



Annual Report

Licence Year 5, 14
November 2009 to 13
November 2011

Geothermal Exploration
Licence 211

Environmental



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Document Owner
Howard Coombes For Geodynamics Limited Phone: (07) 3721 7551 Mobile: 0400 723 302 E-mail: howard.coombes@geodynamics.com.au

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1. INTRODUCTION

Geothermal Exploration Licence 211 (GEL 211) was granted to Geodynamics Limited on 14th November 2005 for a period of 5 years. The licence was subject to two suspensions resulting in the expiry date being extended to 13th November 2011.

This report details the work conducted during Licence Year 5, of the licence in accordance with Regulation 33 of the *Petroleum & Geothermal Energy Act 2000*.

2. PERMIT SUMMARY

For the duration of the licence year, licensees for Geothermal Exploration Licence 211 (GEL 211) were:

- Geodynamics Limited 70% (operator)
- Origin Energy Limited 30%

GEL 211 was granted on the 14th November 2005 for a period of five (5) years subject to conditions. The licence was suspended for a total of one year, with effect that the expiry date for GEL 211 is 13th November 2011.

The following table (Table 2-1) displays the actual work completed up until the end of the current licence period.

Table 2-1 Work completed (as end of current reporting period) by licence year:

Licence Year	Licence Dates	Actual Work
Year 1	14/11/05 to 13/11/06	Geological and geophysical review of existing data
Year 2	14/11/06 to 13/11/07	Geological and geophysical review of existing data
Year 3	14/11/07 to 13/11/08	Geological and geophysical review of existing data
Year 4	14/11/08 to 13/11/09	Geological and geophysical review of existing data
Year 5	14/11/09 to 13/11/11	Geological and geophysical review of existing data

3. REGULATED ACTIVITIES

3.1 Drilling

No drilling activities were performed within the GEL 211 Licence area during the reporting period.

3.2 Seismic Data Processing and Reprocessing

No seismic data processing and reprocessing was undertaken during the reporting period.

3.3 Geochemical, Gravity, Magnetic and other surveys

On 27 March 2011 a gravity survey of GEL 211 was carried out by DAISHAT Pty Ltd on behalf of Geodynamics.

In March 2011, a gravity survey was carried out over much of GEL 211 as part of Geodynamics 2011 Cooper Basin gravity survey. The objective of this data collection was to tie in the exiting gravity data over Geodynamics current retention leases with the newly acquired data over EPG 6 which lies on the Queensland side of the South Australian/Queensland border. This would be used to constrain the boundary of the Innamincka granite and develop future geothermal exploration plays.

3.4 Pipeline/Flowline Construction and Operation

Nil

3.5 Preliminary Survey Activities

Nil.

4. COMPLIANCE ISSUES

4.1 Licence and Regulatory Compliance

There were was one instance of non compliance during the Licence year. This involved the late submission of the Annual report which was due on the 13th January 2012.

4.1.1 Licence Non-Compliance

There were no instances in which Geodynamics failed to comply with the requirements of the Licence.

4.1.2 Regulatory Non-Compliance

There was one instance during the reporting year where Geodynamics failed to comply with the regulations of the *Petroleum & Geothermal Energy Act 2000*. Refer Table 4-1.

Table 4-1: List of regulatory non-compliances for current reporting year

No.	Date	Activity	Details of Non-Compliance	Rectification of Non-Compliance
1		Submission of annual report	Annual report not submitted within time.	Ensure that due date for

4.2 Compliance with Statement of Environmental Objectives

During the Licence Year there were no instances in which Geodynamics failed to comply with relevant environmental objectives specified in the SEO. A statement of performance against the relevant SEO's is provided in Appendix A.

4.3 Management System Audits

As part of its annual reporting requirements under Regulation 33 of the Petroleum and Geothermal Regulations 2000 a licensee is required, as part of the annual report to include details on compliance with any SEO for its activities.

The relevant SEO that applies to the gravity survey is the *Statement of Environmental Objectives for ground based geophysical operations (non-seismic) in South Australia*, prepared by PIRSA in August 2007. Accordingly, in May 2011 a Ground Based Geophysical (Gravity) Operations SEO Compliance Audit was carried out in relation to the gravity survey conducted in March 2011.

The audit concluded that there were no non-compliances with the SEO and that one opportunity for improvement (relating to SEO 4) – maintaining a record of vehicles and equipment cleaned in the vehicle wash bay at the Habanero site – was identified.

All findings from these audits have been addressed and closed out.

4.4 Report and Data Submissions

No reports or data submissions have been generated during the Licence Year in relation to GEL 211.

4.5 Incidents

There were no incidents on GEL 211 during the Licence Year

4.6 Threat Prevention

There are no threats foreseeable to any future exploration activities in GEL 211.

4.7 Future Work Program

In the next reporting year (Year 1 of Term 2) Geodynamics plans to undertake an assessment and analysis of results following drilling of Habanero 4 well in the adjacent tenement, GRL 3.

5. EXPENDITURE STATEMENT

Below is an expenditure statement for the current reporting period.

Expenditure Statement

Appendix A Geodynamics Compliance with Ground Based Geophysical Operations (non-seismic) SEO

Geodynamics Compliance with Ground Based Geophysical Operations			
SEO: Ground based geophysical operations (non seismic) in South Australia August 2007 PIRSA			
Environmental Objectives	Assessment Criteria	Guide to How Objectives Can be Achieved	Assessment and Compliance Statement
<p>Objective 1 Minimise the disturbance to other land users</p>	<p>All reasonable landowner complaints are addressed and resolved.</p> <p>Traverse surveying, data acquisition, campsite preparation & rehabilitation</p> <ul style="list-style-type: none"> Upon completion of the geophysical survey and after any rehabilitation or reparation (if determined prior to survey), the level to which the impacts on other land users is determined by the absence of existing stakeholder complaints. 	<ul style="list-style-type: none"> Notices of entry are to be distributed to all landowners and operators (including owners of community assets) whose land is impacted by the survey, campsites or survey traverses prior to commencement. (This is a requirement under Part 10 of the Petroleum Act 2000 and Regulation 22 of Regulations under the Petroleum Act 2000). A system is in place to log landowner objections and complaints. An agreement to the timing and level of disturbance to pastoral, horticultural, agricultural or other land user activities or infrastructure can facilitate landholder relations. All gates are left in the position in which they were originally found. All fences are restored to a level satisfactory to the landowner. 	<p>Appropriate warning signage is placed at site access off Fifteen Mile Track.</p> <p>Compliance Statement: GDY to its knowledge believe it has complied with all obligations required under this SEO objective.</p>
<p>Objective 2 Minimise disturbance to native vegetation, fauna and associated wildlife habitats.</p>	<p>Traverse surveying, data acquisition, campsite preparation & rehabilitation</p> <ul style="list-style-type: none"> Vehicle access to survey traverses is to be via existing access tracks or existing seismic lines, except where they have rehabilitated. Other temporary access tracks may be utilised where such use is likely to result in less environmental 	<ul style="list-style-type: none"> Terrain and vegetation is considered in planning stage when designing layout of the survey. The conservation needs of particular species have been considered. 	<p>Survey crews had to undergo Geodynamcs' site induction.</p> <p>Compliance Statement: GDY to its knowledge believe it has complied with all obligations required under this SEO objective.</p>

Geodynamics Compliance with Ground Based Geophysical Operations

SEO: Ground based geophysical operations (non seismic) in South Australia August 2007 PIRSA

Environmental Objectives	Assessment Criteria	Guide to How Objectives Can be Achieved	Assessment and Compliance Statement
	<p>impact than other options.</p> <ul style="list-style-type: none"> • No off-traverse driving recorded. • No native vegetation clearance has occurred. • Known significant species sites have been flagged and avoided. • Waste materials do not pollute the environment and contaminate soils. <p>Fuel and Chemical Storage Management</p> <ul style="list-style-type: none"> • No refuelling outside designated refuelling areas. • No spills/leaks outside areas designated to contain them. • Spills and leaks are immediately reported and clean up actions initiated. • Records of spill events are maintained. • Appropriate spill response equipment is available on site. 	<ul style="list-style-type: none"> • Campsites are established in locations where the preparation of a new access track is not necessary. • Campsites are established on clear areas where no impact to vegetation occurs. • Only vehicles engaged in actual data acquisition process are permitted to drive along survey traverses. <p>Waste Management</p> <ul style="list-style-type: none"> • Covered bins are provided for the collection and storage of wastes. • All loads of rubbish are covered during transport to the central waste facility. 	
<p>Objective 3 Avoid disturbance to sites of cultural and heritage significance</p>	<p>Traverse surveying, data acquisition, campsite preparation & rehabilitation</p> <ul style="list-style-type: none"> • Appropriately qualified and experienced personnel have scouted proposed survey area. • These sites are flagged off and detoured around. • Any aboriginal cultural locations found are identified, recorded and reported accordingly to DPC-AARD. 	<ul style="list-style-type: none"> • Cultural and heritage site registers have been consulted in relation to survey traverse and adjusted accordingly. • A cultural heritage clearance report has been undertaken with qualified and experienced personnel and is available for audit upon request. • Environmental Report Forms are completed for any suspected aboriginal sites or individual 	<p>Compliance Statement: GDY to its knowledge believe it has complied with all obligated required under this SEO objective. GDY employs full time based supervisors to monitor and direct all field operations. As part of this position all field procedures are being reviewed to ensure ongoing compliance with the terms of this objective.</p>

Geodynamics Compliance with Ground Based Geophysical Operations			
SEO: Ground based geophysical operations (non seismic) in South Australia August 2007 PIRSA			
Environmental Objectives	Assessment Criteria	Guide to How Objectives Can be Achieved	Assessment and Compliance Statement
		<p>artefacts identified, which are forwarded to DPC-AARD. Copies may also be forwarded to the Aboriginal Legal Rights Movement and representatives of local claimants as is appropriate and when cultural sensitivity permits.</p> <ul style="list-style-type: none"> • Operators have a reporting system in place for cultural sites discovered during the survey process. 	
<p>Objective 4 Minimise the risk of introduction and/or spread of introduced species and bio-security threats.</p>	<p>Traverse surveying, data acquisition, campsite preparation & rehabilitation</p> <ul style="list-style-type: none"> • Weeds, feral animals or plant and animal diseases are not introduced to, or spread within South Australia. 	<ul style="list-style-type: none"> • Any vehicles upon entering the State need to be washed down to remove all likely infesting agents. • Cleaning of equipment must be carried out in accordance with predetermined company procedures and/or industry standards (i.e. accepted APPEA standards). • Liaison with the animal and plant control officer of applicable local councils and regional NRM boards can provide important information of local issues to factor into planning. • Contact with any infected plants or animals should result in cleaning of the relevant machinery before relocation, even within the survey area. 	<p>An opportunity for improvement was identified in relation to establishing a register of vehicles washed in the washbay.</p> <p>Compliance Statement: GDY to its knowledge believe it has complied with all obligations required under this SEO objective.</p>

Geodynamics Compliance with Ground Based Geophysical Operations
SEO: Ground based geophysical operations (non seismic) in South Australia August 2007 PIRSA

Environmental Objectives	Assessment Criteria	Guide to How Objectives Can be Achieved	Assessment and Compliance Statement
		<ul style="list-style-type: none"> • Details or logs of equipment cleaning are kept and are available for audit upon request. • Records of detection (whether introduced by a geophysical operator or not), monitoring, eradication or control of introduced species are kept and are available for audit upon request. • Areas of known disease infestation (such as phytophthora, phylloxera, Mundulla Yellows) are identified with landowners and relevant boards or control officers and be avoided. • No pets are to be kept by the survey crew whilst on field operations. 	
<p>Objective 5 Minimise the risk of initiation and/or propagation of wildfire.</p>	<p>Fire risk minimisation and situation Management</p> <ul style="list-style-type: none"> • Appropriate plans in place and equipment available to identify hazards, initiate hazard mitigation and response training, fire-fighting equipment available and maintained accordingly, and fire bans adhered to. 	<ul style="list-style-type: none"> • Procedures are in place to minimise risk of initiating and propagating fire during periods of high temperatures and high winds. • A hazard identification plan is in place for immediate implementation on days of high temperatures and winds. • A response plan is in place for the safety of crew personnel should a fire approach, or be initiated by, the field crew. 	<p>Compliance Statement: GDY to its knowledge believe it has complied with all obligations required under this SEO objective.</p>

Geodynamics Compliance with Ground Based Geophysical Operations			
SEO: Ground based geophysical operations (non seismic) in South Australia August 2007 PIRSA			
Environmental Objectives	Assessment Criteria	Guide to How Objectives Can be Achieved	Assessment and Compliance Statement
		<ul style="list-style-type: none"> The risks of fire to crews are clearly defined. Contact with the local Country Fire Service is maintained in order to keep roads clear during episodes of fire. Reporting procedures in place to CFS and PIRSA Petroleum & Geothermal Group. Crews are trained in use of fire fighting equipment. 	
Objective 6 Minimise the visual impacts of geophysical operations	<ul style="list-style-type: none"> Surveying, creation of wheel tracks and campsite preparation. Proposed survey traverses have been appropriately located to minimise visual impacts. Vegetation and terrain variations have been used to minimise survey traverse visibility. Planning procedures to minimise visibility aspects are evident and available for audit upon request. 	<ul style="list-style-type: none"> The conduciveness of an area to support survey vehicles (and potential impacts) should be considered to lessen on-ground visual impacts, especially in salt lake systems. Campsites should have a low visibility from likely public viewpoints. All litter is removed. 	Compliance Statement: GDY to its knowledge believe it has complied with all obligations required under this SEO objective.
Objective 7 Minimise generation of dust	<ul style="list-style-type: none"> Access to properties is kept to minimum required to acquire data. Vehicles are driven a speeds slow enough to not generate dust. 	<ul style="list-style-type: none"> The importance if driving slowly to avoid raising dust is stressed during crew induction sessions. 	All vehicles complied with applicable speed limits and prevailing consitions. Compliance Statement: GDY to its knowledge believe it has complied with all obligations required under this SEO objective.
Objective 8	<ul style="list-style-type: none"> Campsites have been appropriately 	<ul style="list-style-type: none"> The ability of an area to support 	No clearing or earth stripping activity

Geodynamics Compliance with Ground Based Geophysical Operations			
SEO: Ground based geophysical operations (non seismic) in South Australia August 2007 PIRSA			
Environmental Objectives	Assessment Criteria	Guide to How Objectives Can be Achieved	Assessment and Compliance Statement
Minimise soil disturbance and contamination	<p>located to minimise disturbance and contamination of soils.</p> <ul style="list-style-type: none"> No refuelling outside designated refuelling/servicing areas. Spills and leaks are immediately reported and clean up actions undertaken. All appropriate spill cleanup equipment held at campsites. Waste materials do not pollute the environment and contaminate soils. Only vehicles engaged in actual data acquisition process are permitted to drive along survey traverses. 	<p>the weight of survey vehicles (and potential impacts) should be considered in order to lessen any disturbances, especially in salt lake systems.</p> <ul style="list-style-type: none"> Oil spill areas have been ripped to an appropriate depth. 	<p>involved.</p> <p>No chemicals involved in survey.</p> <p>Compliance Statement: GDY to its knowledge believe it has complied with all obligations required under this SEO objective.</p>
Objective 9 Optimise waste reduction and recovery	<ul style="list-style-type: none"> Wastes with the exception of sewage and grey water wastes are segregated, burnt or transported to an Environment Protection Authority (EPA) approved waste disposal facility for recycling or burial in accordance with approved procedures. 	<ul style="list-style-type: none"> Production of waste is minimised by purchasing biodegradable or recyclable materials where practical. All wastewater disposed of in accordance with the Public and Environmental Health (Waste Control) Regulation 1995. 	<p>An opportunity for improvement was identified during an audit in relation to establishing a process to ensure that no geophysical survey items are left behind.</p> <p>Compliance Statement: GDY to its knowledge believe it has complied with all obligations required under this SEO objective.</p>