Appendix C

Field Sheets and Raw Data

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	18 - Corner Renaud Rd & Kemp Rd.
Date(s):	13-05-2005
Operator / Crew:	D. Muir & Miguel Macias

Type of Survey:	Shear Wave ~~Refraction~~ Measurement
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	vertical, 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver):		
	NW-SE	
	Eastings	Northings
MOL (UTM)	~~0457665~~	5030300
UTM Zone:	18 T	

0457564

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
18001.dat	122.5	+7.5	10	- on road bed
18002.dat	120	+5	10	- close to gas pipeline
18003.dat	57.5		8	
18004.dat	-5	-5	10	
18005.dat	-7.5	-7.5	10	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	20 - Chapel Hill Park Orleans	Date(s):	16-05-2005
Operator / Crew:	D. Muir ! A. Jones		

Type of Survey:	Shear Wave Refraction
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver):		
W-E		
	Eastings	Northings
MOL (UTM)	0457818	5033190
UTM Zone:	18 T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
20001.dat	122.5	+7.5	10	- very windy!
20002.dat	120	+5	10	- kids playing soccer in gym class
2003.dat	57.5		8	nearby during 20004.dat & 20005.dat
20004.dat	-5	-5	10	
20005 dat	-7.5	-7.5	10	
				- geophone arrows facing school
				- +ve polarity toward school

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 21 - Gerald Poulin Park	Date(s): 16-05-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Refraction
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver):		
~~E-W~~ ~~S-N~~ N-S		
	Eastings	Northings
MOL (UTM)	0457884	5032475
UTM Zone:	18T	

* how to save permanent parameter configurations on computer?

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
21001.dat	122.5	+7.5	1	disregard this file!
21002.dat	122.5	+7.5	2	disregard!
21003.dat	122.5	+7.5	10	
21004.dat	120	+5	10	
21005.dat	57.5		8	
21006.dat	-5	-5	10	note: geophones (arrows) facing jungle gym
21007.dat	-7.5	-7.5	10	+ve polarity towards jungle gym

?

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 22 - Longleaf Park Orleans	Date(s): 17-05-2005
Operator / Crew: A. Jones, D. Muir	

Type of Survey:	Shear Wave Refraction
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	horiz., 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
West - East		
	Eastings	Northings
MOL (UTM)	0458381	5032031
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	10
BP:	
Notch:	60

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
22001.dat	73.5	+4.5	8	- noise parameter @ 1mVolts
22002.dat	72	+3	8	
22003.dat	+34.5		8	
22004.dat	-3		8	
22005.dat	-4.5		10	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	23- Heritage Park - Orleans	Date(s):	17-05-2005
Operator / Crew:	A. Jones, D. Muir		

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	horizontal, 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
~~N-S~~ E-W		
	Eastings	Northings
MOL (UTM)	0458180	5033431
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
23001.dat	73.5	+4.5	8	- noise parameter at 1mVolt
23002.dat	72	+3	8	
23003.dat	34.5		8	
23004.dat	-3	-3	8	
23005.dat	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	24 - Forest Glen Park (Rivercrest Rd) Orleans
Date(s):	17-05-2005
Operator / Crew:	D. Muir, A. Jones

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	hor., 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
~~S-N~~ N-S		
	Eastings	Northings
MOL (UTM)	0457198	5033421
UTM Zone:		

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
24001.dat	73.5	+4.5	8	
24002.dat	72	+3	9	* 5 stacks +ve, 4 -ve in 24002.dat
24003.dat	34.5		8	
24004.dat	?			* 24004.dat is repeat of 24003.dat
24005.dat	-3	-3	8	
24006.dat	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	~~#~~25 - Roy Park Orleans
Date(s):	20-05-2005
Operator / Crew:	D. Muir, M. Macias

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs.
Receivers (orientation & frequency):	horiz. 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver):		
NW-SE		
	Eastings	Northings
MOL (UTM)	0458602	5033092
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
25001.dat	122.5	+7.5	10	- very bad record.
				- signal does not reach the end of line (geophones 24 to 12)
25002.dat	120	+5	10	- again signal only reaches 10th-11th geophones from this pt.
25003.dat	57.5		10	- a lot of noise (low freq.) in geophones 1 to 12, signal is lower from geophones 13-24.
~~25004.dat~~				
25004.dat	-5	-5	10	- signal reaches geophones 12-13 from this shot pt.
25005.dat	-7.5	-7.5	10	- signal reaches geophones 12-13 from this shot pt

* on soccer field. *

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 26 - Silverberch Park (Orleans)	Date(s): 20-05-2005
Operator / Crew: D. Muir, M. Macias	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	horiz., 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
~~SE - NW~~ NW - SE		
	Eastings	Northings
MOL (UTM)	0458581	5032270
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
26001.dat	73.5	+4.5	10	disregard. b/c wrong geometry setup.
26002.dat	73.5	+4.5	8	(5+ve, 3 -ve)
26003.dat	72	~~+3.0~~	9	(5+ve, 4-ve)
26004.dat	34.5		8	
26005.dat	-3.0	-3.0	9	(5+ve, 4-ve)
26006.dat	-4.5	-4.5	8	
				* note: this area was very noisy due to many vehicles on Orleans Blvd.

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 27 - Racette Park - Orleans	Date(s): 24-05-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	Horiz., 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
~~NW-SE~~ SE-NW		
	Eastings	Northings
MOL (UTM)	0456103	5034469
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	~~20~~ 25
BP:	
Notch:	60

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
27001.dat	73.5	+4.5	8	- near construction site and large blvd.
27002.dat	72	+3	10	- quite noisy
27003.dat	34.5		8	
27004.dat	-3	-3	8	
27005.dat	-4.5	-4.5	10	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 28 - Louis Perrault Park - Orleans	Date(s): 24-05-2005
Operator / Crew: A. Jones, D. Muir	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	horiz., 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
~~NW-SE~~ SE-NW		
	Eastings	Northings
MOL (UTM)	0459484	5033885
UTM Zone:	18 T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
28001.dat	73.5	+4.5	10	
28002.dat	72	+3	8	
28003.dat	34.5		8	
28004.dat	-3	-3	8	
28005.dat	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	29 - Barrington Park
Date(s):	
Operator / Crew:	A. Jones, J.D. Muir

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	Horiz., 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
~~NE-SW~~	SW-NE	
	Eastings	Northings
MOL (UTM)	0458484	5033885 → ?
UTM Zone:	18 T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	25
BP:	
Notch:	60

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
29001.dat	73.5	+4.5	7	
29002.dat	72	+3	8	
29003.dat	34.5		7	*note: polarity on record reversed from
29004.dat	-3	-3	6	shot polarity for file 29003.dat
29005.dat	-4.5	-4.5	9	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	30 - Cariere Park - Orleans	Date(s):	25-05-2005
Operator / Crew:	D. Muir, A. Jones		

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	Horiz., 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
East - West		
	Eastings	Northings
MOL (UTM)	0459076	5034914
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
30001.dat	73.5	+4.5	8	
30002.dat	72	+3	8	
30003.dat	34.5		8	
30004.dat	-3	-3	8	
30005.dat	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 31 · Grey-Nun's Park - Orleans	Date(s): 25-05-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	horiz., 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
E-W		
	Eastings	Northings
MOL (UTM)	0457750	5035000
UTM Zone:	18 T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
31001.dat	73.5	+4.5	8	
31002.dat	72	+3	8	
31003.dat	34.5		8	
31004.dat	-3	-3	8	
31005.dat	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	32- Yves Richer Park - Orleans
Date(s):	26-05-2005
Operator / Crew:	D. Muir, M. Macias

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	Horiz. , 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
~~N-S~~ ~~E-W~~		W-E
	Eastings	Northings
MOL (UTM)	0461218	5034446
UTM Zone:	18 T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
32001.dat	73.5	+4.5	8	- ground dips slightly from
32002.dat	72	+3	8	geophone 24 to geophone 1
32003.dat	34.5		7	- valley is crest at bottom to west
32004.dat	-3	-3	8	of geophone 1
32005.dat	-4.5	-4.5		

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	33- ~~Kanso~~ Queensowood Park - Orleans
Date(s):	26-05-2005
Operator / Crew:	D. Muir, M. Macias

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horiz, 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver):		
~~N-S~~ S-N		
	Eastings	Northings
MOL (UTM)	0460589	5036082
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
33001.dat	122.5		6	
33002.dat	120		6	* Note = mistake made geometry
33003.dat	57.5		6	setup on MGOS not at 120m
33004.dat	-5		6	for file 33002.dat but shot
33005.dat	-7.5		6	location was at 120 m
				Spread line laid down
				between running track
				and hill.

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	34-Cardinal Farms Park - Orleans
Date(s):	30-05-2005
Operator / Crew:	D. Muir, A. Jones

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs.
Receivers (orientation & frequency):	Horiz., 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
E-W		
	Eastings	Northings
MOL (UTM)	0445414	5025607
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
34001.dat	73.5	+4.5	8	
34002.dat	72	+3	8	
34003.dat	34.5		8	
34004.dat	-3	-3	8	
34005.dat	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	35 - Barnabé Park - Orleans
Date(s):	30 - 05 - 2005
Operator / Crew:	D. Muir, A. Jones

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer
Receivers (orientation & frequency):	Horiz, 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver): ~~N-S~~ S - N

	Eastings	Northings
MOL (UTM)	0460344	5034237
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
35001.dat	122.5	+7.5	8	
35002.dat	120	+5	8	
35003.dat	57.5		8	
35004.dat	-5	-5	8	
35005.dat	-7.5	-7.5	8	

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Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 36 - Gardenway Park - Orleans	Date(s): 31-05-2005
Operator / Crew: A. Jones, D. Muir	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horiz, 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
S-N		
	Eastings	Northings
MOL (UTM)	0462324	5034923
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
36001.dat	73.5	+4.5	8	
36002.dat	72	+3	8	
36003.dat	34.5		8	
36004.dat	-3	-3	8	
36005.dat	-4.5	-4.5	7	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 37 - Apollo Park	Date(s): 31-05-2005
Operator / Crew: Jones, Muir	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs.
Receivers (orientation & frequency):	Horiz. 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver):		
N-S		
	Eastings	Northings
MOL (UTM)	0461733	5035996
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
37001.dat	122.5	+7.5	7	- line is spread btwn the road and a very large land depression (resembling a sink hole)
37002.dat	120	+5	8	
37003.dat	57.5		8	
37004.dat	-5		8	
37005.dat	-7.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 38 - Ray Friel Park - Orleans	Date(s): 31-05-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horiz, 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
E-W		
	Eastings	Northings
MOL (UTM)	0461687	5035371
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
38001.dat	73.5		8	
38002.dat	72		8	
38003.dat	34.5		8	
38004.dat	-3		8	
38005.dat	-4.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 39 - Ravine Park - Orleans	Date(s): 1-06-2005
Operator / Crew:	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horiz. 4.5 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
~~N-S~~ S-N		
	Eastings	Northings
MOL (UTM)	0460071	5035538
UTM Zone:	18 T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
39001.dat	73.5		8	
39002.dat	72		8	
39003.dat	34.5		8	
39004.dat	-3		8	
39005.dat	-4.5		7	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 40 - Centennial Park - Orleans	Date(s): 1-06-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs.
Receivers (orientation & frequency):	Horiz., 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
S-N		
	Eastings	Northings
MOL (UTM)	0460297	5035297
UTM Zone:	18T	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
40001.dat	73.5		8	
40002.dat	72		8	
40003.dat	34.5		8	
40004.dat	-3		8	
40005.dat	-4.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	site 41 Kinsella Park Orleans
Date(s):	1st June 05
Operator / Crew:	D. Muir, A. Jones

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3m

Direction of Line (source to receiver):		
~~E-W~~ W-E		
	Eastings	Northings
MOL (UTM)	0461044	5035191
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
41001	73.5	4.5	8	
41002	72	3	8	
41003	34.5		8	
41004	-3	-3	8	
41005	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	42 - Beriault Park - Orleans
Date(s):	21-06-2005
Operator / Crew:	D. Muir, A. Jones

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
~~N-S~~ S-N		
	Eastings	Northings
MOL (UTM)	~~512~~ 0459784	5034582
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
42001	73.5	+4.5	8	- noisy site → next to road
42002	72	+3	8	- mix of soil + gravel where
42003	34.5		8	geophones are
42004	-3		8	
42005	-4.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 43 - Marcel Lalande Park-Orleans	Date(s): 3-06-2005
Operator / Crew: A. Jones, D. Muir	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
E-W		
	Eastings	Northings
MOL (UTM)	0462832	5035372
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
43001.dat	73.5		8	
43002.dat	72		8	
43003.dat	34.5		8	
43004	-3		8	
43005	-4.5		8	

Carleton University Seismic Survey Recording Sheet

Project: Ottawa Area Microzonation	
Site Location: 44 - Walters Park - Orleans	Date(s): 3-06-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs.
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
~~S-N~~ N-S		
	Eastings	Northings
MOL (UTM)	0462264	5036374
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
44001.dat	73.5m	+4.5m	8	
44002.dat	72m	+3m	8	
44003.dat	34.5m		8	
44004.dat	-3m	-3m	8	
44005.dat	-4.5m	-4.5m	8	

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Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 45- Fallingbrook Community Park	Date(s): 3-06-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
W-E		
	Eastings	Northings
MOL (UTM)	0461807	5036469
UTM Zone:	18 T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
45001	73.5	+4.5	8	
45002	72	-3	8	
45003	34.5		8	
45004	-3	-3	8	
45005	-4.5	-4.5	8	

?

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 46 - des Pionniers Park - Orleans	Date(s): 6-6-2005
Operator / Crew: A. Jones, D. Muir	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
NE - SW		
	Eastings	Northings
MOL (UTM)	0462457	5035455
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
46001	73.5	+4.5	8	
46002	72	+3	8	
46003	34.5		8	
46004	-3	-3	8	
46005	-4.5	-4.5	8	

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Carleton University Seismic Survey Recording Sheet

Project: Ottawa Area Microzonation	
Site Location: 47- Bilberry Park - Orleans	Date(s): 6-6-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
	Eastings	Northings
MOL (UTM)	0458514	5036176
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
47001.dat	73.5	-4.5	8	Sweep twice 47001 and 47002
47002.dat	72	+3	8	
47004.dat	34.5		8	
47005.dat	-3m	-3	8	
47006.dat	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project: Ottawa Area Microzonation	
Site Location: 48 - Varennes Park - Orleans	Date(s): 6-6-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12-lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
N-S		
	Eastings	Northings
MOL (UTM)	0463015	5036071
UTM Zone:	18 T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
48001	73.5		8	very windy!!
48002	72		8	sewer drain located beside
48003	34.5		8	
48004	-3		8	
48005	-4.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	49 Marsha's Park Orleans	Date(s):	7-6-2005
Operator / Crew:	D. Muir, A Jones		

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
SW-NE		
	Eastings	Northings
MOL (UTM)	0460053	5037091
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
49001	73.5	+4.5	8	Windy
49002	72	+3	8	
49003	34.5		8	
49004	-3	-3	8	
49005	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	50 Big Bird Park Orleans	Date(s):	7-6-2005
Operator / Crew:	D. Muir, A. Jones		

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver):		
E-W		
	Eastings	Northings
MOL (UTM)	0460168	5037086
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
50001	122.5	+7.5	8	Windy
50002	120	+5	8	High Frequency Noise
50003	57.5		8	
50004	-5	-5	8	
50005	-7.5	-7.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	S1 10th Line Rd near North Service
Date(s):	7-6-2005
Operator / Crew:	D. Muir, A. Jones

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
S-N		
	Eastings	Northings
MOL (UTM)	0460578	5037422
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
S1001	73.5	+4.5	8	Very windy, Many cars, Sandy soil
S1002	72	+3	8	
S1003	34.5		8	
S1004	-3	-3	8	
S1005	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 52 - North Vineyard Park - Orleans	Date(s): 9-6-2005
Operator / Crew: D. Muir, M. Macias	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (~~source to receiver~~ geophone 1 to 24): SE-NW

	Eastings	Northings
MOL (UTM)	0456961	5035822
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
52001	122.5		8	
52002	120		8	
52003	57.5		8	
52004	-5		8	
52005	-7.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location:	S3 - Jeanne ~~Mance~~ MDArc Park - Orleans
Date(s):	9-6-2005
Operator / Crew:	D. Muir, M. Macias

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

geophone #1 to #24

Direction of Line (~~source to receiver~~):		
W-E		
	Eastings	Northings
MOL (UTM)	0457316	5035795
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

51.3/215

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
S3001	122.5		8	
S3002	120		8	
S3003	57.5		8	
S3004	-5		8	
S3005	-7.5		7	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 54- Hiawatha Park - Orleans	Date(s): 10 - 6 - 2005
Operator / Crew: D. Muir, M. Macias	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver):		
NE - SW		
	Eastings	Northings
MOL (UTM)	0457095	5036071
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
54001	122.5		8	- very noisy site (geophones 1 to 11 are
54002	120		8	constantly noisy
54003	57.5		8	
54004	-5		8	
54005	-7.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 55- Luc Major	Date(s): 10-6-2005
Operator / Crew: D. Muir, M. Macias	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
NW-SE		
	Eastings	Northings
MOL (UTM)	0458307	5036698
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
55001	73.5		8	
55002	72		8	
55003	34.5		6	
55004	-3		8	
55005	-4.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	St- Pierre Rocque Park - Orleans	Date(s):	13- 6-2005
Operator / Crew:	D. Muir, A. Jones		

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
NE - SW		
	Eastings	Northings
MOL (UTM)	0458914	5035762
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
56001	73.5		8	
56002	72		8	
56003	34.5		8	
56004	-3		8	
56005	-4.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	57 - Terry Fox Park - Orleans	Date(s):	13-6-2005
Operator / Crew:	A. Jones, D. Muir		

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
SE - NW		
	Eastings	Northings
MOL (UTM)	0457934	5035699
UTM Zone:	18 T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
57001	73.5		8	very very noisy! (very close to 417)
57002	72		7	
57003	34.5		8	
57004	-3		8	
57005	-4.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 58 - Décarie Park - Orleans	Date(s): 13-6-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
W-E		
	Eastings	Northings
MOL (UTM)	0458630	5036931
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
58001	73.5	+4.5	8	
58002	72	+3.0	8	
58003	34.5		7	
58004	-3.0	-3.0	8	
58005	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 60 - Blackburn Park - Blackburn Hamlet	Date(s): 16 - 06 - 2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
E-W		
	Eastings	Northings
MOL (UTM)	0455927	5030824
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
60001	73.5	+4.5	8	
60002	72	+3	8	
60003	34.5		8	
60004	-3	-3	8	
60005	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project: Ottawa Area Microzonation	
Site Location: 61 - Francois Dupont Park	Date(s): 20-06-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver):		
N-S		
	Eastings	Northings
MOL (UTM)	0459225	5037413
UTM Zone:		

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
61001	122.5	+7.5	8	
61002	120	+5	8	
61003	57.5		8	
61004	-5	-5	8	
61005	-7.5	-7.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 62 - Orleans bowl. corner Blue Willow	Date(s): 20 - 06 - 2005
Operator / Crew: A. Jones, D. Muir	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
SW - NE		
	Eastings	Northings
MOL (UTM)	0458702	5031552
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
62001	73.5		8	
62002	72		8	
62003	34.5		8	
62004	-3		8	
62005	-4.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 63- South Park - Blackburn Hamlet	Date(s): 20-06-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
SE - NW		
	Eastings	Northings
MOL (UTM)	0455444	5031248
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
63001	73.5	+4.5	8	
63002	72	+3.0	8	
63003	34.5		8	
63004	-3.0	-3.0	8	
63005	-4.5	-4.5	4	Positive only
63006	-4.5	-4.5	8	Positive & Negative polarity

Carleton University Seismic Survey Recording Sheet

Project: Ottawa Area Microzonation	
Site Location: 68 - Millenium Sports Park - Orleans	Date(s): 22 - 06 - 2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
E-W		
	Eastings	Northings
MOL (UTM)	0464883	5034878
UTM Zone:	18 T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
68001	73.5		8	very windy!
68002	72		8	
68003	34.5		8	
68004	-3		8	
68005	-4.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 69 - Isaie Savage Park - Notre-Dame des Champs	Date(s): 22-06-2005
Operator / Crew: A. Jones, D. Muir	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
S-N		
	Eastings	Northings
MOL (UTM)	0462054	5030407
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
69001	73.5	14.5	8	
69002	72	+3.0	8	
69003	34.5		8	
69004	-3.0	-3.0	8	
69005	-4.5	-4.5	8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 70 - Notre Dame des Champs Park - N.D.C.	Date(s): 22 - 06 - 2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
W-E		
	Eastings	Northings
MOL (UTM)	446492	5030663
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
70001	73.5		8	- constant very low freq. noise
70002	72		8	
70003	34.5		8	
70004	-3		8	
70005	-4.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 71- Tauvette Park - Blackburn Hamlet	Date(s): 22-06-2005
Operator / Crew: D. Muir, A. Jones	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
NW - SE		
	Eastings	Northings
MOL (UTM)	0455261	5030526
UTM Zone:	18 T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
71001	73.5		8	- very very windy!
71002	72		8	
71003	34.5		8	
71004	-3		8	note: file 71004 the polarities were
71005	-4.5		8	reversed (began in neg. and switched to pos.)

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 72 · Wall Rd. btwn 10th line & Trim-Orleans	Date(s): 23-06-2005
Operator / Crew: D. Muir, M. Maetas	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver):		
W-E		
	Eastings	Northings
MOL (UTM)	0464836	5032162
UTM Zone:	18 T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
72001	122.5		8	
72002	120		8	
72003	57.5		9	
72004	-5		8	
72005	-7.5		8	

Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation
Site Location: 73-Trim Road	Date(s): 23-06-2005
Operator / Crew: D. Muir.	

Type of Survey:	Shear Wave Measurments
Seismograph:	Geode
Source:	Hammer 12 lbs
Receivers (orientation & frequency):	Horizontal; 4.5Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	5

Direction of Line (source to receiver):		
N-S		
	Eastings	Northings
MOL (UTM)	0465347	5033087
UTM Zone:	18T	

Filters (Hz):	
HC:	
LC:	
BP:	
Notch:	

No. of samples/trace:	1000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
73001	122.5		8	in ditch on side of road
73002	120		8	
73003	57.5		8	
73004	-5		8	
73005	-7.5		8	

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	242 FRANK KENNY @ BEATON	Date(s):	16-Jun-06
Operator / Crew:	Burns/Douma/Cartwrigtht		

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Geode
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
S to N		
	Eastings	Northings
MOL (UTM)	465759	5035900
UTM Zone:	18 T	

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	2000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
242001	-30	30	6+6	on roadbed
242002	-4.5	4.5	5+5	wind steady
242003	-3	3	5+4	
242004	34.5	12 & 13	3+3	
242005	72	3	5+5	
242006	73.5	4.5	5+5	
242007	99	30	6+7	

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	243	Date(s):	16-Jun-06
Operator / Crew:	Cartwright/Douma/Burns		

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Geode
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
S to N		
	Eastings	Northings
MOL (UTM)	464985	5037850
UTM Zone:	18 T	

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	2000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
243001	-30	30	3+4	on roadbed
243002	-4.5	4.5	3+3	wind steady
243003	-3	3	3+3	
243004	34.5	12 & 13	2+2	
243005	72	3	3+3	wrong position in header
243006	73.5	4.5	3+3	
243007	99	30	5+5	

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	Site 291 tenth line	Date(s):	27-Sep-06
Operator / Crew:	Hunter/Burns		

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Strataview
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
S-N		
	Eastings	Northings
	462310	5033112
UTM Zone:	18 T	

elev 88m
acc 6m

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	4000
Record Length (s):	1
Delay (ms):	0
Sample rate (ms):	0.25

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
291001	-30	30	3+3	sunny and warm
291002	-4.5	4.5	2+2	arrow away from road
291003	-3	3	2+2	hammer towards road pol pos
291004	34.5	mid	2+2	hammer away from road pol neg
291005	72	3	2+2	channel 8hz channels 2 to 24 4.5hz horizontals
291006	73.5	4.5	2+2	
291007	99	30	3+3	very very noisy site construction
				high volume traffic heavy trucks

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	Site 292 tenth line	Date(s):	27-Sep-06
Operator / Crew:	Hunter/Burns		

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Strataview
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
S-N		
	Eastings	Northings
	462662	5032230
UTM Zone:	18 T	

elev 87m
acc 5m

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	4000
Record Length (s):	1
Delay (ms):	0
Sample rate (ms):	0.25

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
292001	-30	30	3+3	sunny and warm
292002	-4.5	4.5	2+2	arrow away from road
292003	-3	3	2+2	hammer towards road pol pos
292004	34.5	mid	1+1	hammer away from road pol neg
292005	72	3	2+2	channel 8hz channels 2 to 24 4.5hz horizontals
292006	73.5	4.5	2+2	
292007	99	30	3+3	very noisy construction site
				gravel shaker operating 150m away

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	Site 293	Date(s):	27-Sep-06
Operator / Crew:	Hunter/Burns		

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Strataview
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
W-E		
	Eastings	Northings
	463862	5031766
UTM Zone:	18 T	

elev 91 m
acc 5 m

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	4000
Record Length (s):	1
Delay (ms):	0
Sample rate (ms):	0.25

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
293001	-30	30	5+5	sunny warm high wind
293002	-4.5	4.5	3+3	arrow away from road
293003	-3	3	3+3	hammer towards road pol pos
293004	34.5	mid	2+2	hammer away from road pol neg
293005	72	3	3+3	channel 8hz channels 2 to 24 4.5hz horizontals
293006	73.5	4.5	3+3	
293007	99	30	5+5	no traffic or construction

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation			
Site Location:	Site 294	Ottawa River Parkway	Date(s):	05-Oct-06
Operator / Crew:	Hunter/Burns			

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Strataview
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
S-N		
	Eastings	Northings
	454538	5034958
UTM Zone:	18 T	

acc 5 m

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	4000
Record Length (s):	1
Delay (ms):	0
Sample rate (ms):	0.25

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
294001	-30	30	5+5	sunny but cool
294002	-4.5	4.5	3+3	arrow away from road
294003	-3	3	3+3	hammer towards road pol pos
294004	34.5	mid	2+2	hammer away from road pol neg
294005	72	3	3+3	channel 8hz channels 2 to 24 4.5hz horizontals
294006	73.5	4.5	3+3	
294007	99	30	5+5	beside parking lot soil clay wet

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation				
Site Location:	Site 295	Ottawa River Parkway	Greens creek	Date(s):	05-Oct-06
Operator / Crew:	Hunter/Burns				

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Strataview
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
W-E		
	Eastings	Northings
	458429	5035299
UTM Zone:	18 T	

elev 57m
acc 5 m

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	4000
Record Length (s):	1
Delay (ms):	0
Sample rate (ms):	0.25

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
295001	-30	30	4+4	sunny but cool
295002	-4.5	4.5	3+3	arrow away from road
295003	-3	3	3+3	hammer towards road pol pos
295004	34.5	mid	2+2	hammer away from road pol neg
295005	72	3	3+3	channel 8hz channels 2 to 24 4.5hz horizontals
295006	73.5	4.5	3+3	
295007	99	30	4+4	in field beside parkway

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation				
Site Location:	Site 296	Ottawa River Parkway	Greens creek	Date(s):	05-Oct-06
Operator / Crew:	Hunter/Burns				

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Strataview
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
S-N		
	Eastings	Northings
	455226	5034488
UTM Zone:	18 T	

elev 54m
acc 5 m

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	4000
Record Length (s):	1
Delay (ms):	0
Sample rate (ms):	0.25

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
296001	-30	30	4+4	sunny but cool
296002	-4.5	4.5	3+3	arrow away from road
296003	-3	3	3+3	hammer towards road pol pos
296004	34.5	mid	2+2	hammer away from road pol neg
296005	72	3	3+3	channel 8hz channels 2 to 24 4.5hz horizontals
296006	73.5	4.5	3+3	
296007	99	30	4+4	on side of road wet ditch close to Hwy 174 noisey

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	Site 297 Innes Rd near Good Shepherd church	Date(s):	13-Oct-06
Operator / Crew:	Hunter/Burns		

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Strataview
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
W-E		
	Eastings	Northings
	457612	5032048
UTM Zone:	18 T	

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	4000
Record Length (s):	1
Delay (ms):	0
Sample rate (ms):	0.25

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
297001	-30	30	5+5	overcast
297002	-4.5	4.5	4+4	arrow away from road
297003	-3	3	4+4	hammer towards road pol pos
297004	34.5	mid	4+4	2 second record hammer away from road pol neg
297005	34.5	mid	4+4	channel 1 8Hz horiz ch 2 to 24 4.5hz horizontal
297006	72	3	4+4	wrong header
297007	73.5	4,5	4+4	
297008	99	30	6+6	

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	Site 298 Navan Rd. near Innes	Date(s):	8-Nov-06
Operator / Crew:	Hunter/Burns/Crow		

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Strataview
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
W-E		
	Eastings	Northings
	457703	5031413
UTM Zone:	18 T	

elev 84m
acc 5m

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	4000
Record Length (s):	1
Delay (ms):	0
Sample rate (ms):	0.25

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
298001	-30	30	6+6	light rain mist
298002	-4.5	4.5	4+4	arrow away from road
298003	-3	3	4+4	hammer towards road pol pos
298004	34.5	mid	2+2	channel 1 8Hz horiz ch 2 to 24 4.5hz horizontal
298005	72	3	4+4	changed seismographs channel 1 on pilot
298006	73.5	4.5	4+4	channel 1 on pilot
298007	99	30	6+6	channel 1 on pilot

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	Site 299 Innes Road Bypass	Date(s):	8-Nov-06
Operator / Crew:	Hunter/Burns/Crow		

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Strataview
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
W-E		
	Eastings	Northings
	457084	5031190
UTM Zone:	18 T	

elev 74 m
acc 7m

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	4000
Record Length (s):	1
Delay (ms):	0
Sample rate (ms):	0.25

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
299001	34.5	mid	2+2	light rain mist
299002	-4.5	4.5	3+3	arrow away from road
299003	-3	3	3+3	hammer towards road pol pos
299004	72	3	3+3	channel 1 8Hz horiz ch 2 to 24 4.5hz horizontal
299005	73.5	4.5	3+3	
				********** Note number 1channel on pilot position

GSC-Carleton University Seismic Survey Recording Sheet

Project:	Ottawa Area Microzonation		
Site Location:	303 Mer Blue South of Innes	Date(s):	30-Jun-06
Operator / Crew:	Douma\Good\Cartwright		

Type of Survey:	SH Shear Wave Reflection/Refraction Measurements
Seismograph:	Geode
Source:	Hammer two direction of polarization summed
Receivers (orientation & frequency):	Transverse Horizontal; 8 Hz

Geometry:	
No. of channels:	24
Geophone Spacing (m):	3

Direction of Line (source to receiver):		
S to N		
	Eastings	Northings
Phone 24	461007	5032591
UTM Zone:	18 T	

Filters (Hz):	
HC:	-
LC:	-
BP:	-
Notch:	-

No. of samples/trace:	2000
Record Length (s):	2
Delay (ms):	0
Sample rate (ms):	1

File name (*.dat)	Shot point Position (m)	Offset (m)	Stack	Remarks (variable geophone spacing, timescale, delay; observations, etc.)
303001	-30	30	8+8	
303002	-4.5	4.5	3+3	
303003	-3	3	3+3	
303004	34.5	34.5	2+2	
303005	72	3	3+3	
303006	73.5	4.5	3+3	
303007	99	30	6+6	