

ATTACHMENT G.1
PROPOSED EXPLORATION PROGRAM AND
ESTIMATED EXPENDITURE YEAR 1-2
GSLM / EMPIRE ENERGY

BACKGROUND

Empire Energy / GSLM's current exploration strategy is based on an extensive gravity, seismic and drilling program conducted during the tenure of SEL 13/98.

The company strongly believes that Tasmania has prospects for economic exploitation of oil, hydrocarbon gases and helium. Empire / GSLM have sufficient financial and technical resources to carry out this proposed work program, and remains committed to continuing a comprehensive exploration program in Tasmania.

Empire / GSLM remain optimistic of making a commercial discovery and exploitation of commercial quantities of oil and gas onshore Tasmania for the benefit of Empire, GSLM and the people of Tasmania.

The exploration objective of GSLM is to discover commercial quantities of oil and gas onshore Tasmania. GSLM's current exploration strategy is based on an extensive gravity, seismic and drilling program that has already involved the acquisition, processing and interpretation of up to 1,200 line kilometres of seismic data. Additionally several holes have been drilled during the tenure of SEL 13/98. These include the completion of Hunterston and commencement of Stockwell #1 (Lachish) and Bellevue #1.

GSLM future program is designed to:

- Improve the definition of currently identified anticlines (domes) and other suitable reservoir structures.
- Continue to determine the extent of the three petroleum systems that have been outlined within the old Special Exploration License 13/98 leasehold.
- Define more potential petroleum targets.
- Test existing potential targets already defined through an exploration program starting with Bellevue #1 and Thunderbolt #1.

On the basis of research carried out over the past 25 years, three petroleum systems have been identified onshore Tasmania: a Precambrian Petroleum System, Ordovician Early Devonian Larapintine System within the Wurawina Supergroup and a Permo-Triassic Gondwanan System within the Parmeener Supergroup of the Tasmania Basin.

The mainly Type 1 Kerogen oil prone Gondwanan Petroleum System is considered more prospective than the mainly gas prone Larapintine Petroleum System. Maturation of the

Gondwanan Petroleum System as measured by conodont colour alternation in the Gordon Limestone and direct geochemical analysis increases towards the south of the basin, being under mature in the north to possibly over mature for oil in the south.

GSLM has defined more than fifteen targets and aims to define accurately as many targets as possible during this 5 year exploration licence tenure. Exploration petroleum wells are proposed to increase geological, petrophysical and geophysical knowledge of what is still a frontier basin. The results of the seismic survey completed in 2007 by Terrex Seismic helped to define prospects and assisted in determining exact drill locations. We have obtained regulatory approval during the tenure of SEL 13/98 to drill at Bellevue #1 and Thunderbolt #1 well sites and the approval of this application will ensure the continuation of this drilling program.

The Hunt Energy #3 rig was shipped from the mainland of Australia to the north of Tasmania in September 2008. A local Tasmanian drilling company has drilled and cased the Bellevue #1 top hole. The Tasmanian government regulators gave permission for the Hunt rig #3 to move to the Bellevue #1 site and then for drilling to commence on Thunderbolt#1. Hunt Energy is a well-respected Australian oil and gas drilling company. Since 1990, Hunt Energy has completed approximately 100 wells in several different basins across Australia. Hunt Energy's Managing Director, Larry Werecky, has over 40 years of drilling experience and has provided drilling services to major oil companies and drilling contractors both in Australia and internationally.

Commencement of drilling of Bellevue #1 began in 2008, however completion of the this well and commencement of additional wells has been delayed due to the reasons expressed in our Chief Operations Officer letter to Mineral Resources Tasmania on 15 September, 2009. These include:

1) AUD\$5 Million promised funding from a Chinese company

GSLM and Smart Win (a Chinese based company) signed an agreement on 17 July 2008 for a AUD\$5 million funding loan to GSLM. However, this promised and anticipated funding by Smart Win only resulted in a part payment (of AUD\$3.9 Million) to GSLM; and only after the Hunt Rig #3 was on the Bellevue #1 site. The remaining funding (AUD 1.1 Million) for this loan has yet to be forwarded to GSLM by Smart Win. GSLM believe this remaining loan funding would have enabled GSLM to complete the Bellevue #1 well if paid on time as agreed.

2) Global Financial Crisis

Empire has been moving forward on many fronts in a global financial market that has been the worst we have seen in the seventy years since the last depression. The market conditions have been such that they have created difficulties even for long-established companies.

It appears now that the global markets are showing positive signs of recovery and oil prices have risen substantially. Improving global markets (along with higher prices for oil) are conditions expected to benefit Empire and GSLM moving forward.

3) Inclement weather at the Bellevue #1 site

The delay and difficulty in obtaining the shortfall of additional 'Smart Win' funding by other revenue streams over the summer months, has moved our planned drilling program to coincide with the Tasmanian winter. The climate at the altitude of the Bellevue #1 site during winter demanded the cessation of operations or winterizing applications both for equipment and safety issues.

Despite this delay, and the temporary removal of the Hunt Rig #3 from the Bellevue #1 site, we anticipate that in September/October 2009 (when the Tasmanian winter season ends) that the warmer weather will permit the re-establishment of the rig at the Bellevue #1 site.

On September 28, 2005, GSLM signed a seismic services agreement with Terrex Seismic Pty Ltd., an Australian company specializing in seismic survey work. Under the terms of the agreement, Terrex, provided 271 line kilometers of 2D seismic, spread throughout Special Exploration License 13/98. During 2007, a major seismic program covering Central and Eastern Tasmania managed by Terrex Seismic Pty was completed. Over 1,149 kilometers of seismic data were obtained and processed through December, 2008 (**Figure 1**). Further interpretation has been carried out by in-house geophysicists and experienced contractors.

The seismic interpretation of 1,149 kms carried out by GSLM / Empire Energy has identified and clarified at least 15 major and minor structures which along with a major gravity survey is helping in understanding the petroleum systems of onshore Tasmania. Plays in the Gondwanan petroleum system involve a diversity of structural traps developed by both pre- and post- dolerite tectonic events and stratigraphic traps resulting from pinch outs with dolerite sheets, the best potential traps are formed by rollover anticlines and numerous tilted fault blocks in the Longford Sub-basin. Deeper plays are in the Larapintine petroleum system mainly in the Central Highlands with Ordovician targets at depths of 3,000 to 4,000m.

The interpretation of regional 2D seismic is supported by geological mapping, drill-hole, velocity and gravity data. Approximately one thousand one hundred and fifty kilometres of regional seismic data were acquired across the Central Highlands and Longford Sub-basin in 2001, 2006 and 2007. The seismic lines are widely spaced and mainly recorded along public roads. Crooked line geometry and inverted near-surface velocity contrast caused by dolerite are major problems affecting the quality of the migrated seismic sections. GSLM's seismic dataset forms the core of the existing geological data, providing information about the geometry and age of folding and faulting.

GSLM SEISMIC ACQUISITION IN 2001, 2006 & 2007

In 2001, the seismic data was acquired for GSLM by Trace Energy Services. In 2006 and 2007, Terrex Seismic of Western Australia was contracted by GSLM to undertake the seismic surveys using the Vibroseis source method.

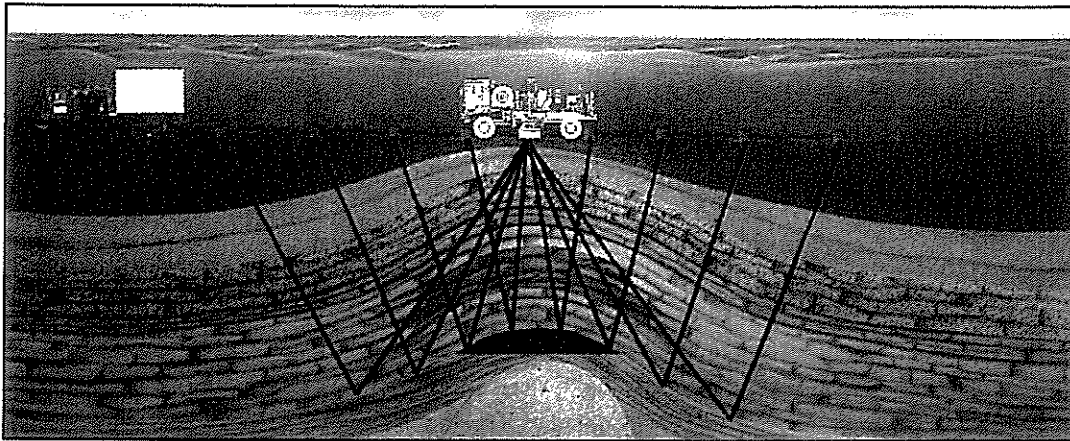
For seismic exploration surveys co-ordinated on land, seismic energy (shock waves) is produced by the dropping or vibrating a heavy mass on the earth's surface. GSLM uses vibrator trucks (Vibroseis source) similar to those shown in this picture below.



Two to three vibrator trucks are positioned at source points along the survey line and the vibrating baseplates are lowered to ground and the trucks are jacked-up, placing the weight of the trucks on the baseplates.

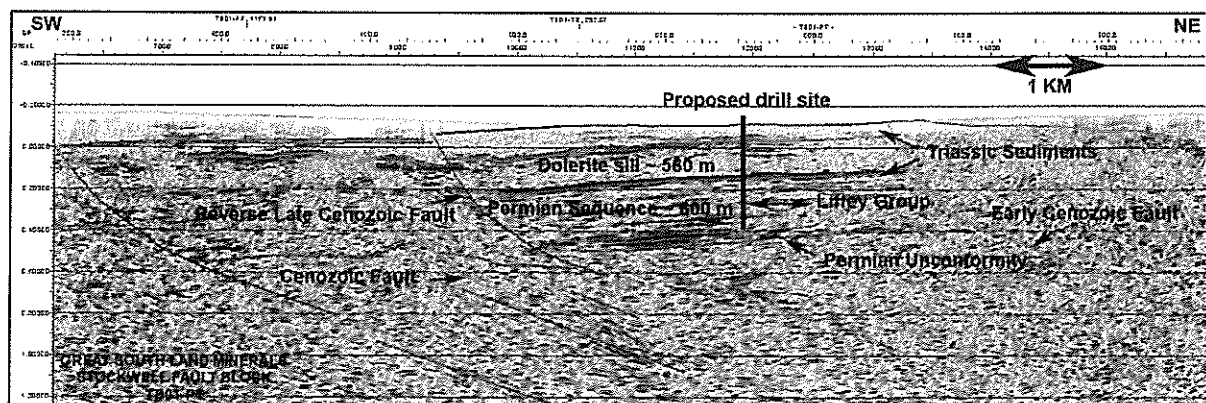
The energy from the vibration radiates directly outwards in all directions from the source; but whenever they reach geological formations with different structural properties they are reflected or refracted. The vibrations are picked up at the surface by geophones (sensitive microphones) placed on the ground.

Recording continues for the length of the vibration, plus listening time, some tens of seconds in all. This procedure is called a sweep and is repeated a number of times before the geophones are re-laid further along the survey line for the next sweep.



The vibrator trucks release jacks, raise baseplates and move to their next positions. In this way, continuous subsurface coverage can be obtained along the survey line.

In seismic reflection surveys, the structure of subsurface geological formations are mapped by making use of the variations in the times taken for the shock waves to return to different points on the surface after reflection from the formations. Below is an example of a seismic interpretation of a section from the 2007 survey.



RECORDING PARAMETERS (used in 2007 Seismic Survey by TERREX)**Vibroseis Source**

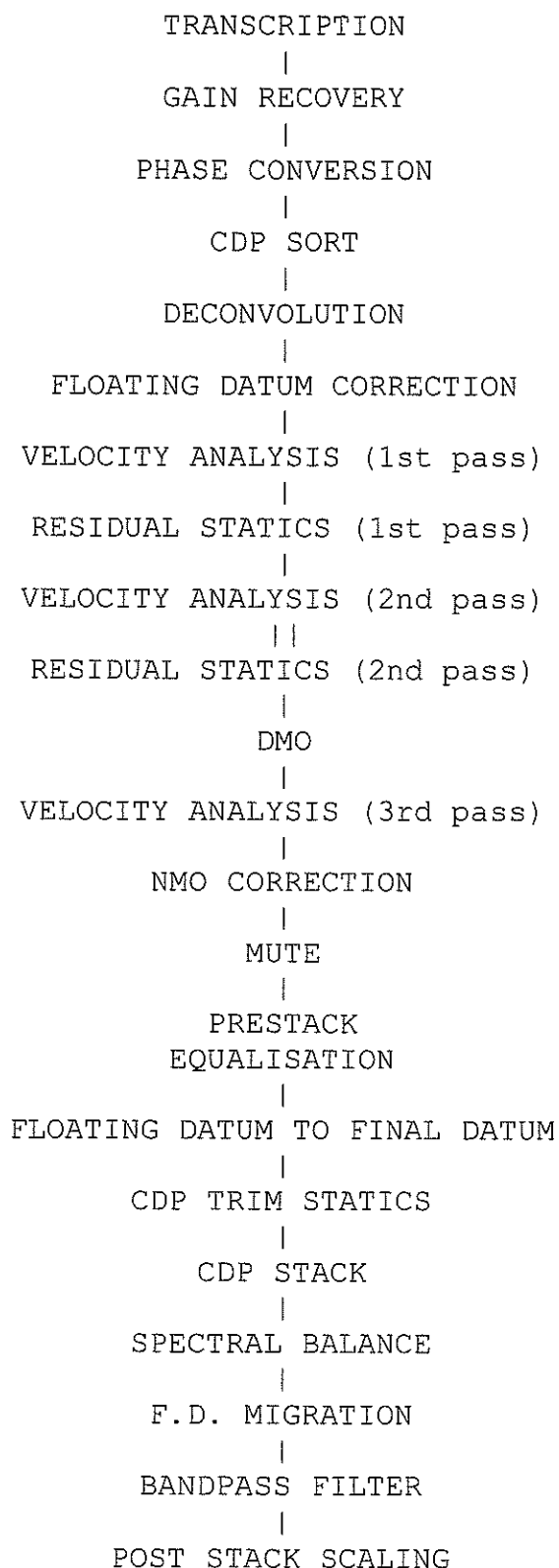
Acquisition Type:	Sercel 388 - 24 Bit Telemetry System
Energy Source:	3 x Input-Output 42,000lb Peak Force 6x6 Truck mounted Vibrators Online
Vibrator Point Interval:	20 metres
Vibrator Array:	15 m Pad-Pad / No Moveups
Vibrator Array Location:	Centred on Station Pegs (Centred at SP 100)
Receivers:	12 x 10 Hz SM24 Geophones / Group
Receiver Interval:	20 metres
Receiver Array:	20 metres (12 phones with 1.67m phone spacing)
Receiver Array Location:	Centred between Stations (Centered at SP 100.5)
Sweep Length:	12 sec Sweeps
Number of Sweeps:	2 x 12 second sweeps / VP
Sweep Type:	Monosweep
Sweep Frequencies:	6-140 HZ
Sweep Taper:	200 msec Taper
Sweep Energy per Km:	1200 sec/km or 800 sec/km (see GSLM)
Sweep Control:	Pelton Advance 2 Model 5
Accelerometers:	Pelton M5 High Performance
Similarity System:	Pelton VIBRA-SIG
Peak Force:	44,000 lbs
Hold Down Weight:	44,200 lbs
Vibrator Drive Level:	Force Control On - 80% Peak Force
Phase Lock:	Ground Force Phase Lock
No. of Channels:	300 Channels
Spread Geometry:	Symmetric Split Spread
Maximum Offset:	2990 - 10 - 0 - 10 - 2990 metres
Fold:	150 Fold with 10m CDP interval
Record Length:	6.0 seconds
Correlation Sample Rate:	2 milliseconds
Written to Tape S.R.:	2 milliseconds

GSLM SEISMIC PROCESSING IN 2001, 2006 & 2007

Fugro Seismic Imaging (former Robertson Research) has carried out the processing of the field data for GSLM over the last three seismic surveys.

Most of the data was recorded along existing roads and required processing using crooked line techniques. Events in seismic data acquired along lines that are straight are more easily ascribed to geologic features, while with crooked line geometries events may represent changes in line direction rather than geological structures. Processing techniques generally assume a straight line profile with uniform fold and even offsets, crooked line acquisition results in variable fold and uneven offsets. Specialised processing with careful initial and residual statics corrections and frequent velocity analyses were requested for the 2007 seismic processing, even with crooked line processing methods applied, problems such as seismic transparent zones and coherent noise can still result where there are changes in survey line direction. Many of the roads used in GSLM' surveys were windy, some containing many tight bends over short distances. Therefore, even with the application of crooked line processing techniques, variably degraded seismic data can be expected.

2007 lines were processed as for the 2001 and 2006 surveys to keep the surveys similar. Pre stack time migration was looked at but it was felt that the data was more smeared with this process when compared to the normal post stack migration. Filters, scaling and muting were tested to ensure the previous values were accurate especially as the frequencies were expanded to 140 Hz.

PROCESSING SEQUENCE DIAGRAM (2007 Fugro Seismic Imaging)

Great South Land Minerals - Seismic Survey Lines

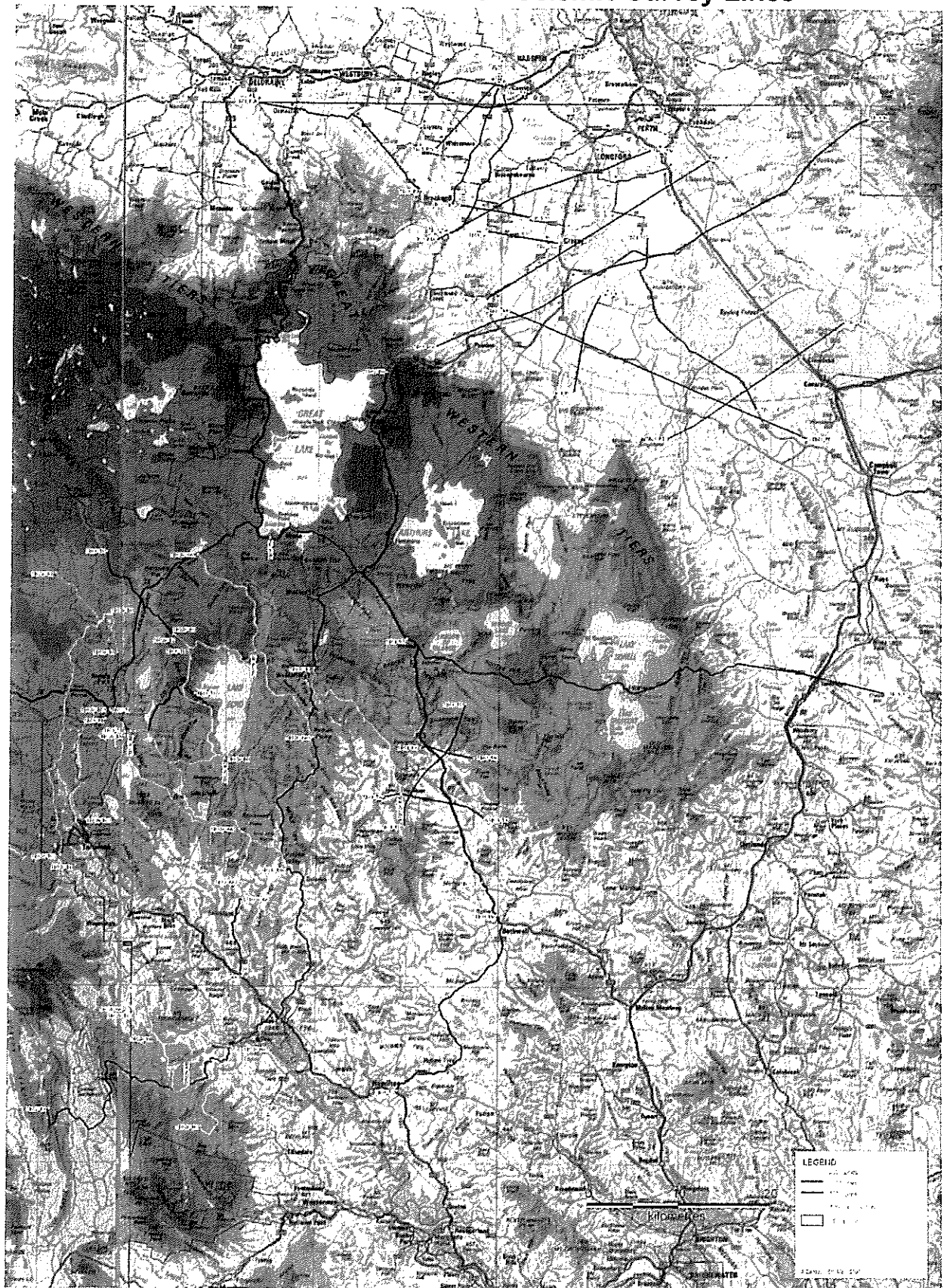


Figure 1. GSLM - 2007, 2006, 2001 Seismic Survey Lines

PROPOSED EXPLORATION DRILLING PROGRAM YEAR 1-2

GSLM has commissioned an exploration petroleum drill-rig which is now scheduled to drill at least two holes in the next two years (including interpretation of data associated with these holes). **(Attachment G.4 Exploration Budget)**

GSLM has in place a Drilling Operations Plans for Bellevue #1 and Thunderbolt #1 which contain a complete Drilling Program, an Emergency Response Plan (including Hunt Energy Emergency Response Plan), First Aid and Well Control Certificates, an Environmental Plan (including Forest Practice Plan, Hydrological Report and Acoustic Surveys), a Fit For Purpose Reports (Including third party reports from Moduspec, Bellevue only), a Drilling Operation Manual, a Bush Fire Safety Requirement and a Private Land Owner Agreement.

Two exploration wells have been budgeted (using the Hunt Rig 3 or similar) to test the structures determined by GSLM during its tenure over SEL13/98.

STAGE 1:

The first proposed exploration well planned (Bellevue #1) is designed to test two petroleum system identified onshore Tasmania: an Ordovician Early Devonian Larapintine System within the Wurawina Supergroup below the Tasmania Basin and a Permo-Triassic Gondwanan System within the Parmeener Supergroup of the Tasmania Basin. This well will provide information on the petrophysical seal, reservoir and source-rock characteristics of all two petroleum systems. Downhole seismic will allow a reinterpretation of the seismic acquired within the area. Bellevue #1 is situated close to the intersection of three seismic lines TB02b-BQ, T02b-BZ and TB01-TD and is planned to be drilled to a depth of about 2600m. Full details are included in the Bellevue #1 drilling operations plan submitted to MRT on 29 August 2008. **(Figure 2 shows Bellevue #1 and Thunderbolt #1 drilling sites).**

STAGE 2:

It is proposed that the second exploration well will be located approximately 13km south west of Ouse (and subject to the results of the first well; Bellevue #1). This second exploration well planned (Thunderbolt #1) is designed to test two petroleum system identified onshore Tasmania: an Ordovician Early Devonian Larapintine System within the Wurawina Supergroup below the Tasmania Basin and a Permo-Triassic Gondwanan System within the Parmeener Supergroup of the Tasmania Basin. This well will provide information on the petrophysical seal, reservoir and source-rock characteristics of all three petroleum systems. Downhole seismic will allow a reinterpretation of the seismic acquired within the area. Thunderbolt #1 is situated close to the intersection of three seismic lines TB02-BA, T02b-HC and TB02b-HA and is planned to be drilled and cored to a depth of about 2600m. Full details are included in the Thunderbolt #1 drilling operations plan submitted to MRT on 16 September 2008. **(Figure 2 shows Bellevue #1 and Thunderbolt #1 drilling sites).**

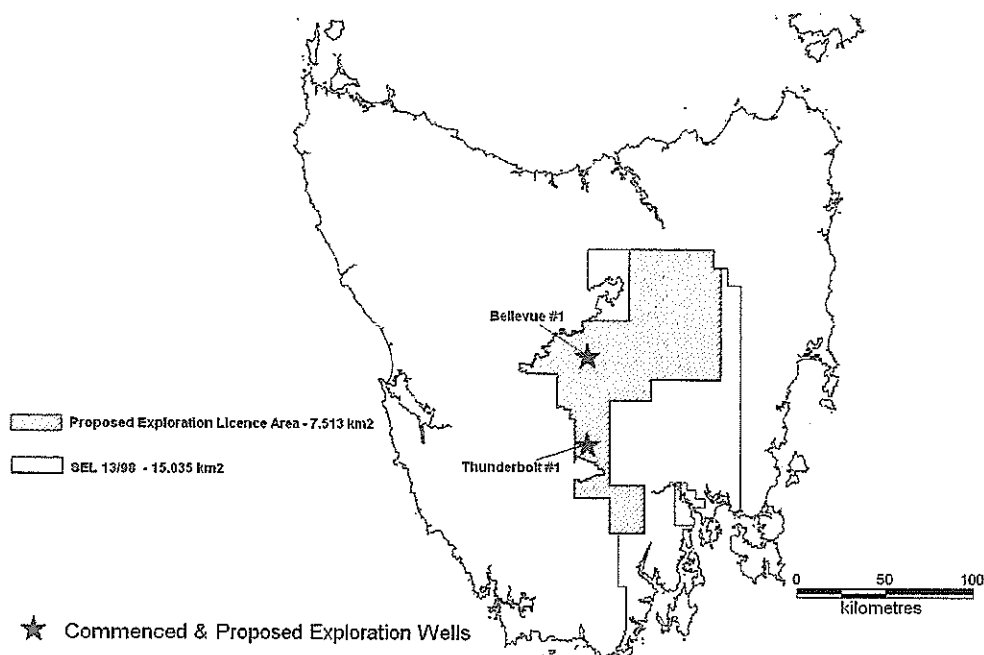


Figure 2. Proposed Drill Sites Year 1-2

Notes:

- Approvals for Stage 1 and Stage 2 exploration wells, Bellevue #1 and Thunderbolt #1 have been granted previously by MRT. A formal request for extension to drill at Bellevue #1 was submitted to MRT on 15 September, 2009.
- Commencement of drilling of Bellevue #1 began in 2008, however completion of the this well and commencement of additional wells has been delayed. Gerald Spaulding Drillers have completed the pre-collar hole to 272m.
- Evaluation of resources and reserves, Mudlogging, Wire Line Logging have been incorporated into the Bellevue #1 exploration well.
- It has been proposed that all exploration wells will be drilled back-to-back to minimise mobilisation expenses.

PROPOSED EXPLORATION DRILLING PROGRAM YEAR 3-5

GSLM has defined more than fifteen targets and aims to define accurately as many targets as possible during this 5 year exploration licence tenure (**Figure 3 & 4**).

GSLM has also completed most of the environmental, threatened species, archaeological, cultural, hydrological, acoustic and fire-risk assessments of its several other potential drill sites during the tenure of SEL 13/98.

Four exploration wells have been budgeted and will be drilled based on the success on the evaluation of the drilling program during Year 1 and Year 2.

STAGE 3:

Depending on the initial results of the exploration wells, Bellevue #1 and Thunderbolt #1, it is then planned to drill Lonnavele #2. The well program for this stratigraphic/exploration well will primarily test a documented oil seep. Additionally, it is proposed that a regional seismic survey be conducted in the southern part of the licence tenure.

STAGE 4:

Depending on the initial results of the exploration wells for Bellevue #1 and Thunderbolt #1, and the well drilled as Stage 3, it is then planned to drill to continue Stockwell #1 (Lachish). The program for this exploration well will be similar to those of Bellevue #1 and Thunderbolt #1, however, is a much shallower target.

STAGE 5:

Depending on the initial results of the exploration wells Bellevue #1 and Thunderbolt #1, and the wells drilled as Stage 3 and 4, it is then planned to drill a further exploration well. This proposed exploration well is Bellevue #2.

STAGE 6:

Depending on the initial results of the exploration wells Bellevue #1 and Thunderbolt #1, and the wells drilled as Stage 3, 4 and 5, it is then planned to drill a further exploration well. This proposed exploration well is Thunderbolt #2.

Notes:

- Comprehensive Wireline Logging and Well Testing have been allowed for in the budget of both exploration wells. Should a significant hydrocarbon resource be discovered additional expenditure would be required to carry out an extensive well and reservoir test program.
- It has been assumed that both exploration wells will be drilled back-to-back to minimise mobilisation expenses. Should the results be encouraging we would plan on increasing the number of exploration wells during the same mobilisation.

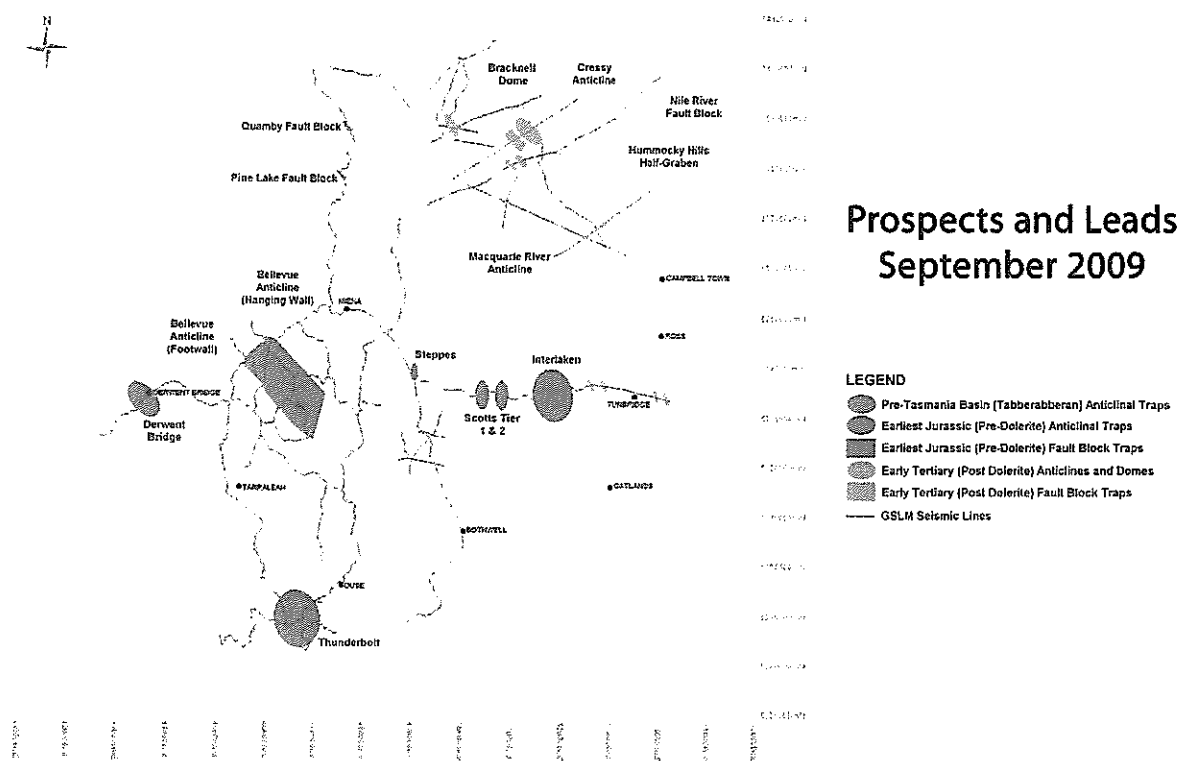


Figure 3. Great South Land Minerals - Prospects and Leads

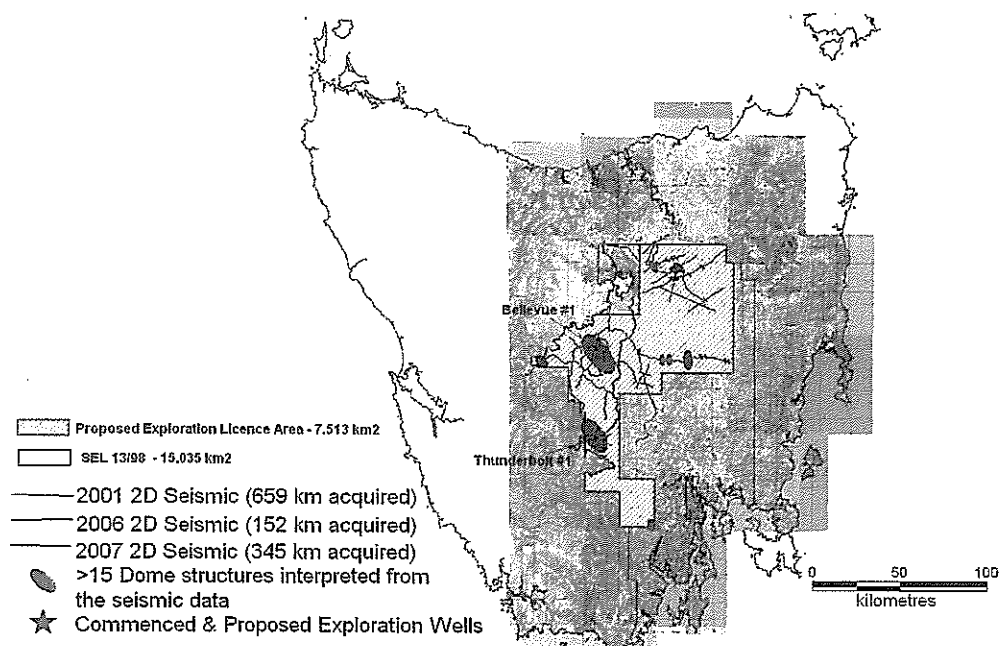


Figure 4. Great South Land Minerals - Dome Structures interpreted from seismic data

PROPOSED EXPLORATION SEISMIC PROGRAM YEAR 3-5

GSLM is aiming to continue its seismic program with the acquisition of 2D seismic in the central, eastern and southern part of Tasmania during this 5 year exploration licence tenure. **(Attachment G4 Exploration Budget)** This proposed seismic survey to be carried out in year 3-5 is subject to logistical and weather restrictions. **(Figure 5 & 6)**

The seismic interpretation of 1,149 kms carried out by GSLM has identified and clarified at least 15 major and minor structures which along with a major gravity survey is helping in understanding the petroleum systems of onshore Tasmania.

The results of the interpretation of 2001 and 2006 surveys were used to plan the line locations for the next regional seismic survey of 2007. As was the case with all the surveys, the lines have been located wherever possible along roads in order to minimise the impact of the survey on private land and on environmentally sensitive areas.

2D onshore seismic is planned to be acquired for this stage utilizing the vibroseis source and off-road explosives. Additionally, during the final phases of SEL 13/98's tenure, GSLM has been investigating new technologies to accelerate the remaining regional exploration and further delineation of drilling targets. It was the intention of GSLM to incorporate the use of this new suite of technologies (Esp. STeP – refer to G5 of Proposed Drilling Program for more information) to consolidate the remaining regional exploration over the entire 15,039 square kilometres that comprised SEL 13/98 (Refer to 'Terra Insight Services, Inc: Technology Summary').

STAGE 1:

Acquisition of 2D seismic using vibroseis and off-road explosives is planned for year 3 to 5 to define more closely the structures at Bellevue, Stockwell, Interlaken, Stotts Tier and Steppes and to continue the regional grid over the Tasmanian Basin. **(Figure 5)**

STAGE 2:

Acquisition of 2D seismic using vibroseis is planned, mainly along roads to expand our seismic coverage to the South, South East and East parts of the Tasmanian Basin. This seismic survey is planned for year 3 to 5 to define more closely the structures at Thunderbolt and Lonnavele and to continue the regional grid over the Tasmanian Basin. **(Figure 6)**

Approvals:

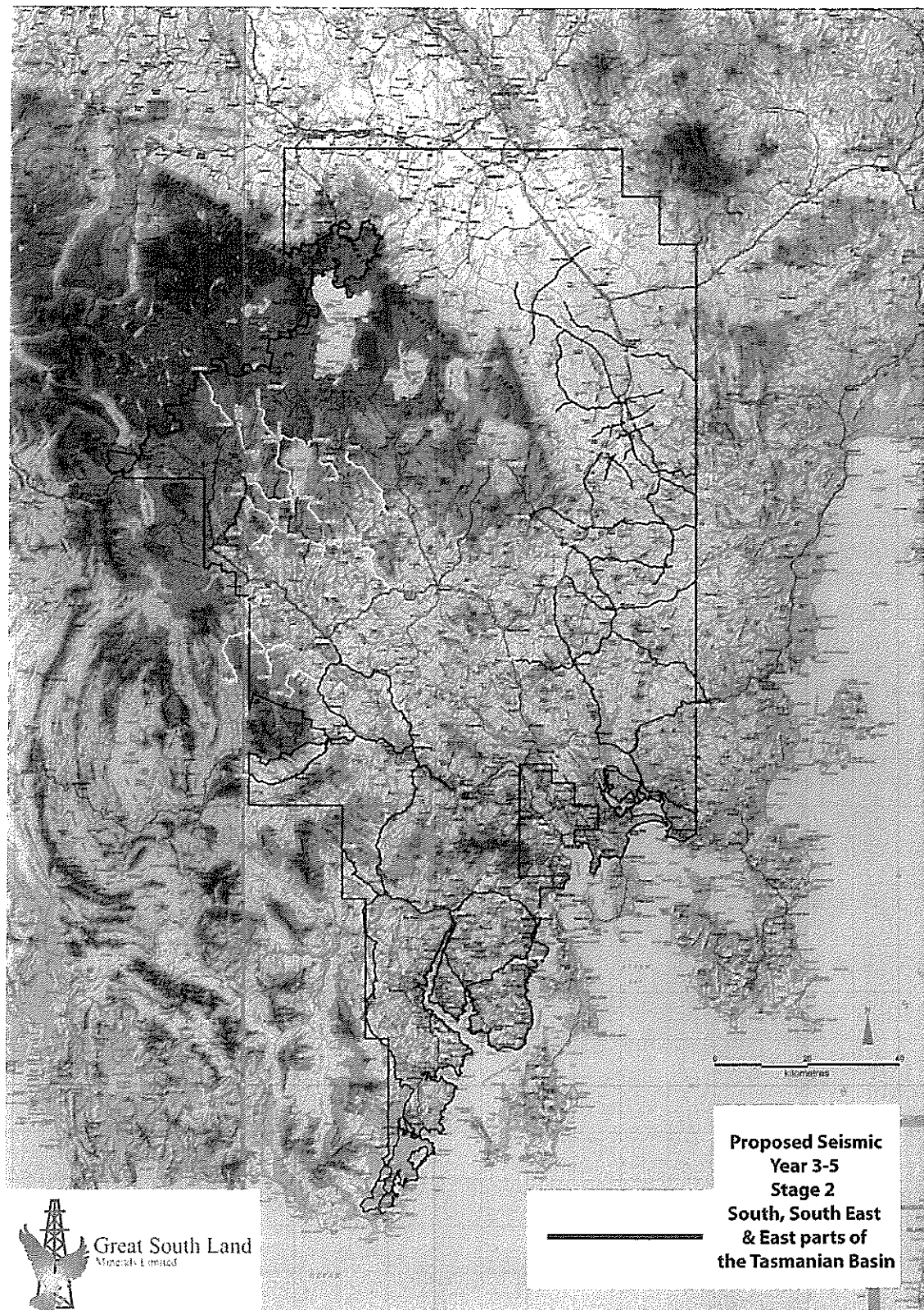
Environmental and Traffic Management Plans have been submitted in the past for programs similar to the ones in 2006 and 2007. Permission to operate the vibroseis trucks on council roads or on private property will be sought in a similar fashion to the approvals obtained for the 2006 and 2007 surveys.

Acquisition:

It is envisaged the contractor who acquired the data for 2006 and 2007 seismic survey will be engaged for the upcoming survey depending on availability and cost.



Figure 5. GSLM Year 3-5 Proposed Seismic Survey Map (Bellevue, Interlaken, Steppes)



**Figure 6. GSLM Year 3-5 Proposed Seismic Survey Map
(Eastern and Southern Part of Tasmania)**

Processing:

It is planned to contract processing of the raw seismic data to Fugro Seismic Imaging. Processing parameters will be selected using results of the previous 2007 survey.

Interpretation:

Interpretation will be carried out either in-house or in conjunction with contractors such as Greg Blackburn from Terratek Petroleum and David Leaman from Leaman Geophysics Pty Ltd.

Notes:

- A Shallow water marine survey to be conducted using sensors attached to an Ocean Bottom Cable (OBC) laid out on the Lake Echo bottom is currently being assessed by GSLM. Due to operational limitations, these types of surveys can be conducted up to depths of about 70 meters.
- Stage 1 and 2 of seismic acquisition is planned for year 3 to 5, however, a firm start date can only be determined once a tender has been awarded and the service company has committed resources.

An outline of the Seismic Program Year 3 to 5 is currently being assessed by the company as described below. These include:

- Project Scouting,
- Operational and HSE Risk Evaluation,
- Project Preparation,
- Project Management and Execution in conjunction with Client's Representatives,
- Seismic Operations,
- Site Remediation and Close Out,
- Data Processing Supervision,
- Data Processing Services and Project Design, Parameter Evaluation, and
- Timeline Organization Consulting.

SEISMIC PROGRAM YEAR 3-5 PLANNING

Project Scouting, Operational and HSE Risk Evaluation

- Evaluation of GSLM Objectives
- Review Available Data
 - Satellite Images
 - Library Seismic
 - Well Data
- Hazard Assessment
- Comprehensive Risk Avoidance Planning
- Emergency Notification Plans

Project Preparation

- HSE Orientation and Training
- Camp Placement
- Line Cutting
- Surveying
- Shot Hole Drilling
- Mobilize Operator Equipment and Personnel

Project Management and Execution in conjunction with Client's Representatives

- Daily Communication with Client Representatives and Client Home Office
- Daily Reports with Progress Maps

Seismic Operations

- Explosives
- Vibroseis & Mini-Vibroseis

Site Remediation and Close Out

- Line recovery
- Rollback
- Replanting

Data Processing Supervision

- QC Field Data for Errors
- Test and Select Data Processing Parameters
- Present Results and Clarify any Issues

Data Processing Services

- Both 2D and 3D data sets recorded with 3 component sensors will be processed.
- Advanced programs such as Prestack Depth Migration (PSDM) and Prestack Time Migration (PSTM) will be required.

Project Design, Parameter Evaluation, and Timeline Organization Consulting

- Meetings with Stakeholders
- Presentation of Project Plans

Regulatory Compliance and Procedure Evaluation

- Compile Notification, Permit and Compliance Requirements
- Check for Recent Updates and Modification- Approach Regulatory Agencies
- Modify Procedures and Plans to Comply with Recent Changes to Regulations

Economic Assessment and Tendering

- Canvas Available Subcontractors
- Obtain Client Input on Subcontractor Requirements
- Request and Evaluate Bids
- Contract Subcontractors
- Provide Contractor's Quote for Services

LOGISTICS

The survey is to be scheduled for the finer weather months (late spring, summer, or early autumn), as the Tasmanian weather at other times of year is unsuitable for seismic work. Strong wind, rain, or snow can make seismic impossible and GSLM must bear the costs while the crew sits idle waiting for suitable weather.

Line Clearing

Access to the lines via local roads, off-road track and farm tracks needs to be evaluated prior to any work.

Seismic Surveying

GSLM needs to provide the seismic acquisition company and the surveyors with the details of the lines they will be surveying. This will include topographic maps, line descriptions, coordinates, lengths and access to the major and minor roads considered to be used during the acquisition of the seismic data. In 2006 and 2007 line chaining and survey for the entire program were completed by Dynamic Satellite Surveys personnel.

NOTIFICATIONS, PERMITS AND APPROVALS

A traffic management plan and an environmental management plan need to be revised and updated as a large part of daily operations on the proposed prospect are along the road verge and within conservation areas.

Mineral Resources Tasmania (MRT) needs to be approached first and informed of the intention to undertake the seismic survey. MRT has assisted GSLM in determining what other notifications, permits and approvals will be required.

Environmental Management Plan – the environmental management plan focuses on threatened species that may be affected by the survey, in particular those in the Natural Values Atlas and in DIER conservation areas. GSLM's seismic EMP was written in 2006. In 2007, addendums to the original document were written to cover the additional survey areas. The EMP (and addendums) was compiled by SEMF. In autumn 2007 the principal contact for this job was Fiona Kesure-Ponte. For each addendum, SEMF required:

- Maps of the new lines
- Road names for each line
- DIER codes for any State roads used
- Line lengths
- A desktop study of threatened species (see below)
- Confirmation that all relevant parties had been contacted

The EMP must be sent by the contractors (SEMF) to the Conservation Assessment Section of DPIW, for their approval. Their letter of approval should be included in the completed document.

Desktop Threatened Species Study – this forms part of the EMP (above). Essentially it should identify any threatened species within a 200m buffer of seismic lines (bigger buffer for Eagles). It is GSLM's responsibility to commission this report and provide it to the contactors responsible for the EMP.

In autumn 2007, Pitt and Sherry were contracted for this job. They required MapInfo TAB files of the seismic lines to be provided. The co-ordinates of any threatened species identified in this report must also be provided to the DSS surveyor so that sensitive areas can be pegged with a yellow or green flag that tells the seismic crew they must not use the road verges in those areas.

Department of Primary Industries and Water (DPIW) – The Conservation Assessment Section of DPIW should be informed in advance that planning for a seismic survey is underway and that they will be provided with the EMP for their approval (as outlined above). DPIW must sign off on the EMP before the survey can go ahead.

Land Owners (Private and Public) – Where the seismic survey will use private land, the land owner needs to be made aware of the intention and supplied with a Notification of Intention to Enter Private Property form, which they must understand and sign. It will be necessary to obtain keys to locked gates on private land from the landowner to allow access for the pegging crew and the seismic crew.

With private land owners, it is desirable to give them as much advanced warning and information about what is happening as possible. In 2007, land owners were first contacted by phone and then sent a brochure explaining the seismic process, as well as a map of the proposed lines in their area, with the NOI form. They must also be informed when the pegging or seismic crew is about to access their land.

Public land owners (such as Forestry Tasmania and the Hydro) do not need to sign an NOI form, but otherwise the process of advanced warning and communication remains the same. The initial contact at Forestry Tasmania should be the Community Liaison officer for the district in question.

Councils - should be informed of the seismic survey in advance. They should be provided with materials (such as brochures) that explain the seismic process and given maps of the seismic lines and approximate time frames for the survey in their area.

Community – local communities should be provided with information on the seismic program. This can be done through brochures, community newspapers, local radio etc.

Traffic Management – GSLM has a traffic management plan created for the seismic survey in 2006. An addendum was written for the 2007 survey. These outline all the obligations and responsibilities for performing work on roads. This plan (and any new addendums) must be submitted to DIER for approval and issue of a permit - which the survey cannot progress without.

As part of the responsibilities set out by the TMP, GSLM must keep the following parties updated on all impending road use:

- The public – through Community Notices, the public should be informed of any possible traffic delays
- Targa Tasmania – if the dates of Targa and the seismic conflict
- Police – through the State Radio Room
- DIER - in advance of any state roads being used, so as not to conflict with any road works
- Local councils
- Logging companies who may be using the same roads

SEISMIC ACQUISITION ALTERNATIVES

In 2007, new seismic acquisition parameters were used which resulted in a considerable increase in the quality of data obtained, compared with previous surveys. These changes have successfully helped in acquiring high quality data in terrain dominated by dolerite (which has seismic velocities of about 6000m/s).

The use of a "crooked line" grid (shooting along existing roads) and the Vibroseis source method has enabled GSLM to acquire an extensive regional data set whilst minimising cost.

Global geophysical data acquisition is performed under demanding conditions. Detailed project management including procurement, logistics, licensing, engineering and human resources is required particularly in remote and challenging areas such as Tasmania.

GSLM is currently exploring alternatives to continue its seismic program. Some of them are briefly explained below:

Off-road explosives is recognized as a reliable and economical source of energy for downhole seismic applications, specifically to meet the harsh demands of the Tasmanian environment. Such technique could improve efficiency and reduce the overall cost of data acquisition. In Australia, companies such as Orica Mining Services with its long-term presence in regional seismic explosives supply has expanded its network and infrastructure in providing a leading position in the supply of seismic explosives.

An ***Air Gun*** is used for marine reflection and refraction surveys. It consists of one or more pneumatic chambers that are pressurized with air. The air gun array is submerged below the water surface, and is towed behind a ship. When the air gun is fired, a bolt is retracted, allowing the air to escape the chamber and to produce a pulse of acoustic energy.

Marine (OBC) - Shallow water marine surveys are conducted using sensors attached to an Ocean Bottom Cable (OBC) laid out on the ocean bottom rather than in towed streamers. Due to operational limitations, these types of surveys can be conducted up to depths of about 70 meters. One operational advantage is that obstacles (such as platforms) do not affect the acquisition as much as they do for streamer surveys. Most of the OBC surveys use dual component receivers, combining a pressure sensor (hydrophone) and a vertical particle

velocity sensor (vertical geophone). OBC surveys can also use 4 components, i.e. those 2 components plus the 2 horizontal velocity sensors. 4 component OBC surveys have the advantage of being able to record shear waves, which do not travel through water. Multiple component OBC surveys hence lead to improved imaging.

Geodynamics Ltd in the Cooper Basin is currently setting up a *Microseismic monitoring network* scheduled for after the completion of each well to be installed by Q-con GmbH and Geotech Instruments LLC. The stations installed could detect acoustic emissions from 4-5 km underground during the stimulation process.

***TERRA INSIGHT SERVICES, INC – TECHNOLOGY SUMMARY
(ALSO REFER TO G5 FOR MORE INFORMATION)***

Terra Insight Services, INC – Technology Summary (also included as Attachment G5)

During the final phases of SEL 13/98's tenure, GSLM has been investigating new technologies to accelerate the remaining regional exploration and further delineation of drilling targets.

Terra Energy and Resource Technologies Inc (a publicly traded firm TEGR.OB) through its wholly owned subsidiary Terra Insight Services ("Terra") has briefed GSLM's technical team on the use of its proprietary suite of new, innovative exploration technologies that it assures will significantly increase exploration success rates and greatly reduce exploration risk and cost.

Using Terra technologies, GSLM's primary objective is to address the issues of cost, risk and efficiency posed in the discovery and extraction of hydrocarbons (HC) and augment current discovery methodologies (currently based on reflected waves seismic).

The Terra technology Suite includes;

{SPACE} Sub-Terrain Prospecting Technology (STeP®):

STeP® includes four independent remote-sensing technologies (primarily satellite based). Each one uses multi-stage modelling to process and interpret satellite, cartographic and other data, in order to assess, quantify and locate HC structures.

{SURFACE} Naturally Adsorbed Gas Survey (NAGS™):

NAGS is a highly informative geochemical technology based on a new model of a certain "gas field" of the Earth, analysing adsorbed gases in collected samples to determine zones of HC accumulation.

{SUB-SURFACE} Side View Seismic Locator (SVSL):

Micro-seismic technology based on processing of 'scattered' (as opposed to reflected) waves to determine zones of open fracturing in reservoirs thus achieving the highest production rates and avoiding drilling complications.

Seismic Location of Emission Centres (SLEC):

SLEC is a passive seismic technology with the output of fluid (oil or water) saturation, oil to water contact and reservoir dynamics.

These four technologies have been under development for more than thirty (30) years with hundreds of tests, pilot and commercial projects and applications in exploration activities in some of the world's largest resources companies and governments. GSLM now has direct access to this exciting development and intends to use Terra to rapidly advance its exploration program and lead time to production of commercial hydrocarbons.

It was the intention of GSLM to incorporate the use of this new suite of technologies (Esp. STeP) to consolidate the remaining regional exploration over the entire 15,039 square kilometres that comprised SEL 13/98.