TORNADO PROJECT SUMMARY SHEET

JUNE

1. DATE AND TIME 20.6.1951 (1) 1930 EST APPROX (2) 1900 EST (3) 1745 EST

2. LOCATION OR PATH (attach map)
(1) HORNBY (FROM 250°)
(2) VICINITY BEAVERTON (W-E)
(3) VICINITY DUNDALK

06951-01 0695105
06951-02
06951-03
SEE NEXT PAGE →

3. PATH LENGTH ☐ NOT KNOWN ☐ <1mi; ☑ 1-4mi; ☐ 5-10mi; ☐ 11-50mi; ☐ LENGTH IF>50mi

4. PATH WIDTH 200 FEET 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; 6 PITCH BLACK
7. "IT SOUNDED LIKE NIAGARA FALLS (THE TWISTERS ROAR)"

9. LIST ANY ASSOCIATED PHENOMENA (Such as hail, vivid lightning, heavy rain, no rain, etc.)
PIREPS CLOUD TOPS 40-50,000 FT
(3) HAIL AT MOUNT FOREST, LARGE AS 25 CENT PIECE.

10. TOTAL DAMAGE ESTIMATE $TENS OF THOUSANDS 11. TOTAL DEATHS 400 CAPONS, 2 CATTLE

12. TOTAL INJURED (1) 3 (3) 13. TOTAL HOMELESS UNKNOWN

14. LIST ALL REFERENCES
TORONTO DAILY STAR, JUN 21, 22 1951
GLOBE, TORONTO. JUN 21, 1951.

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

(a) "FUNNEL SHAPED THING" LEFT A SWATH OF DAMAGE 200 FT WIDE THEN DISAPPEARED INTO THE CLOUDS IN THORAH TOWNSHIP.
"I SAW THIS FUNNEL SHAPED THING LIFTING SHINGLES FROM HOUSES AND BARNS. BY THE TIME IT PASSED OVERHEAD IT WAS COMPLETELY LOADED WITH TRASH. THE WHOLE EASTERN HORIZON SEEMED TO CLOSE IN, AND ALL AROUND I HEARD THE SOUND OF BUILDING BEING CRUSHED TO BITS."

(b) HOUSES UNROOFED, BARNS TURNED INTO RUBBLE, TREES AND CROPS UPROOTED. 3 PEOPLE NEAR HORNBY CARRIED 50 FEET THROUGH THE AIR AND THROWN INTO A DITCH. 2 INJURED. A DOG TOSSED 100 YDS FOUND IN A UNCONCIOUS NEAR. FRANK CAMPBELL SAID THE 3 OF THEM HEARD THE WIND COMING AND FELT THE WALLS OF THE BARN START TO GIVE WAY. "I SHOVED CAMPBELL AND HIS DAUGHTER BONNIE OUT THE DOOR." SAID MR WOOD THE THIRD PARTY "THEN WE WERE IN THE AIR. VAGUELY HE REMEMBERED BEING CARRIED THROUGH THE AIR AND PUSHING BONNIE UNDER A CULVERT. A SMALL TRUCK LIFTED INTO THE AIR.

NEAR DUNDALK A 13 YR OLD KENNETH VANALSTINE WAS BLOWN ACROSS A BARNYARD INTO A WIRE FENCE. CRAWLING BACK ON HIS HANDS AND KNEES HE WAS STRUCK AND INJURED BY FALLING DEBRIS.

C B

TORNADO PROJECT SUMMARY SHEET

F=0 ONT

1. DATE AND TIME: JUNE 20 1951 EVENING.

2. LOCATION OR PATH (attach map): FROM 270° TORONTO 0695105.

3. PATH LENGTH: ☐ NOT KNOWN ☐ <1mi; ☒ 3 1-4mi; ☐ 5-10mi; ☐ 11-50mi; ☐ LENGTH IF>50mi

4. PATH WIDTH [ ] 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;

9. LIST ANY ASSOCIATED PHENOMENA (Such as hail, vivid lightning heavy rain, no rain, etc.): SUDDEN R>

10. TOTAL DAMAGE ESTIMATE $ — 11. TOTAL DEATHS: NONE

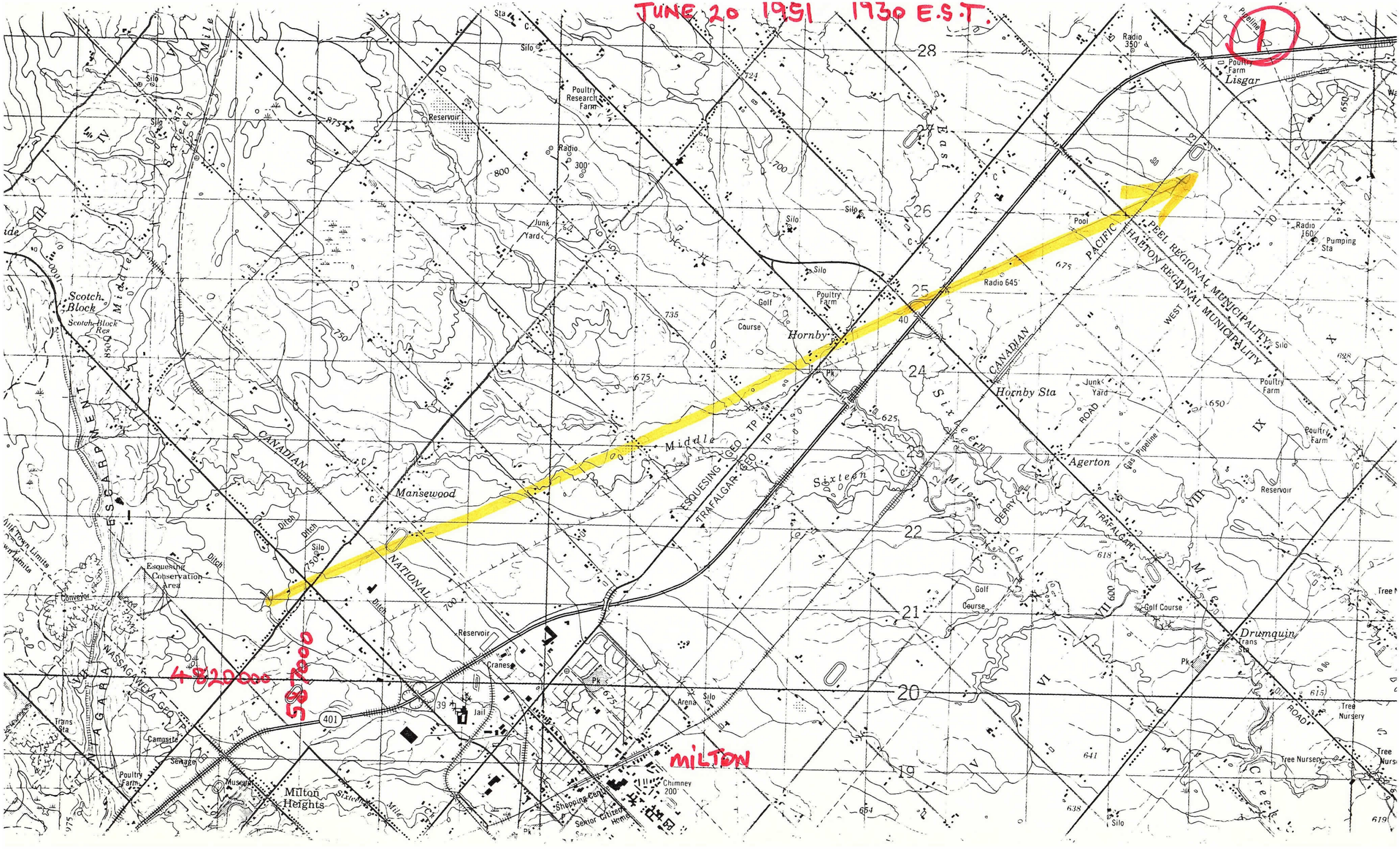
12. TOTAL INJURED — 13. TOTAL HOMELESS: NONE

14. LIST ALL REFERENCES

GLOBE AND MAIL TORONTO. THURS JUNE 21 1951

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

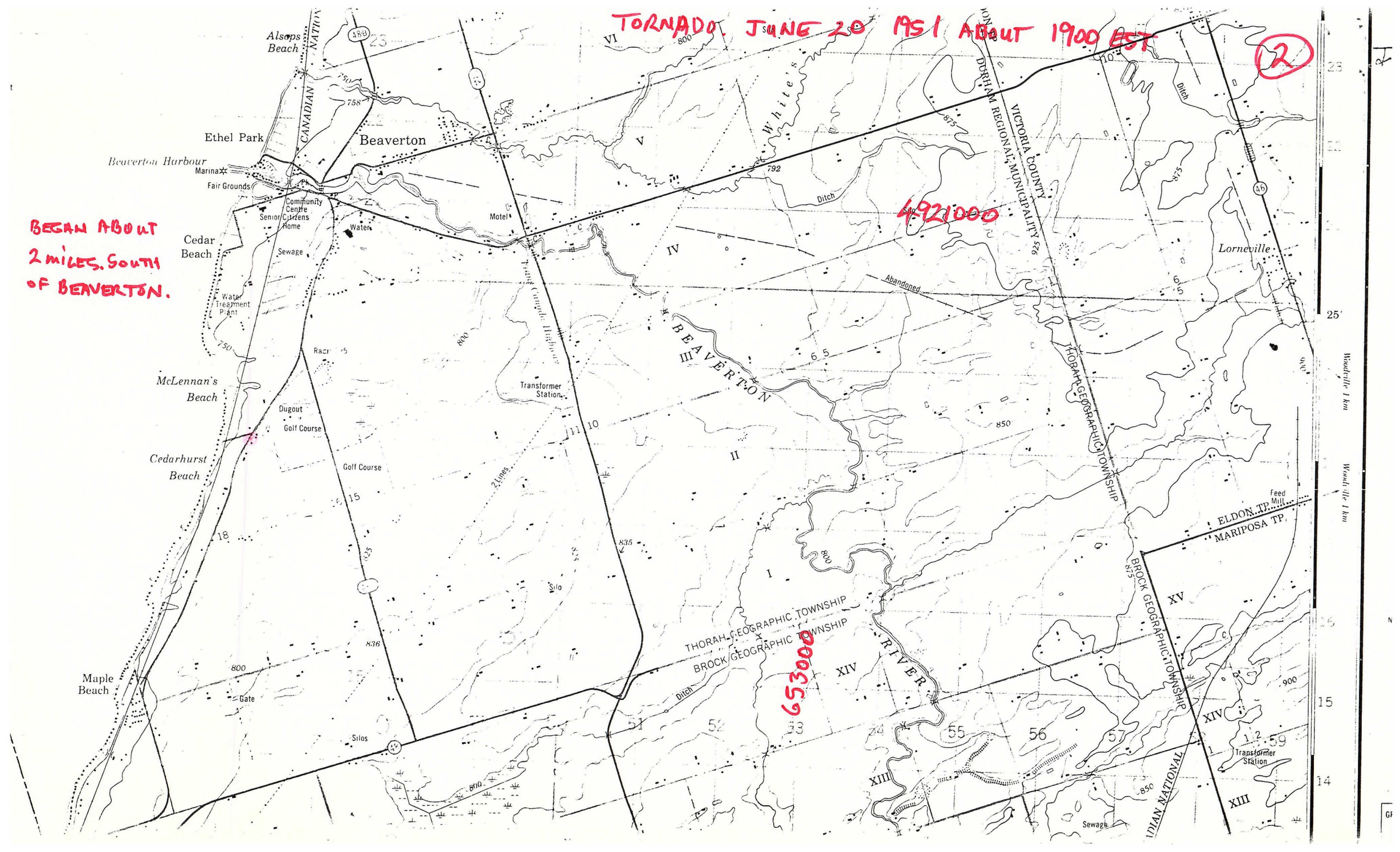
(b) Trolley and hydro wires brought down, Trees blocked roads.


JUNE 20 1951 1930 E.S.T.
1
4820000
587000
MILTON
Lisgar
Hornby
Hornby Sta
Agerton
Drumquin
Mansewood
Milton Heights
Scotch Block
Poultry Research Farm
Poultry Farm
Radio 300'
Radio 350'
Radio 645'
Radio 160'
Pumping Sta
Golf Course
Junk Yard
Reservoir
Silo
Pool
Ditch
Esquesing Conservation Area
Conveyor
Campsite
Sewage
Museum
Trans Sta
Jail
Cranes
Arena
Chimney 200'
Shopping Centre
Senior Citizen Home
Tree Nursery
Gas Pipeline
Pipeline
Sixteen Mile Creek
Middle Sixteen
East Sixteen
CANADIAN NATIONAL
CANADIAN PACIFIC
ESQUESING GEO TP
TRAFALGAR GEO TP
NASSAGAWEYA GEO TP
ESCARPMENT
PEEL REGIONAL MUNICIPALITY
HALTON REGIONAL MUNICIPALITY
WEST ROAD
TRAFALGAR ROAD
DERRY ROAD
401
28
27
26
25
24
23
22
21
20
19

TORNADO. JUNE 20 1951 ABOUT 1900 EST

2

BEGAN ABOUT 2 MILES. SOUTH OF BEAVERTON.




80°
79°
BEARS RUMP ISLAND
COLE ISLAND
FLOWERPOT I.
Georgian Bay Islands Nat'l Park
Cyprus Lake Prov. Park
CAPE HURD
BRUCE TRAIL
CABOT HEAD
BRUCE PENINSULA
Tobermory
Brinkman Corners
Dyer Bay
Miller Lake
CAPE CHIN
Cape Chin
Monument Corners
Stokes Bay
Lion's Head
GREENOUGH PT.
Ferndale
LYAL ISLAND
Spry
Barrow Bay
CAPE CROKER
Cape Croker
HURON
Pike Bay
Adamsville
HAY ISLAND
Howdenvale
Purple Valley
Mar
Red Bay
GRIFFITH ISLAND
WHITE CLOUD I.
Oxenden
CAPE COMMODORE
Oliphant
Wiarton
Kemble
Boat L.
Sauble Falls Prov. Park
Clavering
Sauble Beach
Tolmie
Hepworth
E. Linton
CAPE RICH
Balaclava
Camp Meaford Tank Range
Park Head
Shallow Lake
Leith
Annan
Springmount
Meaford
Chippawa Hill
Allenford
Owen Sound
Woodford
Southampton
Elsinore
Alvanley
Kilsyth
Rockford
Bognor
Clarksburg
Thornbury
Blantyre
Port Elgin
Arkwright
Tara
Keady
Craigleith Prov. Park
Craigleith
Walters Falls
Heathcote
Ravenna
Burgoyne
Chetsworth
Goring
Holland Centre
Rocklyn
Duncan
Nottawa
Collingwood
Wasaga Beach Prov. Park
Wasaga Beach
Oakview Beach
Brocks Beach
Minesing
Springwater Prov. Park
Midhurst
Edgar
Hawkestone
Gamebridge
Thorah
Beaverton
Lorneville
Woodville
Argyle
Shanty Bay
Big Bay Point
Georgina Island
Sibbald Point Prov. Park
Jacksons Island Point
Fort Bolster
Cannington
Manilla
Oakwood
Sunderland
Udora
Zephyr
Leaskdale
Greenbank
Cadsarea
Uxbridge
Sharon
Holland Landing
Bond Head
Beeton
Tottenham
Schomberg
Newmarket
Armitage
Manchester
Port Perry
Goodwood
Burketon
Raglan
Stouffville
Ashburn
Myrtle
Columbus
Ringwood
Claremont
Hampton
Brooklin
Greenwood
Whitby
Oshawa
Ajax
Bay Ridges
Pickering
Markham
Thornhill
Unionville
Maple
Green River
Brough
Richmond Hill
Aurora
Oak Ridges
King City
Gormley
Nobleton
Bolton
Caledon East
Caledon
Mono Road
Nashville
Sta. Kleinburg
Credit Forks
Inglewood
Victoria
Woodbridge
Vaughan
Shelgrove
Bramalea
Brampton
Georgetown
Norval
Acton
Glen Williams
Terra Cotta
Cheltenham
Erin
Belfountain
Orton
Hillsburgh
Belwood
Mono Mills
Palgrave
Kettleby
Laurel
Glen Cross
Camilla
Orangeville
Waldemar
Grand Valley
Damascus
Kenilworth
Mount Forest
Monticello
Conn
Crombie
Jessopville
Shelburne
Primrose
Loretto
Rosemont
Mansfield
Alliston
Newton Robinson
Bradford
Queensville
Mount Albert
Honeywood
Everett
Horning's Mills
Cookstown
Earl Rowe Prov. Park
Proton Station
Dundalk
Corbetton
Flesherton
Ceylon
Markdale
Eugenia
Feversham
Singhampton
Maxwell
Creemore
Glen Huron
Devils Glen Prov. Park
Camp Borden Military Reserve
Dunedin
Lisle
Thornton
Stroud
Angus
Glencairn
Lowell
New Lowell
Brantwood
Barrie
Midland
Penetanguishene
Martyrs Shrine
Victoria Harbour
Waubaushene
Port McNicoll
Port Severn
Lafontaine
Cedar Point
Thunder Beach
Honey Harbour
Georgian Bay Islands Nat'l Park
BECKWITH I.
GIANTS TOMB I.
BEAUSOLEIL
HOPE I.
CHRISTIAN ISLAND
MUSKOKA LAKES
Six Mile Lake Prov. Park
Gravenhurst
Severn Falls
Coldwater
Orillia
Atherley
Bass Lake Prov. Park
Mara Prov. Park
Longford
Ardtrea
Moonstone
Prices Corners
Waverly
Wyevale
Wyebridge
Ste. Marie Among the Hurons
Huron Indian Village
Perkinsfield
Balm Beach
Ossossane Beach
Waubaushene
Fesserton
New Unthoff
Severn Bridge
Washago
Sadowa
Uphill
Sebright
Dalrymple
Victoria Rd.
Brechin
Kirkfield
Fenelon
Bolsover
Glenarm
Stur
Inverhuron Prov. Park
Douglas Point
Underwood
Paisley
Chesley
Tiverton
Port Elgin
Arkwright
Keady
Burgoyne
Chetsworth
North Bruce
Dobbinton
Desboro
Williamsford
Berkeley
Dornoch
Markdale
Eugenia
Feversham
Singhampton
Duntroon
Stayner
Glen Huron
Creemore
Maxwell
Glammis
Pinkerton
Malcolm
Elmwood
Millarton
Cardiff
Chepstow
Durham
Priceville
Proton Station
Dundalk
Corbetton
Walkerton
Hanover
Varney
Carlsruhe
Neustadt
Hopeville
Ripley
Kinloss
Riversdale
Greenock
Formosa
Holyrood
Mildmay
Ayton
Holstein
Maple Lane
Kingscote
Lucknow
Teeswater
Ambleside
Letterbreen
Cedarville
Jessopville
Shelburne
Primrose
Belmore
Drew
Clifford
Whitechurch
Wingham
Wroxeter
Gorrie
Harriston
Conn
Monticello
Crombie
Duncannon
Bluevale
Fordwich
Kenilworth
Damascus
Grand Valley
Orangeville
Camilla
Glen Cross
Laurel
Auburn
Belgrave
Palmerston
Teviotdale
Rothsay
Arthur
Mono Mills
Palgrave
Kettleby
Molesworth
Blyth
Brussels
Moorefield
Drayton
Parker
Belwood
Hillsburgh
Orton
Belfountain
Londesborough
Ethel
Listowel
Walton
Atwood
Alma
Erin
Inglewood
Victoria
Woodbridge
Vaughan
Shelgrove
Bramalea
Clinton
Tralee
Salem
Elora
Fergus
Ospringe
Cheltenham
Terra Cotta
Brampton
Georgetown
Norval
Acton
Glen Williams
Seaforth
Brodhagen
Monkton
Donegal
Milverton
Linwood
Newton
Dorking
Wallenstein
Elmira
West Montrose
Eramosa
Rockwood
Hawkesville
St. Jacobs
Conestogo
Millbank
Poole
Brunner
Bornholm
Dublin
Crosshill
St. Clements
Bloomingdale
Mills
Hornby
Streetsville
Mississauga
Port Credit
Toronto
Ontario Place
Mitchell
Staffa
Hensall
Zurich
Gads Hill
Wellesley
Erbsville
Bridgeport
Breslau
Guelph
Waterloo
Kitchener
Woodside Nat'l Hist. Pk.
Hespeler
Aberfoyle
Campbellville
Milton
Russeldale
Fullarton
Sebringville
Amulree
Petersburg
Baden
Exeter
Crediton
Stratford
Shakespeare
New Hamburg
Doon
Preston
Puslinch
Morriston
Freelton
Carlisle
Oakville
Shell Oakville Refinery
QEW
Burlington
Kirkton
Woodham
Centralia
Lieury
Rannoch
St. Mary's
Tavistock
Haysville
Newry
Dundee
Blair
Galt
Ayr
Branchton
Sheffield
Waterdown
Clappisons
Corse
Granton
Lucan
Ailsa Craig
Elginfield
Belton
Innerkip
Hickson
Plattsville
Bright
Drumbo
St. George
Rockton
Peters Corners
Dundas
Hamilton
Stoney Creek
Winona
Grimsby Beach
Grimsby
Beamsville
Vineland
Jordan
Jordan Sta.
St. Davids
Queenston
Niagara-on-the-Lake
Fort George
Virgil
St. Catharines
Youngstown
Cambria
Wilson
Lewiston
Niagara Falls
North Tonawanda
Niagara
Fonthill
Fenwick
Welland
Chippawa
Port Robinson
Wellandport
Chambers Corners
Dunnville
Wainfleet
Stevensville
Ridgeway
Fort Erie
Port Colborne
Crystal Beach
Long Beach
Rock Point Prov. Park
GRANT POINT
Peacock Point
Selkirk Prov. Park
Selkirk
Fisherville
S. Cayuga
Port Maitland
Lowbanks
Nelles Corners
Kohler
Cayuga
Canboro
Caistorville
Bismarck
Caistor Centre
York
Allanburg
St. Anns
Thorold
Beamsville
Fulton
Binbrook
Smithville
Campden
Jordan
Grimsby
Winona
Stoney Creek
Hamilton
Dundas
Ancaster
Jerseyville
Lynden
Troy
Copetown
Flamborough
Carlisle
Freelton
Morriston
Puslinch
Rockton
Peters Corners
Corse
Waterdown
Clappisons
Sheffield
Ayr
Branchton
Drumbo
St. George
Paris
Brantford
Eastwood
Princeton
Burford
Alberton
Duff
Cors
Elfrida
Mt. Hope
Cainsville
Chapel of the Mohawks
Alexander G. Bell Homestead
Onondaga
Caledonia
Ohsweken
Mt. Pleasant
Harley
Scotland
Oakland
Woodstock
Embro
Eastwood
Princeton
Paris
Brantford
Burford
Cathcart
Thamesford
Beachville
Arva
Thorndale
Lobo
London
Ingersoll
Dorchester
Putnam
Nilestown
Komoka
Lambeth
Delaware
Mossley
Harrietsville
Belmont
Glanworth
Mount Elgin
Burgessville
Salford
Norwich
Otterville
Springford
Teeterville
Vanessa
Waterford
Hagersville
Canfield
Cayuga
Nanticoke
Simcoe
Port Dover
Port Ryerse
Turkey Point
Turkey Point Prov. Park
St. Williams
Port Rowan
Long Point Park
Long Point Prov. Park
LONG POINT
Clear Creek
Port Burwell
Port Bruce Prov. Park
Port Bruce
Iroquois Beach Prov. Park
Walsingham
Vienna
Lakeview
Kingslake
Normandale
Langton
Vittoria
Meyer
Glen
Copenhagen
Port Stanley
Port Talbot
John Pearce Prov. Park
Dutton
Dunboyne
Sparta
Union
Fingal
Shedden
Eden
Corinth
New Sarum
Talbotville
St. Thomas
Southwold
Murcey
Tillsonburg
Courtland
Delhi
Nixon
Renton
Jarvis
Windham Centre
Springfield
Brownsville
Avon
Aylmer
Bayham
Straffordville
Lynedoch
Atherton
Sweets Corners
Niagara Falls
Lackawanna
Hamburg
East Aurora
CANADA
UNITED STATES
NEW YORK
ONTARIO
THRUWAY
Silver Creek
Dunkirk
Fredonia
Gowanda
Cattaraugus
Little Valley
Great Valley
Sinclairville
Conewango Valley
Barcelona
Westfield
Ripley
Mayville
North East
Erie
PENN.
N.Y.
To Cleveland
To Jamestown
To Salamanca
81°
80°
79°
5
6
7
8
N
W
E
S

WORKSHEET 0695101

ℓ = 1500 m
w = 1000 m

ORIGIN x 17586500
y 4821000

Standard Error S_x
R 353 m

ℓ = 1500 m
w = 1000 m

LIFT-OFF x_1 17597600
y_1 4826500

Standard Error S_y
R 353 m

$(x_1 - x)$ = 11100
$(y - y_1)$ = 5500

DAMAGE LENGTH

$$L = [(x_1 - x)^2 + (y - y_1)^2]^{1/2}$$

= 12388

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

= 499 m

$$\beta = \frac{S_L}{57.29 L}$$

= 2°

$$\alpha = \tan^{-1} \frac{|y - y_1|}{|x - x_1|} = 26°$$

NE Quad $\phi = 90 - \alpha$
NW Quad $\phi = 270 + \alpha$
SW quad $\phi = 270 - \alpha$

SE quad $\phi = 90 + \alpha$

ϕ = 244°

WORKSHEET 0695102

ORIGIN x 1764000 Est Standard Error S_x
y 4918000 C 1000 m

LIFT-OFF x_1 Est Standard Error S_y
y_1 C 3000 m

$(x_1 - x)$ =
$(y - y_1)$ =

DAMAGE LENGTH

$$L = [(x_1 - x)^2 + (y - y_1)]^{1/2}$$

= 16000 (given)

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

= 3162 m

$$\beta = \frac{S_L}{57.29 L}$$

= 18.4°

$$\alpha = \tan^{-1} \frac{|y - y_1|}{|x - x_1|}$$

NE Quad $\phi = 90 - \alpha$ SE quad $\phi = 90 + \alpha$
NW Quad $\phi = 270 + \alpha$
SW quad $\phi = 270 - \alpha$

ϕ = WEST (given)

WORKSHEET 0695103

ORIGIN x 17540400
y 4883800

l 16 km
Standard Error S_x
4619 m

LIFT-OFF x_1
y_1

Standard Error S_y

$(x_1 - x) =$
$(y - y_1) =$

DAMAGE LENGTH

$$L = [(x_1 - x)^2 + (y - y_1)]^{1/2}$$

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

=

$$\beta = \frac{S_L}{57.29L}$$

=

$$\alpha = \tan^{-1} \frac{|y - y_1|}{|x - x_1|}$$

NE Quad $\phi = 90 - \alpha$
NW Quad $\phi = 270 + \alpha$
SW quad $\phi = 270 - \alpha$

SE quad $\phi = 90 + \alpha$

$\phi =$

WORKSHEET 0695105

ORIGIN x 17624050
y 4836880

Standard Error S_x 102 m

LIFT-OFF x_1 17628820
y_1 4838270

Standard Error S_y 102 m

$|(x_1 - x)|$ = 4770 m
$|(y - y_1)|$ = 1390 m

DAMAGE LENGTH

$$L = [(x_1 - x)^2 + (y - y_1)^2]^{1/2}$$
$$= 4968 \text{ m}$$

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

= 144 m

$$\beta = \frac{S_L}{57.29 L}$$

= 2°

$$\alpha = \tan^{-1} \frac{|y - y_1|}{|x - x_1|}$$

= 16.2°

NE Quad $\phi = 90 - \alpha$
NW Quad $\phi = 270 + \alpha$
SW quad $\phi = 270 - \alpha$

SE quad $\phi = 90 + \alpha$

ϕ = 286