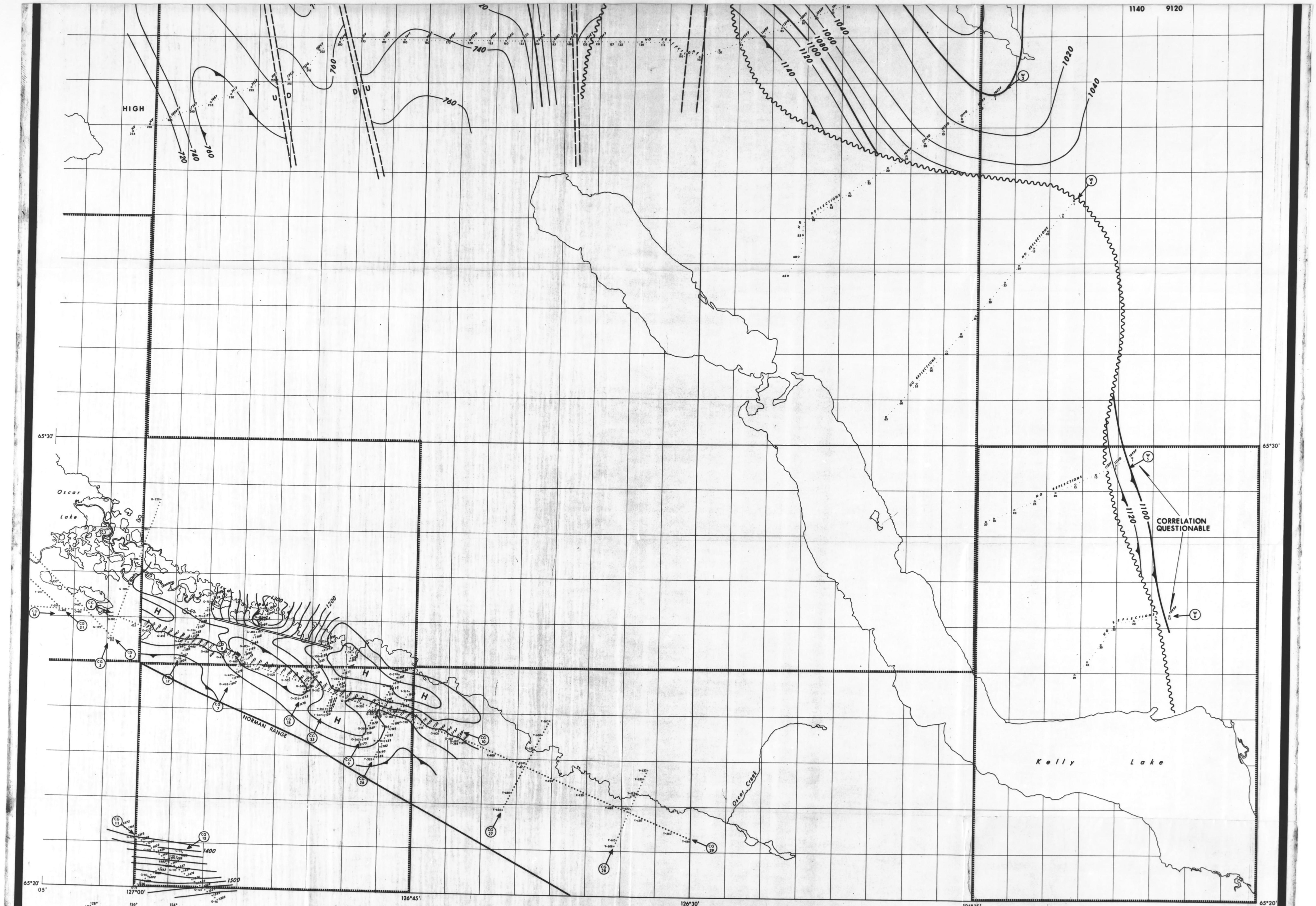
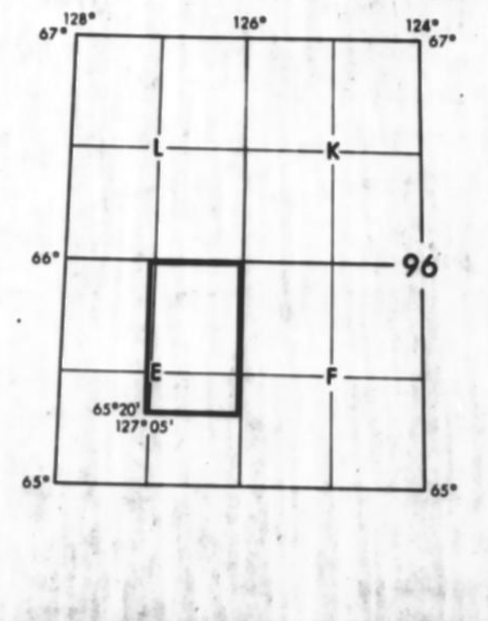
October 1974
11x
MICROMAT
105 M.M.
WEST CANADIAN GRAPHIC INDUSTRIES LTD.
810 - 5th Avenue S.W. CALGARY 1, ALBERTA
Phone 263-2555
076-06-06-030


1140 9120
HIGH
720
740
760
U D
D U
1020
1040
1060
1080
1100
1120
1140
NO REFLECTIONS
65°30'
Oscar
Lake
H
1200
1400
1500
NORMAN RANGE
CORRELATION
QUESTIONABLE
Kelly Lake
Oscar Creek
65°20'
05'
127°00'
126°45'
126°30'
126°15'
126°00'



AREA	PROSPECT	DATE	SHOTPOINTS AND/OR LINE NUMBERS	SYMBOL & PREFIX	SHOT BY	SHOT FOR	REMARKS
N.W.T. 96-E-N.E.	OSCAR CREEK	DEC., 1972	4,5,6,7,8,9,10,11,12,16, 16,17,18,21,25,26,27,28 & 29	○ C.G.	C.G.G.	BANFF	
N.W.T. 96-E-NE	CHICK LAKE	APR. 1973	W1.	• W	WESTERN	G.P.D.	
" "	" "	DEC. 1973	W2,3,4,5&6	○ W	WESTERN	G.P.D.	

MILES
1 0 1 2 3
FEET
5,000 0 5,000 10,000 15,000
1:50,000

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

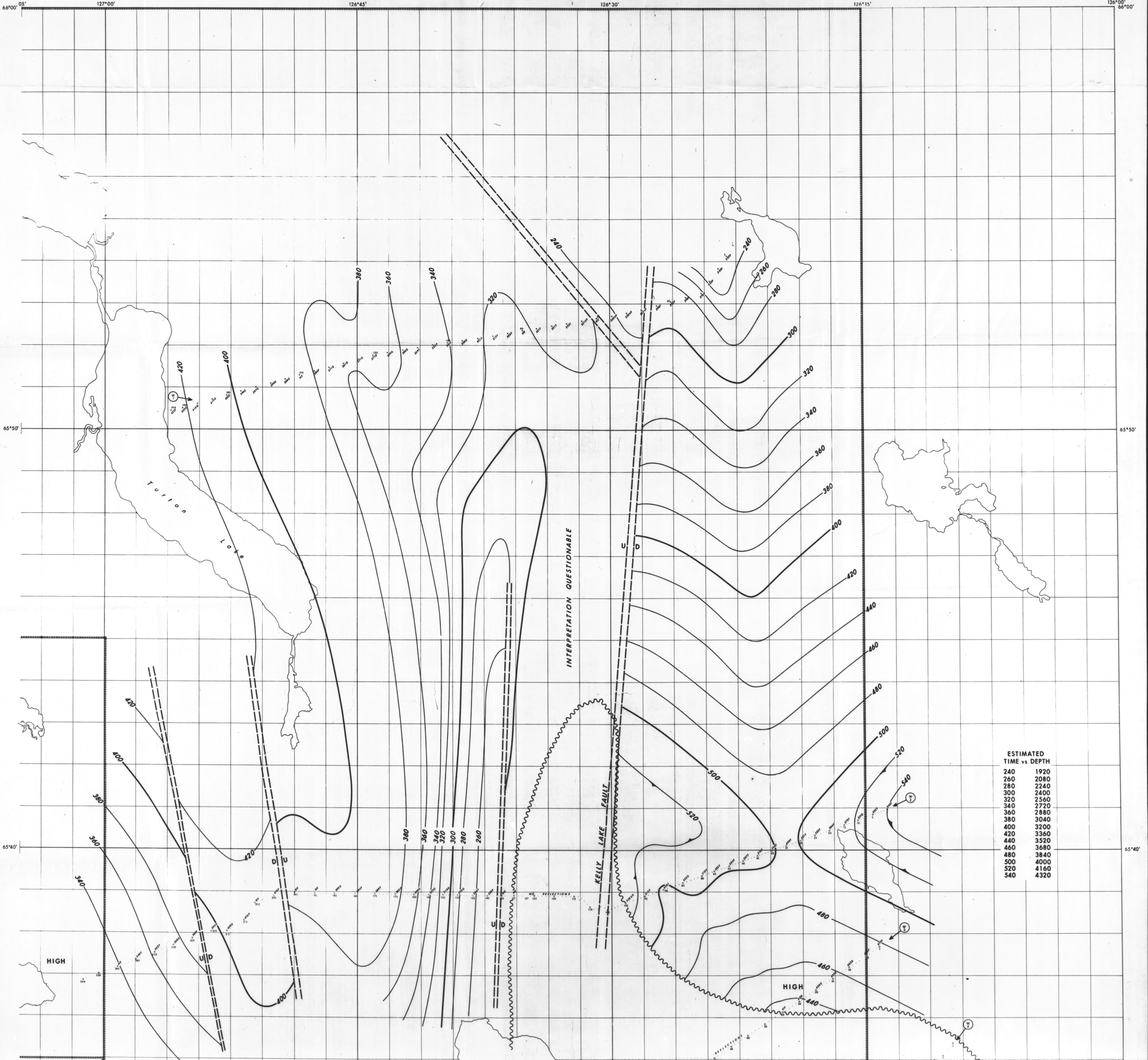
SEISMIC SURVEY

CHICK LAKE

NEAR BASE CAMBRIAN (?)

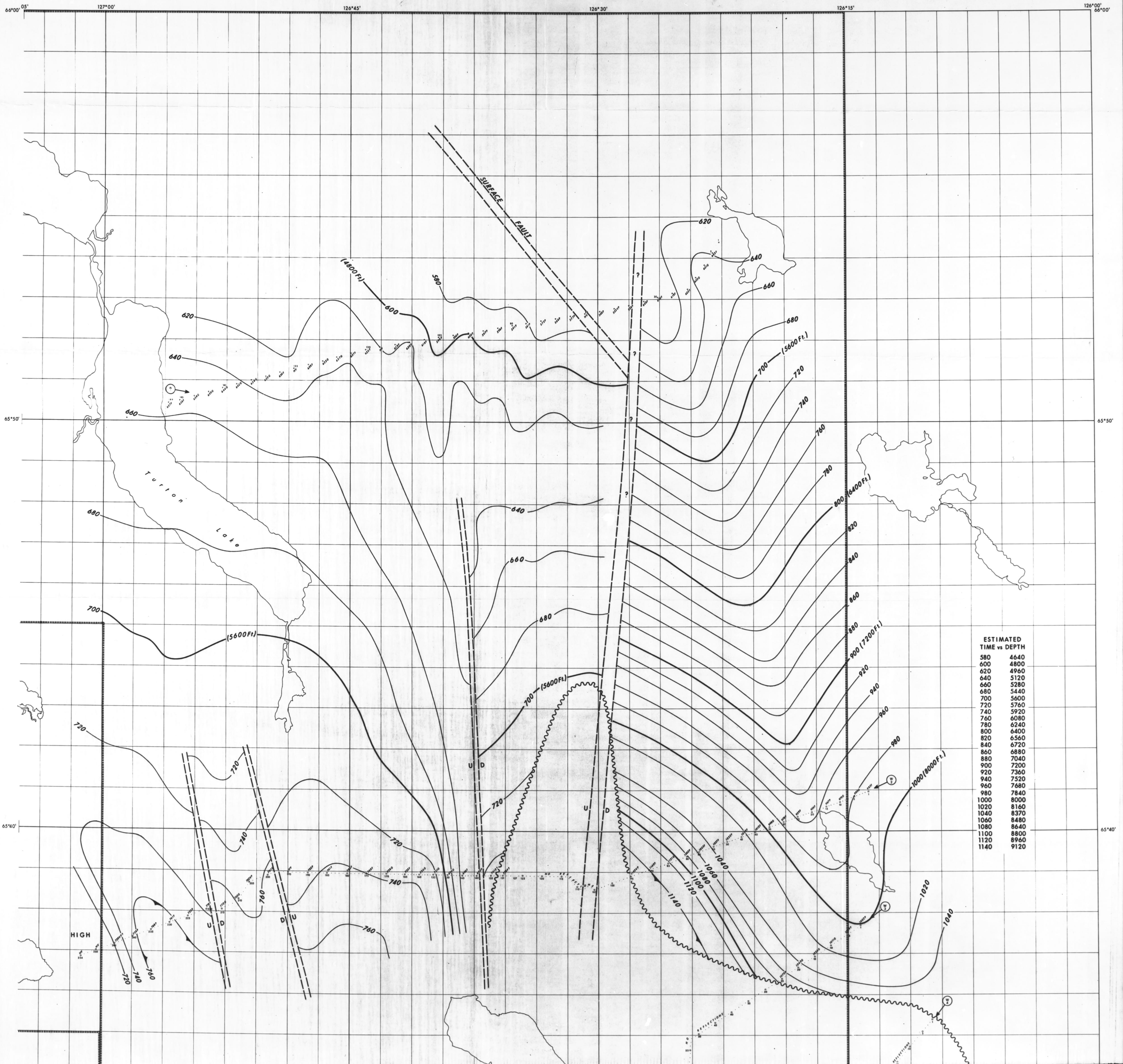
SEISMIC DATUM: +1000 ft
SEISMIC DATUM VELOCITY: 16,000 FT./Sec
GEOPHYSICAL CONTRACTOR: WESTERN GEO.

CONTOUR INTERVAL: 20 MS
CONTOURED BY: C. DITTRICH
DATE: JAN., 1974


66°05'
127°00'
126°45'
126°30'
126°15'
126°00'
66°00'
66°00'
65°50'
65°50'
65°40'
65°40'
Turton Lake
INTERPRETATION QUESTIONABLE
KELLY LAKE FAULT
HIGH
HIGH
NO REFLECTIONS
REFLECTIONS
U
D
240
260
280
300
320
340
360
380
400
420
440
460
480
500
520
540

ESTIMATED
TIME vs DEPTH

240	1920
260	2080
280	2240
300	2400
320	2560
340	2720
360	2880
380	3040
400	3200
420	3360
440	3520
460	3680
480	3840
500	4000
520	4160
540	4320


66°00' 05'
127°00'
126°45'
126°30'
126°15'
126°00'
66°00'
65°50'
65°50'
65°40'
65°40'
SURFACE FAULT
Turton Lake
HIGH
U
D
?
NO REFLECTIONS
580
600
(4800 Ft.)
620
640
660
680
700
(5600 Ft.)
720
740
760
780
800
(6400 Ft.)
820
840
860
880
900
(7200 Ft.)
920
940
960
980
1000 (8000 Ft.)
1020
1040
1060
1080
1100
1120
1140

ESTIMATED
TIME vs DEPTH

580	4640
600	4800
620	4960
640	5120
660	5280
680	5440
700	5600
720	5760
740	5920
760	6080
780	6240
800	6400
820	6560
840	6720
860	6880
880	7040
900	7200
920	7360
940	7520
960	7680
980	7840
1000	8000
1020	8160
1040	8370
1060	8480
1080	8640
1100	8800
1120	8960
1140	9120

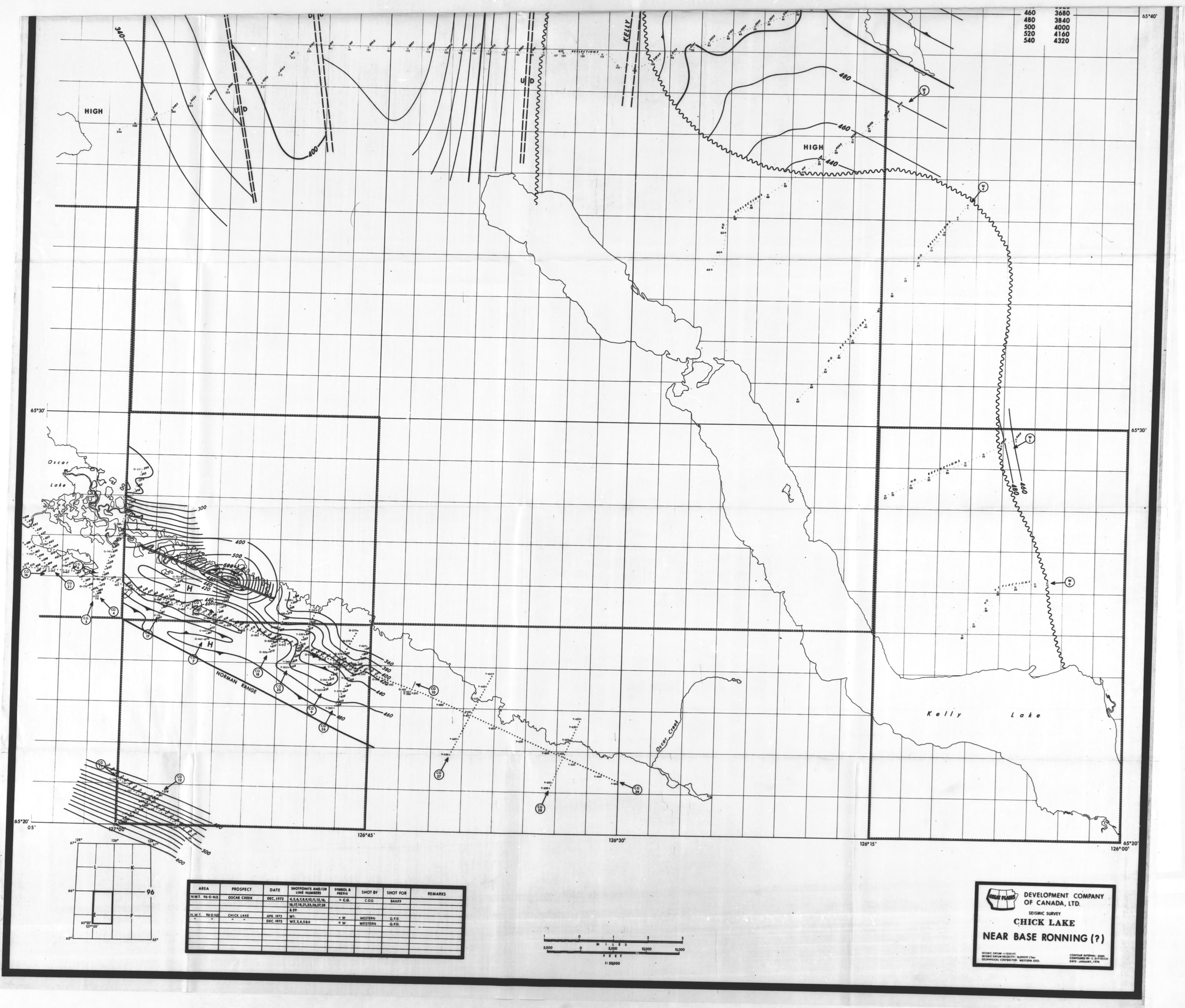
October 1974

11x

MICROMAT
105 M.M.

WEST CANADIAN GRAPHIC INDUSTRIES LTD.
810 - 5th Avenue S.W. CALGARY 1, ALBERTA
Phone 263-2555

076-06-06-030


65°40'
HIGH
KELLY
U
D
340
400
480
460
440
HIGH
REFLECTIONS
NO REFLECTIONS
65°30'
Oscar
Lake
300
400
500
600
H
420
440
380
360
H
NORMAN RANGE
CG
W
Oscar Creek
Kelly Lake
65°20'
127°05'
127°00'
126°45'
126°30'
126°15'
126°00'
500
600
96
L
K
65°
1
0
1
2
3
MILES
5,000
0
5,000
10,000
15,000
FEET
1: 50,000

460	3680
480	3840
500	4000
520	4160
540	4320

AREA	PROSPECT	DATE	SHOTPOINTS AND/OR LINE NUMBERS	SYMBOL & PREFIX	SHOT BY	SHOT FOR	REMARKS
N.W.T. 96-E-N.E.	OSCAR CREEK	DEC., 1972	4,5,6,7,8,9,10,11,12,16,	○ C.G.	C.G.G.	BANFF	
			16,17,18,21,25,26,27,28				
			& 29				
N.W.T. 96-E-NE	CHICK LAKE	APR. 1973	W1.	• W	WESTERN	G.P.D.	
" "	" "	DEC. 1973	W2,3,4,5&6	○ W	WESTERN	G.P.D.	

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

SEISMIC SURVEY

CHICK LAKE

NEAR BASE RONNING (?)

SEISMIC DATUM: + 1000 FT.
SEISMIC DATUM VELOCITY: 16,000 FT / Sec
GEOPHYSICAL CONTRACTOR: WESTERN GEO.

CONTOUR INTERVAL: 20MS
CONTOURED BY: C. DITTRICH
DATE: JANUARY, 1974

076-06-05-030

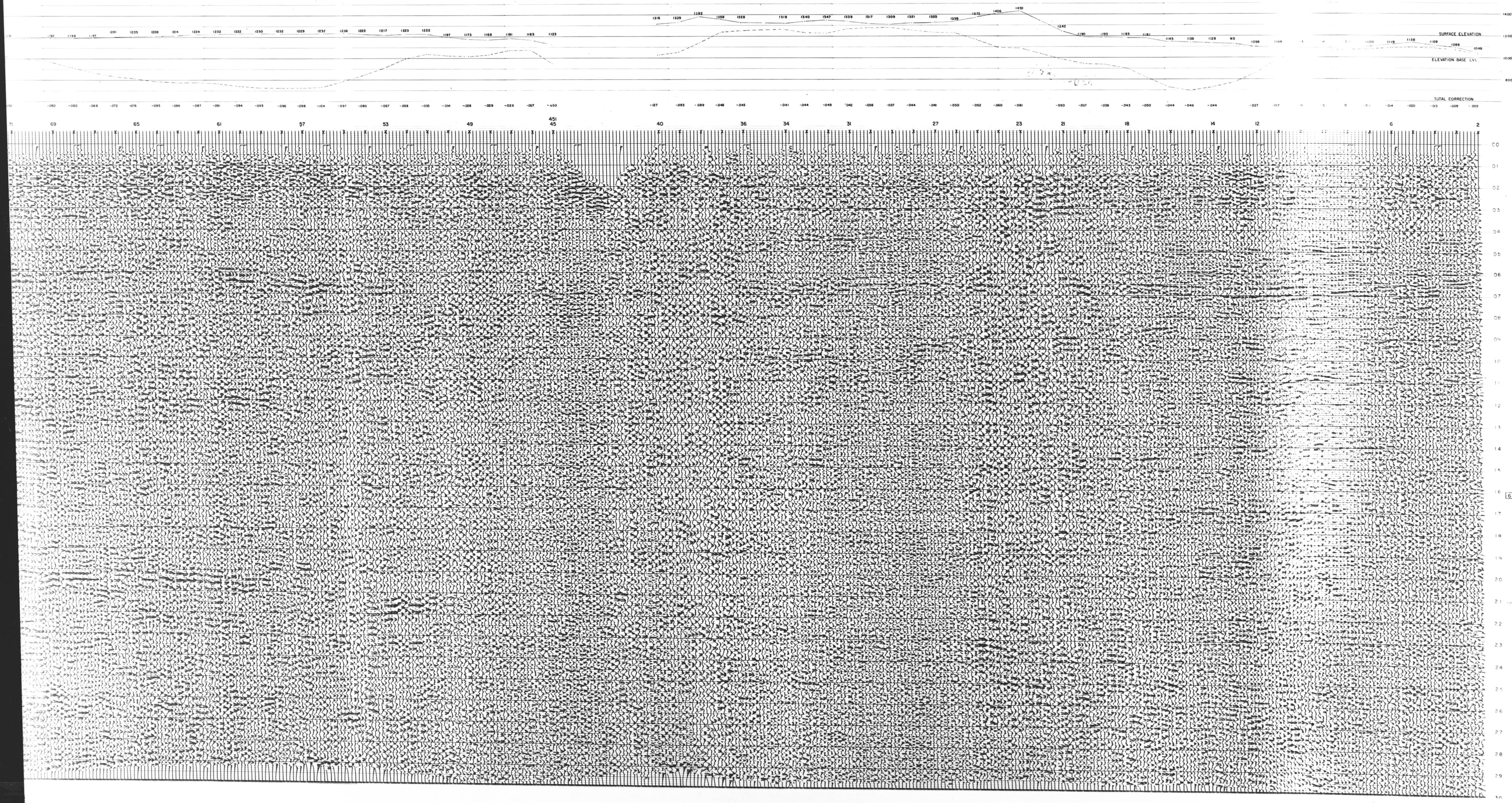
WEST CANADIAN GRAPHIC INDUSTRIES LTD.
810 - 5th Avenue S.W. CALGARY 1, ALBERTA
Phone 263-2555

MICROMAT
105 M.M.

11x

June 1974

076-06-06-030 076-06-06-030



076-06-06-030

076-06-05-030

Item 8
3-6143

LINE 1

DIRECTION **EAST**

PROJECT CHICK LAKE

GREATPLAINS DEVELOPMENT COMPANY OF CANADA LTD.

Structural ✓ , Isochron Flat At

Datum Velocity 16,000'/ SEC. , Datum 1000' ASL.

Spread 1800'-150'-150'-1800' , Shotpoint Interval 450' , Group Interval 150'

Stack 400 %, 100% Coverage

Stackmutes 600' TO 0.010, 750' TO 0.050 & 1800' TO 0.150 SECS.

TAPERED BETWEEN

	PLAYBACK DATA	RECORDING DATA
INSTRUMENTS	I.B.M. 360/44 PL. 608	
AMPLIFIER TYPE	P.T. 100	
FILTER	OUT-1/100	
AUTOMATIC GAIN CONTROL	OFF	
MIX	NIL	

DIGITAL PROCESSING

3 FILTER TIME 0.0 - 3.0 SPECTRUM 30/100 Hz WITH ( ) NOTCH

☐ FILTER TIME 1 SPECTRUM 1 / Hz WITH ( ) NOTCH
TIME 2 SPECTRUM 2 / Hz WITH ( ) NOTCH
TIME 3 SPECTRUM 3 / Hz WITH ( ) NOTCH
TIME 4 SPECTRUM 4 / Hz WITH ( ) NOTCH

☐ DECONVOLUTION ☐ Space var ☐ Time & Space var ☐ Least Squares ☐ Hilbert Fourier
A/C WINDOW 1 SPECTRUM 1 / Hz
A/C WINDOW 2 SPECTRUM 2 / Hz
OPERATOR LENGTH pts OPERATOR INTERVAL ms
MERGE ZONE secs

☐ AMPLITUDE RECOVERY
SPHERICAL DIVERGENCE ☐
DATA DEPENDENT GAIN ☐
FIXED AMPLITUDE at ☐

2 CALCSTATS

1 NMO

4 TRACE GATHER

STATICS BY ☐ TXL ☑ CLIENT

☐ FULLY CORRECTED

7 STACK

☐ ADDITIONAL STATICS & OMITS

☐ MINIMOVE, REVISED NMO

☐ MULTI-CHANNEL FILTER - TYPE
AMOUNT WINDOW LENGTH ms

☐ AUTOCORRELOGRAM
START secs END secs LAGS 2ms

5 AVAMP. 400 MS.

6 8 R.S.E. 0.2-1.2 W/10 LAGS

PROJECT SURVEYED BY *WESTERN GEOPHYSICAL COMPANY PARTY F-35*

SECTION PROCESSED BY

DATE, MAY 30, 1973

TXL

076-06-05-030

WEST CANADIAN GRAPHIC INDUSTRIES LTD.
810 - 5th Avenue S.W. CALGARY 1, ALBERTA
Phone 263-2555

MICROMAT
105 M.M.

11x

June 1974

076-06-06-030

076-06-05-030

WEST CANADIAN GRAPHIC INDUSTRIES LTD.
810 - 5th Avenue S.W. CALGARY 1, ALBERTA
Phone 263-2555

MICROMAT
105 M.M.

11x

June 1974

076-06-06-030

076-06-06-030

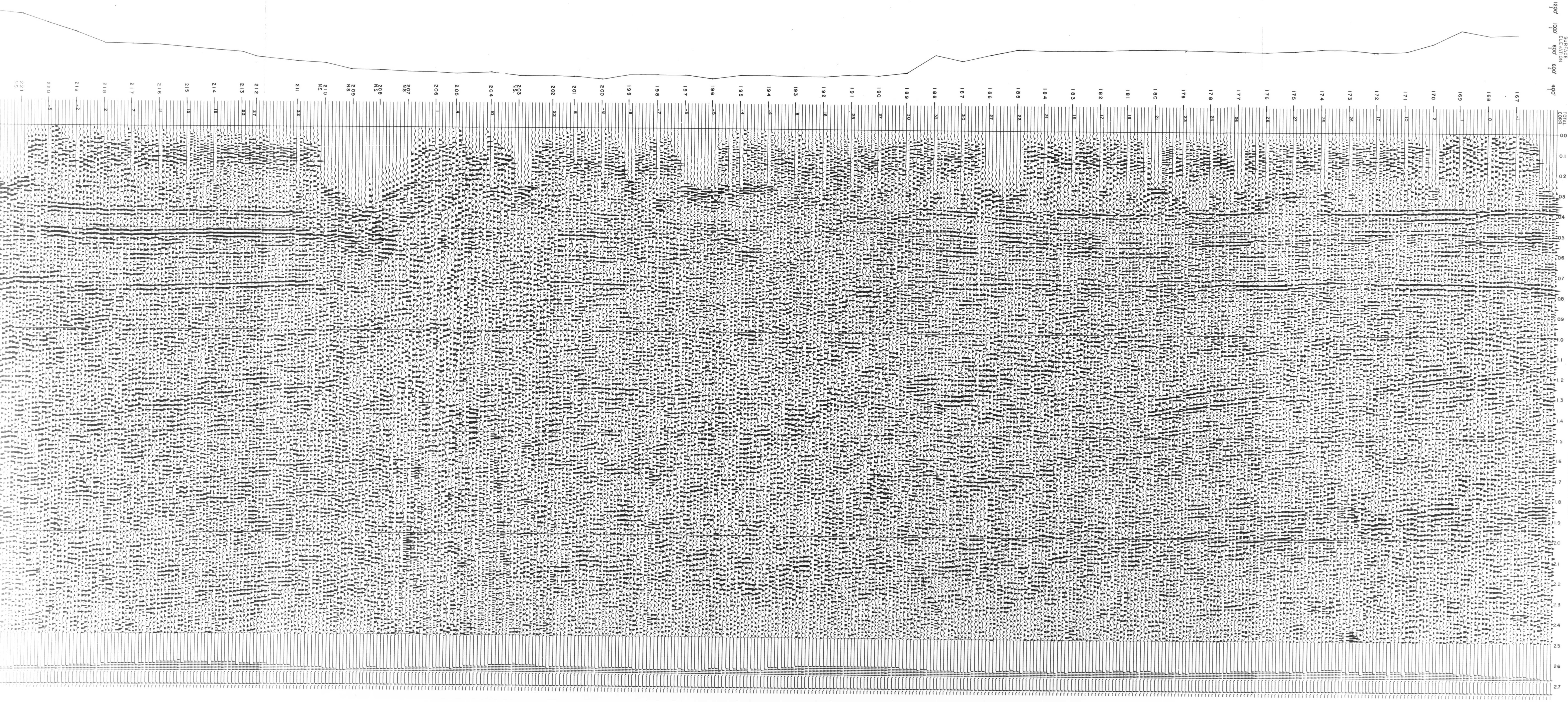
076-06-05-030

WEST CANADIAN GRAPHIC INDUSTRIES LTD.
810 - 5th Avenue S.W. CALGARY 1, ALBERTA
Phone 263-2555

MICROMAT
105 M.M.

11x

June 1974



SEFEL J. & ASSOCIATES
DATA PROCESSING CONSULTANTS

CHICK LAKE
PROSPECT

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD
CLIENT

2 LINE No
NE → DIRECTION

DATA PREPARATION BY SEFEL J & ASSOCIATES LTD
PARAMETER SELECTION BY GREAT PLAINS DEV CO OF CANADA LTD
RECORDED BY WESTERN GEOPHYSICAL CO OF CANADA LTD

RAW	☐	SPREAD LENGTH	3600-150 150-3600
NMO	☐	GR INTERVAL	150'
STACKED ISOCHRON	☐	SP INTERVAL	600'
STACKED STRUCTURAL	☒	RECORD LENGTH	2500
100% ISOCHRON	☐	SAMPLE INT	2
100% STRUCTURAL	☐	FOLD	600%
TRACE GATHER	☐		

	DIGITAL	ANALOG
RECORDING INSTRUMENTS	DFS-3	
TAPE	☒ 9 TRACK 21 TRACK FORMAT	☐ TECHNO ☐ SIE - AM ☐ SIE - FM
GAIN	PGC AGC ☒ BINARY	☐ PGC ☐ AGC ☐ ST GAIN
FIELD FILTER ☒	HI 124	HI
SWEEP FREQ ☐	LOW 18/36	LOW

DIGITAL PROCESSING

PROCESS	SEQ	TYPE	OPERATION LENGTH	WINDOW
VIBROSEIS CORRELATION				
RESAMPLE				
NMO	5			
DECONVOLUTION				
FILTER (CONV)				
FILTER (M.G.)	6,10	B P	320 35/100	0-2500
DMPX & GAIN RECOVERY	1			
STATIC	3	W x		
RESIDUAL NMO				
TRACE GATHER	4			
RE STATIC	8	AUTO	± 12	400-1800
PHASE ALIGNMENT				
CORRELATION ALIGNMENT				
STACK	9			
TRACE SCALE	12			
EQUALIZE	7, 11		RM = 2000	300 - 1000
DISPLAY PAPER	13			
DISPLAY FILM	14			
VELOCITY ANALYSIS	2			

DATE JAN 28/74 DATUM 1000' CORR. VELOCITY 16,000'/sec

076-06-05-030

076-06-06-030

WEST CANADIAN GRAPHIC INDUSTRIES LTD.
810 - 5th Avenue S.W. CALGARY 1, ALBERTA
Phone 263-2555

MICROMAT
105 M.M.

11x

June 1974

SEFEL J. & ASSOCIATES
DATA PROCESSING CONSULTANTS

CHICK LAKE
PROSPECT

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.
CLIENT

LINE No: 2
DIRECTION: NE →

DATA PREPARATION BY: SEFEL J. & ASSOCIATES LTD.
PARAMETER SELECTION BY: GREAT PLAINS DEV. CO. OF CANADA LTD.
RECORDED BY: WESTERN GEOPHYSICAL CO. OF CANADA LTD.

RAW	☐	SPREAD LENGTH	3600-150 150-3600
NMO	☐	GR. INTERVAL	150'
STACKED ISOCHRON	☐	S.P. INTERVAL	600'
STACKED STRUCTURAL	☒	RECORD LENGTH	2500
100% ISOCHRON	☐	SAMPLE INT	2
100% STRUCTURAL	☐	FOLD	600%
TRACE GATHER	☐		

	DIGITAL	ANALOG
RECORDING INSTRUMENTS	DFS - 3	
TAPE	☒ 9 TRACK ☐ 21 TRACK ☐ FORMAT	☐ TECHNO ☐ TIT - AM ☐ SIF - FM
GAIN	☐ PGC ☐ AGC ☒ BINARY	☐ PGC ☐ AGC ☐ ST. GAIN
FIELD FILTER ☒	HI 124	HI
SWEEP FREQ ☐	LOW 18/36	LOW

DIGITAL PROCESSING

PROCESS	SEQ	TYPE	OPERATION LENGTH	WINDOW
VIBROSEIS CORRELATION				
RESAMPLE				
NMO	5			
DECONVOLUTION				
FILTER (CONV)				
FILTER (M.G.)	6, 10	B.P.	320 ^{35}/100	0-2500
DMPX & GAIN RECOVERY	1			
STATIC	3	Wx.		
RESIDUAL NMO				
TRACE GATHER	4			
RE STATIC	8	AUTO	± 12	400-1800
PHASE ALIGNMENT				
CORRELATION ALIGNMENT				
STACK	9			
TRACE SCALE	12			
EQUALIZE	7, 11		RM = 2000	300-1000
DISPLAY PAPER	13			
DISPLAY FILM	14			
VELOCITY ANALYSIS	2			

DATE JAN. 28/74	DATUM 1000'	CORR. VELOCITY 16,000'/sec.

076-06-05-030

WEST CANADIAN GRAPHIC INDUSTRIES LTD.
810 - 5th Avenue S.W. CALGARY 1, ALBERTA
Phone 263-2555

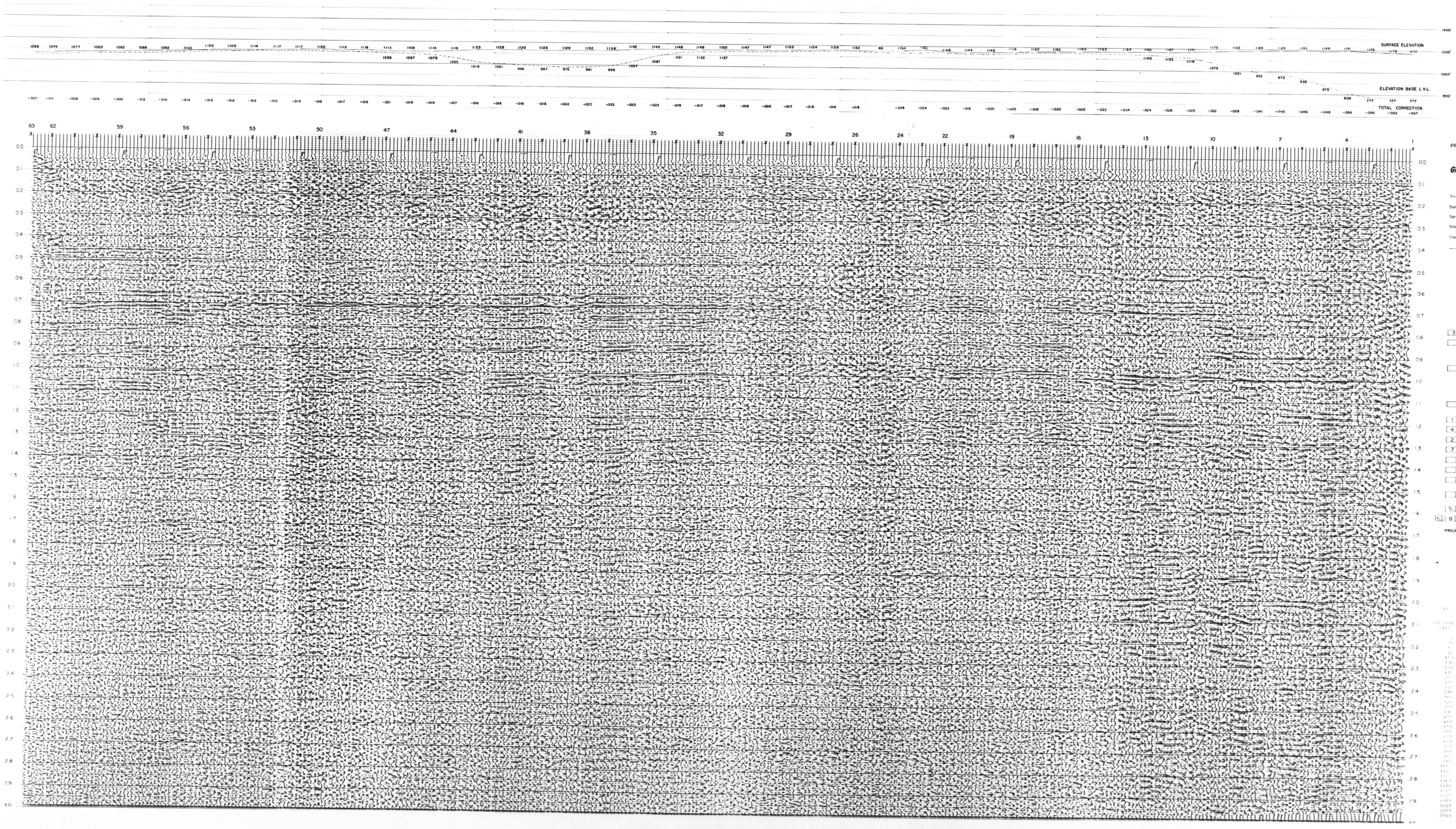
MICROMAT
105 M.M.

11x

June 1974

076-06-05-030

076-06-0'-030



LINE 2 (PT I)

DIRECTION **EAST**

PROJECT CHICK LAKE

GREATPLAINS DEVELOPMENT COMPANY OF CANADA LTD.

Structural ✓ , Isochron Flat At

Datum Velocity 16,000'/ SEC. , Datum 1000' ASL.

Spread 1800'-150'-150'-1800' , Shotpoint Interval 450' , Group Interval 150'

Stack 400 %, 100 % Coverage

Stackmutes 600' TO .010 750' TO .050, & 1800' TO .150 SECS.

TAPERED BETWEEN

	PLAYBACK DATA	RECORDING DATA
INSTRUMENTS	I.B.M. 360/44 PL. 608	
AMPLIFIER TYPE	P.T. 100	
FILTER	OUT - 1/100	
AUTOMATIC GAIN CONTROL	OFF	
MIX	NIL	

DIGITAL PROCESSING

[3] FILTER TIME 0.0 - 3.0 SPECTRUM - 30/100 Hz WITH ( ) NOTCH

☐ FILTER TIME 1 - SPECTRUM 1 - / - Hz WITH ( ) NOTCH
TIME 2 - SPECTRUM 2 - / - Hz WITH ( ) NOTCH
TIME 3 - SPECTRUM 3 - / - Hz WITH ( ) NOTCH
TIME 4 - SPECTRUM 4 - / - Hz WITH ( ) NOTCH

☐ DECONVOLUTION ☐ Space var ☐ Time & Space Var ☐ Least Squares ☐ Hilbert Fourier
A/C WINDOW 1 - SPECTRUM 1 - / - Hz
A/C WINDOW 2 - SPECTRUM 2 - / - Hz
OPERATOR LENGTH Pts OPERATOR INTERVAL ms
MERGE ZONE secs

☐ AMPLITUDE RECOVERY
SPHERICAL DIVERGENCE ☐
DATA DEPENDENT GAIN ☐
FIXED AMPLITUDE at ☐

[1] NMO

[4] TRACE GATHER STATICS BY ☐ TXL ☑ CLIENT

[2] FULLY CORRECTED W/CALCSTATS

[7] STACK

☐ ADDITIONAL STATICS & OMITS

☐ MINIMOVE, REVISED NMO

☐ MULTI - CHANNEL FILTER - TYPE
AMOUNT WINDOW LENGTH ms

☐ AUTOCORRELOGRAM
START secs END secs LAGS 2ms

[5] AVAMP 400 MS.

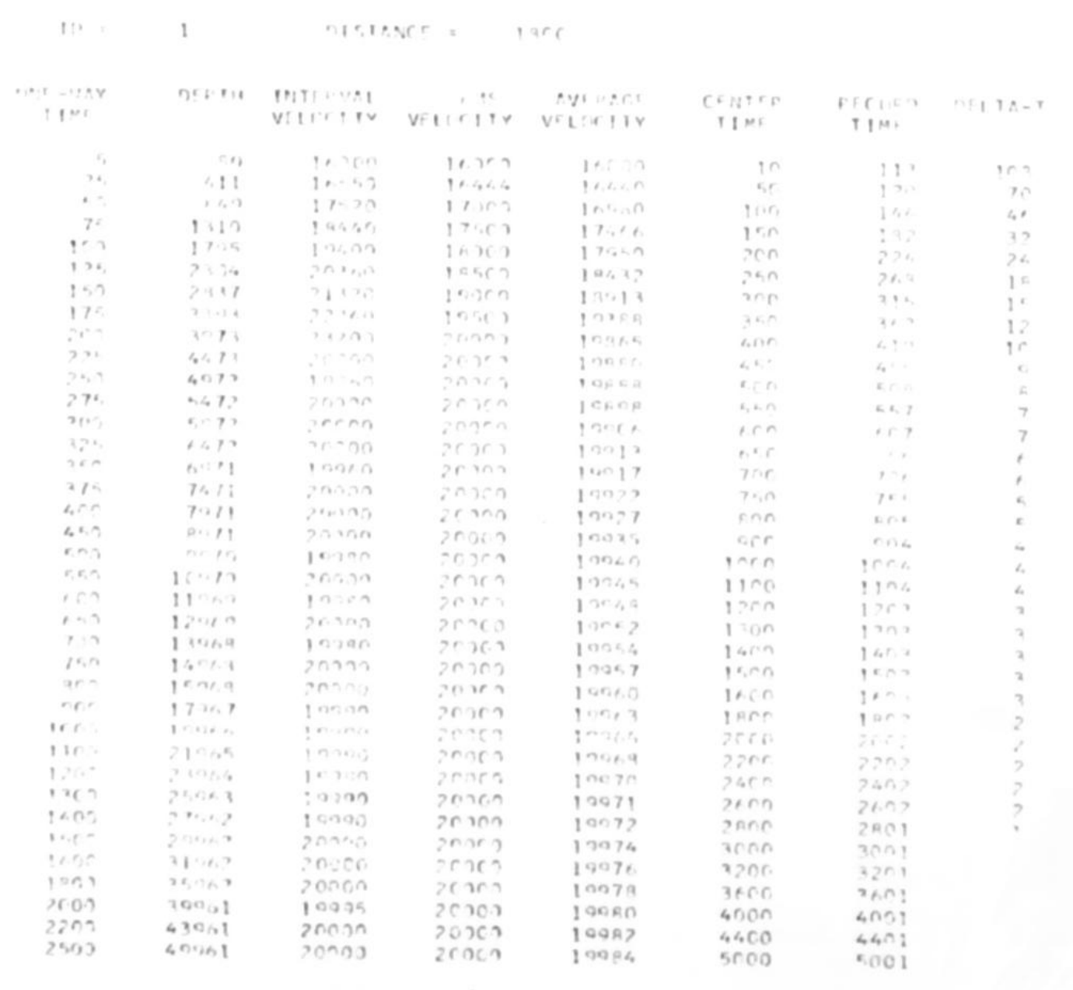
[6] [8] R.S.E. 0.2-1.2 W/10 LAGS

PROJECT SURVEYED BY *WESTERN GEOPHYSICAL COMPANY PARTY F-35*

SECTION PROCESSED BY

DATE, MAY 28, 1973

TXL



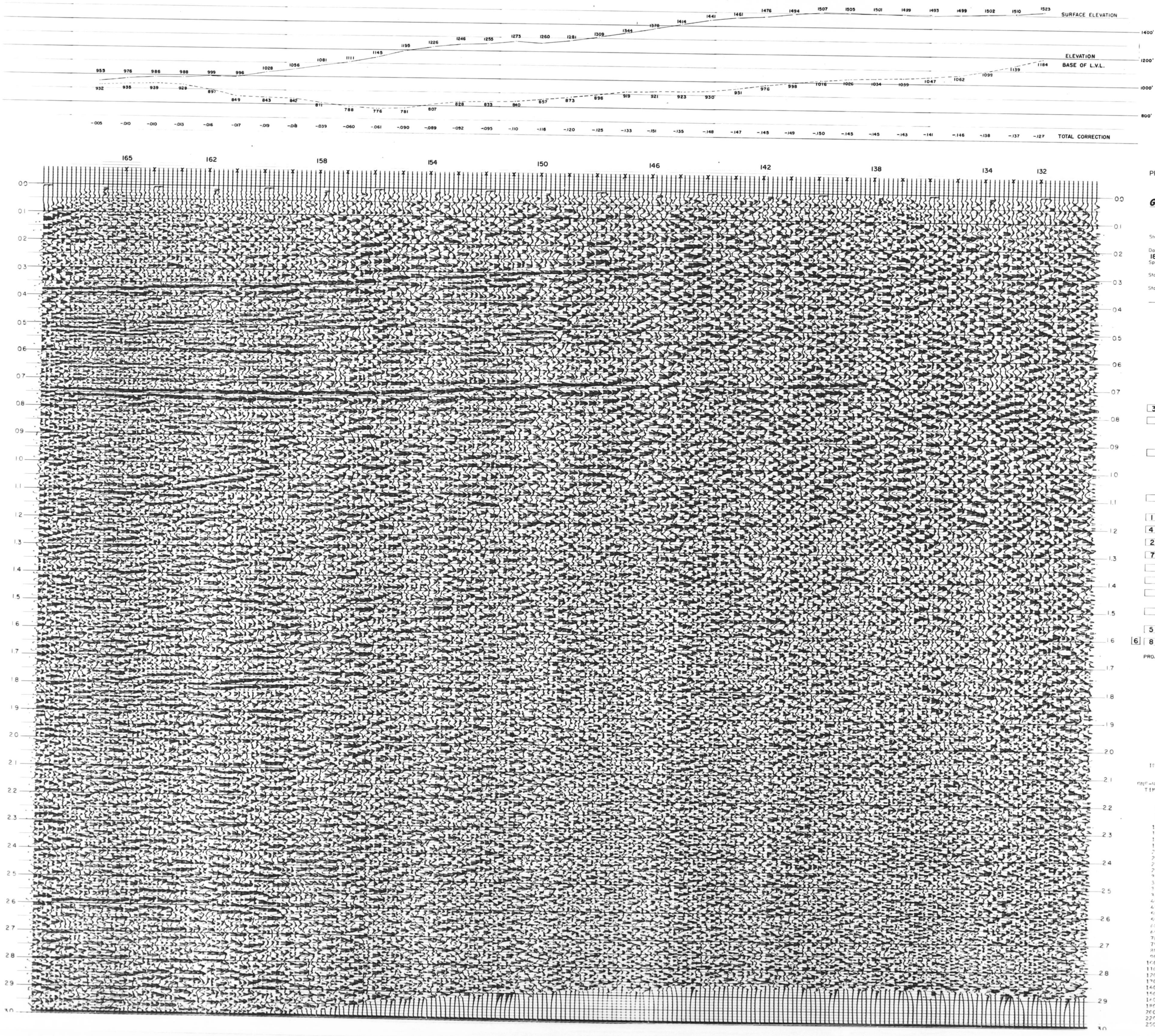
076-06-06-030

WEST CANADIAN GRAPHIC INDUSTRIES LTD.
810 - 5th Avenue S.W. CALGARY 1, ALBERTA
Phone 263-2555

MICROMAT
105 M.M.

11x

June 1974



076-06-06-030

LINE 2 (PT. II)

DIRECTION EAST

PROJECT CHICK LAKE

GREATPLAINS DEVELOPMENT COMPANY OF CANADA LTD.

Structural ✓ Isochron Flat At

Datum Velocity 16,000'/SEC. , Datum 1000'ASL.

Spread 1800'-150'-150'-1800' , Shotpoint Interval 450' , Group Interval 150'

Stack 400 %, 100% Coverage

Stackmutes 600' TO .010 , 750' TO .050 & 1800' TO .150 SECS.

TAPERED BETWEEN

	PLAYBACK DATA	RECORDING DATA
INSTRUMENTS	I.B.M. 360/44 PL. 608	
AMPLIFIER TYPE	P.T. 100	
FILTER	OUT-1/100	
AUTOMATIC GAIN CONTROL	OFF	
MIX	NIL	

DIGITAL PROCESSING

3 FILTER TIME 0.0 - 3.0 SPECTRUM 30/100 Hz WITH( )NOTCH

☐ FILTER TIME 1 - SPECTRUM 1 - / - Hz WITH( )NOTCH
TIME 2 - SPECTRUM 2 - / - Hz WITH( )NOTCH
TIME 3 - SPECTRUM 3 - / - Hz WITH( )NOTCH
TIME 4 - SPECTRUM 4 - / - Hz WITH( )NOTCH

☐ DECONVOLUTION ☐ Space Var ☐ Time & Space Var ☐ Least Squares ☐ Hilbert Fourier
A/C WINDOW 1 - SPECTRUM 1 - / - Hz
A/C WINDOW 2 - SPECTRUM 2 - / - Hz
OPERATOR LENGTH Pts OPERATOR INTERVAL ms
MERGE ZONE secs

☐ AMPLITUDE RECOVERY
SPHERICAL DIVERGENCE ☐
DATA DEPENDENT GAIN ☐
FIXED AMPLITUDE of ☐

1 NMO

4 TRACE GATHER

STATICS BY ☐ TXL ☑ CLIENT

2 FULLY CORRECTED W/CALCSTATS

7 STACK

☐ ADDITIONAL STATICS & OMITS

☐ MINIMOVE, REVISED NMO

☐ MULTI-CHANNEL FILTER - TYPE
AMOUNT WINDOW LENGTH ms

☐ AUTOCORRELOGRAM
START secs END secs LAGS 2ms

5 AVAMP 400 MS.

6 8 R.S.E. 0.2-1.2 W/10 LAGS

PROJECT SURVEYED BY WESTERN GEOPHYSICAL COMPANY PARTY F-35

SECTION PROCESSED BY

DATE, MAY 25, 1973

TXL

ID = 1 DISTANCE = 1900

ONE-WAY TIME	DEPTH	INTERVAL VELOCITY	RMS VELOCITY	AVERAGE VELOCITY	CENTER TIME	RECORD TIME	DELTA-T
5	80	16000	16000	16000	10	113	103
25	411	16550	16444	16440	50	120	70
50	849	17520	17000	16960	100	146	46
75	1310	18440	17500	17466	150	182	32
100	1795	19400	18000	17950	200	224	24
125	2304	20360	18500	18432	250	268	[illegible]
150	2837	21320	19000	18913	300	315	15
175	3393	22240	19500	19388	350	362	12
200	3973	23200	20000	19865	400	410	10
225	4473	20000	20000	19880	450	459	[illegible]
250	4972	19960	20000	19898	500	508	8
275	5472	20000	20000	19898	550	557	7
300	5972	20000	20000	19906	600	607	7
325	6472	20000	20000	19913	650	656	6
350	6971	19960	20000	19917	700	706	6
375	7471	20000	20000	19922	750	755	5
400	7971	20000	20000	19927	800	805	5
450	8971	20000	20000	19935	900	904	4
500	9970	19990	20000	19940	1000	1004	4
550	10970	20000	20000	19945	1100	1104	4
600	11969	19980	20000	19948	1200	1203	3
650	12969	20000	20000	19952	1300	1303	3
700	13968	19980	20000	19954	1400	1403	3
750	14968	20000	20000	19957	1500	1503	3
800	15968	20000	20000	19960	1600	1603	3
900	17967	19990	20000	19963	1800	1802	2
1000	19966	19990	20000	19966	2000	2002	2
1100	21965	19990	20000	19969	2200	2202	2
1200	23964	19990	20000	19970	2400	2402	2
1300	25963	19990	20000	19971	2600	2602	2
1400	27962	19990	20000	19972	2800	2801	1
1500	29962	20000	20000	19974	3000	3001	1
1600	31962	20000	20000	19976	3200	3201	1
1800	35962	20000	20000	19978	3600	3601	1
2000	39961	19995	20000	19980	4000	4001	1
2200	43961	20000	20000	19982	4400	4401	1
2500	49961	20000	20000	19984	5000	5001	1

SEFEL J. & ASSOCIATES
DATA PROCESSING CONSULTANTS

CHICK LAKE
PROSPECT

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.
CLIENT

3 — LINE No
NE → — DIRECTION

DATA PREPARATION BY SEFEL J. & ASSOCIATES LTD.
PARAMETER SELECTION BY GREAT PLAINS DEV. CO. OF CANADA LTD.
RECORDED BY WESTERN GEOPHYSICAL CO. OF CANADA LTD.

RAW	☐
NMO	☐
STACKED ISOCHRON	☐
STACKED STRUCTURAL	☒
100% ISOCHRON	☐
100% STRUCTURAL	☐
TRACE GATHER	☐

SPREAD LENGTH	3600-150 150-3600
GR. INTERVAL	150'
S.P. INTERVAL	600'
RECORD LENGTH	2500
SAMPLE INT	2
FOLD	600 %

	DIGITAL	ANALOG
RECORDING INSTRUMENTS	DFS - 3	
TAPE	☒ 9 TRACK ☐ 21 TRACK ☐ FORMAT	☐ TECHNO ☐ SIE — AM ☐ SIE — FM
GAIN	☐ PGC ☐ AGC ☒ BINARY	☐ PGC ☐ AGC ☐ ST. GAIN
FIELD FILTER ☒	HI 124	HI
SWEEP FREQ ☐	LOW 18/36	LOW

DIGITAL PROCESSING

PROCESS	SEQ	TYPE	OPERATION LENGTH	WINDOW
VIBROSEIS CORRELATION				
RESAMPLE				
NMO	5			
DECONVOLUTION				
FILTER (CONV)				
FILTER (M.G.)	6, 10	B.P.	320 $^{35}/100$	0-2500
DMPX & GAIN RECOVERY	1			
STATIC	3	W.x		
RESIDUAL NMO				
TRACE GATHER	4			
RE STATIC	8	AUTO	± 12	400-1800
PHASE ALIGNMENT				
CORRELATION ALIGNMENT				
STACK	9			
TRACE SCALE	12			
EQUALIZE	7, 11		RM = 2000	300-1000
DISPLAY PAPER	13			
DISPLAY FILM	14			
VELOCITY ANALYSIS	2			

DATE JAN. 28/74	DATUM 1000'	CORR. VELOCITY 16,000'/sec.

076-06-05-030

WEST CANADIAN GRAPHIC INDUSTRIES LTD.
810 - 5th Avenue S.W. CALGARY 1, ALBERTA
Phone 263-2555

MICROMAT
105 M.M.

11x

June 1974

076-06-05-030

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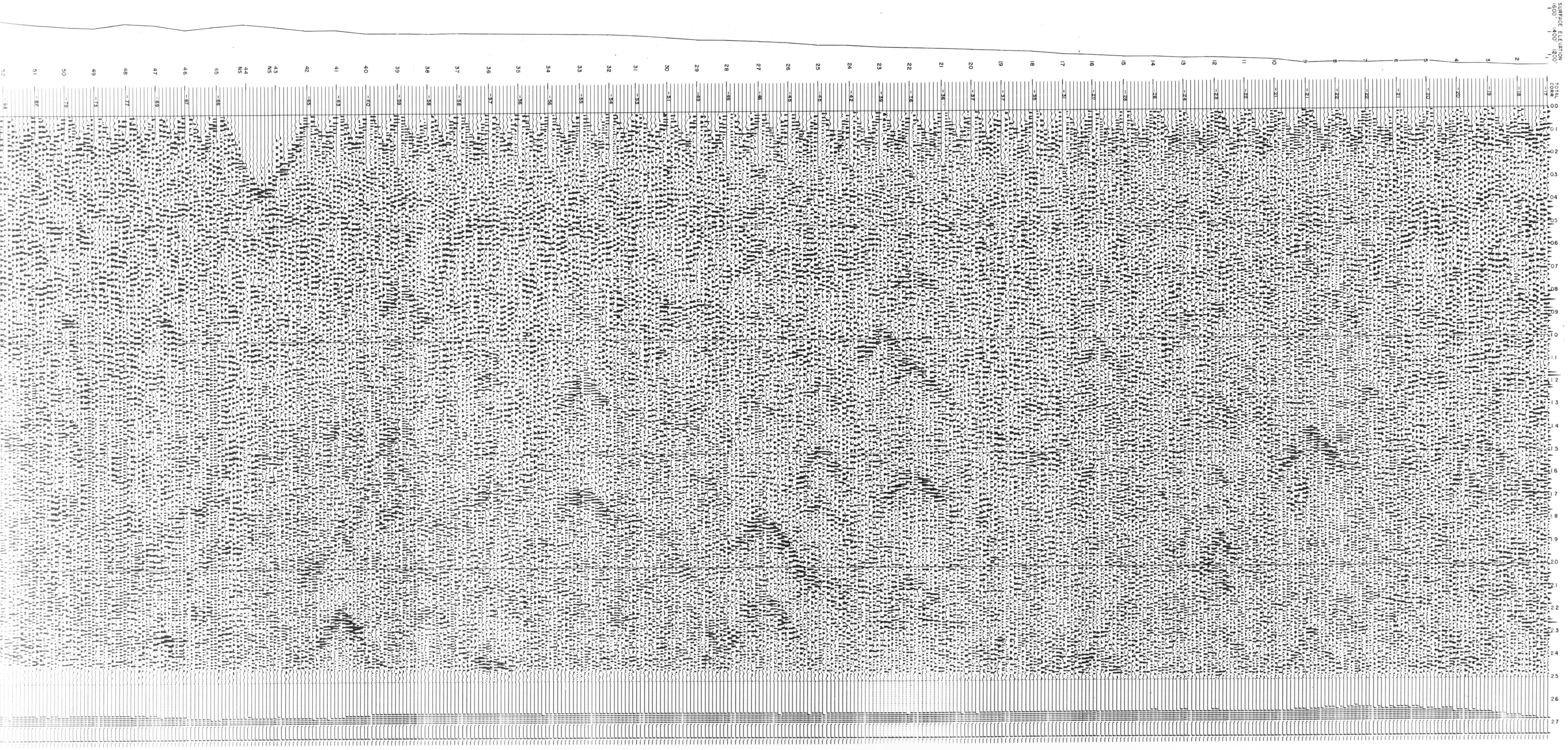

SEFEL J. & ASSOCIATES
DATA PROCESSING CONSULTANTS

CHICK LAKE
PROSPECT

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD
CLIENT

4 LINE No
NE → DIRECTION

DATA PREPARATION BY SEFEL J. & ASSOCIATES LTD
PARAMETER SELECTION BY GREAT PLAINS DEV CO OF CAN LTD
RECORDED BY WESTERN GEOPHYSICAL CO OF CANADA LTD

RAW	☐	SPREAD LENGTH	3600-150 150 - 3600
NMO	☐	GR INTERVAL	150'
STACKED ISOCHRON	☐	S.P. INTERVAL	600'
STACKED STRUCTURAL	☒	RECORD LENGTH	2500
100% ISOCHRON	☐	SAMPLE INT	2
100% STRUCTURAL	☐	FOLD	600%
TRACE GATHER	☐		

	DIGITAL	ANALOG
RECORDING INSTRUMENTS	DFS - 3	
TAPE	☒ 9 TRACK ☐ 21 TRACK ☐ FORMAT	☐ TECHNO ☐ SIE — AM ☐ SIE — FM
GAIN	☐ PGC ☐ AGC ☒ BINARY	☐ PGC ☐ AGC ☐ ST GAIN
FIELD FILTER ☒	HI 124	HI
SWEEP FREQ ☐	LOW 18/36	LOW

DIGITAL PROCESSING

PROCESS	SEQ	TYPE	OPERATION LENGTH	WINDOW
VIBROSEIS CORRELATION				
RESAMPLE				
NMO	5			
DECONVOLUTION				
FILTER (CONV)				
FILTER (M.G.)	6,10	B. P.	320, 35/100	0-2500
DMPX & GAIN RECOVERY	1			
STATIC	3	W. x		
RESIDUAL NMO				
TRACE GATHER	4			
RE STATIC	8	AUTO	± 12	400-1800
PHASE ALIGNMENT				
CORRELATION ALIGNMENT				
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DATE JAN. 28/74 | DATUM 1000' | CORR. VELOCITY 16,000'/sec

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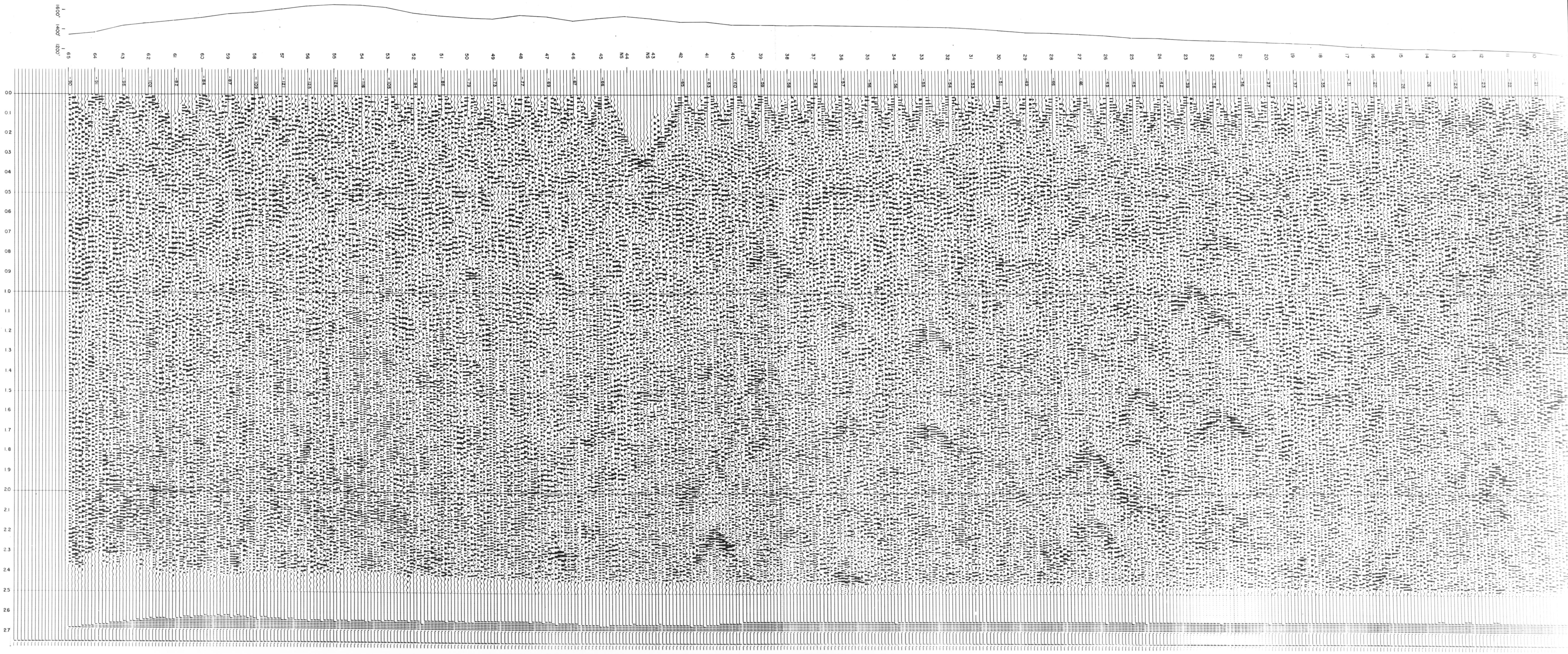

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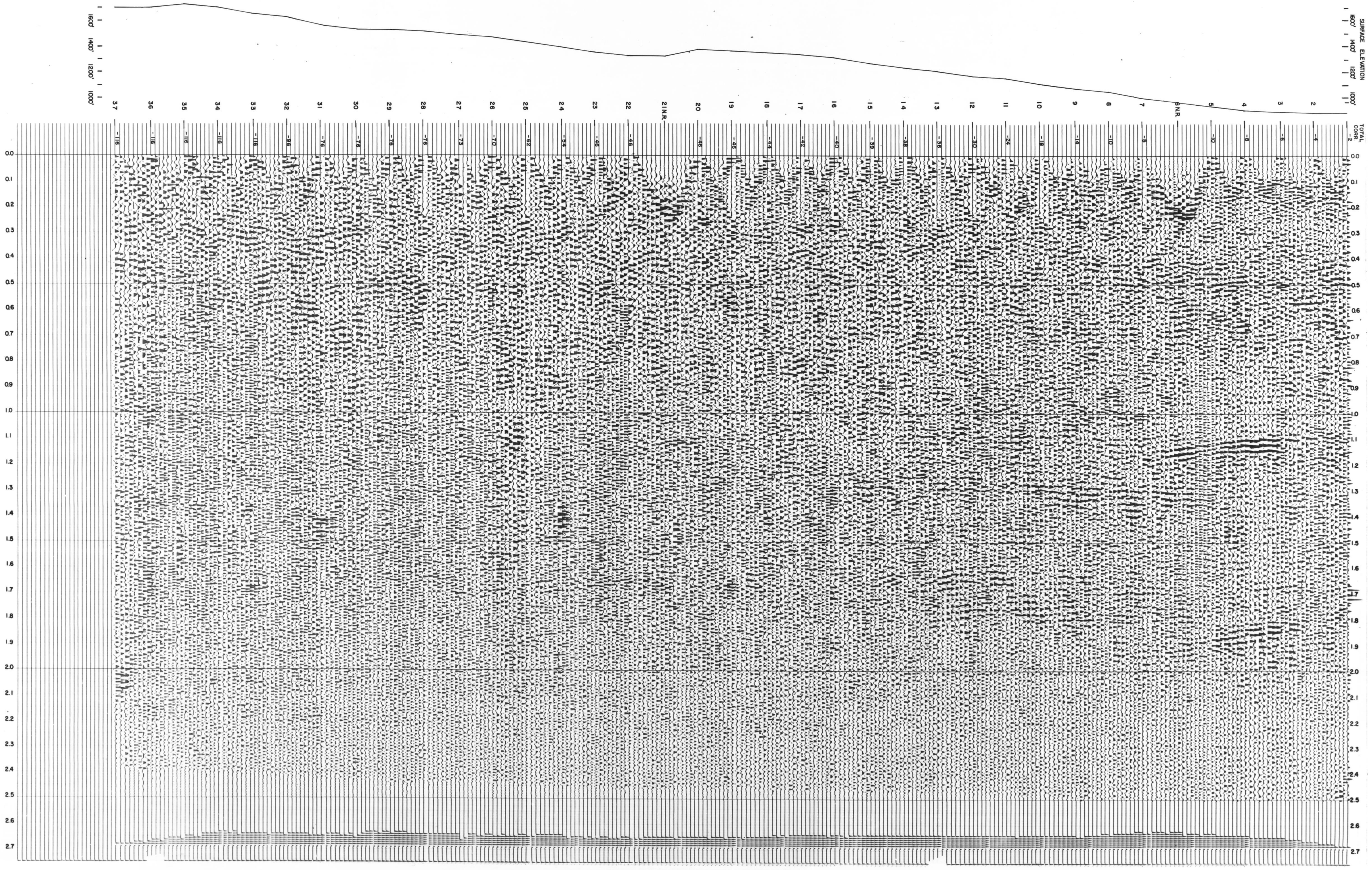

SEFEL J. & ASSOCIATES
DATA PROCESSING CONSULTANTS

CHICK LAKE
PROSPECT

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.
CLIENT

5
LINE No

NE →
DIRECTION

DATA PREPARATION BY SEFEL J. & ASSOCIATES LTD.
PARAMETER SELECTION BY GREAT PLAINS DEV. CO. OF CAN. LTD.
RECORDED BY WESTERN GEOPHYSICAL CO. OF CANADA LTD.

RAW	☐	SPREAD LENGTH	3600-150 150-3600
NMO	☐	GR INTERVAL	150'
STACKED ISOCHRON	☐	S.P. INTERVAL	600'
STACKED STRUCTURAL	☒	RECORD LENGTH	2500
100% ISOCHRON	☐	SAMPLE INT	2
100% STRUCTURAL	☐	FOLD	600%
TRACE GATHER	☐		

	DIGITAL	ANALOG
RECORDING INSTRUMENTS	DFS-3	
TAPE	☒ 9 TRACK ☐ 21 TRACK ☐ FORMAT	☐ TECHNO ☐ SIE — AM ☐ SIE — FM
GAIN	☐ PGC ☐ AGC ☒ BINARY	☐ PGC ☐ AGC ☐ ST GAIN
FIELD FILTER ☒	HI 124	HI
SWEEP FREQ. ☐	LOW 18/36	LOW

DIGITAL PROCESSING

PROCESS	SEQ	TYPE	OPERATION LENGTH	WINDOW
VIBROSEIS CORRELATION				
RESAMPLE				
NMO	5			
DECONVOLUTION				
FILTER (CONV)				
FILTER (M.G.)	6,10	B.P.	320, 35/100	0-2500
DMPX & GAIN RECOVERY	1			
STATIC	3	W. x		
RESIDUAL NMO				
TRACE GATHER	4			
RE STATIC	8	AUTO	± 12	400-1800
PHASE ALIGNMENT				
CORRELATION ALIGNMENT				
STACK	9			
TRACE SCALE	12			
EQUALIZE	7,11		RM = 2000	300-1000
DISPLAY PAPER	13			
DISPLAY FILM	14			
VELOCITY ANALYSIS	2			

DATE JAN. 28/74 DATUM 1000' CORR. VELOCITY 16,000'/sec.

076-06-06-030

SEFEL J. & ASSOCIATES
DATA PROCESSING CONSULTANTS

CHICK LAKE
PROSPECT

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.
CLIENT

LINE No: 6
DIRECTION: NE →

DATA PREPARATION BY SEFEL J. & ASSOCIATES LTD.
PARAMETER SELECTION BY GREAT PLAINS DEV. CO. OF CAN. LTD.
RECORDED BY WESTERN GEOPHYSICAL CO. OF CANADA LTD.

RAW	☐	SPREAD LENGTH	3600-150 150-3600
NMO	☐	GR INTERVAL	150'
STACKED ISOCHRON	☐	S.P. INTERVAL	600'
STACKED STRUCTURAL	☒	RECORD LENGTH	2500
100% ISOCHRON	☐	SAMPLE INT	2
100% STRUCTURAL	☐	FOLD	600%
TRACE GATHER	☐		

	DIGITAL	ANALOG
RECORDING INSTRUMENTS	DFS – 3	
TAPE	☒ 9 TRACK ☐ 21 TRACK ☐ FORMAT	☐ TECHNO ☐ SIE — AM ☐ SIE — FM
GAIN	☐ PGC ☐ AGC ☒ BINARY	☐ PGC ☐ AGC ☐ ST. GAIN
FIELD FILTER ☒	HI 124	HI
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DIGITAL PROCESSING

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DATE JAN. 28/74.
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CORR. VELOCITY 16,000'/sec.

INTRODUCTION

Kelly Lake is located approximately 20 miles northeast of Norman Wells, Northwest Territories.

The seismic survey was conducted by Western Geophysical Company of Canada, Ltd., License No. 10956, working on behalf of Great Plains Development Company of Canada, Ltd., Permit No. N73B 358.

The work periods were April 3 through April 12, 1973 and November 27 through December 15, 1973. There were normally 51 men including all contractors involved in the field survey and these were stationed in portable camps on the prospect. Data preparation for the program shot in the Spring was done by Western Geophysical Company in their Calgary office.

The operation was under the supervision of Mr. C. Dittrich representing Great Plains, and Mr. L.M. Herrington of Western Geophysical. The Party Manager in the Spring was Ed Lorenowicz and in the Fall was Dewey Holt.

Bulldozing operations were contracted by MacMillan Construction (Peace River) Ltd. of Peace River, Alberta.

Catering was provided by Western Geophysical, owners of the seismic camp.

TABLE OF CONTENTS

PAGE

INTRODUCTION 1

LOGISTICS. 2

TECHNIQUES 3

LITHOLOGY. 4

SURVEY AND BULLDOZING. 4

EQUIPMENT AND PERSONNEL. . . . . 5 & 6

STATISTICS 7

GENERAL LOCATION MAPS. . . . . PLATE 1

SPREAD AND GEOPHONE CONFIGURATION. . . . . PLATE 2

LITHOLOGY

Average hole depth was 43 feet. Drilling was slow due to the very hard formations encountered. Limestone was predominate throughout the area with up to three feet of muskeg. In some places there were some shows of gravel near riverbeds. Holes were loaded with ten pounds of powder except in holes of fifteen feet or less where only five pounds was used. Shallow holes were mainly due to gravel.

SURVEY AND BULLDOZING

The survey crew utilized two T-16 theodolites. Elevations were based on altimeter readings carried from Norman Wells by aircraft. Horizontal control was derived from topographic features.

All production lines and access in the prospect were newly bulldozed and all airstrips used were on lakes. Line Clean Up operations were contracted by Fred Clement of Norman Wells and were completed at the same time as the seismic survey.

TECHNIQUES

FIELD:

In the Spring, coverage of 400 percent was obtained by drilling single shotpoints every 450 feet and recording from 24 groups of geophones laid out at intervals of 150 feet. Each group consisted of 18 geophones which were set out in a straight line. Twelve groups either side of the shotpoint were recorded with the one group over the hole not recorded. The recording instruments were 24 trace, digital type, Model DFS-III and were manufactured by Texas Instruments Inc. Seismometer type was Mark L-10, 10 cycle.

In the Fall, subsurface coverage was increased to 600 percent with shotpoints located every fourth group. This was made possible by changing to a 48 trace recording system. This recorder was also a Model DFS-III. Twenty-four groups either side of the shotpoint were recorded. All other parameters remained the same.

Also in the Fall, a Gravity Survey was conducted. One man using a Stromberg-Carlson gravimeter and driving a bombardier ran gravity over five of the six lines in the prospect. A base was set in the area from the established value in Norman Wells and further bases were then set out.

LOGISTICS

At the beginning the camp and vehicles were trucked part way and then driven the rest of the way from the Wrigley Area. The move was hampered by warming weather, thawing creeks and rivers which caused a later start than was originally planned. Completion of the program in the Spring was thus impossible and was delayed until Fall.

Fuel and supplies for the camp were brought in by plane in the Spring. Aircraft used were a four-seater Cessna 185 with a one thousand pound capacity, and a nine-seater Islander with a two thousand pound capacity. For the fuel haul the Islander was fitted with a 250 gallon bladder. The Cessna was ski-equipped. In the Fall there was insufficient ice on the lakes and helicopters were used. Since no direct land routes exist between Norman Wells and the prospect, aircraft proved to be the best means of supplying the camp.

A full time expediter was on duty in Norman Wells with communication to camp via single sideband radio and VHF radio telephone. Storage space was used for groceries and parts in transit from Calgary, and also to stock spare parts for equipment on the crew.

BULLDOZING CREW: 8 Men

2 - D-6 Cats

1 - D-7 Cat

1 - Kitchen/Diner, sleigh mounted

1 - Kitchen/Diner/Sleeper (4 man)

1 - Sleeper (12 man)

2 - Fuel Sloops

1 - Bombardier Personnel Carrier

EQUIPMENT AND PERSONNEL

RECORDING CREW: 12 Men

1 - Recording Unit, track mounted

1 - Shooting Unit, track mounted

2 - Cable Units, track mounted

SURVEY CREW: 4 Men

1 - Survey Unit, track mounted

DRILLING CREW: 14 Men

7 - Drills, (5 in the Spring)

CAMP: 9 Men

1 - Party Manager Unit, half track

1 - Supply Unit

1 - Kitchen/Diner/Sleeper (6 man) powered

1 - Utility/Sleeper (12 man) powered

1 - Office/Sleeper (16 man)

1 - Sleeper (9 man)

1 - Shop Unit, powered

1 - Power Trailer

2 - Fuel Sloops

1 - Powder Magazine, track mounted

1 - Propane Sloop

GRAVITY: 1 Man

1 - Bombardier

STATISTICS

Production:

Profiles	631
Miles recorded	63.23
Coverage per production day	2.55
Number of holes drilled	631
Total footage drilled	26,695
Average hole depth (feet)	42.8
Pounds of dynamite used	6420
Pounds of dynamite per hole	9.94

The foregoing report is respectfully submitted by

WESTERN GEOPHYSICAL COMPANY OF CANADA, LTD.

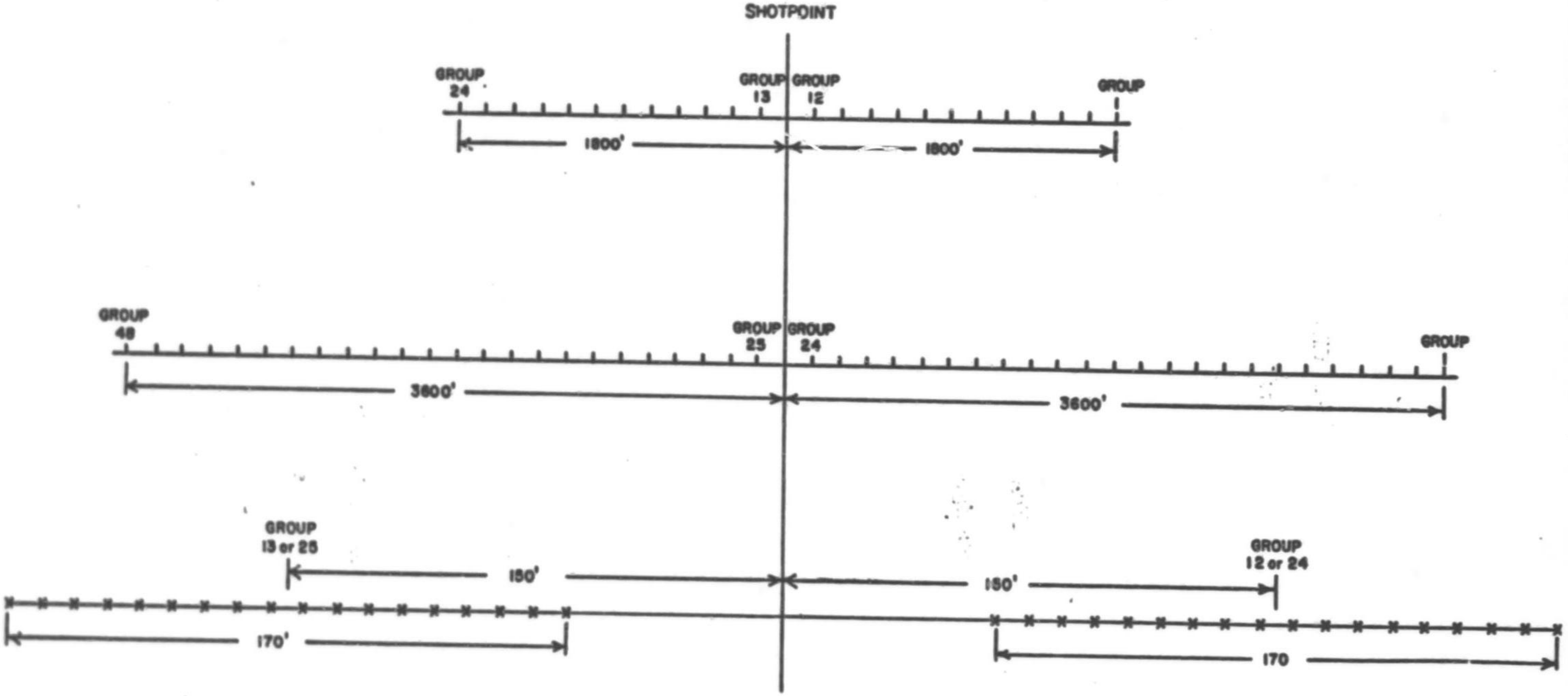
L.M. Herrington

L.M. Herrington - Supervisor

15 Jan 1976

Date

PLATE 2


SHOTPOINT
GROUP 24
GROUP 13
GROUP 12
GROUP
1800'
1800'
GROUP 48
GROUP 25
GROUP 24
GROUP
3600'
3600'
GROUP 13 or 25
GROUP 12 or 24
150'
150'
170'
170

SHOTPOINT INTERVAL FOR 24 TRACE RECORDING	450'
SHOTPOINT INTERVAL FOR 48 TRACE RECORDING	600'
GROUP INTERVAL	150'
GROUP LENGTH	170'
GEOPHONES PER TRACE	24
SHOT HOLE PATTERN	SINGLE HOLE

SPREAD AND GEOPHONE CONFIGURATION