

1. DATE AND TIME WEDNESDAY JUNE 10, 1981 1257 EST

2. LOCATION OR PATH (attach map) SOUTH OF ACTON 0698106

3. PATH LENGTH NOT KNOWN <1mi; 1-4mi; 5-10mi; 11-50mi; LENGTH IF >50mi
 MAX WIDTH 300 m

4. PATH WIDTH 170 m 5. TORNADO PART OF SQUALL LINE? YES; NO; UNKNOWN

6. ANY UNUSUAL COLORATION? YES; NO; UNKNOWN

7. ANY UNUSUAL SOUND? YES; NO; UNKNOWN

8. IF ANSWER TO 6 OR 7 YES, ELABORATE; 7: A roaring scream

9. LIST ANY ASSOCIATED PHENOMENA (Such as hail, vivid lightning heavy rain, no rain, etc.) HEAVY RAIN Tops 8km (radar + prep) A funnel cloud reported at 1207 EST at Toronto Island Airport.

10. TOTAL DAMAGE ESTIMATE \$ 11. TOTAL DEATHS NONE

12. TOTAL INJURED NONE 13. TOTAL HOMELESS NONE

14. LIST ALL REFERENCES
 Field survey by M.S. Newmark + P.J. Elms, Fri June 12, 1981
 Guelph Mercury, Ont., June 11, 1981

15. SUMMARIZE REMARKS PERTAINING TO (a) FUNNEL; (b) INTERESTING OR CAPRICIOUS EVENTS.

(a) A diffuse smoke-like funnel seen near location 6 by H. Taylor who was driving north along the town line between Nassagaweya Tp and Esquesing Tp. He saw it from about 1 mile away.
 Teresa McIsaac (at location 8) saw a tree whirling through the air lifted upwards by a dark cloud which retreated towards the sky.

(b) Trees broken and uprooted. In some cases the trees were snapped about halfway up, or else limb damage was located in tree crowns, indicating a funnel aloft. No structural building damage, but shingles removed, TV antennae bent, pieces of aluminium siding stripped from houses. Small outbuildings moved. Estimated wind of 106 km/h at location 5. (calculated)

area

*	2.5 km	x	25 km	.625
	.56 km	x	.1	.056
	1.4 km	x	.15	.210
	1.6 km	x	.05	.080
<hr/>				1.000

TORNADO SUMMARY

GEOGRAPHICAL LOCATION **SOUTH OF ALTON**

(1) IDENTITY NUMBER

(5-7) DATE

JUNE 10, 1981

(9) TIME at start point

(12-13) UTM CO-ORDINATES of start point (Zone and easting, northing)

(15) DIRECTION OF TRACK (from start point to end point)

(17) F-SCALE NUMBER

(18) LENGTH OF TRACK (Straight line from start point to end point)

(18A) DAMAGE LENGTH

(18B) DAMAGE AREA

(20) MAXIMUM DAMAGE WIDTH

(21) AVERAGE DAMAGE WIDTH

(26) NUMBER OF FATALITIES

(27) NUMBER OF INJURIES

(29) VALUE OF PROPERTY DAMAGE

(36.1) MAXIMUM SIZE OF HAIL

(36.2) AVERAGE TRANSLATIONAL SPEED

(36.3) RADAR STORM TOP

QUANTITY VALUE	ESTIMATED STAND-ARD ERROR	ERROR DIS-TRIBUTION CODE ^a
125765T	1	C
17576630 4827480	30 m	C
285°	1°	C
0	NOT APPLICABLE	
5654 m	42 m	C
95	above (18)	
0.97 km ²	43 m	C
300 m	10 m	C
170 m	10 m	C
0		
0		
8 km		

TABLE 1. Summary of tornado physical dimensions.

- (a) S = Square uniform; R = Rectangular uniform; O = circular uniform;
 E = elliptical normal; C = circular normal; B = biomodal; Q = unknown;
 T = other; Blank = no error.

SOUTH OF ACTON, JUNE 10, 1981.

WORKSHEET
IDTO

① ORIGIN x 17576630
 y 4827480

⑤ Standard Error S_x ^{30 c}

② LIFT-OFF x_1 17582100
 y_1 4826050

⑥ Standard Error S_y ^{30 c}

③ $(x_1 - x) = 5470$

④ $(y - y_1) = 1430$

⑦ DAMAGE LENGTH

$L = [(x_1 - x)^2 + (y - y_1)^2]^{1/2}$ ⑧ $\alpha = \tan^{-1} \frac{|y - y_1|}{|x - x_1|}$

③ + ④ $\rightarrow r, \theta = 5.654$

$x \leftrightarrow y = 15^\circ$

⑨ Standard Error $S_L = (S_x^2 + S_y^2)^{1/2}$

⑤ + ⑥ $\rightarrow r, \theta = 42. m c$

⑩ $\beta = \frac{\tan^{-1} S_L}{L}$

⑦ + ⑨ $\rightarrow r, \theta$
 $x \leftrightarrow y = 1^\circ$

NE Quad $\phi = 90 - \alpha$

NW Quad $\phi = 270 + \alpha$

SW Quad $\phi = 270 - \alpha$

SE Quad $\phi = 90 + \alpha$

⑪ $\phi = 285^\circ$

Mr. Heate. (519) 853-0349

June 10, 1981

Lot 24 conc 1. Esquesing Twp.

- (1/2 mi south of E side (Halton Rd 12) on trap line between trap).
- about 2:30 EDT. (according to neighbours.)
- Very narrow band of tornado came thru, hit neighbours about 3/4 mi to ~~the~~ W also neighbours across st. (Mrs Elliot)
- broke tree limbs, snapped trees at ground level. Lifted small sheds used to house animals, carried them ewds.
- Cut a narrow line about 200 ft wide.
- Talk to the Browns (note from the Elliots).
- Wall of garage pushed out about 4 ft inches at bottom (has been pushed back now). Aluminium siding stripped off, and other pieces lifted.
- Camper moved a small distance.

W.G. Elliot supposed to have seen storm and also Helen Wilks (519) 853-1178.

Mr Curtis, power failed at 1:55 EDT.

Funnel cloud at Toronto Island Airport 1307 EDT.

Location 8. Teresa McIsaac. Heard whooshing sound.
13:57 EDT clock stopped. roaring-scream

saw frons whirling through the air to the north of the house.

max path width - 300 m.
average " " "

TORNADO SURVEY FORM

NAME OF INVESTIGATOR M. J. NEWARK	INVESTIGATOR'S PHONE	DATE OF INVESTIGATION JUN 12, 1981	LOCATION NUMBER (2)
INVESTIGATOR'S ADDRESS ONT WX CENTRE	PERSONAL SURVEY <input checked="" type="checkbox"/> TELEPHONE INTERVIEW <input type="checkbox"/>	UTM ZONE 17	EASTING 576800 NORTHING 4827550

1. NAME(S) OF PERSON(S) INTERVIEWED
ROLAND HEIGHT.

2. ADDRESS (NOT RR#) OF THIS LOCATION
lot 25 cone 7 Nassawega Tp.
Lot Con. Twp. Co. or # Street, Town, Prov. or Section, Township, Range, Meridian

3. PHONE NUMBER OF PERSON INTERVIEWED

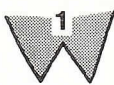



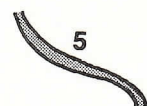
4. (a) TIME AND DATE OF THE EVENT AT THIS LOCATION

1350 EDT <small>Standard Time, Time Zone</small>	10 JUN '81 <small>Day Month Year</small>
--	--

 (b) HOW WAS THE TIME DETERMINED (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.)

5. (a) FUNNEL SEEN
Y or N (N circled)

- (b) FUNNEL TYPE (CIRCLE)

						
1	2	3	4	5	6	7
Multiple	Smoke-like	Columnar	Cone	Rope-like	Unknown	Other

 (c) IF MULTIPLE, HOW MANY? (d) FROM WHICH DIRECTION?

6. UNUSUAL NOISE?
Y or N (N circled) IF YES, DESCRIBE

7. UNUSUAL SKY COLOUR?
Y or N IF YES, DESCRIBE

8. (a) HAIL?
Y or N (N circled)

- (b) DID HAIL PRECEDE AND/OR FOLLOW THE TORNADO?

- (c) HAIL SIZE (CIRCLE)

PEA	GRAPE	WALNUT	GOLF BALL
TENNIS BALL	OTHER	UNKNOWN	OR DIAMETER (mm)

9. (a) RAIN, HOW MUCH? (b) DID THE RAIN FALL BEFORE AND/OR AFTER THE TORNADO, AT THE TIME OF **HVV** NONE

10. (a) NUMBER OF HUMAN FATALITIES (b) NUMBER OF ANIMAL FATALITIES

- (c) NUMBER OF HUMAN INJURIES (d) NUMBER OF ANIMAL INJURIES

11. (a) ARE PHOTOS AVAILABLE? (TAKEN EITHER BY PERSON INTERVIEWED OR ACQUAINTANCES)
Y or N

- (b) IF YES, GIVE NAMES AND ADDRESSES WHERE THEY ARE AVAILABLE

12.

DAMAGE UNDERLINE ITEMS AS APPROPRIATE, AND ADD INFORMATION AS APPROPRIATE.

FO (64 - 115 km/h) T.V. antennae bent. A few roof shingles removed from houses and roofing stripped from barns. Patches of siding removed from houses. Awnings or canopies damaged. Aluminum garden sheds moved or buckled and garden furniture blown around. Fences blown down. Trees broken or uprooted (intermittently in heavily treed bush lots).

F1 (116 - 179 km/h) Large areas of roofing material stripped from homes or industrial buildings. Barn roofs entirely removed and boards or siding removed from barn walls. Some impact damage from flying missiles. Unanchored buildings twisted on their foundations. Steel hydro-electric transmission towers knocked down. Summer cottages moved off their foundation.

F2 (180 - 251 km/h) Structural failure of roofs and porches. Barns demolished to the foundation. Empty stave concrete silos blown over or the upper portions of partly filled stave silos demolished. Unanchored 1 - storey houses moved entirely off their foundation. Cottages rolled over or carried short distances. Farm wagons or equipment carried short distances. Areas of total damage in heavily treed bush lots. Considerable impact damage from flying missiles.

F3 (252 - 330 km/h) Upper storeys of brick houses destroyed. Extensive structural damage to frame houses. Heavy farm machinery and automobiles moved or upset. Unanchored 2 - storey frame houses moved entirely off their foundation. Tombstones blown over or carried short distances. House trailers entirely demolished. Extensive impact damage from flying missiles.

F4 (331 - 416 km/h) Two-storey brick homes almost completely destroyed. Empty poured concrete silos blown down. Automobiles, vans, heavy farm equipment carried long distances through the air. Extensive structural failure of industrial buildings.

F5 (417 - 509 km/h) Little remains intact.

13.

DAMAGE SPECIFICS REQUIRED (SHOW THE UNITS OF MEASUREMENT) IN ORDER TO CALCULATE WIND VELOCITY WHEN STRUCTURES OR OBJECTS HAVE BEEN MOVED, TIPPED OR CARRIED.

(a) Name of object or structure

(b) Predominant material used in its construction

(c) Was it anchored, and how?

(d) Estimated weight

(e) Dimensions

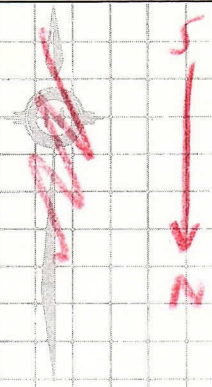
Length (L)
Height (H)

Width (W)
Diameter (D)

(f) Angle (θ) between the wind direction and the normal plane.

(g) Sketch of the object or structure (show L, W, H, D or other dimensions or quantities).

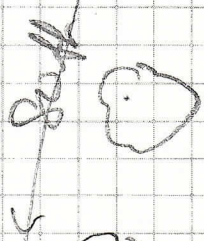
14. Damage sketch for this location. — Need not be to scale but should indicate numerical dimensions (metric units preferred) and orientation with respect to north. Positions where photographs were taken should be located.



bar.
no damage this side of house.

1 year
decimated
but standing
limbs
taken out of
west side

stone house



22" diameter
limbs broken and
carried east.

15.

General comments

Picnic table lifted up and carried over two cars parked within ^{throw} ~~a few feet~~ ^{about 80 ft}. Tree limbs 22 inches in diameter snapped out of a healthy maple and carried ^{about} 75 feet smashing an aluminum tool shed. A tree next to the house suffered considerable limb damage. Worst damage confined to a width about 80 ft, *general damage width about 50 m.*

Maples (about 10) along fence line (perpendicular to ~~bury~~ ^{Halton Rd #12}) snapped off near the base. Mostly they fell towards the NE. diameter 6" to 8".

TORNADO SURVEY FORM

NAME OF INVESTIGATOR M. J. NEWARK		INVESTIGATOR'S PHONE	DATE OF INVESTIGATION	LOCATION NUMBER 3
INVESTIGATOR'S ADDRESS DNT WX CENTRE		PERSONAL SURVEY <input checked="" type="checkbox"/> UTM ZONE TELEPHONE INTERVIEW <input type="checkbox"/>	EASTING 17 577250	NORTHING 4827500

1. NAME(S) OF PERSON(S) INTERVIEWED

2. ADDRESS (NOT RR#) OF THIS LOCATION

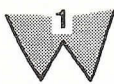
Lot Con. Twp. Co. or # Street, Town, Prov. or Section, Township, Range, Meridian
3. PHONE NUMBER OF PERSON INTERVIEWED


Area Code Number
4. (a) TIME AND DATE OF THE EVENT AT THIS LOCATION


Standard Time, Time Zone Day Month Year


 (b) HOW WAS THE TIME DETERMINED (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.)

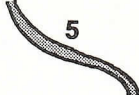
5. (a) FUNNEL SEEN **Y or N**
 (b) FUNNEL TYPE (CIRCLE)


Multiple


Smoke-like


Columnar


Cone


Rope-like

6 Unknown

7 Other

 (c) IF MULTIPLE, HOW MANY?
 (d) FROM WHICH DIRECTION?

6. UNUSUAL NOISE? **Y or N** IF YES, DESCRIBE

7. UNUSUAL SKY COLOUR? **Y or N** IF YES, DESCRIBE

8. (a) HAIL? **Y or N** (b) DID HAIL PRECEDE AND/OR FOLLOW THE TORNADO?
 (c) HAIL SIZE (CIRCLE)

PEA

GRAPE

WALNUT

GOLF BALL

TENNIS BALL

OTHER

UNKNOWN

OR DIAMETER (mm)

9. (a) RAIN, HOW MUCH? (b) DID THE RAIN FALL BEFORE AND/OR AFTER THE TORNADO, AT THE TIME OF NONE
10. (a) NUMBER OF HUMAN FATALITIES (b) NUMBER OF ANIMAL FATALITIES
 (c) NUMBER OF HUMAN INJURIES (d) NUMBER OF ANIMAL INJURIES

11. (a) ARE PHOTOS AVAILABLE? (TAKEN EITHER BY PERSON INTERVIEWED OR ACQUAINTANCES) (b) IF YES, GIVE NAMES AND ADDRESSES WHERE THEY ARE AVAILABLE

Y or N

12.

DAMAGE UNDERLINE ITEMS AS APPROPRIATE, AND ADD INFORMATION AS APPROPRIATE.

FO (64 - 115 km/h) T.V. antennae bent. A few roof shingles removed from houses and roofing stripped from barns. Patches of siding removed from houses, awnings or canopies damaged. Aluminum garden sheds moved or buckled and garden furniture blown around. Fences blown down. Trees broken or uprooted (intermittently in heavily treed bush lots).

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F5 (417 - 509 km/h) Little remains intact.

13.

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(a) Name of object or structure

(b) Predominant material used in its construction

(c) Was it anchored, and how?

(d) Estimated weight

(e) Dimensions

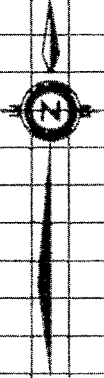
Length (L)
Height (H)

Width (W)
Diameter (D)

(f) Angle (\varnothing) between the wind direction and the normal plane.

(g) Sketch of the object or structure (show L, W, H, D or other dimensions or quantities).

14. Damage sketch for this location. — Need not be to scale but should indicate numerical dimensions (metric units preferred) and orientation with respect to north. Positions where photographs were taken should be located.



A large grid of 20 columns and 30 rows, intended for drawing a damage sketch. The grid is empty, with only the compass rose in the top-left corner.

15.

General comments

Clump of about 25 trees, mostly poplar, uprooted
towards the east + east-southeast. One tree
snapped towards the northwest.

TORNADO SURVEY FORM

NAME OF INVESTIGATOR M. J. NEWARK	INVESTIGATOR'S PHONE	DATE OF INVESTIGATION JUNE 12, 1981	LOCATION NUMBER (4)
INVESTIGATOR'S ADDRESS ONT WX CENTER	PERSONAL SURVEY <input checked="" type="checkbox"/> TELEPHONE INTERVIEW <input type="checkbox"/>	UTM ZONE 17	EASTING 577350
		NORTHING 4827400	

1. NAME(S) OF PERSON(S) INTERVIEWED
CLIVE BROWN

2. ADDRESS (NOT RR#) OF THIS LOCATION
lot 24 conc 7 Nassauville Tp.
Lot Con. Twp. Co. or # Street, Town, Prov. or Section, Township, Range, Meridian.

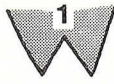
3. PHONE NUMBER OF PERSON INTERVIEWED


4. (a) TIME AND DATE OF THE EVENT AT THIS LOCATION
Area Code _____ Number _____
10 JUNE '81
Standard Time, Time Zone Day Month Year


(b) HOW WAS THE TIME DETERMINED (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.)


5. (a) FUNNEL SEEN **Y or N**

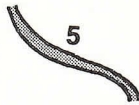
(b) FUNNEL TYPE (CIRCLE)


Multiple


Smoke-like


Columnar


Cone


Rope-like

6
Unknown

7
Other

(c) IF MULTIPLE, HOW MANY? (d) FROM WHICH DIRECTION?

6. UNUSUAL NOISE? **Y or N** IF YES, DESCRIBE

7. UNUSUAL SKY COLOUR? **Y or N** IF YES, DESCRIBE

8. (a) HAIL? **Y or N** (b) DID HAIL PRECEDE AND/OR FOLLOW THE TORNADO?

(c) HAIL SIZE (CIRCLE)
PEA GRAPE WALNUT GOLF BALL
TENNIS BALL OTHER UNKNOWN OR DIAMETER (mm)

9. (a) RAIN, HOW MUCH? (b) DID THE RAIN FALL BEFORE AND/OR AFTER THE TORNADO, AT THE TIME OF NONE

10. (a) NUMBER OF HUMAN FATALITIES **none** (b) NUMBER OF ANIMAL FATALITIES **none**
(c) NUMBER OF HUMAN INJURIES **none** (d) NUMBER OF ANIMAL INJURIES **none**

11. (a) ARE PHOTOS AVAILABLE? (TAKEN EITHER BY PERSON INTERVIEWED OR ACQUAINTANCES) **Y or N** (b) IF YES, GIVE NAMES AND ADDRESSES WHERE THEY ARE AVAILABLE

12.

DAMAGE UNDERLINE ITEMS AS APPROPRIATE, AND ADD INFORMATION AS APPROPRIATE.

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(a) Name of object or structure

(b) Predominant material used in its construction

(c) Was it anchored, and how?

(d) Estimated weight

(e) Dimensions

Length (L)
Height (H)

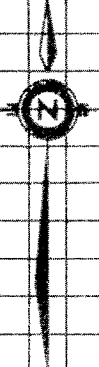
Width (W)
Diameter (D)

(f) Angle (θ) between the wind direction and the normal plane.

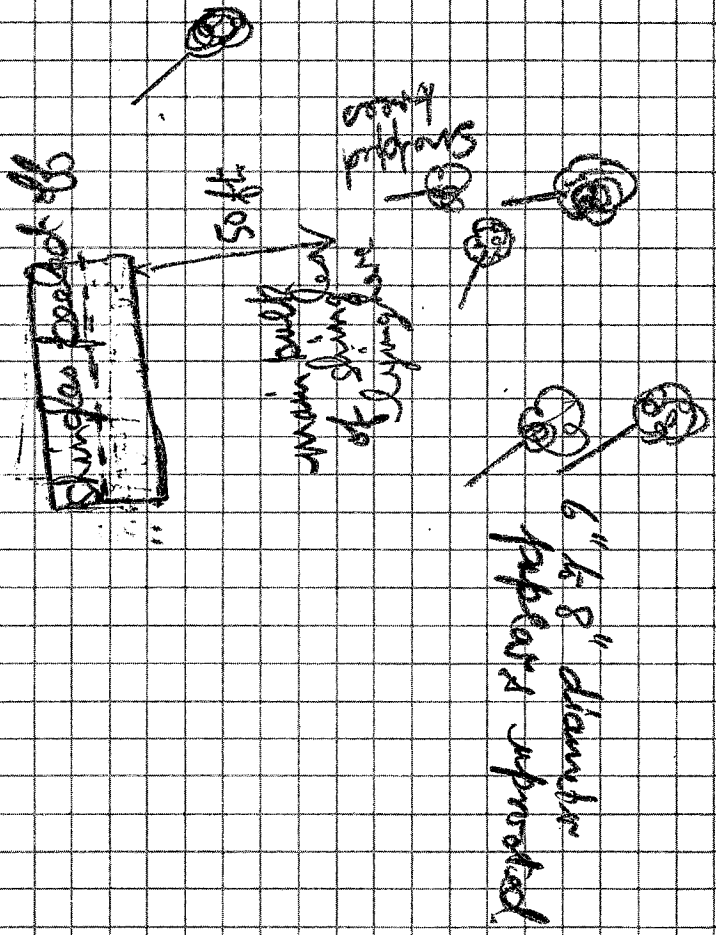
(g) Sketch of the object or structure (show L, W, H, D or other dimensions or quantities).

14.

Damage sketch for this location. — Need not be to scale but should indicate numerical dimensions (metric units preferred) and orientation with respect to north. Positions where photographs were taken should be located.



a few shingles as far as 30 ft away to the east.



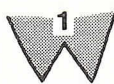
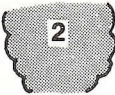



15.

General comments

tree fell on hydro line in front of house (near road) - power off at 13:55 EDT.

TORNADO SURVEY FORM

NAME OF INVESTIGATOR M. JAKWASK		INVESTIGATOR'S PHONE <input checked="" type="checkbox"/>	DATE OF INVESTIGATION JUNE 12, 1981	LOCATION NUMBER (5)
INVESTIGATOR'S ADDRESS ONT CUX CENTRE	PERSONAL SURVEY <input checked="" type="checkbox"/>	UTM ZONE	EASTING 17 577550	NORTHING 4827400
TELEPHONE INTERVIEW <input type="checkbox"/>				

1.	NAME(S) OF PERSON(S) INTERVIEWED MR I.B. HEATH
2.	ADDRESS (NOT RR#) OF THIS LOCATION lot 24 con 1. Egresing Twp <small>Lot Con. Twp. Co. or # Street, Town, Prov or Section, Township, Range, Meridian</small>
3.	PHONE NUMBER OF PERSON INTERVIEWED (519) 853-0349 <small>Area Code Number</small>
4.	(a) TIME AND DATE OF THE EVENT AT THIS LOCATION 10 JUNE 81 <small>Standard Time, Time Zone Day Month Year</small>
	(b) HOW WAS THE TIME DETERMINED (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.)
5.	(a) FUNNEL SEEN Y or N (N circled)
	(b) FUNNEL TYPE (CIRCLE) <div style="display: flex; justify-content: space-around; align-items: flex-end; text-align: center;"> <div style="margin: 5px;"> Multiple</div> <div style="margin: 5px;"> Smoke-like</div> <div style="margin: 5px;"> Columnar</div> <div style="margin: 5px;"> Cone</div> <div style="margin: 5px;"> Rope-like</div> <div style="margin: 5px;">6 Unknown</div> <div style="margin: 5px;">7 Other</div> </div>
	(c) IF MULTIPLE, HOW MANY? (d) FROM WHICH DIRECTION? WEST
6.	UNUSUAL NOISE? Y or N IF YES, DESCRIBE
7.	UNUSUAL SKY COLOUR? Y or N IF YES, DESCRIBE
8.	(a) HAIL? Y or N (b) DID HAIL PRECEDE <input type="checkbox"/> AND/OR FOLLOW <input type="checkbox"/> THE TORNADO?
	(c) HAIL SIZE (CIRCLE) <div style="display: flex; justify-content: space-around; align-items: flex-end; text-align: center;"> <div style="margin: 5px;">PEA</div> <div style="margin: 5px;">GRAPE</div> <div style="margin: 5px;">WALNUT</div> <div style="margin: 5px;">GOLF BALL</div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-end; text-align: center; margin-top: 5px;"> <div style="margin: 5px;">TENNIS BALL</div> <div style="margin: 5px;">OTHER</div> <div style="margin: 5px;">UNKNOWN</div> <div style="margin: 5px;">OR DIAMETER (mm)</div> </div>
9.	(a) RAIN, HOW MUCH? (b) DID THE RAIN FALL BEFORE <input type="checkbox"/> AND/OR AFTER <input type="checkbox"/> THE TORNADO, AT THE TIME OF <input type="checkbox"/> NONE <input type="checkbox"/>
10.	(a) NUMBER OF HUMAN FATALITIES (b) NUMBER OF ANIMAL FATALITIES
	(c) NUMBER OF HUMAN INJURIES (d) NUMBER OF ANIMAL INJURIES
11.	(a) ARE PHOTOS AVAILABLE? (TAKEN EITHER BY PERSON INTERVIEWED OR ACQUAINTANCES) (b) IF YES, GIVE NAMES AND ADDRESSES WHERE THEY ARE AVAILABLE Y or N

12.

DAMAGE UNDERLINE ITEMS AS APPROPRIATE, AND ADD INFORMATION AS APPROPRIATE.

FO (64 - 115 km/h) T.V. antennae bent. A few roof shingles removed from houses and roofing stripped from barns. Patches of siding removed from houses, awnings or canopies damaged. Aluminum garden sheds moved or buckled and garden furniture blown around. Fences blown down. Trees broken or uprooted (intermittently in heavily treed bush lots).

F1 (116 - 179 km/h) Large areas of roofing material stripped from homes or industrial buildings. Barn roofs entirely removed and boards or siding removed from barn walls. Some impact damage from flying missiles. Unanchored buildings twisted on their foundations. Steel hydro-electric transmission towers knocked down. Summer cottages moved off their foundation.

F2 (180 - 251 km/h) Structural failure of roofs and porches. Barns demolished to the foundation. Empty stave concrete silos blown over or the upper portions of partly filled stave silos demolished. Unanchored 1 - storey houses moved entirely off their foundation. Cottages rolled over or carried short distances. Farm wagons or equipment carried short distances. Areas of total damage in heavily treed bush lots. Considerable impact damage from flying missiles.

F3 (252 - 330 km/h) Upper storeys of brick houses destroyed. Extensive structural damage to frame houses. Heavy farm machinery and automobiles moved or upset. Unanchored 2 - storey frame houses moved entirely off their foundation. Tombstones blown over or carried short distances. House trailers entirely demolished. Extensive impact damage from flying missiles.

F4 (331 - 416 km/h) Two-storey brick homes almost completely destroyed. Empty poured concrete silos blown down. Automobiles, vans, heavy farm equipment carried long distances through the air. Extensive structural failure of industrial buildings.

F5 (417 - 509 km/h) Little remains intact.

13.

DAMAGE SPECIFICS REQUIRED (SHOW THE UNITS OF MEASUREMENT) IN ORDER TO CALCULATE WIND VELOCITY WHEN STRUCTURES OR OBJECTS HAVE BEEN MOVED, TIPPED OR CARRIED.

(a) Name of object or structure

animal shelter

(b) Predominant material used in its construction

wood (chipboard covered frame)

(c) Was it anchored, and how?

not anchored

(d) Estimated weight

68kg

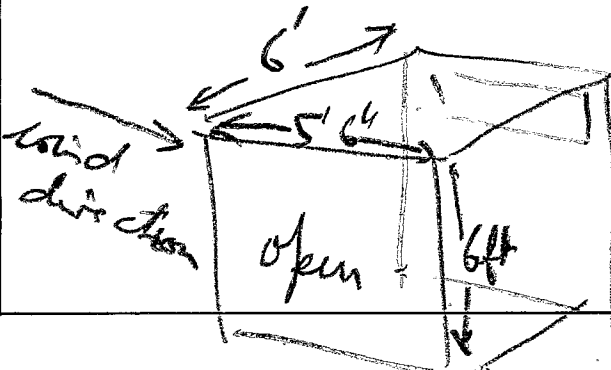
(e) Dimensions

Length (L) *1.8 m* Width (W) *1.8 m*
 Height (H) *1.8 m* Diameter (D)

(f) Angle (θ) between the wind direction and the normal plane.

30°

(g) Sketch of the object or structure (show L, W, H, D or other dimensions or quantities).



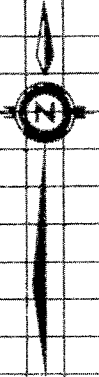
~~*about 150 lbs weight*~~

$$V = 14.4 \left(\frac{1 \times 68}{0.7 \times 1.8} \right)^{1/2}$$

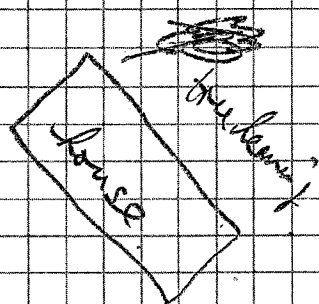
$$= 106 \text{ km/hr.}$$

14.

Damage sketch for this location. — Need not be to scale but should indicate numerical dimensions (metric units preferred) and orientation with respect to north. Positions where photographs were taken should be located.



a number of mounds collapsed off
of mounds. The mounds
sink about 10" in diameter.



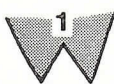



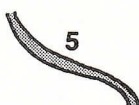
↑ broken line

↑
poplar mounds
x 5 mounds

TORNADO SURVEY FORM

NAME OF INVESTIGATOR M.J. NEWARK	INVESTIGATOR'S PHONE	DATE OF INVESTIGATION	LOCATION NUMBER (6)
INVESTIGATOR'S ADDRESS ONT WX CENTRE	PERSONAL SURVEY <input type="checkbox"/>	UTM ZONE <input checked="" type="checkbox"/>	EASTING 17 577 600
	TELEPHONE INTERVIEW <input type="checkbox"/>		NORTHING 4827250

1. NAME(S) OF PERSON(S) INTERVIEWED
H. TAYLOR (RR 4 Acton, (519) 853-0899)
THOMAS WILLIAM CURTIS (OWNER)
2. ADDRESS (NOT RR#) OF THIS LOCATION
Lot Con. Twp. Co. or # Street, Town, Prov. or Section, Township, Range, Meridian
3. PHONE NUMBER OF PERSON INTERVIEWED
4. (a) TIME AND DATE OF THE EVENT AT THIS LOCATION
1330 EST. JUNE 10, 1981
Standard Time, Time Zone Day Month Year
- (b) HOW WAS THE TIME DETERMINED (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.)
5. (a) FUNNEL SEEN **Y or N**
- (b) FUNNEL TYPE (CIRCLE)

 1	 2	 3	 4	 5	6	7
Multiple	Smoke-like	Columnar	Cone	Rope-like	Unknown	Other
- (c) IF MULTIPLE, HOW MANY?
- (d) FROM WHICH DIRECTION?
6. UNUSUAL NOISE? **Y or N** IF YES, DESCRIBE
7. UNUSUAL SKY COLOUR? **Y or N** IF YES, DESCRIBE
8. (a) HAIL? **Y or N**
- (b) DID HAIL PRECEDE AND/OR FOLLOW THE TORNADO?
- (c) HAIL SIZE (CIRCLE)

PEA	GRAPE	WALNUT	GOLF BALL
TENNIS BALL	OTHER	UNKNOWN	OR DIAMETER (mm)
9. (a) RAIN, HOW MUCH?
- (b) DID THE RAIN FALL BEFORE AND/OR AFTER THE TORNADO, AT THE TIME OF NONE
10. (a) NUMBER OF HUMAN FATALITIES
- (b) NUMBER OF ANIMAL FATALITIES
- (c) NUMBER OF HUMAN INJURIES
- (d) NUMBER OF ANIMAL INJURIES
11. (a) ARE PHOTOS AVAILABLE? (TAKEN EITHER BY PERSON INTERVIEWED OR ACQUAINTANCES) **Y or N**
- (b) IF YES, GIVE NAMES AND ADDRESSES WHERE THEY ARE AVAILABLE

12.

DAMAGE UNDERLINE ITEMS AS APPROPRIATE, AND ADD INFORMATION AS APPROPRIATE.

FO (64 - 115 km/h) T.V. antennae bent. A few roof shingles removed from houses and roofing stripped from barns. Patches of siding removed from houses, awnings or canopies damaged. Aluminum garden sheds moved or buckled and garden furniture blown around. Fences blown down. Trees broken or uprooted (intermittently in heavily treed bush lots).

F1 (116 - 179 km/h) Large areas of roofing material stripped from homes or industrial buildings. Barn roofs entirely removed and boards or siding removed from barn walls. Some impact damage from flying missiles. Unanchored buildings twisted on their foundations. Steel hydro-electric transmission towers knocked down. Summer cottages moved off their foundation.

F2 (180 - 251 km/h) Structural failure of roofs and porches. Barns demolished to the foundation. Empty stave concrete silos blown over or the upper portions of partly filled stave silos demolished. Unanchored 1 - storey houses moved entirely off their foundation. Cottages rolled over or carried short distances. Farm wagons or equipment carried short distances. Areas of total damage in heavily treed bush lots. Considerable impact damage from flying missiles.

F3 (252 - 330 km/h) Upper storeys of brick houses destroyed. Extensive structural damage to frame houses. Heavy farm machinery and automobiles moved or upset. Unanchored 2 - storey frame houses moved entirely off their foundation. Tombstones blown over or carried short distances. House trailers entirely demolished. Extensive impact damage from flying missiles.

F4 (331 - 416 km/h) Two-storey brick homes almost completely destroyed. Empty poured concrete silos blown down. Automobiles, vans, heavy farm equipment carried long distances through the air. Extensive structural failure of industrial buildings.

F5 (417 - 509 km/h) Little remains intact.

13.

DAMAGE SPECIFICS REQUIRED (SHOW THE UNITS OF MEASUREMENT) IN ORDER TO CALCULATE WIND VELOCITY WHEN STRUCTURES OR OBJECTS HAVE BEEN MOVED, TIPPED OR CARRIED.

(a) Name of object or structure

(b) Predominant material used in its construction

(c) Was it anchored, and how?

(d) Estimated weight

(e) Dimensions

Length (L)
Height (H)

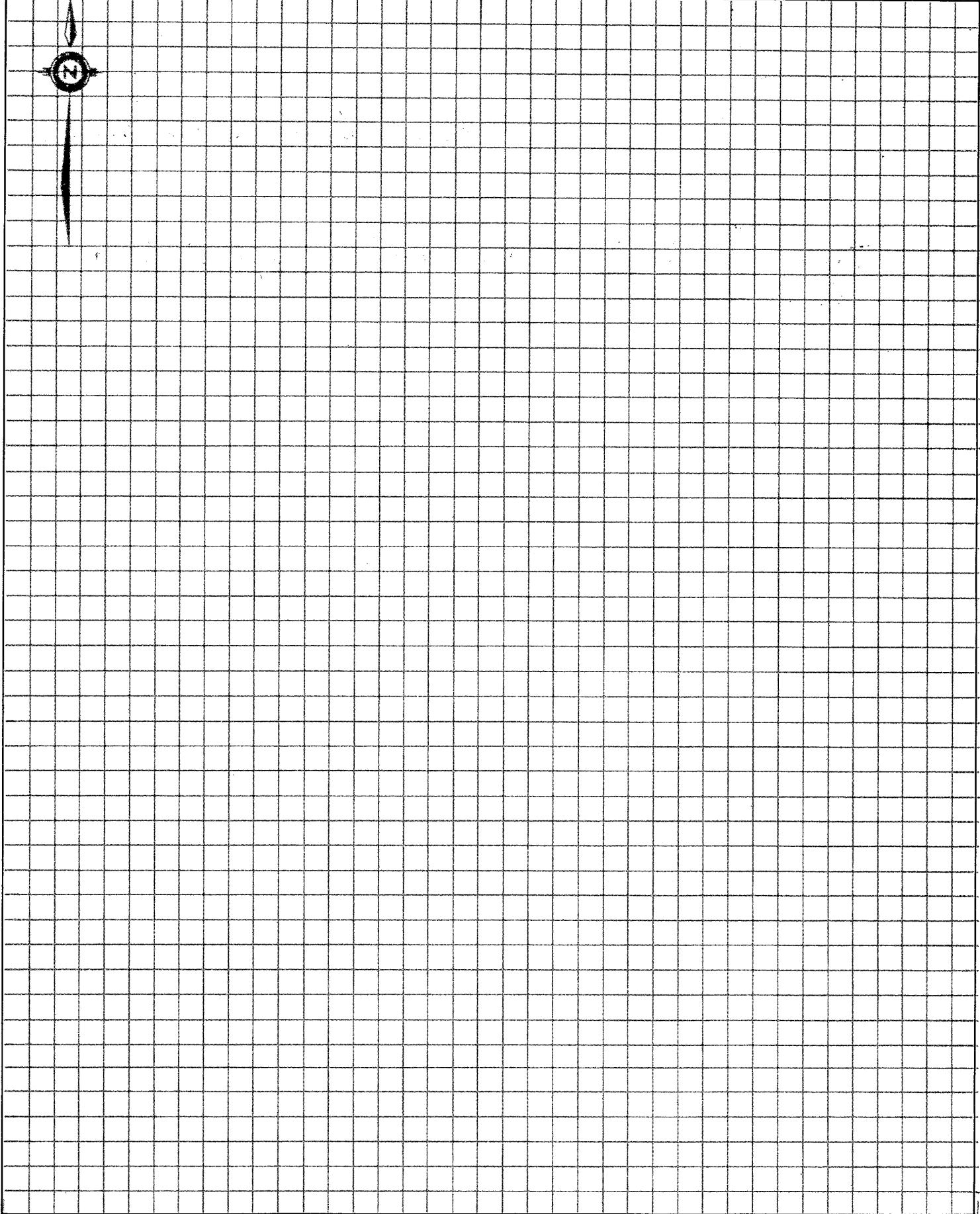
Width (W)
Diameter (D)

(f) Angle (ϕ) between the wind direction and the normal plane.

(g) Sketch of the object or structure (show L, W, H, D or other dimensions or quantities).

14.

Damage sketch for this location. — Need not be to scale but should indicate numerical dimensions (metric units preferred) and orientation with respect to north. Positions where photographs were taken should be located.



15.

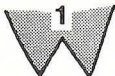




General comments

Mr Taylor was driving N on townline
and saw storm from about 1 mi away.

Trees at this location were snapped off from
high in the crown.

TORNADO SURVEY FORM

NAME OF INVESTIGATOR M. J. NEWARK	INVESTIGATOR'S PHONE	DATE OF INVESTIGATION JUNE 12 '81	LOCATION NUMBER (7)
INVESTIGATOR'S ADDRESS ONT WY CENTRA	PERSONAL SURVEY <input checked="" type="checkbox"/>	UTM ZONE	EASTING 17 579650
	TELEPHONE INTERVIEW <input type="checkbox"/>		NORTHING 4826850

1.	NAME(S) OF PERSON(S) INTERVIEWED MRS ^(MAY) JOHN FRANK
2.	ADDRESS (NOT RR#) OF THIS LOCATION lot 21 Conced 550 m' sing Tp <small>Lot Con. Twp. Co. or # Street, Town, Prov. or Section, Township, Range, Meridian</small>
3.	PHONE NUMBER OF PERSON INTERVIEWED (519) 853-0408 <small>Area Code Number</small>
4.	(a) TIME AND DATE OF THE EVENT AT THIS LOCATION 1350 EDT 10 June '81 <small>Standard Time, Time Zone Day Month Year</small>
	(b) HOW WAS THE TIME DETERMINED (STOPPED CLOCK, POWER FAILURE, MEMORY, A TIME-FIXING EVENT ETC.) stopped clock hydro-off
5.	(a) FUNNEL SEEN Y or N
	(b) FUNNEL TYPE (CIRCLE) <div style="display: flex; justify-content: space-around; align-items: flex-end; text-align: center;"> <div style="margin: 5px;"> Multiple</div> <div style="margin: 5px;"> Smoke-like</div> <div style="margin: 5px;"> Columnar</div> <div style="margin: 5px;"> Cone</div> <div style="margin: 5px;"> Rope-like</div> <div style="margin: 5px;">6</div> <div style="margin: 5px;">7 Other</div> </div>
	(c) IF MULTIPLE, HOW MANY? (d) FROM WHICH DIRECTION?
6.	UNUSUAL NOISE? Y or N IF YES, DESCRIBE
7.	UNUSUAL SKY COLOUR? Y or N IF YES, DESCRIBE
8.	(a) HAIL? Y or N (BUT SOME IN ACTION)
	(b) DID HAIL PRECEDE <input type="checkbox"/> AND/OR FOLLOW <input type="checkbox"/> THE TORNADO? NO
	(c) HAIL SIZE (CIRCLE) PEA GRAPE WALNUT GOLF BALL TENNIS BALL OTHER UNKNOWN OR DIAMETER (mm)
9.	(a) RAIN, HOW MUCH? (b) DID THE RAIN FALL BEFORE <input type="checkbox"/> AND/OR AFTER <input checked="" type="checkbox"/> THE TORNADO, AT THE TIME OF <input type="checkbox"/> NONE <input type="checkbox"/>
10.	(a) NUMBER OF HUMAN FATALITIES NONE
	(b) NUMBER OF ANIMAL FATALITIES NONE
	(c) NUMBER OF HUMAN INJURIES NONE
	(d) NUMBER OF ANIMAL INJURIES NONE
11.	(a) ARE PHOTOS AVAILABLE? (TAKEN EITHER BY PERSON INTERVIEWED OR ACQUAINTANCES) Y or N
	(b) IF YES, GIVE NAMES AND ADDRESSES WHERE THEY ARE AVAILABLE

12.

DAMAGE UNDERLINE ITEMS AS APPROPRIATE, AND ADD INFORMATION AS APPROPRIATE.

FO (64 - 115 km/h) T.V. antennae bent. A few roof shingles removed from houses and roofing stripped from barns. Patches of siding removed from houses, awnings or canopies damaged. Aluminum garden sheds moved or buckled and garden furniture blown around. Fences blown down. Trees broken or uprooted (intermittently in heavily treed bush lots).

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13.

DAMAGE SPECIFICS REQUIRED (SHOW THE UNITS OF MEASUREMENT) IN ORDER TO CALCULATE WIND VELOCITY WHEN STRUCTURES OR OBJECTS HAVE BEEN MOVED, TIPPED OR CARRIED.

(a) Name of object or structure

(b) Predominant material used in its construction

(c) Was it anchored, and how?

(d) Estimated weight

(e) Dimensions

Length (L)	Width (W)
Height (H)	Diameter (D)

(f) Angle (θ) between the wind direction and the normal plane.

(g) Sketch of the object or structure (show L, W, H, D or other dimensions or quantities).

14.

Damage sketch for this location. — Need not be to scale but should indicate numerical dimensions (metric units preferred) and orientation with respect to north. Positions where photographs were taken should be located.



15.

General comments

Farm wagon parked beside barn pushed
8 or 10 feet then stopped by dense spruce. Wagon
on rubber wheels and could probably be
moved easily. A number of trees around
the farm were uprooted or snapped off
near the ground, all towards east or northeast.

Shingles from house scattered about 300 m
eastwards to the field.