



Preliminary Survey Licence 12

2008 Annual Report



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2 Permit Summary

PSL 12 authorises the following activities:

- Land survey;
- Geotechnical survey;
- Ecological survey; and
- Heritage survey

as identified in the Statement of Environmental Objectives.

During the Reporting Period, BHP Billiton Olympic Dam Corporation Pty Ltd's work activities continued to be focussed on selection studies associated with a proposed gas pipeline. Further (office-based) consultancy engagements occurred to progress these studies.

Only two field activities occurred during the reporting period – a helicopter survey from 14-18 January and a ground-based survey by vehicle from 23–25 January 2008. More details of these surveys appear in section 3.7 of this report.

3 Regulated Activities

3.1 Drilling and related activities

No regulated activities undertaken in the licence reporting period.

3.2 Seismic data acquisition

No regulated activities undertaken in the licence reporting period.

3.3 Seismic Data Processing and Reprocessing

No regulated activities undertaken in the licence reporting period.

3.4 Geochemical, Gravity, magnetic and other surveys

No regulated activities undertaken in the licence reporting period.

3.5 Production and processing

No regulated activities undertaken in the licence reporting period.

3.6 Pipeline construction and operation

No regulated activities undertaken in the licence reporting period.

3.7 Preliminary Survey activities

A gas pipeline field survey was conducted during 14–18 January 2008. The investigation was undertaken by helicopter and the survey team investigated soils, surface water and flora and fauna.

A further, ground-based vehicle survey of flora and fauna was conducted during 23–25 January 2008.

Soils

Field investigations by Houghton Environmental Management Pty Ltd were undertaken to confirm the soil types of the study area and to collect soil samples for laboratory assessment of physical and chemical properties. For the gas pipeline corridors, samples were obtained from 22 test holes along the three alignment options. Sampling was undertaken by hand auger with the maximum depth of augering being 1.5 metres.

Soil profiles were logged and described at each site in accordance with the Australian Soil and Land Survey Field Handbook (McDonald et al. 1990) and soil types were described according to the unified soil classification system (USCS).

Laboratory testing of collected samples was undertaken at NATA accredited laboratories to quantify the physical and chemical properties of the material, as these influence the erosion potential and soil stability. Chemical analysis was also undertaken to establish baseline concentrations for future comparison. The parameters tested included field pH, electrical conductivity, arsenic, cadmium, chromium, copper, lead, nickel, zinc, mercury, uranium, ammonia, nitrogen, phosphorus and organic matter.

Surface water

Catchments and watercourses on the gas pipeline corridors were examined and photographed during the survey) by Houghton Environmental Management Pty Ltd. Conditions were dry during these surveys, so sampling was restricted to the collection of surface water samples at four locations where it was present in waterholes or springs in the study area.

The field survey entailed:

- collecting water samples (where possible) and measuring the water quality for dissolved oxygen, electrical conductivity, pH, temperature and turbidity (four surface water samples were collected)
- examining and photographing the receiving environments of catchments.

Laboratory testing of collected samples was undertaken at NATA accredited laboratories. The parameters tested included pH, electrical conductivity, metals and major ions.

Flora and Fauna

As part of the helicopter survey team, Matt Launa of RPS Ecos Pty Ltd undertook investigations to confirm the vegetation types within the gas pipeline corridor. Brief ground assessments of vegetation types and habitat were undertaken at 22 locations along the three alignment options. Boundaries of vegetation types were recorded using a GPS to enable subsequent mapping of vegetation types.

The section of the gas pipeline corridor following the existing (Epic) gas pipeline was surveyed by Roger Playfair of RMP Environmental from 23–25 January 2008 via vehicle. Vegetation types within this section of the gas pipeline corridor were assessed and mapped.

Consultation undertaken

Contact with pastoralists has been limited over the past 12 months as activity relating to gas pipeline investigations has been limited.

However a number of pastoralists were contacted to advise them that some additional investigations were being carried out in January 2008 into the gas pipeline route as it had been decided to review the gas pipeline concept as part of the Olympic Dam pre-feasibility/selection investigation.

The owners or operators of Dulkaninna, Murnpeowie, Clayton and Muloorina Stations were telephoned to advise them that a helicopter-based survey would be touching down at a number of locations along the proposed pipeline route through their properties. The phone call was followed up with an email to each station (a fax was sent to one station owner who preferred that format) detailing the proposed landing sites and providing a map. Each station was advised that the survey would entail taking a simple hand-auger based soil sample to bring the infrastructure corridor survey methodology for the gas pipeline into alignment with the corridor survey methodology used for other aspects of the Olympic Dam expansion proposal such as the surveys for the water pipeline.

As the helicopter survey route also involved the Strzelecki Regional Reserve, representatives of the Department of Environment and Heritage (DEH) were also advised of the proposed routes and landing sites. Both the regional manager and the DEH Mining Unit were advised of the proposed activities.

Santos was also advised of the proposed survey as the proposed survey route overflowed their pastoral properties and in addition the helicopter operator wished to refuel at Moomba.

The owner managers of Lindon and Merty Merty Stations, DEH, Santos and Epic Energy were contacted to advise them that to bring the gas pipeline survey work into line with work done on other infrastructure corridors, such as the water pipeline covered in the Environmental Impact Statement for the Olympic Dam expansion, we wished to carry out a ground based vegetation survey along the route of the existing Moomba to Adelaide pipeline, from the region of Compressor Station 2 through to Moomba.

Again, initial phone contacts were followed by emails to ensure that key details were conveyed appropriately.

The survey route was restricted to the Epic easement and appropriate vegetation survey permits were obtained from DEH. In addition to complying with BHP Billiton safety standards for operating in remote areas, the contractors carrying out the survey undertook Epic's induction course to ensure that they complied with Epic's safety standards while travelling along Epic's easement.

In addition to the contacts with pastoralists detailed above, presentations were made to a group of pastoralists known as the Outback Lakes group, including Dulkaninna's owners at Roxby Downs on 22 February 2008. The intent of the presentation was to update pastoralists on the progress of the Olympic Dam expansion project and to advise them that the proposed gas pipeline was still being considered as part of the expansion project.

Another meeting with pastoralists whose properties lie along the proposed pipeline route has been organised for Marree on 10 April 2008. This meeting is intended as an informal means of discussing progress to date and updating the group on the expansion proposal. Meetings with the owner operators of Merty Merty and Lindon Stations will be held on their properties on the following day.

4 Compliance issues

4.1 Licence and Regulatory Compliance

BHP Billiton Olympic Dam believes it has complied with the requirements of the *Petroleum Act 2000* (SA) and of the *Petroleum Regulations 2000* (SA), and that there has not been any non-compliance with the *Petroleum Act 2000* (SA) or the *Petroleum Regulations 2000* (SA) in relation to PSL 12.

4.2 Compliance with Statement of Environmental Objectives

Refer Table 1 next page.

Table 1 : Compliance with Statement of Environmental Objectives

Environmental Objectives	Assessment Criteria	Compliance/Comments
1. To minimise disturbance to landowners/managers.	<ul style="list-style-type: none"> • The project has a nominated person with specific responsibility for maintaining contact with all potentially affected landowners/managers. • All landowners/managers are consulted prior to preliminary survey activities and their specific requirements are recorded and addressed appropriately. • All reasonable landowner requirements are incorporated into management strategies. • Landowners/managers are provided with information regarding the scope, schedule and duration of preliminary survey activities. • The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). • Landowner complaints are recorded and reported to the licensee. 	BHP Billiton complied with this objective.
2. To minimise damage to crops and pasture.	<ul style="list-style-type: none"> • The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). • Existing tracks are used where available. • The area utilised for excavation is restricted to the smallest practicable (ie. approx. 20 m² per site). • Disturbance is restricted to the proposed construction right-of-way where practicable (right-of-way width is likely to vary from between 10 to 25 metres). • Topsoil is kept separate from subsoil. • The soil profile and contours are restored to as near as possible to their undisturbed state as soon as practicable and to the landowners satisfaction. Landowner complaints are recorded. 	BHP Billiton complied with this objective.

3. To minimise disturbance to stock.	<ul style="list-style-type: none"> • The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). • Landowners/managers are provided with adequate prior notice of proposed land access (as per requirements of Part 10 of the Act). • Vehicles are driven at appropriately slow speeds to avoid undue disturbance. Gates are left as found. • Landowner complaints are recorded. 	BHP Billiton complied with this objective.
4. To prevent disturbance to native fauna.	<ul style="list-style-type: none"> • The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). • Vehicles are driven at appropriately slow speeds to avoid undue disturbance. Plan / rationalise preliminary survey activities to ensure the number of site visits is as few as practicable. • Clearing native vegetation as part of survey activities avoided. • Excavation holes checked regularly for wildlife. • Undertake ecological survey prior to geo-technical and land/cadastral survey and identify any "no-go" areas. 	BHP Billiton complied with this objective.
5. To minimise generation of dust.	<ul style="list-style-type: none"> • The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). • Vehicles are driven at appropriately slow speeds to avoid undue disturbance. 	BHP Billiton complied with this objective.
6. To avoid the introduction of weeds or disease.	<ul style="list-style-type: none"> • Identify local weed and disease management issues prior to the commencement of preliminary survey activities. • Management procedures in place to prevent the spread of identified weeds/diseases/pathogens. • Ensure all equipment and vehicles are free of soil and vegetative matter prior entry to and exit from properties and roadsides. • The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). • All landowners/managers are consulted prior to preliminary survey activities and their specific requirements are recorded. • Planning has taken account of season / climates, as some pathogen born 	BHP Billiton complied with this objective.

	diseases (e.g. dieback) are transported during particular conditions.	
7. To avoid or minimise damage to vegetation and wildlife habitat.	<ul style="list-style-type: none"> • Clearing native vegetation as part of land survey is prevented where avoidable in native vegetation areas. Where demonstrated to be unavoidable a location specific environmental management plan is developed and implemented. • Soil excavations are not conducted in areas of native vegetation. • Survey is undertaken by appropriately trained and experienced personnel. • Any sites of significance (due to size, density and/or presence of threatened species) are recorded for subsequent avoidance during construction. • Any areas of clearance are rehabilitated using local seed sources, where available, and appropriate methods. • Preliminary survey activities not conducted within any areas of intact vegetation without prior consultation with relevant government departments. Samples of native vegetation are collected by qualified botanists or appropriately trained and experienced personnel under appropriate permits from the Department of Environment and Heritage. 	BHP Billiton complied with this objective.
8. To avoid damage or unnecessary disturbance to cultural heritage sites.	<ul style="list-style-type: none"> • Survey is undertaken by appropriately trained and experienced personnel. • The proponent has a mechanism in place to appropriately report and respond to any sites discovered during pipeline survey activities. • Any sites are recorded for subsequent avoidance during construction. 	BHP Billiton complied with this objective.
9. To minimise visual impacts.	<ul style="list-style-type: none"> • Marker pegs are limited to those essential for identifying the proposed alignment. • Excavations are restricted to areas away from general public view, where practicable. • Excavations are restored as soon as practicable. 	BHP Billiton complied with this objective.
10. To minimise soil disturbance.	<ul style="list-style-type: none"> • The area of excavation is restricted to the smallest practicable (approx. 20 m² per site). • Disturbance is restricted to the proposed construction right-of-way where practicable (right-of-way width is likely to vary from between 10 to 25 metres). Topsoil is kept separate from subsoil. 	BHP Billiton complied with this objective.

	<ul style="list-style-type: none"> • Vehicles use existing road tracks where practicable. • The soil profile and contours are restored to as near as possible to their undisturbed state as soon as practicable and to the landowners satisfaction. 	
11. To minimise impact of surface water, groundwater and drainage patterns.	<ul style="list-style-type: none"> • Access tracks are located to avoid any diversion of water during flood inundation. • Areas of inundation, which may result in bogging, or creation of heavy wheeltrack rutting (more than 200mm deep) are avoided. • Vehicles parked away from watercourses or sensitive ecological environments (minimum 50m). 	BHP Billiton complied with this objective.
12. To minimise the impact on the environment of waste handling and disposal.	<ul style="list-style-type: none"> • All rubbish is removed from survey site • All vehicle oil spills are managed appropriately. 	BHP Billiton complied with this objective.
13. To minimise the risk of fire.	<ul style="list-style-type: none"> • Diesel vehicles are used where practicable. • Fire extinguishers and/or knapsacks are kept in all vehicles. • Vehicles are not parked on, or driven through, long grass where avoidable. • Requirements of the landowner/manager are met. • All access to be prohibited on days declared Total Fire Ban. • All requirements of the Country Fires Act 1989 have been met. • Personnel do not smoke while conducting survey activities. 	BHP Billiton complied with this objective.
14. To minimise erosion.	<ul style="list-style-type: none"> • Any areas of erosion are rehabilitated or managed to prevent further erosion. • The soil profile and contours are restored to as near as possible to their undisturbed state as soon as practicable and to the landowners satisfaction. • Any areas of excavation have been restricted to the smallest practicable. 	BHP Billiton complied with this objective.

4.3 Management System Audits

No management system audits were carried out during the 2008 reporting period.

4.4 Report and data submissions

The various reports produced during the 2008 reporting period are detailed in Table 2 below.

Report Title:	Produced by:	Date:
Liquid Fuel Replacement Project Pre-feasibility Study	BHP Billiton Olympic Dam	March 2007
OD and ODX Consolidated Gas Requirements Project Gas Pipeline Pre-Feasibility Study	Worley Parsons (Resources & Energy)	June 2007
OD and ODX Consolidated Gas Requirements Project Gas Pipeline Pre-Feasibility Study Preferred Case to min Plan March 2007	Worley Parsons (Resources & Energy)	August 2007

Table 2 : List of reports produced during the reporting period

Results from the January 2008 surveys (referred to in section 3.7) will be published in the Olympic Dam Expansion Project Environmental Impact Study (EIS) Report. The survey report is expected to be finalised during Q4, 2008.

4.5 Incidents

BHP Billiton Olympic Dam confirms there were no incidents during this reporting period.

4.6 Threat prevention

BHP Billiton Olympic Dam confirms that no reasonably foreseeable threats were identified during this reporting period.

4.7 Future work program

This is the final year PSL 12 will remain in force. However, BHP Billiton Olympic Dam intends to make application for a new licence.

The 2008/09 work program includes:

- Finalisation of forecast gas quantities for BHP Billiton Olympic Dam;
- Completion of Selection Study report on preferred gas pipeline size and route. This work may require a single site visit;
- Commencement of detailed, "Definition" stage engineering and design of the selected gas pipeline size/route. This work is likely to require further site visits and ground survey activities.

5 Expenditure statement

Commercial in confidence.