bulk_WholeOil.JPG](#)

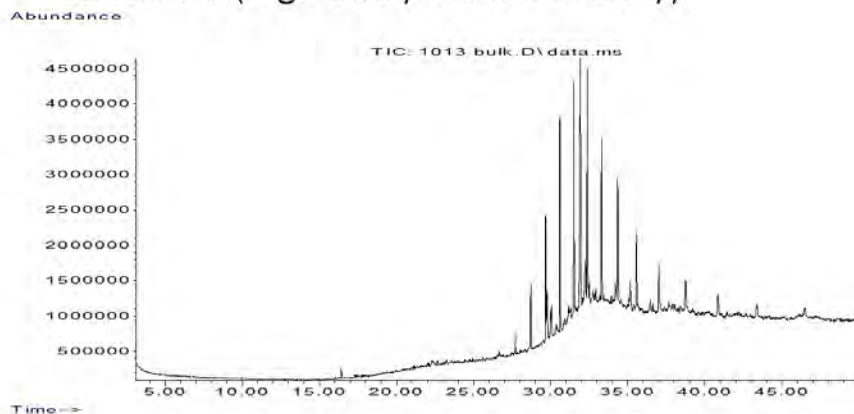
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1013 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	28980644			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	1312039			Z
Aliph	nC25	28.7100	4425347			Z
Aliph	nC26	29.6680	8343859			Z
Aliph	nC27	30.6080	15157187			Z
Aliph	nC28	31.5080	17192161			Z
Aliph	nC29	32.3700	16086321			Z
Aliph	nC30	33.2910	12879364			Z
Aliph	nC31	34.3470	11421422			Z
Aliph	nC32	35.5720	8464887			Z
Aliph	nC33	37.0130	6109839			Z
Aliph	nC34	38.7280	4583575			Z
Aliph	nC35	40.8080	3185604			Z
Aliph	nC36	43.3510	3046533			Z
Aliph	nC37	46.4710	2238491			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 : /001014

Beach E7: Beachport Conservation Park Visit: 3

Comments:
Segment 0

Location: Shore Upper

Local Date Time: 21/10/2016 2:15:52 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

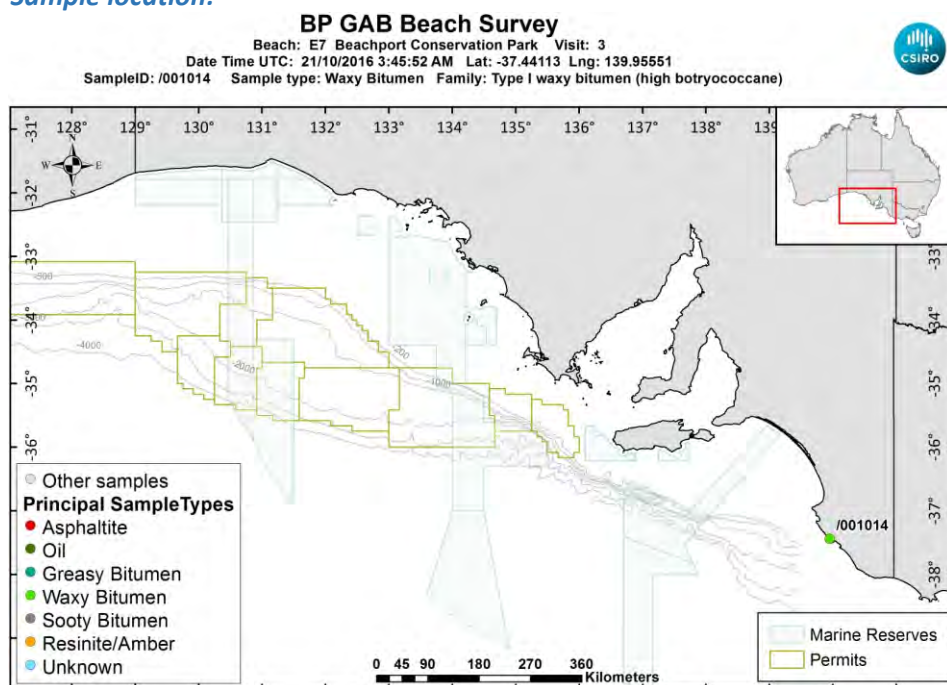
Size (cm): 2.7

Latitude (Y): -37.441130

Weight (gm): 2.31656

Longitude (X): 139.955510

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001014 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001014_146A7050.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001014_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: /001014_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			85.82	percent	Y
Inorg	Hydrogen			5.65580516898608	percent	Y
Inorg	Nitrogen			0.179480805484147	percent	Y
Inorg	Sulphur			0.770141565968594	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001014_DISS_GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 30/10/2017

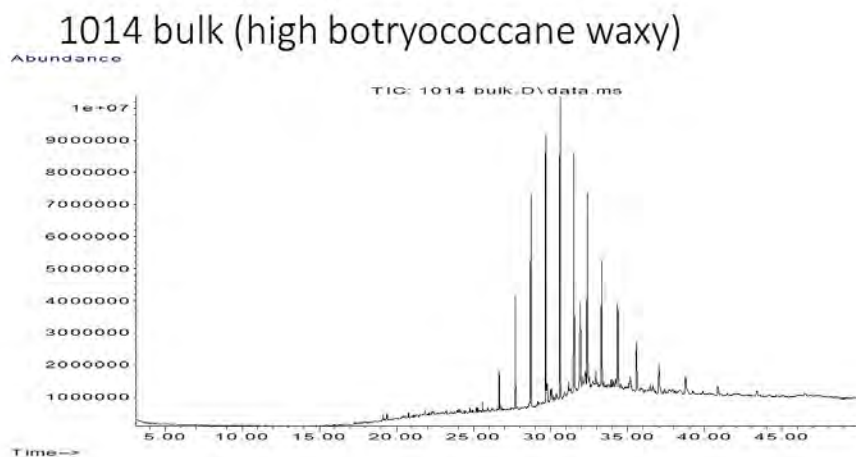
Linked Image: [LinkedFiles\GAB_BCH1\GCMS\ 001014_bulk_WholeOil.JPG](#)

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	19796408			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	1301253			Z
Aliph	nC23	26.6620	5428304			Z
Aliph	nC24	27.7060	15964202			Z
Aliph	nC25	28.7100	29180681			Z
Aliph	nC26	29.6680	34980972			Z
Aliph	nC27	30.6080	42508925			Z
Aliph	nC28	31.5080	34467965			Z
Aliph	nC29	32.3700	29425001			Z
Aliph	nC30	33.2910	20895936			Z
Aliph	nC31	34.3470	16987912			Z
Aliph	nC32	35.5720	11561036			Z
Aliph	nC33	37.0130	8398259			Z
Aliph	nC34	38.7280	5206556			Z
Aliph	nC35	40.8080	3459118			Z
Aliph	nC36	43.3510	2660475			Z
Aliph	nC37	46.4710	1817128			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 : /001015

Beach E7: Beachport Conservation Park Visit: 3

Comments:
Segment 0

Location: Shore Upper

Local Date Time: 21/10/2016 2:16:08 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

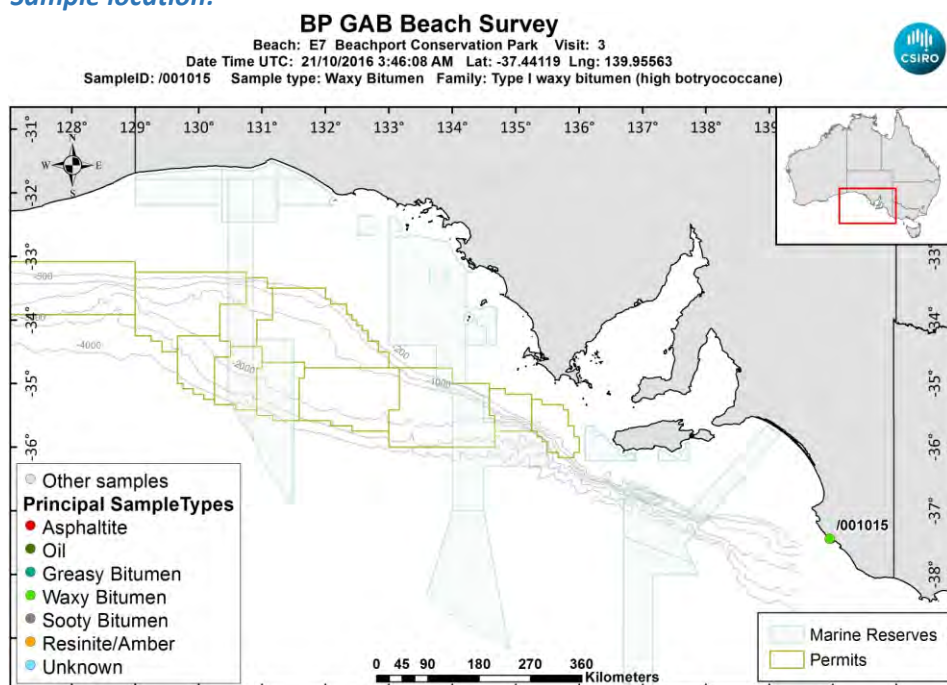
Size (cm): 2.6

Latitude (Y): -37.441190

Weight (gm): 2.65106

Longitude (X): 139.955630

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001015 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001015_146A7052.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001015_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: /001015_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			86.32	percent	Y
Inorg	Hydrogen			9.45485964214713	percent	Y
Inorg	Nitrogen			0.245981833761782	percent	Y
Inorg	Sulphur			1.93882326308842	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001015_DISS_GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 30/10/2017

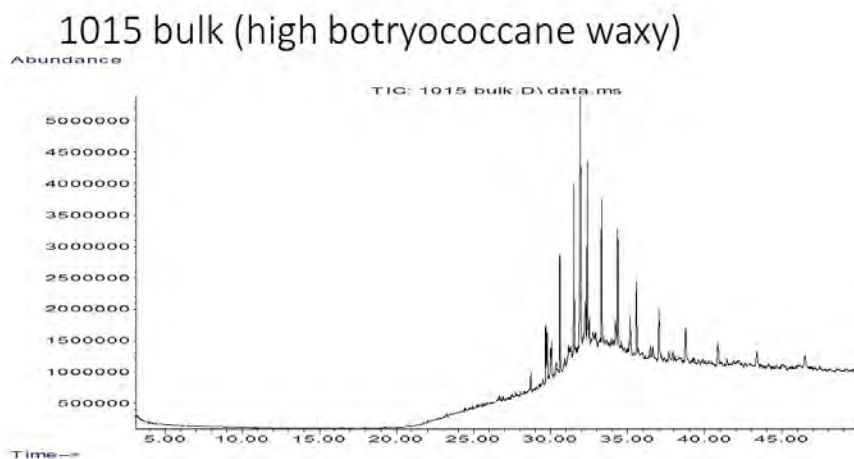
Linked Image: [LinkedFiles\GAB_BCH1\GCMS\ 001015_bulk_WholeOil.JPG](#)

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:	Retention Time:	Target Response:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	30914346			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	1416614			Z
Aliph	nC26	29.6680	3696977			Z
Aliph	nC27	30.6080	9627673			Z
Aliph	nC28	31.5080	13434945			Z
Aliph	nC29	32.3700	14084808			Z
Aliph	nC30	33.2910	12746599			Z
Aliph	nC31	34.3470	11809417			Z
Aliph	nC32	35.5720	9368818			Z
Aliph	nC33	37.0130	7075691			Z
Aliph	nC34	38.7280	5286434			Z
Aliph	nC35	40.8080	4383496			Z
Aliph	nC36	43.3510	3017968			Z
Aliph	nC37	46.4710	2421622			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 : /001016

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 2:28:50 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

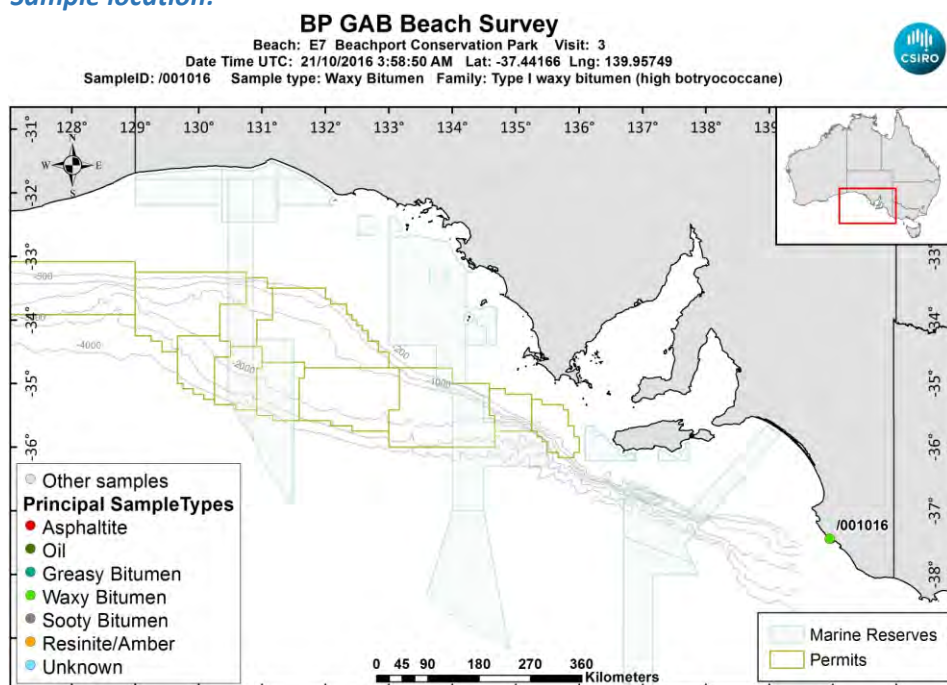
Size (cm): 2

Latitude (Y): -37.441665

Weight (gm): 1.17708

Longitude (X): 139.957490

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001016 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001016_146A7058.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001016_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: /001016_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			86.64	percent	Y
Inorg	Hydrogen			7.20618290258449	percent	Y
Inorg	Nitrogen			0.265904027420737	percent	Y
Inorg	Sulphur			1.17182327501895	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001016_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\ 001016_bulk_WholeOil.JPG](#)

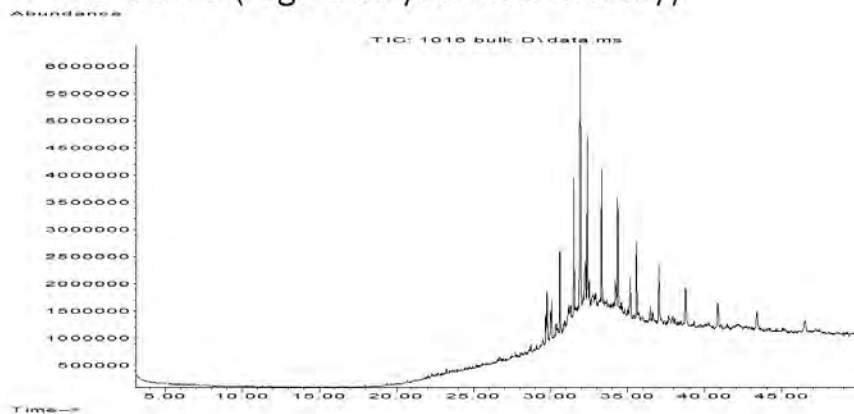
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1016 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	37214408			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	639184			Z
Aliph	nC26	29.6680	2341352			Z
Aliph	nC27	30.6080	7383299			Z
Aliph	nC28	31.5080	12650223			Z
Aliph	nC29	32.3700	14418538			Z
Aliph	nC30	33.2910	13521135			Z
Aliph	nC31	34.3470	13206920			Z
Aliph	nC32	35.5720	10429427			Z
Aliph	nC33	37.0130	8454598			Z
Aliph	nC34	38.7280	6946864			Z
Aliph	nC35	40.8080	5613124			Z
Aliph	nC36	43.3510	4211855			Z
Aliph	nC37	46.4710	3795282			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 : /001017

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Upper Intertidal

Local Date Time: 21/10/2016 2:32:59 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

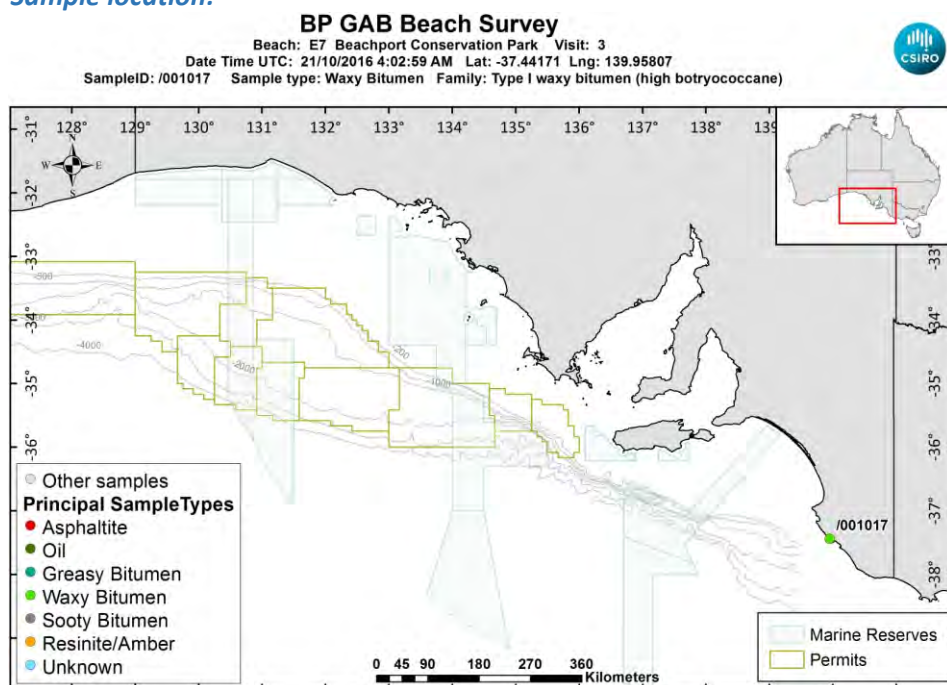
Size (cm): 2.2

Latitude (Y): -37.441708

Weight (gm): 1.89429

Longitude (X): 139.958068

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001017 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001017_146A7060.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001017_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: /001017_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			84.96	percent	Y
Inorg	Hydrogen			7.96973200795229	percent	Y
Inorg	Nitrogen			0.257946015424165	percent	Y
Inorg	Sulphur			2.06977668549303	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001017 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\ 001017_bulk_WholeOil.JPG](#)

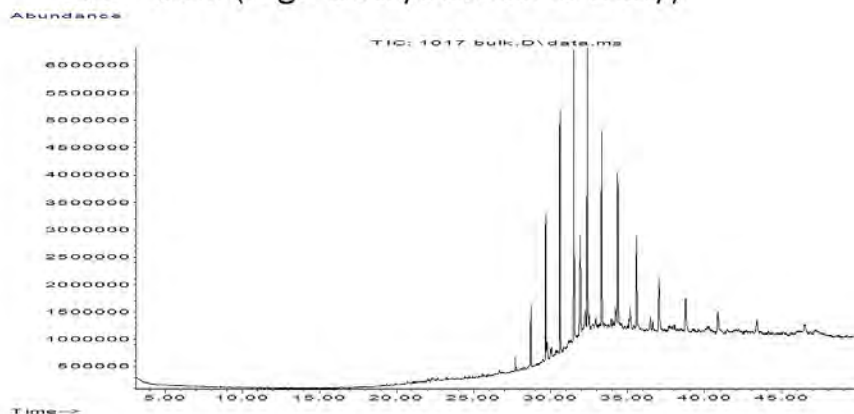
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1017 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	14140989			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	1243431			Z
Aliph	nC25	28.7100	5201693			Z
Aliph	nC26	29.6680	11111497			Z
Aliph	nC27	30.6080	22331176			Z
Aliph	nC28	31.5080	25064126			Z
Aliph	nC29	32.3700	24980924			Z
Aliph	nC30	33.2910	20261718			Z
Aliph	nC31	34.3470	17434231			Z
Aliph	nC32	35.5720	12929023			Z
Aliph	nC33	37.0130	9264236			Z
Aliph	nC34	38.7280	6369097			Z
Aliph	nC35	40.8080	4840510			Z
Aliph	nC36	43.3510	4017207			Z
Aliph	nC37	46.4710	2944609			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 : /001018

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 2:34:42 PM

Type: Unknown

Family: Not bitumen (false sample)

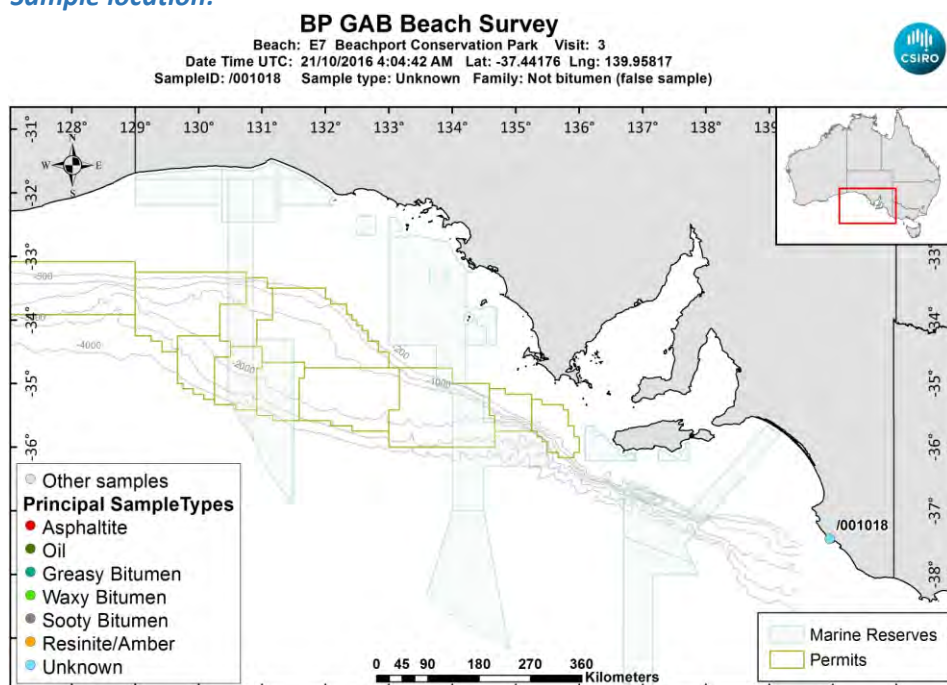
Size (cm): 2.9

Latitude (Y): -37.441758

Weight (gm): 2.10052

Longitude (X): 139.958172

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001018 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001018_146A7063.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001018_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: /001018 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 : /001019

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 2:36:21 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

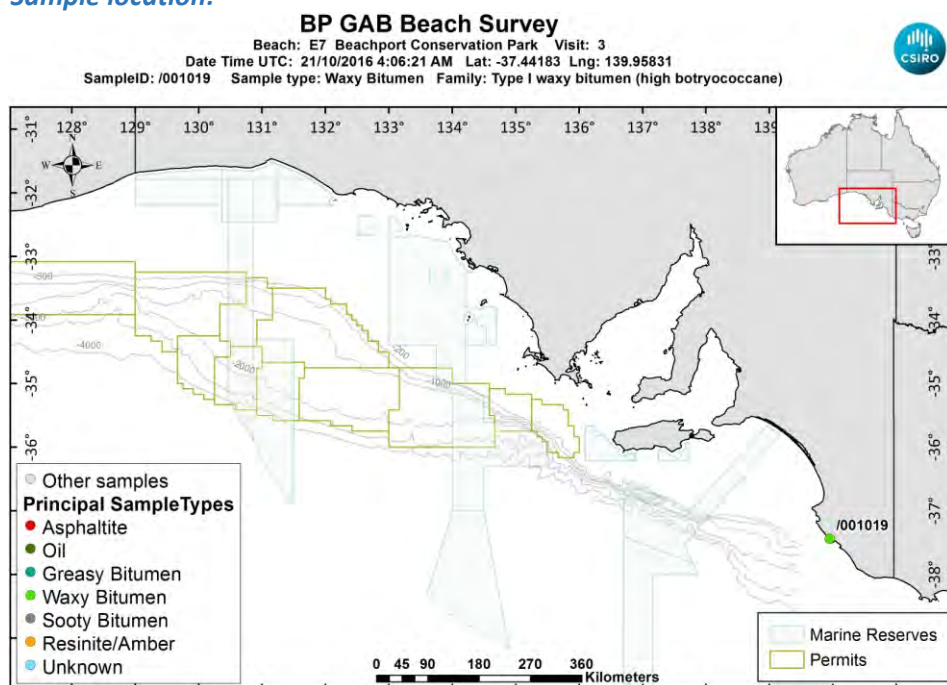
Size (cm): 3.5

Latitude (Y): -37.441835

Weight (gm): 5.6996

Longitude (X): 139.958308

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001019 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001019_146A7065.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001019_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: /001019_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			90.43	percent	Y
Inorg	Hydrogen			7.2962675944334	percent	Y
Inorg	Nitrogen			0.32748089117395	percent	Y
Inorg	Sulphur			2.02625005020691	percent	Y

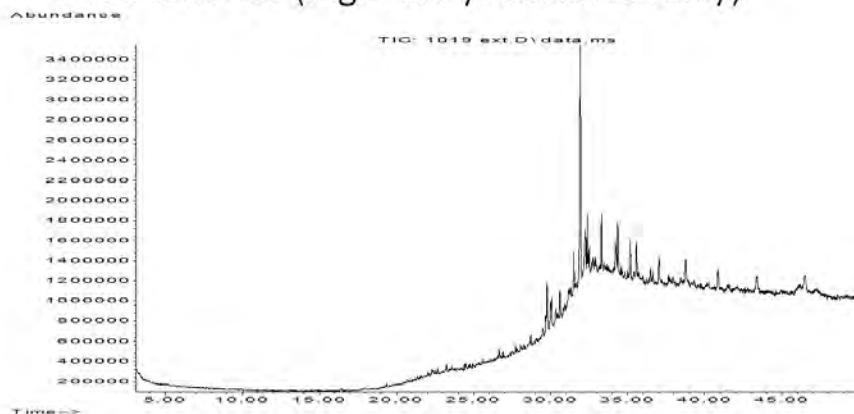
Results for: GCMS with Full Scan

Unique ID: /001019_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\ 001019_ext WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

1019 exterior (high botryococcane waxy)



Data Sheet:

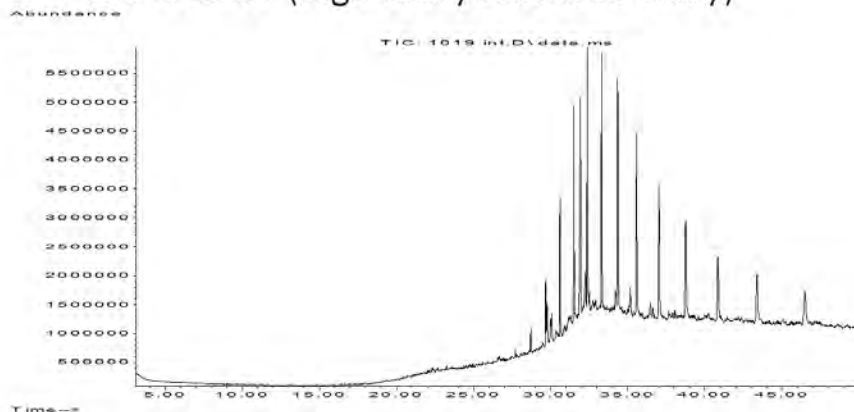
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	18924605			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	463772			Z
Aliph	nC26	29.6680	697535			Z
Aliph	nC27	30.6080	1350142			Z
Aliph	nC28	31.5080	2411580			Z
Aliph	nC29	32.3700	2364143			Z
Aliph	nC30	33.2910	2799138			Z
Aliph	nC31	34.3470	3215481			Z
Aliph	nC32	35.5720	3105929			Z
Aliph	nC33	37.0130	2347590			Z
Aliph	nC34	38.7280	2343790			Z
Aliph	nC35	40.8080	2069516			Z
Aliph	nC36	43.3510	2048678			Z
Aliph	nC37	46.4710	2381175			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:** /001019 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_001019_int_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

1019 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	29042071			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	2181776			Z
Aliph	nC26	29.6680	4584533			Z
Aliph	nC27	30.6080	12000332			Z
Aliph	nC28	31.5080	18140689			Z
Aliph	nC29	32.3700	22651439			Z
Aliph	nC30	33.2910	24247720			Z
Aliph	nC31	34.3470	25747866			Z
Aliph	nC32	35.5720	23329180			Z
Aliph	nC33	37.0130	20546237			Z
Aliph	nC34	38.7280	17037614			Z
Aliph	nC35	40.8080	15022923			Z
Aliph	nC36	43.3510	13316472			Z
Aliph	nC37	46.4710	11511308			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 : /001020

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 2:37:37 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

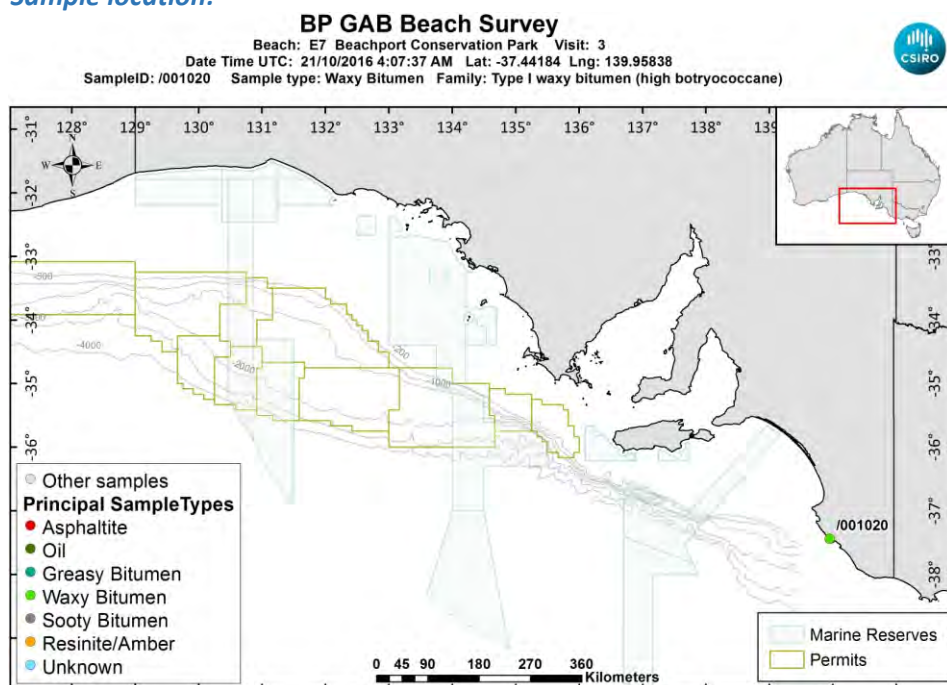
Size (cm): 2.1

Latitude (Y): -37.441842

Weight (gm): 1.15788

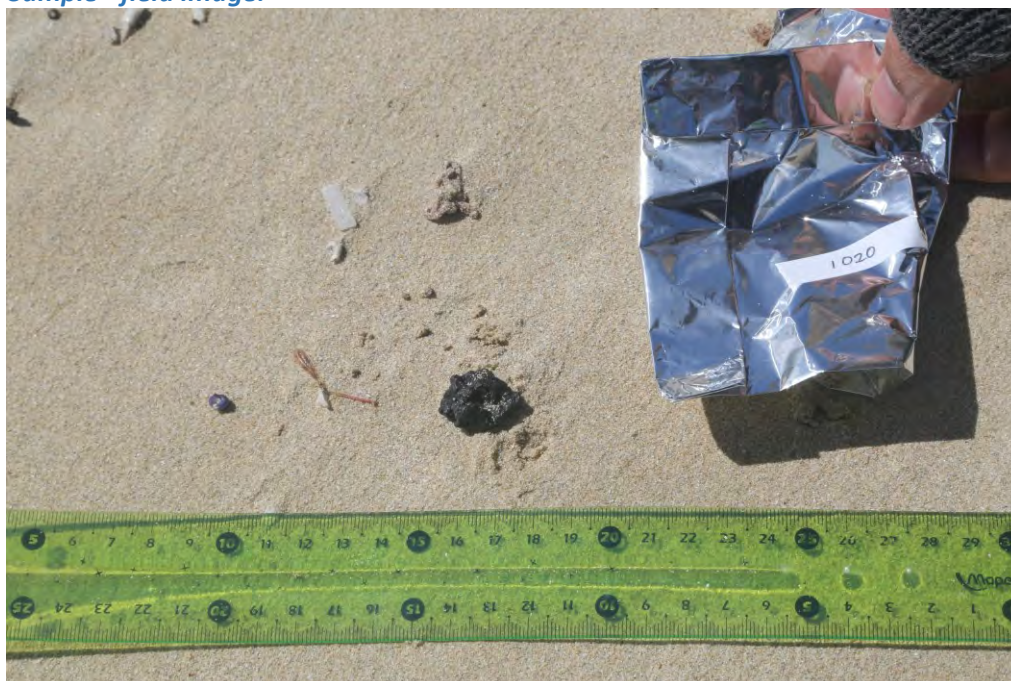
Longitude (X): 139.958377

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001020 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001020_146A7067.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001020_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: /001020_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			87.3	percent	Y
Inorg	Hydrogen			11.201069582505	percent	Y
Inorg	Nitrogen			0.473468380462725	percent	Y
Inorg	Sulphur			2.19119717184654	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001020_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\ 001020_bulk_WholeOil.JPG](#)

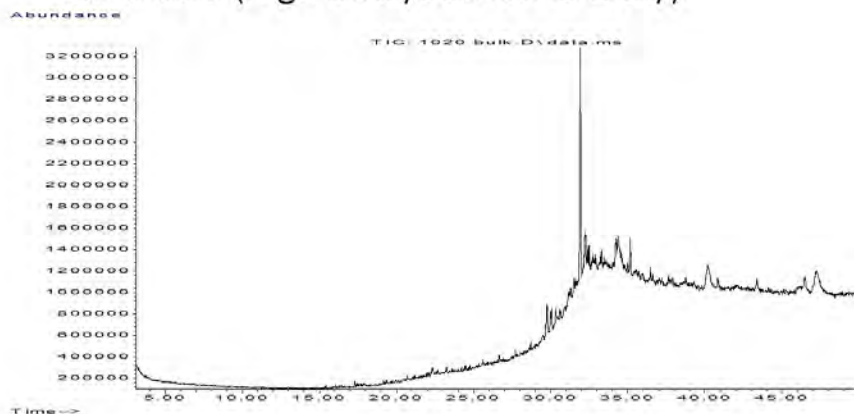
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1020 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	17706833			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	303606			Z
Aliph	nC34	38.7280	1019260			Z
Aliph	nC35	40.8080	847116			Z
Aliph	nC36	43.3510	1425639			Z
Aliph	nC37	46.4710	2000756			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 : /001021

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 2:39:16 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

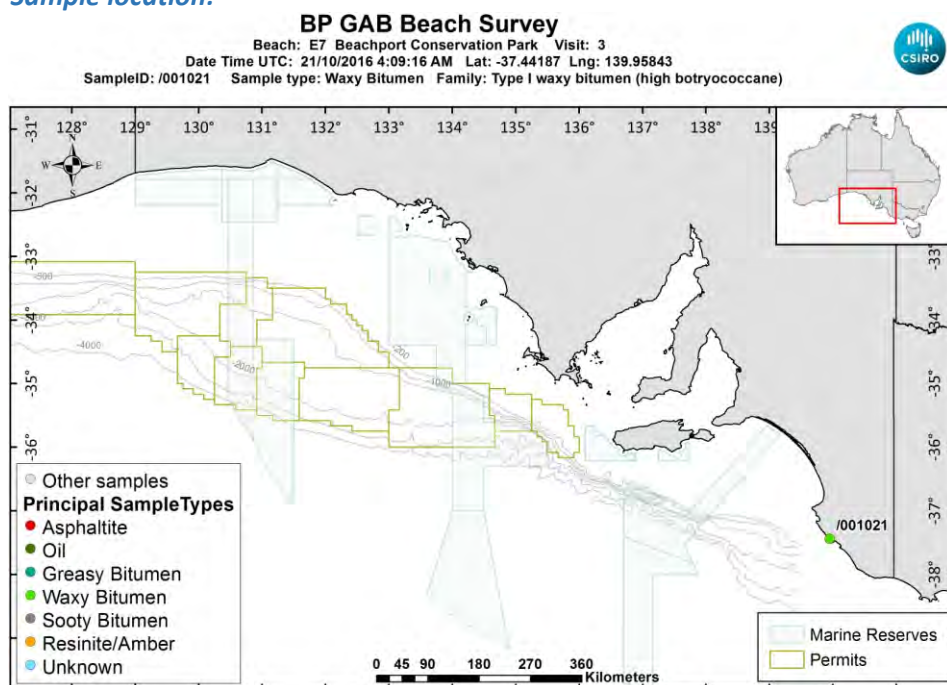
Size (cm): 3.4

Latitude (Y): -37.441873

Weight (gm): 7.32645

Longitude (X): 139.958430

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001021_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001021_146A7070.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001021_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: /001021_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			51.1078726531095	ratio	Y
BiomRatio	% C27 abb 20(R+S)			49.8382778386732	ratio	Y
BiomRatio	% C28 aaa 20R			13.6395973699564	ratio	Y
BiomRatio	% C28 abb 20(R+S)			19.5216617850533	ratio	Y
BiomRatio	% C29 aaa 20R			35.2525299769342	ratio	Y
BiomRatio	% C29 abb 20(R+S)			30.6400603762736	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			9.07368170233443E-02	ratio	Y
BiomRatio	25-Nor/C30H			6.67806229177965E-02	ratio	Y
BiomRatio	C19t/C23t			0.322191840205412	ratio	Y
BiomRatio	C22t/C21t			0.342152671876358	ratio	Y
BiomRatio	C22t/C24t			0.230646313911218	ratio	Y
BiomRatio	C23t/C30H			0.103724515489933	ratio	Y
BiomRatio	C24t/C23t			0.939080814312153	ratio	Y
BiomRatio	C24Tet/C23t			0.551046234389849	ratio	Y
BiomRatio	C24Tet/C26t			0.505189835397268	ratio	Y
BiomRatio	C24Tet/C30H			5.71570036746395E-02	ratio	Y
BiomRatio	C26t/C25t			1.70782972124908	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.717174475877747	ratio	Y
BiomRatio	C27 Dia/Ster			1.10443197921673	ratio	Y
BiomRatio	C28BNH/C30H			3.98089976092707E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			0.614789709938526	ratio	Y
BiomRatio	C29H/C30H			0.618377849367453	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.278802689371428	ratio	Y
BiomRatio	C30DiaH/C30H			0.166017419257546	ratio	Y
BiomRatio	C30Ts/C30H			2.05933207617129E-02	ratio	Y
BiomRatio	C35 Homohopane Index			4.23982032791465E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.454005960533217	ratio	Y
BiomRatio	Gam/C30H			3.82004781458566E-02	ratio	Y
BiomRatio	Gam/C31HR			0.20019921311725	ratio	Y
BiomRatio	Ole/C30H			0.102133895366855	ratio	Y
BiomRatio	Sterane/hopane			7.80178428147994E-02	ratio	Y
BiomRatio	Steranes/Terpanes			6.45506105459073E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.208630594737976	ratio	Y

Results for: Elemental Analyser

Unique ID: /001021_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

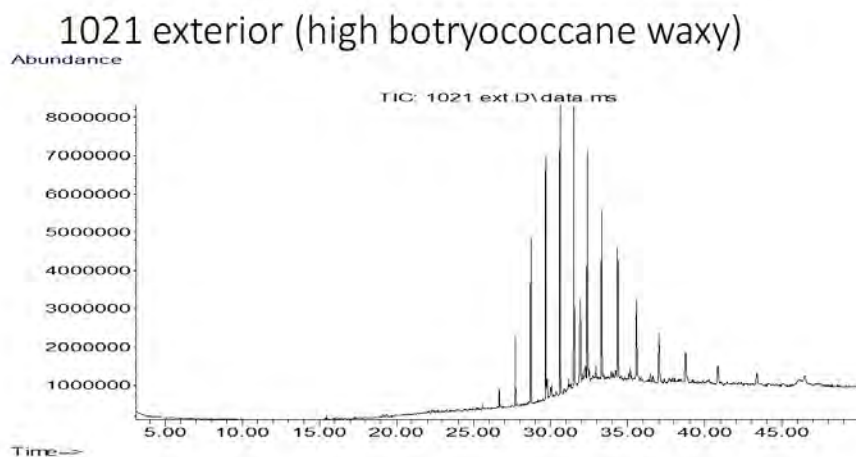
Results for: Elemental Analyser**Data Sheet:**

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			89.19	percent	Y
Inorg	Hydrogen			10.7397685884692	percent	Y
Inorg	Nitrogen			0.390334190231363	percent	Y
Inorg	Sulphur			2.14587891316662	percent	Y

Results for: GCMS with Full Scan**Unique ID:** /001021_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_001021_ext_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



Data Sheet:

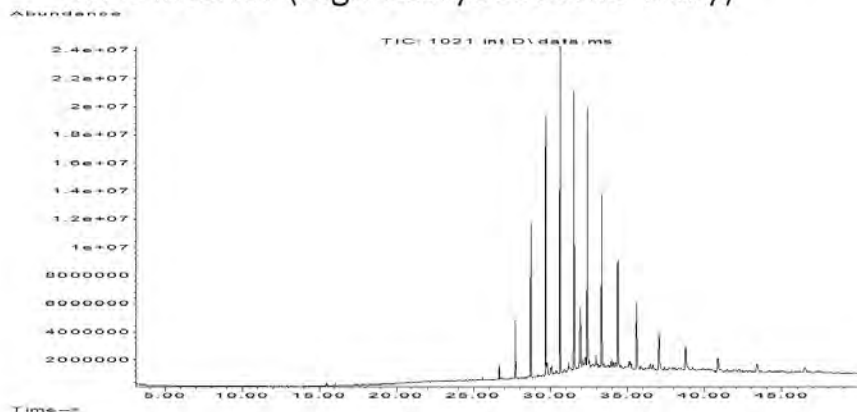
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	17128551			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	471507			Z
Aliph	nC23	26.6620	2305655			Z
Aliph	nC24	27.7060	8603771			Z
Aliph	nC25	28.7100	19685086			Z
Aliph	nC26	29.6680	25923812			Z
Aliph	nC27	30.6080	35186109			Z
Aliph	nC28	31.5080	33394856			Z
Aliph	nC29	32.3700	30561787			Z
Aliph	nC30	33.2910	23908565			Z
Aliph	nC31	34.3470	21117421			Z
Aliph	nC32	35.5720	15795761			Z
Aliph	nC33	37.0130	11697701			Z
Aliph	nC34	38.7280	7719554			Z
Aliph	nC35	40.8080	5718760			Z
Aliph	nC36	43.3510	4836719			Z
Aliph	nC37	46.4710	2763948			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:** /001021 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_001021_int_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Interior

Results for: GCMS with Full Scan

1021 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	30400416			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	808653			Z
Aliph	nC23	26.6620	4546965			Z
Aliph	nC24	27.7060	19664714			Z
Aliph	nC25	28.7100	50297528			Z
Aliph	nC26	29.6680	72489964			Z
Aliph	nC27	30.6080	97941617			Z
Aliph	nC28	31.5080	87810213			Z
Aliph	nC29	32.3700	79380745			Z
Aliph	nC30	33.2910	58912184			Z
Aliph	nC31	34.3470	48346447			Z
Aliph	nC32	35.5720	34723891			Z
Aliph	nC33	37.0130	23331511			Z
Aliph	nC34	38.7280	16772187			Z
Aliph	nC35	40.8080	11910918			Z
Aliph	nC36	43.3510	9281705			Z
Aliph	nC37	46.4710	6402956			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 : /001022

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 2:39:53 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

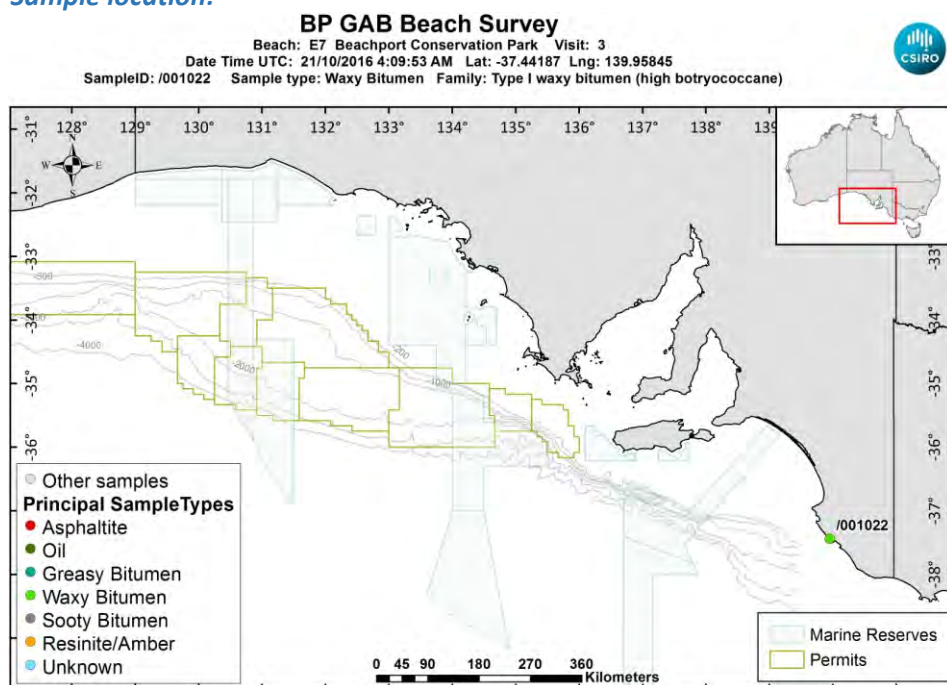
Size (cm): 3.9

Latitude (Y): -37.441870

Weight (gm): 16.13069

Longitude (X): 139.958448

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001022 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001022_146A7072.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001022_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: /001022_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			86.45	percent	Y
Inorg	Hydrogen			7.12715308151093	percent	Y
Inorg	Nitrogen			0.372635475578406	percent	Y
Inorg	Sulphur			1.25763969570767	percent	Y

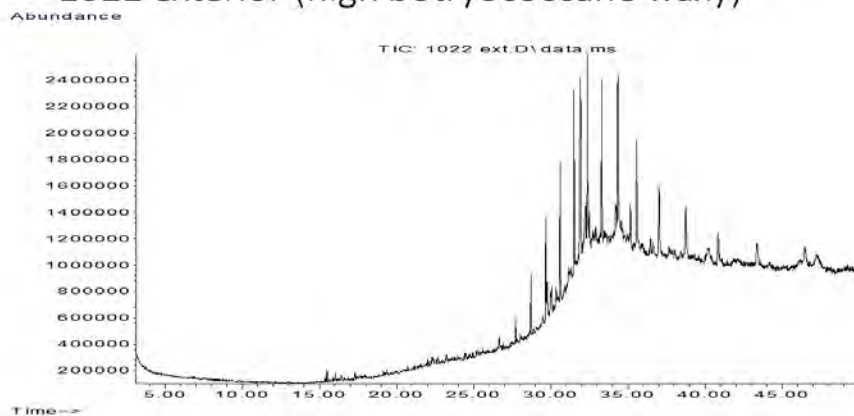
Results for: GCMS with Full Scan

Unique ID: /001022_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\ 001022_ext_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan

1022 exterior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	11191510			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	435968			Z
Aliph	nC24	27.7060	1044406			Z
Aliph	nC25	28.7100	2055840			Z
Aliph	nC26	29.6680	3225649			Z
Aliph	nC27	30.6080	5480785			Z
Aliph	nC28	31.5080	6768804			Z
Aliph	nC29	32.3700	7195180			Z
Aliph	nC30	33.2910	6592724			Z
Aliph	nC31	34.3470	7551496			Z
Aliph	nC32	35.5720	6067751			Z
Aliph	nC33	37.0130	5266084			Z
Aliph	nC34	38.7280	3805529			Z
Aliph	nC35	40.8080	3210960			Z
Aliph	nC36	43.3510	2839449			Z
Aliph	nC37	46.4710	2448410			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: /001022 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_001022_int_WholeOil.JPG](#)

Sample Volume:

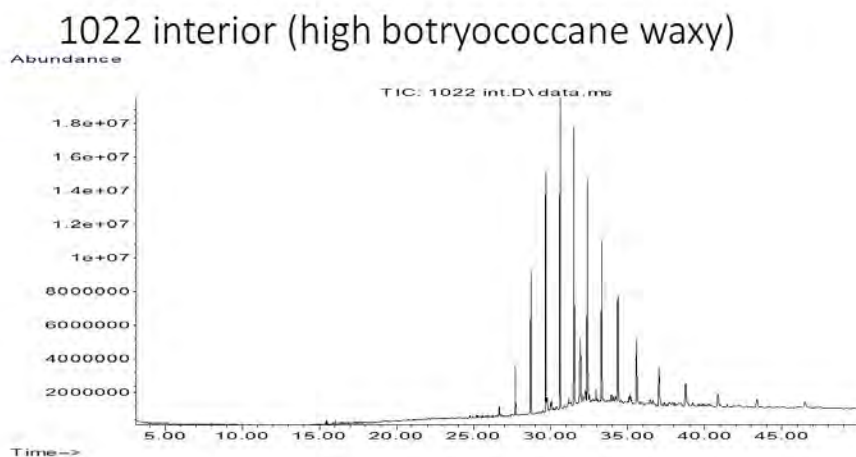
Volume Units:

Extract Volume:

Dilution Factor:

Comment: Interior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	29645112			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	2846303			Z
Aliph	nC24	27.7060	13378099			Z
Aliph	nC25	28.7100	36628365			Z
Aliph	nC26	29.6680	59763263			Z
Aliph	nC27	30.6080	78340792			Z
Aliph	nC28	31.5080	70827425			Z
Aliph	nC29	32.3700	63840894			Z
Aliph	nC30	33.2910	47352419			Z
Aliph	nC31	34.3470	39459763			Z
Aliph	nC32	35.5720	28295122			Z
Aliph	nC33	37.0130	20562004			Z
Aliph	nC34	38.7280	13785570			Z
Aliph	nC35	40.8080	9814577			Z
Aliph	nC36	43.3510	8004614			Z
Aliph	nC37	46.4710	5248484			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 : /001023

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 2:45:44 PM

Type: Resinite/Amber

Family: Resin/Amber

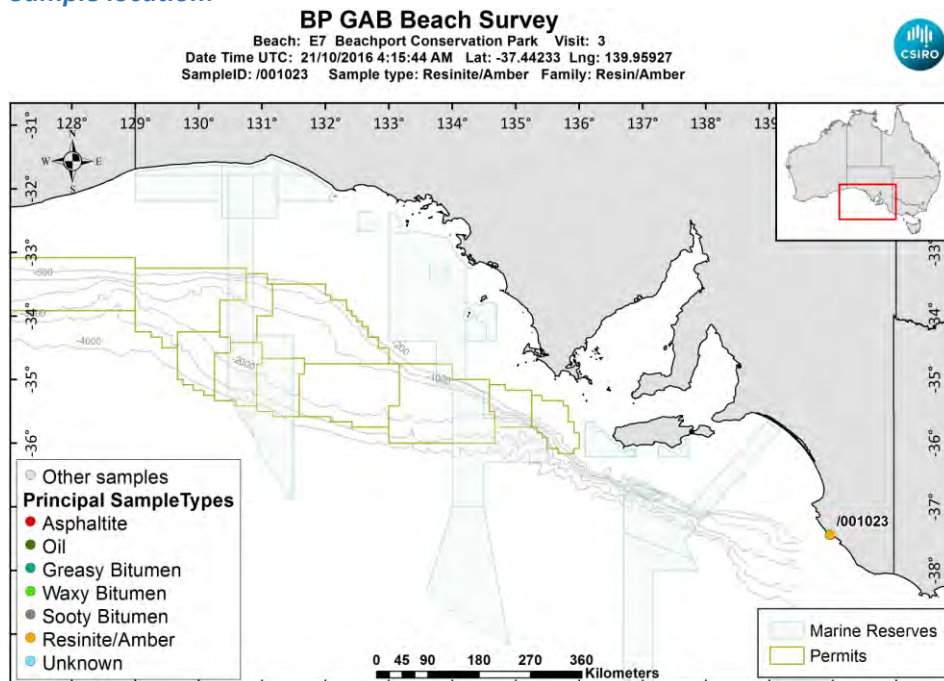
Size (cm): 3.2

Latitude (Y): -37.442332

Weight (gm): 4.70705

Longitude (X): 139.959272

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001023 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001023_146A7074.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001023_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: /001023 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 : /001024

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 2:47:48 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

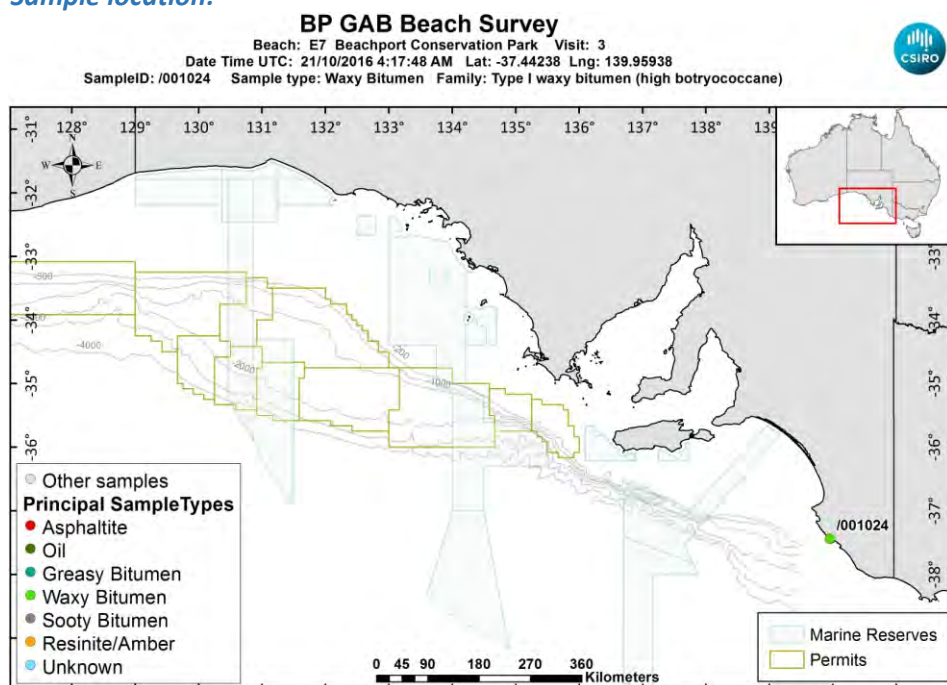
Size (cm): 1.6

Latitude (Y): -37.442385

Weight (gm): 1.18586

Longitude (X): 139.959383

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001024 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001024_146A7076.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001024_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: /001024_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			85.53	percent	Y
Inorg	Hydrogen			7.62425129224652	percent	Y
Inorg	Nitrogen			0.499668894601542	percent	Y
Inorg	Sulphur			1.44366605607688	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001024_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\ 001024_bulk_WholeOil.JPG](#)

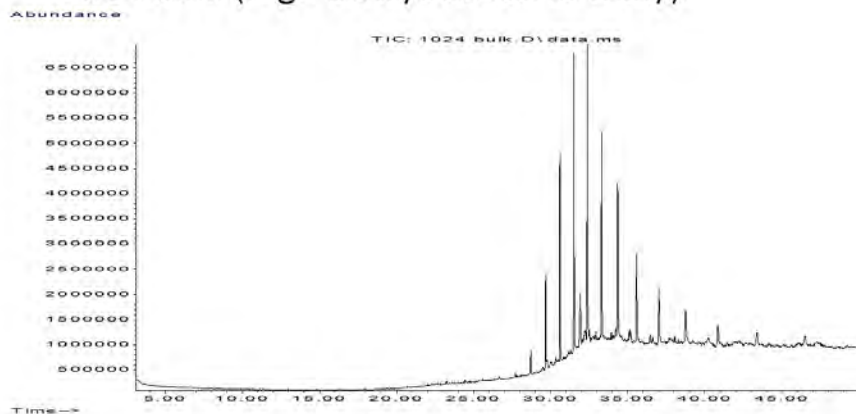
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1024 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	8031976			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	453470			Z
Aliph	nC25	28.7100	2175628			Z
Aliph	nC26	29.6680	8199744			Z
Aliph	nC27	30.6080	20177461			Z
Aliph	nC28	31.5080	25969619			Z
Aliph	nC29	32.3700	28093681			Z
Aliph	nC30	33.2910	22506726			Z
Aliph	nC31	34.3470	19400945			Z
Aliph	nC32	35.5720	13604791			Z
Aliph	nC33	37.0130	9985471			Z
Aliph	nC34	38.7280	6927774			Z
Aliph	nC35	40.8080	5044240			Z
Aliph	nC36	43.3510	3877762			Z
Aliph	nC37	46.4710	2758087			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 : /001025A

Beach E7: Beachport Conservation Park Visit: 3

Comments:

2 pieces. Part A

Location: Shore Upper

Local Date Time: 21/10/2016 2:53:24 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

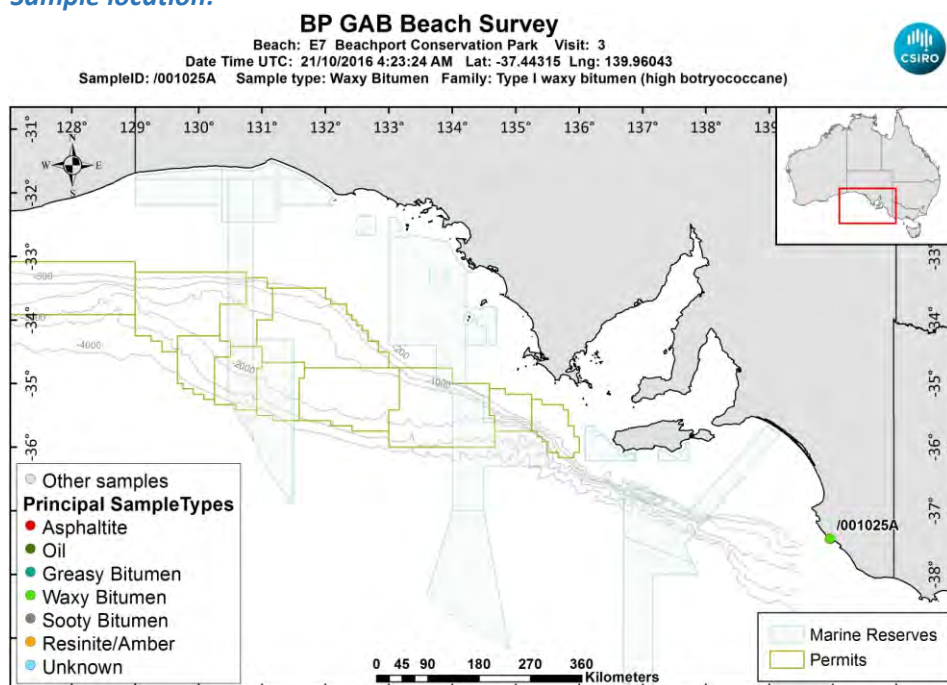
Size (cm): 2.9

Latitude (Y): -37.443153

Weight (gm): 4.14041

Longitude (X): 139.960433

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001025A Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001025_146A7078.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001025_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: /001025A_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			86.81	percent	Y
Inorg	Hydrogen			5.61659045725646	percent	Y
Inorg	Nitrogen			0.451526992287918	percent	Y
Inorg	Sulphur			0.976996604670418	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001025A DISS GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 30/10/2017

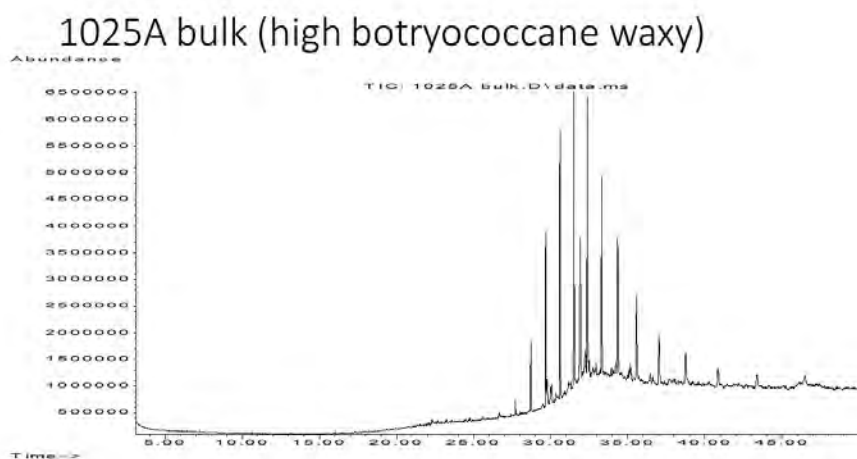
Linked Image: [LinkedFiles\GAB_BCH1\GCMS\ 001025A_bulk_WholeOil.JPG](#)

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	19783524			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	1552410			Z
Aliph	nC25	28.7100	6077462			Z
Aliph	nC26	29.6680	13748185			Z
Aliph	nC27	30.6080	24285976			Z
Aliph	nC28	31.5080	26226742			Z
Aliph	nC29	32.3700	24989439			Z
Aliph	nC30	33.2910	19394694			Z
Aliph	nC31	34.3470	16565632			Z
Aliph	nC32	35.5720	12184462			Z
Aliph	nC33	37.0130	8694856			Z
Aliph	nC34	38.7280	5942463			Z
Aliph	nC35	40.8080	4858155			Z
Aliph	nC36	43.3510	4113541			Z
Aliph	nC37	46.4710	3278914			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 : /001025B

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Part B subsample

Location: Shore Upper

Local Date Time: 21/10/2016 2:53:24 PM

Type: Waxy Bitumen

Family: Unknown

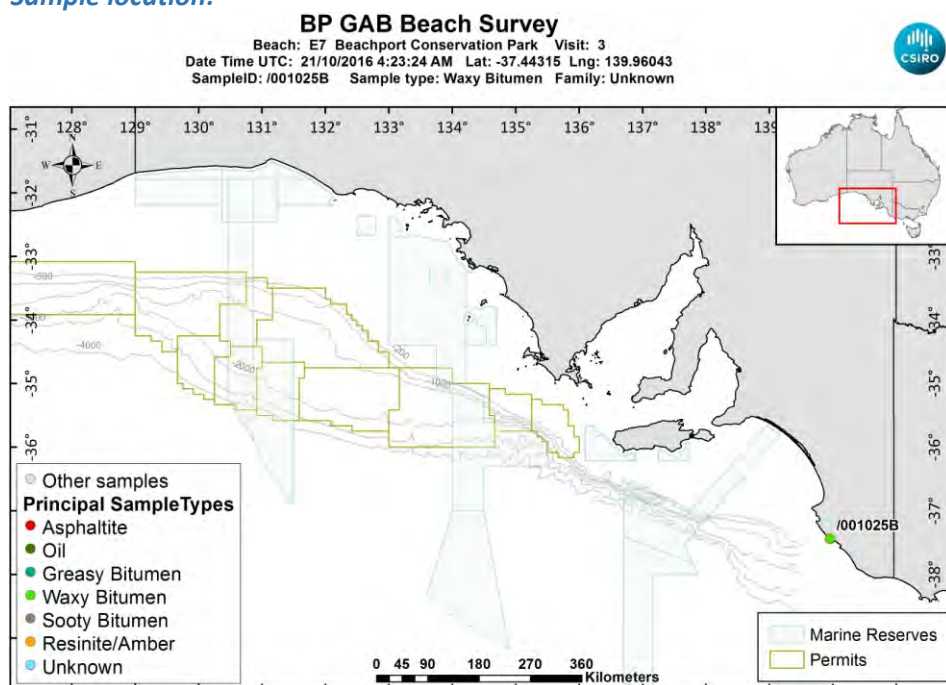
Size (cm): 2.2

Latitude (Y): -37.443153

Weight (gm): 2.50442

Longitude (X): 139.960433

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001025B_Location.jpg](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001025_AB_Photo02.jpg](#)

Sample ID : /001025B

Beach E7: Beachport Conservation Park Visit: 3

Analyses Requested

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

Analyses Completed:

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

Sample Analyses Completed:

Results for: Gas Chromatography Mass Spectrometry

Unique ID: /001025B_DISS_GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			35.9261647589876	ratio	Y
BiomRatio	% C27 abb 20(R+S)			27.4749292877346	ratio	Y
BiomRatio	% C28 aaa 20R			7.15782685797195	ratio	Y
BiomRatio	% C28 abb 20(R+S)			20.2328913051464	ratio	Y
BiomRatio	% C29 aaa 20R			56.9160083830405	ratio	Y
BiomRatio	% C29 abb 20(R+S)			52.292179407119	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.507138100729239	ratio	Y
BiomRatio	25-Nor/C30H			3.22146396185847E-02	ratio	Y
BiomRatio	C19t/C23t			0.268817204301075	ratio	Y
BiomRatio	C22t/C21t			0.24588340960609	ratio	Y
BiomRatio	C22t/C24t			0.264163947985112	ratio	Y
BiomRatio	C23t/C30H			0.285164064691035	ratio	Y
BiomRatio	C24t/C23t			0.475631611154821	ratio	Y
BiomRatio	C24Tet/C23t			0.364039688783985	ratio	Y
BiomRatio	C24Tet/C26t			1.9058352402746	ratio	Y
BiomRatio	C24Tet/C30H			0.1038110373625	ratio	Y
BiomRatio	C26t/C25t			0.793751702842612	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.449612916032555	ratio	Y
BiomRatio	C27 Dia/Ster			0.411923034954352	ratio	Y
BiomRatio	C28BNH/C30H			1.40600168271478E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.90326893508924	ratio	Y
BiomRatio	C29H/C30H			0.817294568570627	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.157220619139734	ratio	Y
BiomRatio	C30DiaH/C30H			7.10292605403384E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.109052382287869	ratio	Y
BiomRatio	C35 Homohopane Index			7.83132724567231E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.804600243282097	ratio	Y
BiomRatio	Gam/C30H			6.07273067215107E-02	ratio	Y
BiomRatio	Gam/C31HR			0.198125292287672	ratio	Y
BiomRatio	Ole/C30H			5.74428967623321E-02	ratio	Y
BiomRatio	Sterane/hopane			0.139091292580103	ratio	Y
BiomRatio	Steranes/Terpanes			0.113194954566147	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.228776433660061	ratio	Y

Results for: Elemental Analyser

Unique ID: /001025B_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

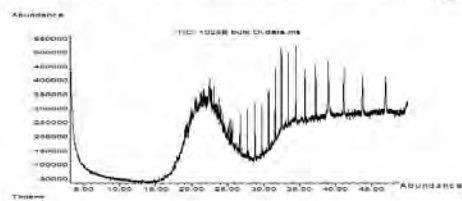
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			81.89	percent	Y
Inorg	Hydrogen			5.78025606361829	percent	Y
Inorg	Nitrogen			0.543204798628963	percent	Y
Inorg	Sulphur			2.12393344038263	percent	Y

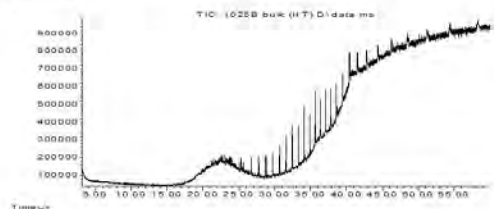
Results for: GCMS with Full Scan**Unique ID:** /001025B_DISS_GCMS-Scan/03**Instrument / Type:** GCMS with Full Scan Run: 3**for Analysis:** Whole Oils**Preparation:** Dissolved in solvent**Analysis Date:** 30/10/2017**Method ID/s:****Linked Image:** [LinkedFiles\GAB_BCH1\GCMS\ 001025B_bulk_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk (splitless)

Results for: GCMS with Full Scan

1025B – Unclassified high wax (splitless)



1025B – High temp GC-MS test



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	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	177747			Z
Aliph	nC22	25.6290	359666			Z
Aliph	nC23	26.7230	512904			Z
Aliph	nC24	27.7690	685940			Z
Aliph	nC25	28.7780	838146			Z
Aliph	nC26	29.7510	806552			Z
Aliph	nC27	30.6850	995857			Z
Aliph	nC28	31.5900	1098531			Z
Aliph	nC29	32.4650	1251898			Z
Aliph	nC30	33.4020	1318663			Z
Aliph	nC31	34.4700	1658154			Z
Aliph	nC32	35.7230	1349111			Z
Aliph	nC33	37.1970	1703592			Z
Aliph	nC34	38.9660	2062330			Z
Aliph	nC35	41.0780	2001229			Z
Aliph	nC36	43.6950	2717889			Z
Aliph	nC37	46.8640	2155317			Z
Aliph	nC8					U
Aliph	nC9					U
Aliph	Norpristane	18.6080				U
Aliph	Phytane	20.7570				U
Aliph	Pristane	19.4110				U

Results for: GCMS with Full Scan**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 : /001026

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 2:55:50 PM

Type: Waxy Bitumen

Family: Unclassified high wax bitumen

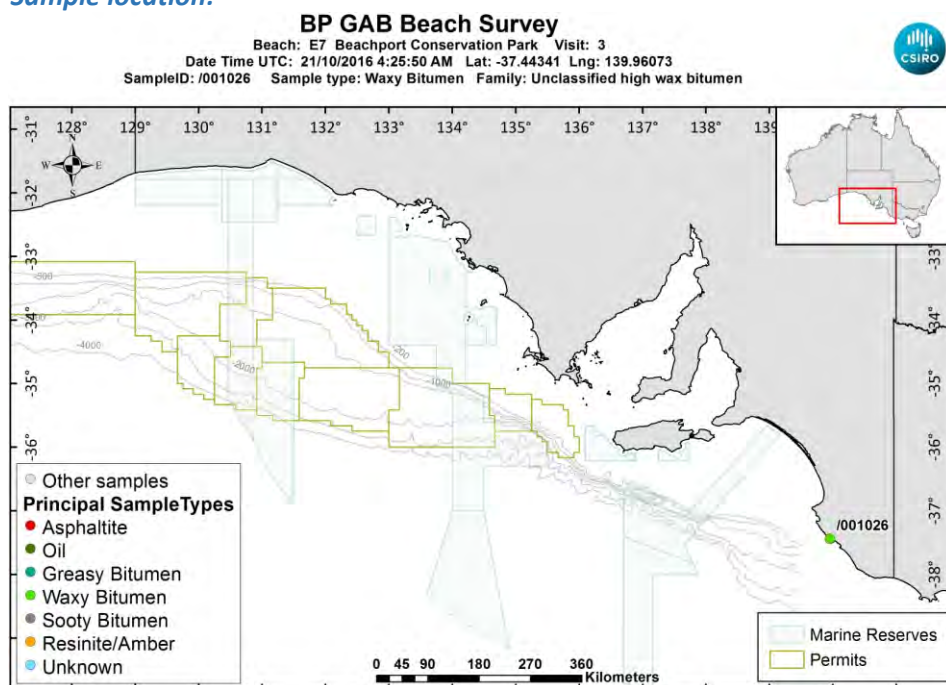
Size (cm): 2

Latitude (Y): -37.443407

Weight (gm): 1.53003

Longitude (X): 139.960727

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001026 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001026_146A7080.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001026_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: /001026 DISS_GC-MS/01

Instrument / Type: Gas Chromatography Mass Spectrometry Run: 1

for Analysis: Biomarkers

Preparation: Dissolved in solvent

Analysis Date: 18/07/2017

Method ID/s:

Linked Image: [None available](#)

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment: Bulk Ratios only

Results for: Gas Chromatography Mass Spectrometry

Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Rspnse:	Value:	units:	Qualifier:
BiomRatio	% C27 aaa 20R			45.9829130237104	ratio	Y
BiomRatio	% C27 abb 20(R+S)			13.5669877163562	ratio	Y
BiomRatio	% C28 aaa 20R			18.9984490867989	ratio	Y
BiomRatio	% C28 abb 20(R+S)			29.0150963736252	ratio	Y
BiomRatio	% C29 aaa 20R			35.0186378894907	ratio	Y
BiomRatio	% C29 abb 20(R+S)			57.4179159100185	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.290898489719498	ratio	Y
BiomRatio	25-Nor/C30H			1.57662511034691E-02	ratio	Y
BiomRatio	C19t/C23t			9.98956284622054E-02	ratio	Y
BiomRatio	C22t/C21t			0.849115046682182	ratio	Y
BiomRatio	C22t/C24t			0.432722205555384	ratio	Y
BiomRatio	C23t/C30H			0.15935927129113	ratio	Y
BiomRatio	C24t/C23t			0.44368850756165	ratio	Y
BiomRatio	C24Tet/C23t			1.60328241644368	ratio	Y
BiomRatio	C24Tet/C26t			5.91258292121223	ratio	Y
BiomRatio	C24Tet/C30H			0.255497917558346	ratio	Y
BiomRatio	C26t/C25t			0.761404758910732	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.174912644958728	ratio	Y
BiomRatio	C27 Dia/Ster			0.124789194364409	ratio	Y
BiomRatio	C28BNH/C30H			5.96354037086076E-03	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			4.23217866120687	ratio	Y
BiomRatio	C29H/C30H			1.34723259968293	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			4.35406949070531E-02	ratio	Y
BiomRatio	C30DiaH/C30H			0.0197590596471	ratio	Y
BiomRatio	C30Ts/C30H			0.159473062667131	ratio	Y
BiomRatio	C35 Homohopane Index			5.48458380879027E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.970745500948032	ratio	Y
BiomRatio	Gam/C30H			0.100493446191646	ratio	Y
BiomRatio	Gam/C31HR			0.289987134463449	ratio	Y
BiomRatio	Ole/C30H			0	ratio	U
BiomRatio	Sterane/hopane			0.220393339399226	ratio	Y
BiomRatio	Steranes/Terpanes			0.192297504750888	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.14610608018411	ratio	Y

Results for: Elemental Analyser

Unique ID: /001026_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

Sample Volume:

Volume Units:

Extract Volume:

Dilution Factor:

Comment:

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

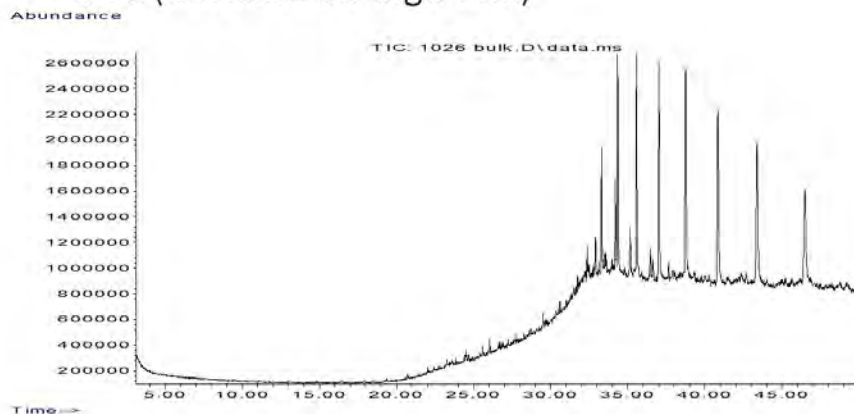
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.29	percent	Y
Inorg	Hydrogen			5.62279204771372	percent	Y
Inorg	Nitrogen			0.600637532133676	percent	Y
Inorg	Sulphur			3.04828730385516	percent	Y

Results for: GCMS with Full Scan**Unique ID:** /001026_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_001026_bulk_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

1026 (unclassified high wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100				U
Aliph	nC26	29.6680				U
Aliph	nC27	30.6080				U
Aliph	nC28	31.5080				U
Aliph	nC29	32.3700	1488300			Z
Aliph	nC30	33.2910	5636220			Z
Aliph	nC31	34.3470	10863557			Z
Aliph	nC32	35.5720	13572260			Z
Aliph	nC33	37.0130	14897982			Z
Aliph	nC34	38.7280	17149569			Z
Aliph	nC35	40.8080	16373294			Z
Aliph	nC36	43.3510	16345625			Z
Aliph	nC37	46.4710	14038472			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 : /001027

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 2:58:53 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

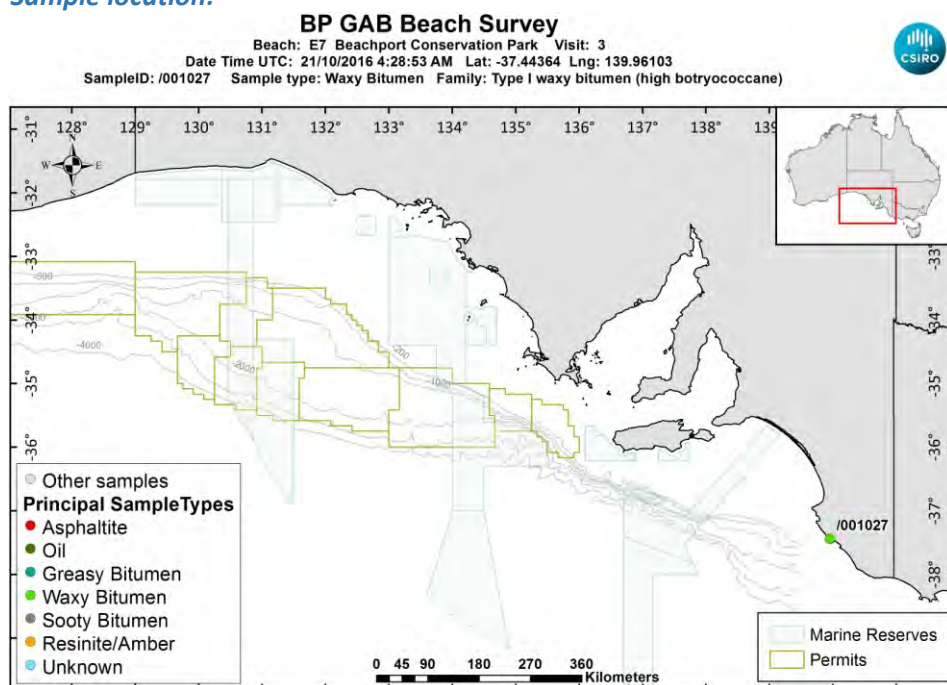
Size (cm): 1.8

Latitude (Y): -37.443643

Weight (gm): 1.50843

Longitude (X): 139.961030

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001027 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001027_146A7082.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001027_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: /001027_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			85.16	percent	Y
Inorg	Hydrogen			6.17421988071571	percent	Y
Inorg	Nitrogen			0.702749614395887	percent	Y
Inorg	Sulphur			1.77063569947013	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001027_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\ 001027_bulk_WholeOil.JPG](#)

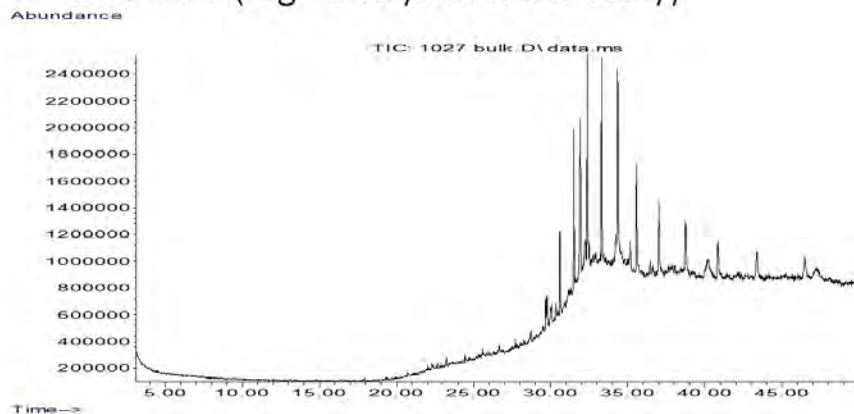
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1027 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	9628807			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	861374			Z
Aliph	nC27	30.6080	3145081			Z
Aliph	nC28	31.5080	6056451			Z
Aliph	nC29	32.3700	8488157			Z
Aliph	nC30	33.2910	8319880			Z
Aliph	nC31	34.3470	9945676			Z
Aliph	nC32	35.5720	6399253			Z
Aliph	nC33	37.0130	4805916			Z
Aliph	nC34	38.7280	3882981			Z
Aliph	nC35	40.8080	3124293			Z
Aliph	nC36	43.3510	2799376			Z
Aliph	nC37	46.4710	2279394			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 : /001028

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 3:00:30 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

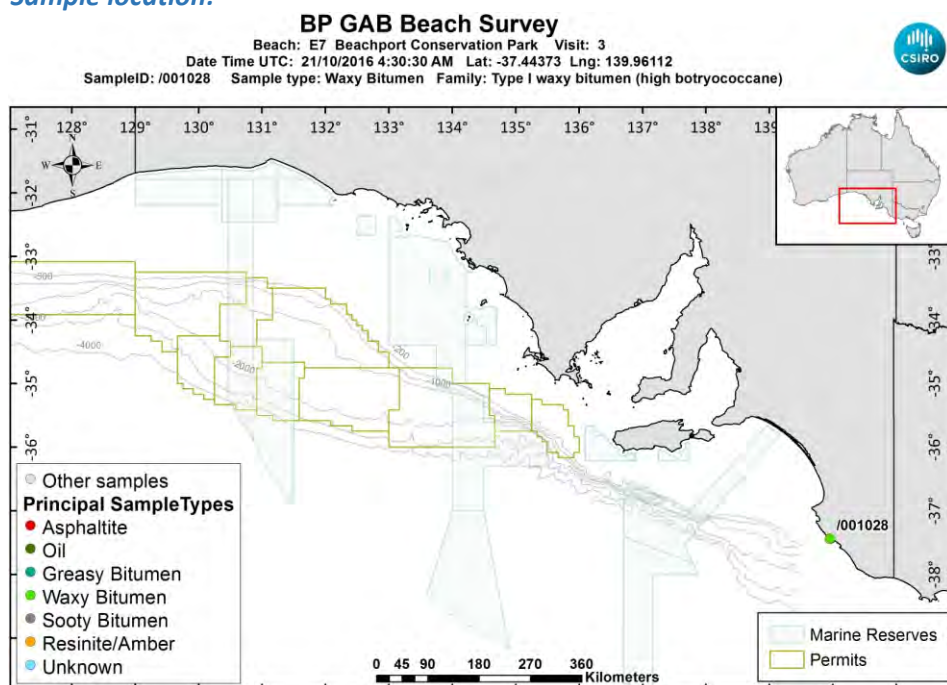
Size (cm): 1.9

Latitude (Y): -37.443727

Weight (gm): 2.75973

Longitude (X): 139.961122

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001028 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001028_146A7084.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001028_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: /001028_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			85.85	percent	Y
Inorg	Hydrogen			5.87362226640159	percent	Y
Inorg	Nitrogen			0.667708654670094	percent	Y
Inorg	Sulphur			1.86927672561868	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001028_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\ 001028_bulk_WholeOil.JPG](#)

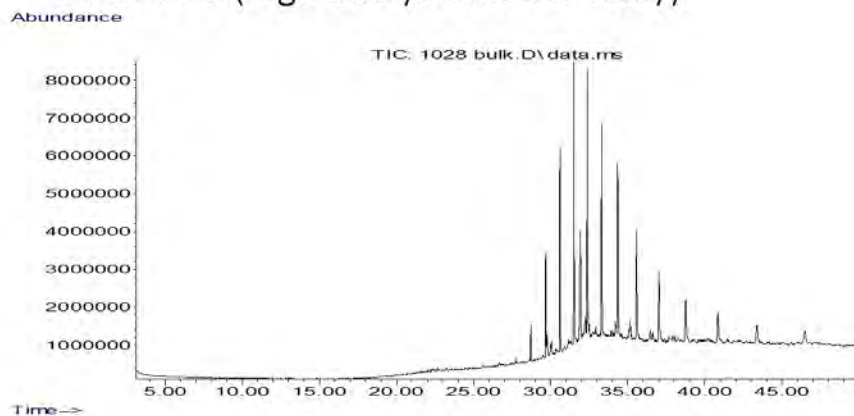
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1028 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	23080423			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	705224			Z
Aliph	nC25	28.7100	4550204			Z
Aliph	nC26	29.6680	12586073			Z
Aliph	nC27	30.6080	26283344			Z
Aliph	nC28	31.5080	32641710			Z
Aliph	nC29	32.3700	35513534			Z
Aliph	nC30	33.2910	31088141			Z
Aliph	nC31	34.3470	28307728			Z
Aliph	nC32	35.5720	22133682			Z
Aliph	nC33	37.0130	16484941			Z
Aliph	nC34	38.7280	11368198			Z
Aliph	nC35	40.8080	8763515			Z
Aliph	nC36	43.3510	7064446			Z
Aliph	nC37	46.4710	6189141			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 : /001029

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 3:01:53 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

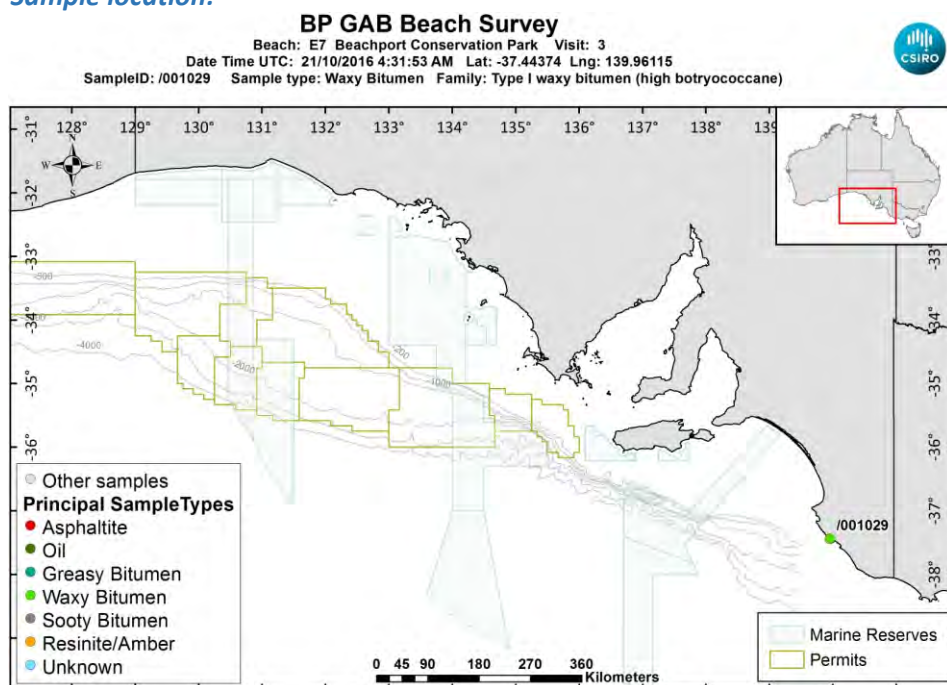
Size (cm): 2.3

Latitude (Y): -37.443737

Weight (gm): 1.78269

Longitude (X): 139.961150

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001029 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001029_146A7086.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001029_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: /001029_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			86.52	percent	Y
Inorg	Hydrogen			7.38305606361829	percent	Y
Inorg	Nitrogen			0.751872493573265	percent	Y
Inorg	Sulphur			1.63340911526029	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001029_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\ 001029_bulk_WholeOil.JPG](#)

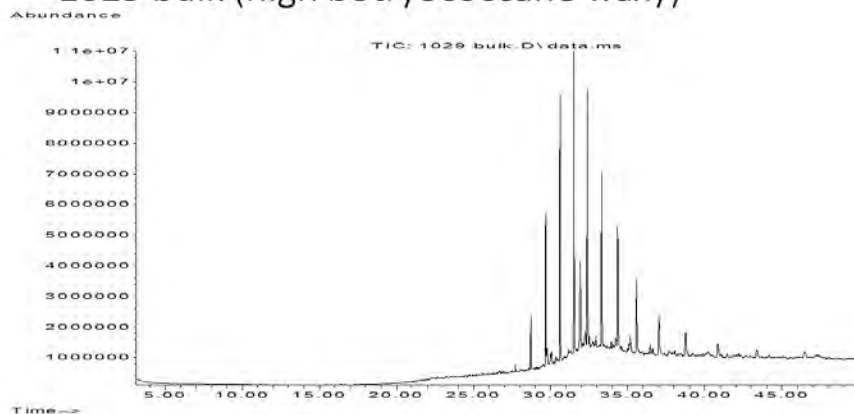
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1029 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	21671550			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	1141150			Z
Aliph	nC25	28.7100	7522008			Z
Aliph	nC26	29.6680	21608650			Z
Aliph	nC27	30.6080	39681417			Z
Aliph	nC28	31.5080	42418119			Z
Aliph	nC29	32.3700	39676126			Z
Aliph	nC30	33.2910	30357664			Z
Aliph	nC31	34.3470	25350309			Z
Aliph	nC32	35.5720	17424810			Z
Aliph	nC33	37.0130	12274008			Z
Aliph	nC34	38.7280	8057547			Z
Aliph	nC35	40.8080	5624147			Z
Aliph	nC36	43.3510	4732764			Z
Aliph	nC37	46.4710	3459742			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 : /001030

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 3:03:51 PM

Type: Waxy Bitumen

Family: Unclassified high wax bitumen

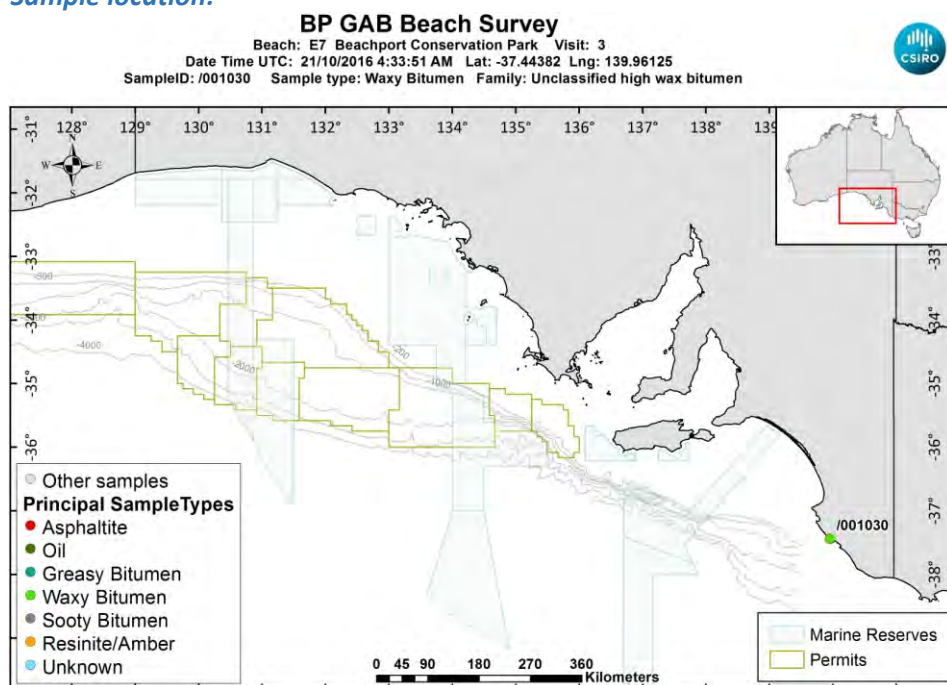
Size (cm): 1.6

Latitude (Y): -37.443825

Weight (gm): 0.80267

Longitude (X): 139.961247

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001030 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001030_146A7088.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001030_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: /001030 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			39.7985213533039	ratio	Y
BiomRatio	% C27 abb 20(R+S)			29.7073496948869	ratio	Y
BiomRatio	% C28 aaa 20R			22.9495070353122	ratio	Y
BiomRatio	% C28 abb 20(R+S)			25.3464916964876	ratio	Y
BiomRatio	% C29 aaa 20R			37.2519716113839	ratio	Y
BiomRatio	% C29 abb 20(R+S)			44.9461586086256	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.229971150208933	ratio	Y
BiomRatio	25-Nor/C30H			0.027423584236431	ratio	Y
BiomRatio	C19t/C23t			7.21751135683331E-02	ratio	Y
BiomRatio	C22t/C21t			0.899108473016294	ratio	Y
BiomRatio	C22t/C24t			0.468695236146143	ratio	Y
BiomRatio	C23t/C30H			0.175315132866938	ratio	Y
BiomRatio	C24t/C23t			0.333873025196128	ratio	Y
BiomRatio	C24Tet/C23t			1.51050159215133	ratio	Y
BiomRatio	C24Tet/C26t			5.43740664302574	ratio	Y
BiomRatio	C24Tet/C30H			0.264813787323731	ratio	Y
BiomRatio	C26t/C25t			0.955683206849582	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.225419512222184	ratio	Y
BiomRatio	C27 Dia/Ster			0.162338890953453	ratio	Y
BiomRatio	C28BNH/C30H			1.79132331290651E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.51296426878368	ratio	Y
BiomRatio	C29H/C30H			1.36008151480193	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			5.13784958999744E-02	ratio	Y
BiomRatio	C30DiaH/C30H			2.08453289318048E-02	ratio	Y
BiomRatio	C30Ts/C30H			0.173399909466782	ratio	Y
BiomRatio	C35 Homohopane Index			7.74791711382639E-02	ratio	Y
BiomRatio	C35HS/C34HS			1.00506395307156	ratio	Y
BiomRatio	Gam/C30H			0.096802159215658	ratio	Y
BiomRatio	Gam/C31HR			0.268576854471915	ratio	Y
BiomRatio	Ole/C30H			3.15977748439191E-03	ratio	Y
BiomRatio	Sterane/hopane			0.232719136945029	ratio	Y
BiomRatio	Steranes/Terpanes			0.202341479595629	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.15013064750791	ratio	Y

Results for: Elemental Analyser

Unique ID: /001030_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:**

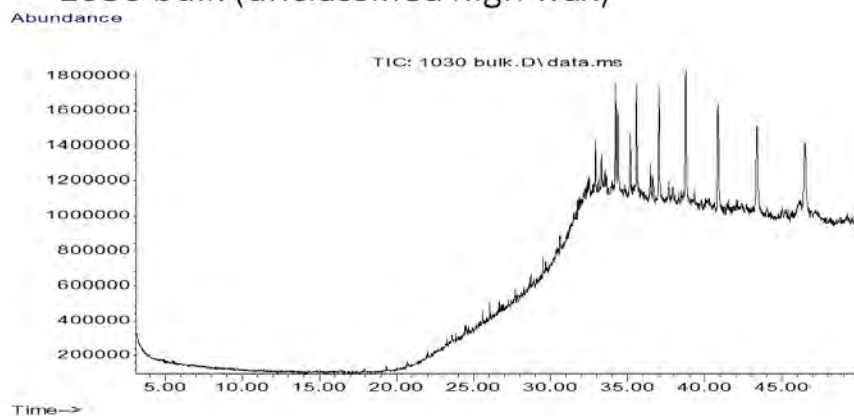
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			84.14	percent	Y
Inorg	Hydrogen			6.4421351888668	percent	Y
Inorg	Nitrogen			0.27	percent	Y
Inorg	Sulphur			3.03106456975517	percent	Y

Results for: GCMS with Full Scan**Unique ID:** /001030_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_001030_bulk_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

1030 bulk (unclassified high wax)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240				U
Aliph	nC10	7.5110				U
Aliph	nC11	9.4450				U
Aliph	nC12	11.3220				U
Aliph	nC13	13.1110				U
Aliph	nC14	14.8030				U
Aliph	nC15	16.4030				U
Aliph	nC16	17.9160				U
Aliph	nC17	19.3500				U
Aliph	nC18	20.7170				U
Aliph	nC19	22.0170				U
Aliph	nC20	23.2570				U
Aliph	nC21	24.4410				U
Aliph	nC22	25.5760				U
Aliph	nC23	26.6620				U
Aliph	nC24	27.7060				U
Aliph	nC25	28.7100				U
Aliph	nC26	29.6680				U
Aliph	nC27	30.6080				U
Aliph	nC28	31.5080				U
Aliph	nC29	32.3700				U
Aliph	nC30	33.2910	1231551			Z
Aliph	nC31	34.3470	3401894			Z
Aliph	nC32	35.5720	5429285			Z
Aliph	nC33	37.0130	5739040			Z
Aliph	nC34	38.7280	7309806			Z
Aliph	nC35	40.8080	7829135			Z
Aliph	nC36	43.3510	7543468			Z
Aliph	nC37	46.4710	7125823			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 : /001031

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 3:08:01 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

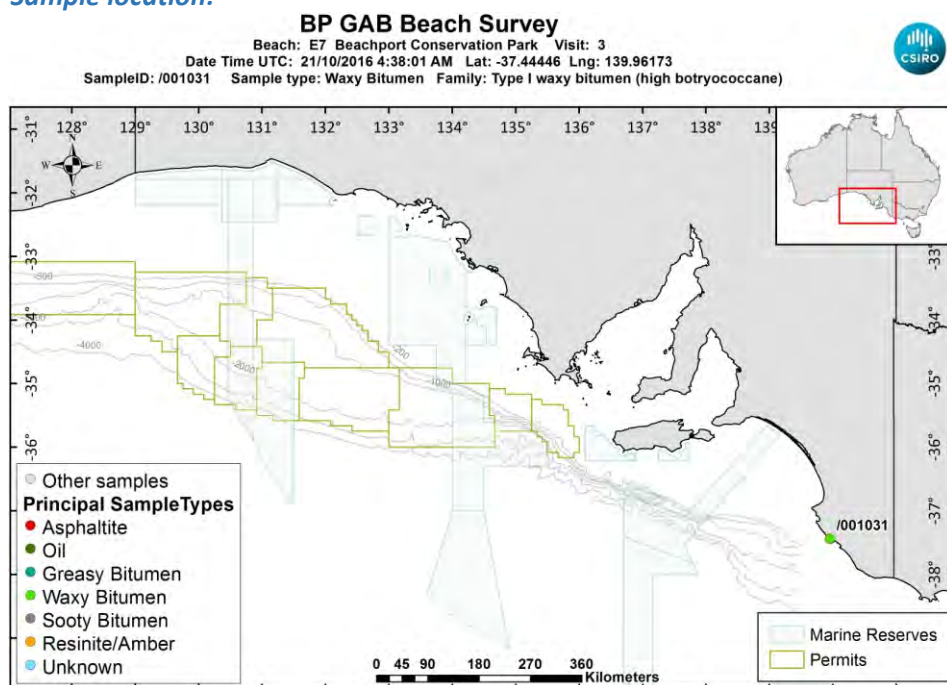
Size (cm): 2

Latitude (Y): -37.444460

Weight (gm): 1.4696

Longitude (X): 139.961733

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001031_Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001031_146A7090.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001031_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: /001031_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			87.27	percent	Y
Inorg	Hydrogen			7.9700648111332	percent	Y
Inorg	Nitrogen			0.24	percent	Y
Inorg	Sulphur			1.91625047268518	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001031_DISS_GCMS-Scan/03

Instrument / Type: GCMS with Full Scan Run: 3

for Analysis: Whole Oils

Analysis Date: 30/10/2017

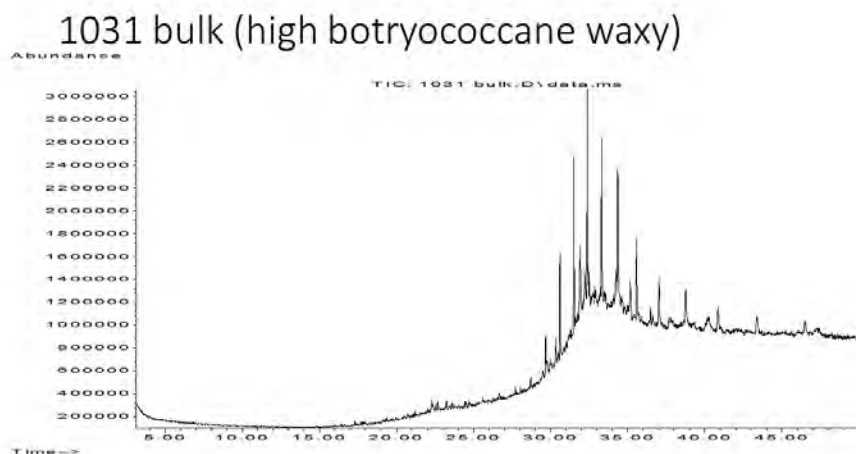
Linked Image: [LinkedFiles\GAB_BCH1\GCMS\ 001031_bulk_WholeOil.JPG](#)

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	5274825			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	1347920			Z
Aliph	nC27	30.6080	4628145			Z
Aliph	nC28	31.5080	7549344			Z
Aliph	nC29	32.3700	8603435			Z
Aliph	nC30	33.2910	7246971			Z
Aliph	nC31	34.3470	7053549			Z
Aliph	nC32	35.5720	5381854			Z
Aliph	nC33	37.0130	3876219			Z
Aliph	nC34	38.7280	3228892			Z
Aliph	nC35	40.8080	2510586			Z
Aliph	nC36	43.3510	2056557			Z
Aliph	nC37	46.4710	1608260			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 : /001032

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 3:11:00 PM

Type: Waxy Bitumen

Family: Type III waxy bitumen (no botryococcane, low

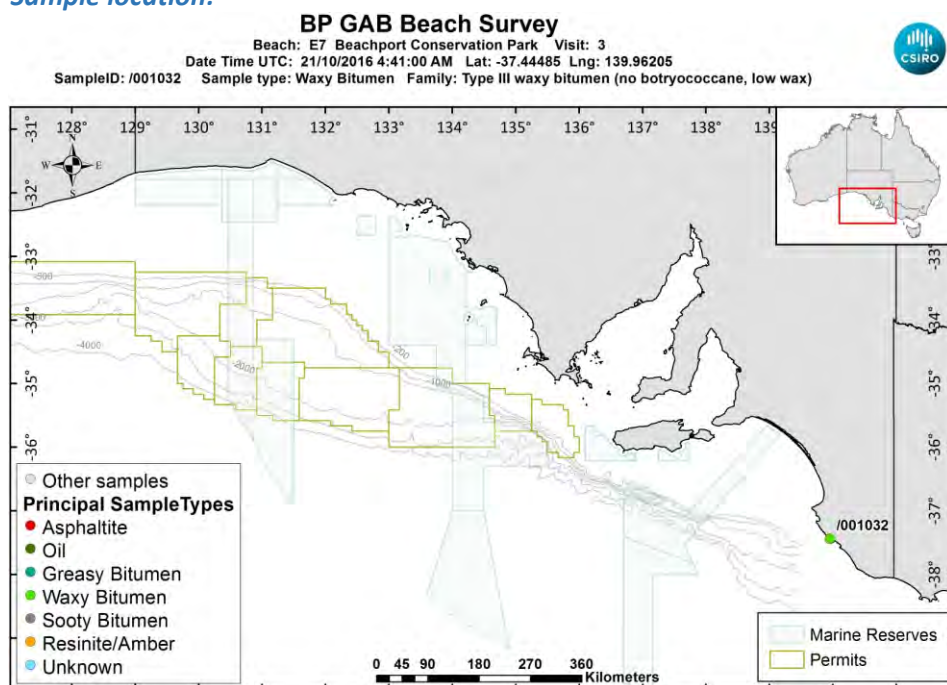
Size (cm): 3.3

Latitude (Y): -37.444847

Weight (gm): 2.10154

Longitude (X): 139.962047

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001032 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001032_146A7092.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001032_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: /001032_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			26.8224536449073	ratio	Y
BiomRatio	% C27 abb 20(R+S)			36.0303381755376	ratio	Y
BiomRatio	% C28 aaa 20R			27.6955803911608	ratio	Y
BiomRatio	% C28 abb 20(R+S)			27.657302105149	ratio	Y
BiomRatio	% C29 aaa 20R			45.4819659639319	ratio	Y
BiomRatio	% C29 abb 20(R+S)			36.3123597193135	ratio	Y
BiomRatio	(C21+C22)/(C27+C28+C29)			0.201231025952545	ratio	Y
BiomRatio	25-Nor/C30H			7.15867075943526E-02	ratio	Y
BiomRatio	C19t/C23t			0.502780473669443	ratio	Y
BiomRatio	C22t/C21t			0.274681750853316	ratio	Y
BiomRatio	C22t/C24t			0.413081200616611	ratio	Y
BiomRatio	C23t/C30H			0.135393293763261	ratio	Y
BiomRatio	C24t/C23t			0.569907409536864	ratio	Y
BiomRatio	C24Tet/C23t			0.635948833764932	ratio	Y
BiomRatio	C24Tet/C26t			1.02837570474391	ratio	Y
BiomRatio	C24Tet/C30H			8.61032072683385E-02	ratio	Y
BiomRatio	C26t/C25t			1.62000698870962	ratio	Y
BiomRatio	C27 Dia/(Dia+Reg)			0.69132630459821	ratio	Y
BiomRatio	C27 Dia/Ster			0.914509800244713	ratio	Y
BiomRatio	C28BNH/C30H			4.77668193047649E-02	ratio	Y
BiomRatio	C29/C27 abb Sterane Ratio			1.00782733546385	ratio	Y
BiomRatio	C29H/C30H			0.485570375131013	ratio	Y
BiomRatio	C29Ts/(C29Ts+C29H)			0.391601909210293	ratio	Y
BiomRatio	C30DiaH/C30H			0.340295772902409	ratio	Y
BiomRatio	C30Ts/C30H			0	ratio	U
BiomRatio	C35 Homohopane Index			4.44739406370712E-02	ratio	Y
BiomRatio	C35HS/C34HS			0.488148215420943	ratio	Y
BiomRatio	Gam/C30H			0.131824887794495	ratio	Y
BiomRatio	Gam/C31HR			0.939184332655977	ratio	Y
BiomRatio	Ole/C30H			7.81194438268756E-02	ratio	Y
BiomRatio	Sterane/hopane			3.76813426641086E-02	ratio	Y
BiomRatio	Steranes/Terpanes			3.07615861759978E-02	ratio	Y
BiomRatio	Tricyclic/Pentacyclic Terpanes			0.224947974025799	ratio	Y

Results for: Elemental Analyser

Unique ID: /001032_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:**

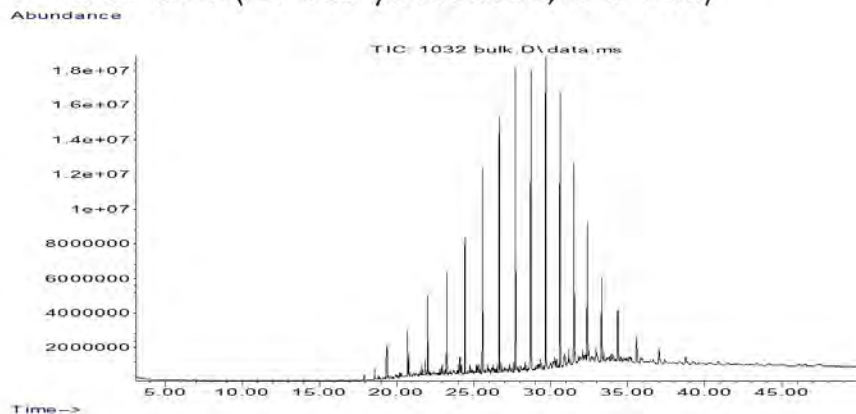
(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Inorg	Carbon			85.74	percent	Y
Inorg	Hydrogen			6.4957634194831	percent	Y
Inorg	Nitrogen			0.15	percent	Y
Inorg	Sulphur			1.20264102559729	percent	Y

Results for: GCMS with Full Scan**Unique ID:** /001032_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_001032_bulk_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Bulk

Results for: GCMS with Full Scan

1032 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	1325870			Z
Aliph	nC17	19.3500	8741402			Z
Aliph	nC18	20.7170	12178377			Z
Aliph	nC19	22.0170	19142835			Z
Aliph	nC20	23.2570	26695847			Z
Aliph	nC21	24.4410	37966633			Z
Aliph	nC22	25.5760	49822276			Z
Aliph	nC23	26.6620	66191260			Z
Aliph	nC24	27.7060	75297062			Z
Aliph	nC25	28.7100	81402753			Z
Aliph	nC26	29.6680	76137358			Z
Aliph	nC27	30.6080	68692863			Z
Aliph	nC28	31.5080	51218265			Z
Aliph	nC29	32.3700	35730117			Z
Aliph	nC30	33.2910	24525086			Z
Aliph	nC31	34.3470	18691593			Z
Aliph	nC32	35.5720	12357619			Z
Aliph	nC33	37.0130	7970642			Z
Aliph	nC34	38.7280	4666136			Z
Aliph	nC35	40.8080	3319936			Z
Aliph	nC36	43.3510	2756730			Z
Aliph	nC37	46.4710	1931435			Z
Aliph	nC8	4.0300				U
Aliph	nC9	5.6200				U
Aliph	Norpristane	18.5830	4514218			Z
Aliph	Phytane	20.7870	7630767			Z
Aliph	Pristane	19.3870	11728122			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 : /001033

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 3:12:16 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

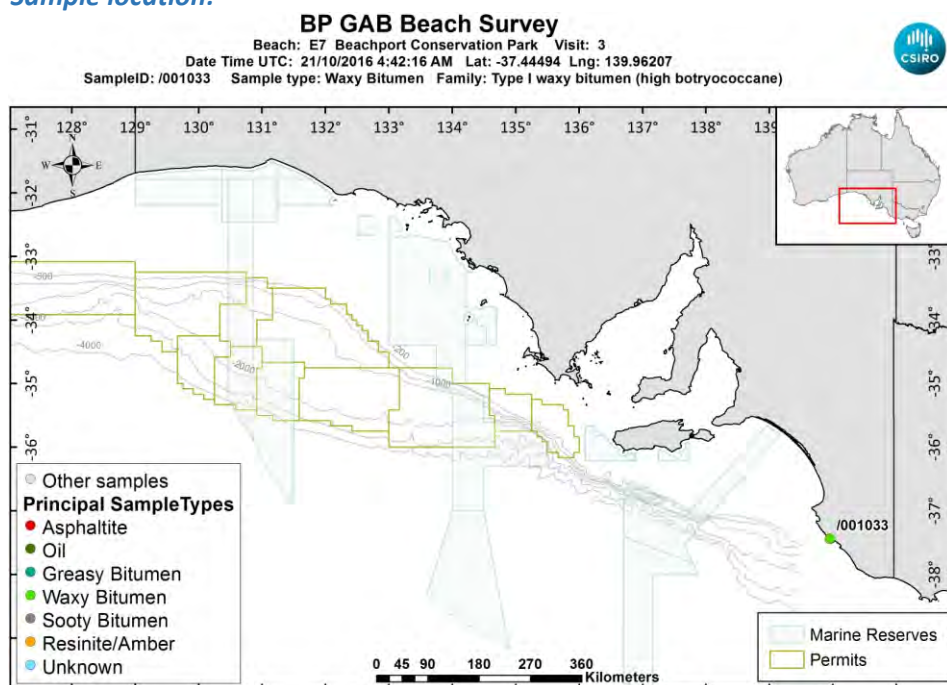
Size (cm): 3.7

Latitude (Y): -37.444937

Weight (gm): 6.35086

Longitude (X): 139.962072

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001033 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001033_146A7094.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001033_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: /001033_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:

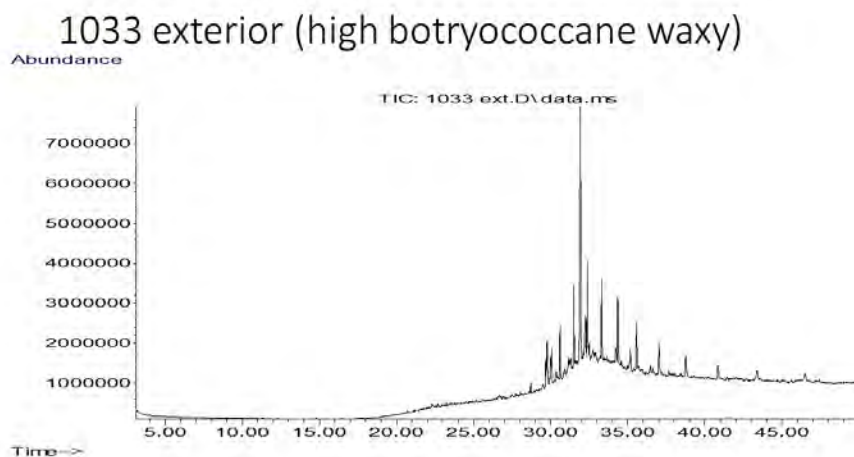
Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Inorg	Carbon			85.38	percent	Y
Inorg	Hydrogen			5.26459005964215	percent	Y
Inorg	Nitrogen			0.28	percent	Y
Inorg	Sulphur			0.785208518990179	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001033_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\ 001033_ext_WholeOil.JPG](#)**Sample Volume:****Volume Units:****Extract Volume:****Dilution Factor:****Comment:** Exterior

Results for: GCMS with Full Scan



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	48877865			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	1197755			Z
Aliph	nC26	29.6680	3081349			Z
Aliph	nC27	30.6080	6387375			Z
Aliph	nC28	31.5080	9842693			Z
Aliph	nC29	32.3700	11032837			Z
Aliph	nC30	33.2910	11096543			Z
Aliph	nC31	34.3470	11198640			Z
Aliph	nC32	35.5720	9213487			Z
Aliph	nC33	37.0130	6841238			Z
Aliph	nC34	38.7280	5127685			Z
Aliph	nC35	40.8080	4552400			Z
Aliph	nC36	43.3510	4355318			Z
Aliph	nC37	46.4710	3561969			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: /001033 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_001033_int_WholeOil.JPG](#)

Sample Volume:

Volume Units:

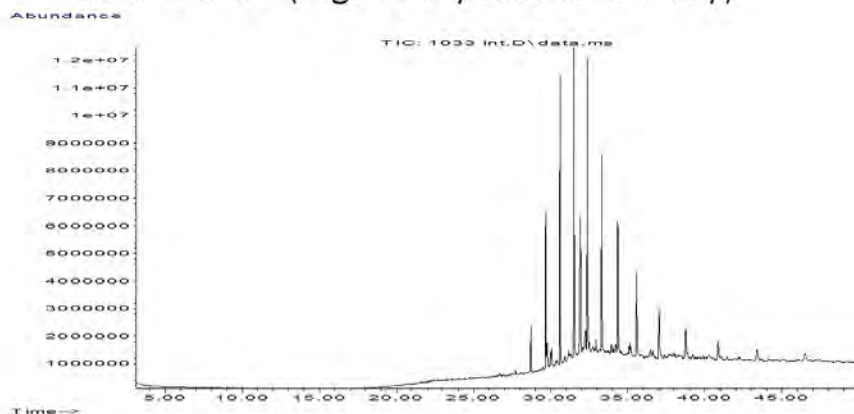
Extract Volume:

Dilution Factor:

Comment: Interior

Results for: GCMS with Full Scan

1033 interior (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	36691220			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	890681			Z
Aliph	nC25	28.7100	7474512			Z
Aliph	nC26	29.6680	23563610			Z
Aliph	nC27	30.6080	45841667			Z
Aliph	nC28	31.5080	49873674			Z
Aliph	nC29	32.3700	47232201			Z
Aliph	nC30	33.2910	36498260			Z
Aliph	nC31	34.3470	30504000			Z
Aliph	nC32	35.5720	22165635			Z
Aliph	nC33	37.0130	15979113			Z
Aliph	nC34	38.7280	10477885			Z
Aliph	nC35	40.8080	8091023			Z
Aliph	nC36	43.3510	6030515			Z
Aliph	nC37	46.4710	5053670			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 : /001034

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 3:14:48 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

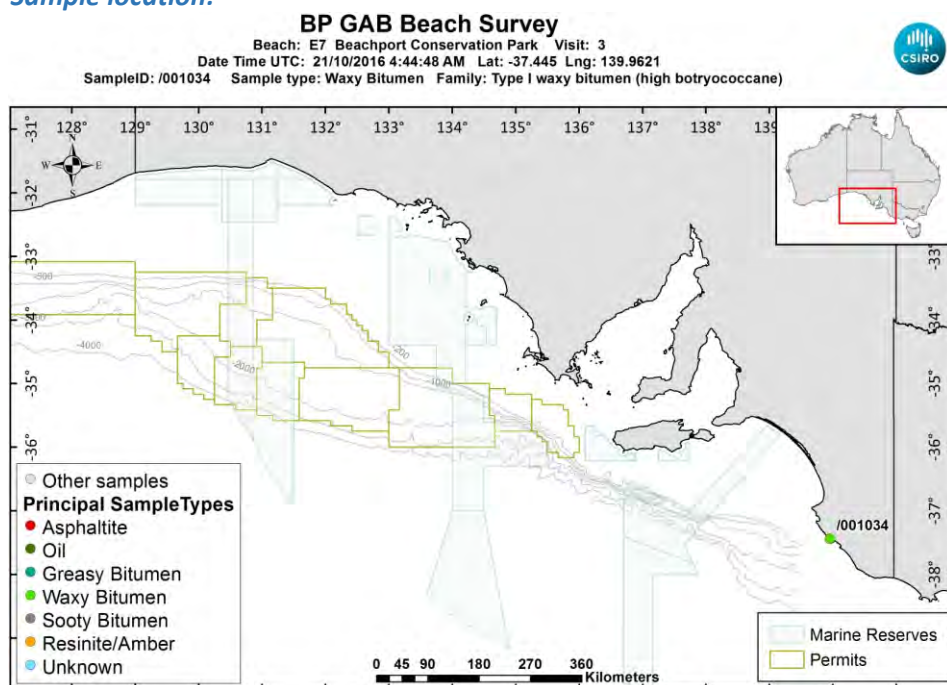
Size (cm): 1.8

Latitude (Y): -37.445000

Weight (gm): 1.03983

Longitude (X): 139.962105

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001034 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001034_146A7096.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001034_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: /001034_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			87.81	percent	Y
Inorg	Hydrogen			8.20876222664016	percent	Y
Inorg	Nitrogen			0.25	percent	Y
Inorg	Sulphur			2.09981996993039	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001034_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\ 001034_bulk_WholeOil.JPG](#)

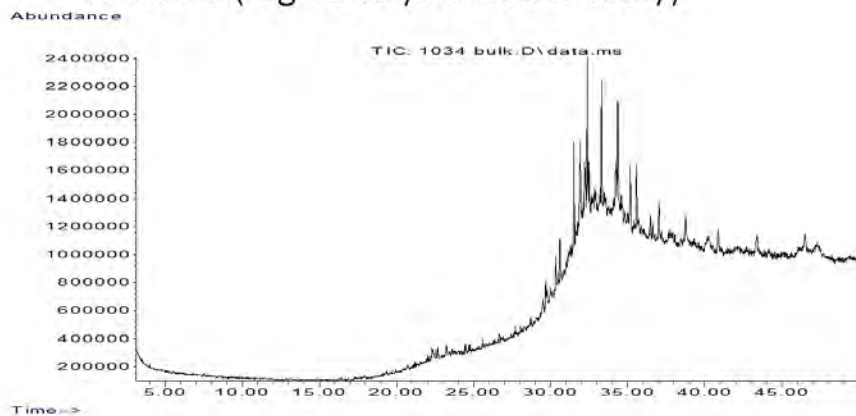
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1034 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	5008472			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	541792			Z
Aliph	nC27	30.6080	1610932			Z
Aliph	nC28	31.5080	3330787			Z
Aliph	nC29	32.3700	4916794			Z
Aliph	nC30	33.2910	4532679			Z
Aliph	nC31	34.3470	5020869			Z
Aliph	nC32	35.5720	3362796			Z
Aliph	nC33	37.0130	2438960			Z
Aliph	nC34	38.7280	2107341			Z
Aliph	nC35	40.8080	1712534			Z
Aliph	nC36	43.3510	1774455			Z
Aliph	nC37	46.4710	2056638			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 : /001035

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 3:16:22 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

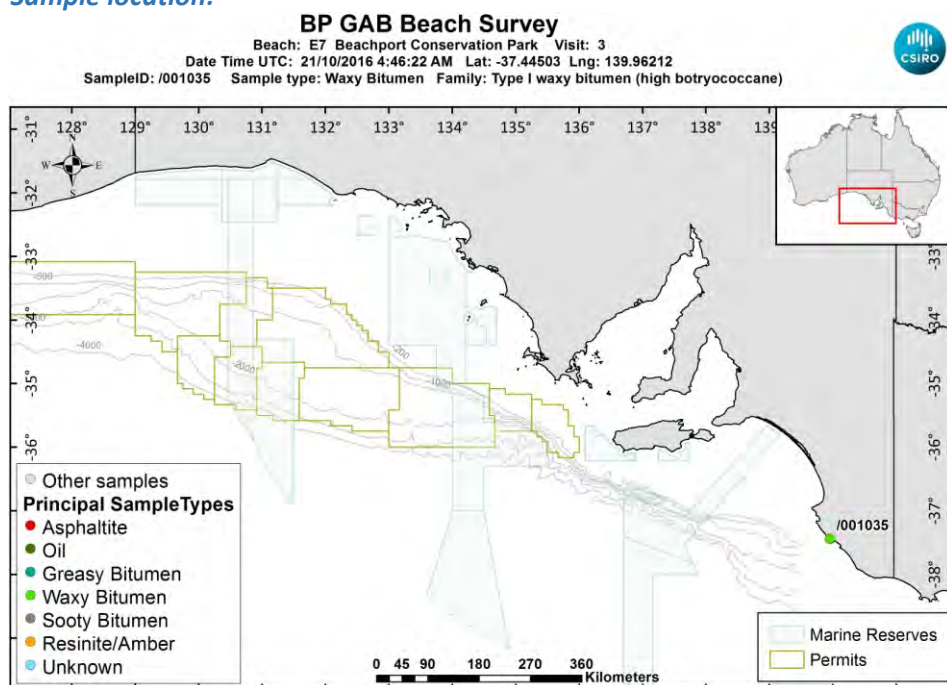
Size (cm): 2.5

Latitude (Y): -37.445028

Weight (gm): 2.7672

Longitude (X): 139.962122

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001035 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001035_146A7098.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001035_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: /001035_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			82.45	percent	Y
Inorg	Hydrogen			8.89826640159046	percent	Y
Inorg	Nitrogen			0.24	percent	Y
Inorg	Sulphur			1.40973410050588	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001035_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\ 001035_bulk_WholeOil.JPG](#)

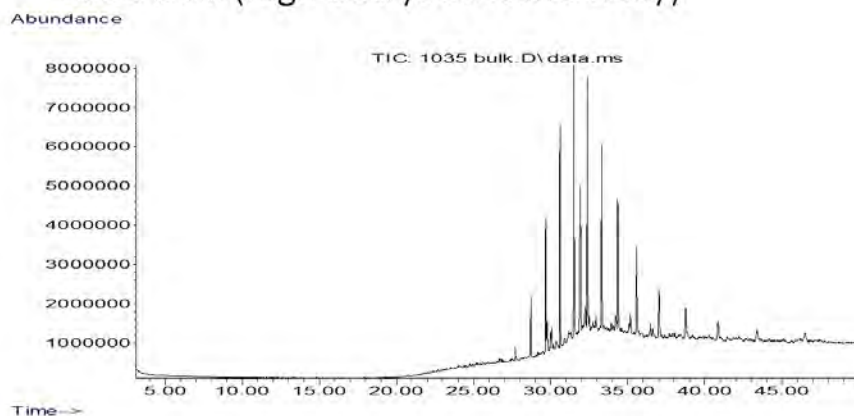
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1035 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respns:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	28185251			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	1574890			Z
Aliph	nC25	28.7100	6609776			Z
Aliph	nC26	29.6680	14349208			Z
Aliph	nC27	30.6080	26932402			Z
Aliph	nC28	31.5080	31187034			Z
Aliph	nC29	32.3700	31468674			Z
Aliph	nC30	33.2910	25329133			Z
Aliph	nC31	34.3470	21139958			Z
Aliph	nC32	35.5720	15915734			Z
Aliph	nC33	37.0130	11309747			Z
Aliph	nC34	38.7280	7814791			Z
Aliph	nC35	40.8080	5363160			Z
Aliph	nC36	43.3510	4100755			Z
Aliph	nC37	46.4710	3031091			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 : /001036

Beach E7: Beachport Conservation Park Visit: 3

Comments:

Location: Shore Upper

Local Date Time: 21/10/2016 3:18:28 PM

Type: Waxy Bitumen

Family: Type I waxy bitumen (high botryococcane)

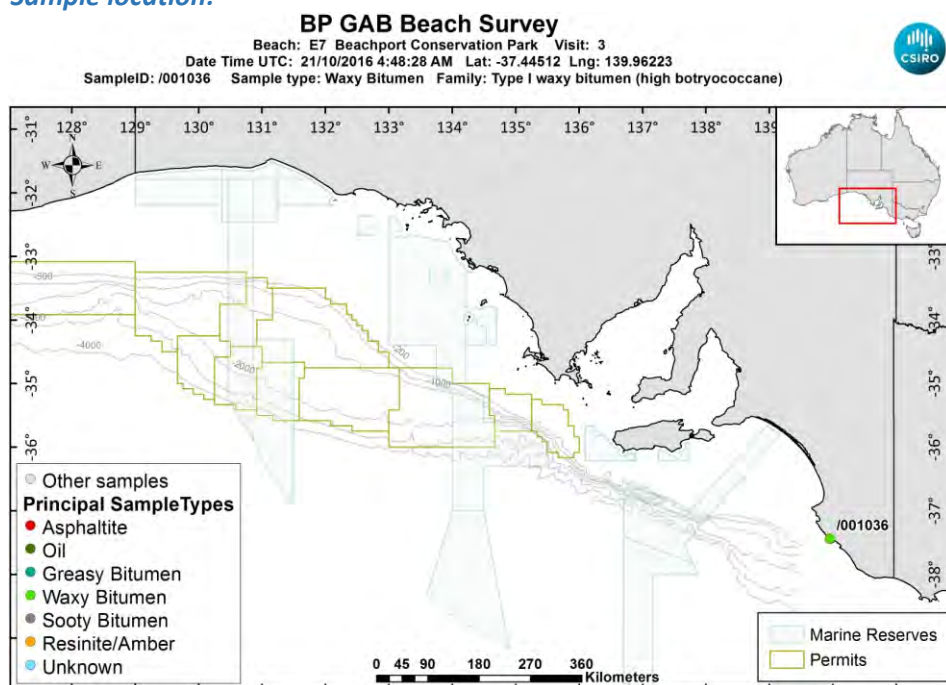
Size (cm): 2.2

Latitude (Y): -37.445120

Weight (gm): 2.59661

Longitude (X): 139.962228

Sample location:



[LinkedFiles\GAB_BCH1\SampleLocations\ 001036 Location.jpg](#)

Sample - field image:



[LinkedFiles\GAB_BCH1\Samples\001036_146A7100.JPG](#)

Sample - laboratory image:



[LinkedFiles\GAB_BCH1\Samples\001036_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: /001036_SPE_ELEM-AN/01

Instrument / Type: Elemental Analyser Run: 1

for Analysis: Elemental CHNS

Analysis Date: 30/10/2017

Linked Image: [None available](#)

Preparation: Solid Phase Extract

Method ID/s:

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

Data Sheet:

Type:	Compound / Variable:	Retentn Time:	Target Respnse:	Value:	units:	Qualifier:
Inorg	Carbon			85	percent	Y
Inorg	Hydrogen			7.98502902584493	percent	Y
Inorg	Nitrogen			0.22	percent	Y
Inorg	Sulphur			1.85415246793745	percent	Y

Results for: GCMS with Full Scan

Unique ID: /001036_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\ 001036_bulk_WholeOil.JPG](#)

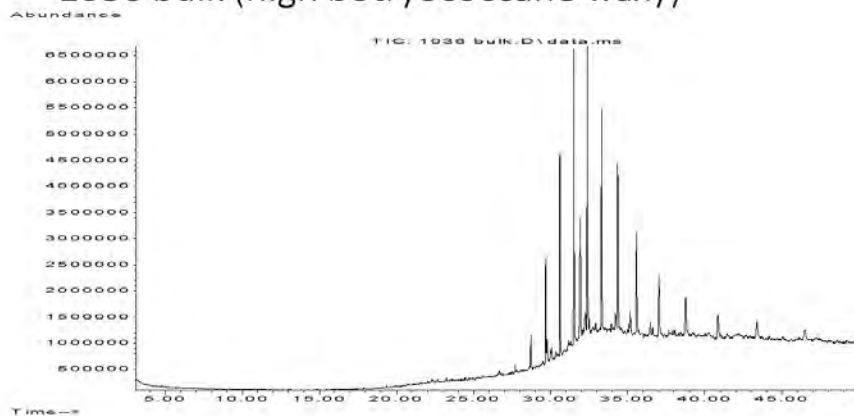
Preparation: Dissolved in solvent

Method ID/s:

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

Results for: GCMS with Full Scan

1036 bulk (high botryococcane waxy)



Data Sheet:

(default units ppb)

Type:	Compound / Variable:	Retentn Time:	Target Respse:	Value:	units:	Qualifier:
Aliph	Botryococcane	31.9240	17867427			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	735531			Z
Aliph	nC25	28.7100	2973639			Z
Aliph	nC26	29.6680	8911597			Z
Aliph	nC27	30.6080	20020685			Z
Aliph	nC28	31.5080	25606183			Z
Aliph	nC29	32.3700	27012707			Z
Aliph	nC30	33.2910	23003526			Z
Aliph	nC31	34.3470	20128740			Z
Aliph	nC32	35.5720	14993329			Z
Aliph	nC33	37.0130	10607128			Z
Aliph	nC34	38.7280	7436471			Z
Aliph	nC35	40.8080	6087791			Z
Aliph	nC36	43.3510	4611913			Z
Aliph	nC37	46.4710	4034250			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:**

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Z	Detected but not Quantified (too small)