EASTERN AUSTRALIA OIL STUDY

REGIONAL PETROLEUM GEOCHEMISTRY AND CORRELATION OF CRUDE OILS FROM BASINS OF EASTERN AUSTRALIA

GEOMARK
RESEARCH, INC.
HOUSTON, TEXAS

and

AGSO
AUSTRALIAN GEOLOGICAL SURVEY ORGANISATION
CANBERRA, AUSTRALIA

PROSPECTUS

EXECUTIVE SUMMARY

Eastern Australia still contains substantial quantities of undiscovered oil, condensate and gas. Because of this, the region will continue to receive exploration interest and investment. To assist this activity, GEOMARK RESEARCH in conjunction with the Australian Geological Survey Organisation (AGSO) has performed a regional assessment of Eastern Australia utilizing the detailed analysis of a suite of crude oil samples representative of the productive and frontier basins, both onshore and offshore. The purpose of the study is to identify and characterize each of the petroleum systems which have sourced oil, and to predict their importance to future exploration.

Each of the oils was characterized by a detailed analytical program which includes quantitative biomarker analysis of terpanes and steranes and determination of stable carbon isotope composition of both saturate and aromatic hydrocarbon fractions. This information, integrated with known source rock data, allowed us to accomplish the following:

- Determine the number of genetically distinct oil families in each producing region.
- Map the stratigraphic and geographic distribution of the oil families and distinguish areas with single oil families (single sources) from those with multiple oil families (multiple sources).
- Utilize geochemical characteristics of the oil families to deduce their source facies, thermal maturity level, and degree of preservation.
- Determine the most likely source unit(s) in each area by comparing the distribution of oil families with published source facies, regional stratigraphy, burial history, and source rock information.
- Estimate migrational directions by comparing oil family distributions with the location of known oil kitchens.
- Utilize the geographic, stratigraphic, and structural distribution of oils to identify, map, and rank the petroleum systems in each basin and in the region as a whole.

The analytical and interpretive report are available for immediate delivery. The interpretive report includes maps showing the a) distribution of oil families, b) interpreted source kitchens, and c) inferred migration pathways and associated petroleum systems. The cost of the study to participants is US $21,500. Participants are not required to contribute samples.

INTRODUCTION

Although many geochemical studies have been performed in Australia, a thorough integrated evaluation of the petroleum systems active within each of the various basins on the Australian continent and continental shelf has not been reported.

In large, geologically complex areas such as Eastern Australia, where substantial production has been established, a mega-regional oil geochemistry study is an excellent way of identifying, evaluating and comparing the various petroleum systems that have contributed to reserves. A regional oil study approach is particularly useful for comparing the remaining potential of productive basins and for predicting the distribution of undiscovered oil from identified hydrocarbon systems.

To assist in a further understanding of Eastern Australian petroleum systems, GEOMARK RESEARCH in conjunction with the Australian Geological Survey Organisation (AGSO) has performed a regional crude oil study of the petroliferous basins both onshore and offshore Western Australia. The study involved the analysis of 279 oil samples distributed throughout the geographic and stratigraphic confines of the various basins.

The oil fields selected for analysis are listed in Appendix A. A basin map of Eastern Australia shown in Figure 1 illustrates the geographic distribution of the selected samples.

The regional petroleum systems within the study area were evaluated by first determining the number of effective source units within a region by establishing the number of compositionally distinct oil families. The source facies of each oil family was deduced from the oil geochemistry (e.g., Summons *et al.*, 1987, 1988, 1995; Zumberge, 1987; Moldowan *et al.*, 1985; Peters and Moldowan, 1993). Conclusions were reached regarding source lithology, anoxicity, salinity, organic input (marine, non-marine or marginal marine) and thermal maturity using a variety of parameters based on detailed and bulk composition. In some cases it was possible to bracket the age of the source from the oil data. The thermal histories of the oil samples were also be estimated based on molecular parameters.

The predicted source facies were compared to the stratigraphy, sedimentology, and burial history of each basin to determine the most probable source units. Estimations of the areal extent and burial depth of the source units were then be combined with the geographic and stratigraphic distributions of their associated oil families to predict the location of the various oil kitchens and the most probable migration directions.

The relative potential of the petroleum systems in each basin was ranked by incorporating geological information on regional tectonics, source thickness and sedimentary environment, and source potential of the various source units. The results were be evaluated in an effort to identify areas where particular petroleum systems may exist but have been overlooked or poorly tested.

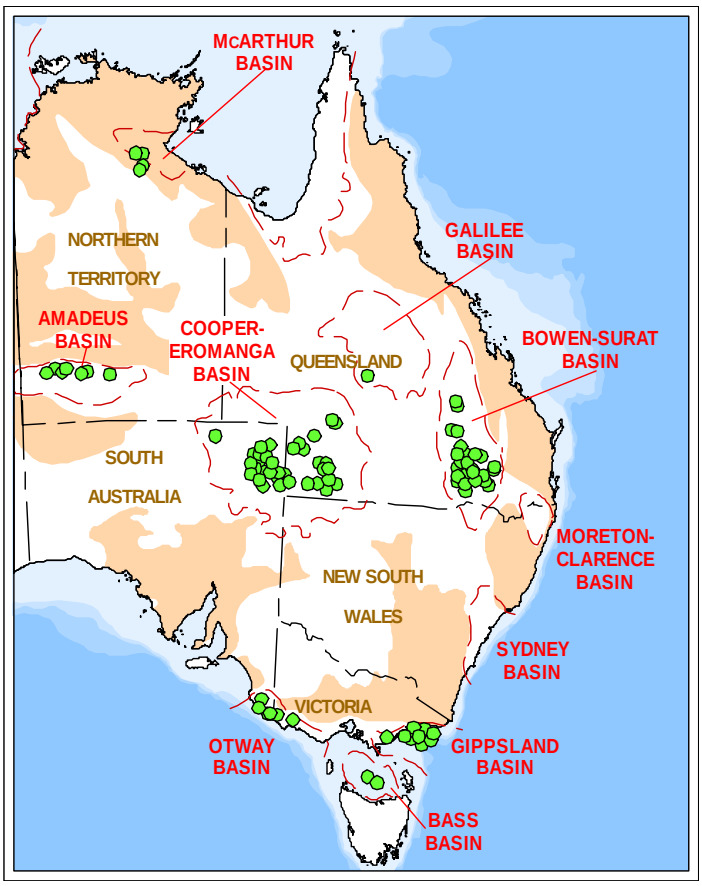

Figure 1. Location map showing smples analyzed for this study.

ANALYTICAL PROGRAM

- API gravity
- % Sulfur, %Nickel and %Vanadium
- Deasphalting (%Asph)
- Liquid chromatography (% Saturates, % Aromatics, and % NSO's)
- Molecular sieve to concentrate br/cyclic fraction
- Detailed C_7 gas ghromatography
- Capillary gas chromatography of whole crudes
- Stable carbon isotopes for both Sat and Aro hydrocarbon fractions
- GC/MS (SIM) of Br/Cyc for terpane/sterane distributions (quantitative)
- GC/MS/MS (MRM) for increased selectivity of biomarker determinations on selected samples
- Individual n-alkane isotope profiles on selected samples

PRESENTATION OF RESULTS

Results of the study are presented in both analytical and interpretive formats to insure that all findings are readily accessible to explorationists and research personnel. All of the analytical data will be provided in hard copy and on magnetic media.

A synthesis and interpretation of all information is presented in a comprehensive **Final Report**. For each of the basins studies, the **Final Report** includes sections for:

- regional geology,
- differentiation of oil families/mixing by multivariate statistics
- inferred oil/source correlations,
- oil generation and migration,
- interpretation of oil characteristics.

PARTICIPATION

The cost of the study is US $21,500.

TIMING

The study is complete and available for immediate delivery.

FOR ADDITIONAL INFORMATION CONTACT:

Mr. Stephen W. Brown
GEOMARK RESEARCH, INC.
9748 Whithorn Drive
Houston, TX 77095
Telephone: (281) 856-9333
Fax: (281) 856-2987
e-mail: sbrown@geomarkresearch.com

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APPENDIX A

Samples Analyzed for this Study

SampleID	Country	Basin	Field	Well	Depth	Formation
AU004	Australia	Gippsland	Halibut	71050	2332 m	Latrobe Gp
AU005	Australia	Gippsland	Kingfish	71049	2286 m	Latrobe Gp.
AU006	Australia	Gippsland	Cobia	1; FIT 2	2407 m	Latrobe Gp
AU007	Australia	Gippsland	Dolphin	1; FIT 7	1227 m	Latrobe Gp
AU008	Australia	Gippsland	Halibut	A1		
AU009	Australia	Gippsland	Halibut	A1		
AU010	Australia	Gippsland	Perch	A1	1140 m	
AU011	Australia	Gippsland	Tuna	A1	1953 m	Latrobe Gp
AU012	Australia	Gippsland	Tuna	A1	1979 m	Latrobe Gp
AU013	Australia	Gippsland	Mackerel	1	2415 m	Latrobe Gp
AU014	Australia	Gippsland	Snapper	1	1392 m	Latrobe Gp
AU015	Australia	Gippsland	Tuna	1	1391 m	Latrobe Gp
AU016	Australia	Gippsland	Sunfish	2; RFT 40	1617 m	Latrobe Gp
AU017	Australia	Gippsland	Luderick	1; RFT 41	1843 m	Latrobe Gp
AU018	Australia	Gippsland	Tarwhine	1	1388 m	Latrobe Gp
AU019	Australia	Gippsland	Yellowtail	1; RFT 2	2425.5 m	Latrobe Gp
AU020	Australia	Gippsland	Yellowtail	1; RFT 4	2426 m	Latrobe Gp
AU022	Australia	Carpentaria	Seep		Surface	
AU023	Australia	Otway	Port Campbell	1; PT 1	1724-1727 m	Waarre Fm
AU024	Australia	Otway	Flaxmans	1; PT 1	3305-3514 m	Eumeralla Fm
AU025	Australia	Bowen/Surat	Cabawin	1; DST 8	3025-3100 m	Kianga Fm
AU026	Australia	Cooper/Eromanga	Tirrawarra	1; DST 8	2986-3002 m	Tirrawarra Sst
AU154	Australia	Amadeus	Alice	1; Oil extract from core	1866.3-1866.6 m	Jay Creek Fm
AU155	Australia	Amadeus	East Mereenie	1		
AU156	Australia	Amadeus	East Mereenie	3		
AU157	Australia	Amadeus	East Mereenie	4		
AU158	Australia	Amadeus	East Mereenie	8		
AU159	Australia	Amadeus	Mereenie	1; DST 6	1063-1214 m	Horn Valley Sltst/Pacoota Sst
AU160	Australia	Amadeus	Palm Valley	1		Pacoota Fm/Stairway Sst
AU161	Australia	Amadeus	Palm Valley	1; DST		Pacoota Fm/Stairway Sst
AU162	Australia	Amadeus	Palm Valley	2		Hermannsburg Fm
AU163	Australia	Amadeus	Palm Valley	3		
AU164	Australia	Bass	Cormorant	1; FIT 6	1500 m	Eastern View Coal Measures
AU165	Australia	Bowen/Surat	Alton	1; DST 1	1847.1-1865.4 m	Evergreen Fm
AU166	Australia	Bowen/Surat	Anabranch	1; DST 2	1277.1-1284.7 m	Evergreen Fm
AU167	Australi	Bowen/Surat	Beardmore	1; DST 1	1850-1855.4 m	Showgrounds Sst

	a					
AU168	Australia	Bowen/Surat	Bennett	1	1625-1656 m	Precipice Sst
AU169	Australia	Bowen/Surat	Blyth Creek	1; DST 1	1154-1164.3 m	Precipice Sst
AU170	Australia	Bowen/Surat	Bony Creek	6; DST 1	1315.5-1374.6 m	Precipice Sst
AU171	Australia	Bowen/Surat	Borah Creek	5; DST 5	1473-1482 m	Moolayember Fm
AU172	Australia	Bowen/Surat	Cabawin	1; DST 4	3050-3100 m	Kianga Fm
AU173	Australia	Bowen/Surat	Combarngo	1; DST 5	1546.9-1547.9 m	Showgrounds Sst
AU174	Australia	Bowen/Surat	Conloi	1; DST 5	1314-1318.3 m	Evergreen Fm
AU175	Australia	Bowen/Surat	Dirinda	1; DST 2	1209-1219 m	Timbury Hills Fm
AU176	Australia	Bowen/Surat	Duarran	2; DST 1	1253.3-1338.1 m	Precipice Sst
AU177	Australia	Bowen/Surat	Fairymount	1; DST 2	2049.2-2057.4 m	Showgrounds Sst
AU178	Australia	Bowen/Surat	Glen Fosslyn	1; DST 2	2087.9-2098.2 m	Rewan Fm
AU179	Australia	Bowen/Surat	Harbour	1; DST 2	1975.3-1987.8 m	Showgrounds Sst
AU180	Australia	Bowen/Surat	Kinkabilla	1; DST 1	2922-2930 m	Rewan Fm
AU181	Australia	Bowen/Surat	Leichhardt	2; DST 4	1648-1653 m	Precipice Sst
AU182	Australia	Bowen/Surat	Louise	2; DST 1	2015.2-2027.2 m	Showgrounds Sst
AU183	Australia	Bowen/Surat	Maffra	2; DST 2	1275.3-1287.5 m	Precipice Sst
AU184	Australia	Bowen/Surat	McWhirter	1; DST 1	1840.4-1850.1 m	Showgrounds Sst
AU185	Australia	Bowen/Surat	Merivale	5; DST 2	1351-1380.2 m	Alderbaran Sst

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SampleID	Country	Basin	Field	Well	Depth	Formation
AU186	Australia	Bowen/Surat	Moonie	1; DST	1767.3-1780.1 m	Precipice Sst
AU187	Australia	Bowen/Surat	Moonie	2	1766.3-1771.2 m	Precipice Sst
AU188	Australia	Bowen/Surat	Moonie	21	1756.6-1765.4 m	Precipice Sst
AU189	Australia	Bowen/Surat	Moonie	29	1763-1774 m	Precipice Sst
AU190	Australia	Bowen/Surat	Moonie	4	1764.2-1770.9 m	Precipice Sst
AU191	Australia	Bowen/Surat	Narrows	1; DST 1	1975-1990.1 m	Showgrounds Sst
AU192	Australia	Bowen/Surat	Rednook	1; DST 1	2199.8-2224.3 m	Showgrounds Sst
AU193	Australia	Bowen/Surat	Rednook	1; DST 2	2224.5-2270 m	Rewan Fm
AU194	Australia	Bowen/Surat	Renlim	1; DST 1	1897-1903 m	Showgrounds Sst
AU195	Australia	Bowen/Surat	Richmond	1; DST 1	1222.1-1237.9 m	Precipice Sst
AU196	Australia	Bowen/Surat	Richmond	7; DST 1	1240.9-1248.8 m	Precipice Sst
AU197	Australia	Bowen/Surat	Riverslea	1; DST 2	1507-1517.1 m	Evergreen Fm
AU198	Australia	Bowen/Surat	Rockwood	1; DST 1	1143-1159.2 m	Precipice Sst
AU199	Australia	Bowen/Surat	Rockwood North	1; DST 1	1234.1-1251.2 m	Precipice Sst
AU200	Australia	Bowen/Surat	Rolleston	1; PT	888-908 m	Catherine Sst
AU201	Australia	Bowen/Surat	Rolleston	3		Freitag Fm
AU202	Australia	Bowen/Surat	Roswin	1; DST 1	2058-2072.9 m	Showgrounds Sst
AU203	Australi	Bowen/Surat	Silver	Tank Condensate		Showgrounds Sst

	a		Springs/Renlim			
AU204	Australia	Bowen/Surat	Sirrah	4; DST 1	1971.2-2032.6 m	Showgrounds Sst
AU205	Australia	Bowen/Surat	Snake Creek	1; DST 1	1515.1-1547.9 m	Showgrounds Sst
AU206	Australia	Bowen/Surat	Sunnybank	1; DST 2	1786-1806 m	Rewan Fm
AU207	Australia	Bowen/Surat	Sunnybank	2; DST 11	2003-2009 m	Bandanna Fm
AU208	Australia	Bowen/Surat	Sunnybank	3; DST 3	1810-1829.1 m	Pickanjinnie Fm
AU209	Australia	Bowen/Surat	Taylor	5; DST 2	2006.1-2018.7 m	Showgrounds Sst
AU210	Australia	Bowen/Surat	Waggamba	1; DST 4	2595.2-2621 m	Kianga Fm
AU211	Australia	Bowen/Surat	Wallumbilla South	1; DST 1	1723-1757 m	Tinowan Fm
AU212	Australia	Bowen/Surat	Waratah	4; DST 1	1623.7-1656 m	Showgrounds Sst
AU213	Australia	Bowen/Surat	Warroon	3; DST 3	2111-2139 m	Rewan Fm
AU214	Australia	Bowen/Surat	Washpool	1; DST 1	1577-1603 m	Showgrounds Sst
AU215	Australia	Bowen/Surat	Wunger	1; DST 1	1915-1919.9 m	Showgrounds Sst
AU216	Australia	Bowen/Surat	Yellowbank	3		Alderbaran Sst
AU217	Australia	Bowen/Surat	Yellowbank Creek	3; DST 1	1850-1855 m	Showgrounds Sst
AU218	Australia	Bowen/Surat	Yellowbank Creek N.	1; DST 2	1859.2-1870 m	Showgrounds Sst
AU219	Australia	Cooper/Eromanga	Brolga (Delhi)	1; DST 4	2822.1-2853.5 m	Patchawarra Fm
AU220	Australia	Cooper/Eromanga	Brolga (Delhi)	1; DST 3	2769.1-2798.1 m	Patchawarra Fm
AU221	Australia	Cooper/Eromanga	Chandos	1; DST 14	2310-2324 m	Merrimelia Fm
AU222	Australia	Cooper/Eromanga	Chandos	1	2303.1-2312.2 m	Merrimelia Fm
AU223	Australia	Cooper/Eromanga	Chookoo	1; DST 1	1370.08-1377.70 m	Mooga Fm
AU224	Australia	Cooper/Eromanga	Coonatie	1; DST 1	2839.8-2850.2 m	Nappamerri Fm
AU225	Australia	Cooper/Eromanga	Cuttapirrie	1; DST 12	2443.3-2452.4 m	Poolowanna Fm
AU226	Australia	Cooper/Eromanga	Cuttapirrie	1; DST 3	2439-2468.6 m	Poolowanna Fm
AU227	Australia	Cooper/Eromanga	Daralingie	1; DST 4	2152.5-2185.4 m	Patchawarra Fm
AU228	Australia	Cooper/Eromanga	Della	4	1910.8-1951 m	Gidgealpa Gp
AU229	Australia	Cooper/Eromanga	Dullingari	19; DST 1	1483.8-1496.3 m	Mooga Fm
AU230	Australia	Cooper/Eromanga	Dullingari	22; DST 3	1505.7-1514.9 m	Mooga Fm
AU231	Australia	Cooper/Eromanga	Dullingari	29; DST 1	1488.9-1507.8 m	Mooga Fm
AU232	Australia	Cooper/Eromanga	Durham Downs	1; DST 2	2534-2574 m	Toolachee Fm
AU233	Australia	Cooper/Eromanga	Fly Lake	1; PT	2618.5-2795 m	Patchawarra Fm
AU234	Australia	Cooper/Eromanga	Gidgealpa	2; Production interval	2083.9-2085.4 m	Toolachee Fm
AU235	Australia	Cooper/Eromanga	Gidgealpa	2; PT	2083.9-2312.2 m	Toolachee Fm
AU236	Australia	Cooper/Eromanga	Gidgealpa	3; DST 5	2229-2234.2 m	Patchawarra Fm
AU237	Australia	Cooper/Eromanga	Gidgealpa	7; DST 1	1538.9-1545.0 m	Mooga Fm
AU238	Australia	Cooper/Eromanga	Jackson	1; DST 1	1104.9-1113.4 m	Mooga Fm
AU239	Australia	Cooper/Eromanga	Jackson	1; DST 7	1428.6-1454.8 m	Hutton Sst

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SampleID	Country	Basin	Field	Well	Depth	Formation
AU240	Australia	Cooper/Eromanga	Jackson	1; DST 5	1331.4-1350 m	Westbourne Fm
AU241	Australia	Cooper/Eromanga	Jackson	1; DST 4	1314.3-1331.1 m	Westbourne Fm
AU242	Australia	Cooper/Eromanga	Jackson	1; DST 6	1428.9-1436.5 m	Hutton Sst
AU243	Australia	Cooper/Eromanga	Jackson	2; DST 1	1438.3-1445.4 m	Hutton Sst
AU244	Australia	Cooper/Eromanga	Jackson	2; Production	1442.3-1450.8 m	Hutton Sst
AU245	Australia	Cooper/Eromanga	Jackson	3; DST 3	1315.2-1342.3 m	Westbourne Fm
AU246	Australia	Cooper/Eromanga	Jackson South	1; DST 3	1298.4-1311.5 m	Westbourne Fm
AU247	Australia	Cooper/Eromanga	Kanowana	1; PT 4	2766.7-2768.5 m	Patchawarra Fm
AU248	Australia	Cooper/Eromanga	Kanowana	1; PT 3	2817.9-2824.3 m	Patchawarra Fm
AU249	Australia	Cooper/Eromanga	Kanowana	1; PT 1	2834.6-2850.2 m	Patchawarra Fm
AU250	Australia	Cooper/Eromanga	Karmona	1; DST 1	2273.8-2334.8 m	Toolachee Fm
AU251	Australia	Cooper/Eromanga	Kihee	2; DST 1	968.7-978 m	Mooga Fm
AU252	Australia	Cooper/Eromanga	McKinlay	1; DST 1	1232-1245.4 m	Mooga Fm
AU253	Australia	Cooper/Eromanga	Merrimelia	6; DST 3	1559.05-1589.84 m	Mooga Fm
AU254	Australia	Cooper/Eromanga	Merrimelia	7; DST 5	2146.4-2161.6 m	Nappamerri Fm
AU255	Australia	Cooper/Eromanga	Merrimelia	8; DST 2	1597.2-1608.7 m	Mooga Fm
AU256	Australia	Cooper/Eromanga	Merrimelia	8; DST 3	1859.3-1879.1 m	Hutton Sst
AU257	Australia	Cooper/Eromanga	Merrimelia	9; DST 2	1862.3-1885.5 m	Birkhead Fm
AU258	Australia	Cooper/Eromanga	Moorari	1; DST 8	2895.6-2991.9 m	Tirrawarra Sst
AU259	Australia	Cooper/Eromanga	Moorari	4; DST 2	2150.4-2162.6 m	Birkhead Fm
AU260	Australia	Cooper/Eromanga	Naccowlah South	1; DST 2	1670.3-1682.3 m	Hutton Sst
AU261	Australia	Cooper/Eromanga	Nockatunga	1; DST 1	1005.2-1011.7 m	Mooga Fm
AU262	Australia	Cooper/Eromanga	Nockatunga	4; DST 1	1006-1016.7 m	Mooga Fm
AU263	Australia	Cooper/Eromanga	Strzelecki	5; DST 3	1682.8-1692.3 m	Birkhead Fm
AU264	Australia	Cooper/Eromanga	Strzelecki	6; DST 1	1413.1-1419.2 m	Mooga Fm
AU265	Australia	Cooper/Eromanga	Strzelecki	10; DST 3	1936.7-1943.4 m	Toolachee Fm
AU266	Australia	Cooper/Eromanga	Thungo	1; DST 1	1004.3-1008.6 m	Mooga Fm
AU267	Australia	Cooper/Eromanga	Thungo	1; Flow Test Sample	1003.5-1016.7 m	Mooga Fm
AU268	Australia	Cooper/Eromanga	Toolachee	1; PT	2088.5-2122.6 m	Patchawarra Fm
AU269	Australia	Cooper/Eromanga	Toolachee	6	2277.2-2322.3 m	Patchawarra Fm
AU270	Australia	Cooper/Eromanga	Toolachee	7; PT	2229.6-2244.9 m	Patchawarra Fm
AU271	Australia	Cooper/Eromanga	Wilson (Delhi)	1; DST 5	1478.3-1488.6 m	Hutton Sst
AU272	Australia	Cooper/Eromanga	Wilson (Delhi)	1; DST 6	1210.7-1216.8 m	Mooga Fm
AU273	Australia	Cooper/Eromanga	Wilson (Delhi)	1; DST 3	1344.2-1360.9 m	Westbourne Fm
AU274	Australia	Cooper/Eromanga	Winna	1; Flow Test Sample	993.2-1017.4 m	Mooga Fm
AU275	Australia	Cooper/Eromanga	Yanpurra	1; DST 7	2894.1-2896.8 m	Tirrawarra Sst
AU276	Australia	Cooper/Eromanga	Limestone Creek	3; DST 2	1206.7-1218.3 m	Mooga Fm
AU277	Australia	Cooper/Eromanga	Fly Lake	2; PT	2905.4-2914.5 m	Tirrawarra Sst
AU278	Australia	Drummond	Lake Galilee	1; DST 5	2645.4-2667.6 m	Joe Joe Fm

AU280	Australia	Adavale	Gilmore	2; DST 11	4045.9-4047.7 m	Log Creek Fm
AU281	Australia	Eromanga/Simpson	Poolowanna	1; DST 2	2504.2-2538.4 m	Poolowanna Fm
AU282	Australia	Gippsland	Barracouta	1		
AU283	Australia	Gippsland	Basker	1; PT 1	3090-3098 m	Latrobe Gp
AU284	Australia	Gippsland	Bream	3; FIT 2	1953.1 m	Latrobe Gp
AU285	Australia	Gippsland	Cobia	1; FIT 2	2406.5 m	Latrobe Gp
AU286	Australia	Gippsland	Cobia	2; RFT 4	2401 m	Latrobe Gp
AU287	Australia	Gippsland	Flounder	A24		
AU288	Australia	Gippsland	Fortescue	2; RFT 1	2446.5 m	Latrobe Gp
AU289	Australia	Gippsland	Fortescue	3; RFT 1	2440 m	Latrobe Gp
AU290	Australia	Gippsland	Fortescue	A1; RFT	3955.6-4048.5 m	Latrobe Gp
AU291	Australia	Gippsland	Fortescue	A5; RFT	3597.5-3611.5 m	Lakes Entrance Fm
AU292	Australia	Gippsland	Fortescue	A7; RFT	3502.5-3611 m	Latrobe Gp
AU293	Australia	Gippsland	Fortescue	A14; sample 1/3	well head	
AU294	Australia	Gippsland	Fortescue	A15		

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Samples Analyzed for this Study

SampleID	Country	Basin	Field	Well	Depth	Formation
AU295	Australia	Gippsland	Fortescue	A16; sample 3/3	well head	
AU296	Australia	Gippsland	Fortescue	A18		
AU297	Australia	Gippsland	Fortescue	A19; sample 1/3	well head	
AU298	Australia	Gippsland	Fortescue	A21; RFT	2682-2760.2 m	Latrobe Gp
AU299	Australia	Gippsland	Halibut	1		
AU300	Australia	Gippsland	Halibut	A1; DST	2291.4-2295.4 m	Latrobe Gp
AU301	Australia	Gippsland	Halibut	A10; DST	2476.8-2483.5 m	Latrobe Gp
AU302	Australia	Gippsland	Halibut	A11; DST	2407.9-2415.2 m	Latrobe Gp
AU303	Australia	Gippsland	Kingfish	B1		
AU304	Australia	Gippsland	Kipper	2; RFT	1123 m	Seaspray Gp
AU305	Australia	Gippsland	Kipper	2; RFT	1129 m	Seaspray Gp
AU306	Australia	Gippsland	Lakes Entrance	1		
AU307	Australia	Gippsland	Mackerel	3; RFT 3	2394.2 m	Latrobe Gp
AU308	Australia	Gippsland	Marlin	1; DST	2257-2309 m	Latrobe Gp
AU309	Australia	Gippsland	Marlin	4; FIT 1	2388 m	Latrobe Gp
AU310	Australia	Gippsland	Marlin	A1	1587.70-1615.74 m	Latrobe Gp
AU311	Australia	Gippsland	Marlin	A24; FIT		
AU312	Australia	Gippsland	Mulloway	1; RFT	1395.8 m	Latrobe Gp
AU313	Australia	Gippsland	Perch	2; RFT	1219 m	Latrobe Gp
AU314	Australia	Gippsland	Snapper	4; RFT 2/17	1410.1 m	Latrobe Gp
AU315	Australia	Gippsland	Snapper	5; RFT 3/17	1404.5 m	Latrobe Gp
AU316	Australia	Gippsland	Snapper	A5; RFT 10/92	1755.5 m	Latrobe Gp
AU317	Australia	Gippsland	Sunfish	1; FIT 1	2243.6 m	Latrobe Gp
AU318	Australia	Gippsland	Sunfish	1; FIT 8	1939.4 m	Latrobe Gp
AU319	Australia	Gippsland	Terakihi	1; RFT 2/1	2851 m	Latrobe Gp
AU320	Australia	Gippsland	West Seahorse	1; RFT 4	1636.5 m	Latrobe Gp
AU321	Australia	Gippsland	Wirrah	1; RFT 6	2046 m	Latrobe Gp
AU322	Australia	Gippsland	Wirrah	1; RFT 7	1532 m	Latrobe Gp
AU323	Australia	Gippsland	Wirrah	1; RFT 12	2206 m	Latrobe Gp
AU324	Australia	Gippsland	Wirrah	3; RFT 3/28	2349.2 m	Latrobe Gp
AU325	Australia	Gippsland	Wirrah	3; RFT 4/35	2023.7 m	Latrobe Gp
AU326	Australia	Gippsland	Wirrah	3; RFT 10/68	2707.8 m	Latrobe Gp
AU327	Australia	Gippsland	Wirrah	3; PWT 2	2813-2822 m	Latrobe Gp
AU330	Australia	Otway	Caroline	1; DST	2501-2841 m	Waarre Sst
AU331	Australia	Otway	Flaxmans	1		
AU332	Australia	Otway	Lindon	2; DST	908-911 m	Pebble Point Fm

AU333	Australia	Otway	Port Campbell	4; DST 22	1789-1798.9 m	Eumeralla Fm
AU334	Australia	Otway	Lindon	1; DST 1	891-912.5 m	Pebble Point Fm
AU335	Australia	Otway	Katnook	1; DST 2	1880.2-1885 m	Eumeralla Fm
AU336	Australia	Otway	Windermere	1; DST 1	1791-1838 m	Eumeralla Fm
AU337	Australia	Otway	Caroline	1; Oil from Separator Tank		Waarre Sst
AU339	Australia	McArthur	Altree	2	1126.5-1127 m	McMinn Fm
AU340	Australia	McArthur	Altree	2; Oil stained core chips	680.1-680.3 m	Hayfield Mdst
AU341	Australia	McArthur	Altree	2; Oil stained core chips	650.7-650.8 m	Hayfield Mdst
AU342	Australia	McArthur	Altree	2; Oil stained core chips	909-909.1 m	Jamison Sst
AU343	Australia	McArthur	Elliott	1; Oil extract	1120.2-1120.96 m	McMinn Fm
AU344	Australia	McArthur	Elliott	1; Oil extract	1346 m	McMinn Fm
AU345	Australia	McArthur	Jamison	1; DST 4	889.3-904.6 m	Jamison Sst
AU346	Australia	McArthur	McManus	1	730.2-730.4 m	Jamison Sst
AU347	Australia	McArthur	McManus	1	820.95-821.05 m	Jamison Sst
AU348	Australia	McArthur	McManus	1; Oil stained core chips	1259.6-1259.65 m	McMinn Fm
AU349	Australia	McArthur	Walton	2; Oil stained core chips	515.15-5151.2 m	McMinn Fm
AU350	Australia	Bowen/Surat	Riverslea	3; DST 1	1520.3-1547.1 m	Evergreen Fm
AU354	Australia	Bowen/Surat	Casey	1; DST 1	1758.1-1767 m	Showgrounds Sst

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Samples Analyzed for this Study

SampleID	Country	Basin	Field	Well	Depth	Formation
AU355	Australia	Otway	Sawpit	1; DST 1	2514-2546 m	Fractured Basement
AU357	Australia	Bass	Yolla	1; DST 1	2809-2825 m	Eastern View Coal Measures
AU358	Australia	Bass	Yolla	1; DST 2	1830-1835 m	Eastern View Coal Measures
AU359	Australia	Bass	Cormorant	1; FIT 6	1500.23 m	Eastern View Coal Measures
AU390	Australia	Cooper/Eromanga	Bowen	2; DST 2	1703.2-1716 m	Birkhead Fm
AU391	Australia	Cooper/Eromanga	Cook	3A; DST 1	1965-1977.5 m	Hutton Sst
AU392	Australia	Cooper/Eromanga	Cooroo	5; DST 3	1629.5-1666 m	Westbourne Fm
AU393	Australia	Cooper/Eromanga	Munkah	4; DST 4	2266.5-2276.9 m	Patchawarra Fm
AU394	Australia	Cooper/Eromanga	Tickalara	7; DST 3	1280.2-1291.4 m	Mooga Fm
AU395	Australia	Cooper/Eromanga	Tickalara	10; DST 2	1243-1252.7 m	Mooga Fm
AU396	Australia	Cooper/Eromanga	Tickalara	10; DST 3	1191.8-1202.1 m	Cadna-Owie Fm
AU397	Australia	Cooper/Eromanga	Watson South	1	1605.4-1611.8 m	Hutton Sst
AU398	Australia	Cooper/Eromanga	Yanda	4; DST 1	1508.8-1522.5 m	Mooga Fm
AU399	Australia	Cooper/Eromanga	Yanda	7; DST 1	2245.8-2253.1 m	Toolachee Fm
AU400	Australia	Cooper/Eromanga	Jackson	18; DST 2	1446.3-1452.4 m	Birkhead Fm
AU401	Australia	Cooper/Eromanga	Inland	1; DST 2	1246.63-1257.60 m	Mooga Fm
AU402	Australia	Cooper/Eromanga	Inland	1; DST 1	1579.17-1597.46 m	Hutton Sst
AU403	Australi	Cooper/Eromang	Bodalla South	2; DST 4	1460-1464 m	Hutton Sst

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AU404	Australia	Cooper/Eromanga	Bodalla South	5; DST 3	1603-1610 m	Poolowanna Fm
AU405	Australia	Cooper/Eromanga	Bargie	1; DST 2	1609.50-1615.10 m	Poolowanna Fm
AU406	Australia	Cooper/Eromanga	Black Stump	1; DST 1	1621.30-1632.20 m	Poolowanna Fm
AU407	Australia	Cooper/Eromanga	Chookoo	6; DST 1	1795.30-1801.10 m	Poolowanna Fm
AU408	Australia	Cooper/Eromanga	Cuddapan	1; DST 1	1521.10-1533.10 m	Cadna-Owie Fm
AU409	Australia	Cooper/Eromanga	Ipundu	1; DST 5	798.60-829.70 m	Wyandra Sst
AU410	Australia	Cooper/Eromanga	Pepita	1; DST 2	2218.30-2248.20 m	Tirrawarra Sst
AU411	Australia	Cooper/Eromanga	Talgeberry	1; DST 7	1175.60-1186.30 m	Birkhead Fm
AU412	Australia	Cooper/Eromanga	Toby	1; DST 5	1740-1746.80 m	Poolowanna Fm
AU413	Australia	Cooper/Eromanga	Toobunyah	3; DST 2	1066.80-1088.18 m	Hutton Sst
AU414	Australia	Cooper/Eromanga	Bookabourdie	5; DST 2	2140-2146 m	Hutton Sst
AU415	Australia	Cooper/Eromanga	Bookabourdie	8; DST 1	2139.09-2158.9 m	Birkhead Fm
AU416	Australia	Cooper/Eromanga	Taloola	1; DST 3	1353.62-1384.1 m	Mooga Fm
AU417	Australia	Cooper/Eromanga	Sturt	6; DST 3	1883.66-1898.29 m	Patchawarra Fm
AU418	Australia	Cooper/Eromanga	Sturt	6; DST 5	1883.66-1919.02 m	Pre-Permian
AU419	Australia	Cooper/Eromanga	Keleary	2; DST 4	2383.54-2405.48 m	Tinchoo Fm
AU420	Australia	Cooper/Eromanga	Sturt	7; DST 5	1871.17-1875.74 m	Poolowanna Fm
AU421	Australia	Cooper/Eromanga	Gidgealpa	17; DST 3	1803.5-1813.86 m	Birkhead Fm
AU422	Australia	Cooper/Eromanga	Gidgealpa	17; DST 4	1823.62-1829.41 m	Hutton Sst
AU423	Australia	Cooper/Eromanga	Gidgealpa	17; DST 6	2164.08-2264.05 m	Patchawarra Fm
AU424	Australia	Cooper/Eromanga	Wancoocha	2	1730.65-1751.38 m	Patchawarra Fm

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Samples Analyzed for this Study

SampleID	Country	Basin	Field	Well	Depth	Formation
AU425	Australia	Cooper/Eromanga	Daralingie	18; Production	2267.85-2269.85 m	Patchawarra Fm
AU426	Australia	Cooper/Eromanga	Fly Lake	8; Production	2890.4-2907.79 m	Tirrawarra Sst
AU427	Australia	Cooper/Eromanga	Naccowlah	2; DST 4	1346.9-1351.5 m	Mooga Fm
AU428	Australia	Cooper/Eromanga	Naccowlah South	10; DST 1	1903.5-1912.6 m	Toolachee Fm
AU449	Australia	Stansbury Basin	Seep			
AU450	Australia	Stansbury Basin	Kangaroo Island Seep			
AU500	Australia	Otway	Mylor	1; DST 1	1665.7-1684	Waarre Sandstone
AU501	Australia	Otway	Mylor	1; DST 1	1665.7-1684	Waarre Sandstone
AU507	Australia	Otway	Killanoola	1; DST 1	841.5-846.5	Sawpit Sandstone
AU508	Australia	Otway	Redman	1; RFT	2899-2899	Pretty Hill Sandstone
AU509	Australia	Otway	Haselgrove	1; DST 1	2857-2890.5	Pretty Hill Sandstone
AU510	Australia	Otway	Haselgrove South	1; DST 1	2880-2912.5	Pretty Hill Sandstone
AU511	Australia	Otway	Haselgrove South	1; DST 1	2880-2912.5	Pretty Hill Sandstone
AU512	Australia	Otway	Wynn	1; CHDST 3	2837-2871	Sawpit Sandstone
AU513	Australia	Otway	Wynn	1; CHDST 5	2780-2791	Sawpit Sandstone
AU514	Australia	Otway	Wynn	1; CHDST 2	2765-2814	Sawpit Sandstone
AU515	Australia	Otway	Wynn	1; CHDST 5	2780-2791	Sawpit Sandstone
AU542	Australia	Cooper/Eromanga	Costa	1; DST 3		Patchawarra Fm
AU543	Australia	Cooper/Eromanga	Endeavour	2; DST 1	1302-1330.2	Birkhead Fm
AU544	Australia	Cooper/Eromanga	Talgeberry	2; DST 2	926.3-931.5	Murta Mbr
AU545	Australia	Cooper/Eromanga	Big Lake	37; DST 1	1960.47-1970.23	Birkhead Fm
AU546	Australia	Cooper/Eromanga	Big Lake	55; DST 1	1697.74-1716.02	Namur Sst Mbr
AU547	Australia	Cooper/Eromanga	Gidgealpa	17; DST 4		Hutton Sst
AU548	Australia	Otway	Nunga Mia	1; DST 2	2404.2-2413	Pretty Hill Sandstone