APPENDIX A

Onshore Tasmania Exploration Potential
Fall 2001
Technical Review

Weinman GeoScience - An Integrated Geophysical Services Company

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We have completed a technical evaluation of the exploration potential of License EL 13/98 (onshore Tasmania) for Great South Land Minerals (GSLM). The evaluation involved previously published papers and current technical work to assess the potential of finding reservoired hydrocarbons in the onshore Tasmania acreage. The technical evaluation indicates there is a high probability that hydrocarbons are present in subsurface traps and the necessary elements for economic hydrocarbons are present. The same age potential petroleum systems present in the Tasmanian basin are productive in the onshore Amadeus and Canning basins in Australia. Similar petroleum systems are also productive in the MidContinent and West Texas areas of the US, North Africa, and the Middle East. However, as in any frontier, essentially unexplored basin, risk reduction is key to economic success. As a result of the technical evaluation, we have made some recommendations for additional work that we believe will lower the risk of exploring for hydrocarbons in this frontier basin.

The Tasmanian basin is a frontier Paleozoic basin covering an area of 30,356 sq km. The presence of surface and near surface volcanic rocks in the Tasmanian basin has obscured the potential of a viable sedimentary basin below. However, gravity and 2D seismic lines indicate a thick sedimentary package, necessary for maturing source rocks, exists beneath the near-surface dolerites. Recent seismic indicates structures and potential traps (leads) beneath the Permian Unconformity. There are at least ten leads identified by existing seismic data and/or surface geology that, with additional data and evaluation, could develop into drillable prospects.

To date, the basin has been very sparsely explored. Most recently, GSLM has drilled 5 shallow stratigraphic (less than 600m) wells (wells designed to understand the deeper stratigraphy) over a 3 year period. Several other shallow wells have been drilled over the last 75 years, generally in association with localized seeps. Very few of these wells were drilled on proper structural closure so little evidence of hydrocarbons has been seen. However, minor evidence of hydrocarbons, both gas and oily water have been encountered in a few wells. Many seeps have been reported in the basin, although it is difficult to authenticate some of them and in many instances they cannot yet be associated with a specific source horizon.

To better understand the potential of the basin, GSLM has acquired 660 km of 2D seismic data and plan an additional 1000 kms this Tasmanian summer. Considerable work by GSLM has gone into understanding the petroleum potential of the onshore basin. In addition to the identification of structural leads, three additional elements of a successful hydrocarbon system, source, reservoir and seal have all been identified in the basin. These are summarized as follows.

The Permian Tasmanite shale is a well documented, organic rich (5+% TOC) source that has been correlated with a hydrocarbon seep in the southern part of the basin. Deeper Paleozoic sources, primarily in the Devonian and Ordovician are likely to have good potential based on analogies with other productive Paleozoic basins in Australia. The distribution of these older sources in Tasmania, however, requires additional work for proper documentation. All three of

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these sources would be expected to yield a low sulfur (less than 0.5%) moderate to high API gravity crude (28° and higher).

Good porous (13-25%) and permeable (up to 400mD) fluvial to shallow marine sands exist in the Permian and Triassic. These offer the best reservoir prospectivity for the basin. Karsting has been documented in Ordovician carbonates although it may be of limited extent. Also, secondary vuggy and fracture porosity have been suggested in the Ordovician carbonates from outcrop, but again, the extent of vugs and fractures needs to be established.

Intraformational Permian shales and especially the uppermost Jurassic dolerite occur regionally and could serve as good basinal topseals. Additionally, shales in the Permian, Devonian and/or the Ordovician could also serve as seals for older potential reservoirs. The shales could provide both sources and seals in the basin.

Given all the elements, source, reservoir, seal and trap needed for a hydrocarbon accumulation, it is likely that hydrocarbon accumulations exist in Tasmania. However, as in any underexplored basin there is risk. The risks here seem to mainly involve the geologic timing of bringing all the essential elements together. It is necessary for a structural closure or a trap to exist prior to the time the source rocks are buried sufficiently to generate hydrocarbons. More work is needed to identify where in Tasmania this occurs.

A key to economic success in frontier basins is to lower exploration risk, that is, increase the likelihood of early success. For example, more than fifty exploration wells were drilled in the North Sea before an initial economic discovery was made. It would be prudent to plan an initial exploration well in a location to encounter a representative deep stratigraphic section for the Tasmanian basin. Such a well combined with the ambitious work program proposed for Tasmania by GSLM in the next 5-6 months is the proper approach to lowering risk in the license area. It will allow high-grading the areas of the basin where all of the essential elements exist and the timing for generation and structuring are such that the likelihood of the existence of an accumulation is maximized. If well supervised and integrated, this additional work can lower the number of wells needed for success.

Galen Treadgold
Jackie Reed
Weldon Beauchamp
Weinman GeoScience, November, 2001

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Weinman GeoSciences

Founded in 1983, Weinman GeoScience (WGS) is an experienced geophysical and geological exploration consulting and seismic processing service dedicated to the effective integration of seismic, geologic, and engineering data in the search for and exploitation of hydrocarbon reserves. WGS provides a unique blend of advanced technologies and services that are unmatched in the industry. WGS's staff of major company trained, dedicated professionals have a minimum of 15 years of worldwide experience, including 3D/2D interpretation, seismic processing, geology, geochemical, petrophysics, and engineering. Together they provide the client with a team approach to exploration projects that is broad based and multidisciplinary. WGS's in-house seismic processing services feature state of the art 2D/3D depth migration, 2D/3D AVO analysis, and 2D/3D trace inversion.

Weinman GeoScience augments its staff by maintaining professional relationships with other respected geophysical and petroleum engineering firms. These partnerships allow WGS to provide a wide range of integrated services covering all aspects of petroleum exploration and development.

Galen Treadgold
Galen Treadgold is the current manager of Exploration and Production Services for Weinman GeoSciences of Dallas, Tx. In the past year with WGS, Galen has been involved in helping client companies find over half a billion boe's while overseeing the domestic US WGS staff. Prior to joining WGS, Galen was the exploration manager for ARCO International Oil and Gas Company handling Venezuela, Trinidad and Brazil. Other assignments in Galen's 15 years with ARCO included Technology Manager for ARCO's London office and Seismic Analysis Coordinator in the Plano office.

Jackie Reed
Jackie Reed is a successful explorationist with 24 years of petroleum industry experience. She is currently an independent consultant, based in the U.S. working with companies integrating geology, geochemistry and basin modeling. Prior to becoming a consultant, she was Exploration Manager for the Middle East for ARCO International Oil and Gas Company. During her 16 years at ARCO she held a number of positions in both research and exploration. She has experience in several domestic and international basins in diverse locations including Michigan, Appalachian, Williston, Permian, Midland, North Sea, Turkey, Syria, Qatar, Yemen, Romania, Tunisia, China, Indonesia, Australia, and New Zealand. Prior to moving to ARCO she worked for Sun Exploration Company for 4 years on various research and technical service projects developing and applying geochemical techniques for reducing exploration risk. She graduated from Southern Methodist University in Dallas, Texas in 1975 with a Bachelors of Science in Chemistry and a Masters of Science in Geology in 1977.

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Weldon Beauchamps

Dr. Weldon Beauchamp (MS in Geology from Oklahoma State University, 1983, and a Ph.D. in Geophysics from Cornell, 1992) has 20 years of international prospecting experience with Sun and Arco. His doctoral dissertation is on the subject of "Tectonic Evolution of the Atlas Mountains, North Africa". Dr. Beauchamp worked as a production and exploration geologist in the Mid-Continent of the US for Sun Exploration and Production Company. He also worked for five years in London as a new venture geologist for Sun in the North Sea, Africa and the Middle East.

Subsequently, Dr. Beauchamp worked for ARCO as a new venture geophysicist in Iran, Iraq, Kuwait and Libya, and Latin America. He made several trips to Tehran, Iran to present to the NIOC regarding field re-development and exploration projects. He has worked more recently on mapping a 4,000 sq km 3D survey for Triton Energy offshore Equatorial Guinea, and has also recently mapped a 2,500 sq km 3D survey for Hunt Oil offshore Togo, West Africa. Dr. Beauchamp specializes in structural geology, seismic interpretation, remote sensing and geographical information systems (GIS).