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Department of Primary Industries

07 JUN 2006

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LETTER OF TRANSMITTAL

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Sent to Terry McKinley
Department of Primary Industries, Vic
Level 16
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Melbourne
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RH*

7/6/06

Sent By Holly Phillips
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SUMMARY:Data Management Plan for Halladale-1 DW1, DW2 & DW3

Quantity	Data Type	Description
2	Report	Data Management Plan for Halladale-1 DW1, DW2 & DW3, VIC/P37 (V), Otway Basin

This Transmittal created on 6/06/2006 sent via Courier relates to Permit:N/A

SENDER

Holly Phillips

DATE *6-6-06*

Received in good order and condition except as noted

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DATE

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**Data Management Plan for
Halladale-1 DW1, Halladale-1 DW2 and Halladale-1 DW3 wells
VIC/P37(V) Otway Basin
Australia**

Prepared by: Andrew Constantine, Staff Geologist, Origin Energy

May 2006

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To: Terry McKinley
Manager Petroleum Operations, Safety and Environment
Department of Primary Industries
GPO Box 4440
Melbourne VIC 3001
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Signed for and on behalf of
Origin Energy Resources Ltd
Woodside Energy Ltd

By Origin Energy Resources Ltd

Per:


.....

Dr A. Constantine
Staff Geologist
Offshore Australia Exploration Team
Origin Energy Resources Ltd

Date: 29/5/2006

Version: 1.0

Designated Authority acceptance:

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1.0 INTRODUCTION

1.1 PERMIT INFORMATION

PERMIT: VIC/P37(V)
AREA: 493 km² (21 graticular blocks)
STATE: Victoria
BASIN: Otway Basin (offshore)
AWARDED: 17 April 2003
EXPIRY DATE: 16 April 2009
OPERATOR: Origin Energy Resources Ltd
 ABN 007 845 338
 GPO Box 148
 Brisbane QLD 4001
ACT: *Victorian State Petroleum (Submerged Lands) Act 1984 (State)*

1.2 DESCRIPTION OF ACTIVITY

This data management plan relates to the Halladale-1 DW1, Halladale-1 DW2 and Halladale-1 DW3 wells, which are to be drilled between March and May 2005 in exploration permit VIC/P37(v), approximately 215 km west-southwest of Melbourne. Halladale-1 DW1 and Halladale-1 DW2 are exploration wells designed to fulfil the Year 2 two-well commitment for VIC/P37(v). The wells will be drilled using the Ocean Bounty semi-submersible drilling rig located approximately 4 km from shore in 45 m of water. The wells will be drilled back-to-back using the same top hole section, and then directionally steered in opposite directions toward two prospects at the Turonian Waarre Formation level called Black Watch and Halladale. The first well (Halladale-1 DW1) will test the southern prospect (Black Watch), while the second (Halladale-1 DW2) will test the northern prospect (Halladale). The third well, Halladale-1 DW3, is a non-commitment down-dip appraisal well that may be drilled immediately after Halladale-1 DW2 if the latter encounters gas in the Waarre C but does not intersect the GWC.

The surface location for Halladale-1 is:

Latitude: 38° 34' 45.54"S
 Longitude: 142° 43' 50.95"E

Datum GDA94
 UTM Zone 54 south

This data management plan is compiled and submitted by Origin Energy Resources Ltd, as operator of VIC/P37(v), on behalf of the VIC/P37(v) Joint Venture. The Joint Venture participants (JVP) are shown in Table 1.

Name	Interest Holder %	Description
Origin Energy Resources Ltd.	37.5%	JVP and Operator
Woodside Energy Ltd	62.5%	JVP

Table 1: VIC/P37(v) Joint Venture Partners

2.0 SPECIFIC REQUIREMENTS OF DMP PER VICTORIAN STATE SCHEDULE 4

Item	Regulatory Provisions	Application to this DMP
101	Description of: <ol style="list-style-type: none"> a. each activity to which DMP relates; b. each location where activity will be carried out. 	This DMP is designed to be a "cradle to grave" plan for all foreseeable activities to be undertaken within the title area. However, if the Guidelines for reporting and submission of petroleum data are updated then this DMP will be revised. For other activities not covered in detail in this plan (or in the DMP Guidelines) the company responsible for the data shall specifically detail information on that activity, as it arises. Should a change in title type or Guidelines occur, the company shall review this DMP and resubmit a DMP for approval.
102	Description of reports & information, relevant to the activity, that will be made and kept.	As detailed throughout this document, relating to the specific activity.
103	Explanation of: <ol style="list-style-type: none"> a. data to be given to the Designated Authority without request by the Designated Authority; b. information to be kept. 	<ol style="list-style-type: none"> a. Data to be submitted - refer to body of document, as pertinent to the associated activity. b. Data withheld - refer to body of document, as pertinent to the associated activity.
104	Description of media and formats for information, cores, cuttings or samples held.	The information and reports will be submitted in the format and on the media outlined in within the body of the document, as pertinent to the associated activity.
105	Explanation of how media and formats in item 104: <ol style="list-style-type: none"> a. are appropriate for type & volume of data collected; b. comply with Designated Authority requirements; c. comply with good industry practice. 	Data medias and formats are described within the body of the document and these all comply with the P(SL)A Guidelines for Data Submission version 5 (the Guidelines) in respect of the <i>Victorian State Petroleum (Submerged Lands) (Data Management) Regulations 2004 (State) (the Regulations)</i> .
106	Undertake to allow access to data that is publicly available and explain how access will be allowed	The operator acknowledges that, upon notification by the Designated Authority, it will allow reasonable access to any publicly available information or samples under its control.
107	Describe arrangements that ensure information is preserved according to good archive practice.	Data preservation will be ensured via contracts covering data services in addition to in-house data management practice.
108	Issue a statement that reports & information will be given according to: <ol style="list-style-type: none"> a. the timetable outlined in Part 2 of the Schedule; or b. a timetable proposed in the DMP. 	The timing of submission of data that will be made/collected during the period of the DMP is outlined within the body of the document, as pertinent to the associated activity.
109	Summary of: <ol style="list-style-type: none"> a. data management performance objectives against which performance will be measured; & b. measurement criteria that define the objectives. 	Data and reports will be submitted on time and in accordance with Guidelines (see item 105). Archival and Environment conditions will comply with the Guidelines (see item 105).

Item	Regulatory Provisions	Application to this DMP
110	Explain how the measurement criteria will confirm that the performance objectives have been met.	Submissions timetable will be monitored in-house. Storage handling conditions will be controlled via contracts for data services.
111	Summary of arrangements for: a. secure storage of documents and records at a nominated address b. maintenance of documents and records in a way that makes retrieval of documents etc practicable.	Information and reports will be stored at the nominated address in a secure data storage room prior to being submitted to the Designated Authority as per timetable above. The storage of data will meet the good digital archival principles as set out in the "Guidelines for reporting and submission of petroleum data" and recommended by the Australian Archives.
112	Acknowledge responsibility for collection, storage, and submission of information, cores, cuttings & samples obtained until all have been submitted to the Designated Authority.	The Operator acknowledges responsibility for collection, storage, and submission of information, cores, cuttings & samples obtained until all have been submitted to the Designated Authority.
113	Any other information that is necessary to demonstrate that the DMP complies with the Regulations.	As required, for specific instances.

3.0 HALLADALE-1 DW1, DW2, DW3 WELL DATA SUBMISSION

Supplementary text in BLUE in the 'Remarks' column details when data was sent to, or received by, DPI (Department of Primary Industries).

Data to be submitted	Copies required by States/Territory Commonwealth		Format	Media	Scales required	Data due date	Remarks
Daily drilling and geological reports	YES	YES	PDF, Word	email		Daily	All daily drilling and geological reports from the well site will be forwarded from the drill rig to Woodside Energy in Perth as it is handling the drilling operations on behalf of the VIC/P37(V) JV. Woodside will QC the reports and forward them to Origin's Brisbane office by 12 noon on the day after that to which the report pertains. Origin will then issue the reports by email to DPI and Geoscience Australia.
Ditch cuttings	YES		washed & air-dried		200 g	Six months after completion of well	Received by DPI 8/6/05.
Edited field and processed data for all MWD and/or LWD tools, including borehole deviation survey	YES		LIS, LISTIF, DLIS, LAS or ASCII	CD ROM or DVD or 3590		Six months after completion of well	Final LWD logs for DW1 and DW2 sent Terry McKinley (DPI) on 12/9/05 (Transmittal #3230). Final LWD logs for DW3 sent to Phil Roberts (DPI) on 10/3/06 (Transmittal #3525).
MWD and/or LWD log displays	YES		PDF, PDS or TIF	CD ROM or DVD	200/500	Six months after completion of well	Final MWD / LWD log images for DW1, DW2 and DW3 sent to Phil Roberts (DPI) on 3/5/06 (Transmittal #3570).
Edited field and processed data for all wireline logs	YES		LIS, LISTIF, DLIS, LAS or ASCII	CD ROM or DVD or 3590		Six months after completion of well	All wireline log data for DW1, DW2 and DW3 except XMAC Elite submitted 27/7/05. XMAC Elite logs for DW1 and DW2 submitted 29/5/06 (Transmittal #3590).
Wireline log displays	YES		PDF, PDS or TIF	CD ROM or DVD	200/500	Six months after completion of well	All wireline log displays for DW1, DW2 and DW3 submitted 27/7/05.
Basic Data Well Completion Report	YES		PDF	CD ROM or DVD		Eighteen months after completion	Basic Data Reports for DW1, DW2 and DW3 sent to Phil Roberts (DPI) on

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Mud log	YES		PDF or TIF	CD ROM or DVD	500	of well. Eighteen months after completion of well.	3/5/06 (Transmittal #3570). DW1 mud log in DW1 Basic Data Report (Appendix 9 p.239-253) sent to Phil Roberts (DPI) on 3/5/06 (Transmittal #3570). DW2 mud log in DW2 Basic Data Report (Appendix 9 p.264-284) sent to Phil Roberts (DPI) on 3/5/06 (Transmittal #3570). DW3 mud log in DW3 Basic Data Report (Appendix 9 p.229-244) sent to Phil Roberts (DPI) on 3/5/06 (Transmittal #3570).
Mud log data	YES		LAS, ASCII or Excel	CD ROM or DVD or 3590		Eighteen months after completion of well.	Digital mud log data for DW1 on DW1 Basic Data Report CD-ROM sent to Phil Roberts (DPI) on 3/5/06 (Transmittal #3570). Digital mud log data for DW2 on DW2 Basic Data Report CD-ROM sent to Phil Roberts (DPI) on 3/5/06 (Transmittal #3570). Digital mud log data for DW3 on DW3 Basic Data Report CD-ROM sent to Phil Roberts (DPI) on 3/5/06 (Transmittal #3570).
Processed velocity survey data	YES		SEGY	CD ROM or DVD or 3590		Eighteen months after completion of well.	DW1 Zero-offset VSP Report sent to Phil Roberts (DPI) on 3/5/06 as part of DW1 Basic Data Report (Transmittal #3570). No VSP or checkshot surveys run in DW2 or DW3.
Velocity log displays	YES		PDF, CGM	CD ROM or DVD	200	Eighteen months after completion of well.	Velocity logs displays for DW1 sent to Phil Roberts (DPI) on 3/5/06 as part of DW1 Basic Data Report (Transmittal #3570).
Digital petrophysical, geochemical or other analyses	YES		ASCII or Excel	CD ROM or DVD		Eighteen months after completion of well.	The DW1 Basic Data Report CD-ROM sent to Phil Roberts (DPI) on 3/5/06 contains the following data in Excel format: formation pressure, gas / condensate geochemistry, mud gas

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<p>isotope and RCA. The DW1 Basic Data Report also contains PVT results (Appendix 13) and Vitrinite Reflectance Data (Appendix 16). The data in these appendices can be copied and pasted into Excel.</p> <p>The DW2 Basic Data Report CD-ROM sent to Phil Roberts (DPI) on 3/5/06 (Transmittal #3570) contains the following data in Excel format: formation pressure, gas / condensate geochemistry, mud gas isotope and RCA. The DW1 Basic Data Report also contains PVT results (Appendix 13) and Vitrinite Reflectance Data (Appendix 16). The data in these appendices can be copied and pasted into Excel.</p>							
<p>The DW3 Basic Data Report CD-ROM sent to Phil Roberts (DPI) on 3/5/06 (Transmittal #3570) contains the following data in Excel format: formation pressure and mud gas isotope. No fluid samples were collected in DW3 and no geochemical analyses run.</p>							
<p>DW1 "Acoustic Log Processing for P&S Velocities" report by Super Sonic Geophysical to be sent to G.Torr (29/5/06) (Transmittal #3590).</p>							
<p>DW2 "Acoustic Log Processing for P&S Velocities" report by Super Sonic Geophysical to be sent to G.Torr (29/5/06) (Transmittal #3590).</p> <p>DW3 "Acoustic Log Processing for P&S Velocities" report by Super Sonic Geophysical to be sent to G.Torr (29/5/06) (Transmittal #3590).</p>							

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Liquid hydrocarbon samples	YES	API approved cylinder	SAMPLE	Six months after completion of well.	<p>Fluid Inclusion Screening report on DW1, DW2 and DW3 to be sent to G. Torr (29/5/06) (Transmittal #3590).</p> <p>Halladale and Black Watch are both gas prospects so no liquid hydrocarbons are expected to be found.</p> <p>No liquid hydrocarbons were encountered in DW1, DW2 or DW3, so no samples were collected.</p> <p>DW1 predrill success case program: 2x Waarre C gas samples, 2x Waarre A gas samples, 2x Nuilawarre gas samples. DW1 predrill failure case program: no samples.</p> <p>DW2 predrill success case program: 2x Waarre C gas. DW2 predrill failure case program: no samples.</p> <p>No sampling was planned in DW3.</p> <p>In DW1, a gas sample was recovered from the Waarre C, but no samples were recovered from the Waarre A due to the RCI getting differentially stuck and the Nuilawarre was not sampled due to low gas saturations and tightness.</p> <p>In DW2, one gas sample was recovered from the Waarre C as planned.</p> <p>After the gas samples were analysed by Petrolab in Adelaide, Petrolab submitted two samples from spare cylinders to Geoscience Australia on 24/10/05: 1x Halladale-1 DW1 (1772.6 mMD, 150 cc @ 500 psi ex Petrolab cylinder L-227 transferred 13/4/05 to RCI tank#369106), 1x Halladale-1 DW2 (1804.6 mMD, 150 cc @ 500 psi ex</p>
Gaseous hydrocarbon samples	YES	API approved cylinder	SAMPLE	Six months after completion of well.	

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<p>Palynological slides / residues</p>	<p>YES</p>				<p>SAMPLE</p>	<p>Eighteen months after completion of the well.</p>	<p>Petrolab cylinder L-076 transferred 26/4/05 to RCI tank#189768). Palynological samples selected for analysis to be sent to Dr R.Morgan (Morgan PalaeoAssociates) for dating. Interpretive report to be included in Interpretive WCR. Slides and residue to be submitted to DPI upon completion of report. Palynological range charts for DW1 and DW2 included in Basic Data Reports sent to Phil Roberts (DPI) on 3/5/06. (Transmittal #3570). Petrology samples to be sent to Dr S.Philips (PGPC) for examination. Interpretive report to be included in Interpretive WCR. Slides and residue to be submitted to DPI upon completion of report. Thin sections submitted to G.Torr (DPI) on 24/5/06 (Transmittal #3587). 1 x 27 m long conventional core is programmed for Halladale-1 DW1. The core, if acquired, will be shipped to Core Laboratories in Perth for RCA and SCAL. Due to the narrow size of the core (4" diameter), the RCA and SCAL plugs must be cut first before it is slabbed (1/3 - 2/3) for sedimentological interpretation and core photography purposes. After these tests have been completed, the entire core will be shipped to the DPI Core Storage Facility in Victoria. Two conventional cores were cut during the Halladale drilling campaign instead of one as originally planned: 1x 7.6 m core from Halladale-1 DW1 (1791-1798.8 m) and 1x 27 m core from Halladale-1 DW2 (1808-1835 m). Both cores received by DP 14/2/06).</p>
<p>Petrological slides</p>	<p>YES</p>				<p>SAMPLE</p>	<p>Eighteen months after completion of the well.</p>	
<p>Full hole core</p>	<p>YES</p>				<p>SAMPLE</p>	<p>Eighteen months after completion of well.</p>	

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Sidewall core	YES			SAMPLE	Eighteen months after completion of well.	PSWC runs programmed in Halladale-1 DW1 (firm) and Halladale-1 DW2 (contingent). MSCT runs programmed in Halladale-1 DW1 (contingent) and Halladale-1 DW2 (contingent). PSWC run in DW1 cancelled due to operational problems toward end of DW1 (bore hole stability). Contingent PSWC run in DW2 cancelled after JV considered log correlation with adjacent offset wells good enough not to warrant the acquisition of PSWC for biostratigraphic purposes. Contingent MSCT run in DW1 cancelled when the JV elected to core the Waarre C in DW2 after the core in DW1 jammed off early. Contingent MSCT run in DW2 cancelled due to very high core recovery in DW2 (25.4 m or 94%).
Core / SWC photography	YES		TIF, JPG or PDF	CD ROM or DVD	Eighteen months after completion of well or after receipt from external contractor	Digital photographs of DW1 and DW2 cores (within DW1 and DW2 Basic Data Reports) sent to Phil Roberts (DPI) on 3/5/06 (Transmittal #3570). No PSWC or MSCT acquired in DW1, DW2 or DW3.
Interpretive Well Completion Report	YES		PDF	CD ROM or DVD	Eighteen months after completion of well.	
Well index sheet	YES		PDF	CD ROM or DVD	Eighteen months after completion of well.	To be included in Interpretative WCR
Composite well log	YES		TIF or PDF	CD ROM or DVD	Eighteen months after completion of well.	To be included in Interpretative WCR