LINE: 88-1

S.P.: 101 - 2122

(AT NAVIGATION REFERENCE POINT)

SCALED MIGRATION

NORMAL POLARITY

SOUTHEAST

BOAT HEADING 142 DEGREES

ATLANTIC GEOSCIENCE CENTRE

AREA: OFFSHORE NOVA SCOTIA

RECORDING DATA

SOURCE

TYPE	AIRGUN ARRAY
GUN DEPTH	11 METERS
ARRAY VOLUME	8100 CC
ARRAY PRESSURE	1800 P.S.I.
GUN ARRAY WIDTH	76 METERS
℄ANTENNA TO ℄SOURCE	168 METERS
POP INTERVAL	80 METERS

NAVIGATION

PRIMARY	LORAN-C

VESSEL

M/V RESOLUTION	PARTY 115
SHOT BY:	WESTERN GEOPHYSICAL LTD.
RECORDING DATE:	AUGUST 1988

CABLE

TYPE	LRS-16A KILOSEIS STREAMER
NUMBER OF GROUPS	180 ARRAY
℄NEAR GRP TO ℄SOURCE	250 METERS
℄NEAR GRP TO ℄FAR GRP	4800 METERS
GROUP INTERVAL	26.67 METERS
CABLE DEPTH	14 METERS

INSTRUMENTS

FIELD RECORDER	LRS 16A
FILTER	LOW CUT 6HZ/ 24DB/OCT
	HIGH CUT 87HZ/132DB/OCT
RECORD LENGTH	25.5 SEC
SAMPLE INTERVAL	4 MSEC
FORMAT:	SEG-D MULTIPLEXED

PROCESSED BY Western Atlas International, A Litton/Dresser Company — WESTERN GEOPHYSICAL

CALGARY, ALBERTA

PROCESSING SEQUENCE AND PARAMETERS

1. FORMAT CONVERSION / DEMULTIPLEX
2. FK NOISE ATTENUATION APPLIED TO SHOTS
3. INSTRUMENT DESIGNATURE
   LRS-16A FIELD RECORDER
4. GEOMETRIC SPREADING COMPENSATION
5. PREDICTIVE DECONVOLUTION
   MINIMUM PHASE INVERSE PREDICTION FILTER
   ONE WINDOW

OPERATOR LENGTH	300 MSEC
PREDICTION DISTANCE	12 MSEC
NUMBER OF CHANNELS	1
WHITE NOISE	0.1 %

6. TRACE BALANCE
7. VELOCITY ANALYSIS (VELAN®)
   EVERY 3 KILOMETRES
8. FK DEMULTIPLE
9. VELOCITY ANALYSIS (VELAN®)
   POST FK DEMULTIPLE
10. STACK 3000%
    OUTSIDE MUTE
11. RANDOM NOISE ATTENUATION
12. DECIMATION 2/1
13. REFLECTION STRENGTH GAIN
14. RELATIVE AMPLITUDE COMPENSATION

TIME(MSEC)	SCALER
20	1.20
25500	1.20

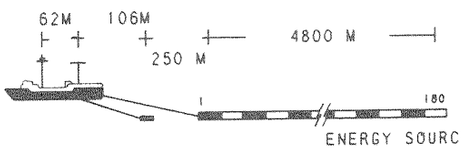
15. DECONVOLUTION AFTER STACK
    TYPE: MINIMUM PHASE INVERSE FILTER

TWO WINDOWS	FROM WB - 25500 MSEC
OPERATOR LENGTH	300 MSEC
PREDICTION DISTANCE	80 MSEC
NUMBER OF CHANNELS	101
WHITE NOISE	0.1 %

16. BANDPASS FILTER
    LOW CUT 8 HZ
17. FINITE DIFFERENCE MIGRATION
18. GAIN (RMS)
    128/4096 MSEC
19. DECIMATION 2/1
20. RANDOM NOISE ATTENUATION
21. TIME VARIANT FILTER
    FILTER INTERPOLATION IN TIME AND SPACE

TIME(MSEC)	L.C.(HZ) (18DB/OCT)	H.C.(HZ) (36DB/OCT)
0	4	60
3000	4	50
4000	4	40
8000	4	30
14000	4	20

22. GAIN (RMS)
    128/4096 MSEC
23. ARRAY FORMING
    1:1:1 MIX



ENERGY SOURCE:
'AIRGUN'

SHOTPOINT LOCATED AT NAVIGATION REFERENCE POINT.
A GUN AND CABLE CORRECTION TO SEA LEVEL OF
+17 MSEC HAS BEEN APPLIED DURING PLAYBACK.

POLARITY CONVENTION:
RECORDING: COMPRESSION PULSE NEGATIVE NUMBER
PROCESSING: COMPRESSION PULSE NEGATIVE NUMBER
DISPLAY: NORMAL POLARITY
COMPRESSION PULSE TROUGH
(DECREASING BLACK)

PLOTTING GAIN: 11 DB

LINE: 88-1A

S.P.: 2062 - 4472

(AT NAVIGATION REFERENCE POINT)

SCALED MIGRATION

NORMAL POLARITY

SOUTHEAST

BOAT HEADING 142 DEGREES

ATLANTIC GEOSCIENCE CENTRE

AREA: OFFSHORE NOVA SCOTIA

RECORDING DATA

SOURCE

TYPE	AIRGUN ARRAY
GUN DEPTH	11 METERS
ARRAY VOLUME	8100 CC
ARRAY PRESSURE	1800 P.S.I.
GUN ARRAY WIDTH	76 METERS
¢ANTENNA TO ¢SOURCE	168 METERS
POP INTERVAL	80 METERS

NAVIGATION

PRIMARY	LORAN-C

VESSEL

M/V RESOLUTION	PARTY 115
SHOT BY:	WESTERN GEOPHYSICAL LTD.
RECORDING DATE:	AUGUST 1988

CABLE

TYPE	LRS-16A KILOSEIS STREAMER
NUMBER OF GROUPS	180 ARRAY
¢NEAR GRP TO ¢SOURCE	250 METERS
¢NEAR GRP TO ¢FAR GRP	4800 METERS
GROUP INTERVAL	26.67 METERS
CABLE DEPTH	14 METERS

INSTRUMENTS

FIELD RECORDER	LRS-16A
FILTER	LOW CUT 6HZ/ 24DB/OCT
	HIGH CUT 87HZ/132DB/OCT
RECORD LENGTH	25.5 SEC
SAMPLE INTERVAL	4 MSEC
FORMAT:	SEG-D MULTIPLEXED

PROCESSED BY Western Atlas International, A Litton/Dresser Company — WESTERN GEOPHYSICAL — CALGARY, ALBERTA

PROCESSING SEQUENCE AND PARAMETERS

1. FORMAT CONVERSION / DEMULTIPLEX
2. FK NOISE ATTENUATION
3. SUBSAMPLE TO 6 MSEC
4. ADJACENT TRACE SUM
   180 TRACES/SHOT --> 90 TRACES/SHOT
5. WAVE EQUATION MULTIPLE ATTENUATION
   APPLIED TO 20 SECONDS OF DATA
6. INSTRUMENT DESIGNATURE
   LRS-16A FIELD RECORDER
7. GEOMETRIC SPREADING COMPENSATION
8. PREDICTIVE DECONVOLUTION
   MINIMUM PHASE INVERSE PREDICTION FILTER
   ONE WINDOW
   DESIGN WINDOW ADJUSTED WITH CHANGING WATER BOTTOM
   OPERATOR LENGTH 300 MSEC
   PREDICTION DISTANCE 12 MSEC
   NUMBER OF CHANNELS 1
   WHITE NOISE 0.1 %
9. TRACE BALANCE
10. VELOCITY ANALYSIS (VELAN®)
    EVERY 3 KILOMETRES
11. FK DEMULTIPLE
12. VELOCITY ANALYSIS (VELAN®)
    POST FK DEMULTIPLE
13. STACK 2 X 3000%
    TRACE WEIGHTS APPLIED
    WHERE WATER BOTTOM + 1.0 SECOND
    OUTSIDE MUTE
14. RANDOM NOISE ATTENUATION
15. REFLECTION STRENGTH GAIN
16. RELATIVE AMPLITUDE COMPENSATION

TIME(MSEC)	SCALER
20	1.40
25500	1.15

17. SPATIALLY MERGE DATASETS
    (0 - 20 SECONDS WEMA APPLIED)
    (20 - 25.5 SECONDS NO WEMA APPLIED)
18. DECONVOLUTION AFTER STACK
    TYPE: MINIMUM PHASE INVERSE FILTER
    TWO WINDOWS FROM WB --> 25500 MSEC
    DESIGN WINDOWS ADJUSTED WITH CHANGING WATER BOTTOM
    OPERATOR LENGTH 500 MSEC
    PREDICTION DISTANCE 60 MSEC
    NUMBER OF CHANNELS 101
    WHITE NOISE 0.1 %
19. BANDPASS FILTER
    LOW CUT 6 HZ
20. FINITE DIFFERENCE MIGRATION
21. WATER BOTTOM MUTE
22. GAIN (AGC)
    1000 MSEC
23. DECIMATION 2/1
24. RANDOM NOISE ATTENUATION
25. TIME VARIANT FILTER
    FILTER INTERPOLATION IN TIME AND SPACE
    TIMES VARY RELATIVE TO WATER BOTTOM

LOCATION	TIME(MSEC)	L.C.(HZ) (18DB/OCT)	H.C.(HZ) (36DB/OCT)
SHALLOW W.B.	4	4	60
	3000	4	50
	4000	4	40
	8000	4	30
	14000	4	20
W.B. @ 3500 MSEC	4000	4	70
	6000	4	50
	7500	4	40
	10000	4	30
W.B. @ 5000 MSEC	15000	4	20
	5000	4	80
	7000	4	50
	9000	4	40
	11000	4	30
	15000	4	20

26. GAIN (AGC)
    1000 MSEC
27. ARRAY FORMING
    1:1:1 MIX

SHOTPOINT LOCATED AT NAVIGATION REFERENCE POINT.
A GUN AND CABLE CORRECTION TO SEA LEVEL OF +17 MSEC HAS BEEN APPLIED DURING PLAYBACK.

POLARITY CONVENTION:
RECORDING: COMPRESSION PULSE NEGATIVE NUMBER
PROCESSING: COMPRESSION PULSE NEGATIVE NUMBER

LINE: 88-2

S.P.: 310 - 700

(AT NAVIGATION REFERENCE POINT)

SCALED MIGRATION

NORMAL POLARITY

SOUTHEAST

BOAT HEADING 348 DEGREES

ATLANTIC GEOSCIENCE CENTRE

AREA: OFFSHORE NOVA SCOTIA

RECORDING DATA

SOURCE

TYPE	AIRGUN ARRAY
GUN DEPTH	11 METERS
ARRAY VOLUME	8100 CC
ARRAY PRESSURE	1800 P.S.I.
GUN ARRAY WIDTH	76 METERS
℄ANTENNA TO ℄SOURCE	168 METERS
POP INTERVAL	80 METERS

NAVIGATION

PRIMARY	LORAN-C

VESSEL

M/V RESOLUTION	PARTY 115
SHOT BY:	WESTERN GEOPHYSICAL LTD.
RECORDING DATE:	AUGUST 1988

CABLE

TYPE	LRS-16A KILOSEIS STREAMER
NUMBER OF GROUPS	180 ARRAY
℄NEAR GRP TO ℄SOURCE	250 METERS
℄NEAR GRP TO ℄FAR GRP	4800 METERS
GROUP INTERVAL	26.67 METERS
CABLE DEPTH	14 METERS

INSTRUMENTS

FIELD RECORDER	LRS 16A
FILTER	LOW CUT 6HZ/ 24DB/OCT
	HIGH CUT 87HZ/132DB/OCT
RECORD LENGTH	25.5 SEC
SAMPLE INTERVAL	4 MSEC
FORMAT:	SEG-D MULTIPLEXED

PROCESSED BY Western Atlas International, A Litton/Dresser Company — WESTERN GEOPHYSICAL

CALGARY, ALBERTA

PROCESSING SEQUENCE AND PARAMETERS

1. FORMAT CONVERSION / DEMULTIPLEX
2. FK NOISE ATTENUATION APPLIED TO SHOTS
3. INSTRUMENT DESIGNATURE
   - LRS-16A FIELD RECORDER
4. GEOMETRIC SPREADING COMPENSATION
5. PREDICTIVE DECONVOLUTION

MINIMUM PHASE INVERSE PREDICTION FILTER	
ONE WINDOW	
DESIGN WINDOW ADJUSTED WITH CHANGING WATER BOTTOM	
OPERATOR LENGTH	300 MSEC
PREDICTION DISTANCE	12 MSEC
NUMBER OF CHANNELS	1
WHITE NOISE	0.1 %

6. TRACE BALANCE
7. VELOCITY ANALYSIS (VELAN®)
   - EVERY 3 KILOMETRES
8. FK DEMULTIPLE
9. FK NOISE ATTENUATION APPLIED TO RECEIVERS
10. VELOCITY ANALYSIS (VELAN®)
    - POST FK DEMULTIPLE
11. STACK 3000%
    - OUTSIDE MUTE
12. RANDOM NOISE ATTENUATION
13. DECIMATION 2/1
14. REFLECTION STRENGTH GAIN
15. RELATIVE AMPLITUDE COMPENSATION

TIME(MSEC)	SCALER
20	1.10
25500	1.30

16. DECONVOLUTION AFTER STACK

TYPE:	MINIMUM PHASE INVERSE FILTER
TWO WINDOWS	FROM WB -> 25500 MSEC
OPERATOR LENGTH	300 MSEC
PREDICTION DISTANCE	60 MSEC
NUMBER OF CHANNELS	101
WHITE NOISE	0.1 %

17. BANDPASS FILTER
    - LOW CUT 6 HZ
18. FINITE DIFFERENCE MIGRATION
19. GAIN (RMS)
    - 128/4096 MSEC
20. DECIMATION 2/1
21. RANDOM NOISE ATTENUATION
22. TIME VARIANT FILTER
    - FILTER INTERPOLATION IN TIME AND SPACE

TIME(MSEC)	L.C.(HZ) (18DB/OCT)	H.C.(HZ) (36DB/OCT)
0	4	50
2000	4	40
11000	4	30
13000	4	20

23. GAIN (RMS)
    - 128/4096 MSEC
24. ARRAY FORMING
    - 1:1:1 MIX
25. DECIMATION 2/1

LINE	S.P.
88-3A-01	120 - 165
88-3A-02	166 - 229
88-3A-03	230 - 341
88-3A-04	342 - 372

(AT NAVIGATION REFERENCE POINT)

SCALED MIGRATION

NORMAL POLARITY

NORTHEAST

BOAT HEADING 38 DEGREES

ATLANTIC GEOSCIENCE CENTRE

AREA: OFFSHORE NOVA SCOTIA

RECORDING DATA

SOURCE

TYPE	AIRGUN ARRAY
GUN DEPTH	11 METERS
ARRAY VOLUME	8100 CC
ARRAY PRESSURE	1800 P.S.I.
GUN ARRAY WIDTH	76 METERS
¢ANTENNA TO ¢SOURCE	168 METERS
POP INTERVAL	53.34 METERS

NAVIGATION

PRIMARY	LORAN-C

VESSEL

M/V RESOLUTION	PARTY 115
SHOT BY:	WESTERN GEOPHYSICAL LTD.
RECORDING DATE:	AUGUST 1988

CABLE

TYPE	LRS-16A KILOSEIS STREAMER
NUMBER OF GROUPS	120 ARRAY
¢NEAR GRP TO ¢SOURCE	250 METERS
¢NEAR GRP TO ¢FAR GRP	3200 METERS
GROUP INTERVAL	26.67 METERS
CABLE DEPTH	14 METERS

INSTRUMENTS

FIELD RECORDER	LRS 16A
FILTER	LOW CUT 6HZ/ 24DB/OCT
	HIGH CUT 87HZ/132DB/OCT
RECORD LENGTH	25.5 SEC
SAMPLE INTERVAL	4 MSEC
FORMAT:	SEG-D MULTIPLEXED

PROCESSED BY Western Atlas International, A Litton/Dresser Company — WESTERN GEOPHYSICAL

CALGARY, ALBERTA

PROCESSING SEQUENCE AND PARAMETERS

1. FORMAT CONVERSION / DEMULTIPLEX
2. FK NOISE ATTENUATION APPLIED TO SHOTS
3. INSTRUMENT DESIGNATURE
   LRS-16A FIELD RECORDER
4. GEOMETRIC SPREADING COMPENSATION
5. PREDICTIVE DECONVOLUTION
   MINIMUM PHASE INVERSE PREDICTION FILTER
   ONE WINDOW

OPERATOR LENGTH	300 MSEC
PREDICTION DISTANCE	12 MSEC
NUMBER OF CHANNELS	1
WHITE NOISE	0.1 %

6. TRACE BALANCE
7. VELOCITY ANALYSIS (VELAN®)
   EVERY 3 KILOMETRES
8. FK DEMULTIPLE
9. FK NOISE ATTENUATION APPLIED TO RECEIVER
10. VELOCITY ANALYSIS (VELAN®)
    POST FK DEMULTIPLE
11. STACK 3000%
    OUTSIDE MUTE
12. RANDOM NOISE ATTENUATION
13. DECIMATION 2/1
14. REFLECTION STRENGTH GAIN
15. RELATIVE AMPLITUDE COMPENSATION

TIME(MSEC)	SCALER
0	1.50
25500	0.95

16. DECONVOLUTION AFTER STACK
    TYPE: MINIMUM PHASE INVERSE FILTER

TWO WINDOWS	FROM WB --> 25500 MSEC
OPERATOR LENGTH	300 MSEC
PREDICTION DISTANCE	60 MSEC
NUMBER OF CHANNELS	101
WHITE NOISE	0.1 %

17. BANDPASS FILTER
    LOW CUT 6 HZ
18. FINITE DIFFERENCE MIGRATION
19. GAIN (RMS)
    128/4096 MSEC
20. DECIMATION 2/1
21. RANDOM NOISE ATTENUATION
22. TIME VARIANT FILTER
    FILTER INTERPOLATION IN TIME AND SPACE

TIME(MSEC)	L.C.(HZ) (18DB/OCT)	H.C.(HZ) (36DB/OCT)
0	4	60
1600	4	50
2000	4	40
5500	4	30
12000	4	20

23. GAIN (RMS)
    128/4096 MSEC
24. ARRAY FORMING
    1,1,1 MIX

62M 106M

SHOTPOINT LOCATED AT NAVIGATION REFERENCE POINT. A GUN AND CABLE CORRECTION TO SEA LEVEL OF

LINE: 88-4

S.P.: 101 - 870

(AT NAVIGATION REFERENCE POINT)

SCALED MIGRATION

NORMAL POLARITY

SOUTHEAST

BOAT HEADING 315 DEGREES

ATLANTIC GEOSCIENCE CENTRE

AREA: OFFSHORE NOVA SCOTIA

RECORDING DATA

SOURCE

TYPE	AIRGUN ARRAY
GUN DEPTH	11 METERS
ARRAY VOLUME	8100 CC
ARRAY PRESSURE	1800 P.S.I.
GUN ARRAY WIDTH	76 METERS
℄ANTENNA TO ℄SOURCE	168 METERS
POP INTERVAL	53.34 METERS

CABLE

TYPE	LRS-16A KILOSEIS STREAMER
NUMBER OF GROUPS	120 ARRAY
℄NEAR GRP TO ℄SOURCE	250 METERS
℄NEAR GRP TO ℄FAR GRP	3200 METERS
GROUP INTERVAL	26.67 METERS
CABLE DEPTH	14 METERS

NAVIGATION

PRIMARY	LORAN-C

VESSEL

M/V RESOLUTION	PARTY 115
SHOT BY:	WESTERN GEOPHYSICAL LTD.
RECORDING DATE:	AUGUST 1988

INSTRUMENTS

FIELD RECORDER	LRS 16A
FILTER	LOW CUT 6HZ/ 24DB/OCT
	HIGH CUT 87HZ/132DB/OCT
RECORD LENGTH	25.5 SEC
SAMPLE INTERVAL	4 MSEC
FORMAT:	SEG-D MULTIPLEXED

PROCESSED BY Western Atlas International, A Litton/Dresser Company — WESTERN GEOPHYSICAL

CALGARY, ALBERTA

PROCESSING SEQUENCE AND PARAMETERS

1. FORMAT CONVERSION / DEMULTIPLEX
2. FK NOISE ATTENUATION APPLIED TO SHOTS
3. INSTRUMENT DESIGNATURE
   LRS-16A FIELD RECORDER
4. GEOMETRIC SPREADING COMPENSATION
5. PREDICTIVE DECONVOLUTION
   MINIMUM PHASE INVERSE PREDICTION FILTER
   ONE WINDOW

OPERATOR LENGTH	300 MSEC
PREDICTION DISTANCE	12 MSEC
NUMBER OF CHANNELS	1
WHITE NOISE	0.1 %

6. TRACE BALANCE
7. VELOCITY ANALYSIS (VELAN®)
   EVERY 3 KILOMETRES
8. FK DEMULTIPLE
9. VELOCITY ANALYSIS (VELAN®)
   POST FK DEMULTIPLE
10. STACK 3000%
    OUTSIDE MUTE
11. RANDOM NOISE ATTENUATION
12. DECIMATION 2/1
13. REFLECTION STRENGTH GAIN
14. RELATIVE AMPLITUDE COMPENSATION

TIME(MSEC)	SCALER
20	1.40
25500	1.15

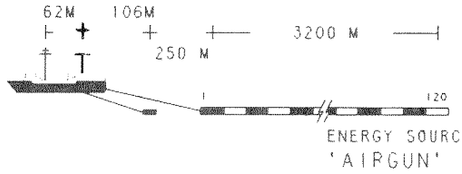
15. DECONVOLUTION AFTER STACK

TYPE:	MINIMUM PHASE INVERSE FILTER
TWO WINDOWS	FROM WB -- 25500 MSEC
OPERATOR LENGTH	300 MSEC
PREDICTION DISTANCE	60 MSEC
NUMBER OF CHANNELS	101
WHITE NOISE	0.1 %

16. BANDPASS FILTER
    LOW CUT 6 HZ
17. FINITE DIFFERENCE MIGRATION
18. GAIN (RMS)
    128/4096 MSEC
19. DECIMATION 2/1
20. RANDOM NOISE ATTENUATION
21. TIME VARIANT FILTER
    FILTER INTERPOLATION IN TIME AND SPACE

TIME(MSEC)	L.C.(HZ) (18DB/OCT)	H.C.(HZ) (36DB/OCT)
0	4	50
2000	4	40
11000	4	30
13000	4	20

22. GAIN (RMS)
    128/4096 MSEC
23. ARRAY FORMING
    1:1:1 MIX



ENERGY SOURCE: 'AIRGUN'

SHOTPOINT LOCATED AT NAVIGATION REFERENCE POINT.
A GUN AND CABLE CORRECTION TO SEA LEVEL OF +17 MSEC HAS BEEN APPLIED DURING PLAYBACK.

POLARITY CONVENTION:
RECORDING: COMPRESSION PULSE NEGATIVE NUMBER
PROCESSING: COMPRESSION PULSE NEGATIVE NUMBER
DISPLAY: NORMAL POLARITY
COMPRESSION PULSE TROUGH
(DECREASING BLACK)

PLOTTING GAIN: 11 DB