

SEISMOGRAPH REPORT ON FORT LIARD AREA
NORTHWEST TERRITORIES, 1976
TO THE
GOVERNMENT OF CANADA



037 06 04 157



D.I.A.M.D.
OTTAWA
COPY

SHELL CANADA RESOURCES LIMITED
FRONTIER DIVISION EXPLORATION DEPT.

SEISMOGRAPH REPORT ON FORT LIARD AREA
NORTHWEST TERRITORIES, 1976
TO THE
GOVERNMENT OF CANADA

ADDENDUM TO INTERIM REPORT
PROJECT NO. 36-6-4-76-1



037 06 04 157

D.I.A.N.D.
OTTAWA
COPY

SHELL CANADA RESOURCES LIMITED
FRONTIER DIVISION EXPLORATION DEPT.
Calgary, Alberta October, 1976

SEISMOGRAPH REPORT ON FORT LIARD AREA
NORTHWEST TERRITORIES, 1976
TO THE
GOVERNMENT OF CANADA

ADDENDUM TO INTERIM REPORT
PROJECT NO. 36-6-4-76-1



037 06 04 157

D. I. A. N. D.
OTTAWA
COPY

SHELL CANADA RESOURCES LIMITED
FRONTIER DIVISION EXPLORATION DEPT.
Calgary, Alberta October, 1976

ADDENDUM TO TABLE OF CONTENTS OF ORIGINAL REPORT

SECTION

VI. PROCESSING AND INTERPRETATION

A. DATA PROCESSING

B. INTERPRETATION

APPENDIX 1 STACKING VELOCITIES

ENCLOSURES

2. TOPOGRAPHIC MAP

3. TIME STRUCTURE MAP (NEAR TOP PALAEOZOIC)

4. TIME STRUCTURE MAP (NEAR BASE OF MISSISSIPPIAN CARBONATES)

VI. PROCESSING AND INTERPRETATION

A. DATA PROCESSING

All lines (2-264 to 2-269) were corrected from surface to a datum of 366 meters (1200 feet) using a velocity of 3049 meters/sec (10,000 ft/sec). Previously, weathering corrections were made to shot hole depth (replacement from surface to this depth with a layer of 3049 meters/sec). For lines 2-264, 2-265, 2-266, and 2-269 the stacked sections had statics removed by an automatic, non-coherent picking program; then a gentle mix was applied to the stacked data. In an effort to improve the signal to noise for obtaining static corrections, a combination mixing-statics program was used for lines 2-268, 2-267, and part of 2-266. The stacking velocities used are included in appendix 1.

In regards to data quality, it ranges from good to fair for all lines except line 2-268 and the part of line 2-266 near the Liard River. In the later case the data was poor to unreliable.

B. INTERPRETATION

The seismic program was shot over the Liard Anticline. Approximately 2.5 kilometers (1.5 miles) to the north of the northeast part of line 2-267, Palaeozoic beds outcrop. There may be some time closure at the event identified as near the base of the Mississippian Carbonates (enclosure 4).

R. N. Michkofsky
R. N. Michkofsky, geophysicist

APPENDIX I

STACKING VELOCITIES

LINE #	STATION #	VELOCITY (FT./SEC.)	TIME (M.SEC.)	STATION #	VELOCITY (FT./SEC.)	TIME (M.SEC.)
2-264	420	10000	200	440	10000	200
		11000	400		11000	300
		11000	650		11200	550
		11900	900		11750	800
		13300	1300		12900	1200
		14600	1700		14150	1600
		16000	4000		16000	4000
	450	10000	200	510	11000	200
		11000	300		11000	400
		11200	550		11900	650
		11750	800		12500	1000
		12550	1200		13200	1300
		13200	1600		16000	4000
		16000	4000			
	540	11000	200	570	10000	200
		11000	400		11000	500
		12100	600		11700	940
		13300	1000		13400	1400
		14500	1300		13900	2040
		16000	4000		16000	4000
	586	10000	200	600	10000	200
		11000	500		11000	500
		11700	940		11700	940
		15000	1400		13400	1400
		16000	4000		13900	2040
					16000	4000
	610	10000	200			
		11000	500			
		11700	940			
		12000	1400			
		16000	4000			
2-265	410	10000	200	470	11000	200
		11000	400		11000	500
		11300	640		12200	900
		11500	800		14300	1200
		11700	960		14300	1400
		12000	1240		16000	4000
		13500	1680			
		16000	4000			

STACKING VELOCITIES (cont'd)

LINE #	STATION #	VELOCITY (FT./SEC.)	TIME (M.SEC.)	STATION #	VELOCITY (FT./SEC.)	TIME (M.SEC.)
2-265	530	11000	200	590	10000	200
		11000	500		11000	500
		11600	800		11300	840
		12600	960		11400	1060
		13000	1120		11800	1300
		13300	1260		12200	1600
		16000	4000		12200	1840
					16000	4000
2-266	430	10000	200	450	10000	200
		11000	500		11000	500
		11700	750		12300	800
		12800	1150		12700	950
		13700	1300		14500	1300
		14000	2000		14500	1950
		16000	4000		16000	4000
	510	10000	200	530	10000	200
		11000	500		11000	500
		12300	800		11400	750
		12700	950		12100	950
		14500	1300		12600	1300
		14500	1950		13300	1750
		16000	4000		16000	4000
	570	10000	200	590	10000	200
		11000	500		11000	500
		12300	800		11300	850
		12700	950		12700	1450
		14500	1300		13200	1800
		14500	1950		16000	4000
		16000	4000			
	690	10000	200	710	10000	200
		11000	500		11000	500
		11300	850		11300	700
		12700	1450		13000	1050
		13200	1800		13600	1700
		16000	4000		16000	4000

STACKING VELOCITIES (cont'd)

LINE #	STATION #	VELOCITY (FT./SEC.)	TIME (M.SEC.)	STATION #	VELOCITY (FT./SEC.)	TIME (M.SEC.)
2-267	410	10000	200	450	10000	200
		10600	550		10600	550
		12000	740		11800	740
		12500	1000		14000	1200
		12800	1300		14900	1600
		12900	1600		16000	4000
		16000	4000			
2-268	440	10000	200	480	11000	200
		11000	400		11250	600
		11250	700		11500	980
		12000	1050		13000	1350
		13000	1450		13600	1700
		13600	1950		16000	4000
		16000	4000			
	530	11000	200	570	9000	200
		11250	600		10000	800
		11500	980		10600	1000
		13000	1350		11700	1350
		13600	1700		12600	1800
		16000	4000		16000	4000
2-269	410	10000	200	480	11000	200
		11000	550		11250	600
		11250	850		11500	980
		12900	1200		13000	1350
		13700	1600		13600	1700
		16000	4000		16000	4000
	530	11000	200	550	9000	200
		11250	600		10000	800
		11500	980		10600	1000
		13000	1350		11700	1350
		13600	1700		12600	1800
		16000	4000		16000	4000