Data Processing Report

for

PARAMOUNT RESOURCES LTD.

9229-P33-6E

Area: ARROWHEAD 3D

Client Project Number: A01P-ARR-3D
Date: May 13, 2002

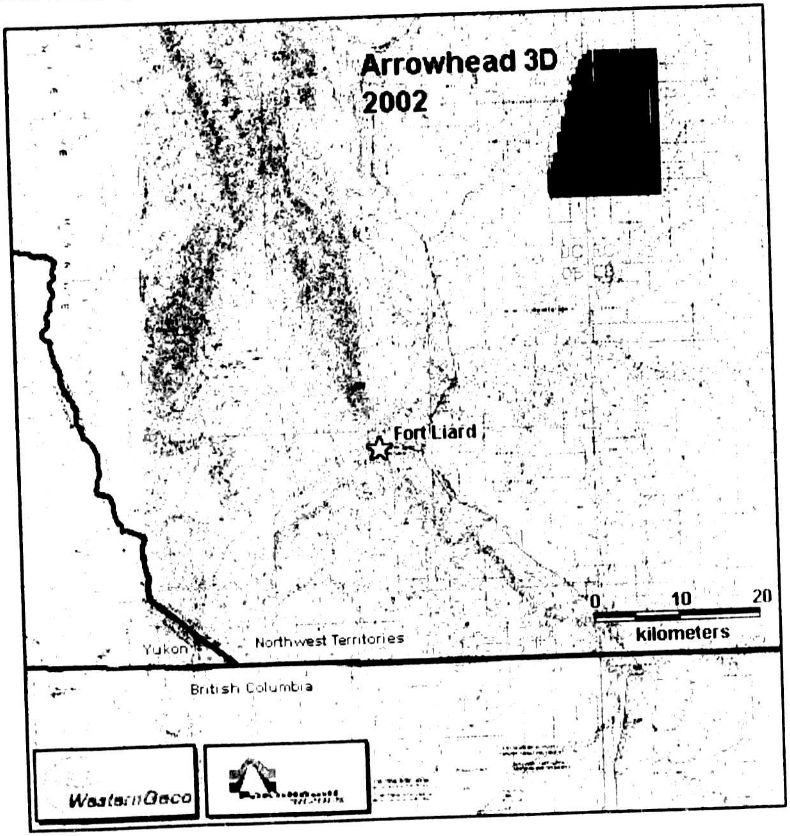
WesternGeco
(a division of Schlumberger)

Report Author
R.J. Caddick

Table of Contents

1.0 Introduction

The Arrowhead 3d (Client name A01P-ARR-3D) was acquired by WesternGeco crew 1267 in January and February of 2002. It is located in the Fort Liard Area of the Northwest Territory's. Data Processing was directed to produce a RAP migrated 3D Volume



2.0 Seismic Data Processing

2.1 General Data Processing Sequence

Reformat (Segd to Omega Format)
Navi on/Seismic Data Merge
Amplitude Compensation(Geometric Spreading)
Spike Removal (Despike)
Ground Roll Suppression(Zone Filter)
Surface-Consistent Deconvolution
Surface Consistent Amplitude Compensation (SCAC)

Offset Amplitude Compensation
Time Variant Spectral Whitening
Sort to Cell (cmp) Order
Preliminary Velocity Analysis
Refraction Statics (Refraction Miser)
Preliminary Velocity Analysis (2KM Grid)
Reflection Residual Statics (Miser)
Secondary Velocity Analysis (1KM Grid)
Reflection Residual Statics (Second Pass Miser)
DMO Velocity Analysis (0.5 km Grid)
NMO (with DMO Vels)
Outside Trace Mute
DMO Stack
3D Random Noise Atteniuation(3D RNA -- FX_Decon)
Xstolt Migration
Time Variant Spectral Whitening
Time Variant Filter
RMS gain
Segy Output (with/without RMS gain)

2.2 Definition of steps in Data Processing Sequence

2.3 Reformat

The demultiplexed field data was reformatted from SEG-D to an in-house source-gathered seismic file format.

Parameter values:

Input Trace Length	: 5120ms
Output Trace Length	: 5120ms
Input Sampling Interval	: 2ms
Output Sampling Interval	: 2 ms

2.4 Navigation/Seismic Data Merge

The navigation geometry information was used to update the seismic trace header literals with that information. The two sets of data were matched using unique Station Number Source, Station Number Detector.

2.5 Geometric Spreading Amplitude Compensation

Time-variant trace scaling functions were applied to the data to compensate for the decay in amplitude resulting from the propagation of a seismic wave from a point source in a layered medium. The functions were calculated from formulae based on the equation:

$$G(T) = \frac{V_x^2 T}{V_1^2}$$

where *V* is the rms velocity associated with a reflection arriving at the two-way traveltime, *T*, associated with shot-to-receiver offset, *x*.

V_1 (the first velocity in the velocity function) is used as a normalization factor.

The velocity and traveltime information was not varied spatially.

Parameter values:

RMS Velocities (meters)	Two-way Traveltimes (ms)
2	2100
230	2340
389	2664
528	2996
600	3066
651	3099
752	3171
907	3244
997	3252
1093	3328
1211	3409
1296	3432
1387	3414
1488	3511
1611	3628
1787	4011
3818	4805
4188	5115
5000	5620

2.6 *Surface-Consistent Deconvolution*

- Log power spectra generated by SC_DCN_SPECTRL_ANAL are decomposed into surface consistent components by the Surface-Consistent- Deconvolution (SC_DCN_SPCTRL_DECOMP) SFM. Surface-consistent deconvolution operators are then designed from the decomposed spectra by the application of the Surface-ConsistentDeconvolution Operator Design (SC_DCN_SPCTRL_OPR_DESIGN) SFM and the operator is applied to the seismic data by the Deconvolution Operator Application (DCN_OPR_APPLY) SFM.
-

The window start time for each trace was obtained by adding a constant to the start time read from the trace header. The window stop time for each trace was obtained by adding a constant window length to the window start time.

Parameter values:

Prediction Distance	: 2 ms
Operator Length	: 120 ms
White Noise %	: 0.1

Number of Windows	**: 1**
Window length	**: 350 - 2500 ms**
Start time	**: 3500 m/sec**

2.7 ZONE Band-Pass Filter

The Zone Filter filters the data within time windows (zones) on selected traces.That is , it filters the data within a trace in a surgical manner. The zones are defined by a low linear velocity and a high linear velocity. A band-pass filter is described by low- and high-cut frequencies and associated dB/octave cutoff slopes. The specified cutoff frequencies are located at the half-power (-3 dB in amplitude) response points and the slopes at these frequencies are equal to the respective dB/octave values. The slope is an approximate cosine squared function in the amplitude domain. The filter was normalized so that output amplitudes were the same as input amplitudes for frequency components within the passband.

Parameter values:

Phase	: Zero
Low-cut Frequency	: 18 Hz
Low-cut Slope	: 18 dB/octave
High-cut Frequency	: Not used
High-cut Slope	: Not Used
Zone Low Velocity	500 m/s
Zone High Velocity	: 800 m/s

2.8 Time Variant Spectral Whitening

This process time-variantly flattens the amplitude spectra of seismic traces over a user-defined frequency band. Amplitudes at frequencies outside this band are suppressed. The action on each trace is similar to a single-channel, time-variant, zero-phase deconvolution.

An input trace is passed, in parallel, through a number of different zero-phase filters spanning the desired output frequency passband. The filter specifications are generated automatically based on the defined output frequency passband and on the number of filters required to cover this band.

Each of the filtered versions of the input trace are then AGC scaled. More precisely, the scale factors are computed on the amplitude envelope of the trace. To stabilise the process, white noise is added to the envelope before computing the scalar. This addition of white noise prevents exaggeration of weak signal frequencies.

Finally, the filtered and gained versions of the input trace are summed and the whole scaled so that the amplitude envelope of the output is equivalent to the envelope of the input trace. In this way, relative amplitude is broadly preserved.

Parameter values:

Filter Specification	: Automatic
Number of Filters Generated	: 7

Passband CORNER FREQUENCIES (Hz)	Passband AMPLITUDES
1 : 6 : 96 : 120	.01 : 1 : 1 : .01

Gain Window Length	: 200 ms

Percent White Noise	: .1

2.9 *Surface-Consistent Amplitude Compensation (SCAC)*

SCAC compensates for shot, detector and offset amplitude variations that are caused by acquisition effects and are not a consequence of the subsurface geology.

The amplitude of a given time window is determined for every trace using either a root-mean-square (rms) or a mean-absolute amplitude criterion. The amplitudes measured can then be expressed as the product of surface-consistent source, receiver and offset terms, and a subsurface-consistent geology (CMP) term. Taking the logarithm allows the amplitude to be expressed as a sum of the above terms which, in turn, allows the surface consistent terms to be computed using a Gauss-Seidel iterative decomposition.

Scaling factors are then computed and applied to each trace. In this computation the CMP term is ignored, the scaling factor being the ratio of the geometric mean of all the SCAC source, detector and offset terms to the individual trace's source, detector and offset term.

Parameter Values:

Amplitude Criterion	: RMS/Mean Absolute
Time Window	: 650ms to 3500 ms post nmo and mute

2.10 *Residual Amplitude Analysis/Compensation (RAAC)*

Where true-amplitude information needs to be retained in the data, the application of data dependent scaling is undesirable; yet the failure to apply scaling can result in data which is difficult to display due to the range of amplitudes (dynamic range) present. The RAAC process uses statistical means to retain anomalous amplitude information, such as bright spots, while allowing the data to be scaled.

The analysis step of RAAC computes, for each trace, the amplitudes of multiple windows using a rms-amplitude criterion. The Residual Amplitude Compensation (RAC) value of each window is then the reciprocal of this computed amplitude. The centre of each time window defines the position of its associated RAC value. Knowing the X-Y location and time of each RAC value allows both spatial and temporal smoothing to be applied to the RAC values.

The application step of RAAC takes the smoothed RAC values, interpolates to every sample, and applies the resulting scalars to the input traces.

Parameter values:

Number of Windows	: 10
Analysis Window Start	: The first analysis window began at the trace start time (the RAC value corresponding to this start time was applied to all data from the start time to the first sample)
Window Length	: 500
Window Advance	: 250
Amplitude Analysis Type	: rms

Note: If the amount of live data within a window is not equal to at least one-half the window advance, then the RAC value for the previous window is used.

2.11 Refraction Statics (Refraction MISER)

Refraction statics were obtained by means of a Refraction-Velocity-Dependent (RVD) over the range of offsets from which the refracted arrivals from the assumed base of weathering appeared as first-breaks. QC displays were used to identify erroneous picks that were then modified.

The finalised pick dataset was input to the Refraction Miser routine To stabilise the output results and to compensate for inadequacies in acquisition geometry, for example, across large gaps in the shot profile where low surface coverage and lack of reciprocal travel paths can contribute to an unstable solution, the refractor elevation profile was smoothed. The near surface velocities were also adjusted in relation to the smoothing so that the first-break pick times through the original and the smoothed models were the same.

Finally, the statics were written to the trace headers to replace the original elevation statics and the CMP datum corrections recomputed.

Parameter Values:

Picked Offset Range	: 100 to 2600 meters
Datum	: 650 Meters
Replacement Velocity	:3500 m/s

2.12 Preliminary Velocity Analysis

Velocity analysis was performed using **WesternGeco's** Interactive Velocity Processing (IVP) package. At regular intervals across the survey CMP gather data were selected. From this data Multi-Velocity Function (MVF) stacks and velocity semblance values were computed. For each velocity location, MVF data, semblances and gathers are displayed interactively allowing stacking velocities to be interpreted.

Percentage stacks and NMO-corrected gathers are then produced to check the validity of the picks and any necessary changes made before the velocity field is output.

Parameter Values:

Analysis Spacing	: 2 KM
Number of CMPs per Analysis (MVF Stack)	: 15
Number of CMPs per Analysis (Semblance Display)	: 7

2.13 Residual Statics(2 Passes)

Surface consistent reflection residual statics were calculated from pre-processed CDP gathers. The process is split into two phases – the first (termed XPERT) picks the time shifts for each prestack trace and the second (termed MISER) computes surface consistent statics from these picks.

In the XPERT program, one or more time and space variant gates that contain reflection events are defined. A model trace is generated by performing a rolling average of the stacked traces within the time gate and then, for each CMP gather, unstacked traces are cross-correlated with the model trace. The peaks of these cross-correlations are picked and the differential times between the peak time and the zero lag computed. These represent the sum of the residual shot and receiver statics plus any structural and residual moveout terms.

In the MISER (Modular Iterative Statics Evaluation Routine) program, an iterative Gauss-Seidel decomposition technique is used to derive the individual components of the time shift, that is, Source, Receiver, Midpoint and Residual NMO terms. The static values for each trace are written into that trace's header so that they are available for subsequent processing.

Parameter Values:	
Model Window(s)	: 600ms to 2500 ms
Maximum Correlation Shift	: 32 ms
Inline and Crossline Model Extent	: 11, 11

2.14 Velocity Analysis

Velocity analysis was performed using WesternGeco's Interactive Velocity Processing (IVP) package. At regular intervals across the survey CMP gather data were selected. From this data Multi-Velocity Function (MVF) stacks and velocity semblance values were computed. For each velocity location, MVF data, semblances and gathers are displayed interactively allowing stacking velocities to be interpreted.

Percentage stacks and NMO-corrected gathers are then produced to check the validity of the picks and any necessary changes made before the velocity field is output.

Parameter Values:	
Analysis Spacing	: 1 KM
Number of CMPs per Analysis (MVF Stack)	: 15
Number of CMPs per Analysis (Semblance Display)	: 7

2.15 Dip Moveout

Dip Moveout (DMO) is a process that attempts to take traces recorded at a non-zero offset and make them appear as if they had been recorded with zero offset. It can therefore be thought of as a prestack partial migration. After DMO has been applied several goals are achieved:

- Dip dependency of the Normal Moveout (NMO) velocity field is eliminated, thereby making the velocity field derived from DMO gathers a better starting point for the calculation of the migration velocity field.
- Mid-point smear on dipping events is eliminated.
- Events with conflicting dips within a CMP, e.g. reflections and diffractions, may be stacked with the same velocity (within the limitations of the 'constant-velocity' algorithm utilised).
- Under some circumstances, DMO can act as a noise attenuator.

DMO was applied using the Kirchhoff integral method in the X-T domain. This method works by spreading energy from one trace to its neighbours along the DMO ellipse (the input having had NMO applied). The shape of the ellipse was computed from a constant-velocity algorithm; truncating and tapering the ellipse produced the DMO operator that was applied along the shot-receiver azimuth.

The limbs of the DMO operator have progressively steeper dips, which results in spatial aliasing occurring at progressively lower frequencies, as one moves out along the operator. To reduce the impact of aliasing the limbs of the operator were time and space variantly high-cut filtered to remove aliased energy from the operator.

At near offsets the DMO operator can quickly reach the stage where its width is comparable to or smaller than the mid-point spacing. Where this occurs accurate amplitude treatment of the data is compromised if the spatial sampling of the operator remains at or greater than the mid-point spacing. To correct for this the operator was super-sampled (spatially) at near offsets. This option, referred to as Hi-Fi DMO, ensures accurate treatment of amplitudes even at very short offsets.

Parameter values:	
Maximum Aperture	: 121
Maximum Dip	: 90
Velocity used for Dip Calculation	: Spatially Varying Function
Hi-Fi Option	: Applied

2.16 DMO Velocity Analysis

Velocity analysis was performed using WesternGeco's Interactive Velocity Processing (IVP) package. At regular intervals across the survey CMP gather data were selected. From this data Multi-Velocity Function (MVF) stacks and velocity semblance values were computed. For each velocity location, MVF data, semblances and gathers are displayed interactively allowing stacking velocities to be interpreted.

Percentage stacks and NMO-corrected gathers are then produced to check the validity of the picks and any necessary changes made before the velocity field is output.

Parameter Values:	
Analysis Spacing	: .5 KM
Number of CMPs per Analysis (MVF Stack)	: 7
Number of CMPs per Analysis (Semblance Display)	: 7

2.17 NMO Compensation

Hyperbolic moveout was applied to the data. This corrected the reflection events to their zero offset position by:

$$t_o = \sqrt{t^2 - \frac{X^2}{V^2}}$$

where:

t is the traveltime at offset X

t_o is the zero offset traveltime

X is the absolute value of the source-to-detector offset distance

V is the moveout velocity

2.18 Outer Trace Mute

An outer (long offset) trace mute was applied to the data in order to suppress direct arrivals, refractions and wide angle reflections.

The data were tapered from zero to full amplitude over a taper zone.

Parameter values:	
Taper Zone Length: # ms (starting from the mute times detailed below)	
Source-to-Detector Offset (meters))	**Mute Time (ms)**
100	4
213	200
628	380
3600	2000

Note: Mute times were linearly interpolated between the specified offsets and extrapolated for offsets larger than the last offset specified.

2.19 *3-D RNA*

3-D RNA (Random Noise Attenuation) enhances coherent linear events (more strictly, coherent planar events) relative to random noise by using an f-x-y filtering technique that automatically selects the range of dips to enhance based on the dips in the data. The process operates on three-dimensional windows having the axes of time (t), in-line width (x_i) and cross-line width (x_c). Each window of t-x_i-x_c data is Fourier transformed from time to frequency yielding a window of f-x_i-x_c data. Operating separately on each frequency, a two-dimensional Wiener prediction-error filter is computed from and applied to the data in the x_i-x_c plane. The process assumes that the predicted energy in the x_i-x_c plane is signal and the remaining energy is random noise (which is rejected from the output).

Adjacent windows of data are blended spatially before inverse transform and temporally after inverse transform to arrive at the final output.

Parameter values:

In-line Operator Width	: 7 traces
In-line Window Width	: 33 traces
Cross-line Operator Width	: 7 traces
Cross-line Window Width	: 33 traces
Time Window Length	: 500 ms
Time Overlap	: 0.1 times the window length

Note: The window size was chosen so that the coherent events within the window were approximately linear.
0.01% white noise was added to the data before filtering in order to ensure the stability of the deconvolution operator design.

2.20 *Extended Stolt Migration*

An Extended Stolt migration was performed on the data. Extended Stolt is a time migration algorithm implemented in the frequency-wavenumber (f-k) domain. The method is capable of accurately migrating stacked data to 90° in areas where there is temporal velocity variation but little or no lateral velocity variation.

Conventional Stolt migration deals with minor variations in temporal velocity by preconditioning the input data. This preconditioning, known as Stolt stretch, is a dynamic time shift that can be thought of as a form of depth conversion. The main purpose of this stretch is to make all events appear as though they had travelled through a constant velocity medium, for which the algorithm would yield perfect results; this pseudo-depth conversion also helps the algorithm deal with minor variations in lateral velocity. Additionally, a constant known as the W-factor is applied to the wave equation to further correct for inaccuracies resulting from the simplistic nature of the dynamically stretched input.

The Extended Stolt algorithm deals with larger temporal velocity variations by cascading Stolt stretch migrations. Each stage uses a different velocity function and the output from the previous stage in the cascade is used as the input to the next stage. After the completion of a stage, m, the data appear to have been migrated with a cumulative interval velocity function given by:

$$v_m^2(t) = \sum_{j=1}^{m} v_j^2(t)$$

where:

v_j is the interval velocity function for the nth stage

$v_m(t)$ is the true migration interval velocity for the final cascade

In implementing Extended Stolt migration a spatial fourier transform is used to convert from time-CMP (t-x) to time-wavenumber (t-k) coordinates. This is followed by a temporal fourier transform to convert from t-k to frequency-wavenumber (f-k) coordinates. Frequency-, velocity- and depth-dependent phase shifts are then computed and applied to each wavenumber column. Finally, inverse temporal and spatial fourier transforms are used to convert back to time-CMP coordinates. This process is repeated for each stage of the cascade.

Parameter values:	
Type of Migration	: 'single-pass '3-D Extended Stolt migration
Number of Cascades	: 4
Migration Velocities	: 95% of smoothed dmo velocities

2.21 Time Variant Spectral Whitening

This process time-variantly flattens the amplitude spectra of seismic traces over a user-defined frequency band. Amplitudes at frequencies outside this band are suppressed. The action on each trace is similar to a single-channel, time-variant, zero-phase deconvolution.

An input trace is passed, in parallel, through a number of different zero-phase filters spanning the desired output frequency passband. Each filter is explicitly defined by a set of frequency/amplitude pairs with, typically, four pairs describing a trapezoidal passband for each set. Pairs were supplied to define the complete amplitude spectrum of the desired filter.

Each of the filtered versions of the input trace are then AGC scaled. More precisely, the scale factors are computed on the amplitude envelope of the trace. To stabilise the process, white noise is added to the envelope before computing the scalar. This addition of white noise prevents exaggeration of weak signal frequencies.

Finally, the filtered and gained versions of the input trace are summed and the whole scaled so that the amplitude envelope of the output is equivalent to the envelope of the input trace. In this way, relative amplitude is broadly preserved.

Parameter values:		
Filter Specification: Man' al		
Filter Number	Passband CORNER FREQUENCIES (Hz)	Passband AMPLITUDES
12	5: 10 : 96 : 120	0.1 : 1 : 1 : 0.1

Gain Window Length : 300 ms
Percent White Noise : 3

2.22 *TVF*

A zero-phase TVF (Time Variant Filter) was applied to the data. The filter passbands were described by low- and high-cut frequencies and associated dB/octave cutoff slopes. The specified cutoff frequencies are located at the half-power (-3 dB in amplitude) response points and the slopes at these frequencies are equal to the respective dB/octave values. The slope is an approximate cosine squared function in the amplitude domain. The filters were normalized so that the output amplitudes were the same as the input amplitudes for frequency components within the passband.

Parameter values:

Filter Centre Time (ms)	Low-cut Frequency (Hz)	Low-cut Slope (dB/octave)	High-cut Frequency (Hz)	High-cut Slope (dB/octave)
4	10	12	90	36
2500	10	12	80	36
5000	10	12	60	36

Note: The times are those at the centre of the filter where the full effect of the filter is attained.
The first filter was applied from the beginning of the trace to the first filter centre time.
Intermediate filters were linearly tapered and blended with the preceding and succeeding filter between the filter centre times.
The last filter was applied from the last filter centre time to the end of the data.

2.23 RMS Amplitude Gain

The rms amplitude of a window of data is defined as the square root of the average amplitude of the data in that window squared. Each input trace is divided into a series of user-defined or programmed-defined windows and a gain multiplier is computed for each window. The gain multiplier is the ratio of a desired user-specified amplitude to the rms amplitude value of the window. The gain multiplier for each window is assigned a time equal to the centre time of the window. Gain multipliers for all other times are obtained by linear interpolation between the values at the centre times. The data samples of the trace are then multiplied by the computed gain multipliers for each sample.

Parameter values:

RMS Amplitude : [redacted]

Window Length (ms)	Start Time (ms)	End Time (ms)
[redacted]	0	200
[redacted]	100	300
[redacted]	200	400
[redacted]	300	500
[redacted]	400	700
[redacted]	600	2000
[redacted]	1000	3000
[redacted]	2000	4000
[redacted]	3000	5000

2.24 SEGY OUT

Output to 8mm tape

3.0 Personnel

WESTERNGECO
Alberto Galleguillos – Land Processing Supervisor
Cathy Tomac – Group Leader
Laurine Behmer - Geophysicist
Rod Caddick – Senior Geophysicist

4.0 Appendices

4.1 Acquisition Parameters

General

Program Size:	200 Km^2 (Approx)
Receiver Kms:	Not available
Source Kms:	Not available
Receiver Interval (Group):	60m
Source Interval:	45m
Receiver Line Interval:	500m
Source Line Interval:	500m
Bin Size:	30m x 45m, or else 30m x 22.5m
Number of Receiver Lines:	36
Number of Source Lines:	28
Total Receiver Points:	6885
Total Source Points:	Approximately 9240

Vibrator Parameters

Shooting Technique:	One fleet of vibrators, 24 hour operation
Number of Vibrators per Fleet:	4
Vibrator Type:	Mertz 18
Vibrator Weight:	40,000Lbs
Sweep frequency:	6 – 96 Hz
Sweep type:	Linear Sweep
Drive level:	60% Fundamental, 80% Peak
Number of Sweeps per VP:	2
Sweep length:	28 seconds
Listen Time:	33 seconds
Recording Length:	5 Seconds
Phase Locking:	Ground Force
Vibrator Array:	4 in-line, array centered on VP flag, bumper-to-bumper
Move-up:	None
Sweep Taper:	Linear taper. Start: 0.500 sec / End: 0.500 sec

Alternative Vibrator Parameters (if above cannot be achieved)

Number of Vibrators:	3
Sweep frequency:	6 – 96 Hz
Sweep type:	Linear Sweep
Drive level:	60% Fundamental, 80% Peak
Number of Sweeps per VP:	2
Sweep length:	28 seconds
Listen Time:	33 seconds
Recording Length:	5 seconds
Phase Locking:	Ground Force
Vibrator Array:	3 in-line, array centered on source flag, bumper-to-bumper
Move-up:	None
Sweep Taper:	Linear taper, Start: 0.500 sec / End: 0.500 sec

Recording Parameters

Recording System:	Sercel 408 XL
Recording Template:	10 lines x 100 channels

Active Channels:	1000 channels
Line Roll:	Single
Station Roll:	Normal Roll On/Off
Record Length:	5 seconds
Sample Rate:	2 ms
Recording Media:	3490 Cartridge Tapes
Recording Format:	SEG-D 8058 (24-bit IEEE)
Pre-Amp Gain:	48dB
Low Cut Filter:	Out
High Cut Filter:	3/4 Nyquist, Minimum Phase
Notch Filter:	Out

Receiver Parameters

Type:	30CT
Nominal Array:	6 geophones inline over 20m centered on flag, 4m between geophones
Shortened Array	6 geophones inline centered on flag, evenly spread over 1-3m
Alternative Layout:	Bunched

SURVEY SPECIFICATIONS

Parameters:

Datum Name:	NAD27
Ellipsoid:	Clarke 1866
Projection Type:	Universal Transverse Mercator
Projection System:	Zone 10N (126W to 120W)
Datum Shift Method:	CANTRANS
Shift File:	ntv2_0
Semi-Major Axis:	6378206.400000
Reciprocal of flattening:	294.97869820
False Northing:	0.000 m
False Easting:	500000.000 m
Origin Latitude:	0 0 0.000N
Origin Longitude:	123 0 0.0000W
Scale factor:	0.99960000

Accuracy:
Determined between Paramount and the Survey contractor.

Tolerance:
Tolerance Distance will be defined as the radius of a circle surrounding the pre-plot location. Flag and surveyed point may be located within this area. Once the station has been located in the tolerance radius, the final coordinates must be reported with the accuracy mentioned above. Do not report stations within the tolerance area as an "Offset" or "Moved Point".

Tolerance distance (sources): 10 meters

Tolerance distance (receivers): 10 meters

4.2 DATA DISPLAYS

SHOTPOINT 211235

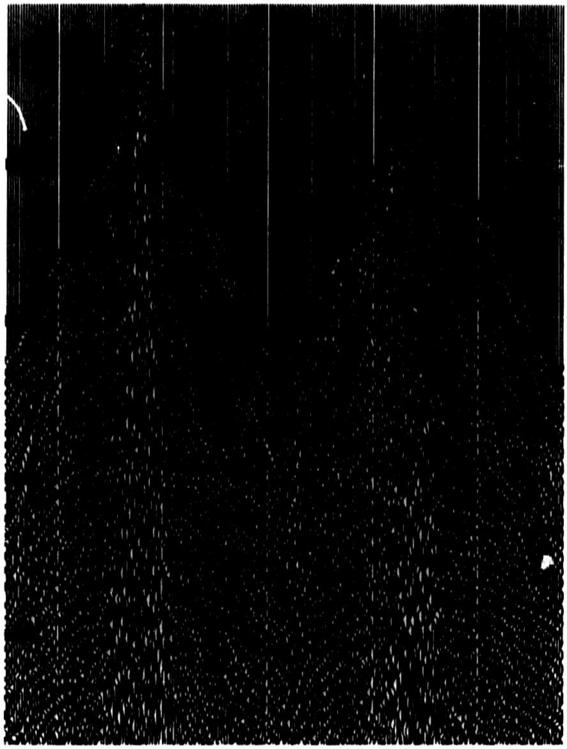


figure 1 **Raw shot with 500ms AGC for display**

SHOTPOINT 211235

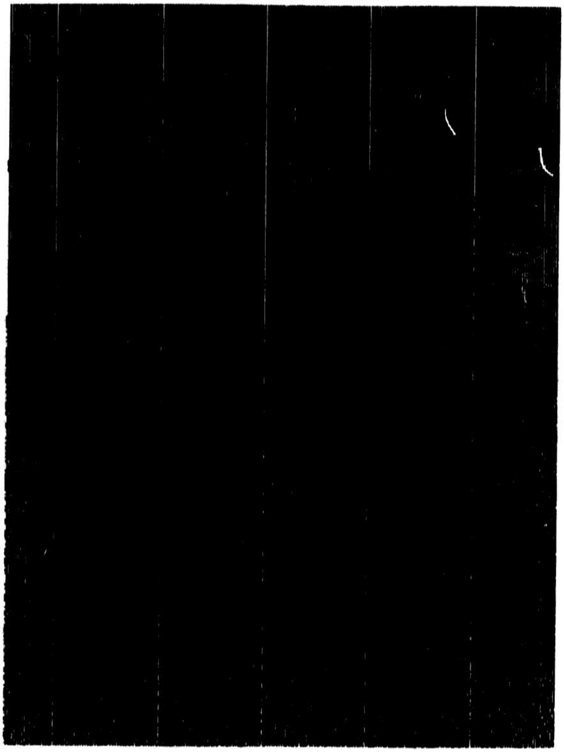


figure 2 **Decon Zone Filter shot with 500ms AGC for display**

INLINE 5409

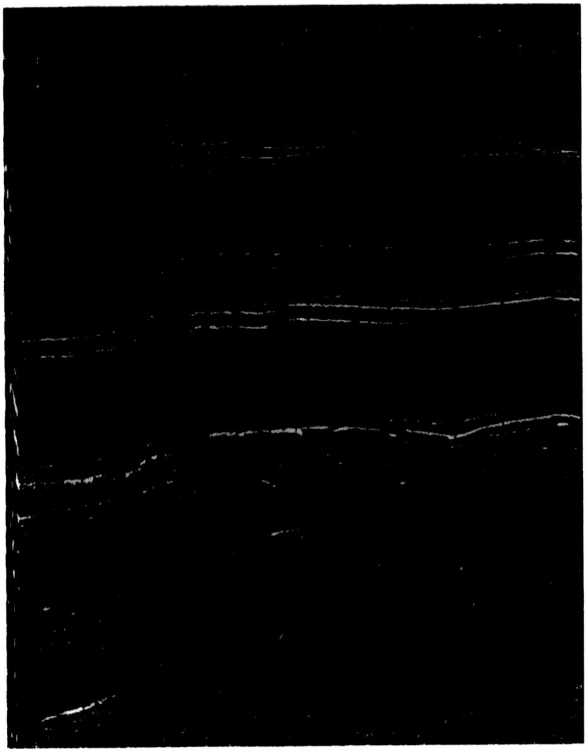


figure 3 ELEVATION STACK

INLINE 5409

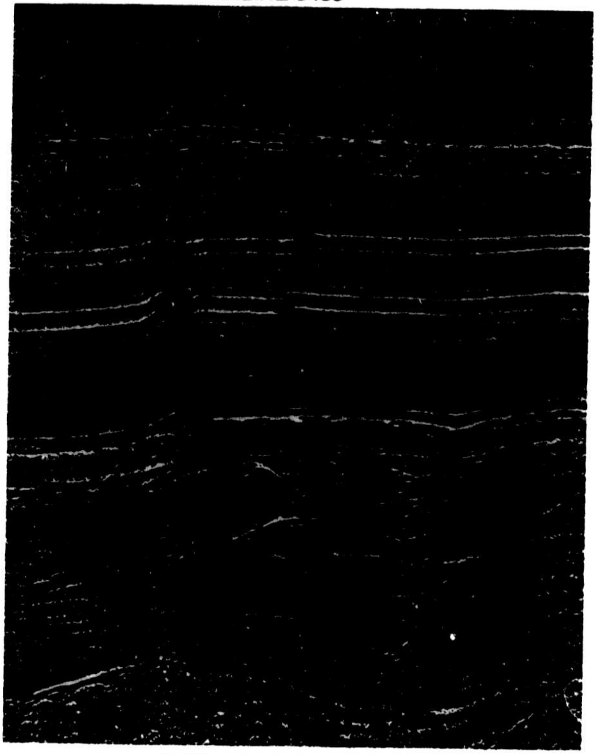


Figure 4 **REFRACTION STATICS STACK**

INLINE 5409

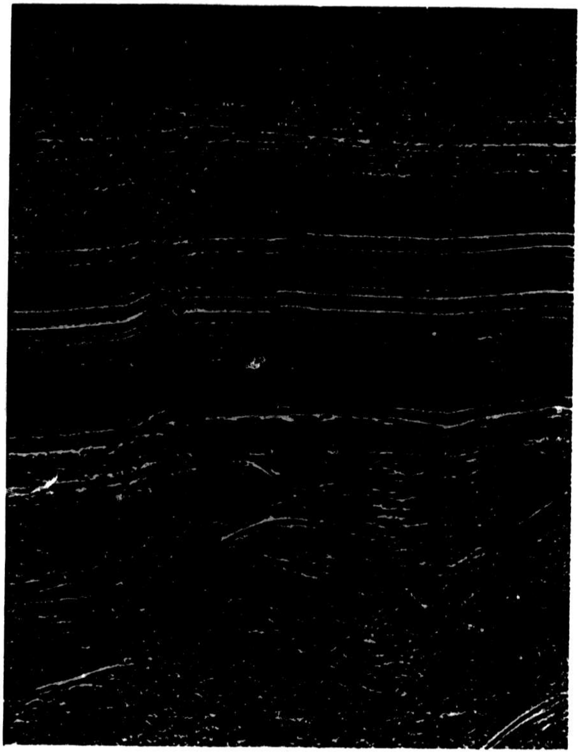


Figure 6 Residual Statics Stack

INLINE 5409

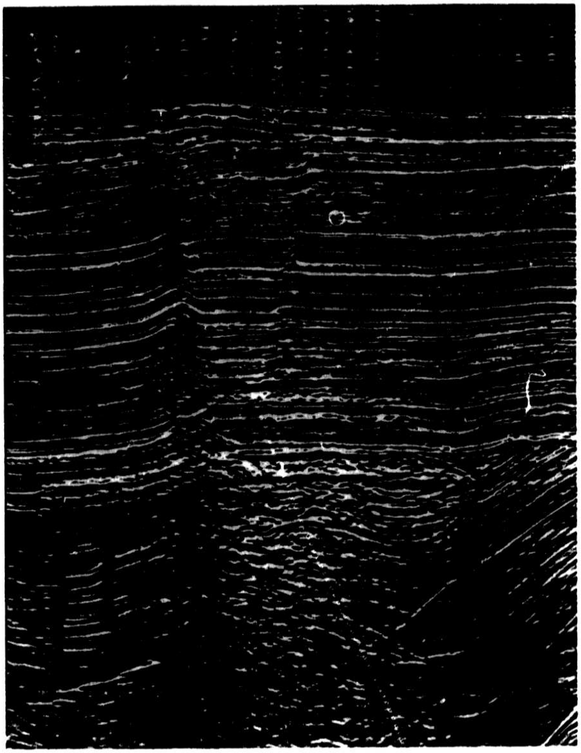


figure 07 DIP MOVE OUT FULL FIELD XSTOLT MIGRATION

FOLD PLOT

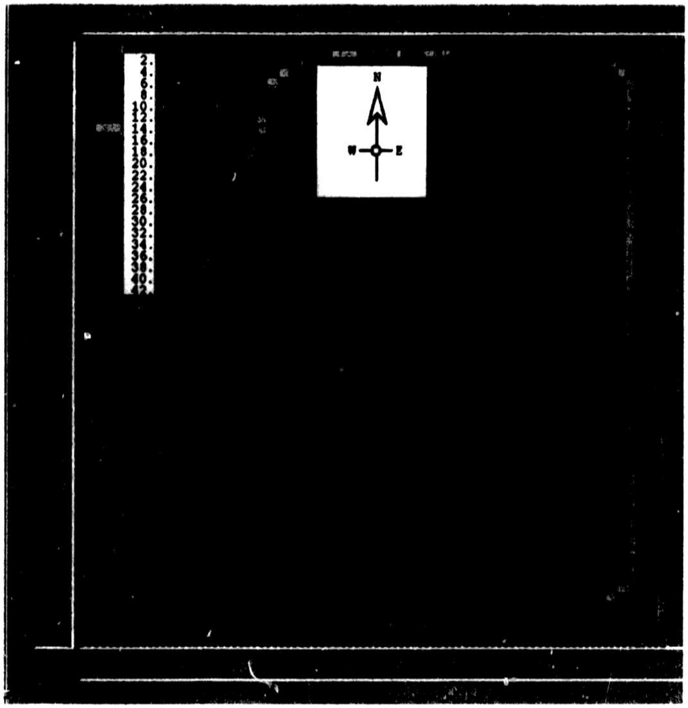


figure 8 **Arrowhead Fold Plot**

Refraction Static Corrections

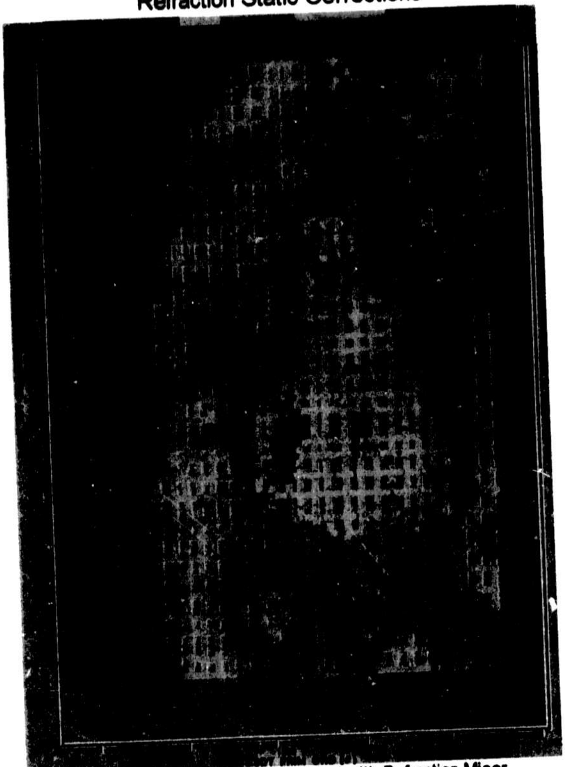


figure 9 **Refraction Statics Calculated with Refraction Miser**
Datum 650 m Replacement Velocity 3500 m/s

ELEVATION PROFILE

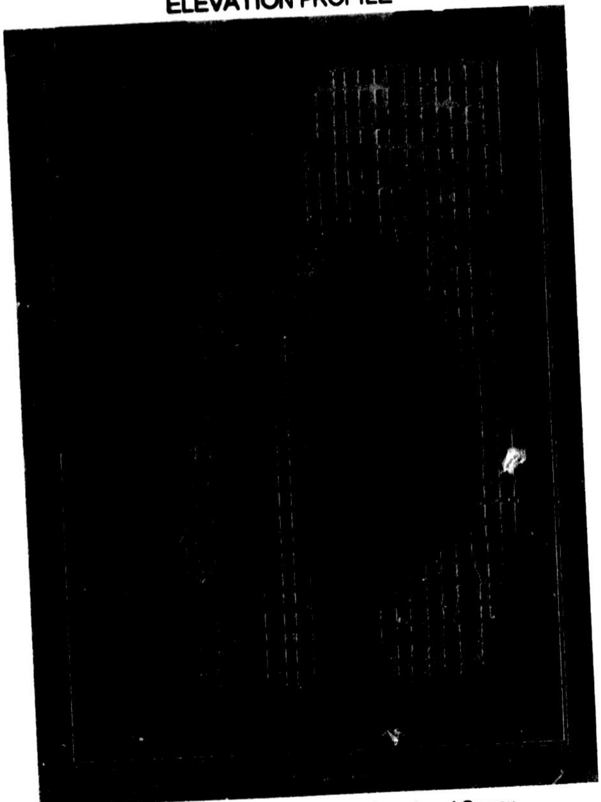


figure 10 **Elevation Profile Arrowhead Survey**