

Appendix 2:

Seismic Lines

THE SPREAD FILE D:\270113\101.LPK WAS MADE FROM THE FILES
101.BPK

SIPOC V-4.0 For Quality Control of ES-2401, SmartSeis & StrataView field data.

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For Final Interpretation, add Elev, Y-Loc, etc., and re-run on SIPT2.

TITLE: LINE NUMBER 1-1 FILE101.LPK

DATE: 2-04-2013 TIME: 23:14

Spread A contains 1 Shotpoints and 24 Geophones. Distance units: meters.

SP	Elev	X-Loc	Y-Loc	Depth
A	.0	46.0	.0	.0

Arrival Times T and Layers L

Geo	Elev	X-Loc	Y-Loc	SP	A
					T--L
1	.0	.0	.0	23.0	2
2	.0	4.0	.0	23.5	2
3	.0	8.0	.0	23.0	2
4	.0	12.0	.0	22.5	2
5	.0	16.0	.0	21.5	2
6	.0	20.0	.0	20.0	2
7	.0	24.0	.0	19.0	2
8	.0	28.0	.0	17.5	2
9	.0	32.0	.0	15.5	2
10	.0	36.0	.0	13.3	2
11	.0	40.0	.0	7.5	2
12	.0	44.0	.0	2.1	1
13	.0	48.0	.0	7.8	2
14	.0	52.0	.0	12.3	2
15	.0	56.0	.0	15.3	2
16	.0	60.0	.0	16.5	2
17	.0	64.0	.0	17.0	2
18	.0	68.0	.0	19.5	2
19	.0	72.0	.0	20.0	0
20	.0	76.0	.0	21.3	2
21	.0	80.0	.0	22.7	2
22	.0	84.0	.0	23.3	2
23	.0	88.0	.0	24.0	2
24	.0	92.0	.0	24.3	2

Depths of layers directly beneath Shotpoints and Geophones for Spread A:

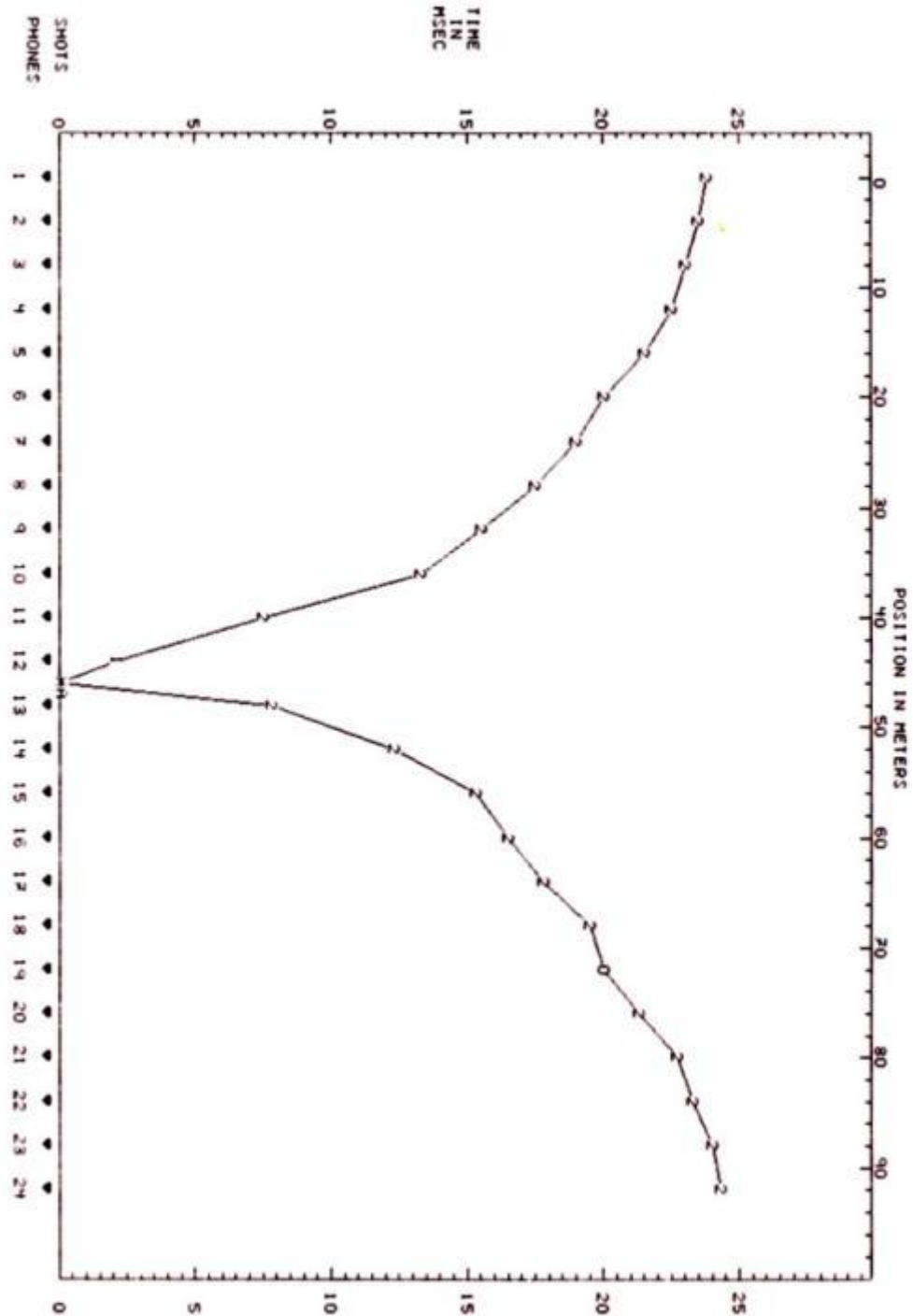
SP	X-Loc	Layer 2
A	46.0	4.2
Geo		
1	.0	3.4
2	4.0	3.9
3	8.0	4.7
4	12.0	5.4
5	16.0	5.9
6	20.0	6.3
7	24.0	6.3
8	28.0	6.3
9	32.0	5.8
10	36.0	4.5
11	40.0	2.4
12	44.0	3.9
13	48.0	4.4
14	52.0	5.3
15	56.0	6.0
16	60.0	6.3
17	64.0	6.2
18	68.0	6.1
19	72.0	5.9
20	76.0	5.6
21	80.0	5.2
22	84.0	4.6
23	88.0	3.9
24	92.0	3.4

Times arrival of seismic waves beneath
the seismic line 1- 1

Velocities used:

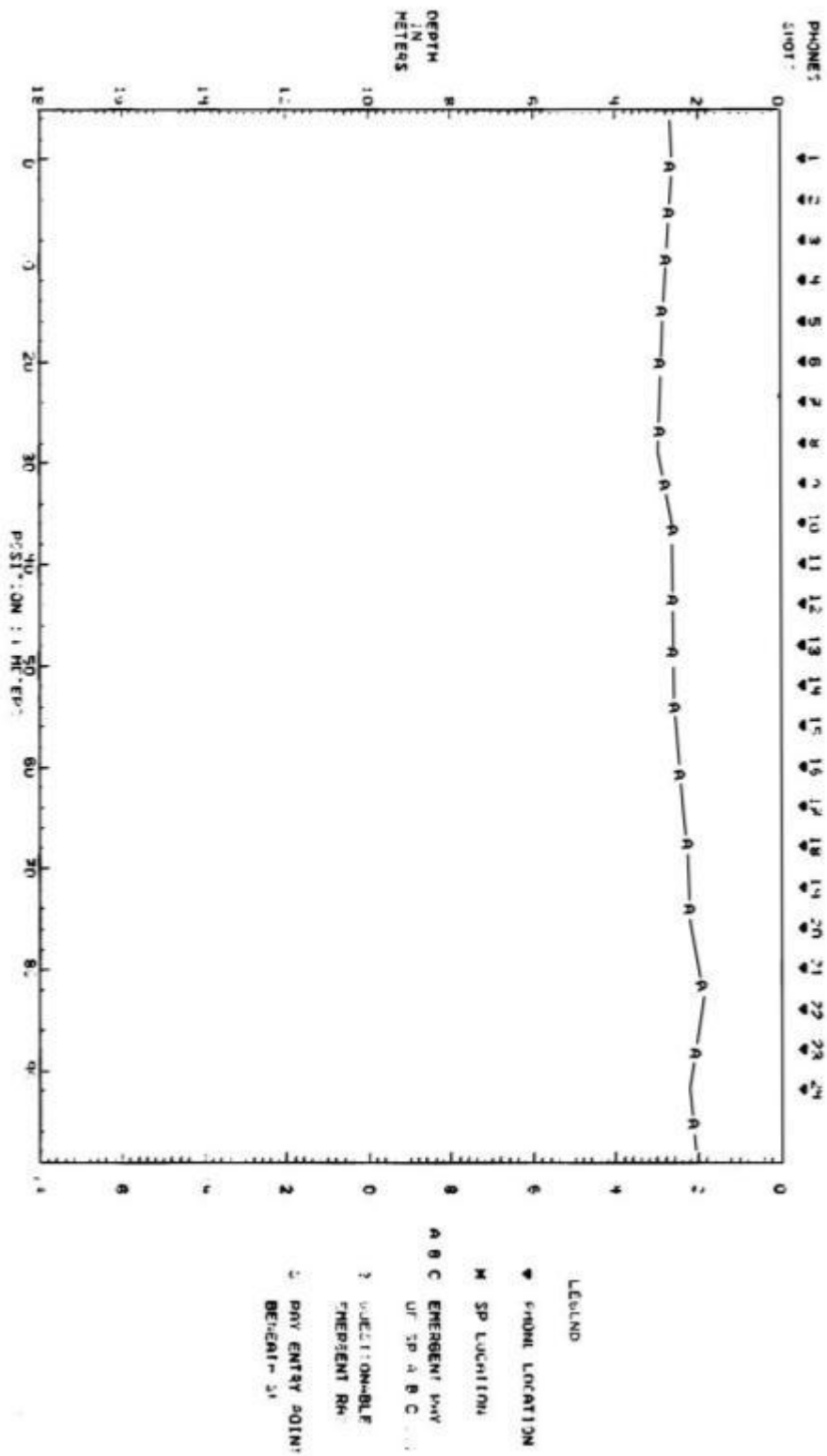
Layer 1	Layer 2
952.	2005. n/s

LINE NUMBER 1-1 FILE101.LPK
TIME - DISTANCE PLOT

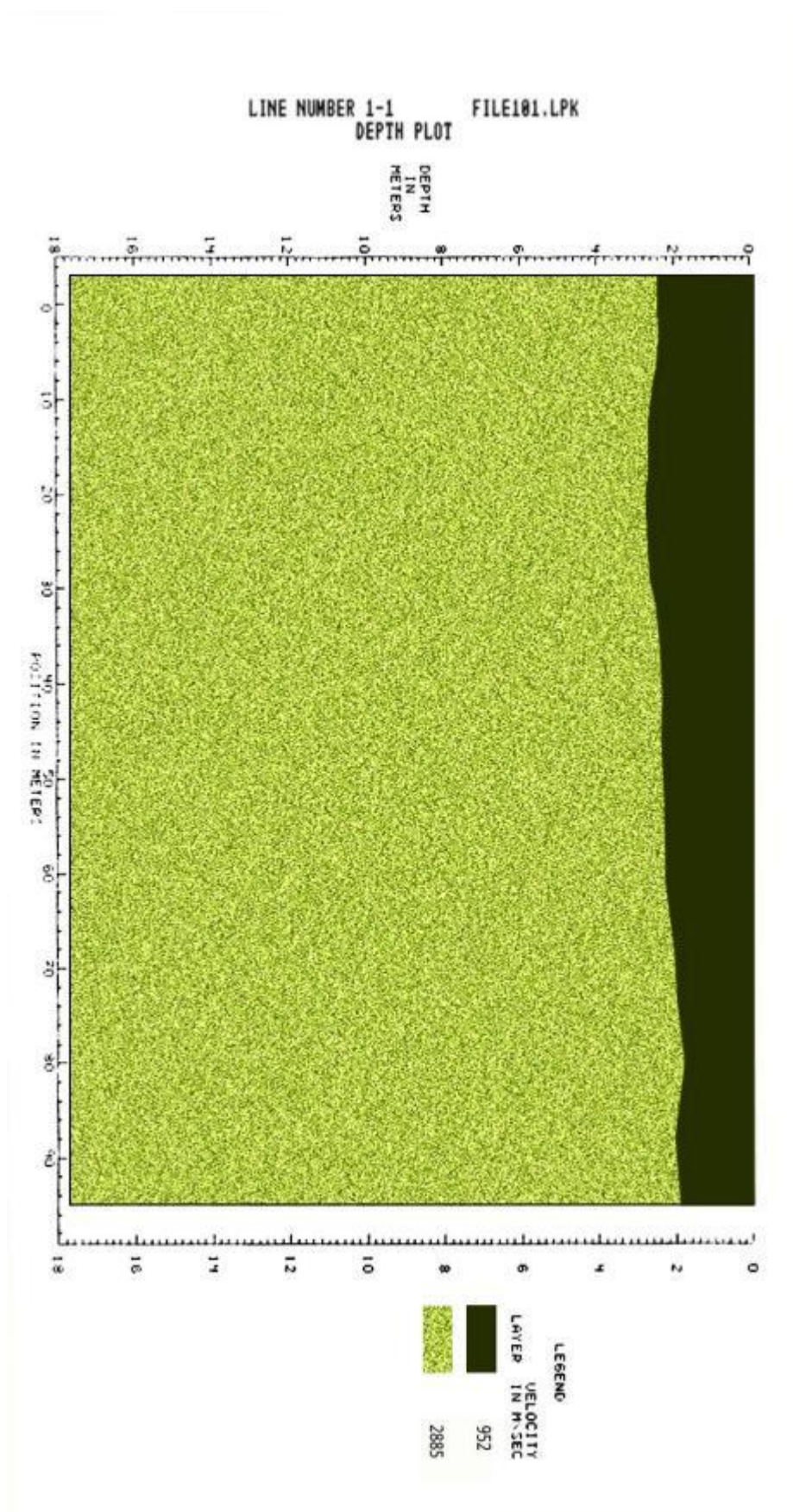


Travel Time Curve for Seismic line 1-1

LINE NUMBER 1-1 FILE101.LPK
DEPTH PLOT



Refraction waves at the second layer surface beneath the seismic line 1-1



Subsurface Geological cross- section beneath seismic line 1-1

THE SPREAD FILE D:\270113\103.LPK WAS MADE FROM THE FILES
103.BPK

SIPAC V-4.0 For Quality Control of ES-2401, SmartSeis & StrataView field data

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For Final Interpretation, add Elev, Y-Loc, etc., and re-run on SIPT2.

TITLE: LINE NUMBER 2-2 FILE103.LPK

DATE: 2-02-2013 TIME: 23:17

Spread A contains 1 Shotpoints and 24 Geophones. Distance units: meters.

SP	Elev	X-Loc	Y-Loc	Depth
A	.0	-1.5	.0	.0

Arrival Times T and Layers L

Geo	Elev	X-Loc	Y-Loc	SP	A
1	.0	.0	.0	8.5	1
2	.0	3.0	.0	13.5	1
3	.0	6.0	.0	21.5	2
4	.0	9.0	.0	23.5	2
5	.0	12.0	.0	25.0	2
6	.0	15.0	.0	27.0	2
7	.0	18.0	.0	29.0	2
8	.0	21.0	.0	30.0	2
9	.0	24.0	.0	31.5	2
10	.0	27.0	.0	33.0	2
11	.0	30.0	.0	35.0	2
12	.0	33.0	.0	36.0	2
13	.0	36.0	.0	36.5	0
14	.0	39.0	.0	37.0	2
15	.0	42.0	.0	38.0	2
16	.0	45.0	.0	39.0	2
17	.0	48.0	.0	39.5	2
18	.0	51.0	.0	39.0	0
19	.0	54.0	.0	39.5	0
20	.0	57.0	.0	40.0	2
21	.0	60.0	.0	40.5	2
22	.0	63.0	.0	41.0	2
23	.0	66.0	.0	41.5	2
24	.0	69.0	.0	42.0	2

Depths of layers directly beneath Shotpoints and Geophones for Spread A:

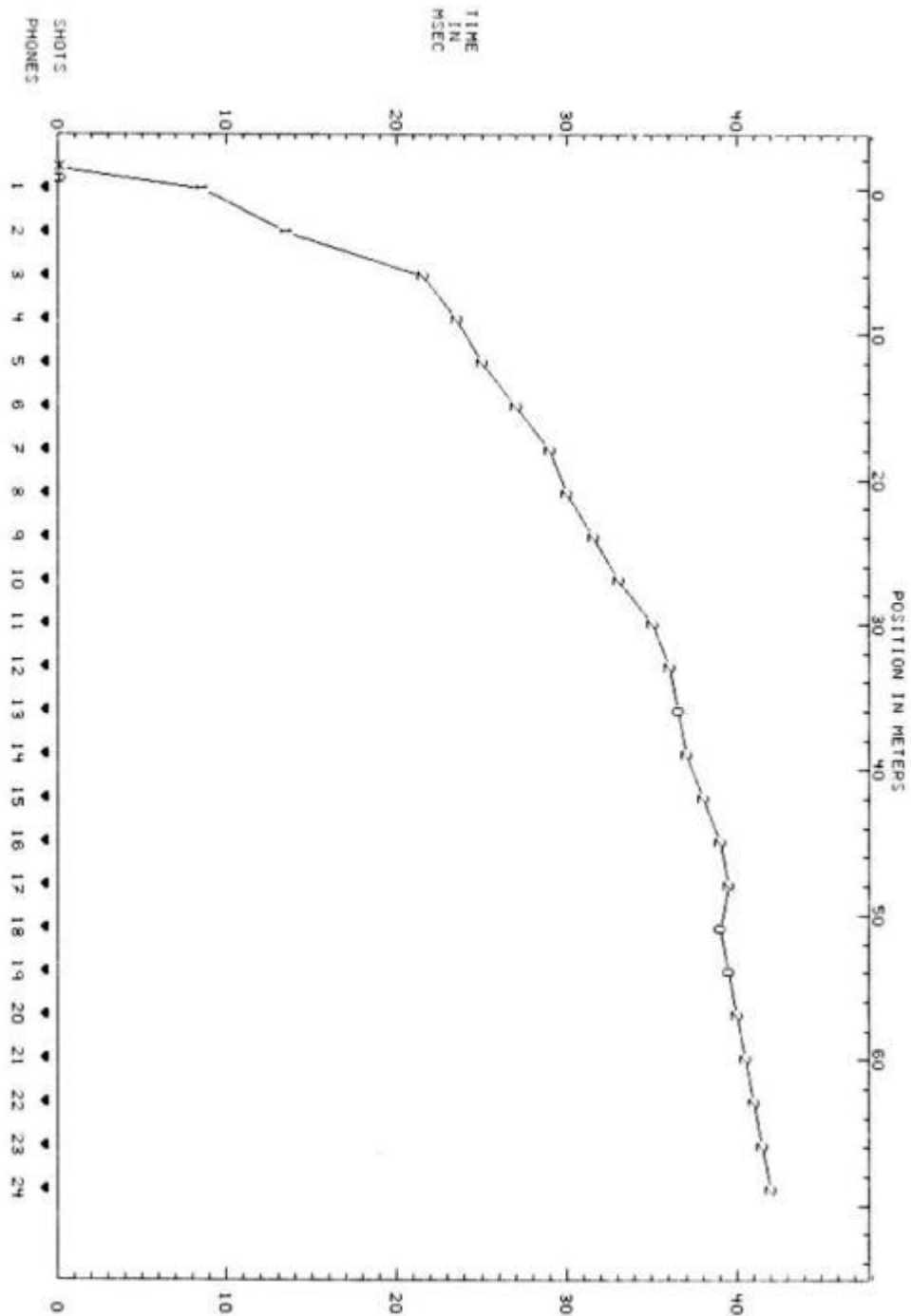
SP	X-Loc	Layer 2
A	-1.5	2.4
Geo		
1	.0	2.5
2	3.0	2.3
3	6.0	2.1
4	9.0	2.3
5	12.0	2.5
6	15.0	2.7
7	18.0	2.9
8	21.0	3.0
9	24.0	3.2
10	27.0	3.3
11	30.0	3.5
12	33.0	3.6
13	36.0	3.5
14	39.0	3.4
15	42.0	3.4
16	45.0	3.4
17	48.0	3.3
18	51.0	3.1
19	54.0	2.9
20	57.0	2.7
21	60.0	2.6
22	63.0	2.5
23	66.0	2.4
24	69.0	2.3

Times arrival of seismic waves beneath
the seismic line 2- 2

Velocities used:

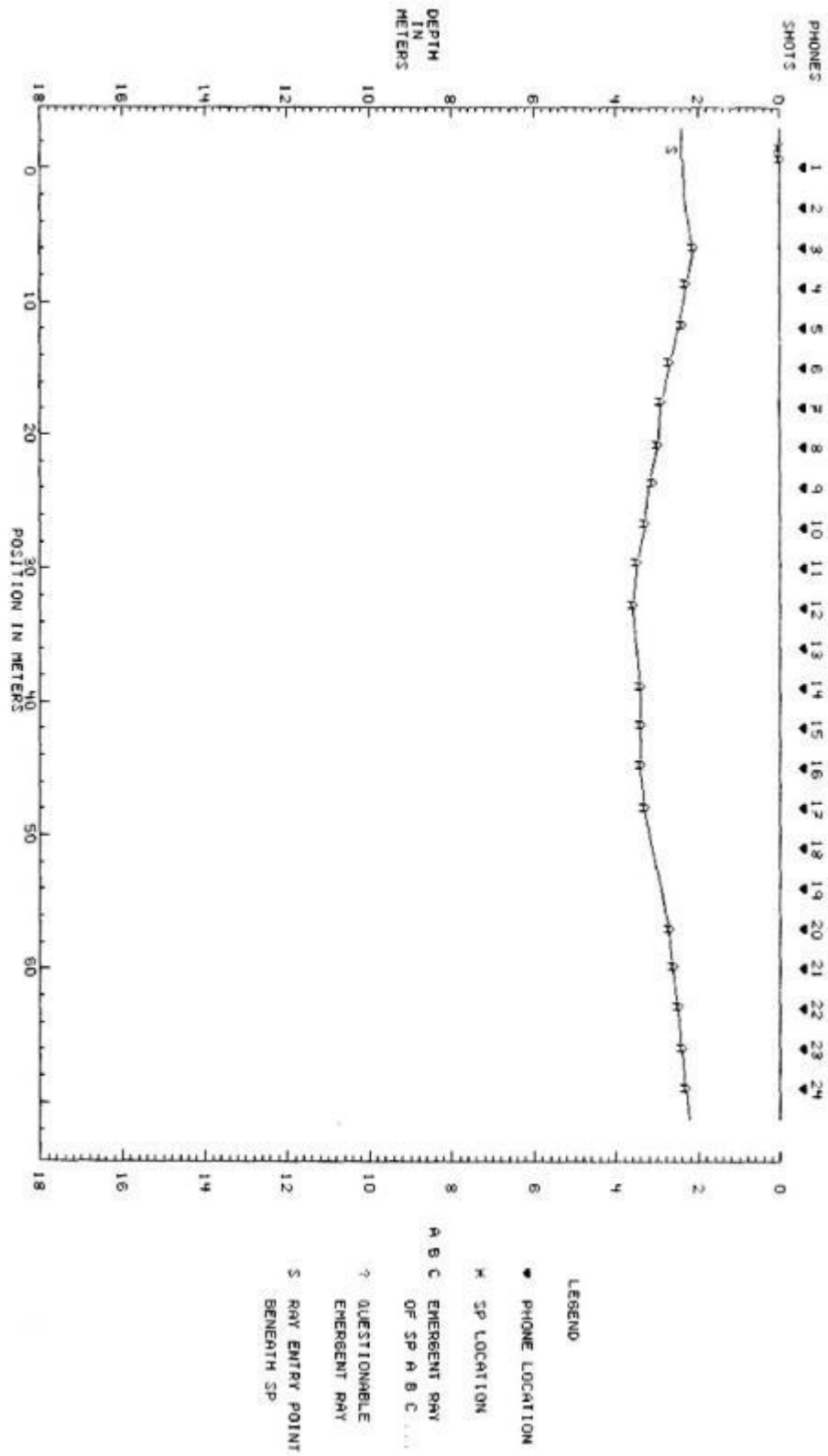
Layer 1	Layer 2
255.	3244. m/s

LINE NUMBER 2-2 FILE103.LPK
TIME - DISTANCE PLOT

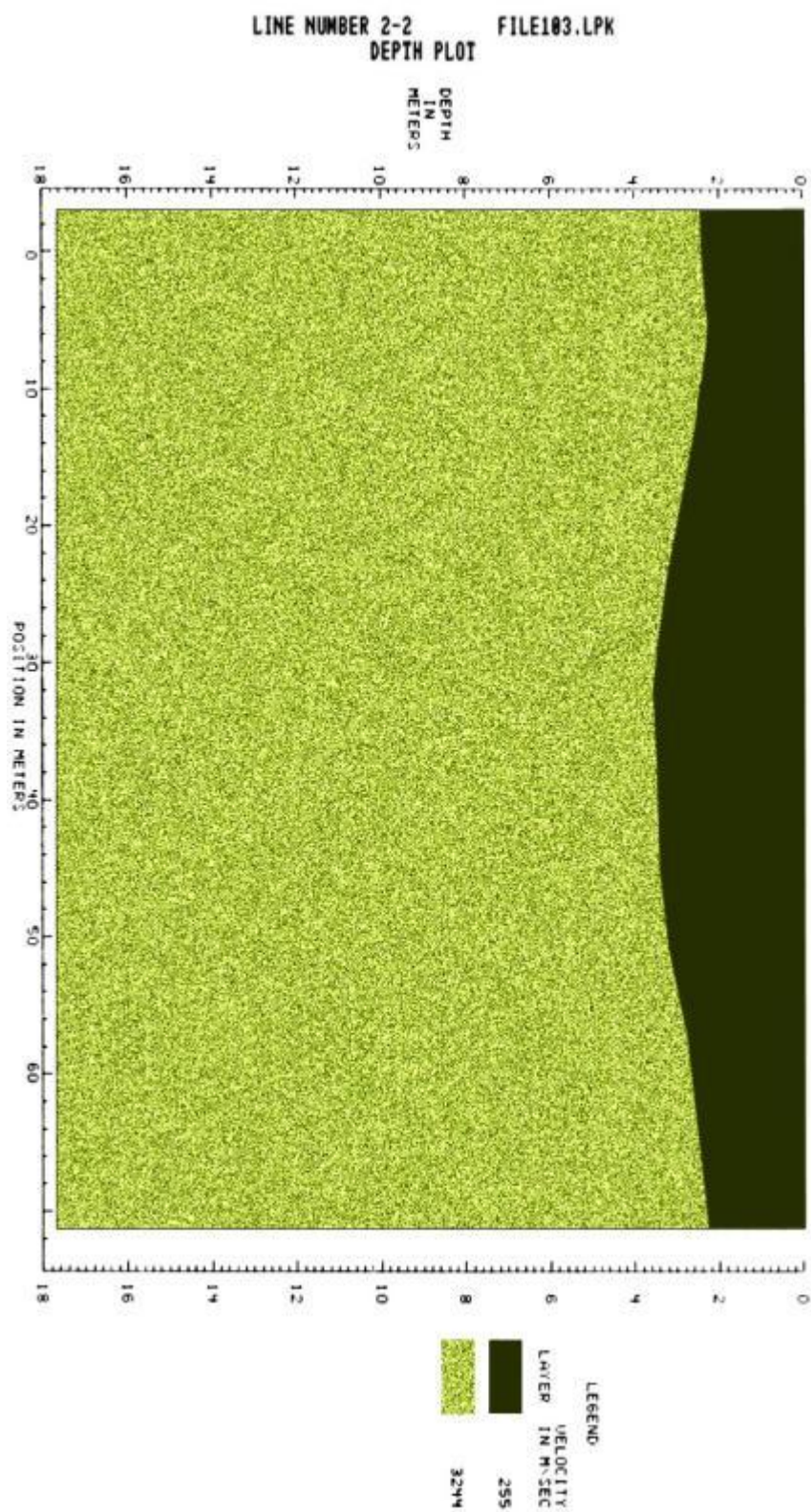


Travel Time Curve for Seismic line 2-2

LINE NUMBER 2-2 FILE103.LPK
DEPTH PLOT



Refraction waves at the second layer surface beneath the seismic line 2-2



Subsurface Geological cross- section beneath seismic line 2-2

THE SPREAD FILE D:\270113\106.LPK WAS MADE FROM THE FILES
106.BPK

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For Final Interpretation, add Elev, Y-Loc, etc., and re-run on SIPT2.

TITLE: LINE NUMBER 3-3 FILE106.LPK

DATE: 2-02-2013 TIME: 23:43

Spread A contains 1 Shotpoints and 24 Geophones. Distance units: meters.

SP	Elev	X-Loc	Y-Loc	Depth
A	.0	-1.0	.0	.0

Arrival Times T and Layers L

Geo	Elev	X-Loc	Y-Loc	SP	A
1	.0	.0	.0	.8	1
2	.0	2.0	.0	1.3	0
3	.0	4.0	.0	4.5	1
4	.0	6.0	.0	5.5	2
5	.0	8.0	.0	7.3	2
6	.0	10.0	.0	8.3	2
7	.0	12.0	.0	9.5	2
8	.0	14.0	.0	10.3	2
9	.0	16.0	.0	11.0	2
10	.0	18.0	.0	11.5	2
11	.0	20.0	.0	12.0	2
12	.0	22.0	.0	12.0	2
13	.0	24.0	.0	13.5	2
14	.0	26.0	.0	14.3	2
15	.0	28.0	.0	15.0	2
16	.0	30.0	.0	15.5	2
17	.0	32.0	.0	16.3	2
18	.0	34.0	.0	17.0	2
19	.0	36.0	.0	17.5	2
20	.0	38.0	.0	18.3	2
21	.0	40.0	.0	19.0	2
22	.0	42.0	.0	19.5	2
23	.0	44.0	.0	20.2	2
24	.0	46.0	.0	20.8	2

Depths of layers directly beneath Shotpoints and Geophones for Spread A:

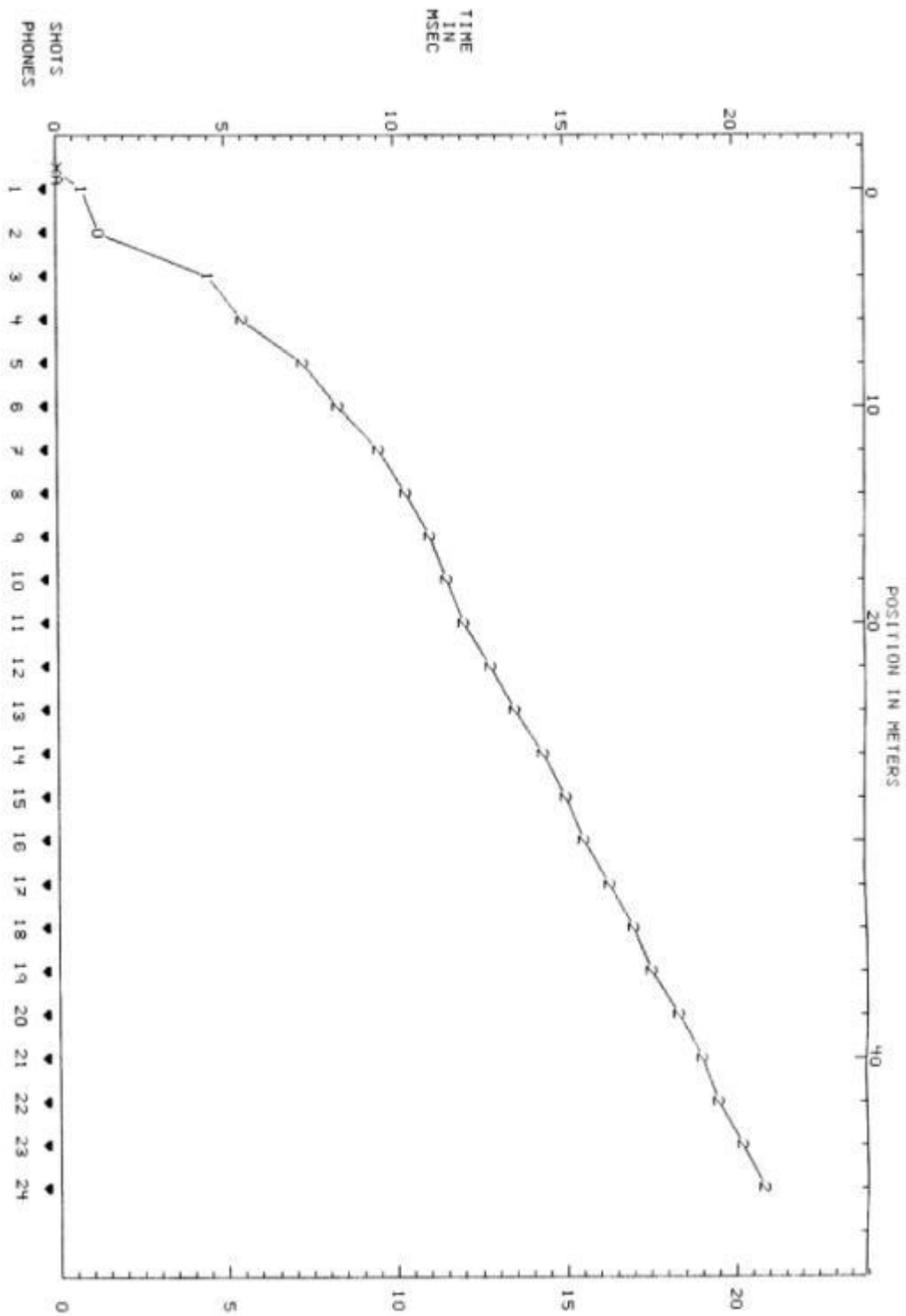
SP	X-Loc	Layer 2
A	-1.0	2.7
Geo		
1	.0	2.7
2	2.0	2.6
3	4.0	2.4
4	6.0	2.2
5	8.0	2.5
6	10.0	3.1
7	12.0	3.4
8	14.0	3.5
9	16.0	3.3
10	18.0	3.2
11	20.0	3.1
12	22.0	3.1
13	24.0	3.2
14	26.0	3.1
15	28.0	3.1
16	30.0	3.0
17	32.0	3.0
18	34.0	2.9
19	36.0	2.8
20	38.0	2.8
21	40.0	2.7
22	42.0	2.6
23	44.0	2.5
24	46.0	2.4

Times arrival of seismic waves beneath
the seismic line 3- 3

Velocities used:

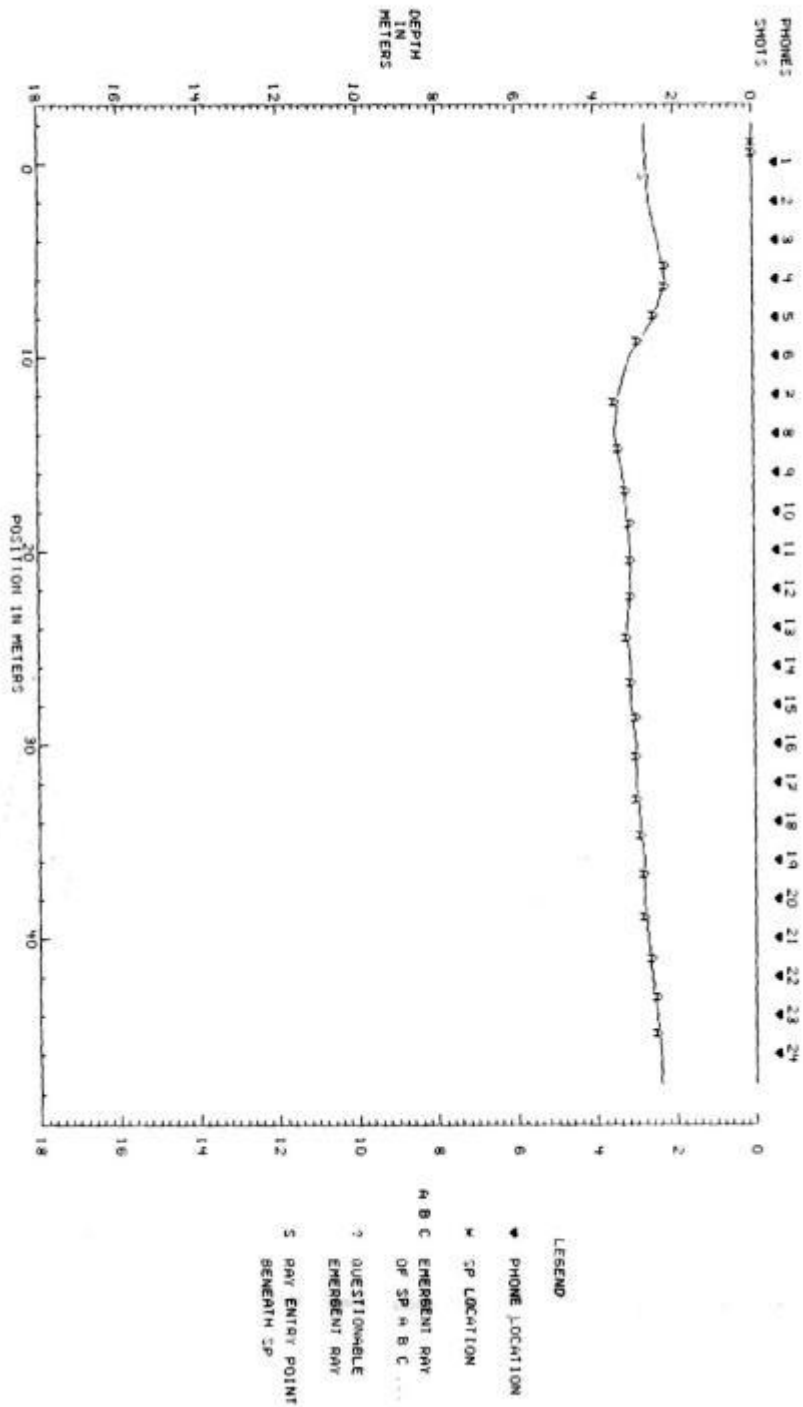
Layer 1	Layer 2
1181.	2013. n/s

LINE NUMBER 3-3 FILE106.LPK
TIME - DISTANCE PLOT



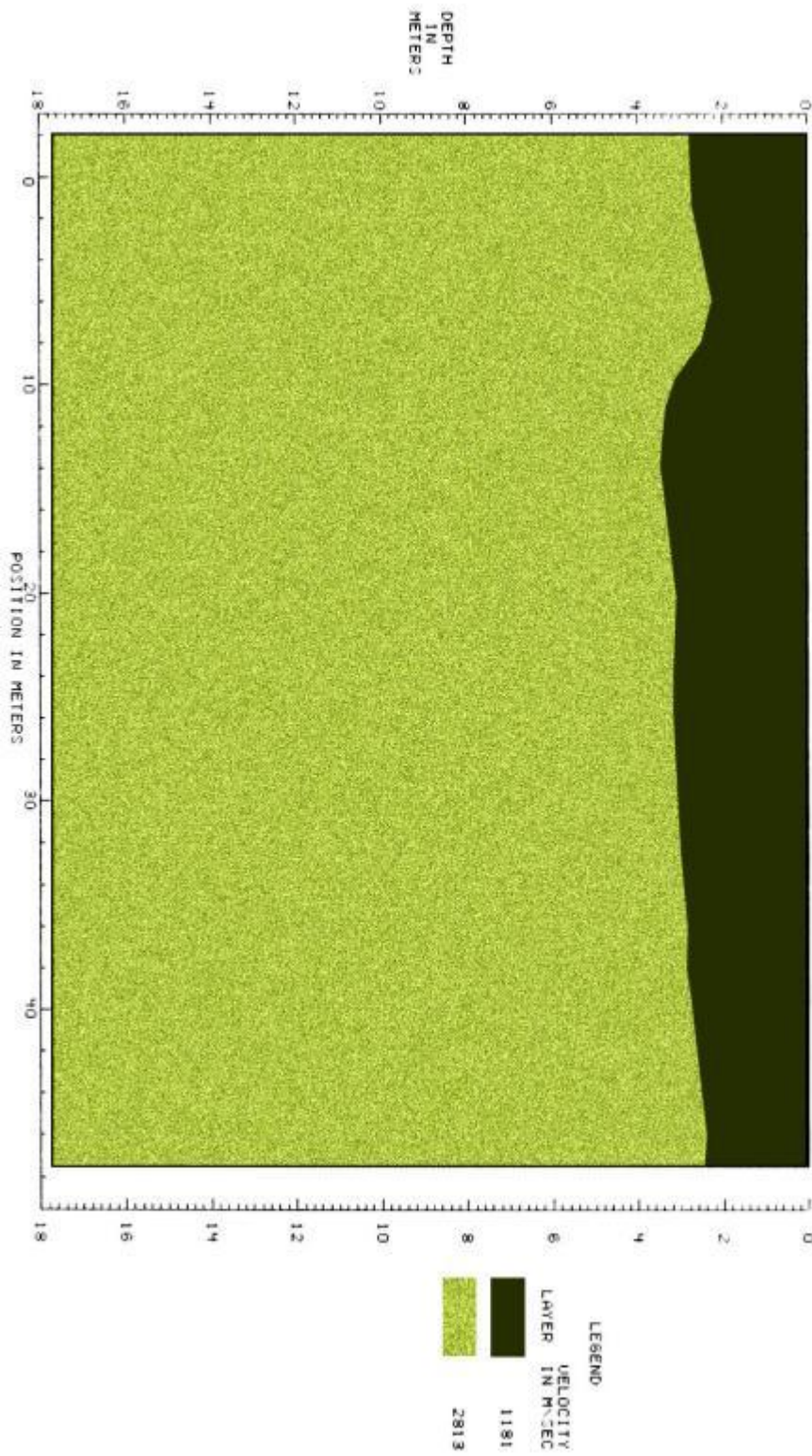
Travel Time Curve for Seismic line 3-3

LINE NUMBER 3-3 FILE106.LPK
DEPTH PLOT



Refraction waves at the second layer surface beneath the seismic line 3-3

LINE NUMBER 3-3 FILE106.LPK
DEPTH PLOT



Subsurface Geological cross- section beneath seismic line 3-3

THE SPREAD FILE D:\278113\109.LPK WAS MADE FROM THE FILED
109.BPK

SIPQC V-4.0 For Quality Control of ES-2401, SmartSeis & StrataView field data.

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For Final Interpretation, add Elev, Y-Loc, etc., and re-run on SIPT2.

TITLE: LINE NUMBER 4-4 FILE109.LPK

DATE: 2-03-2013 TIME: 1:19

Spread A contains 1 Shotpoints and 24 Geophones. Distance units: meters.

SP	Elev	X-Loc	Y-Loc	Depth
A	.0	-1.0	.0	.0

Arrival Times T and Layers L

Geo	Elev	X-Loc	Y-Loc	SP	A
				T	L
1	.0	.0	.0	1.0	1
2	.0	2.0	.0	2.3	1
3	.0	4.0	.0	4.0	2
4	.0	6.0	.0	5.0	2
5	.0	8.0	.0	6.0	2
6	.0	10.0	.0	7.3	2
7	.0	12.0	.0	7.0	2
8	.0	14.0	.0	8.5	2
9	.0	16.0	.0	8.0	2
10	.0	18.0	.0	9.3	2
11	.0	20.0	.0	10.0	2
12	.0	22.0	.0	10.7	2
13	.0	24.0	.0	11.3	2
14	.0	26.0	.0	11.0	2
15	.0	28.0	.0	12.3	2
16	.0	30.0	.0	12.5	2
17	.0	32.0	.0	13.0	2
18	.0	34.0	.0	13.3	2
19	.0	36.0	.0	13.0	2
20	.0	38.0	.0	14.0	0
21	.0	40.0	.0	14.5	2
22	.0	42.0	.0	15.3	2
23	.0	44.0	.0	15.0	2
24	.0	46.0	.0	16.3	2

Depths of layers directly beneath Shotpoints and Geophones for Spread A:

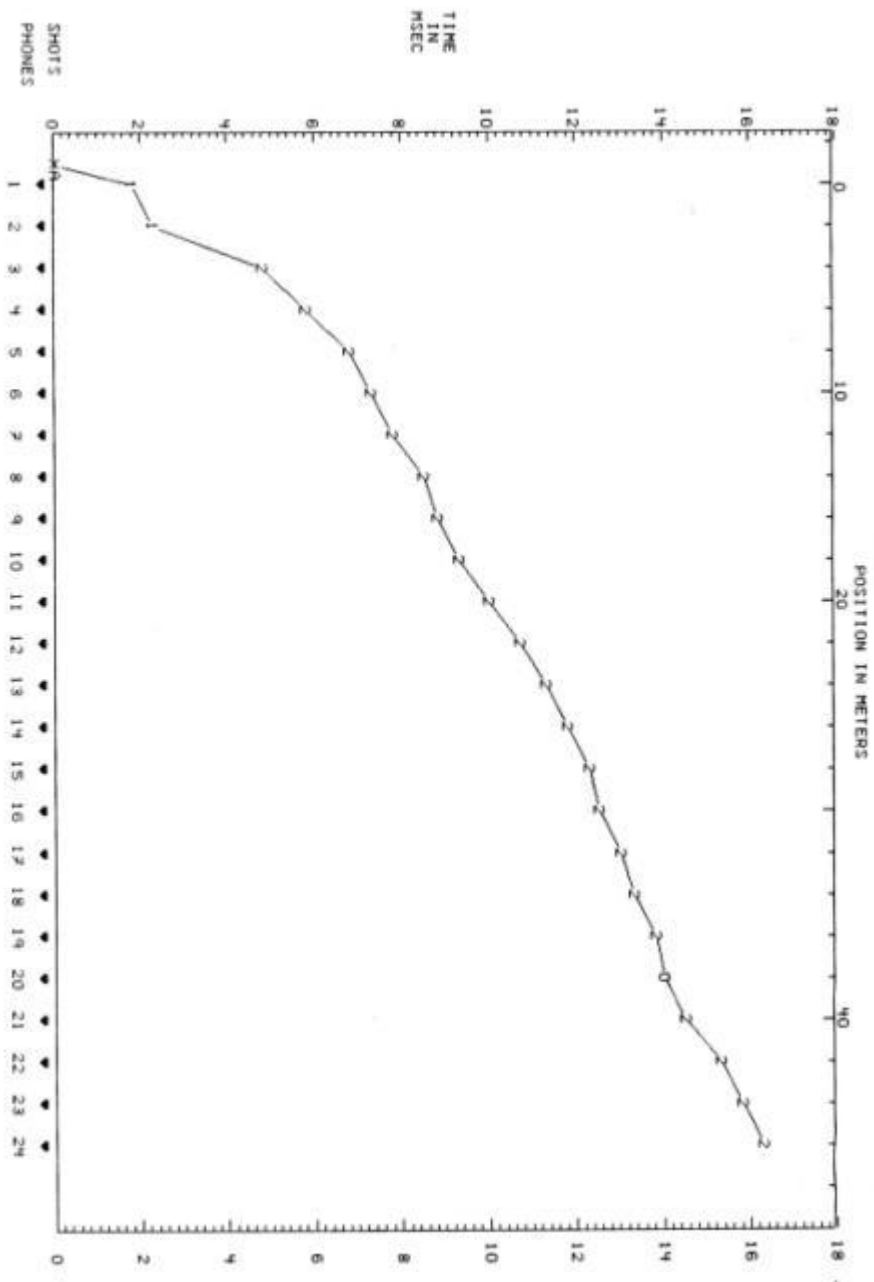
SP	X-Loc	Layer 2
A	-1.0	1.0
Geo		
1	.0	1.9
2	2.0	1.7
3	4.0	1.5
4	6.0	1.8
5	8.0	2.0
6	10.0	2.2
7	12.0	2.2
8	14.0	2.2
9	16.0	2.2
10	18.0	2.2
11	20.0	2.3
12	22.0	2.5
13	24.0	2.5
14	26.0	2.5
15	28.0	2.4
16	30.0	2.2
17	32.0	2.1
18	34.0	2.0
19	36.0	1.9
20	38.0	1.9
21	40.0	1.8
22	42.0	1.9
23	44.0	1.9
24	46.0	1.9

Times arrival of seismic waves beneath
the seismic line 4- 4

Velocities used:

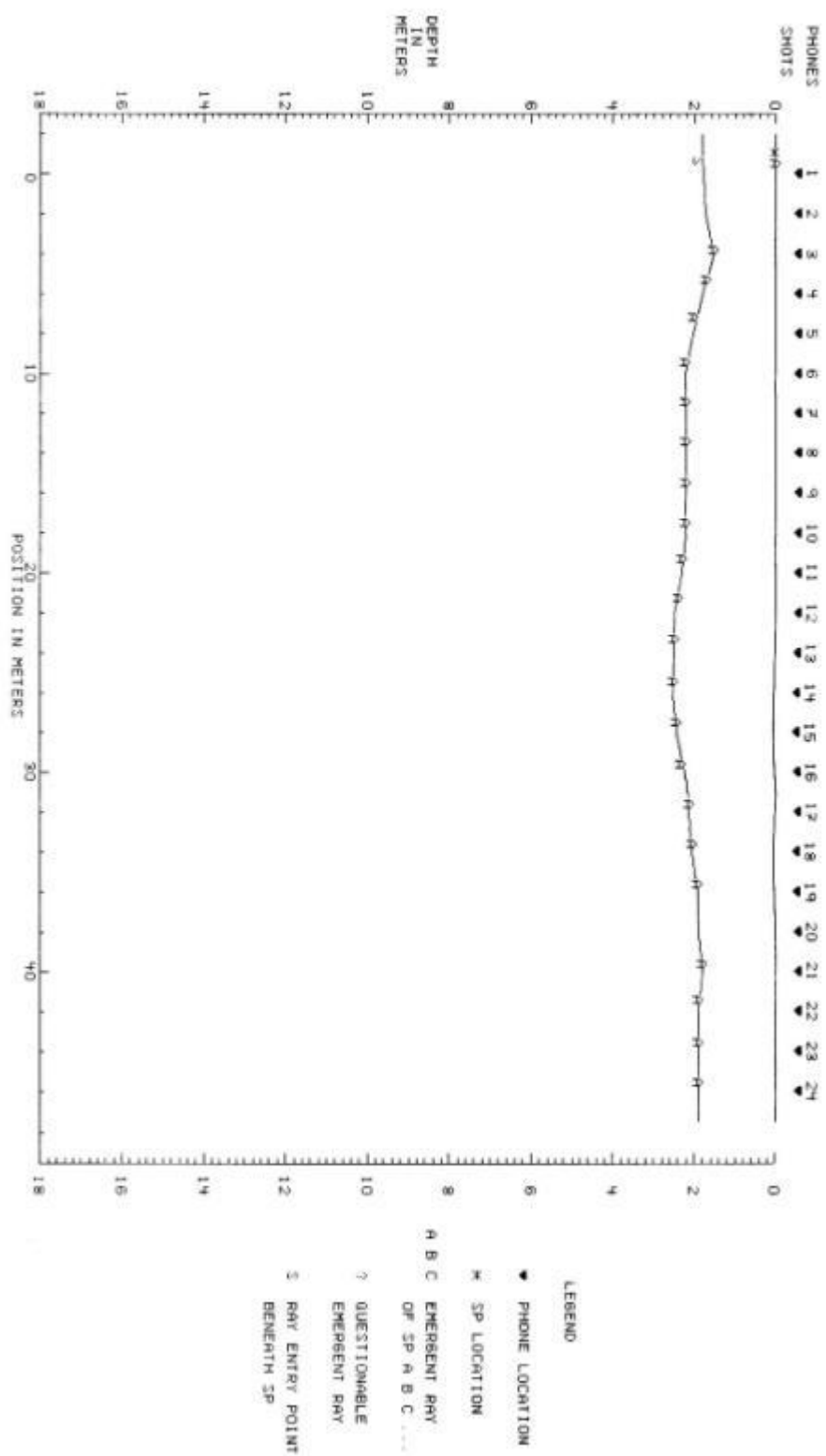
Layer 1	Layer 2
930.	3100. m/s

LINE NUMBER 4-4 FILE109.LPK
TIME - DISTANCE PLOT



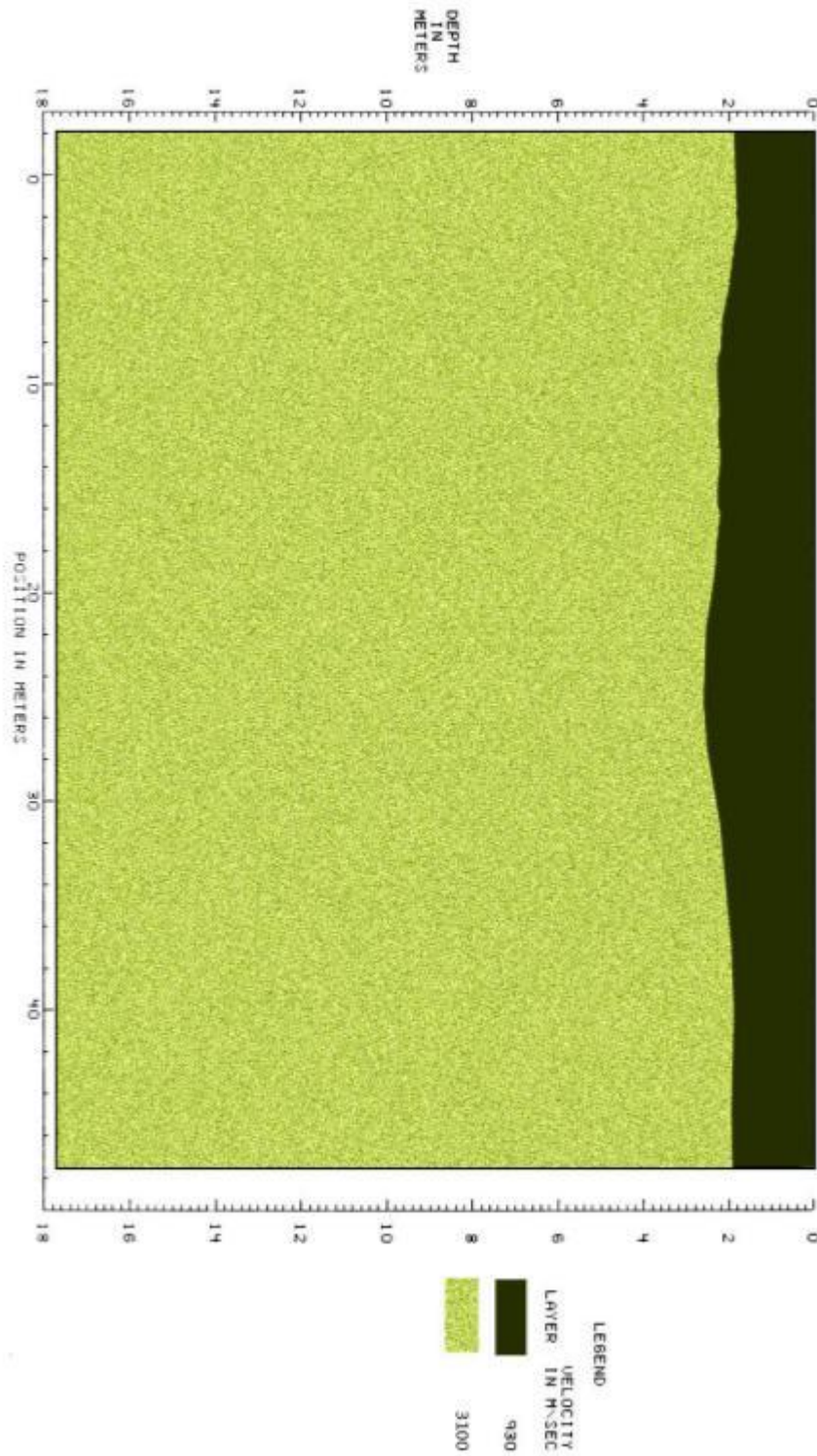
Travel Time Curve for Seismic line 4-4

LINE NUMBER 4-4 FILE109.LPK
DEPTH PLOT



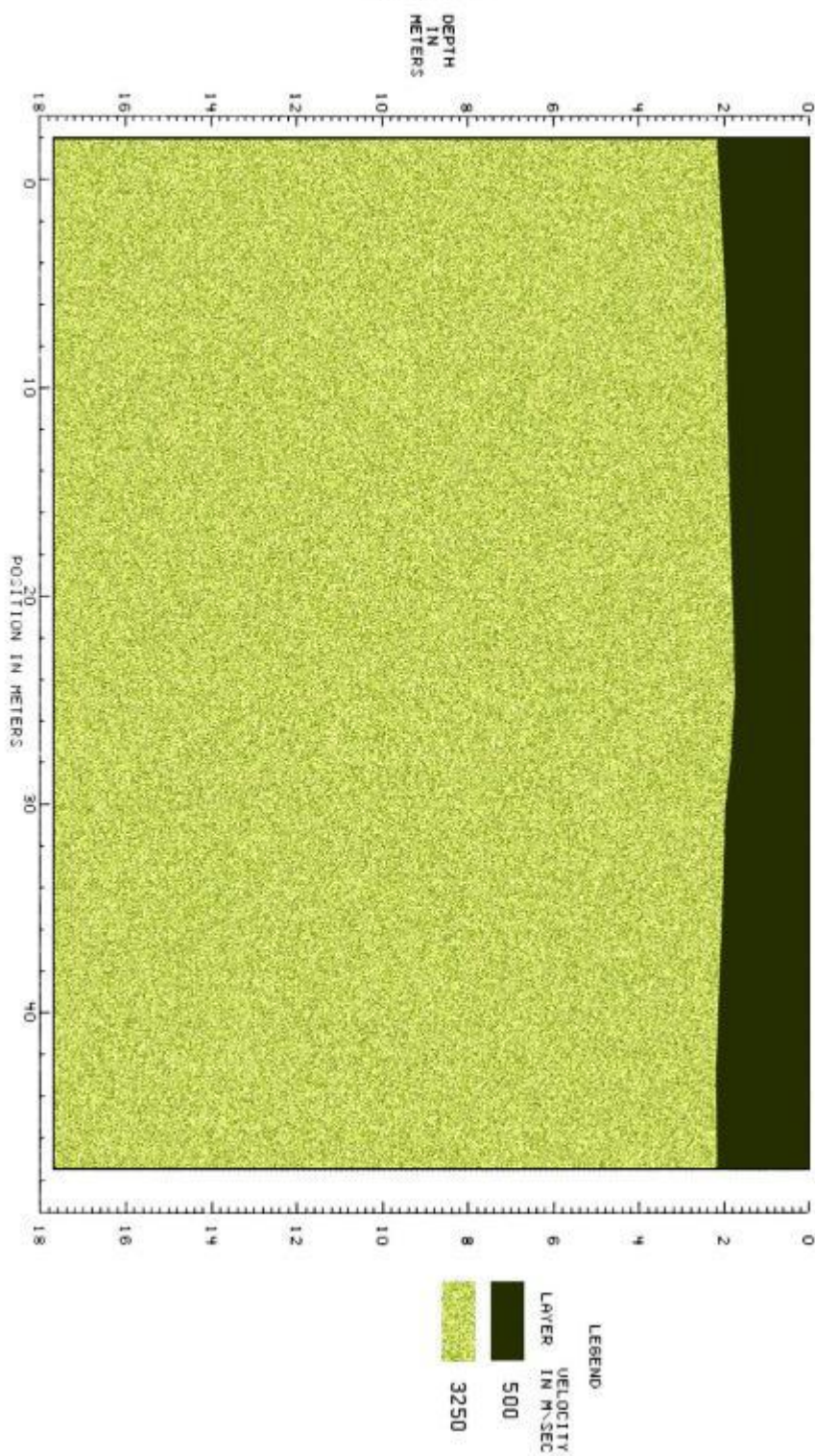
Refraction waves at the second layer surface beneath the seismic line 4-4

LINE NUMBER 4-4 FILE109.LPK
DEPTH PLOT



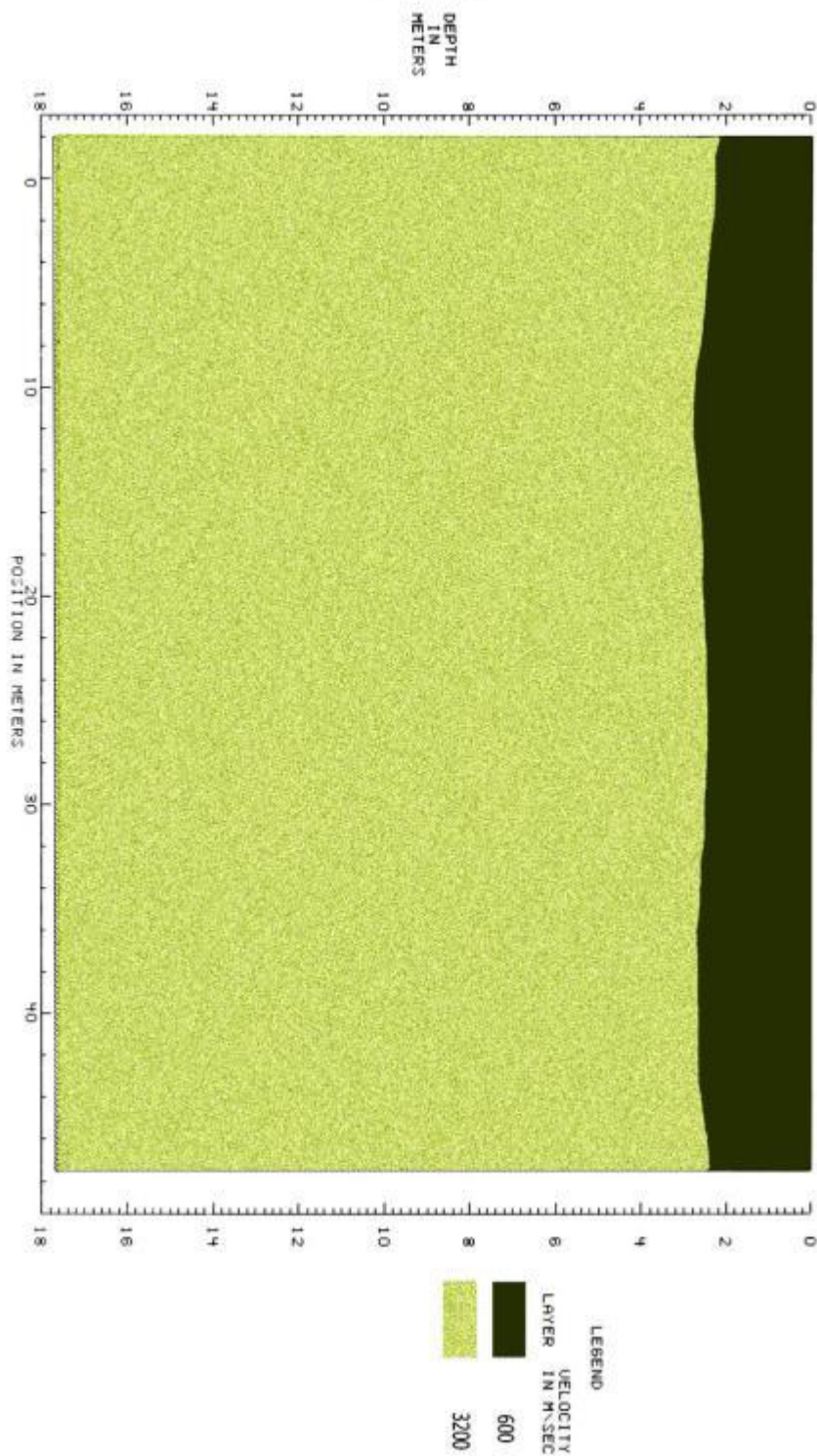
Subsurface Geological cross- section beneath seismic line 4-4

LINE NUMBER 5-5 FILE109.LPK
DEPTH PLOT



Subsurface Geological cross- section beneath seismic line 5-5

LINE NUMBER 6-6 FILE109.LPK
DEPTH PLOT



Subsurface Geological cross- section beneath seismic line 6-6