ROUTINE CORE ANALYSIS
STUDY FOR
STANSBURY BASIN

ACS LABORATORIES AUSTRALIA

6 April 1994

Canyon (Australia) Pty Limited
Suite 1100 The Summit
300 North Marienfeld
Midland
TEXAS USA 79701-4384

Attention: Mr Earl Sebring

REPORT: 008-264

CLIENT REFERENCE:	Fax dated 17/03/94
MATERIAL:	Core Plugs
LOCALITY:	Stansbury Basin
WORK REQUIRED:	Routine Core Analysis

Please direct technical enquiries regarding this work to the signatory below under whose supervision the work was carried out.

ROBERT D EAST
Technical Services Manager

ANTHONY M DRAKE
Laboratory Supervisor
Special Core Analysis

CONTENTS

1. INTRODUCTION

A facsimile dated 17th March 1994 was received from Mr Earl Sebring of Canyon (Australia Pty Limited) requesting Core Analysis services on selected samples from four wells in the Stansbury Basin.

2. SAMPLE PREPARATION

One inch diameter plug samples were drilled from the slabbed core sections using tap water to cool the bit and remove drilled solids.

2.1 Sample Drying

Samples were dried in a conventional oven at 100°C to constant weight and placed in a desiccator.

3. PERMEABILITY TO AIR - Ambient

Air permeability was determined on the plug samples. The samples were firstly placed in a Hassler cell with a confining pressure of 250 psi. The confining pressure was used to prevent bypassing of air around the samples when the measurement was made. To determine permeability a known air pressure was applied to the upstream face of the sample, creating a flow of air through the core plug. Permeability for the samples was calculated using Darcy's Law through knowledge of the upstream pressure, flow rate, viscosity of air and the samples' dimensions.

4. HELIUM INJECTION POROSITY - Ambient

The porosity of the clean dry core plugs was determined as follows. The plugs were first placed in a sealed matrix cup. Helium held at 100 psi reference pressure was then introduced to the cup. From the resultant pressure change the unknown grain volume was calculated using Boyle's Law (ie, $P_1V_1 = P_2V_2$).

Pore volume was determined by helium injection in a Hassler cell with a confining pressure of 400 psi. This technique was used (as opposed to determination of bulk volume by mercury displacement) because of the vuggy nature of some of the samples.

5. DISCUSSION

Because of the small size of the samples tested it is likely that data accuracy levels are somewhat reduced. Porosity data is considered to be accurate to ± 0.8% and permeability by ± 30% of the value reported.

Please do not hesitate to contact ACS Laboratories Pty Ltd if we can provide any further information.

POROSITY AND AIR PERMEABILITY

Company: Canyon (Australia) Pty Limited
Location: Stansbury Basin

Sample Number	1:100,000 Sheet	Well	Ambient Permeability to Air millidarcys	Helium Injection Porosity percent	Rock Type
RS 457	6429	Ardrossan #1	0.28	2.5	Dolomite
RS 458			142	7.6	Dolomite
RS 459			71	12.4	Dolomite
RS 460			1.75	4.1	Sandstone
RS 461			0.65	5.4	Sandstone
RS 106	6428	Stansbury West #1	0.12	0.9	Limestone
RS 107			54	9.8	Dolomite
RS 108			94	13.9	Dolomite
RS 109			452	16.9	Dolomite
RS 473	6426	Investigator #1	0.11	1.3	Limestone
RS 474			12.2	3.9	Limestone
RS 475			0.12	1.0	Sandstone
RS 476	6428	Minlaton #1	0.07	0.6	Dolomicrite
RS 110			1.77	4.8	Limestone
RS 111			0.26	2.0	Limestone
RS 112			0.70	3.2	Limestone
RS 113			2.15	3.6	Dolomite
RS 114			0.74	8.4	Calc Sst
RS 115			0.62	3.4	Sandstone