

JOURNAL 1980

JAMES W. BEE

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Provo, 1593N, 1450E, Utah Co., Utah
Jan 1, 1980

at 11:00 A.M. walked 600' - pulse 68; 600' - pulse 66. This afternoon drove to Mary's Chalet at Sundance for dinner; then returned to Provo. Pulse 11:00 P.M. 68, BP at 11:30 P.M. 174/95, pulse 64.

Jan 2, 1980

at 12:08 this morning pulse fast, then slow, then normal. BP at that time 170/96. 8:00 A.M. pulse 62. At 1:00 P.M. walked 600' - pulse 66, 600' - pulse 68, 600' pulse 68 (this figure are continuous walking with pulse at 600' intervals). At 5:30 P.M. brought Mary back to Provo from Payson Mt. View Hosp. B.P. at bedtime 160/84, pulse 62.

Jan 3, 1980

Prepared to leave by United Airlines for Lawrence, Kansas 8:00 A.M. pulse 60. BP. 160/82. Don and Mary drove us to Salt Lake Airport and left in plane at 2:55 P.M. Pulse at takeoff 70. 20,000' pulse 68. 3:15 at 37,000' pulse 70. 4:00 pulse 70, 5:30 descending 70 pulse. Pulse gradually increased to 74 at touchdown at 5:48 at International Airport. Arrived home, pulse 68. James Robert had left Provo Dec 28, 1979 for Cooper + Lawrence and Annette + Ron also left same day. reduced 4 to 3 quinides daily. B.R. at 3:30 A.M. = 160/92. at noon: 140/86

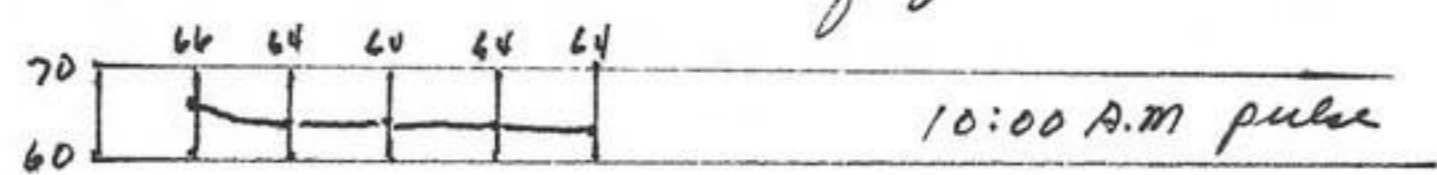
Lawrence, Douglas Co., Kansas

Jan 6, 1980
2:00 P.M. 138/80
8:00 P.M. 170/90

Jan 7, 1980

The 4th, 5th + 6th inactive and spent most of time in bed. as was true of Utah visit was tired and nauseated most of the time from over medication of quinides.

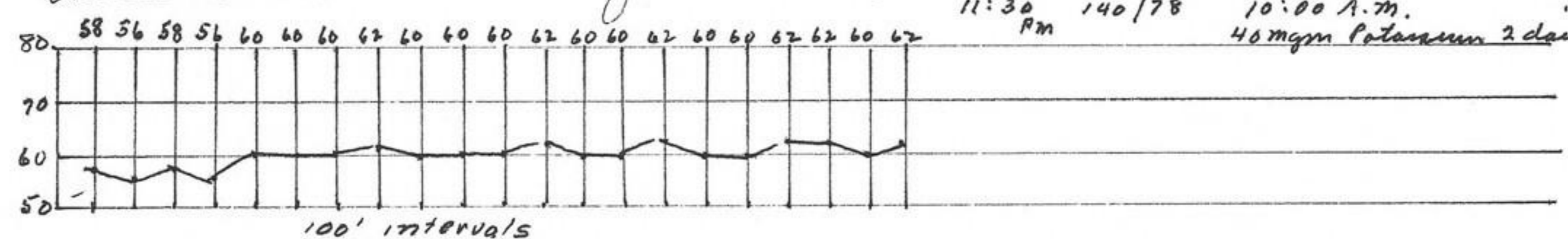
B.P. 9:50 A.M. 140/78
8:00 P.M. 170/78



Exercise 12:00 A.M.

Jan 8, 1980

B.P. 10:30 AM 140/78 Last Lawoken at
11:30 PM 140/78 10:00 A.M.
40mgm Potassium 2 daily



Last night at 3:00 A.M. pulse increased + hard then slow and weak.

Jan 15, 1980

work on sink all day, B.P. 10:00 = 128/64, pulse 58.

Jan 16, 1980

Exercise 10:00 A.M.

1000' pulse 56

1000' " 56

1000' " 56

1000' " 56

280' " 56

stairs (8 1/2 feet elevation) 4 times
pulse 62.

Jan 17, 1980

Exercise 9:00 A.M.

1000' pulse 60

1000' " 58

1000' " 60

1000' " 60

280' " 60

Jan 19, 1980

Exercise 11:30 A.M.

1000' pulse 56

1000' " 54

1000' " 56

1000' " 54

280' " 56

stairs x 4 64

6:00 P.M. stairs x 10 times

start pulse 54, end 68, 5 min later 56

7:30 P.M.

1000' pulse 58

1000' " 60

1000' " 60

1000' " 60

280' " 60

At 3:07 A.M. this morning pulse increased
and hard, decreased but ~~not~~ pulse
maintained, then to normal.

Jan 20, 1980

Exercise 10:35 A.M.

1000' pulse 58

1000' 60

1000' 60

1000' 60

280' 60

6:00 P.M.

1 mile pulse 60

10x stairs pulse 64

Jan 21, 1980

Exercise. 3:00 P.M.

1/2 mile outside at 62 pulse.

inside:

1000' pulse 62

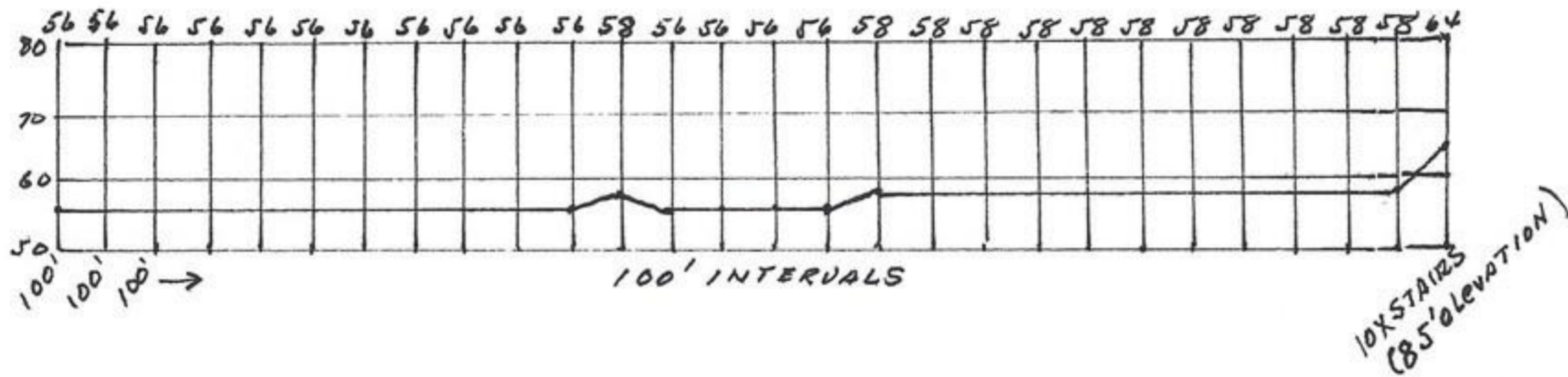
1000' " 62

280' " 62

Jan 22, 1980

Exercise 11:00 A.M. Pulse at start 54

B.P. 8:00 P.M. = 132/74 pulse 54

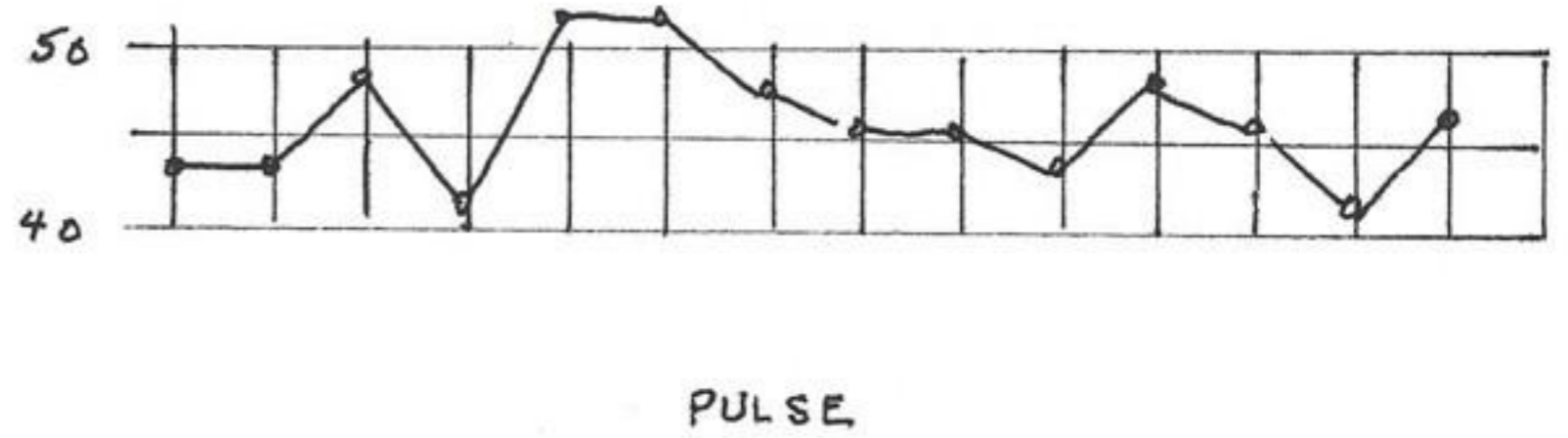
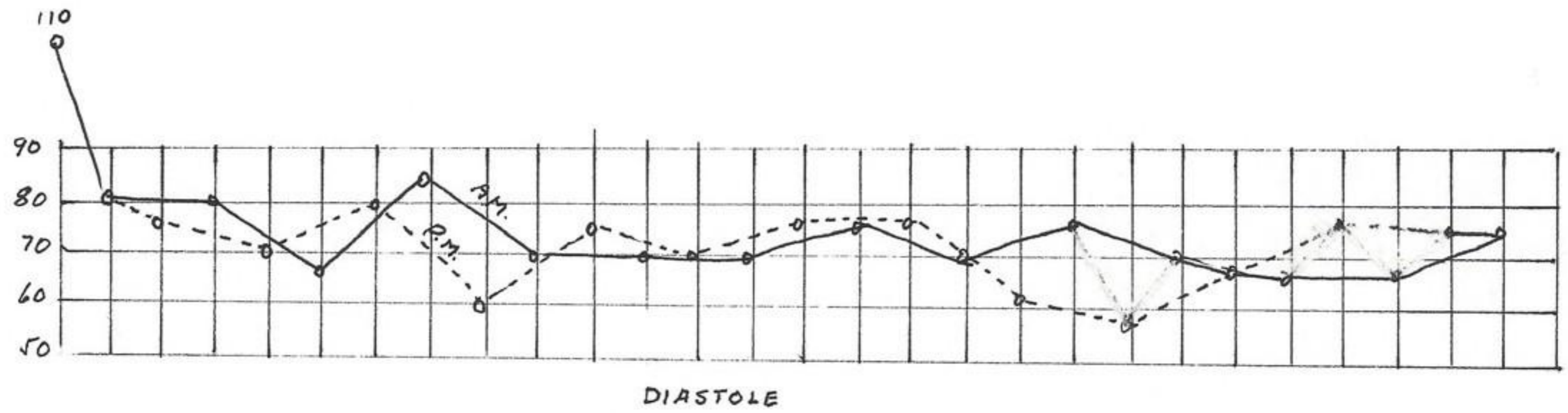
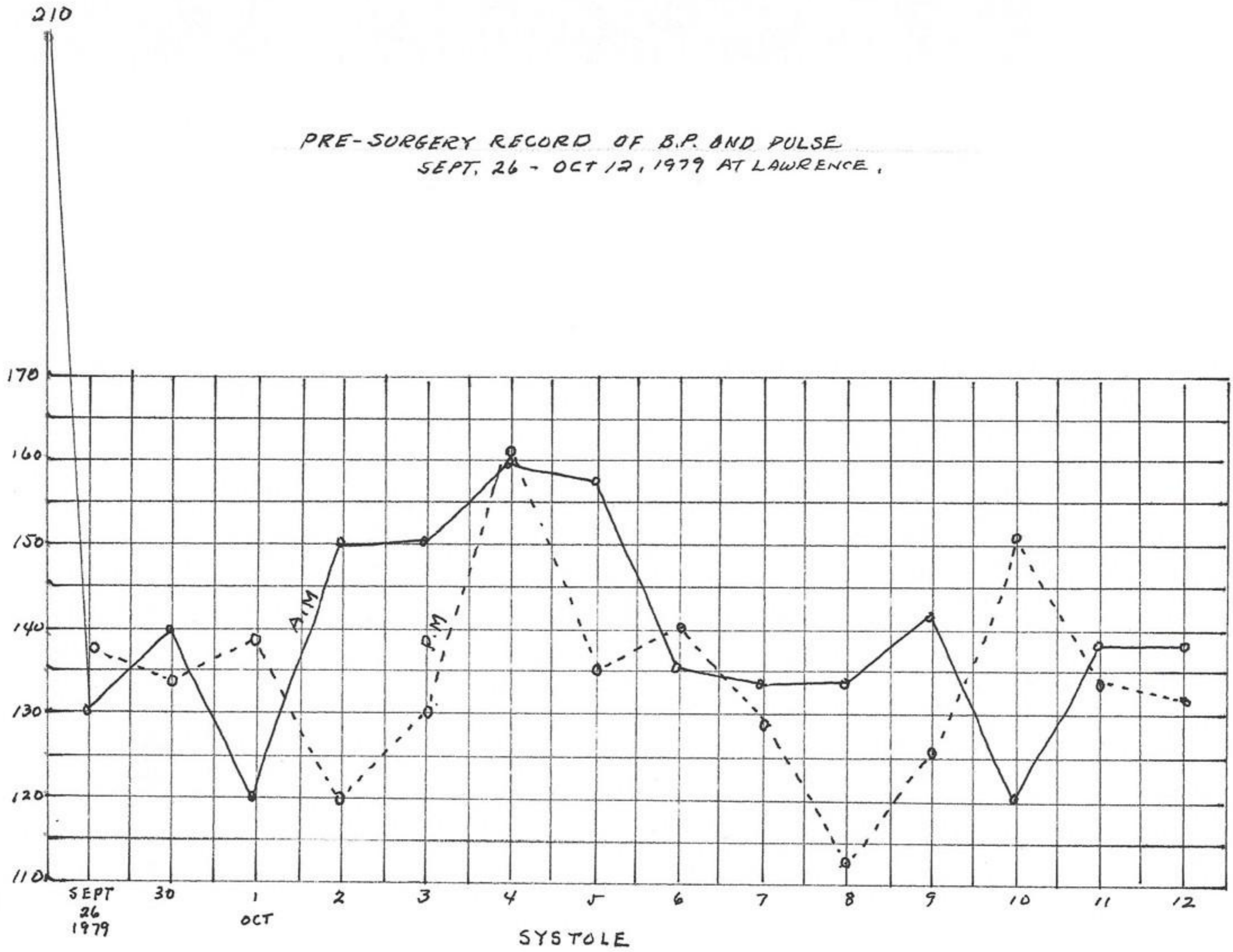


Jan 22, 1980

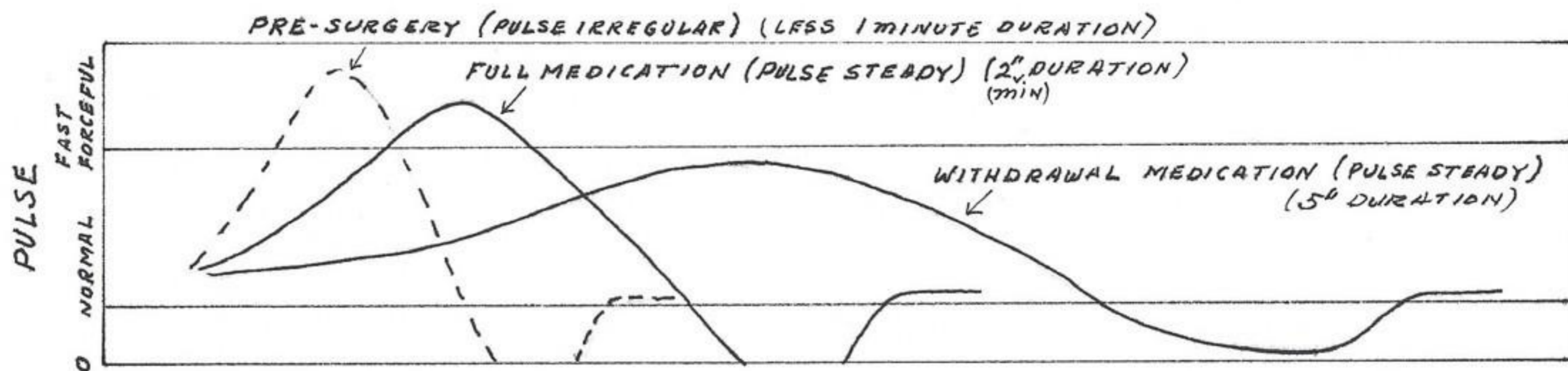
The accompanying records go with chart on previous page. Info taken from Sept. 26, 1979 to Oct. 12, 1979 and included here near current heart records: (page 5 to 21 following).

Sept. 26	210/110		pulse weight	170		
" 29	130/82	A.M.	"	166		
" "	138/78	P.M.	"	166		
" 30	140/80	A.M.	"	166		
	135/70	P.M.	"	165		
Oct 1	120/68	A.M.	"	165		
" "	140/80	P.M.	"	—		
" 2	150/85	A.M.	"	162		
" "	120/60	P.M.	"	163		
" 3	150/70	A.M.	"	164		
" "	140/75	P.M.	"	—		
" 4	160/70	A.M.	"	166		
" 4	160/70	P.M.	"	—		
" 5	158/70	A.M.	"	165		
" "	140/76	P.M. (right arm)	130/76 (left arm)	pulse 44	wgt 166	
" 6	142/76	A.M. (")	130/76 (")	" 44	" 166	
" "	130/76	P.M. (")	150/78 (")	" 48	" 166	
" 7	130/70	A.M. (")	138/70 (")	" 42	" 165	
" "	124/62	P.M. (")	130/62 (")	" 52	" 166	
" 8	132/78	A.M. (")	136/78 (")	" 52	" 165	
" 8	112/60	A.M. (")	112/58 (")	" 48	" 165	
" 9	150/70	A.M. (")	132/70 (")	" 46	" 165	
" "	124/68	P.M. (")	126/70 (")	" 46	" 165	
" 10	120/64	A.M. (")	120/75 (")	" 44	166	
" "	150/78	P.M. (")	150/78 (")	" 48	167	
" 11	138/68	A.M. (")	140/68 (")	" 46	166	
" "	136/74	P.M. (")	130/76 (")	" 42	167	
" 12	144/80	A.M. (")	130/70 (")	" 46	166	

PRE-SURGERY RECORD OF B.P. AND PULSE
 SEPT. 26 - OCT 12, 1979 AT LAWRENCE.



SUMMATION OF
FREQUENCY CHANGE OF PULSE AT NIGHT (2:00-4:00 AM)



The final stage is a slight increase of 5 sec. and then immediate return to normal.

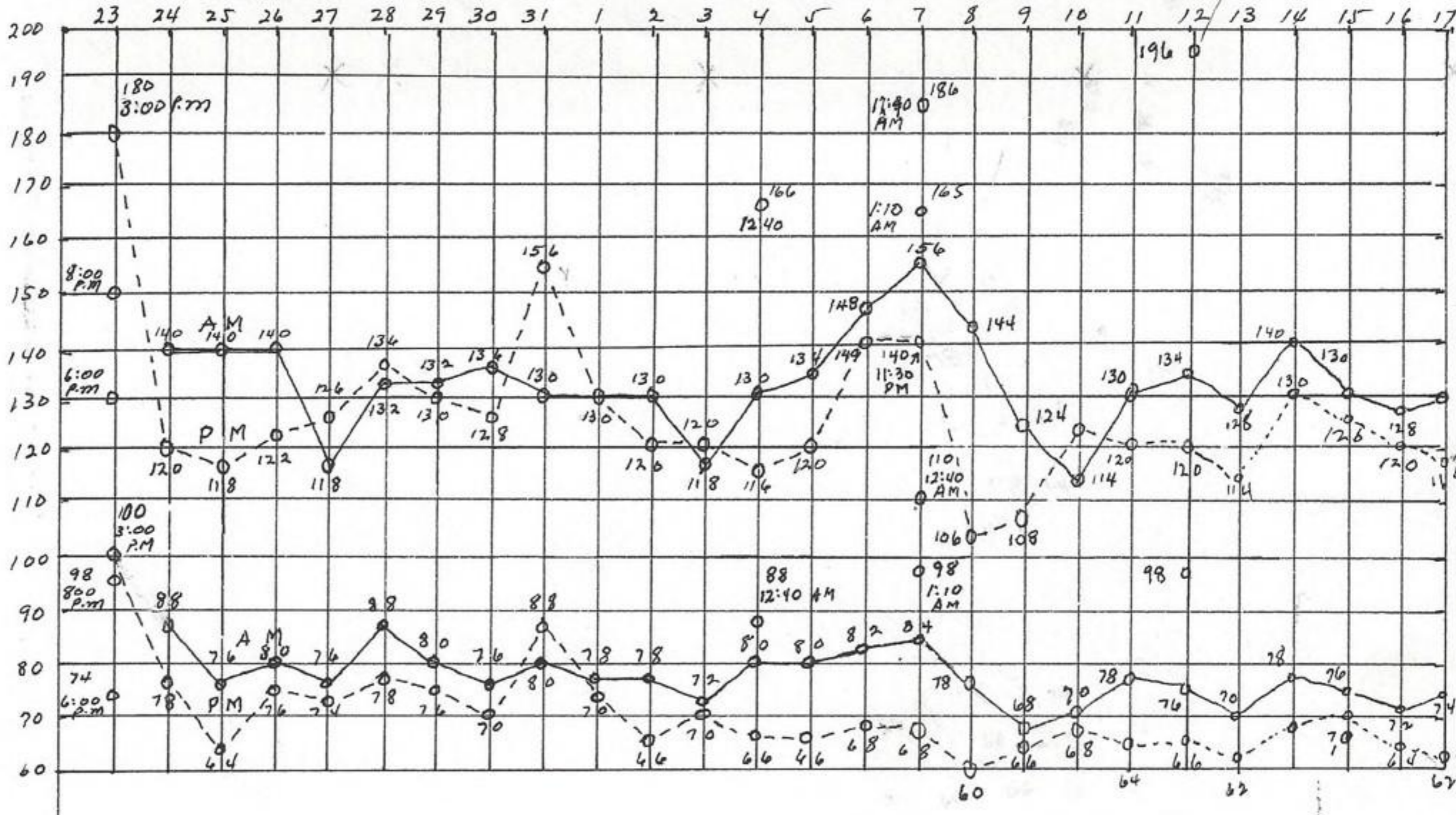
SUMMATION TO DATE (JAN. 23, 1980)

1. Pulse high in A.M., low in P.M.
2. B.P. low in A.M., high in P.M.
3. Pulse increased from in the 40 range (pre-surgery) to 60-70 per minute after surgery and then decreased to 50-60 post medication.
4. Pulse irregular pre-surgery, regular and steady post-surgery.
5. B.P. lower after surgery.
6. Pulse change at night frequently associated with or caused by high blood pressure. Also stress of previous day.
7. Nausea and weakness during medication but immediate change at start of medication withdrawal.
8. Quinidex and Lanoxin have no immediate effect on pulse rate.
9. Excess quinidex removed in diarrhea and constant production of salt on lips.
10. medication stimulated right ear in producing a high pitched 'click'
11. Pulse increases ⁽⁷⁰⁻⁷⁶⁾ with descent of aircraft (37,000' to 5,000'). ~~and~~
- 12.

Questions: 1. Field work in SE Alaska. need of complete medical record.
2. Outside temperature requirements. 3. Salt diet. 4. Hernia.
5.

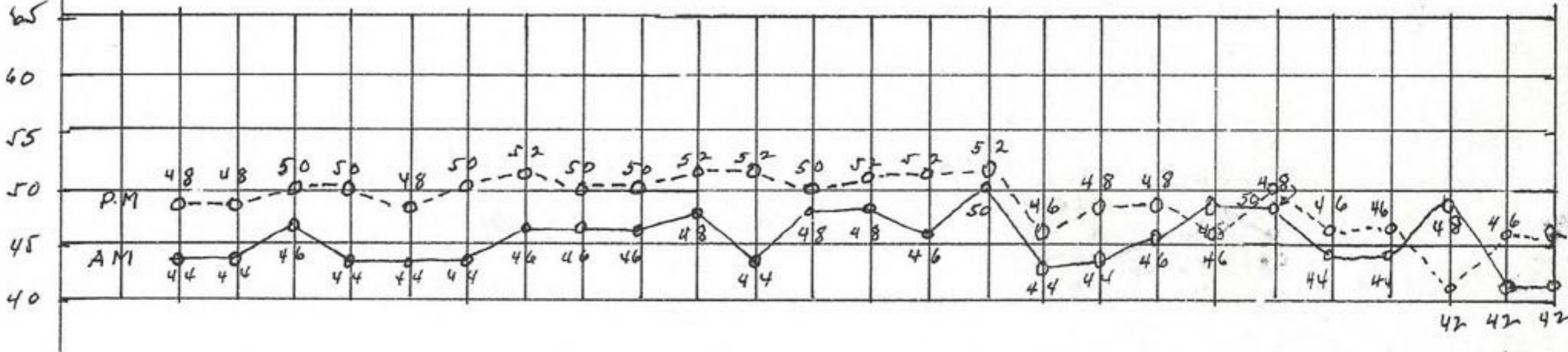
BLOOD PRESSURE
AM - P.M. - -

SYSTOLE
DIASTOLE



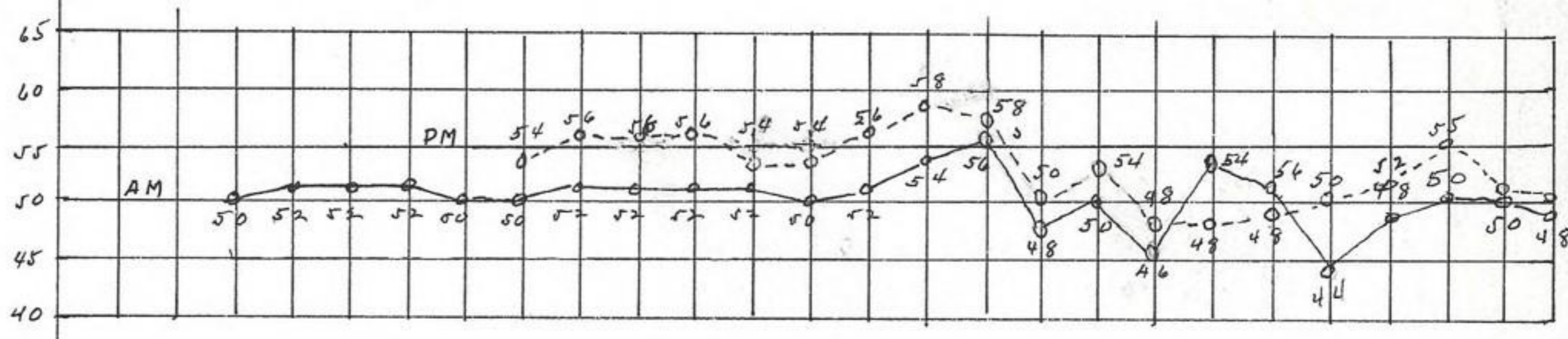
PULSE

AM - P.M. - -



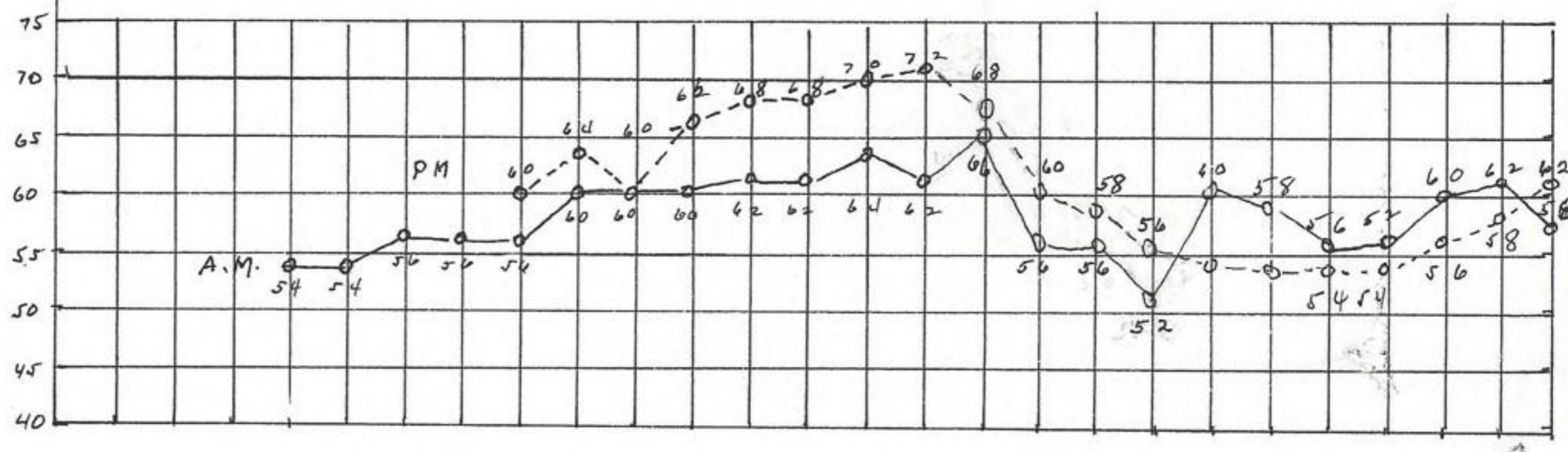
PULSE

MILE



PULSE

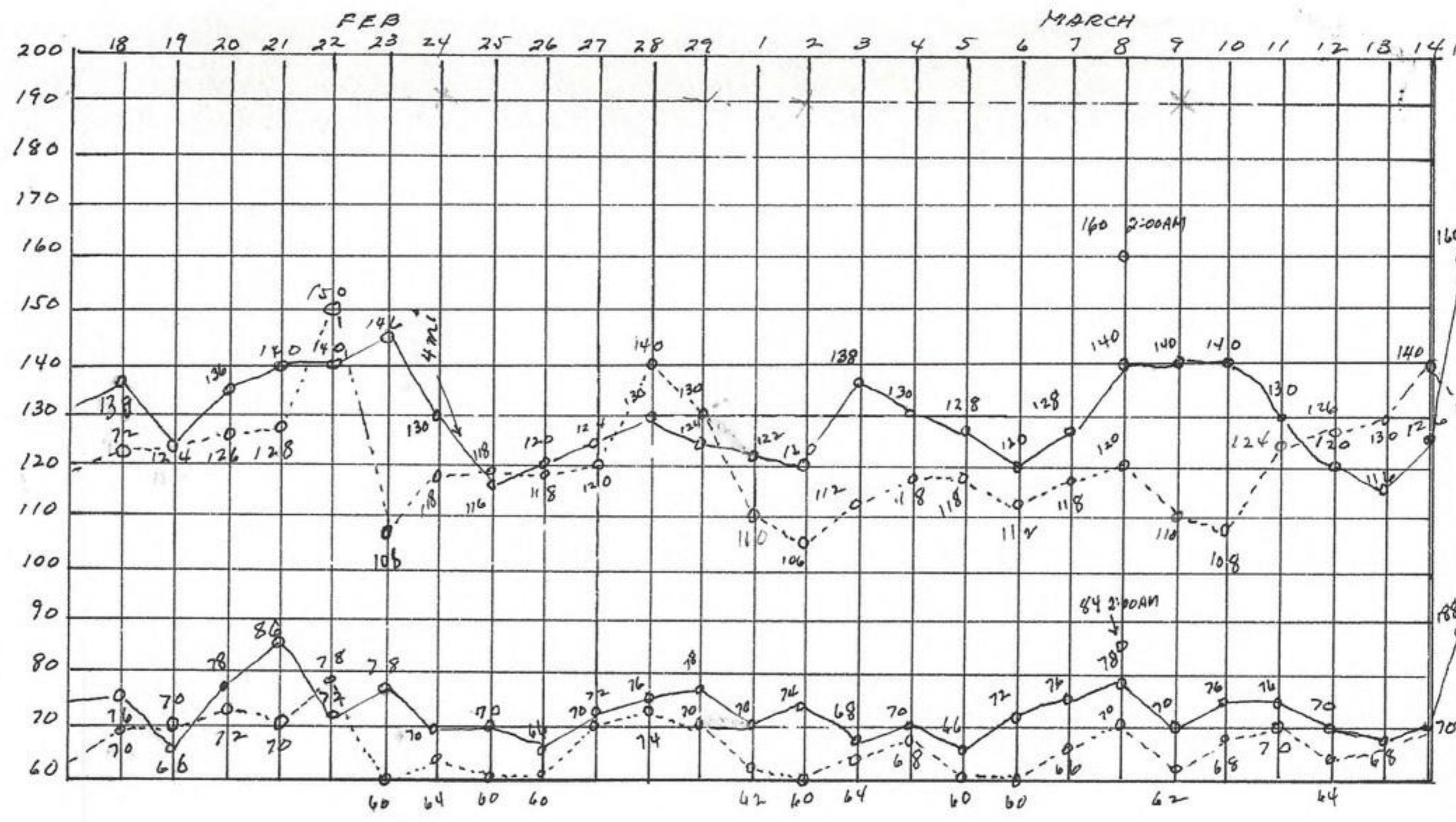
STAIRS



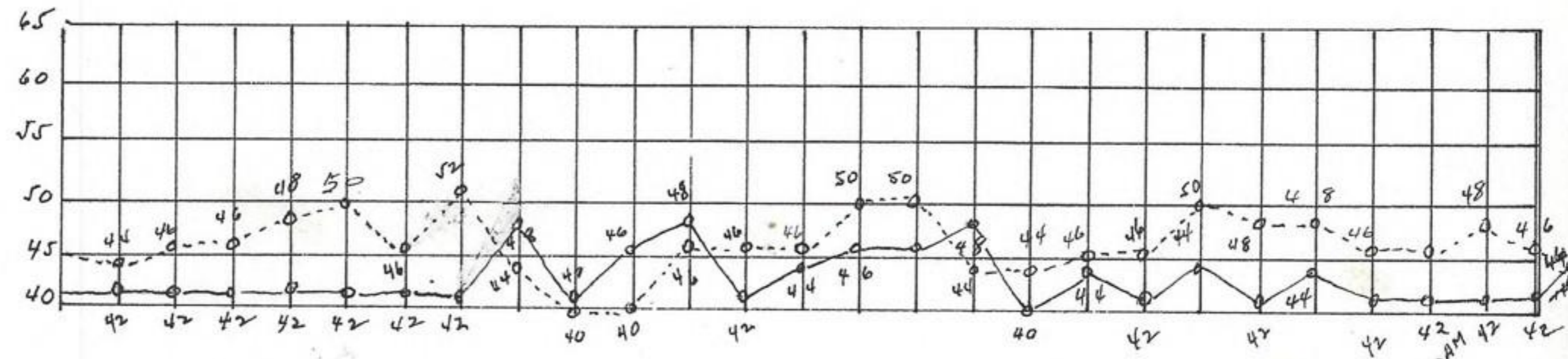
MED. JAN 23-FEB 6, 1980 INDERAL (10gm) 3 TIMES DAILY
 DYOZIDE (10gm) 2 EACH MORNING.
 FEB 7-FEB 12, 1980 INDERAL (20gm) 3 TIMES DAILY (except noon, 10gm), Feb 11, 12 3 times daily
 DYOZIDE (10gm) 2 EACH MORNING

BLOOD PRESSURE
AM - P.M. - -

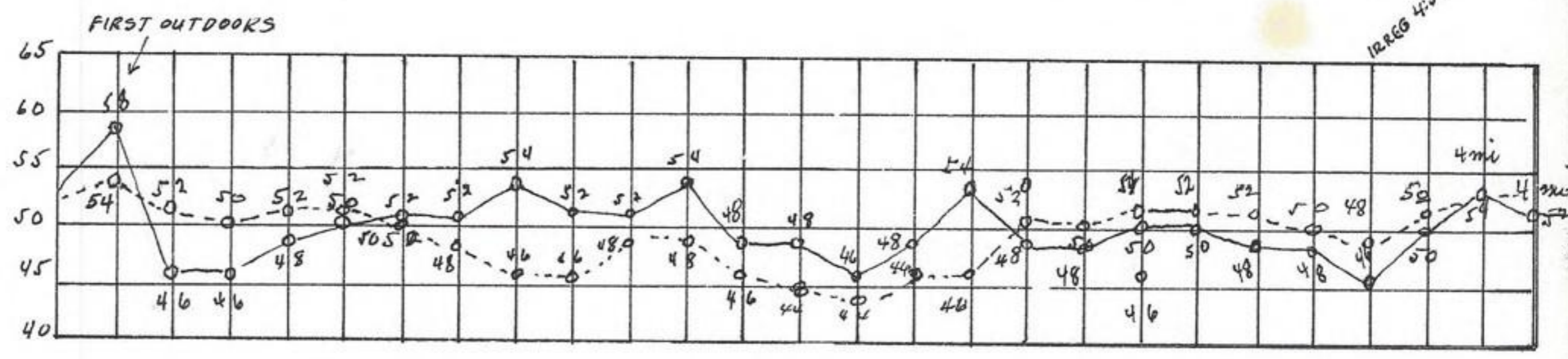
SYSTOLE
DIASTOLE



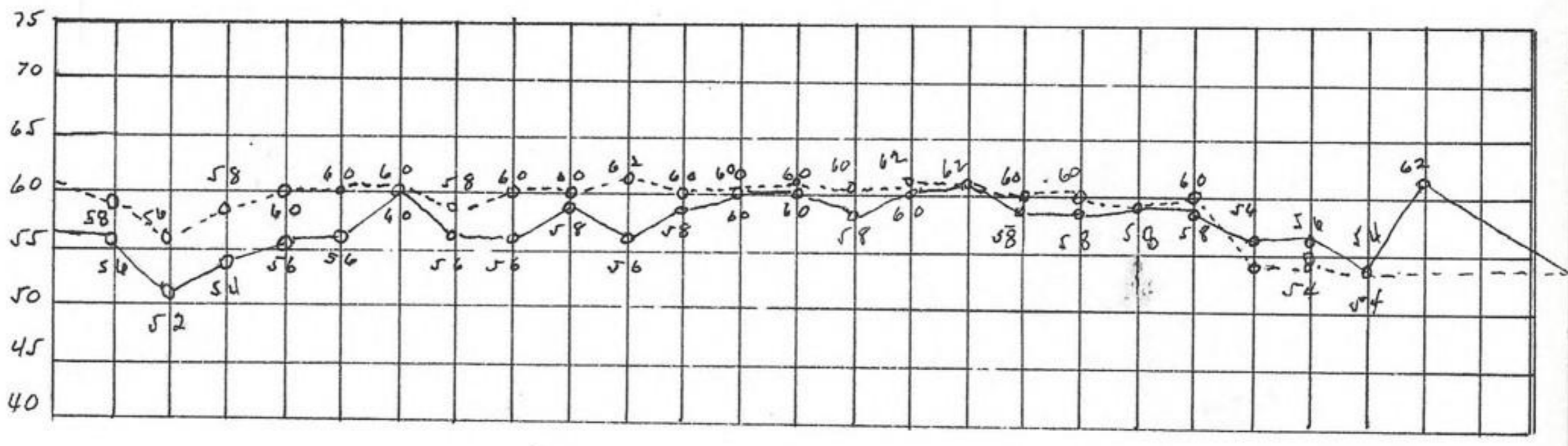
PULSE
AM - P.M. - -



PULSE
MILE



PULSE
STAIRS



FIRST OUTDOORS
12 REG 4:30 AM

BELL STAIR

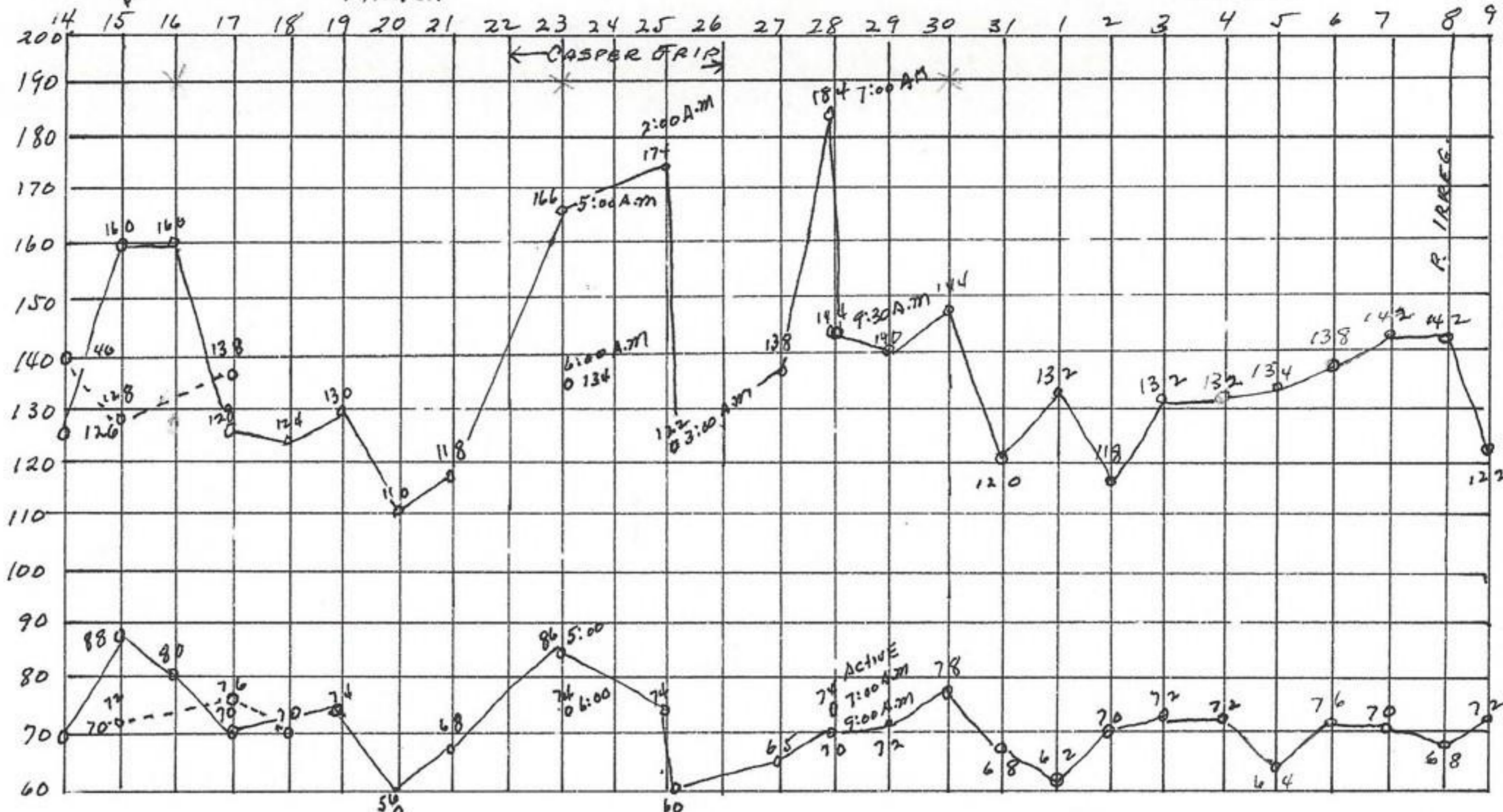
MARCH

APRIL

BLOOD PRESSURE
AM - PM

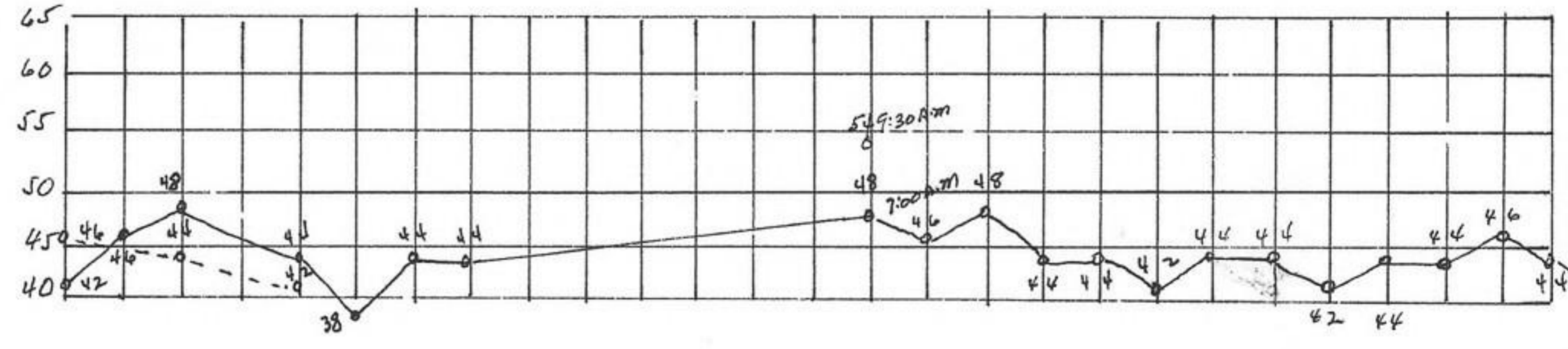
SYSTOLE

DIASTOLE



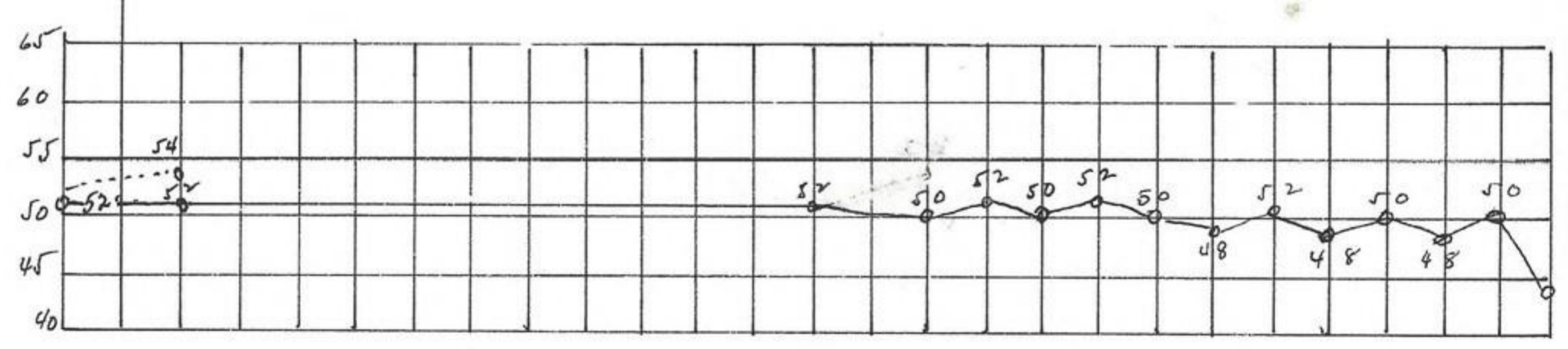
PULSE

AM - PM



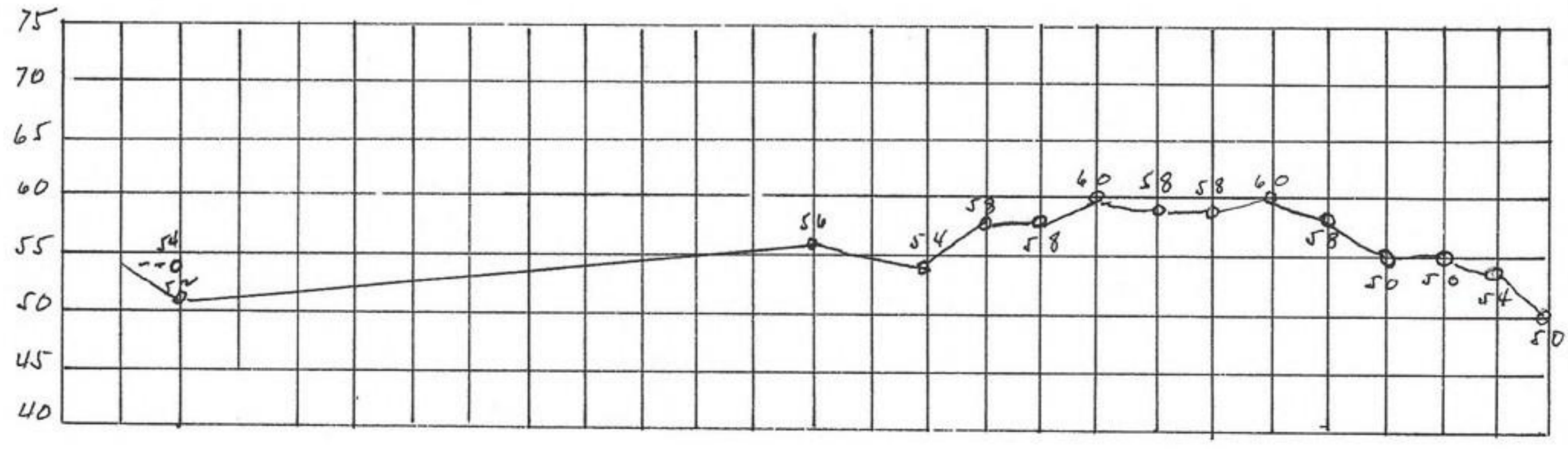
PULSE

MILE



PULSE

STAIRS

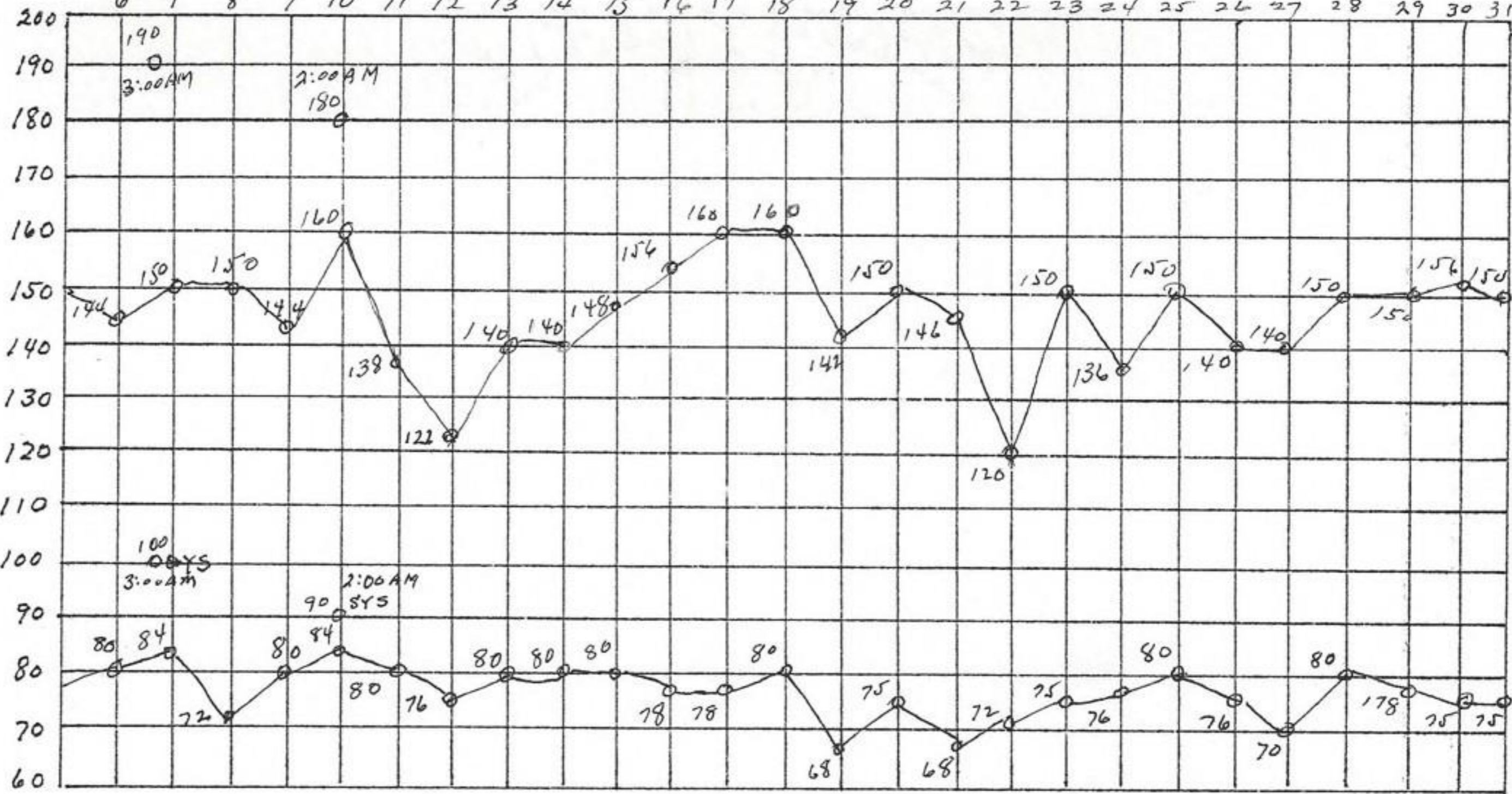


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BLOOD PRESSURE AM.

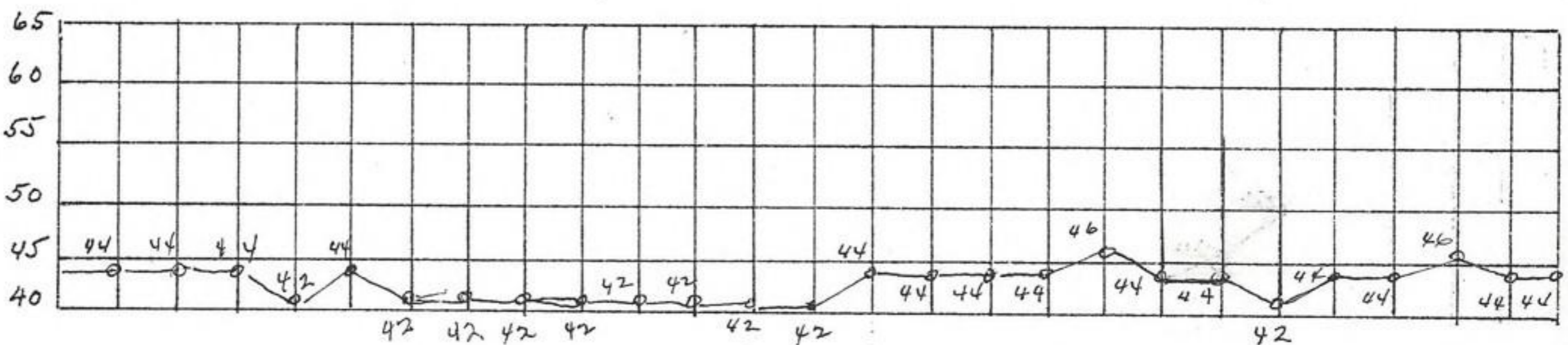
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DIASTOLE



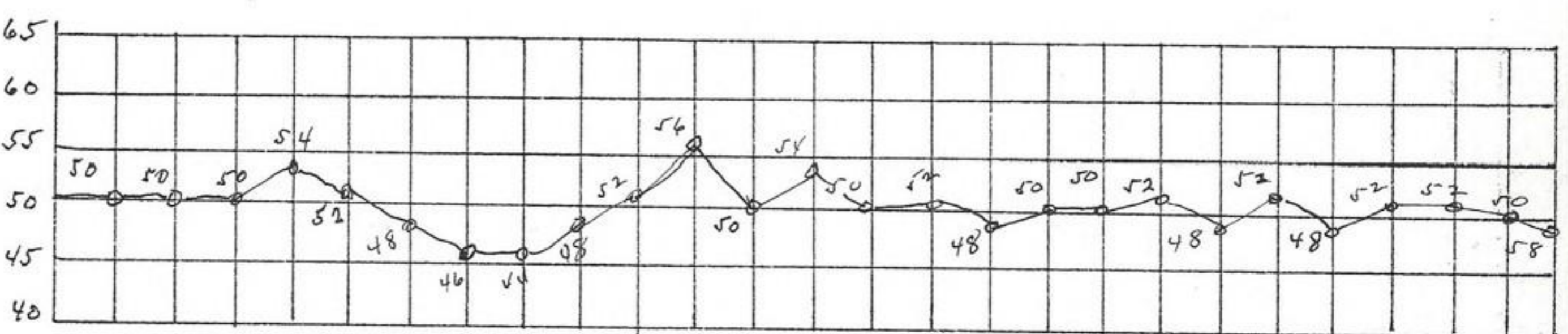
PULSE AM

AM



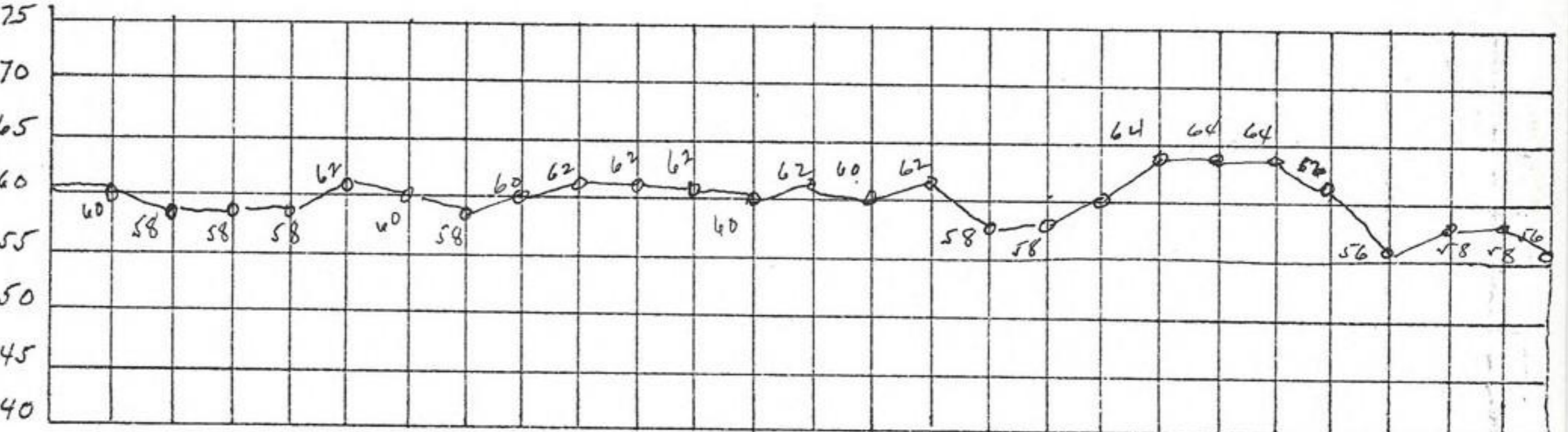
PULSE MILE

MILE



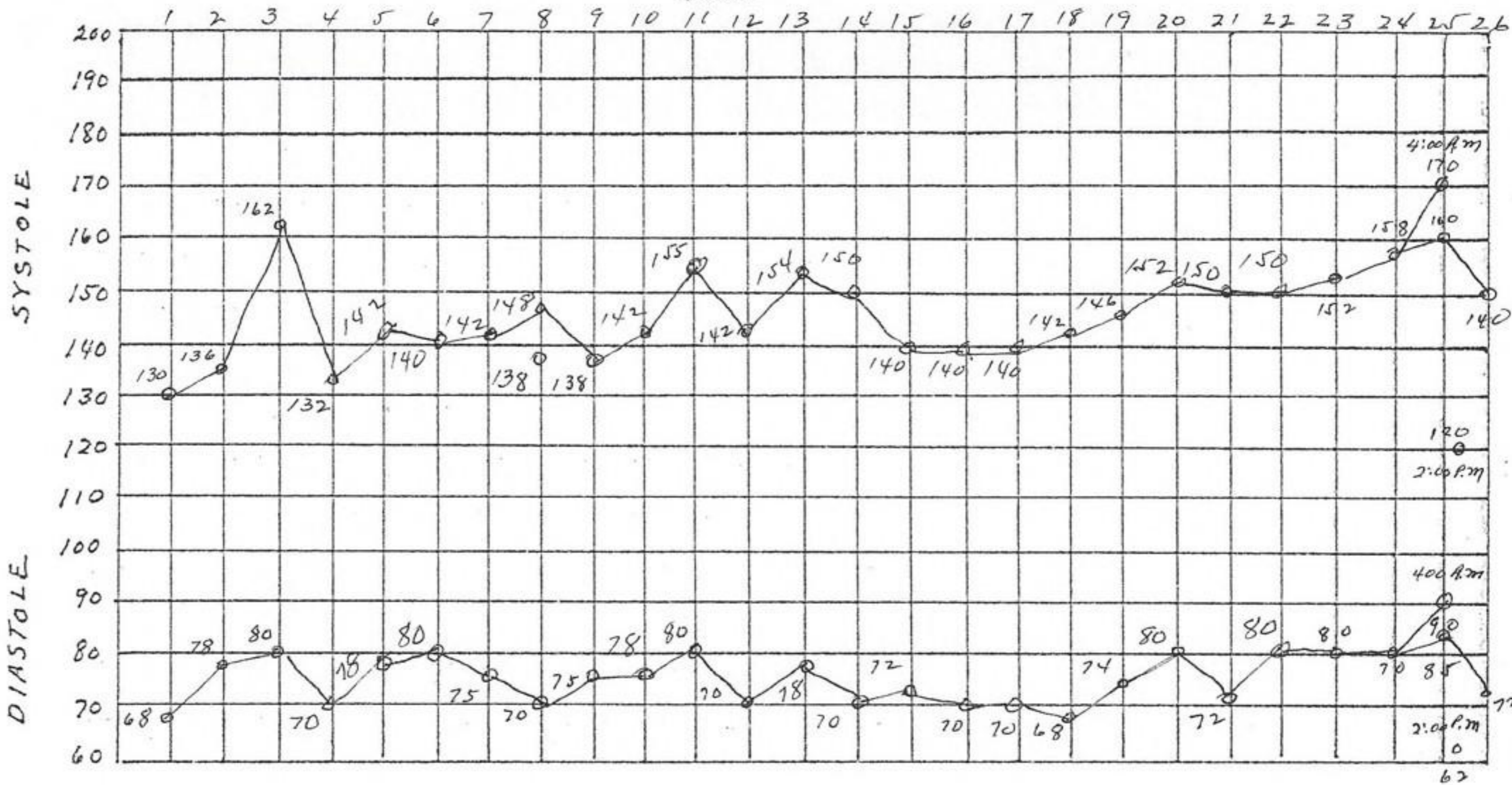
PULSE STAIRS

STAIRS

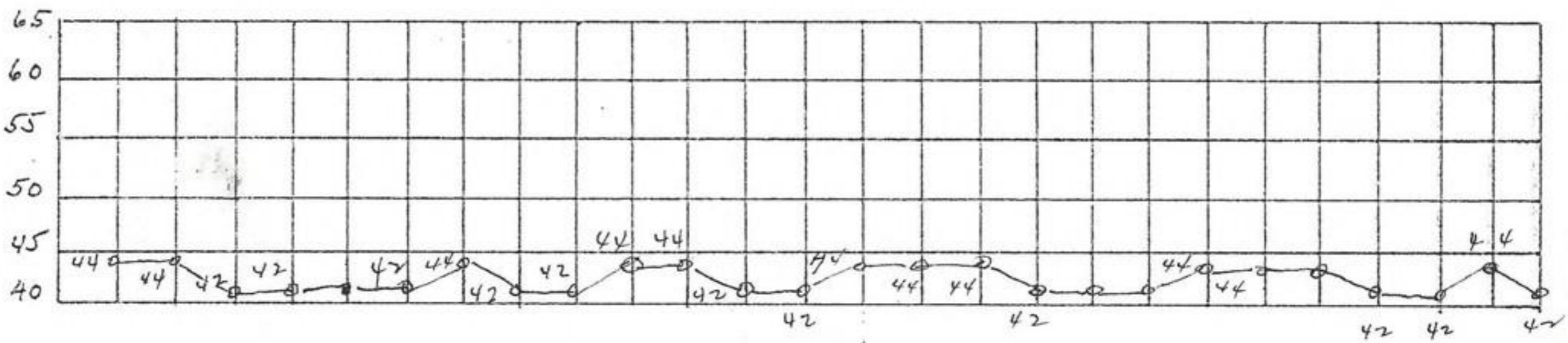


JUNE

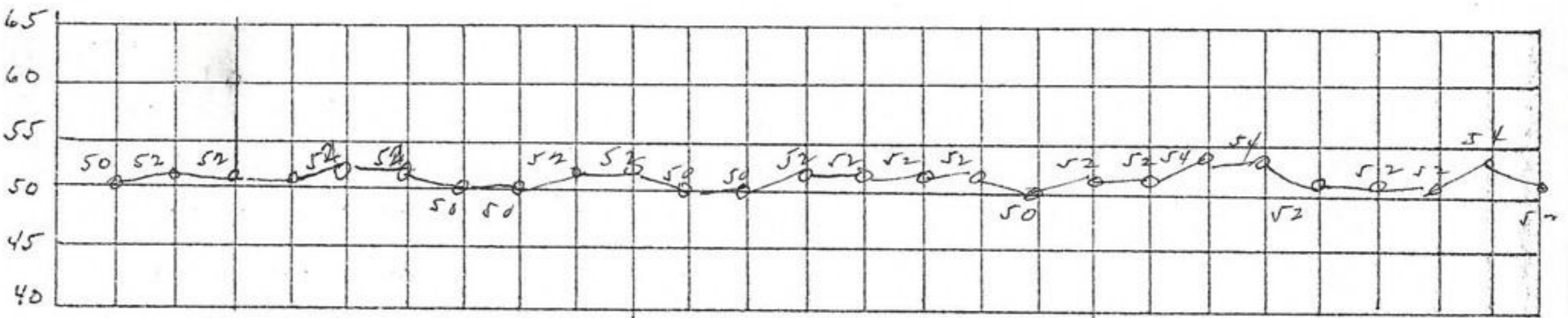
BLOOD PRESSURE
AM.



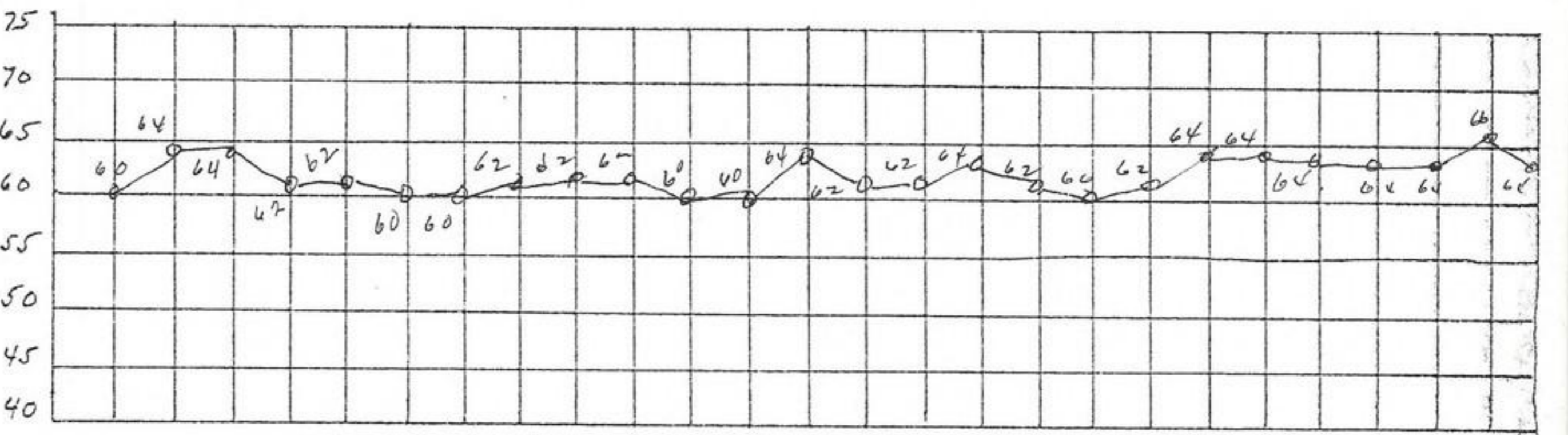
PULSE
AM



PULSE
MILE



PULSE
STAIRS

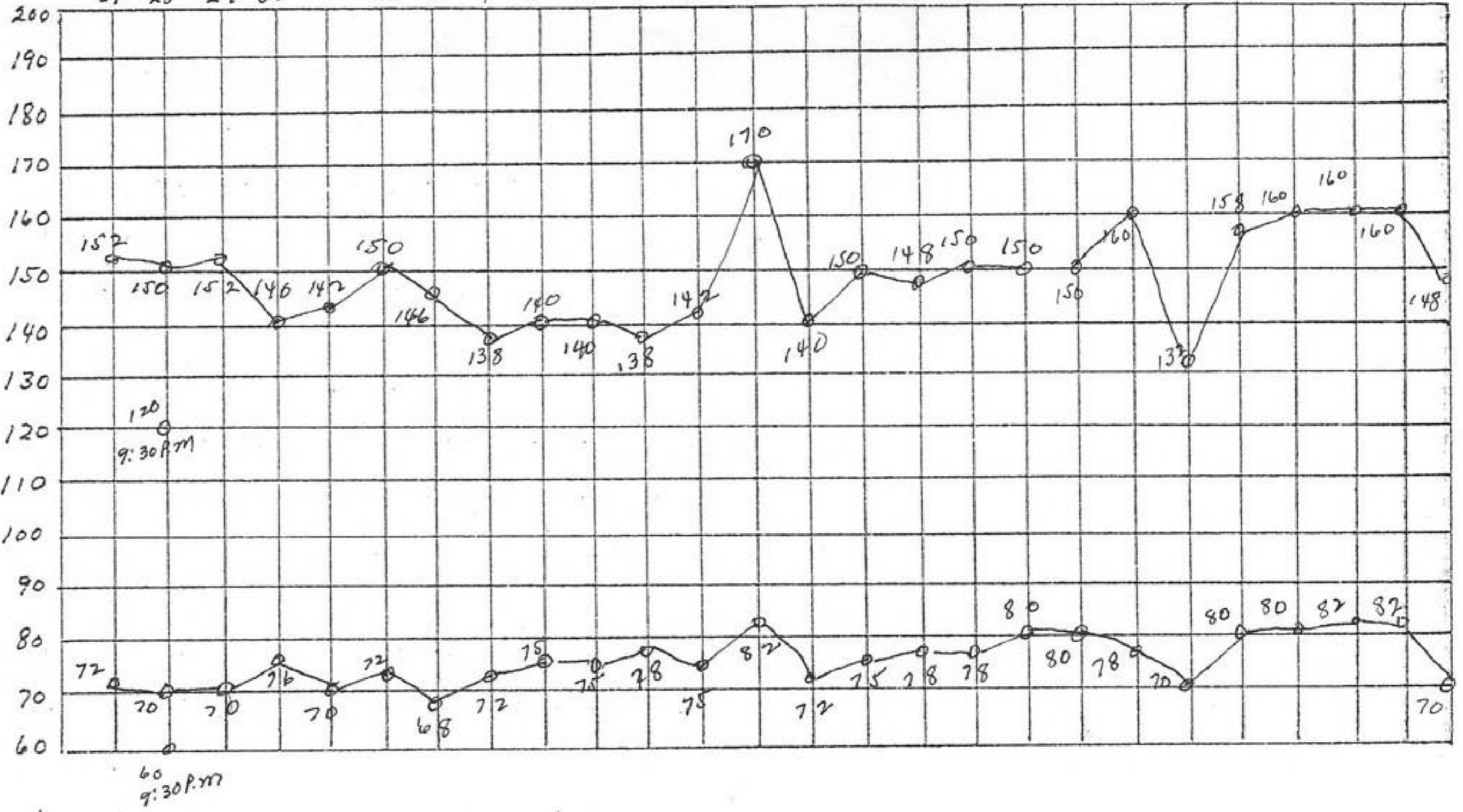


JULY

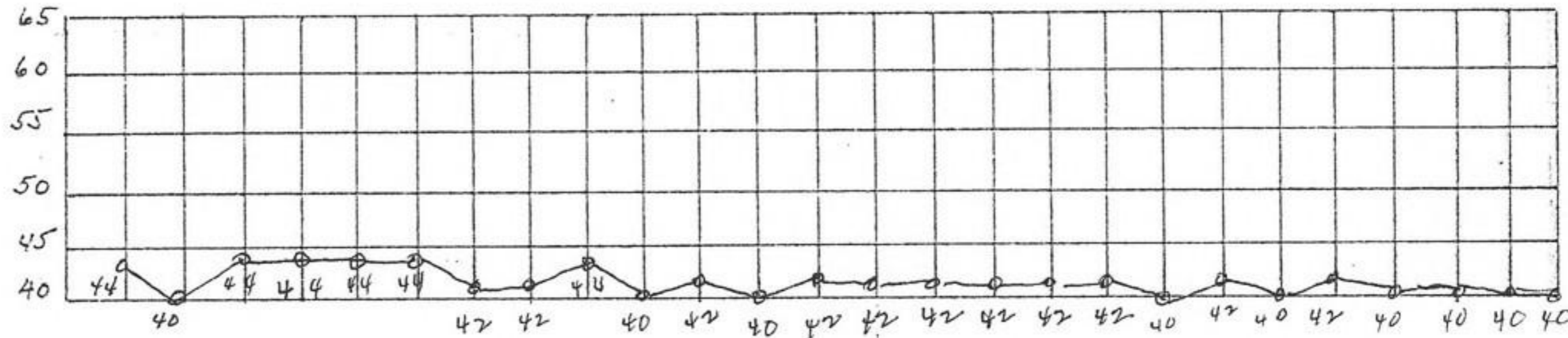
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BLOOD PRESSURE AM.

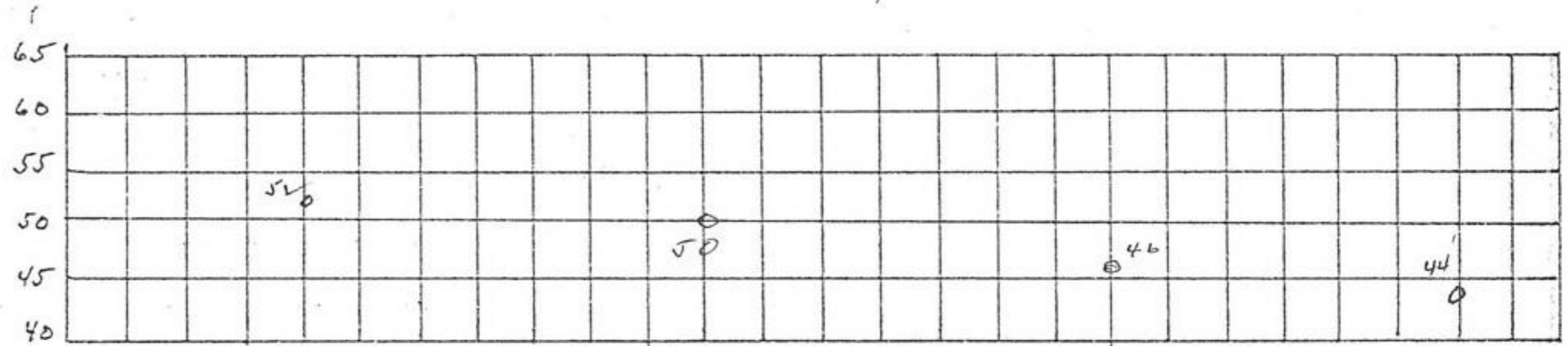
SYSTOLE
DIASTOLE



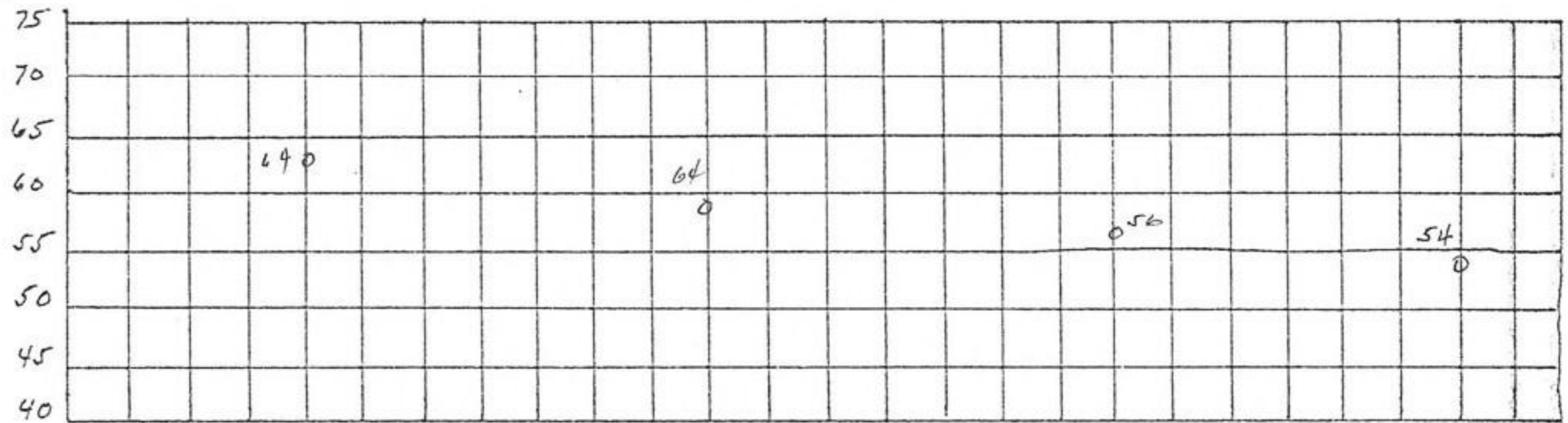
PULSE AM



PULSE MILE



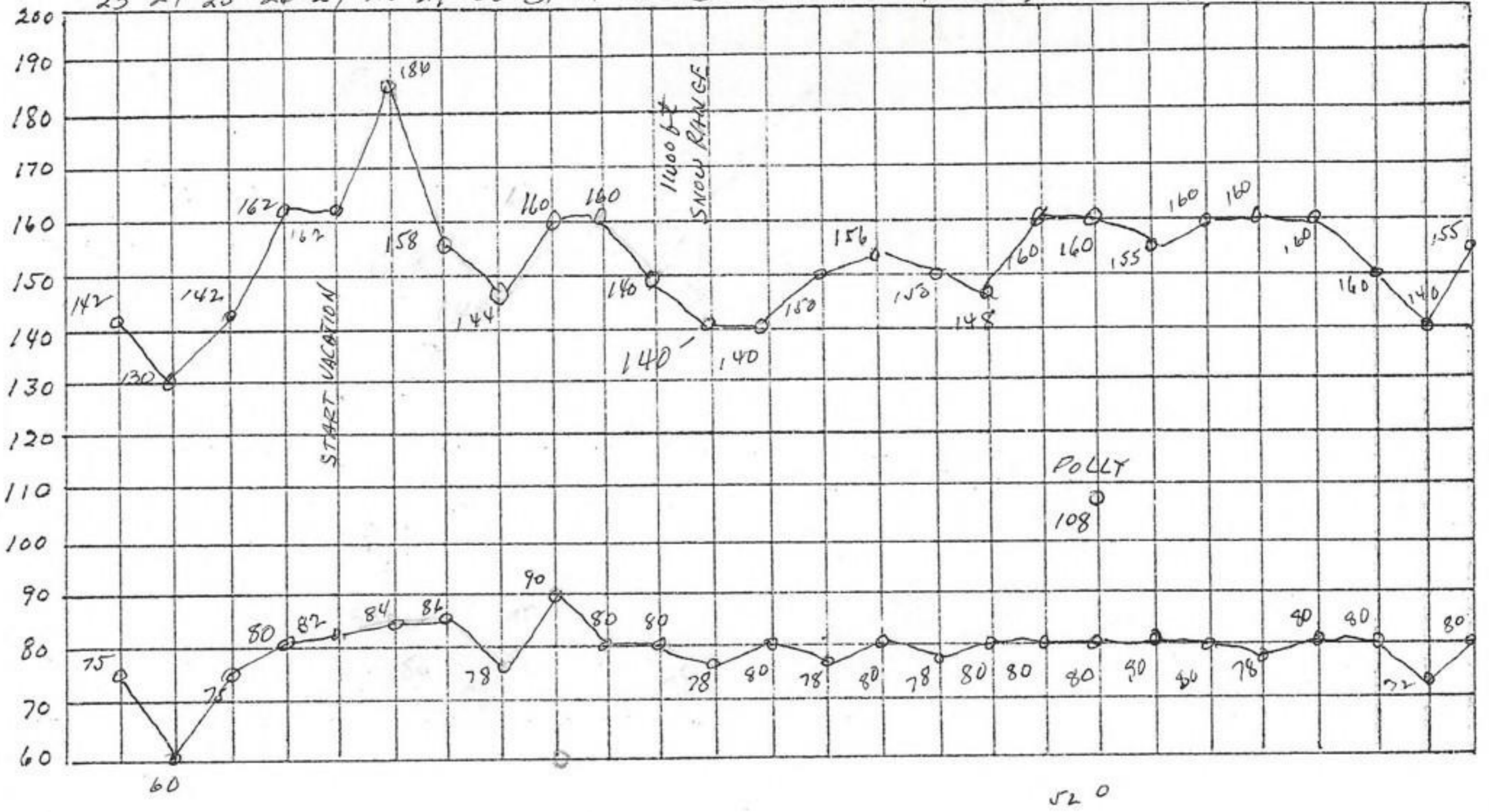
PULSE STAIRS



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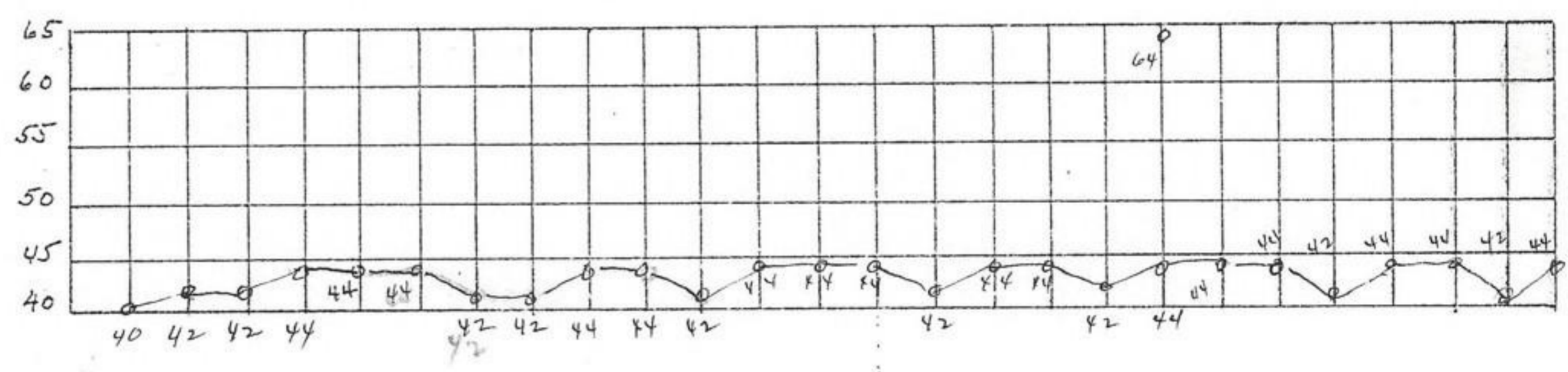
BLOOD PRESSURE AM.

SYSTOLE
DIASTOLE



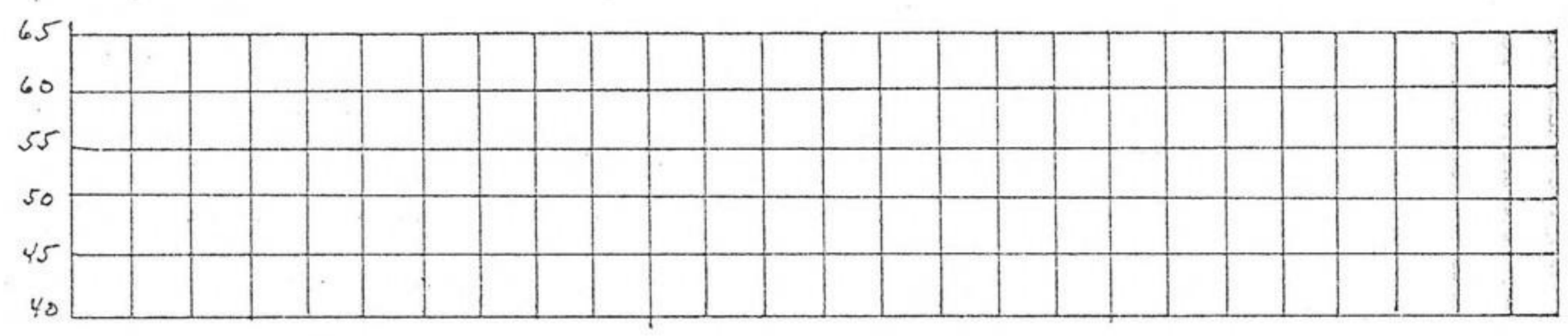
PULSE AM

AM



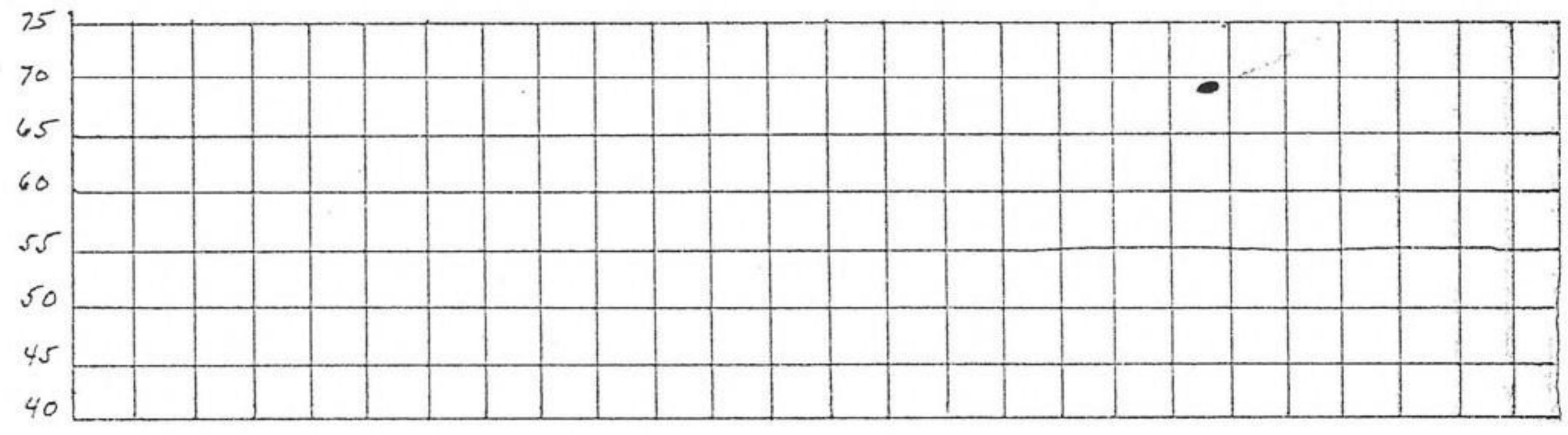
PULSE MILE

MILE



PULSE STAIRS

STAIRS



800122-16
Sept.

10:00 PM

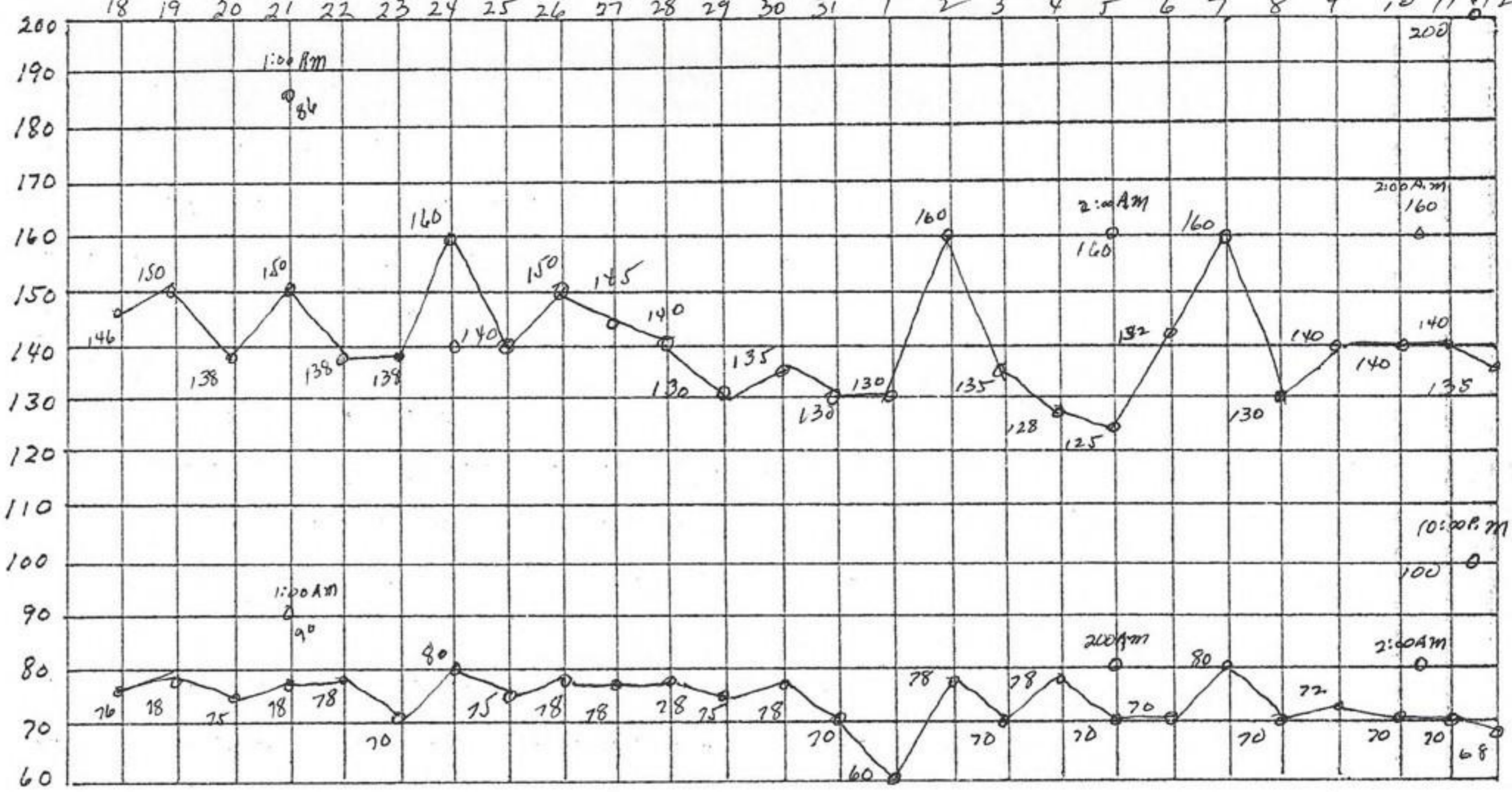
AUG

18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12

BLOOD PRESSURE
AM.

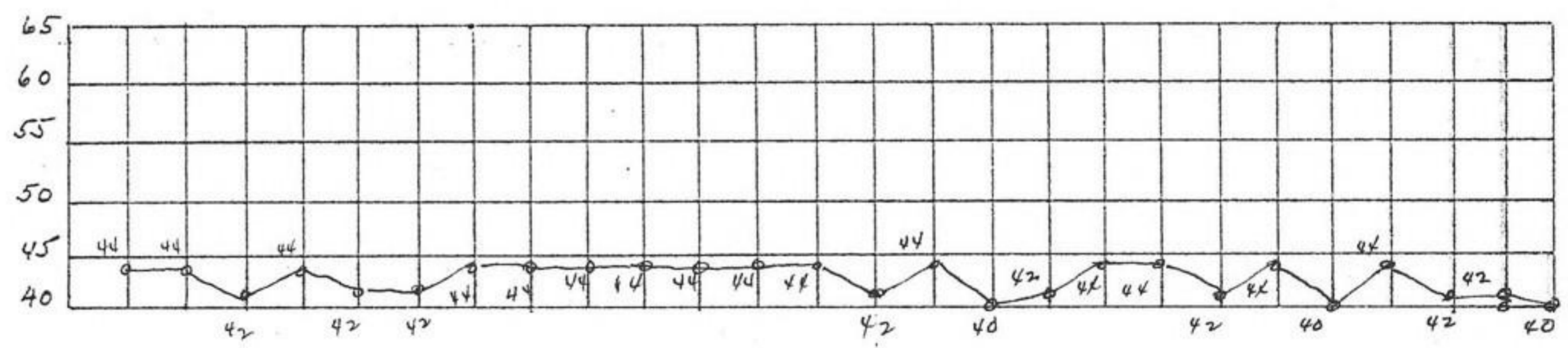
SYSTOLE

DIASTOLE



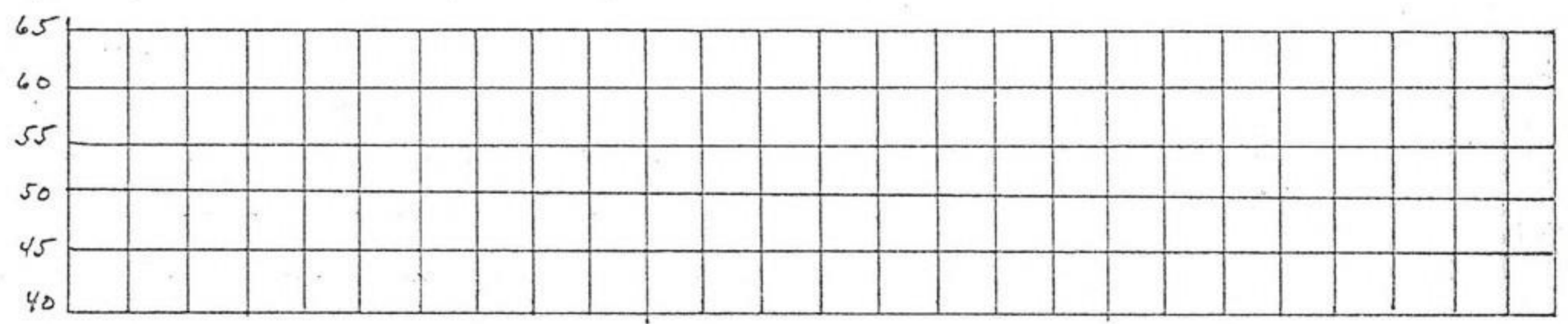
PULSE

AM



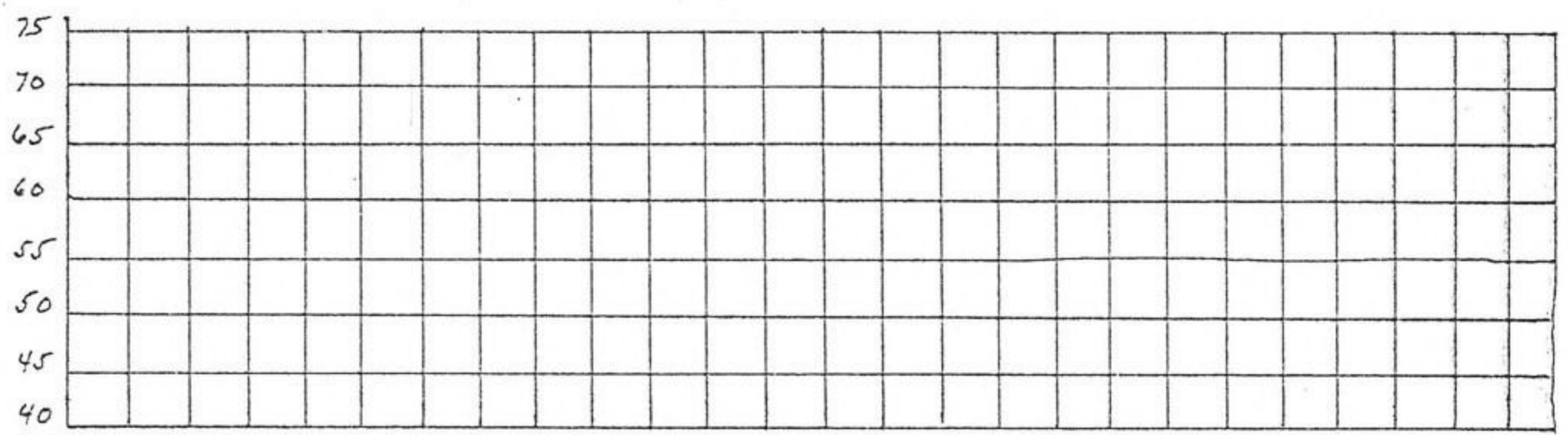
PULSE

MILE



PULSE

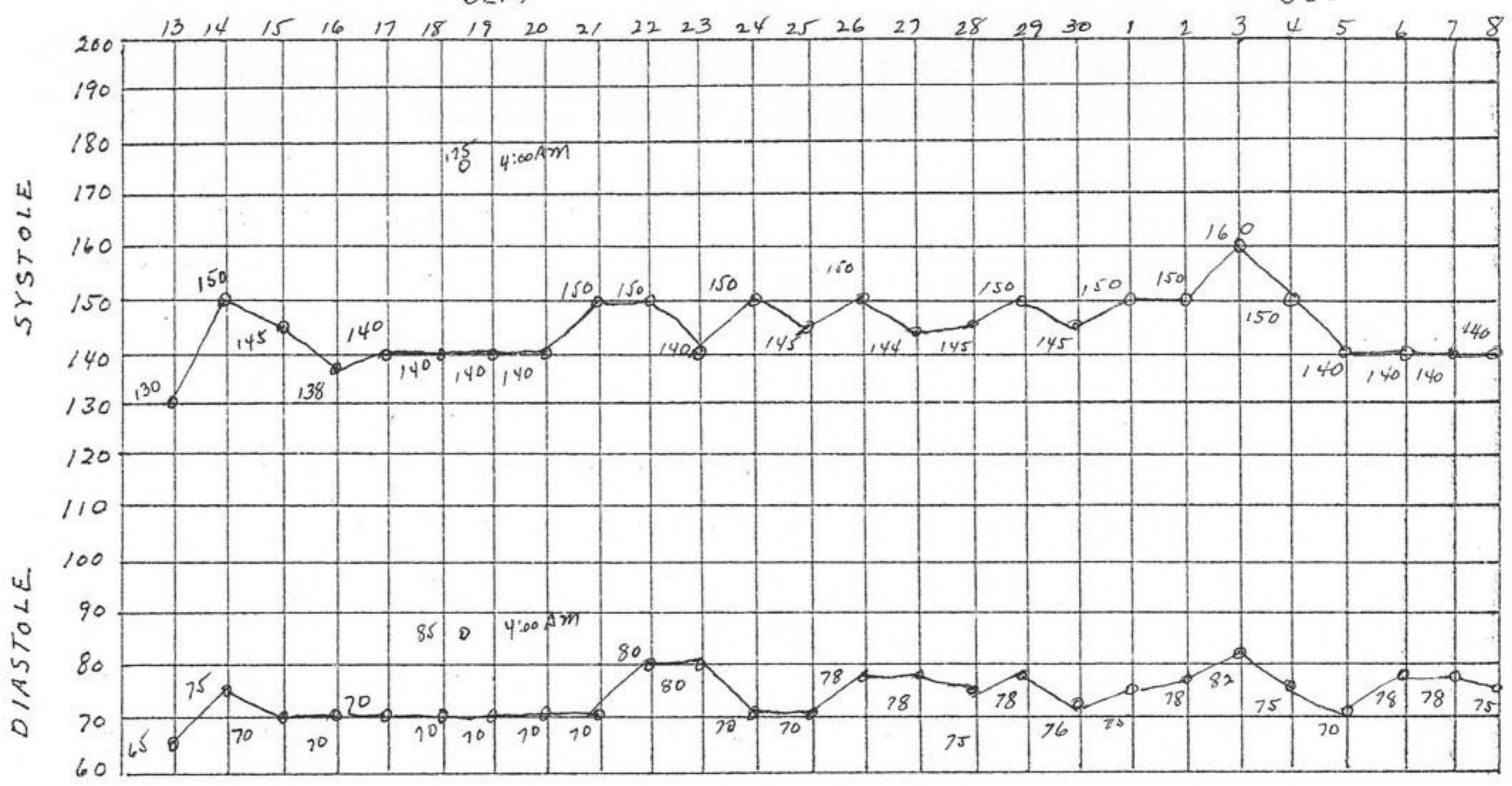
STAIRS



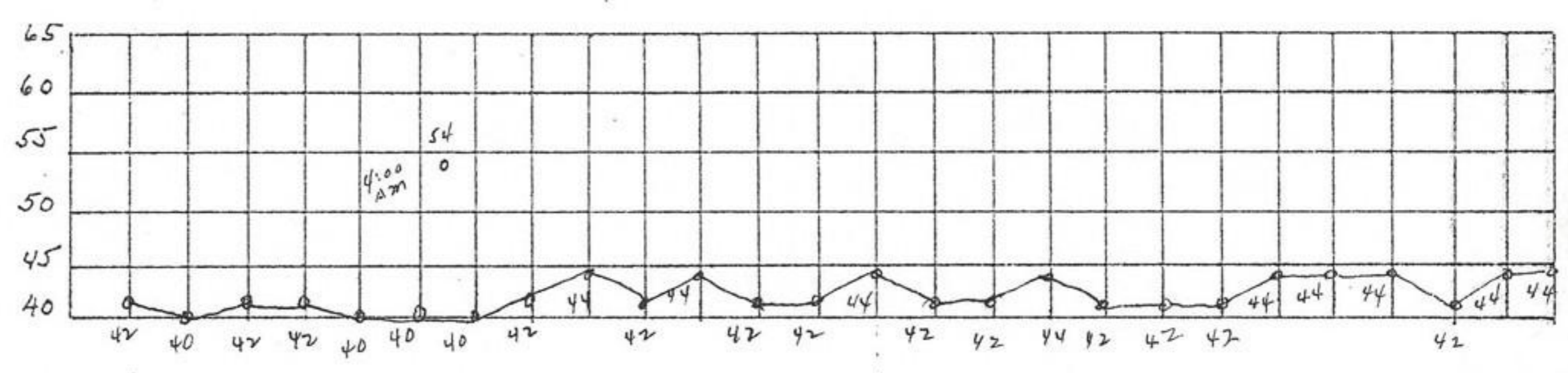
SEPT

Oct

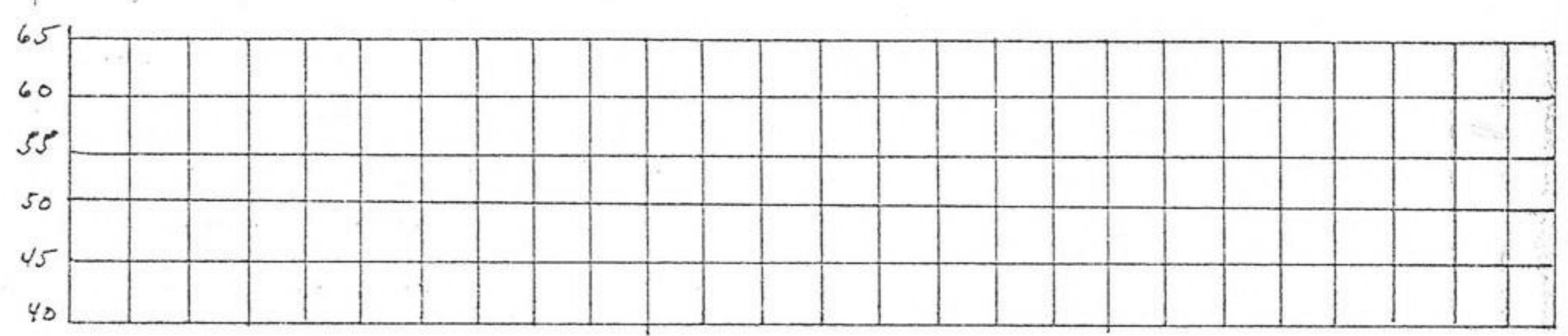
BLOOD PRESSURE AM.



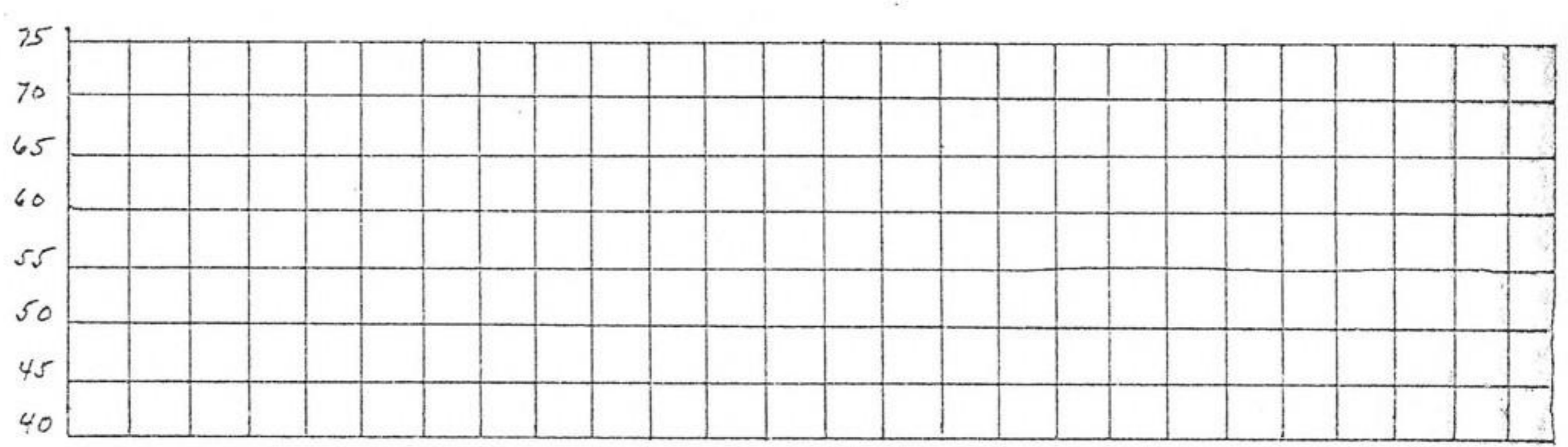
PULSE AM



PULSE MILE



PULSE STAIRS



Oct

800122-18

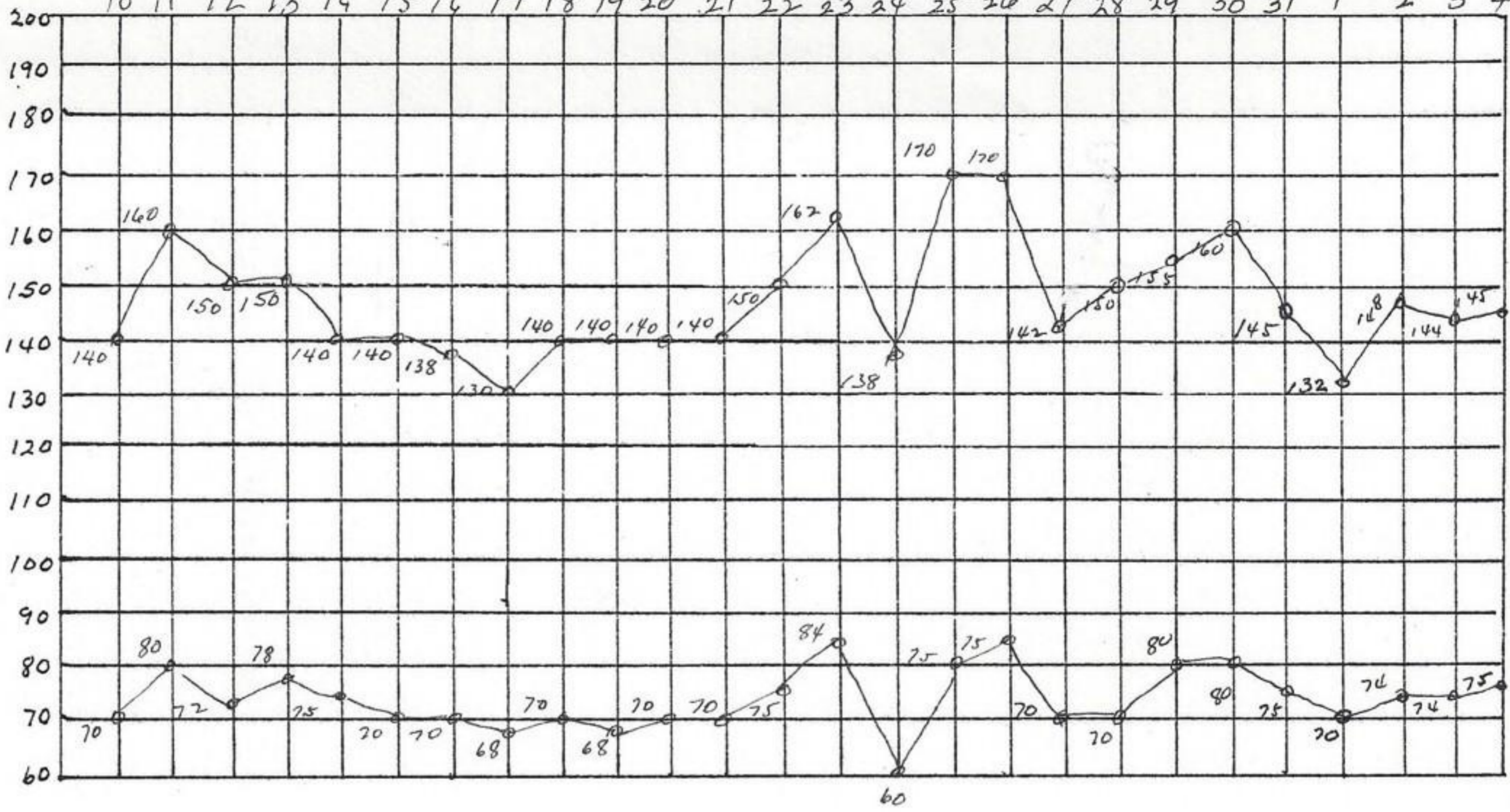
NOV.

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BLOOD PRESSURE AM.

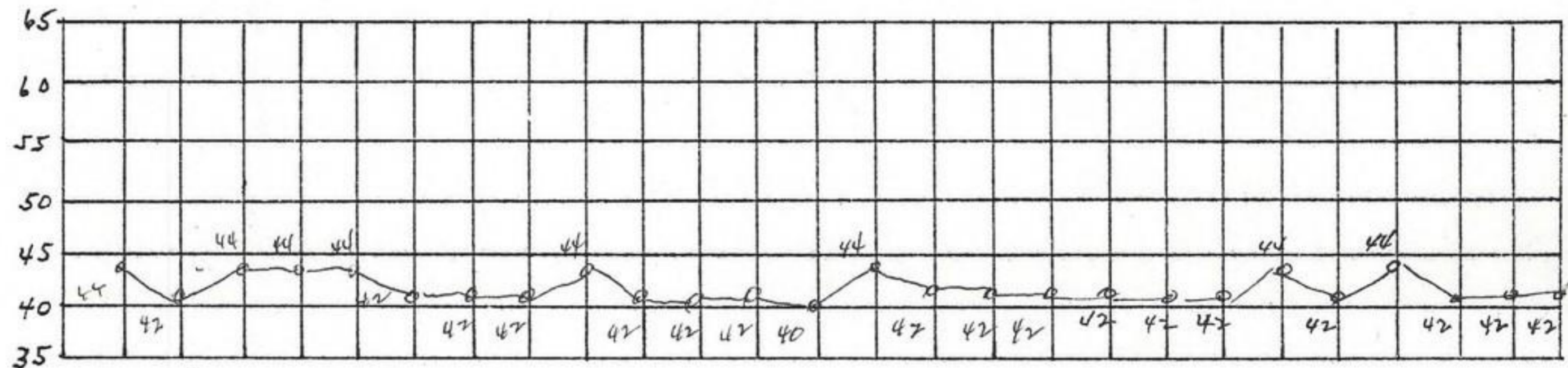
SYSTOLE

DIASTOLE



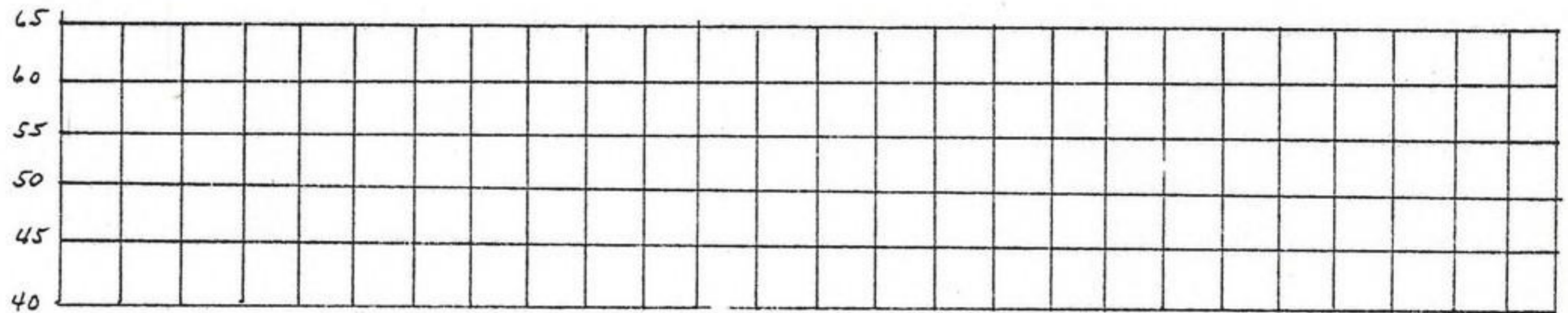
PULSE AM -

AM -



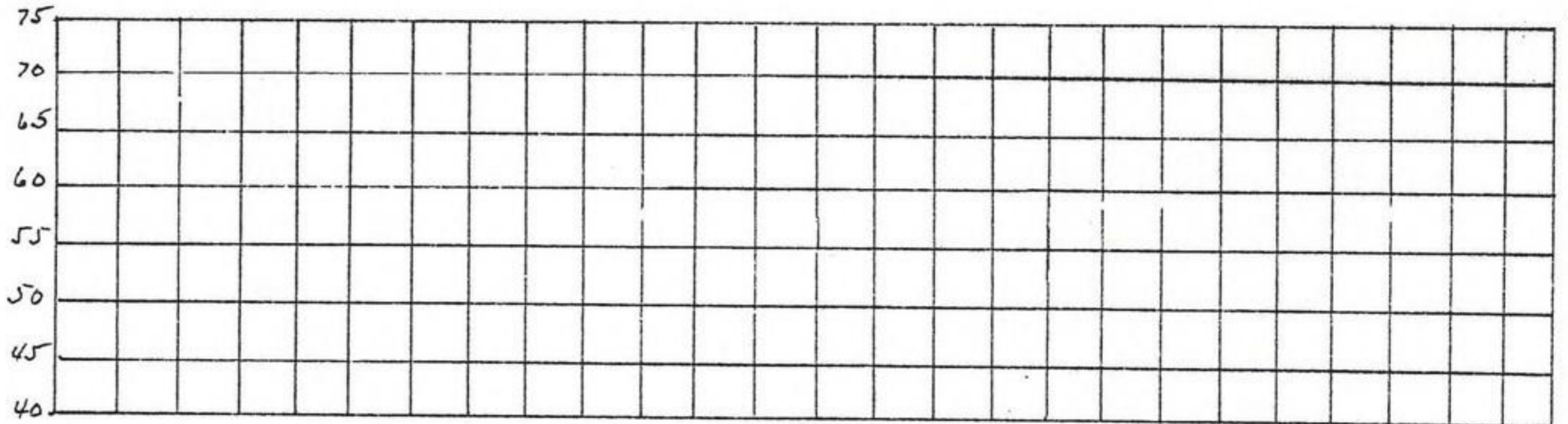
PULSE MILE

MILE

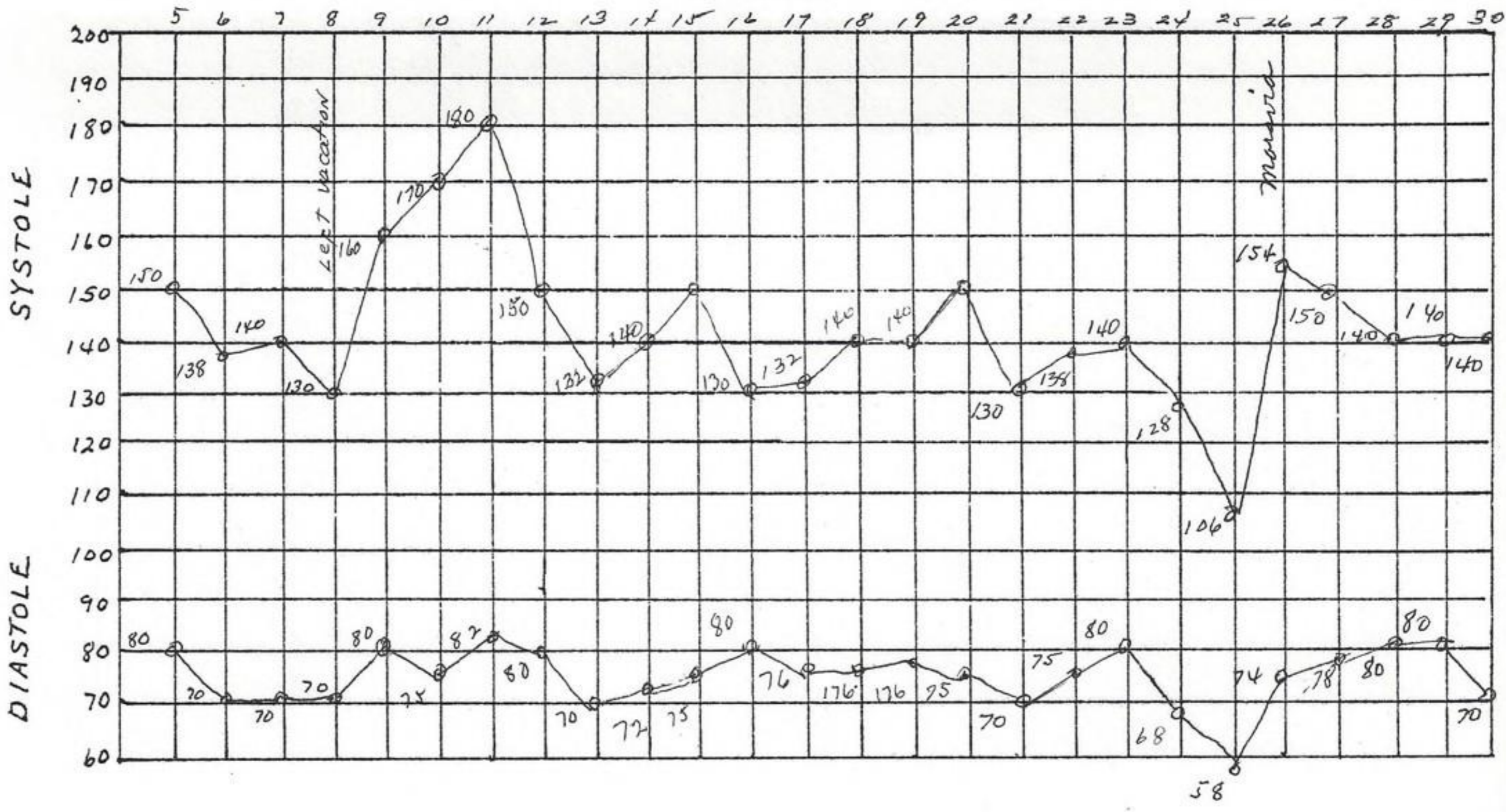


PULSE STAIRS

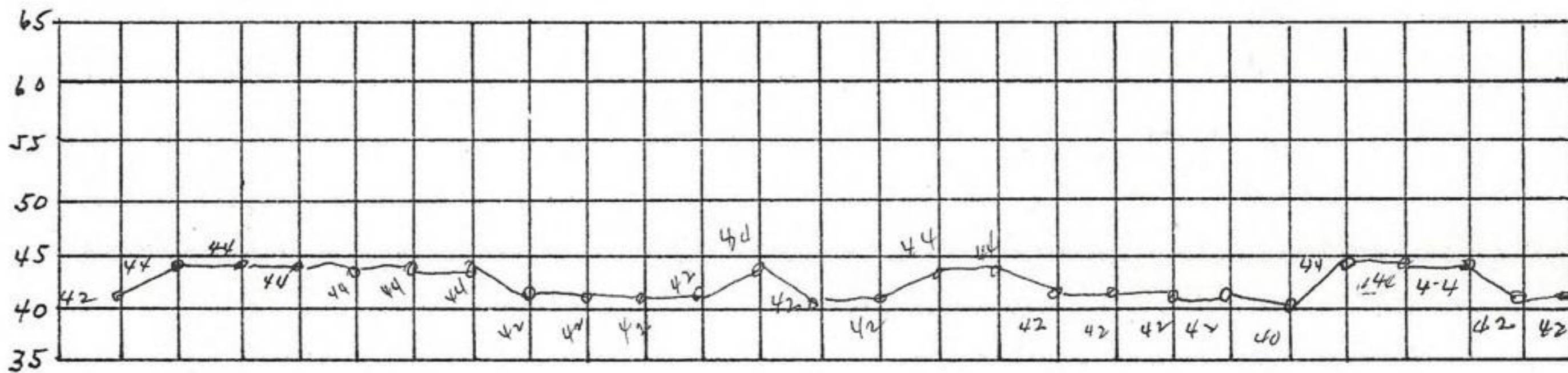
STAIRS



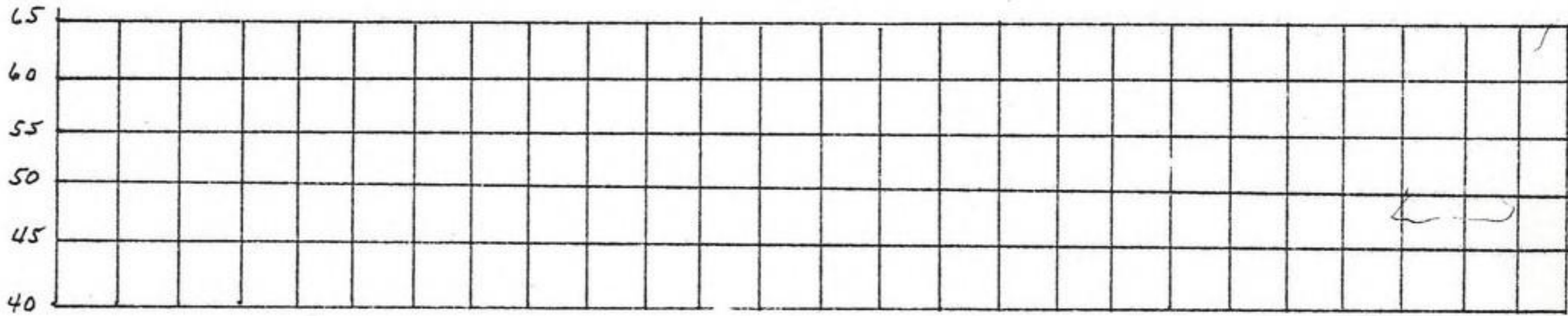
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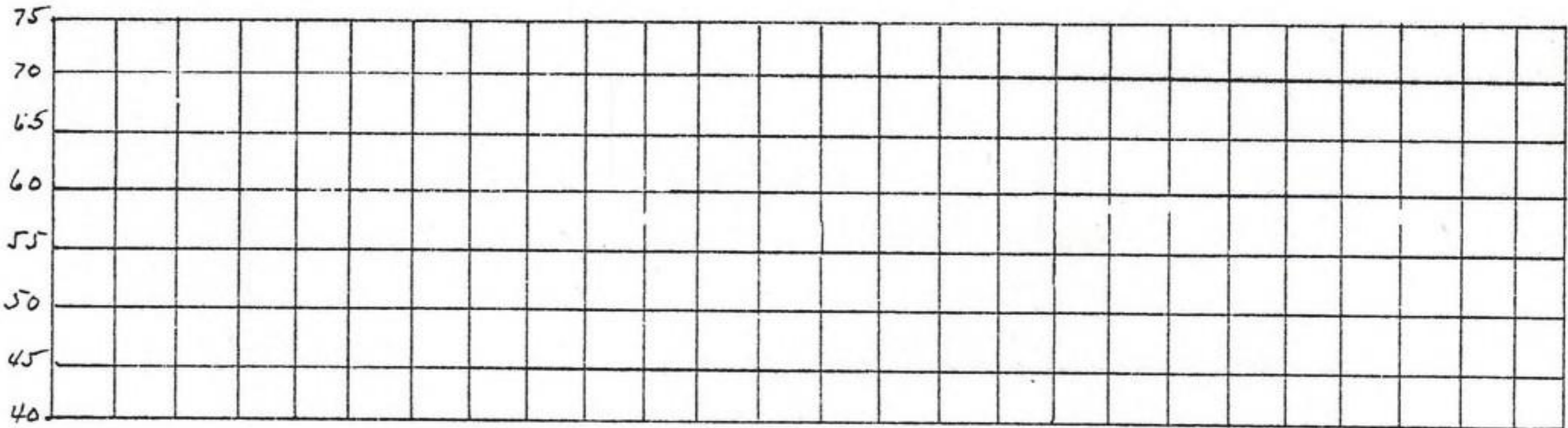
PULSE AM -



PULSE MILE



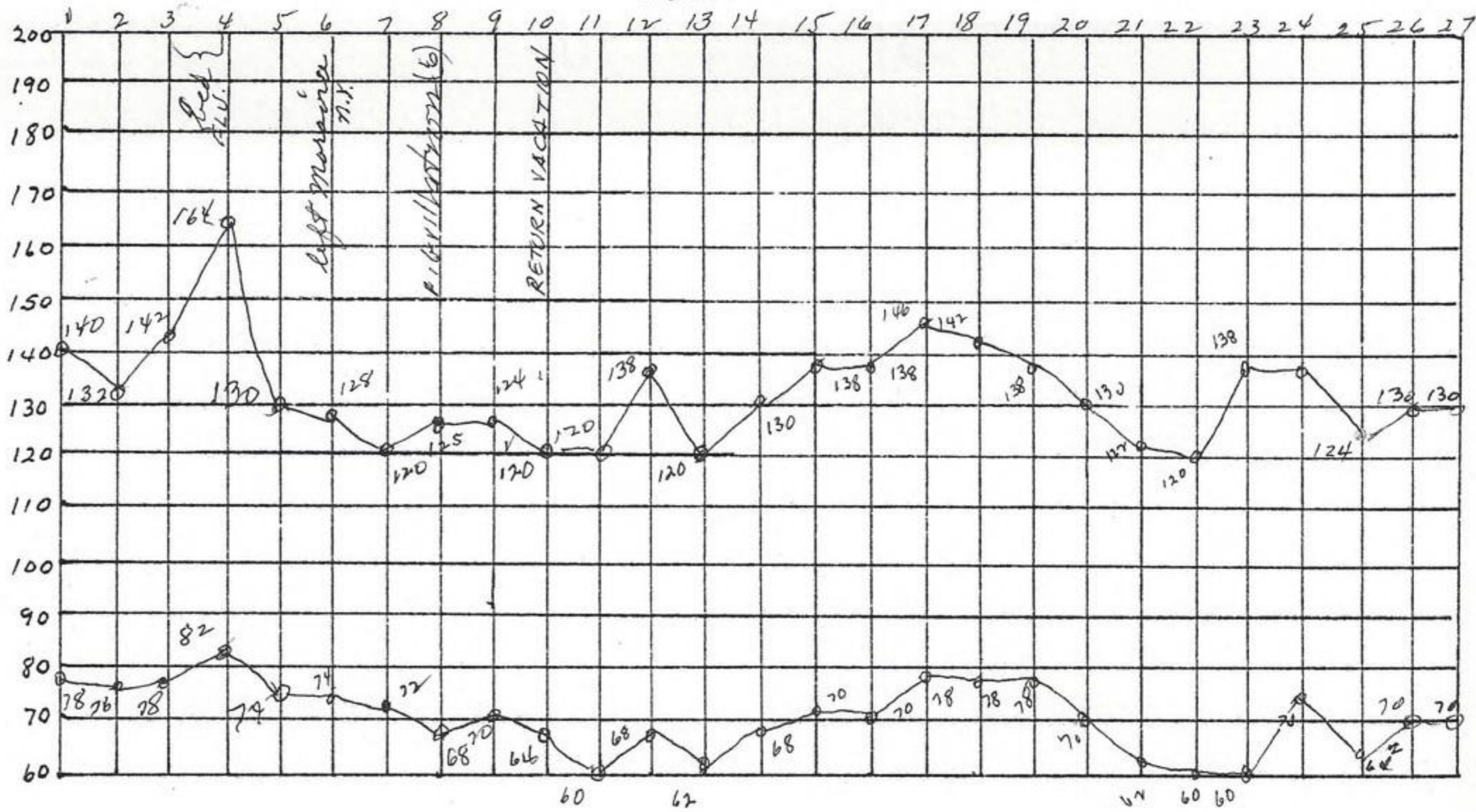
PULSE STAIRS



BLOOD PRESSURE AM.

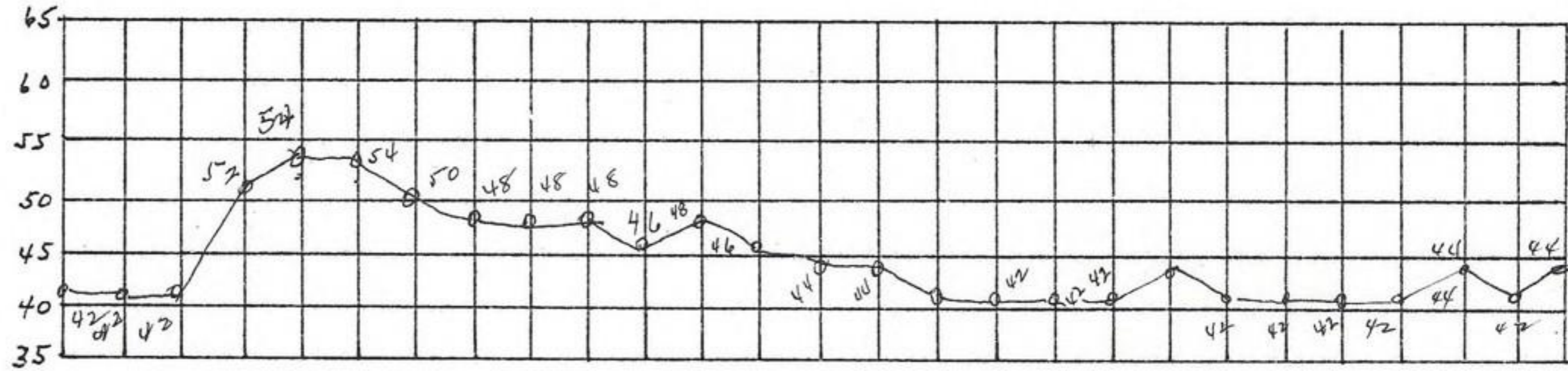
SYSTOLE

DIASTOLE



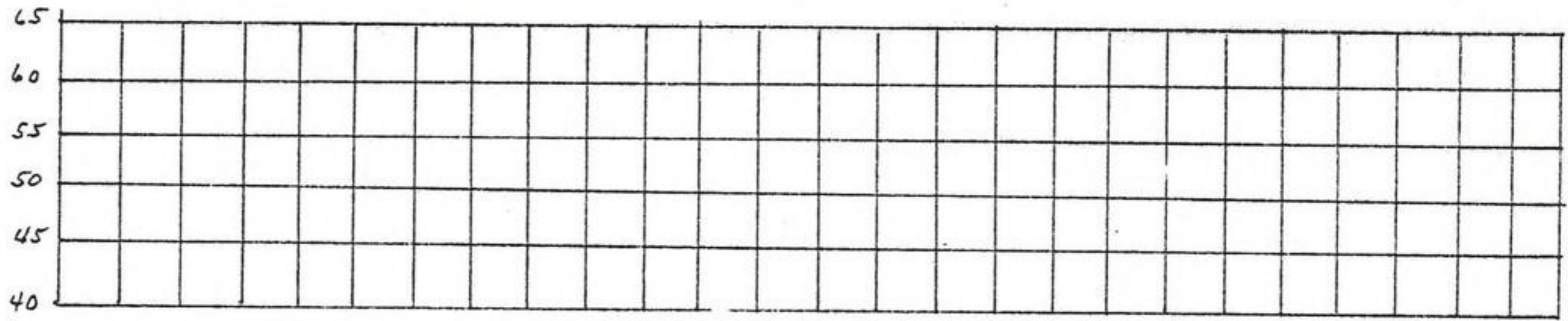
PULSE AM -

PULSE



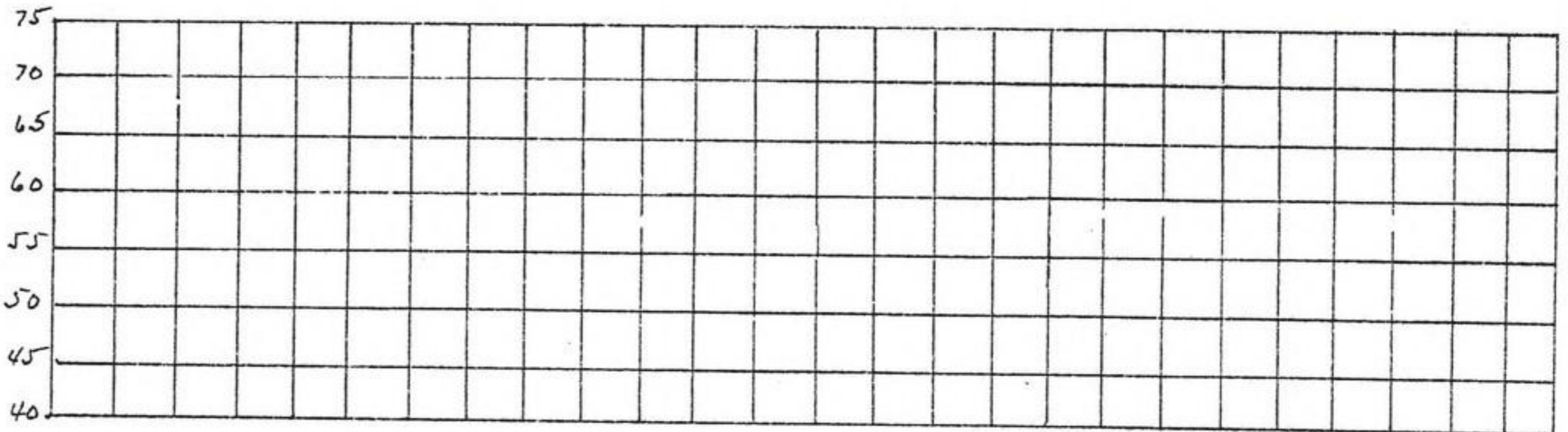
PULSE MILE

PULSE



PULSE STAIRS

PULSE



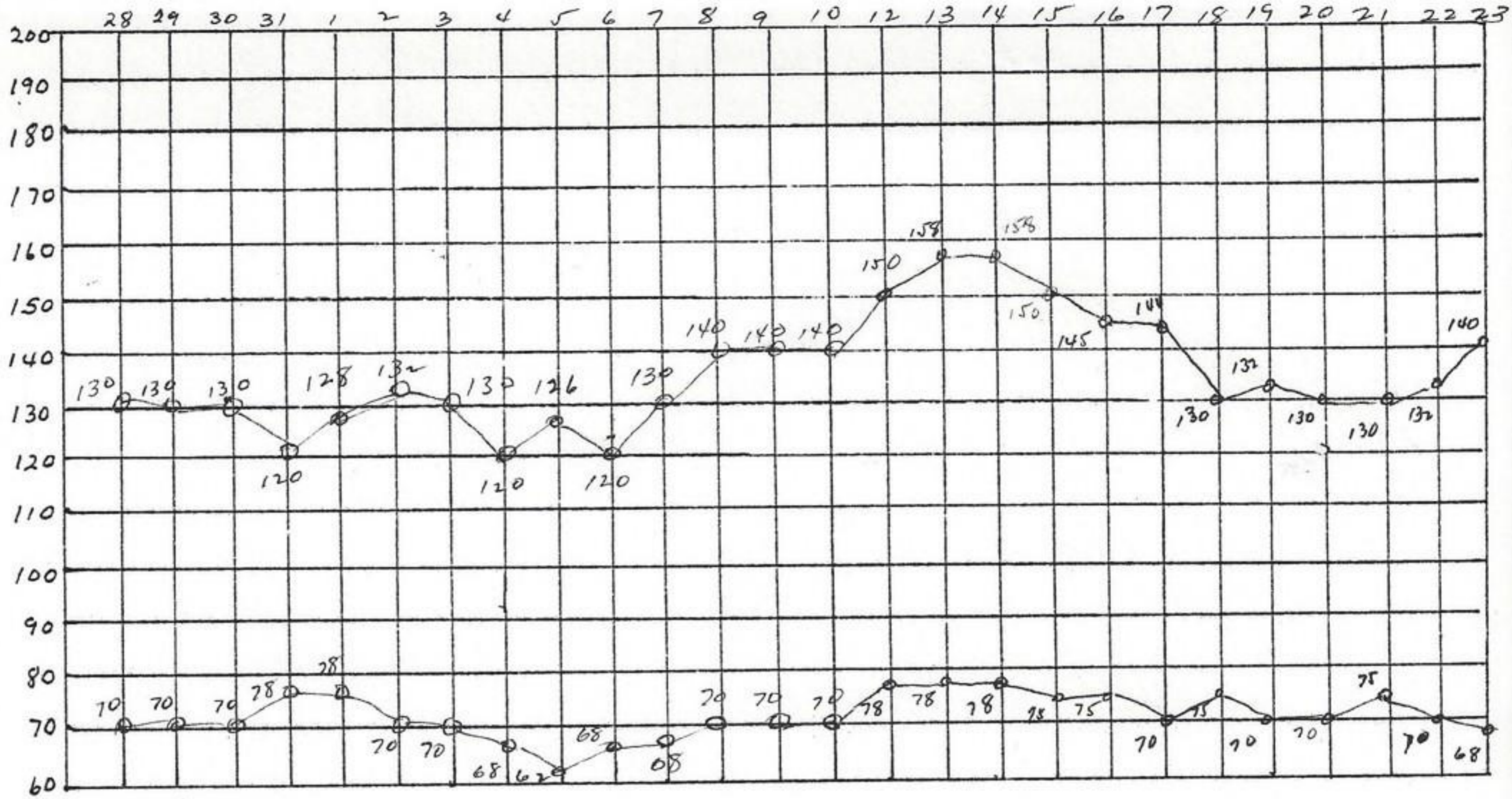
JAN. 1981

800122-21

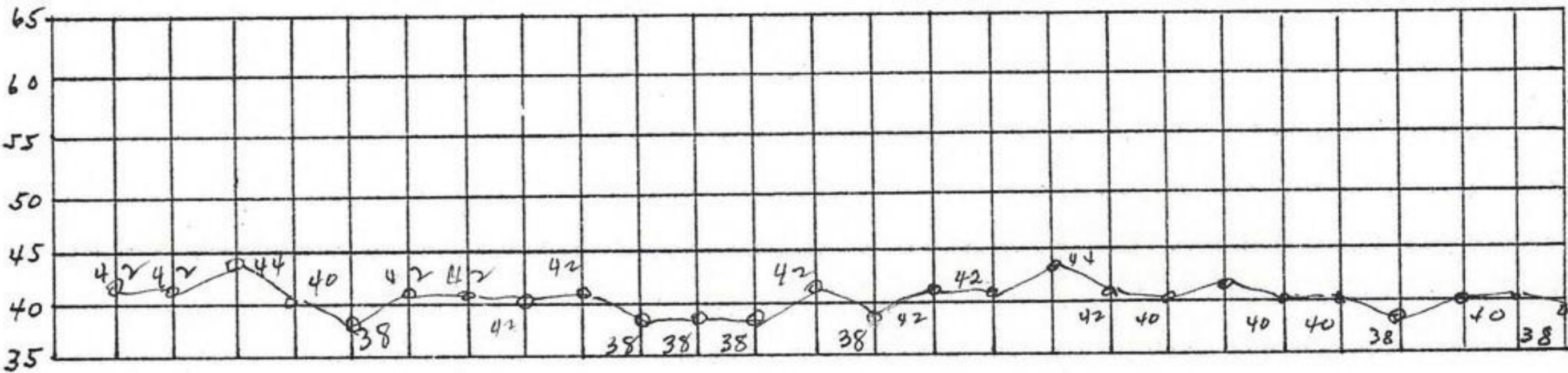
BLOOD PRESSURE
AM.

SYSTOLE

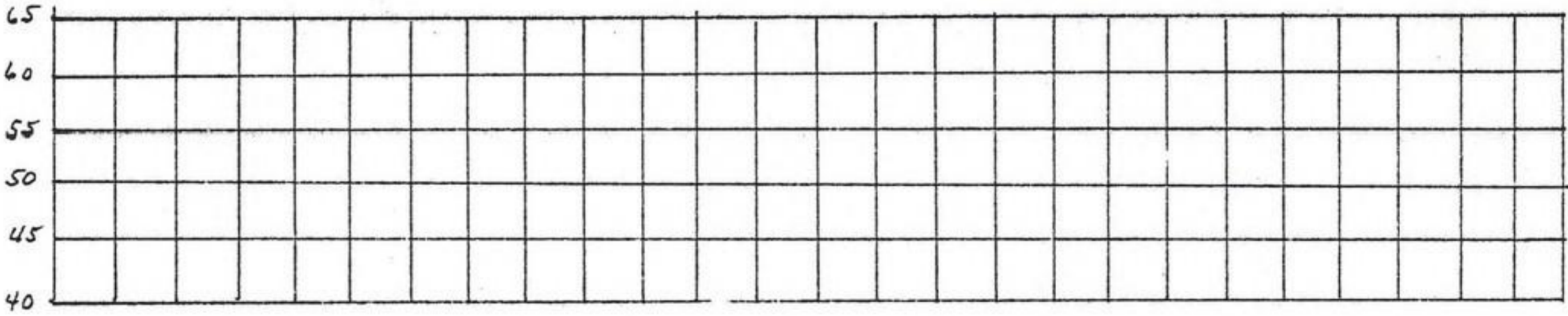
DIASTOLE



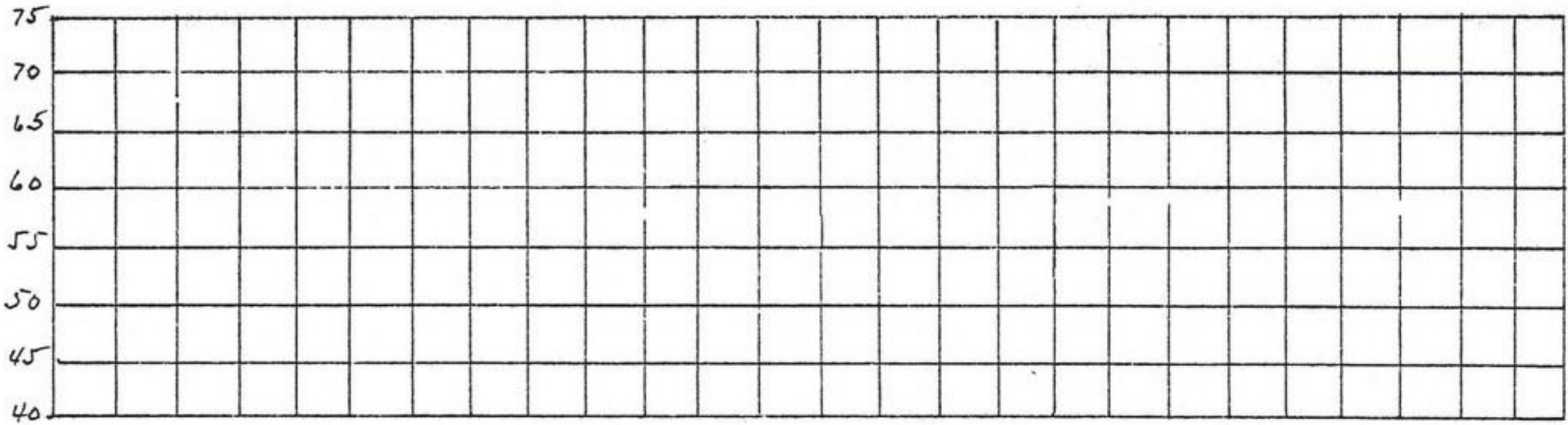
PULSE
AM -



PULSE
MILE



PULSE
STAIRS



Bastor, Leavenworth Co., Kansas

Jan. 28, 1980

Mr. Wes Carrall of Bastor, Kansas, 1500 N 142nd (tel 724-1828) called by phone and reported 2 bald eagles along side of road near Bastor. Eagles had previously been observed this winter in the same area by other individuals. Bastor is 27 miles from Big Slough Cr of Perry Reservoir, 13 miles from Tonguonoxie St Lake, 15 miles from the Missouri River and 7 miles from the Kansas River.

402 Yorkshire Dr., Lawrence, Douglas Co., Kansas

Feb 16, 1980

Cedar Waxwing at home for first time this winter. Also a few robins have been at feeder and first observed recently.

Feb. 19, 1980

Goldfinch feeder empty and refilled this date (2 lbs). Goldfinch very active this month and January having consumed 2 lbs in approx. 30 days.

Peterson - Deerfield - Kasold Drainage research areas, Lawrence, Douglas Co., Kansas

Feb. 20, 1980

Survey research area (See Feb. 18, 1978⁹ for limits). Temp. 48°F, wind from N. Left Peterson Pond 1:35 P.M. 2 slate-colored juncos, 5 tree sparrows. Peterson Creek, no birds. Grackle Roost 2 live *Peromyscus maniculatus* under piece metal. One measured, 150-62-21-15-22 gm. ♀ uterine normal. Osage Fence 2 cardinals, downy, blue jay, raccoon tracks. Wild onion 8" high and conspicuously green in otherwise greenless community, many active woodrats and nests along this osage orange fence row, some osage balls having been consumed on branches in trees. Most of them on ground. Grass meadow, Plowed field swale, Pond Swale no birds. E Forest edge 6 slate-colored juncos, cardinal, fresh deer tracks. Brush Way W edge along creek used as coyote den. Creek flowing approx. 5 gal per sec. No other birds observed along rest of route.

Feb. 24, 1980

made census as above. At 2:00 P.M., Peterson Pond and Peterson Creek and Grackle Roost no birds. Osage Fence 2 downy, 2 cardinals, 8 tree sparrows, redtail. Grass meadow, Plowed field Swale no birds. Pond Swale, downy. Ponds in ice & some water.

E. Forest Edge, 3 slate-colored juncos, Brush Way, n. Forest, nw forest, Main Forest, Kusald Creek all no birds. Silo Ridge 6 robins, 1 downy, 2 crows. Right of Way, First Forest, Field Edge Swale, all no birds. Pond fence Row, downy, cardinal singing, 5 slate-colored juncos. Pond in ice. Peterson Field No birds.

407 Yorkshire Dr, Lawrence, Douglas Co., Kansas
March 4, 1980

At 8:40 A.M. 150 blue-snow geese flew n over house. Percentage approx. ^{snow-blue} 50-50. At 10:20 A.M. approx. 2000 blue-snow geese in approx 50-50 percentage flew high to w then reversed direction and flew NE. Day building up with clouds from clear morning. Arrival of redwings synchronized with this date.

March 5, 1980

In the last 3 weeks the cedar waxwing and a few robins fed in area on red cranberry seeds of bushes near feeder. They appeared then and were frequently observed during this period. I have not observed Harris sparrows, Lincoln sparrow or cowbirds at feeder this winter, nor meadowlarks, yellow-shafted flicker or red-bellied woodpeckers or hairy woodpecker.

Peterson - Deerfield - Kusald drainage research area, Lawrence, Douglas Co., Kansas.

March 6, 1980

Made survey research area (see Feb 18, 1979 for map of area), wind from S, Temp. 48°F at start. Left Peterson Pond (now drained) at 12:20 P.M. No flowing water in creek and standing water in ice. 3 tree sparrows, cardinal, 2 slate-colored juncos, robin. Peterson Creek, 2 bluejays, Grackle Roost 3 *Peromyscus maniculatus* under piece tin. Osope Fence Great horned owl left S end & flew to n end where it remained near top of tree. No birds between Grass meadow and n. Forest. Creek $\frac{1}{2}$ gal per sec. nw Forest 2 slate-colored juncos. No birds between here and home, arriving 2:35 P.M., temp. 52°F.

March 10, 1980

Made survey of research area. Left Peterson Pond at 11:50 P.M. Temp. 62°F, wind from NW. Census according to segment of route. Hairy woodpecker, 2 tree sparrows. Pond has been drained and cuttails

in damp areas from last summer. Peteram Creek. juncos, 2 goldfinches, robin, cardinal. Hairy woodpecker drilling several trees. Grackle Roost. no birds, no Peromyscus under tin on ground that held 3 on previous trip. Osage Fence: ♂ & ♀ cardinal, fox squirrel. Grass meadow meadow lark. Plowed Field Swale no birds. Pond Swale first creeked frog heard this season in area. Chickadee. E. Forest Edge: redtail. Brushy Way no birds. north forest. mourning dove cloak butterfly, 3 juncos. N.W. Forest no; main forest no. Kasold Creek Great Horned Owl, Silo Ridge no. Right-of-Way no. Deer Field Creek no. First forest no. Field Edge Swale no. Pond Fence Row. robin, 3 tree sparrows.

March 13, 1980

Survey of above area (See Feb 18, 1979 for map of area). Left Peteram Pond 11:45. 2 sets fox squirrels. Peteram Creek squirrel tracks. Grackle Roost no. Osage Fence chickadee. (will list areas only where birds were observed). Pond Swale, pond open, no frogs, cottontail tracks. E Forest 2 titmice feeding on ground. no coyote in den at Brushy Way. Main forest. 2 chickadees. Right of Way. 4 robins. Kasold Creek, bluejay, Deerfield Creek ♀. H. Owl flew E from drainage. (1:30), Chickadee. Home at 1:45 P.M., temp now 42° F. (after snow)

402 Yorkshire Dr., Lawrence, Kansas

March 13, 1980

Groups of 15-40 Cedar waxwings fed on berries (cranberries, bush) N of the house. Several drank water from pond in yard and drank at the rate of 1 dip per second which is much faster than other birds drink.

Lawrence, Kansas

March 13, 1980

Beaver cuttings N of 25th Street in drainage that comes from varsmith drainage.

Peteram, Deerfield, Kasold Research Area, Lawrence, Douglas Co., Kansas

March 14, 1980

made survey of research area. Wind from S.

(see Feb. 18, 1980 for map and description of area.) Left Peterson Pond 1:00 P.M. Peterson Creek, chickadee, 2 slate-colored juncos, Grackle Roost, none. Osage Fence, cardinal singing, Grass meadow, none. Plowed Field Swale, none. Pond Swale, none. E. Forest Edge, 2 ♂ cardinals 1 foot apart, G. W. Owl flew E to Osage Fence, Brush Way, none, North Forest, bluejay, NW Forest, none, main forest, robin. Kasold Creek 5+ robins, 4 slate-colored juncos. Silo Ridge, Right-of-way, Deerfield Creek, none. First Forest 2 bluejays, 1 slate-colored junco, 2 redstarts circled above. Field Edge Swale, Pond Fence Row, Peterson Field, none.

402 Yorkshire Dr, Lawrence, Kansas

March 15, 1980

noticed first grackle at feeder this winter.

March 15, 1980

Heard for first time an inner-ear sound like a bell with an absolutely clear ring. For 8 minutes occurrence was 11 (7-20) per minute, at noon for 10 minutes averaged per minute 13 (10-18). Next day on the 16th twice a rapid averaging 26 sounds per minute. For a short period the sound was as rapid as separation of sound was possible (2 per second). On 17th for 7 minutes 22 (21-26). On 18th + 19th averaged 8 per minute. 21st 30 per minute. Following days up to 28th varied from 6-8 per minute, and faint. After that date sound faint and more like a bird chirp. Prior to March 15 the sound was like striking a metal bar or a horseshoe contacting a peg, not the true ring of a bell.

Peterson, Deerfield, Kasold Research Area, Lawrence, Douglas Co., Kansas

March 17, 1980

Made survey of area. (See Feb 18, 1979 for map). Temp. 50°F. From Peterson Pond to Plowed Field Swale, none, no cricket frogs calling from pond or stream water. E. Forest Edge 2 bluejays. North Forest 2 cardinals, 3 robins. Creek 1 gal. per sec. Silo Ridge, yellow-bellied sapsucker. Right-of-way, 15 robins generally dispersed in field. Maples in open bud. First Forest downy woodpecker, 2 slate-colored juncos. Pulse while in field 56 per minute.

Clinton Reservoir, Douglas Co., Kansas

March 18, 1980

Water at 869 feet.

International airport, Missouri

March 19, 1980

Picked up Mary Bee at airport this afternoon. Enroute recorded the following: midland (N^{of} Lawrence) mileage 14040.5 at 11:15 A.M. Travelled straight north to Winchester, thence E to Leavenworth, thence to N end airport. There is a faint indication of budding in deciduous trees. Grasses, except winter wheat, brown. Winter wheat green but not the brilliant green of further growth. Sky clear. Striped Skunk Road Kill Mud Creek just before gaining plateau. 2 striped skunk road kills. Road W to Oshaloosa. Opossum road kill, fox squirrel road kill. Road to Jay Old barn. Yellow-shafted flicker, and the first bird of any kind since leaving midland. High winds are keeping hawks out of air and small birds low. Fox squirrel road kill. Birds rare. Opossum and cottontail road kill. Winchester 11:45 now E. 2 slate-colored juncos, 18 starling, opossum road kill. Leavenworth Co., line on 192. Shrike, robin. Eaton 12:00 60°F, high wind. Salt Creek is unusually small for the size of river valley which is wide & deep. Missouri River, 2 crows, redtail. Platte City, redtail. N end airport. Planes having difficulty landing especially larger ones. All come in with right wing low. Arrived airport (N end 12:50). While watching planes come in 30 snows and 13 blues in one flock flew W across glide path. They were visible with sun glasses but disappeared without them. Continued to airport and picked up Mary who last week had visited the Miers in Calif. and flown back to Salt Lake City with Diane Miller who is responsible for lighting of a movie production Co. Mary met Jimmy Stewart in Salt Lake. She then drove to Payson & conferred with Mendenhall, her knee surgeon. Thence back to Salt Lake & then to Lawrence. On way home had car trouble and had to leave car at Gladstone & return the next day, at which time Mary picked up her knee brace in Kansas City.

402 Yorkshire Dr., Lawrence, Kansas

March 20, 1980

First large flock of grackles and redwings in area.

March 21, 1980

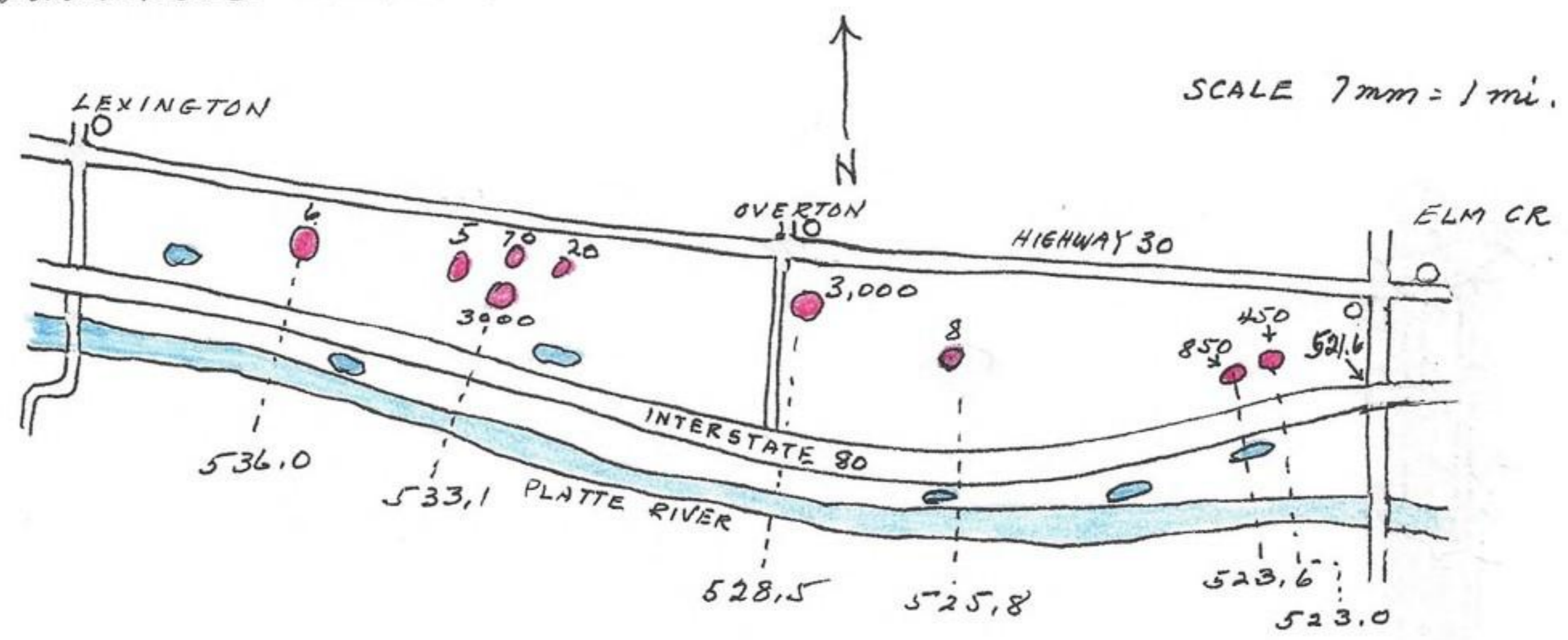
First purple martin at home, 2 in air. A flock of 15-40 cedar waxwings have cleaned up practically all cranberries at home this winter. Also goldfinch at thistle seed feeder. Seed about gone & second filling.

Lawrence, Douglas Co., Kansas

March 22, 1980

Trip to Casper, Wyo. to visit with daughter Mary. Left with trailer 9:15 A.M., temp 44°F. at mileage 14196.7
 205.1 redtail. 236.1 redtail. 238.2 redtail, getting into
 The Flint Hill area. (interstate beyond Topeka, still Rd
 to Topeka). 239.4 Wabounee Co. line. 242.1 2 striped
 skunk road kills together. 243.6 redtail. 249.0 striped
 skunk road kill. 271.7 now n on 177 to Manhattan.
 306.4 first turkey vulture on road w of Clay Center. 308.4
 Clay Co., few ducks on pond. Skunk road kill at Clay
 Center (striped). 328.2 badger road kill, first crow⁽²⁾ at
 Cloud Co. line. Recorder malfunctioned Cloud Co. line
 up to Kerwin and to reconstruct would say that there
 have been 3 striped skunk road kills, 12 sparrow hawks (in
 a limited area east of Kerwin (20 miles E), birds rare, few ground
 meadowlarks where the sparrow hawks were, 6 redtails, 13 lined.
 now continuing with census from Kerwin. 429.0 Glade at
 3:30 P.M. Gull in Phillipsburg. 462.4 2 sparrow hawks
 10 feet apart, a third on a pole length away from the other
 two. 470.6 approx. 300 ducks on pond. meadowlarks overage
 1 per 1/10 mile or less thru area n of Phillipsburg. 473.5 Nebraska
 State line at 4:00 P.M. at Prairie Dog Creek, sparrow hawk.
 479.2 Causeway Hartan Co. Reservoir. 1080 crows. water to
 causeway E side which was dry land last trip. 5300 ducks,
 few gulls. 479.4 Republican River bridge. most ponds
 with ducks, whereas in E. Kansas ducks rare. 494.3
 sparrow hawk. 497.4 approx 500 Canadian geese flying
 E at Phelps Co line. 509.1 large lake & full of ducks
 and unusual concentration of crows the last 10 miles.
 most crows flying E. 521.6 Interstate 80. at 5:00 P.M.
 will keep list of number of ducks and crow. 8 ducks, 25
 Canada geese, 450 sandhill cranes 410 mi. off road to n
 at mileage 523.0 850 sandhill cranes 523.6
 8 sandhill cranes at 525.8, duck, barrow pits 15 ducks on over.
 528.5 2000 sandhill cranes. They are all over the place.
 Others in air. 529.5 200 gulls following plow. 530.5
 another 80 gulls. 533.1 5 sandhill cranes in air, another
 group 70 in air and a tendency to be moving E. another
 group of 20. One group on ground approx. 3000. There is a
 correlation of numbers of cranes in air and on the ground.

50 crows, 200 crows all flying E. 536.0 6 sandhill cranes flying E. So far the cranes have been localized along the Platte River Valley. For the first time since leaving Lawrence there is a blue sky to W with overcast sky leaving. 554.6 First large group of duck (500), since the area of the sandhill cranes.



Distribution of sandhill cranes from Elm Creek to Lexington.
Total of 7,409 individuals.

all barrow pits have a few ducks. drainage ditches put in by man all have a little water. Only a small proportion of farms plowing field and field decaying. Further W we travel the fewer ducks we see. 602.4 North Platte. at 6:30 P.M at mileage 14604 or 407.3 miles today. Stayed motel 6.

North Platte, Nebraska

March 23, 1980

medical note: tension to 4:30 A.M then pulse increase & decrease to weak & irregular. missed beat every other beat to miss every 12th beat. By 6:00 A.M pulse gradually to regular and strong. Bells 10 per minute. Left N. Platte at 14604.3, 7:00 A.M, skies cloudy, no wind. Min. temp. last night 28°F. Redwing black-birds on territories, about 10 per barrow pit area. River valley W of N. Platte all in natural or grazing grasses, meadow-larks and reburys unusually common in this area. 620.2 barrow pit with 24 ducks and 6 ring-billed gulls. all pits have a few ducks and between barrow pits are singles, pairs or small groups flying in the valley. Ring-necked pheasant walked across road. One mallard water in road right-of-way. 2 sparrow hawks here. Storm front same place this morning as yesterday evening with clear weather in store. First magpie at 624.8. 627.3 red-tail

631.5 Keith Co. line. Although this area looks much like
 country to E we have just past there, there are ^{decidedly} fewer redwings
 and ducks. There is more corn than to the E. 632.0 now
 in mountain standard time. Sparrow hawk 636.0 ridge to
 N hummocky in profile, killdeer. Parts of valley that has
 water has more redwings, ducks and gulls. Green fields are
 unusual in the landscape. 655.2 bridge of South Platte
 River at Ogallala. Left 80 Interstate and now to highway 26.
 Ring-billed gulls flying up and down river. Striped skunk
 road kill. 659.4 sparrow hawk. 675.3 marshhawk.
 Only other birds are occasional meadowlarks and horned
 larks. 677.0 first snow and this on N exposures of road
 cuts and drift fences. Just localized patches. 678.0
 Garden Co. line at 7:30. Gopher diggings but rare. at
 Ash Hollow Cr. sharp-shinned hawk. 685.5 2 rivers
 and both full. 686.9 Lewellen at 7:45, skunk road kill.
 720.2 first snow drift travelling W. 720.7 first prairie
 dog towns. Braided river course with sharp edges to
 banks rather than beaches (high water). 724.8 first good
 badger hole. Broadwater, striped skunk road kill (city limits).
 Killdeer generally distributed across country. Skunk road
 kill. 735.6 Golden eagle flying ^E of Bridgeport, ^{also} sparrow hawk.
 N. Platte River crossing, water clear. Sparrow hawk W of
 Bridgeport. N. Platte River bridge a redtail hawk. 805.3
 Wyoming State line. 820.4 striped skunk road kill at the deep
 road road cut thru a ridge. Snow cornices on ridges to S,
 and some ice masses and snow along river. 866.2 2
 antelope and first ones as we proceeded W. just beyond
 seven antelope, 5 antelope, 4 antelope. 870.7 prairie
 dog town extending along E side road for one mile.
 30 antelope in one group with winter pelage. 10 antelope.
 These are in swales among ponderosa covered ridges
 Some ridge with snow cornices and road cuts with ^{invariably}
 cornices. Redtail at 875.5. Reservoir at Glendo open
 only 150 around edge, rest in ^{solid} ice. at mouth of river
 more open than around edges. 3 antelope. dipper end lake
 in ice except around shore and open bay extends into
 deep canyon. 6 antelope. 889.2 prairie dog village both
 sides of road extending to 889.8. Other isolated colonies
 beyond. young antelope road kill. 894.4 N Platte
 River bridge. 6 antelope. 150 antelope in one group,

Between N Platte River Bridge, just beyond Platte Co line, to Casper (64.3 miles) observed 6-30-50-8-2-12 Antelope. Antelope observed in Wyoming on this trip are: 2-7-5-4-30-10-3-6-1-6-150-6-20-50-8-2-12 or 322. Arrived Casper mileage 14958.7 or 354.4 today and 762.0 miles from Lawrence.

Casper, Wyoming

march 24, 1980

visited with Mary Bee at her home 835 E 14th St.

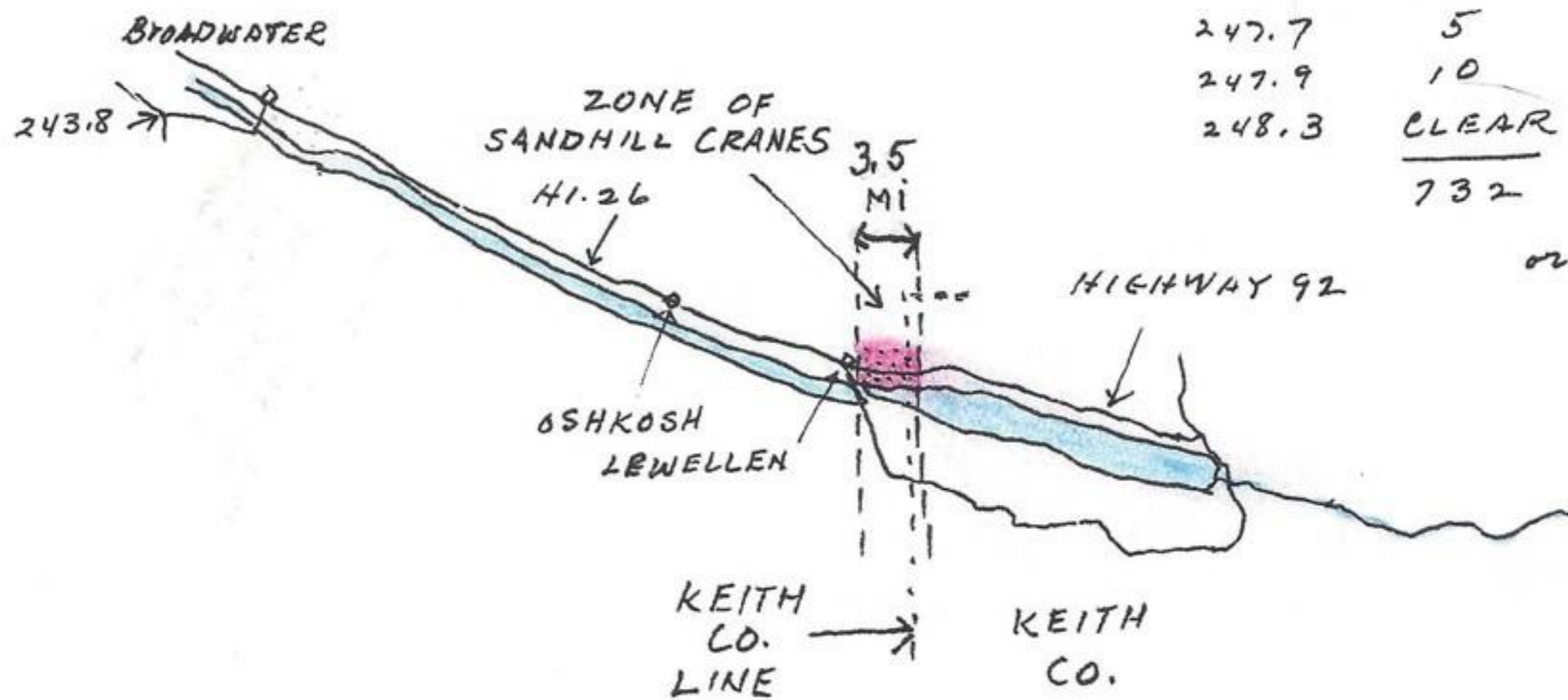
Casper, Wyoming

march 25, 1980

Last night pulse irregularity started 10:00 P.M. to 3:00 A.M. Pulse every other one missing than hard thrust pulse. Left Casper 9:15 A.M. at mileage 14971.1 Snowed last night and prospect snow today. Temp 47°F. Snow on Laramie Range to foothills but free in valley. Clouds obscuring top of mountain. 30 antelopes in dispersed groups. 6 antelope, 15 antelope, 2 antelope, 5 antelope, 20 antelope, 5 antelope, 17.9 redtail, 19.3 Douglas turnoff. (first one). 21.2 N Platte River (S. Douglas). 30 antelope at Lusk turnoff. From Casper to here there were 113 antelope but on trip out in afternoon there were 108 in the same area covered so time of day do not seem to make much difference. 34.3 N Platte River. 39.0 Platte Co. and beginning of prairie dog towns. at reservoir considerable more open water than observed 2 days ago. 46.4 marsh hawk. 47.9 Glendo and Glendo State Park turnoff. Redtail. 3 antelope, 4 antelope, 59.8 12 antelope at Casca Road exit. 13 antelope, 67.4 now on 26 E. at 10:50 A.M. 2 antelope 2 miles E Guernsey on 26 highway. 87.5 Goshute Co. line. Fresh snow on hillsides. Snow coverage as one goes east. 120 crows and first ones observed. 123.8 Nebraska State line. at 12:45 P.M. 134.5 sparrow hawk, can hear meadow-larks and can see a few. 205.5 sparrow hawk, 243.8 beginning 92 E. 244.4 15 sandhill cranes, 2 more on N. side of road. sparrow 245.1 20 sandhill cranes on S side road, 295 sandhill cranes on N side, 250 sandhill cranes on N side and 40 on south side. 245.5 150 sandhill cranes on S side, marsh hawk, 4 gulls! ^{1/10 mi. beyond} 120 sandhill cranes on S side, 200 on N. side rd. 246.0 20 sandhill cranes on S side, 200 on N side and another 150 on S side

246.4 150 sandhill crane ^{on n side and} 150 on S side. 246.7 150 sandhill cranes on n side and 10 on S side. 247.3 500 sandhill cranes on n. side. 247.4 Keith Co. line, sparrow hawk. 247.7 5 sandhill cranes on S side, these are all in cut corn fields. 247.9 10 sandhill cranes on S side. 248.3 Clear Creek. End census at 5:50 P.M. at W end of Lake Mc Conaughy. The cranes have been S of series of lobes in western and the drainage W of the above named lake.

	S. SIDE RD.	N.S. RD.
244.4	15-2	
245.1	20-40	295-250
245.5	150	200
245.6	120	
246.0	20-150	200
246.4	150	150
246.7	10	150
247.3		500
247.4	KEITH CO. LINE	
247.7	5	
247.9	10	
248.3	CLEAR CR.	
	<u>732</u>	<u>1745</u>



or 2477 total

Lake open and free of ice. 266.0 6 mule deer on top of knoll bordering lake. They remained while we passed by. 7 EW ice piles along lake toward dam. At dam ice in bay on S side. 280.5 S. Platte River. 284.9 3 Canada geese ^{previous} ~~286.5~~ 50 ducks (mallards?) and ducks along ^{previous} this course have been scarce. (4 or 5 groups 10 birds). 309.3 23 gulls 310.7 15 + 5 ducks, occasionally groups 1-10 ducks on S Platte River n of us. The cottonwood trees are smaller than in Kansas are they all are about the same height and more generally distributed. 313.4 150 gulls all moving S. 313.6 150 gulls all S and presumably to Sutherland Reservoir. 316.0 80 gulls moving S. The last gull sighting was at 6:15 P.M. Sky has been overcast and later afternoon darker than usual. Wind from SE. 326.7 50 crows in one group. 332.1 S. Platte River at 5:30 or new time 6:30 P.M. Stayed at same motel 6 as on way out to Casper.

north Platte City, Nebraska

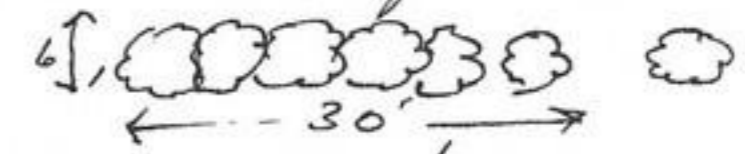
March 26, 1980

Left 8:05^{A.M.} at 15334.0. Some barrow pits are full of ducks and others without ducks. 352.2 redtail. 372.7 redtail. Temp 30°F no wind. 378.1 1 male 2 female pheasants feeding in edge of road. 413.7 183 turnoff at 9:35. more water in Platte River than on our trip W., sparrow hawk. Turn S on 17 from Elm Creek. 430.3 at N end Holdrege. at 10:30 A.M. 436.6 30 crows along road. 437.3 Harlow Co. line, sparrow. 455.7 Republican River. 461.7 Kansas State line. S. of Phillipsburg. practically no snow, and less fog and transition abrupt. Fields are greener than in Nebraska or Wyoming. 497.6 redtail and pheasant. 499.0 6 gulls, 507.8 sparrow hawk. 515.7 Redtail. ~~527.0~~ highway 24 4:00 P.M. 533.3 sp. hawk, redtail. 551.5 10 gulls. 553.3 first stone fences. 569.5 on highway 34 magpie. (2 1/2 mi. E Asherville). 570.8 junction 24-194 which is a few mi. SE of Beloit. Many fields have islands of wind blown snow and are randomly placed. Field on N side catch snow up to road and field on S side are free of snow for 200-300'

Trees show prevailing wind from S. Some barrows on N banks of road are 10' high and extend out from original bank some 10'-12'. This is the storm that put down 16" snow Sunday last, (3 days ago). 585.5 sparrow hawk. 607.9 great blue heron, 2 killdeer) 639.7 sparrow hawk (2) 654.3 mileage at Manhattan (come in from N). 580.0 first sunshine since Casper. 7 cont Heel. Heavy ridges and cornices of snow, ^{30% of ground} of storm 3 days ago. Sun out just temporary. Douglas Co. line on Steel road 150 blue and snow geese flew toward Clinton lake. Some ¹⁰⁰ ducks in ponds. 3 striped skunk road kill between Topeka and Steel. Lawrence (402 Yorkshire) at 15739.2 mileage at 5:20 P.M. Temp. 46°F. mileage from Casper to Lawrence 768.1 miles. or 1530.1 miles round trip.

402 Yorkshire Dr., Lawrence, Douglas Co., Kansas

March 27, 1980

Fifty two cedar waxwings at home most of this afternoon, 3 of them flew into the window and temporarily were stunned but recovered in about 5 minutes. They fed on cranberry fruit from eight bushes on n side of house. These bushes have more berries this year than in the previous 7 years. The cedar waxwings have been at home ~~on~~ on and off since they first occurred (see notes), and regularly the last week or so. In previous years some berries were left on the bushes, mostly mid-bush level. This year only 18 small clusters of berries remain and these should be gone in a day or two. Robins are about the only other birds that consume these berries and this year only in limited numbers. Before winter and after leaves left the trees these bushes were a decided red because of the heavily laden bushes. Several birds were feeding on berries that had fallen from the bushes from feeding of birds earlier in the season. The mass of bush (live form) is approx. 8' high, 6' wide and 30' long. 

Groups of 18-54 have been in area this year and seem to be in greater numbers and regularity than previous years. Goldfinch have finished 2 lbs of thistle seed (4 lbs this winter). Refilled feeder.

March 28, 1980

Cedar waxwing still here and have finished cranberry fruits except some still on ground.

April 1, 1980

Did not observe cedar waxwing in area today.

Petersen, Deerfield, Kasald Research Area, Lawrence, Douglas Co., Kansas.

April 1, 1980

Covered part of route (see notes 1979 for map) starting at Grackle Roost at 2:25 P.M. Sky clear, wind from north. Grackle Roost, no birds. Osage Fence, black capped chickadee, 2 cardinals singing, robin singing, raccoon tracks. Meadow Field 14 robins in field flew to Osage Fence. Plowed Field Swale, no birds. Pond Swale approx. 10 cricket frogs calling in ponds and drainage swale. E. Forest Edge. Black-capped chickadee, Brush Way, no birds. N. Forest a shagbark tree broke up main trunk. The limb measured 78 inches in diameter. Watermark in creek 3 1/2 inches

4 robins, 3 slate-colored juncos, blue jay, cardinal, fox squirrel,
 2 robins. Meadow Field, 2 meadowlarks, robin. Plowed Field Swale
 no birds. Pond Swale. mourning dove flew overhead. E. Edge Forest
 cardinal. water clear, as is usual, this time of year, 5 gals per sec.
Brushy Way, no birds. N. Forest first Eumeces on forest floor. One
 woodrat house on forest floor now being covered to normal floor
 composition with first deterioration of stick house structure.
NW Forest, no birds. Main Forest Red-headed woodpecker, Kassold
Creek no birds. Silo Ledge, E. Phoebe, 2 robins. Right-of-Way
 4 robins. Kassold Cr. yellow-shafted flicker, white-breasted
 nuthatch, 2 slate-colored juncos, 2 robins, fox squirrel, black
 capped chickadee, redtail, blue jay, white-breasted nuthatch. at
 road the dog dug out 2 neotoma from stick house under fallen log.
 The neotoma escaped from under log on opposite side of log and
 rather than running, walked away, one climbed to end of broken
 limb and took its position as part of the broken limb where it
 remained motionless (3 feet above dog). Hermit thrush.
 redtail. S Field Edge, no birds. Pond Fence Row. meadow-
 lark, Peterson Field. 2 mourning doves. Home 1:45, temp
 60°F.

Perry Reservoir, Jefferson Co., Kansas
 April 7, 1980
 (recorded on next page)

Just when you
 get to the end

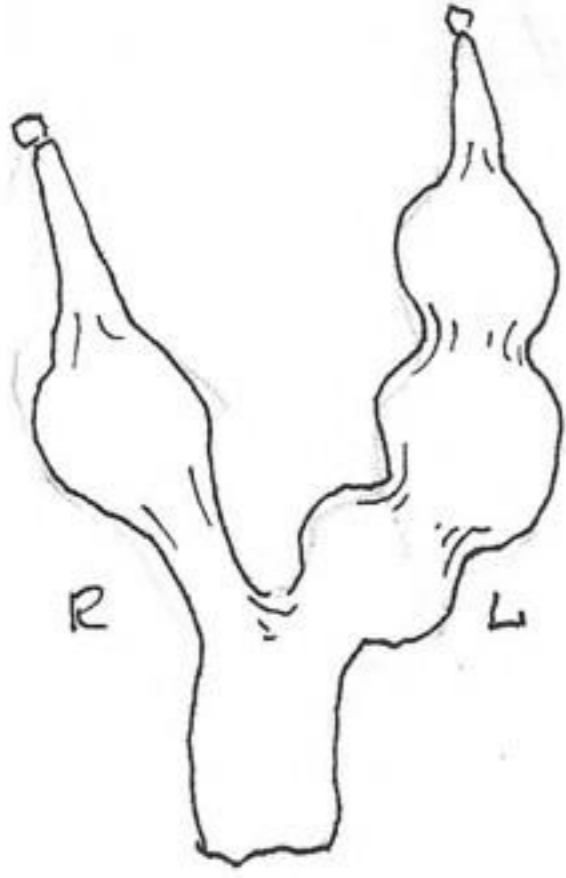
Continued to Walter's Lake to survey area around lake (usual route). Will record all birds. Red-headed woodpecker, red-headed woodpecker, drainage 1 gal per 2 sec. Following route down drainage from NW corner of property. At gate barrier on old Co. road a trail made by deer at E end of gate was developed 10" wide and 2 inches deep. All tracks trended E and follow along an ill-defined trail in forested area, generally on N side of drainage. At W end of lake some former winter activity of beaver. 2 ♀ bufflehead in W bay. They swam out and then flew toward dam & alighted. Fresh beaver cuttings along W edge lake. Level at middle of outlet pipe. Two deer tracks measured 78 and 68 mm respectively. Talked to 2 young boys who were catching 9"-10" bass and from area W of Walter's place, that 3 bald eagles were occasionally seen in tall dead trees at N end of lake this winter. The large oak on E hillside is dead this year. Most recent and extensive beaver cuttings at N end of lake. Several hickory trees had been cut down. The wood is reddish in color. Twelve smaller trees had also been cut. 2 Red-headed woodpeckers here. Returned from gazebo via bench (first below top). Nice vantage point on top above gazebo on this bench. Red-headed woodpecker, great horned owl left point and flew N. 2 red-headed woodpeckers, white breasted nuthatch, redtail hawk, red-headed woodpecker. Back to car at SW corner at 1:30 P.M.

Peterson, Deerfield, Kasold Research area, Lawrence, Douglas Co., Kansas
April 10, 1980

(see 1979 for map of route). Left 10:50, temp. 60°F, 10% clouds, wind from E. Peterson Pond 5 robins, ♂♀ cowbird, mourning dove calling, cardinal, 4 robins, 2 mourning doves, 4 redwing blackbirds, 2 grackles, bluejay. 2 ♂ cardinals singing. Fresh raccoon tracks. Peterson Creek. 2 robins. Song sparrow, redwing blackbird, 2 grackles. Leaves of wild blackberries and roses 1/2 inches long. Two fox squirrels ran into hole (size of squirrel) in cottonwood tree (20 feet up main lateral branch). Two black-headed chickadees. Grackle Roost no birds, no *Peromyscus* under metal sheet that earlier in season held 3 of them. Osage Fence Row no birds but 2 mammals under doorlike board, both from same board.

800410-1 *Neotoma floridana* ♀ 348-142-35-23-260 gm, 1x3 emb 10mm

800410-2 *Microtus xemoralis* ♀ 128-22-18-9-27 gms ut. normal



Utteri of nestoma number 800410-1. Meadow field no.

Swale of Plowed Field no birds. Pond Swale

1 cricket frog calling from pond. E Forest
Edge robin, cardinal, red-headed woodpecker.

Brushy Way. no birds. North Forest no birds.

NW Forest no birds. Main Forest, 2 mourning

doves, 2 robin. Symphoricarpos a greyish
green with leaves $\frac{1}{4}$ inch in length. Grasses
and weeds produce a greenish cast to forest
floor. A morellike fungus red in color
and 2 inches wide. (not typical). 4 robins.

Gooseberry leaves $\frac{1}{2}$ long. Kasald Creek, 2 myrtle warblers,
white-breasted nuthatch, 2 robin. Silo Ridge Minnows in
deeper parts of Creek. It seems that there are more minnows in the
Creek than during the winter or ~~winter~~ early spring season.

Titmouse calling. Beerfield Cr. Hairy woodpecker. Downey
woodpecker displaced black-capped Chickadee. The downy wood-
pecker is feeding on outer limbs of tree on $\frac{1}{8}$ inches branches.

Robin, titmouse, 3 robins. South Forest 2 grackles, 2 robins,

E Field Edge. no birds. Pond fence row. no birds. Peterson Field.

robin, mourning doves flew over field, meadow lark, Home at
1:45 P.M.

Clinton Lake, Douglas Co., Kansas
April 16, 1980

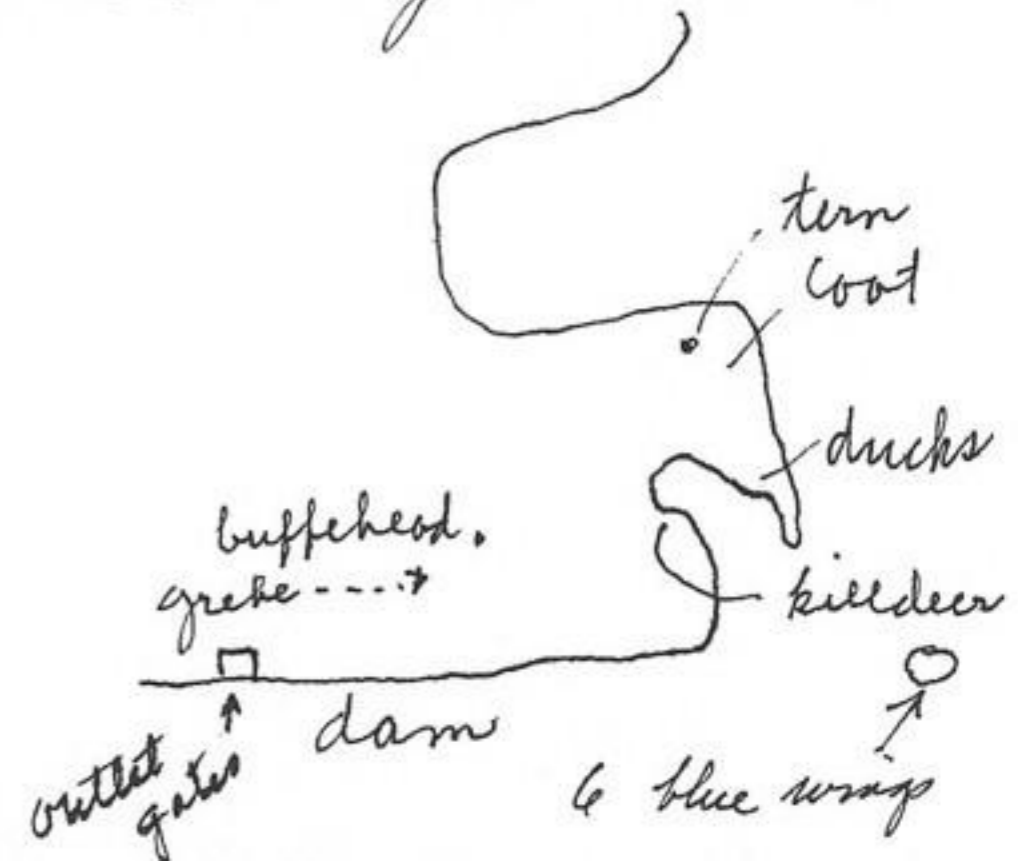
Made few observations along dam. Fly fished from N end of dam
to 200' S of outlet water gates from 10:00 to 12:00 A.M. no bites.

Two eared grebes swam N along dam without diving. but in N
part of the bay they began to fish. One other eared grebe in bay,
all coot resting in N end of bay. numbering approx 150 individuals.

1 ♂ + 4 ♀ buffleheads in one group. 3 Forster tern resting on log in
water. When the coot left the tern flew out into the lake with them
but returned to log. These tern occasionally cruised along the dam.

In the protected bay were 2 ♂ 1 ♀ shoveller,
6 green-winged teal, 1 pied-billed grebe, 8
blue-wing teal. 8 killdeer, no gulls.

In fields 3 meadowlarks, 1 redwing,
♂ redwing + female cowbird together. 1 group
5 cowbirds, 2 mourning doves. Redtail
to west. Six blue-wing in pond.



Kaw River, Lawrence, Kansas

April 21, 1980

At 9:30 A.M. noted approx. 1000 white pelicans circling in area of Kaw River approx 2/10 mi. up Kaw River from Massachusetts bridge. These birds circled approx 10 times in some general area some 300 feet above the river. They circled without wing beat as a compact group. They moved north from here. When birds were between sun and me they appeared black but when sun reflected from birds they were a bright white.

Clinton Reservoir, Douglas Co., Kansas

April 23, 1980

checked birds N end dam in bay. 8 coot and 1 great blue heron, 5 killdeer. Horned lark on uplands where road to boat docks leaves main N-S road. Entire parking in boat trailers of fishermen.

402 Yorkshire, Lawrence, Douglas Co., Kansas

April 24, 1980

Heard first robin singing just after daybreak. When (home) has been in area since April 18. Sings in area but not too concerned about the wren house. Goldfinch just finished 3rd feeder of thistle seeds, 6 lbs so far. Males yellow except some discolor on nose and sides of neck and head, some above wings.

April 27, 1980

Robin has been constructing nest in Austrian pine (5 years old) and 9-10 feet high for the last five days.

Peterson, Deerfield, Kasold Research Area, Lawrence, Douglas Co., Kansas

April 28, 1980

made survey of area, recorded only areas supporting birds or mammals. Peterson Pond robin, meadowlark, robin, 2 robins. Peterson Creek, myrtle warbler, white-tailed deer track, fresh, 81 mm; 8 grackles; mourning dove, 2 robins, brown thrasher, violets dominate forest floor. Grackle Roost, grackle, robin, Osage Fence, 3 robins, brown thrasher, grackle, cardinal (singing), robin. A *Blarina brevicauda* from under ~~board~~ board on ground measured: Plained Field Swale, 2 meadowlarks. no other birds observed along the route.

402 Yorkshire Dr., Lawrence, Kansas

April 29, 1980

noticed chipping sparrow in yard for first time this season. Is probably going to nest in area

May 2, 1980

First Baltimore Oriole at home. Is conspicuous and calling all day. Also western kingbird in area. Has been observed several times in road

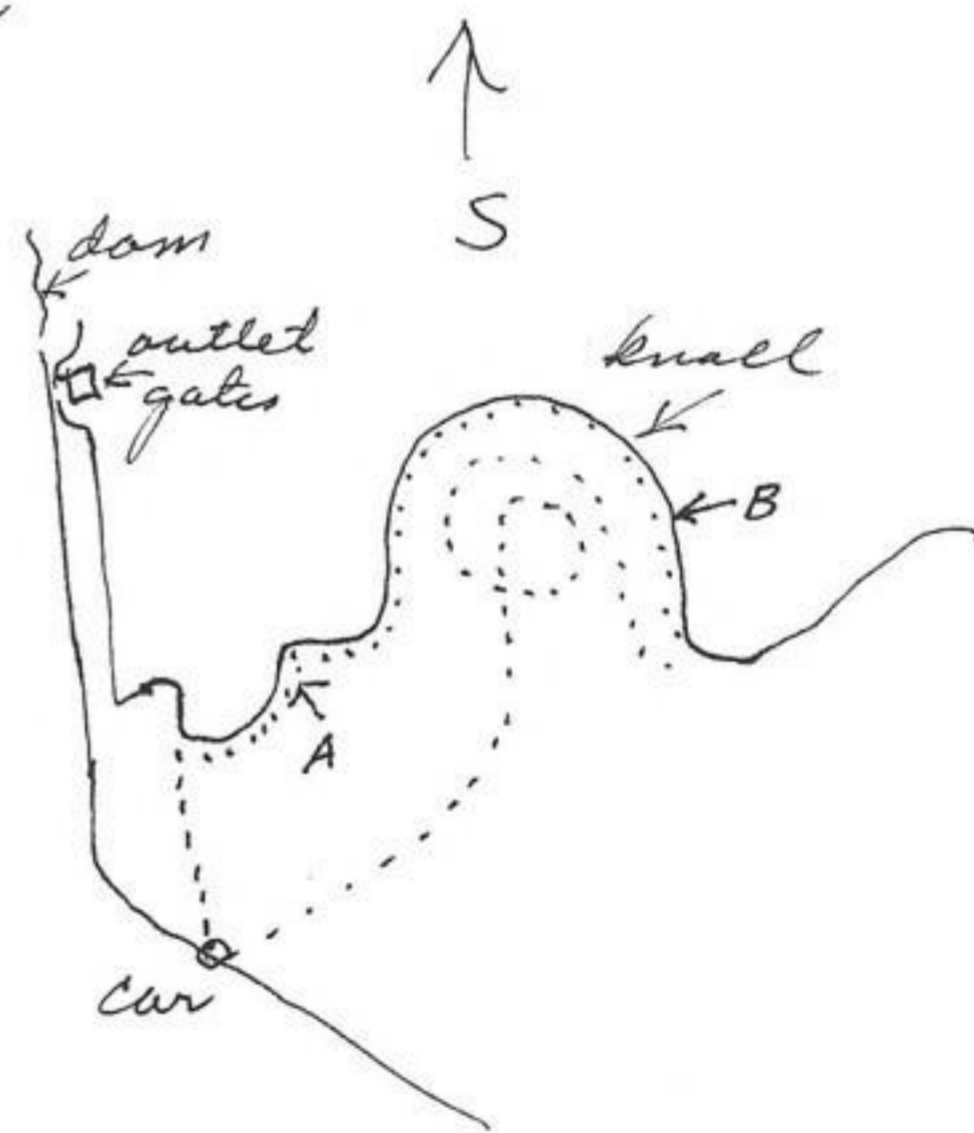
May 3, 1980

Juddy Bailey (403 Yorkshire) says that the Harris sparrow came late this winter (to feeder) but has been seen regularly since. Today I observed a ♂ and ♀ in tree above her feeder. They were previously observed feeding among shrubs on ground. The fox squirrel has taken up residence in elm tree above feeder and is the first time in 11 years that the squirrels have taken over a territory. This is also the first time that grackles, redwings, robins and rabbits have been common. Probably because of increase in numbers and sizes of trees that were planted when area was first developed.

Clinton Reservoir, Douglas Co., Kansas

May 5, 1980

made brief trip N end dam at knoll
Fly fished from A to B along edge of lake but did not get one bite (10:30 - 2:00 P.M.)
Observed some activity but minimal. I was surprised as I understood that special management was supposed to produce good fishing resource. Along route observed 10 loon in pairs. no ducks or shorebirds. 2 ring-billed gulls flew over knoll and only ones observed. no meadowlark runways along entire route on either the knoll or field to N. active gophers on top of knoll and at base of knoll to N near trees. meadowlarks (2), redwing blackbirds (4), grackles (2) and field sparrow in fields to N of knoll. At culvert at N end field (drainage from overflow cut) with four fresh eggs, one measured and nest besides other feathers had a large blue feather from the blue jay. This entire area should be developed for migratory birds and birds in general for show area. Have access areas where one could view from observation point or car, otherwise hard morale to trespass. It is difficult to view birds at Clinton.



Perry Reservoir, Jefferson Co., Kansas

May 6, 1980

(kinds of birds)
 From Thompsonville to top around W road observed E Kingbird,
 grackle, redwing blackbird, dickcissel, meadowlark, robin, mourning
 dove, bank swallow, raven, cardinal, Baltimore oriole, cowbird,
 chimney swift, goldfinch + killdeer. Walk shoreline base dam from W to
 outlet and observed 4 different Natrix sunning on rocks at edge of water,
 1 grackle. Arrived outlet 11:00 A.M.

Peterson, Deerfield, Kasald Research area, Lawrence, Douglas Co., Kansas

May 14, 1980

Checked research area and found a decided increase in species and numbers of birds. Started 11:00 A.M. Peterson pond: ♀ cowbird, 2 brown thrashers, mourning dove, 2 robins, Swamson thrush, robin, bluejay, Swamson thrush, cardinal, bobwhite, Swamson thrush, house wren. Peterson Creek robin, song sparrow, Lincoln sparrow, brown thrasher, 2 grackles, 2 robins, 2 black-capped chickadees (carrying insects), robin, Swamson thrush, redwing blackbird, fresh deer tracks (60 mm). Grackle Roast robin. Ozage Fence 2 mourning doves, robin, pilot black snake approx 4' long, outstretched, then coiled, then moved 6' to ozage orange tree and climbed up tree at 1/3 rate of ground speed to disappear at about 25' high. There were no vacuities but snake just disappeared as a branch!, yellow-shafted flicker, 2 robins, house wren, robin. Grass meadow Chipping sparrow. Pond Swale bluejay, house wren, Swamson thrush, fresh gopher mounds among grass. E. Forest Edge Swamson thrush, robin, 2 eastern bluebirds with 3 young (short tails) same size as adults, Baltimore oriole, red-bellied woodpecker, N. Forest, 2 robins, house wren, great-crested flycatcher, 2 robins, bluejay, song sparrow, eastern wood pewee nw Forest robin, Swamson thrush, red-headed woodpecker, warbler (sp.?) 2 goldfinch (nope gray), great crested flycatcher. Main Forest. Swamson thrush, yellow-shafted flicker, field sparrow, red-eyed vireo, red-headed woodpecker, cottontail, Swamson thrush. Kasald Cr. Red-bellied woodpecker, 2 bluejays, yellow warbler, Baltimore oriole, robin, robin. phoebe. Silo. Deerfield Cr. grackle, 2 robin, house wren, Swamson thrush, grackle, brown thrasher, Swamson thrush, robin. S Forest. black-capped chickadee, robin, brown thrasher, 2 meadowlarks, yellow warbler. Pond Fence cardinal, across field to home at 2:30 P.M. temp 75°F.

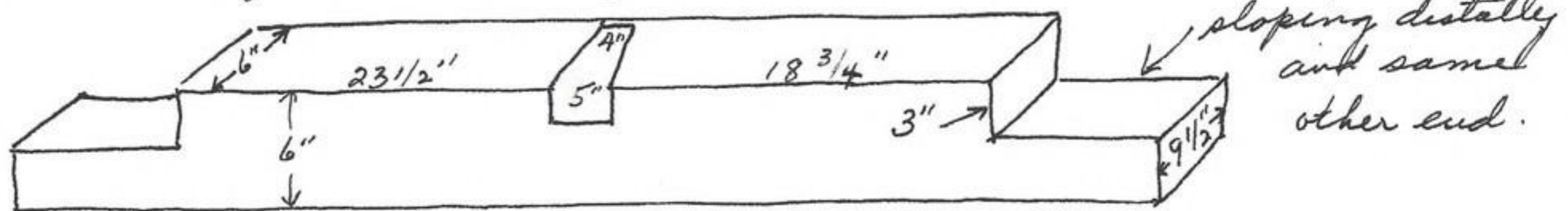
Lawrence, Douglas Co., Kansas

May 15, 1980

Made trip to Kansas City and return via highway 32. There seemed to be more road kills of striped skunk, opossum than usual for this time of year. 6 redtails were observed mainly sitting in trees or circling overhead. One sat on a fence post along road right-of-way. Upon return home noted 2 grackles raid an occupied robin nest with eggs. The grackles were not successful but many times they could have taken the eggs,

James Robert Bee Barn, E Oskaloosa, Jefferson Co., Kansas
 May 16, 1980

measurements of wood base for scales



402 Yorkshire Dr., Lawrence, Kansas
 May 20, 1980

Placed three microscope slides with film of oil in backyard at 2:00 P.M. and after preparing them with balsam and slide cover examined them at 5:00 P.M. 2 species of pollen and volcanic dust occurred on the slides. The volcanic dust was from Mt. St. Helens in Washington State. The atmosphere was definitely laden with the dust and sunsets were unusually yellowish red and intensified.

Leavenworth, Kansas

May 22, 1980

Watched a grackle chase and make physical contact with gray squirrel, enough to topple it (the squirrel) on its side.

Clinton Reservoir, Kansas

May 26, 1980

Kent Van Hoesen, Lawrence Journal photographer, presented me with a photograph that was published in the journal World with commentary by me. (see news article July 13, 1980 by Bunny Smith.) The nest was in willow trees along a fence row that is now inundated by the new Clinton Reservoir W of Lawrence. I believe he used a 500 mm lens to capture these outstanding photographs. Kent spends considerable time in nature photographing whatever is noteworthy for the journal World. Several of his photographs have been used to publicize the need for refuge along the Kaw River for the winter Bald Eagles. He should be given credit for his influence in the development of the refuge needed for these eagles. (see next page for photos).

Clinton Reservoir, Douglas Co., Kansas

May 26, 1980

observed following birds on ear trip around complete lake: redtail, dickcissel, T vulture, W. Kingbird, E Kingbird, crow, grackle, red-headed woodpecker, great blue heron, ring-billed gull, barn swallow, blue jay, red wing, mourning dove, meadowlark

800526-43



Photos taken June 26, 1980, Clinton Reservoir,
By Kent Van Holsen Douglas Co., Kansas
Lawrence, Kansas

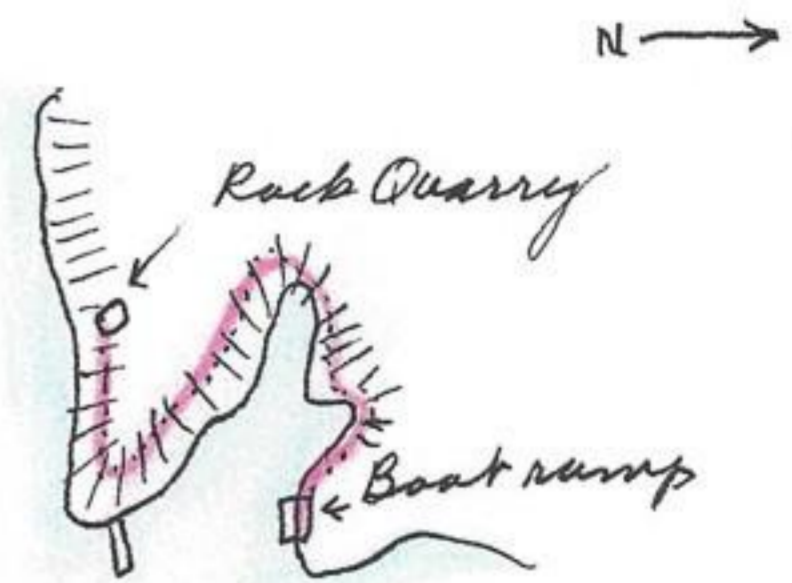
JUNE 26, 1980

Clinton Reservoir, Douglas Co., Kansas

May 28, 1980

Made trip along shore from State Park boat ramp S of headquarters to head of bay and then trail thru deciduous forests to old rock quarry on N side lake. Observed: (kinds).

12 snakes (black, garter, natrix), crow, redwing, grackle, indigo bunting, robin, bluejay, mourning dove, turkey vulture, hairy woodpecker, yellow-shafted flicker, red-headed woodpecker, house wren, cardinal, cuckoo (yellow billed), redtail hawk, great crested flycatcher, yellow warbler, spotted sandpiper. Deer tracks 84-74, some 1 mile beyond.



Perry Reservoir, Jefferson Co., Kansas

May 29, 1980

Left Lawrence at 402 Yorkshue at 8:15 A.M., rained last night, tornado watch. This A.M. clear skies. Enroute to Leecompton bridge via farmers turnpike noted (quantitative):

red-wing blackbird 2-2-1-1-1-1-1-1

Cowbird 1-1

grackle 1-1-1-1-1-1

tickessell 1-1-1

barn swallow 1-3

sparrow hawk 1

robin 1-1

mourning dove 1

killedeer 1

meadowlark 1

Leecompton bridge to Delaware River W of Perry

redwing blackbird 1-1-1

barn swallow 1

tickessell 1-1-1-1

great blue heron 1

Delaware River to Highway 24

red-wing blackbird 1-1-1-1-1-1-1-1-1-1

robin 2-1-1

barn swallow 2

meadow lark 2

tickessell 1

grackle 1

Highway 24 - Thompsonville

tickessell 1-1-1

Thompsonville (9:50) to headquarters along S side dam,
 barn swallow 2-1-1
 redwing blackbird 1-1
 cuckoo 1
 meadowlark 1-1-1
 brown thrasher 1-1
 red-headed woodpecker 1
 grackle 2

Headquarters W across dam (9:55)

cuckoo 2.

spotted sandpiper.

grackle 1

black^b plover. 1

The black-bellied plover left ^{11:05} edge of water at base of dam 150'
 from E shore and flew almost to N side of lake then returned
 to base of dam at 11:10 and alighted not far from where it left.

It remain on rock with water of wavelets



about 1/2 way up legs and water occasionally
 to belly. It flew at 11:30 then returned again to near (100') of where
 it had left before. I left it still on edge of water.

Clinton Reservoir, Douglas Co., Kansas

June 3, 1980

Check shore and knoll just W of N end dam at 11:30. Lark
 sparrow, grackle, cardinal and redwings only birds in area.
 measured front foot of beaver (in mud imprint) as 130 mm long.
 Also 4 meadowlarks and great blue heron.

Perry Reservoir and Walters Lake (between main lake + Big Slough) Jefferson
 Co., Kansas

June 8, 1980

Checked Reservoir and lake. Left mileage 17546.1 at 8:10 A.M. Sky
 cloudy ^{complete} this A.M. but clearing to blue to W. yesterday temp. 75°F.
 Will keep ^{complete} list of birds enroute. Barn swallow, grackle, 4 Purple
 martin, W. Kingbird, grackle, dickcissel, long line of clouds E-W,
 (2/10 mi. wide) blue to W and high cirrus to E, dickcissel. 47.9
 Kasco and farmers Turnpike, redwing blackbird, 2 meadowlarks,
 redwing, dickcissel, redwing, 3 grackles, mourning dove, redwing
 mourning dove, dickcissel, dickcissel, dickcissel, redwing,
 3 grackles, 9:20 few drops rain, mourning dove, shrike, barn swallow,
 dickcissel, 53.9 Leempton road. mourning dove, shrike, mourning
 dove, E Kingbird, grackle, grackle, dickcissel, 4 grackles,
 mourning dove, meadowlark, dickcissel, mourning dove,

meadowlark, 57.2 S end Leecompton bridge (if in the past I have referred the E end of Leecompton bridge instead of rightfully the south end of the bridge, it is in error and should read S end.)
 water high and muddy. no sand bars exposed. Killdeer, dickcissel, dickcissel, 58.9 railroad tracks (Union Pacific). robin travelling along side of car at 30 M.P.H. will not count birds in city of Perry.
 60.0 highway 24. barn swallow, grackle, chimney swift, mourning dove, 2 meadowlarks, 62.6 four corners at SE end of ^{Perry} reservoir area.
 meadowlark 63.6 Ferguson Rd. 64.4 mourning dove and turkey vulture flying 40 feet above water of Big Slough and seemed a little out of place. 64.8 bridge over Big Slough, 4 barn swallow, grackle. 65.8 redwing. 66.2 mourning dove, eastern kingbird.
 66.9 2 grackles. 67.2 water's property (S end) at 8:50 A.M. Parked car on county rd and at 8:52 started thru forests ^{on upper level (1st) down.} The old rd is lined with dogwood and middle of road with ^{small} shrubs & trees. The deer trail at end of gate fence used in winter is not used much at this time of year. (Piercing by time now). 9:03 bluejay. forest seems songless and devoid of trees. Dark sky makes dark forest. Less ground cover under large oaks. 9:25 red-headed woodpecker. most oak on first level are Shumards and Chestnut oak. 9:33 vantage point. Overlooking gazebo from upper level. at vantage point is considerable ground cover of thorny bushes (localized) 9:48 first crossover of drainage. 2 Titmice several deer tracks. white-breasted nuthatch, bluejay. Erosional gully 90% soil. 9:56 second minor crossover, drainage relatively flat to N. 10:00 red-headed woodpecker. 10:10 robin. 10:13 yellow-breasted chat, crow, bluejay. 10:20 second major crossover. 10:24 minor drainage, robin, may apples out 1 1/2 inches pulp sweet, patch is 30' across 10:38 minor drainage, more Symphoricarpos on east side of drainage than elsewhere. also good stand of poison ivy. 10:45 drainage. There is considerably more understory than previous areas. (2) Gray squirrel and confiding, 30' before it left. 10:55 minor drainage, 3 foot wide. turkey vulture ^{at} 11:10. 11:18 dam. From dam can see ^{erratic in drainage} turkey vulture bluejay, great crested flycatcher, 2 grackles, no red-headed woodpeckers. redtail N to S across lake. On E side lake 15 oak trees have died because of water table. Area bordering lake filling in with shrubs Beaver will clear large trees bordering lake and they (trees) will be replaced by willow, shrubs and small trees for source of food. The oaks are dying anyway so why not let nature take its course. There are also dead trees on hill W of dam above water table

and these are dying because of new ^{open} exposure of the sun. No man-made fence or old roads in area. T. vulture flew SW-NE over lake, another N to S. full length of lake. W. woods from N. another flew N to S but W of lake. 11:38 green heron flew up N arm of lake. Bullfrogs occasionally call, 2 Bluejays flew across W end of lake. Grackle from gabebo S across lake. 11:53 green heron still on conspicuous perch in tall tree, Left (heron) at 11:55. Can hear yellow-billed cuckoo. Surprising that there are not red-headed woodpeckers around lake, Cardinal singing. 4-5 small fish have jumped in lake. T. vulture flew N circled lake and then continued N. Left 12:07 cuckoo flew across lake from W to E, Lake full of blue gill, bass 6"-8". Average number frogs along dam 1 per 100'. No beaver activity or tree cutting. Water ^{level} equal to outlet. Largest bass 10" Left dam 12:25 now up creek bed S side Waters ridge. Red-eyed vireo, Swainson thrush?, 12:32 cowbird, drainage mainly rocks. Cuckoo calling. 12:33 rose-breasted grosbeak. Intermittent stream. Raccoon tracks. 12:50 whip-or-will got up off ground of oak leaves, moved 20 feet, then another 20' then back to near me and then in a wide circle around me, ^{it was} 100' from fence line and open field. New pond at 1:00. 2 bluejays. Deer ^{hunting} platform S end pond. 1:04 great crested flycatcher. 1:07 male & ♀ Baltimore Oriole. 1:23 whip-or-will in oak among leaves on ground in shaded area. Flew to tree 20' away and then beyond out of sight. 1:28 Car. Old road bed pulverized and used by mammal and birds as dusting area. End of census. Met old timer in Perry who lives S of Oskaloosa and said bobcats increasing recently. His dogs treed 6 last year. Dogs will hunt, run down and kill Coyotes. Dogs hunt everything that moves. Had never seen a river otter in Kansas, nor a bear. Arizona only state that prohibits mt. lions. He said that they feed on deer and nut cattle. Returned to Lawrence and at noon Creek bridge noted a mockingbird. Smoke from electric power Co goes straight up. Clouds cumulus, small and more stratus to S & clear blue to N. Continued Home

Walter's Lake, Perry Reservoir, Jefferson Co., Kansas

June 25, 1980

mileage 18018.9 at home. Left 8:20 A.M. Temp. 85°F. Slight breeze and sky with few, just forming, cumulus clouds. Will keep

all
 list of birds to Walter's Lake. Purple martin, grackle, robin, meadowlark, redwing, redwing, dickcissel, dickcissel, dickcissel, 4 barn swallows feeding over cows, meadowlark. 20.7 Kasold and "farmers lumpsike". 3 dickcissel, redwing, redwing, dickcissel, redwing, redwing, redwing, cowbird, 4 grackles, meadowlark, grackle, redwing, dickcissel, dickcissel. 26.7 Leecompton road (N-S). Dickcissel, dickcissel, grackle, redwing, meadowlark, grackle, meadowlark, grackle, grackle, mourning dove, yellow-billed cuckoo, dickcissel, mourning dove, meadowlark. 29.9 S side Leecompton bridge. dickcissel, redwing, dickcissel, dickcissel, dickcissel, dickcissel. 32.3 Perry at grainery, grackle. 32.8 highway 24 yellow-billed cuckoo, fox squirrel rd. kill, 2 barn swallows. 35.3 SE end reservoir area, dickcissel, meadowlark. 37.6 Big Slough Creek bridge. 38.1 3 Turkey vultures, 5 grackles. 38.6 2 grackles. 38.8 barnswallow. 39.9 S property line Walter's on old Co. road at 8:50 A.M. Will continue on main road then to E side ^{Walter's} lake. meadowlark. 40.7 cottontail, 2 bluejays, Cardinal, brown thrasher. 41.3 east side Walter's lake at 8:56 A.M. Left car 9:00 A.M. for Walter's pond or Lake, with recorder. Mourning dove, arrived pond 9:10 A.M. 3 redtail, using the lake for feeding, soaring and perching, great-crested flycatcher, cardinal, blue-jay. Left 11:25, arrived car 11:40. End of census unless a new bird occurs on the way home. Also at Walter's Lake as addenda, bass and bluegills are forming and using excavated dishlike depressions in sands, gravels ^{near} edge of lake for breeding territories. These are all around the lake from 4' to 20' from edge of water and are placed among opening in the emergent vegetation or among the sunken sticks, or other debris. 3 bullfrog, beaver have cut vegetation ^{on S side dam} and brought up over dam to N side where they have eaten them at water level. On way home saw E Kingbird that can be added to kind of birds "Home at mileage 18064.4 at 12:20 P.M.

Walter's Lake, Perry Reservoir, Jefferson Co., Kansas

June 26, 1980

Left at 91.8 at Kasold and Peterson Rd. at 10:35 P.M. Temp 95°F Sky clear but slightly hazy. Breeze only. Will keep list of birds enroute. Grackle, dickcissel, cowbird, redwing, dickcissel, barn swallow, dickcissel, redwing, dickcissel, 2 redwing, grackle, E Kingbird, grackle, B. oriole, redwing,

shrike, dickcissel 98.8 Leecompton Rd. 10:45 A.M. red-headed
woodpecker, mourning dove, meadowlark, dickcissel,
dickcissel. 02.0 S end Leecompton bridge, mourning
dove, redwing, redwing, dickcissel, dickcissel. 15.0 highway
24, grackle, meadowlark, redwing. 7.5 SE corner
Perry reservoir area, dickcissel, dickcissel, 9.7 bridge
over Slough Creek, barn swallow, no gulls, grackle n end,
10.7 dickcissel, 10.9 meadowlark 12.0 S end Walters
property. 12.6 robin, 12.7 brown thrasher, robin, 13.3 2
turkey vulture, 18.4 E side Walters Lake area on road, no
record of animals at Lake (Walters). Returned home 3:30 at
mileage 38.1

Walters Lake, Perry Reservoir
Jefferson Co., Kansas

June 30, 1980

Starting at Leecompton Rd and "farmers turnpike", at 11.9, redwing,
grackle, grackle, sparrow hawk, cardinal, robin, dickcissel,
grackle, dickcissel, redwing, dickcissel, meadowlark, robin.
15.2 S end Leecompton bridge. Some sandbars in river, barn
swallows, goldfinch, 2 barn swallows, redwing, 18.1 highway
24. There seems to be an unusual number of Eng. sparrows in
Perry and they are generally distributed. Redwing, dickcissel. 20.6
SE corner reservoir area at 8:30 A.M. 21.0 redwing. 21.3 2 mourn-
ing doves, 21.9 meadowlark, 22.8 Big Slough bridge, 4 barn
swallows, redwing at n end bridge. 23.8 mourning dove.
grackle, redwing, robin. 24.6 meadowlark. 25.2 S end
Walters property. 25.7 E Kingbird. 25.8 cardinal, brown
thrasher. 26.1 Indigo bunting. 3 turkey vultures, 28.8 E side
Walters area at 8:43 A.M. = 45 minute trip from Lawrence (leisurely)
Left car and walked to Walters Lake. 2 bluejays, Indigo bunting,
2 turkey vultures, can hear meadowlark, crow. Pond 9:00 A.M.

402 Yorkshire Dr., Lawrence, Kansas

July 21, 1980

Grackles have been moving S over house in evening for at least
2 months, last part June & July. Temp. 100°F to 110°F. One
night 85°F and another 68°F.

Clinton Reservoir, Douglas Co., Kansas

July 22, 1980

Enroute, robin, swift, grackle, red-headed woodpecker (highway 40)
(over)

Lake at State Park 9:00-1:00 1 grackle, 2 juncos, 2 robins.
Fish from boat ramp to 1/10 mi. W (area of census) 20 bluegills
(2 1/2" to 8"), 3 green sunfish, 4 fingerling, all captured with fly + flyrod.

Clinton Reservoir, Douglas Co., Kansas
July 25, 1980

Enroute highway 40, robin, barn swallow, 1 purple martin
meadowlark, dickcissel, red-headed woodpecker, bluebird,
grackle. For 2/10 mi. W State Park boat ramp (nearest headquar-
ters but second one there) 8 grackles, green heron, yellow-billed
cuckoo 3, E. Kingbird, crow, field sparrow.

Lawrence, Douglas Co., Kansas

July 26, 1980

Prepared for summer vacation:

- ✓ saw
 - ✓ hatchet
 - ✓ fish gear
 - ✓ 2 casting rods & reels
 - ✓ 1 fly and reel
 - ✓ altimeter
 - ✓ Compass
 - ✓ thermometer
 - ✓ humidity
 - ✓ flashlights (3)
 - ✓ batteries
 - ✓ shaver
 - ✓ knee haats
 - ✓ collecting material
 - box, dry trunk, skull protector
 - gun, cotton, traps, stakes
 - oatmeal, cornmeal, gun, shells.
 - ✓ recorder & batteries, cassettes, notebooks
 - ✓ camera, film, telc, ex. meter
 - ✓ Celestron, tripod.
 - ✓ binoculars
 - books bird, tree, flowers, mammals
 - ✓ watch, alarm clock
 - ✓ emergency kit
 - ✓ first aid kit
 - ✓ knife
 - ✓ sunglasses
 - ✓ sun lotion
 - ✓ sleep bag
 - ✓ pillows
 - ✓ rope
 - ✓ umbrella
 - ✓ whistle
 - ✓ maps
 - ✓ shovel
 - ✓ medication, b. pressure gauge.
 - ✓ 2 life preserver.
 - ✓ sun glasses
- medical kit
 - aspirin
 - sun lotion
 - burn salve
 - benzyleryl
 - ophthalmic salve
 - bandages.
 - ✓ Dumitri address
 - Dr. Dumitru Murariu
 - Museum Natural History
 - "Grigora Antipa"
 - 1 chaussee Kisselef.
 - Romania
 - ✓ redtail article
 - ✓ fish box
 - ✓ spin rod
 - binocular (buy)
 - wind deflector
 - ✓ toilet paper
 - ✓ toilet chemical
 - ✓ jack - hydraulic
 - ✓ watch
 - ✓ pen - ink
 - ✓ recorder, cassettes, notebooks
 - ✓ camera, film, ex. met, tripod
 - ✓ Celestron - Scope
 - ✓ Panasonic & cassettes
 - ✓ Natl Park cards.
 - ✓ emergency light

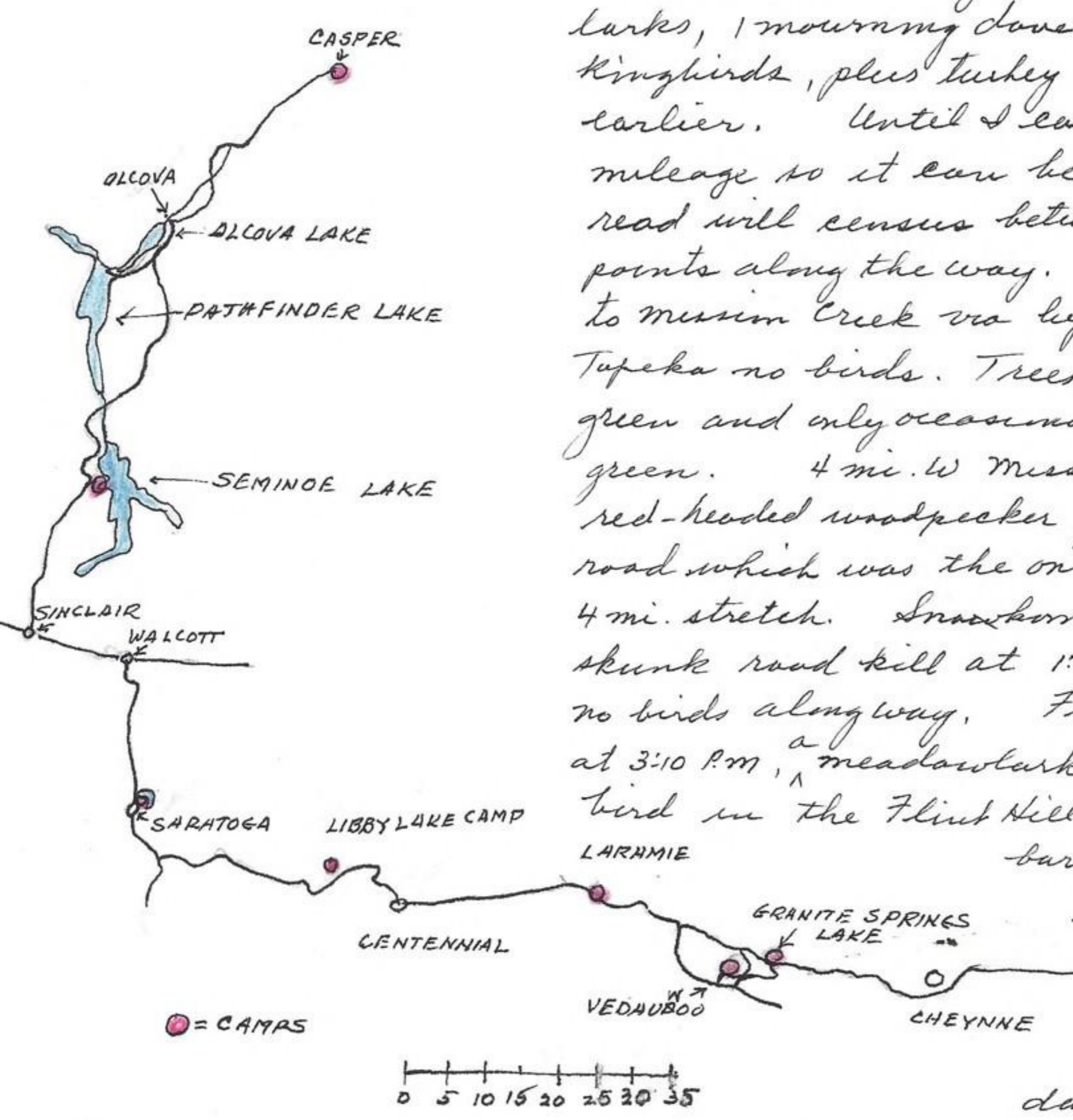
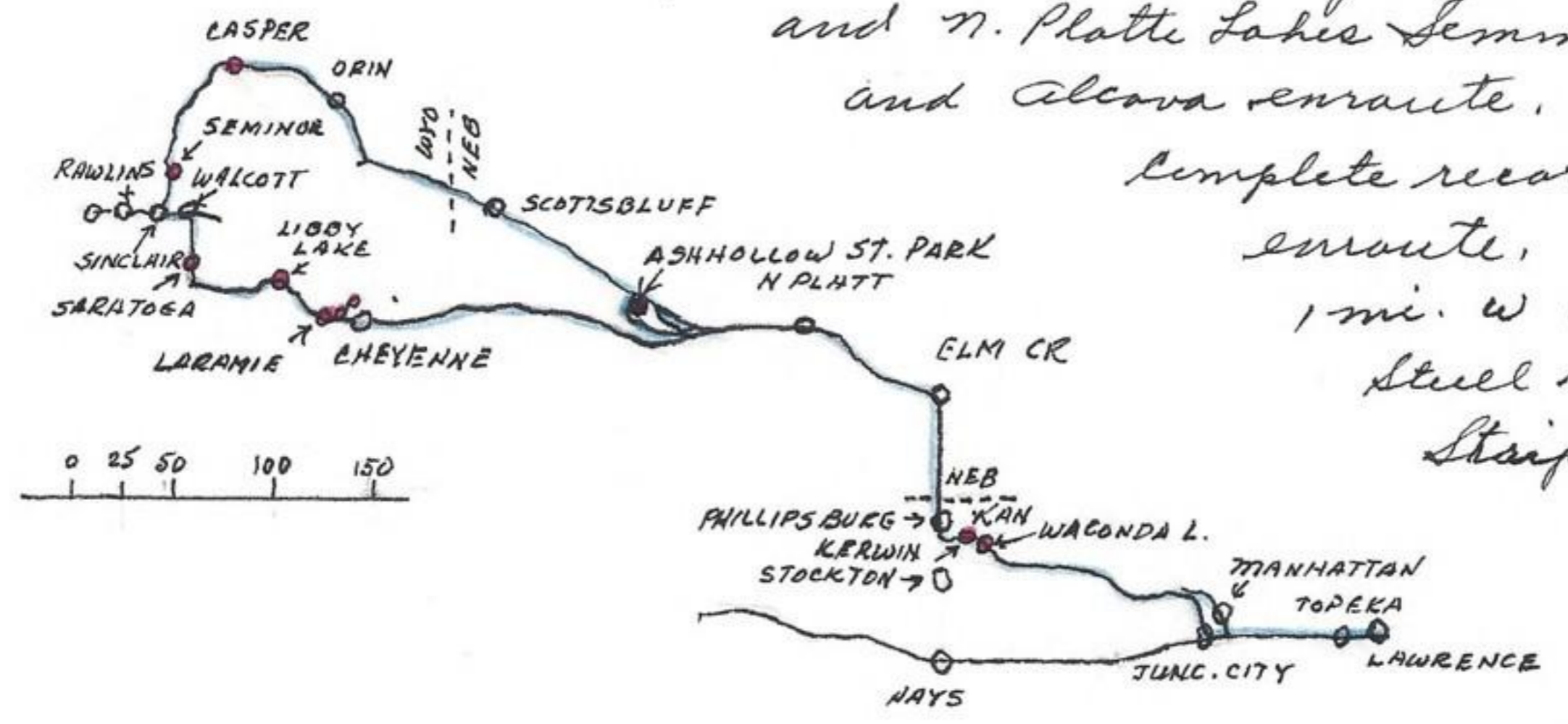
Bucladin - seasickness
 meclizine hydrochloride - seasickness
 Benadryl - antihistamine and seasickness
 Compazine tablets - injection and suppositories for
 nausea and vomiting.
 Donnatal tablets - gastro-intestinal problems
 Lomotil tablets - diarrhea
 Robitussin A-C, suppression cough.
 Afrin 0.05% - nasal solution
 Tinactin - 1% - athlete's foot fungus.
 Dexamethasone - sunburn
 Pyridium tablets - relief burning from irritation
 of lower urinary tract.
 Keflex capsules - urinary & upper respiratory infections
 Potassium Phenoxymethyl Penicillin tablets (antibiotic)
 for respiratory, throat, pneumonia & skin infections.
 Terramycin salve (antibiotic, abrasions & skin infections.
 Lactines - replenishment bacteria to colon after diarrhea.
 Desedrine (amphetamine sulfate) staying awake.
 Secoral capsules - insomnia & sedation.
 Dilaudid tablets - relief severe pain
 Codeine sulfate tablets - relief mild pain
 Xylocaine - local anesthetic.
 Ethyl Chloride spray - local anesthetic
 Ophthaine solution - a anesthetic for removing foreign
 bodies in eye.
 Chloromycetin - eye ointment.
 Otodyne - ear drops.
 Sudafed - sinus infection
 Metamucil - constipation
 Sultrin vaginal cream - relief itching
 Betadine solution (antiseptic) skin sterilization.
 Desitin ointment - sore bottoms.
 aspirin
 sun screen

scalpel - disposable blades
Halsted clamp
Kelly clamp
two I.V. bags
catheter tube
cotton-tipped applicators
latex surgeons gloves
surgical scissors
forceps
surgical ^{needles} applicators - thread (gut)
sterile hypodermic syringes
airway resuscitator
arch. wire fracture splint
air splints
ear applicator
sponges
post-operative dressings
Dermicel surgical tape
vasoline petroleum gauze dressings
compress gauze
elastic bandages
Band-Aid
ordinary bandages

Casper Trip, Wyoming

July 27, 1980

Annette and I left this A.M. at 12:15 for Casper. to spend a week or so with Mary P. Bee. Mileage 18974.5. Plan to stop at Kerwin Lake, Libby Lake in Snowy Range and N. Platte Lakes Seminoe, Pathfinder and Alcova enroute. Will keep complete record of birds enroute. Turkey vulture 1 mi. w Lawrence on steel road (highway 40) striped skunk road kill at Still. Between Lawrence and Shawnee Lake birdlife rare.



Observed enroute 1 grackle, 2 meadow-larks, 1 mourning dove, 4 Eastern Kingbirds, plus turkey vulture noted earlier. Until I can adapt mileage so it can be conveniently read will census between major points along the way. From Topeka to Mission Creek via by-pass south of Topeka no birds. Trees in good summer green and only occasional yellowish green. 4 mi. w Mission Creek a red-headed woodpecker flew across the road which was the only bird in the 4 mi. stretch. Snowhorn Rd, striped skunk road kill at 1:45 P.M. Still no birds along way. First horned lark at 3:10 P.M., a meadowlark the only other bird in the Flint Hill area. First barn swallow and redwing black-bird at Milford Res. dam, also red-tail hawk. at Bala, Kansas, a red-headed woodpecker and a

bluejay shared a rabbit roadkill in middle of road. Birds along Milford Lake are bluejay, red-headed woodpecker, yellow-billed cuckoo, red-tail, mourning dove, Eastern Kingbird, and barn swallow but these few in number or individuals. Shrike, grackle. W of Clay Center at 5:45 P.M. an increase in mourning doves because of approaching evening, some coming to the edge of the road. Also 2 meadowlarks but in general birds are rare. Grasslands in excellent condition and all are green. It is conspicuous in the lack of barn swallows or any kind of swallows along the entire route so far. First ring-necked pheasant ^{at crossroads} and 1/4 size of adults near crossroads of 81. 81-24 pheasant and more birds present. although sun is 2 hours from sunset. Glen Elder done at 7:10 P.M. 176.2 mileage and a green heron flew across road toward reservoir area. First night hawk W of Downs just W of Fortis 8 young pheasants 1/3 size adult (one group) One group 12 meadowlarks. Redtail hawk at Harlan turnoff. Birds in this area are 50 X more numerous than in Eastern Kansas and time of day makes the difference. Principal birds are mourning doves and meadowlarks. Night hawk on fence post. First flock of redwings (6,000) at 8:10 P.M. and moving to roosting quarters beyond Gaylord. Increase of redwings from Cedar to Waddell and mainly in flocks sitting of telephone lines or trees. Waddell 8:20 P.M. 232.0 turned around and went back to camp site on Kerwin Reservoir, ^{8:40 P.M.} at old camp grounds of previous trip (200' west on ridge) mileage 219 237.7 or 263.2 miles today at At 8:52 P.M. a group of 53 Canada geese flew over camp low and alighted on sandbar in lake beyond (1/2 mi). They fed and called all night in subdued call.

Kerwin Reservoir, NE end, N side, Phillips Co., Kansas

July 28, 1980

When we arrived at camp last night we checked the island (now connected to mainland by sand bar because of low water) that last year support a colony of nesting least terns. This evening there were 2 least terns concerned with island but we could not find evidence of their nests, eggs or young. They continuously called overhead and did not leave area. I would recommend that the island be maintained as an island by dredging between island and mainland thus illuminating man and

Coyote-raccoon predators. A sign indicating the island is being used by least terns should keep people away. Coyotes called at 11:00 P.M. and tracks in area along beach. Small milk long toads left beach for water when approached. This morning Canada geese still feeding in bay and left at about sunup. These are geese that have been raised in area and are part of a 150 population that remains the year around. At 6:²⁵~~30~~ A.M. large flocks of grackles and redwings (50-50) left roosting trees and flew toward sun up. Flight ended at 6:³³~~38~~. Sun-up 6:⁴⁰~~45~~ A.M. After grackles and redwings left the barn swallows arrived and hunted just above the trees. Two great horned owls that left area last night at sundown returned from east at 6:⁴⁵~~50~~ A.M. Barn swallow arrived at picnic shelter and 7:²⁵~~30~~ A.M. was on nest. Min. temp last night 69°F.

Birds in area:

Baltimore Oriole	E. Kingbird	little blue heron
Canada geese	W Kingbird	mallard spotted sandpiper
g. b. heron (18 at one ^{sighting} sighting)	grackle	am coat
ring-billed gull	redwing	killdeer
meadowlark.	Common egret,	turkey vulture(2)

The park naturalist saw 3 mule deer and seven white-tailed deer this A.M. Bobcats are increasing. Reports of mountain lion. Bear in area, no antelope. Pelicans remain all winter and use open areas maintained by geese, ducks and mergansers. Last year 8 bald eagles and 8 golden eagles in area. One bald eagle started to nest by building up a nest but then left in spring. The g. b. heron and cormorant nest in some grove of trees. His father (1885) had not seen a wolf but many buffalos. He bought hides from Indians. Grackles take about 45 minutes to arrive in roosting area in evening. New irrigation methods in upper drainage keep water from reaching the reservoir. Best dry farming produces 70 bushels per acre. Good this year because of rains. Botulism affects birds in area. A Mr Hansen from around Farmington Bay in Utah, manages this reservoir wildlife. Rattlesnakes common in area before dam but now scarce and mainly to S & W according to an old timer in area. As many as 18 turkey vulture at trash pile at headquarters. Saw pair of whitetailed jackrabbits. Raccoon track in dust measured ^{rear} ^{front} 101 x 75

on S side of Kerevin Reservoir. They had young. Left camp at 9:45 at same mileage as arrival. Sky clear. 6 turkey vultures at headquarters turnoff, also ground squirrel road kill. 795.4 Swanson hawk. ~~19416.0 Nebraska line at 4:15 P.M.~~ 425.0
 Have been following Highway 36 in Kansas. St. Francis at 404.6. Continued N, Nebraska line at 4:15 P.M. at mileage 19416.0. 425.0 Colorado line. ~~795.4 Swanson Hawk.~~
 Considerable marshland at Laird which has been absent prior to this time. Country N of Wray like sandunes. Arrived Wray, Colorado at mileage 19435.7 or 198 miles today. Camped at edge (E) of football field. Birds in area of camp. Killdeer, greenwing teal, swift, Western Kingbird, Brewer's blackbird, barn swallow, brown thrasher, bluejay, mourning dove, sturling, eastern robin.

Wray, Colorado.

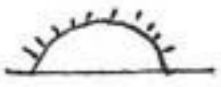
July 29, 1980

min. temp last night 73°F. This morning 18 barn swallow flew close to green grass of football field (1-3 feet above the surface.) Left 8:10 A.M. Country N Wray stabilized sandunes. Barn swallow, mourning dove, Brewer's blackbird, meadowlark. 446.2 red-tail hawk. Hit young pheasant, it flew across road, mourning dove, 8 lark bunting, horned lark, 462.0 Philips Co. line. This morning has been w complete census. There have been some small sparrowlike birds. This highway is 385. 472.8 Holyoke at 9:10 A.M. Country N flat, S sandune ^{barrier (corn)} topography of hills and grassland. 488.0 southern left hand turn on 385 highway. Will keep complete record of birds. meadowlark hit by car, 2 horned larks, 3 horned larks, horned lark, swallow, w kingbird, 2 w kingbirds, 3 barn swallows, mourning dove, swallow, w kingbird, 2 mourning doves, mourning dove, w kingbird, horned lark, horned lark, meadowlark, mourning dove, mourning dove, w. kingbird, w. kingbird, mourning dove, horned lark, w kingbird, mourning dove 496.4 first sparrow hawk since Lawrence, Kansas! mourning dove, crow, striped skunk road kill, horned lark, crow (2/10 mile beyond previous one), crow, horned lark, 2 mourning doves, barn swallow, mourning dove, mourning dove, 3 mourning dove, mourning dove, mourning dove, mourning 503.0 Intersection 80S, at 10:40 A.M. Stopped along S Platte River, spotted sandpiper and wren. The river has not produced the

sand on the flatlands to the S as dunes which is common on E-W rivers whereas the river (Frenchman) at Holyoke which is smaller by a great amount has produced sandunes to the S of it. This is a good place to park overnight if weather will not produce floods. Brown thrasher also here. Julesburg at 11:00 A.M. 2 mi. N Julesburg (11:05^{A.M.}) a doe mule deer walked across an alfalfa field and was conspicuous. Field completely surrounded by corn. Redtail 3 mi. N Julesburg. 19521.4 Nebraska State line, at 11:30 A.M. Chappell at 11:45 A.M. Lark buntings along this route. Following 30 instead of interstate 80. First conifers ^(~~do not look~~ single spruce) east of Potter. at 587.0 (2000 ^{prairie dog} mound, 30 prairie dogs) between Kimbal and Potter just W of Dix on highway 80. These are the first prairie dog seen on trip. 19953.0 mileage at first exit to Kimball going west. ~~at~~ [There is an error in recording mileage at prairie dog area and Kimball but the prairie dog mounds are just west of Dix]. 603.8 first antelope on trip (4). walking across a wheat stubble field. Horned lark most common bird. 19616.7 striped skunk road-kill beyond Pine Bluff. 673.0 Highway 210 - 222 ^(going N) 6:00 A.M. having stopped in Cheyenne for a meal. 674.3 2 antelope. We are on Happy Jack road. 674.8 antelope. 675.7 meadowlark. 676.7 lark bunting 684.6 meadowlark (2), 685.0 lark bunting. 686.6 2 lark buntings. 689.2 3 lark bunting, 3 Citellus (13-lined) and first one seen so far on trip. 691.0 Citellus richardsonii. 693.8 Citellus richardsonii road kill. 694.8 Citellus richardsonii mourning dove at 694.3. Mileage at ^W end Granite Springs Res. 696.1. (200 E of E end causeway along edge of lake). Arrived 2:00 P.M. at 7:35 P.M. 18 Calif. gulls flew against ^{wind} to W. 30 more at 7:50 P.M.

N end Granite Springs Reservoir, approx 7300 ft., Laramie Co., Wyoming.

July 30, 1980

Up 6:10 A.M., min temp 64°F High wind and rainlike clouds all night, almost clear this A.M. Skunk (striped?) visited camp last night. This lake is surrounded by high mts covered with lumber & ponderosa pine to S and lower hills and sagebrush covered ridges to the N. Left at 8:00 A.M. to hike W up canyon, thence return. Largest cacti  90 mm diameter. 4 mule deer, W sapsucker, 5 robin, 6 goldfinch, vesper sparrow, chipping sparrow, tree swallow. There is good

marshland and short creek at w end lake. Photo 800730-1 of Granite Springs Res to E from w end. Large granite cliffs on left. The trailer can be seen on right hand side of photo, tree swallows hunted the road cut nearby. Photo 800730-2 as above with fishermen in foreground. Rainbow trout common fish in res.

Returned to camp. At 10:55 a clarks Crow alighted on a ponderosa pine at w end of lake along shore and fed at base of tree on beach. Spotted sandpiper and kingfisher occasionally seen. 40 nighthawks appear in air over lake with change of winds from E to westerly. First Calif gull flew W over camp at 5:45 P.M. Bats over water at least by 8:45 P.M.

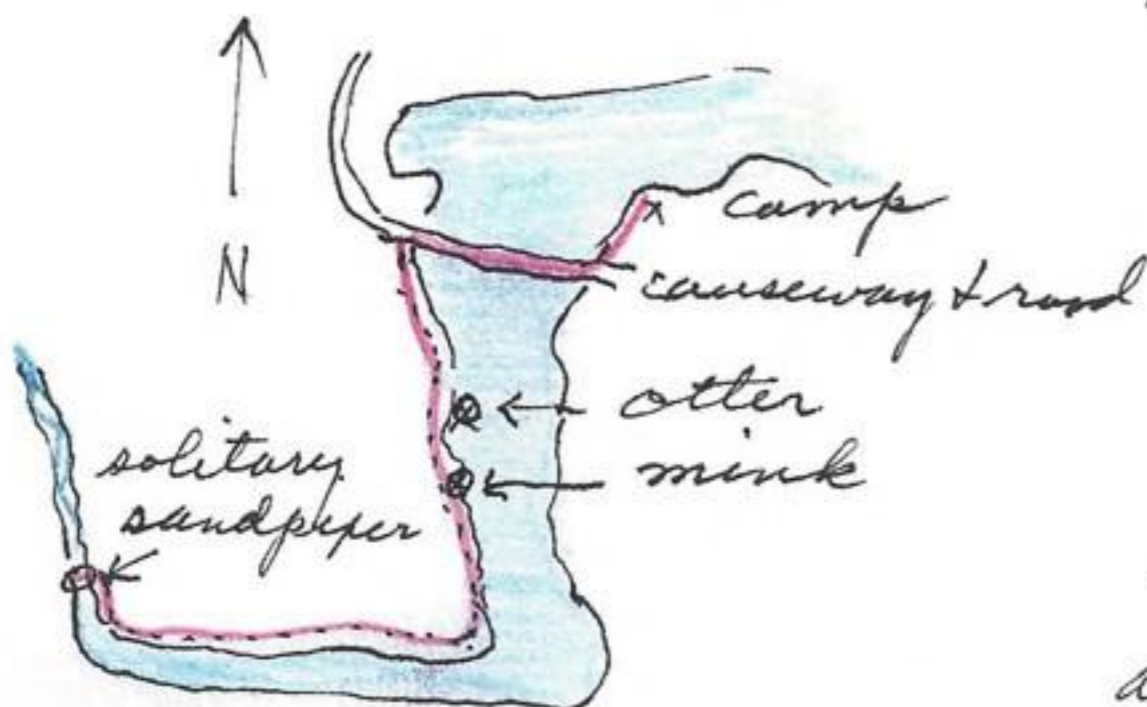
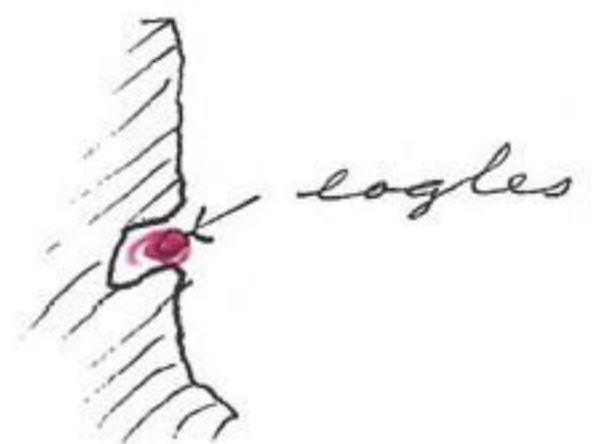
N end Granite Springs Reservoir, approx. 7300 ft., Larimer Co., Wyoming.

July ³¹ 30, 1980

Sun up 6:05 A.M., min temp. last night 64°F. Observed a golden eagle to alight on top of dead tree on ridge on N side of camp lake about 1/10 mi. E of first rock outcrops on ridge at 6:10 A.M. There were 2 small birds harassing the eagle both in the air and when in tree. A second golden eagle arrived 1 minute later and alighted in same tree as first one. At 6:20 A.M. they both left and flew 1/10 mi. to cliffs and alighted on a ledge with overhang cliff above. One preceded the other by about 20 seconds.

They remained here until 7:10 A.M. and seemed to be taking advantage of the early sun. They both left after 7:10 A.M. and circled up ridge to W.

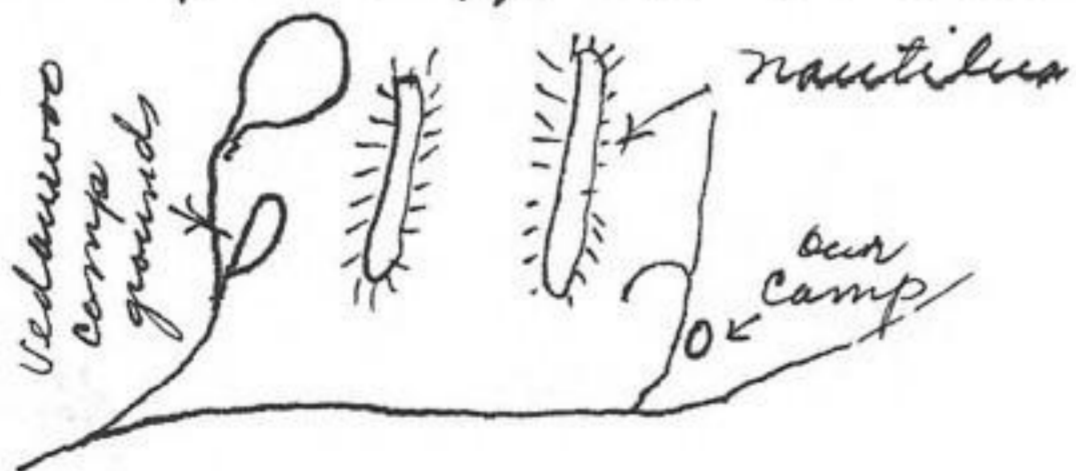
Just before sunrise, robins worked up slope of ridge from lake area. Made trip up bay beyond causeway. Observed a river otter running along a rock surface at edge of lake. It entered the water and continued up bay for 30' and then emerged on land for another 20' and then left area in water. It was observed 100' beyond up bay. A mink was on a ledge approx 30' above the lake.



Birds observed enroute: mourning dove, green-tailed towhee, tree swallow, goldfinch, chipping sparrow, pine siskin, Cassin's finch, solitary sandpiper (at head of bay where open water merges with flowing water, on sandbar bordered by willows. It flew upstream), kingfisher. The pine siskin allowed me to walk to within 4 feet while it fed on the ground.

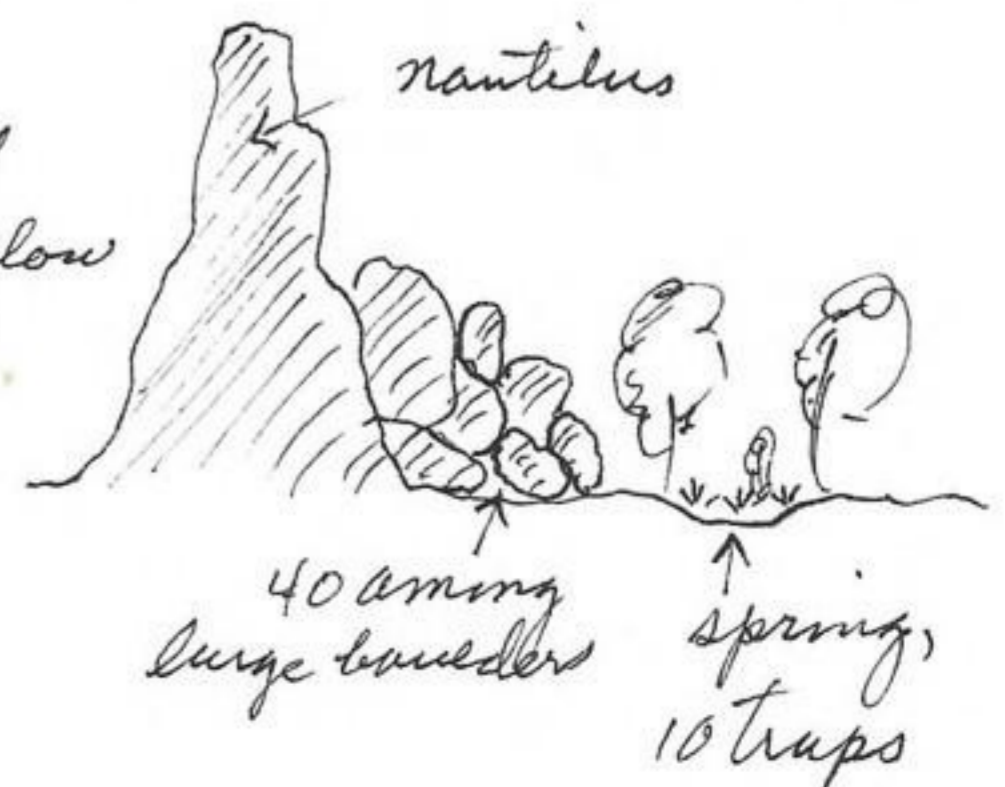
Black-capped chickadee. Water from creek entering bay at approx 40 gal per sec. A *Eutamias minimus* completely searched the upper branches of a ponderosa pine (25' high). Returned to camp. This trip make an interesting route if one follows up one side and down the other. There is an old road that terminates at head of bay and comes from upstream. The best campsite is among aspens at W end of lake as there is a stream that issues from a 2 or 3 acres marsh above.

Left camp at mileage 19696.1 at 12:30 P.M. for Vedauwoo. Will follow road S to ^{Crystal} South Lake and then W to nest camp. Will keep complete record: Robin, redtail, Crystal Lake, (N end), golden mantled ground squirrel, *Citellus richardsonii*, no gulls, no west, Pine Grove Estates, *Citellus richardsonii*, Highway 80 at 1:20 P.M. ^(no census to top) 719.8 continued 80 to top and then E on Happy Jack road (719.8). 2 Clark nutcrackers, redtail, marmot, no S to Vedauwoo Camp. 3 mt. bluebirds, *Eutamias minimus*, yellow? shafted flicker, *Citellus richardsonii*, 2 *Cit. richardsonii*, *Citellus richardsonii*, *Citellus richardsonii*, *C. richardsonii*, golden mantled ground squirrel, golden-mantled ground squirrel. Arrived at Vedauwoo Camp area. Made camp at approx. 2/10 mi. E of Vedauwoo Camp. This camp



is just east of nautilus Rocks and not a regular camp. Will trap in the immediate area of our camp. The nautilus is name given to the linear out

crop of rocks that resembles the nautilus submarine. These are granites. This evening placed 40 traps among large granite boulders and 10 among aspen swale. Traps under willow and saturated soils bearing grasses and other plants associated with damp areas. This has been a part of a spring that has been harnessed and piped elsewhere.



2 1/2 mi. E Vedauwoo Camp, 8400 ft., Albany Co., Wyoming,
 Aug 1, 1980

800801-1	<i>Eutamias minimus</i>	203-92-31-15-32 gms. ♂ testis 4 mm
800801-2	" "	198-83-31-13-44 gm testis 6 mm
800801-3	" "	200-87-31-5-13-45 gms ♀ ut. normal
800801-4	Sorex	112-45-13-8-3.5 gms. ♂ testis 3 mm
800801-5	<i>Peromyscus maniculatus</i>	162-65-20-16-20 gms ♂ testis 8 mm
800801-6	" "	163-62-20-16-16 gms ♀ suckling
800801-7	" "	148-61-21-16-15 gms ♂ testis 4 mm
800801-8	" "	152-63-20-16-15 gms ♀ testis 4 mm
800801-9	<i>Eutamias minimus</i>	210-93-32-15-49 gm ♀ ut. small.
800801-10	<i>Peromyscus maniculatus</i>	110-42-18-14-6 gm ♂ testis 2 mm
800801-11	" "	121-50-18-14-7 gms ♀ ut. normal
SKI 800801-12	" "	145-61-19-16-14 gms ♂ testis 2 mm
800801-13	" "	153-65-19-16-14 gm, ♂ testis 2 mm
800801-14	" "	154-61-20-16-14 gm ♀ ut. normal
800801-15	" "	140-61-19-16-12 gm ♀ ut. normal
800801-16	" "	143-66-20-16-12 gm ♀ ut. normal
800801-17	" "	145-61-20-17-12 gm ♀ ut. normal
800801-18	" "	160-70-20-16-18 gm ♀ plac. scars
800801-19	" "	140-56-20-16-12 gm ♀ ut normal
800801-20	" "	140-57-19-16 12 gm ♀ ut. normal
800801-21	" "	150-61-21-15-14 gm ♀ ut. normal
800801-22	" "	142-55-19-16-13 gm ♂ testis 2 mm

number 800801-1 duplicates 800801-1 *Eutamias*. The Sorex was transferred to 800801-4 which may or may not be occupied by another Sorex. Check skull number of 800801-1. Number 800801-9 *Eutamias* above is an old adult female. The reproductive system was small and there was no mammary gland material between the epidermis and the muscle. Hair surrounded the nipples.

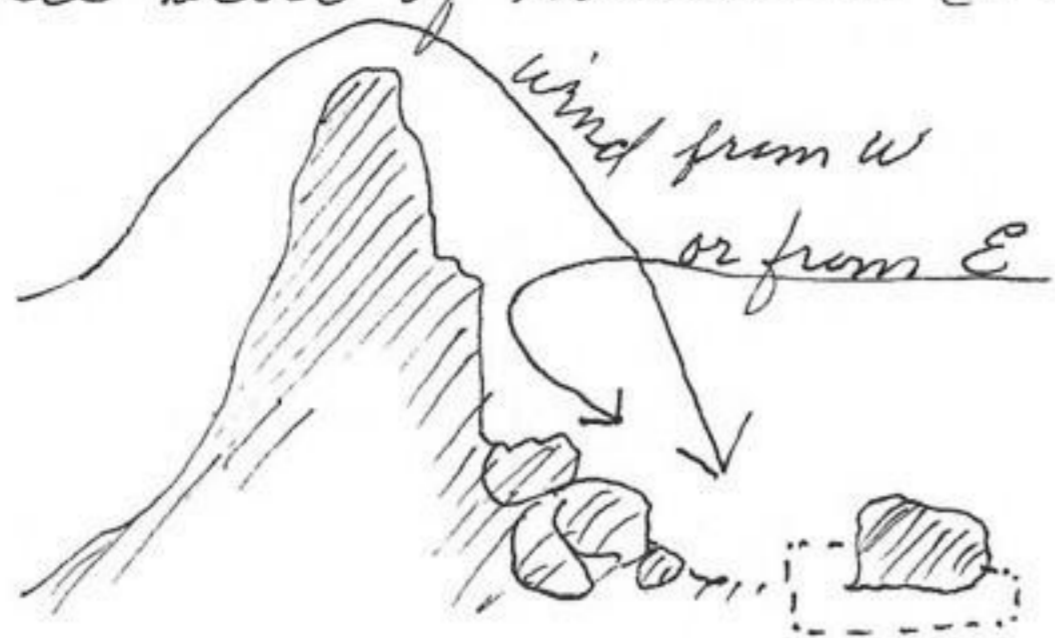
The above Sorex was taken from 10 traps set among willow. Soils damp to wet and ground cover. The rest of the 40 traps were set among ^{large granite} rocks in Ponderosa, Lumber pine association but fairly open.

This afternoon at 3:00 P.M. placed 40 traps under overhang portions of granite rocks and boulders in what I judged to be good areas for *Eutamias minimus* in the afternoon and *Peromyscus* at night. The placements thus: (all traps protected from rain. At 6:30 P.M. checked trapline and collected two *Eutamias*;




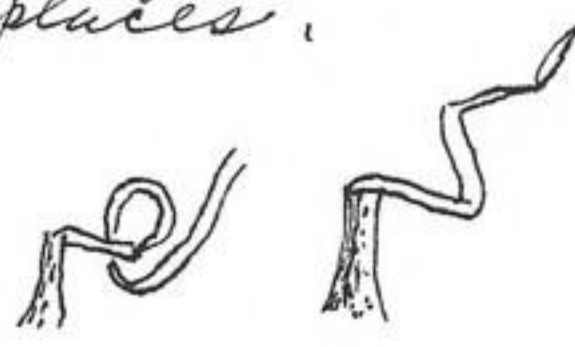
800801-24	<i>Eutamias minimus</i>	192-82-31-15-47 gm ♂ testis 6 mm
minely 800801-25	" "	192-87-31-15-46 gm ♀ ut. normal

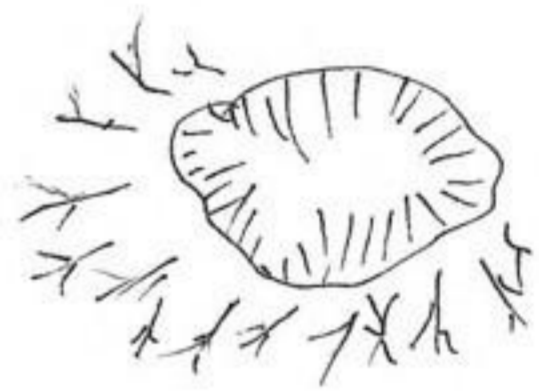
min. temp last night 49°F . Inspected an isolated stand of short aspen trees in an area $50' \times 50'$ which was effected from wind blasts off the slopes of Nautilus. This area was on lee side of Nautilus (E side) at base. The trees were



associated with an isolated boulder approx size of average room. The trees seemed dwarfed and crooked in life form. Many were broken, some recently, all leaned out from around the boulder.

The main trunks ~~was~~ were broken  and for

many were broken in multiple places.  The bends in



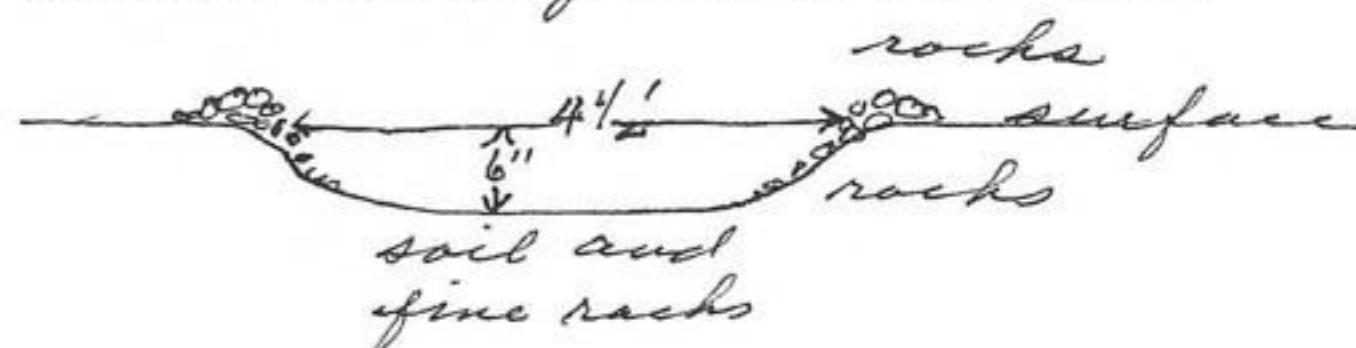
most places had sealed and were alive and growing, as if the bending and fractures had taken place at several times in their growth period. Snow pressure could be eliminated as a source of bending of trees. I presume that a particular configuration of the cliffs and associated topography accounted for the abnormal life form. Insect depredation or soil condition might be a factor. There were also other similar patches of aspens in the general area. This A.M. a prairie falcon sat on a large boulder some $1/10$ mi from the Nautilus where several whitewash spots suggested nesting sites. With these rocks used as climbing challenges I am surprised that any rock nesting raptore would use the area.


Heard a flicker call throughout the days we have been here and found a nest of one young $12'$ up in a $30'$ aspen tree. When approached the young left the nest and flew $200'$ to other aspen trees. Others in the nest may have left earlier as natural departure. Two other nesting flickers in the area.

Photo 800801-26 balanced rock NE Nautilus. Photo 800801-²⁷~~24~~ residual boulders of granite mass at trapping area SE camp. 800801-²⁸~~25~~, 800801-29, 800801-30 of grasses controlled by cow dung growing on peripheral edge of masses. Photos 800801-31, 800801-32, 800801-33, 800801-³⁴~~34~~, of telephoto shots of Nautilus E wall. These rocks are over-used by climbers and keep raptore from nesting in cliffs. Photo 800801-37 of E side of rock ridge SE of Nautilus in trapping area

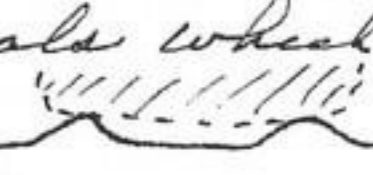
On trap line SE camp measured seven resting depressions made and used by deer, the largest $4\frac{1}{2}$ feet in diameter, the smallest $2\frac{1}{2}$ feet in diameter. These depressions modify the surface of the ground in a major way. These were placed in in

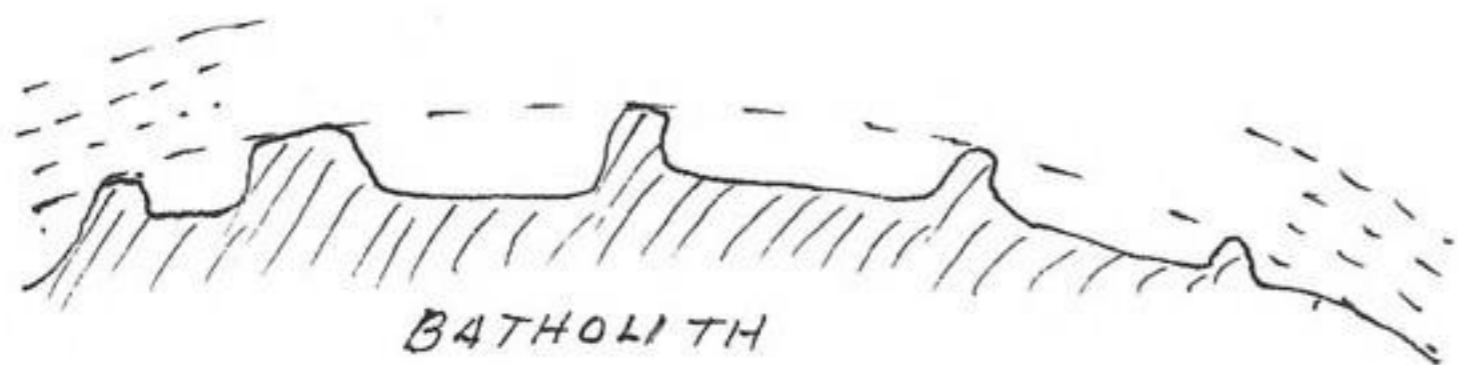
cul-de-sac among cliffs
Traps set in these bedding
depressions caught *Peromyscus*
maniculatus, *Eutamias minimus*.



also observed a mottled ground squirrel and cottontail rabbit among depressions. Collected 3 cacti , the largest 140 mm in diameter. These were for Mary P Bee in Casper, for her cacti garden. Rock wrens (and family), raven also in area. *Citellus richardsoni* uncommon in area.

2/10 mi. E Vedauwoo Camp, 8400 ft., Albany Co., Wyoming
Aug. 2, 1980

min temp last night 48°F . Checked traps among boulders and cliffs SE of camp. As alluded above caught *Peromyscus*, *Eutamias* in deer beds, some fresh tracks near beds but were not used last night. Gophers active in areas that support soils. From an area of granite outcrop and which would be equivalent to higher outcrops such as Nautilus observed that it was with only 10° - 15° grade on top and this surface showed a form of erosion with rivulets up to 3" deep cut into the granite surface. Some deeper and intercepted by pools which had eroded into the surface. Several hummocks  remained and probably represented the points of contact of large cliff remnants. It is a question whether this entire area was a batholith with a curved dome and that subsequently ^{differential} erosion following N S fracture systems produced the successive ridgetype masses of granite bodies or whether there was irregularity of the dome that produced the particular ridge-valley topography.



The valley between the granite ridges support the kinds of vegetation and trees that one finds at higher elevations and in many cases is dense along the drainages. This area is outstanding as a hiking area and easy access.

2 1/2 mi E Vedauwoo Camp, 8400 ft, Albany Co., Wyoming

Aug. 2, 1980

From 10 traps set in isolated damp area among aspen (line set night before last) caught:

800802-1	Sores	114-43-13-8-4.5 gm	♀ ut normal
800802-2	Peromyscus maniculatus	160-72-20-17-21 gm	♂ testes 6 mm
800802-3	" "	147-65-20-18-15 gm	♂ testes 3 mm
800802-4	" "	119-50-20-17-10 gm	♀ ut. normal
800802-5	" "	118-49-20-17-9 gm	♀ ut. normal

m. only

This is the second shrew caught in this damp area and only spring type animal caught. no microtines, Zapus etc but only Peromyscus associated.

From 40 traps set yesterday afternoon and checked late in evening and again this morning at 8:00 A.M (following mammals are from this inspection):

800802-6	Eutamias minimus	201-82-30-15-45 gm	♀ ut. normal
800802-7	" "	193-86-29-14-42 gm	♂ testes 3 mm
800802-8	" "	209-96-32-15-43 gm	♀ ut. normal
800802-9	" "	200-93-31-15-43 gm	♂ testes 9 mm
800802-10	Peromyscus maniculatus	165-66-19-17-20 gm	♀ 5 plac. scars.
800802-11	Peromyscus maniculatus	149-62-19-15-18 gm	♂ testes 3 mm
800802-12	" "	149-62-20-16-17 gm	♀ ut. normal
800802-13	" "	168-72-19-18-22 gm	♀ ut. normal
800802-14	" "	247-40-19-16-16 gm	♂ testes 3 mm
800802-15	Eutamias minimus	200-93-31-15-41 gm	♂ testes 3 mm
800802-16	" "		
800802-17	" "		
800802-18	" "		
800802-19	" "		
800802-20	" "		
800802-21	marmot, lower jaw		
800802-22	Peromyscus maniculatus	145-60-19-17-14 gm	♀ ut. normal
800802-23	" "	152-75-20-17-15 gm	♂ testes 5 mm
800802-24	" "	132-55-20-15-11 gm	♀ ut. normal
800802-25	" "	147-60-19-16-16 gm	♂ testes 3 mm
800802-26	" "	135-60-20-16-10 gm	♀ ut. normal
800802-27	" "	145-62-19-17-14 gm	♂ testes 3 mm
800802-28	" "	145-60-19-15-16 gm	♀ ut normal
800802-29	" "	141-58-20-17-12 gm	♀ ut. normal
800802-29	" "	146-62-20-17-16 gm	♂ testes 3 mm
800802-30	" "	145-60-9-15-17 gm	♀ ut. normal

m. only

cancel

Left for Laramie where we camped.

Laramie, Laramie Co., Wyoming
 Aug. 3, 1980

min temp 48°F. Left 3:00 P.M. 19784.8 Will keep complete record of birds and mammals from airport to Centennial and beyond to Libby Lake in the snowy range. Airport turnoff 709.3. One of the two larger lakes to S is dry and alkaline. junction 12 on 130 highway. Horned lark, rabbit road kill. Historical marker, lark sparrow, antelope, rabbit road kill, rabbit road kill, Road to left, Road to right 710 mi. beyond. Green patches on lee side of ridge, elsewhere brown with occasional green. Rabbit road kill, rabbit road kill, (rabbits are jackrabbits). mileage 16 past. Old prairie dog town smooth out and not inhabited (on right). At Jocks Place (lake to left). 14 mallards? and 8 antelope on slopes immediately S of lake and generally distributed. One ♀ with 2 young and less than 1/2 height female. Vee Bar Ranch. junction 11. First *Citellus richardsonii* just beyond, 4 barn swallows, swallow, swallow. mileage post 23. Ranch 91. *Citellus richardsonii* and mile post 25. *Citellus* road kill, *Citellus* road kill, *Citellus* road kill. Mile post 26. *Citellus* road kill. Centennial at 4:05 P.M. 80°F. *Citellus richardsonii*. Will keep complete record beyond to Libby Lake. Ski area turn off. Green Lake road turnoff. 3 roven at place where main road crosses Libby Creek. Turnoff to Sugar Loaf Recreation area. No snowbanks over creek where road crosses Libby Creek. No snow of any kind along route from Centennial to Libby Lake Camp ground. We have never seen this area so dry and dusty. Arrived Libby Camp at 5:30 P.M. at mileage 19828.4 having travelled ^{43.6}~~198~~ miles from Laramie. Camped in site at W end of camp area. This camp area was unbearable in all positions especially those on E side of area because of dust blowing from roads, trails and any disturbed area around the campfire sites. When the wind would blow from the W it would pick up dust and dirt and blow it completely thru the camp sites and if camp was associated with road and on its alignment would receive dirt that was thick and abrasive. Saw the people with-stand this conduction is unrealistic, especially campers sleeping on the ground. The main road below to W also contributed to the general dust blowing thru the camp. The dust come in gusts with intervals of relief of dust between gusts. Areas beyond camp were also effected but not like dust from roads and campsite. Gopher digging contributed most beyond camp area. Blowing dust is indeed a factor in community composition.

Aug 4, 1980

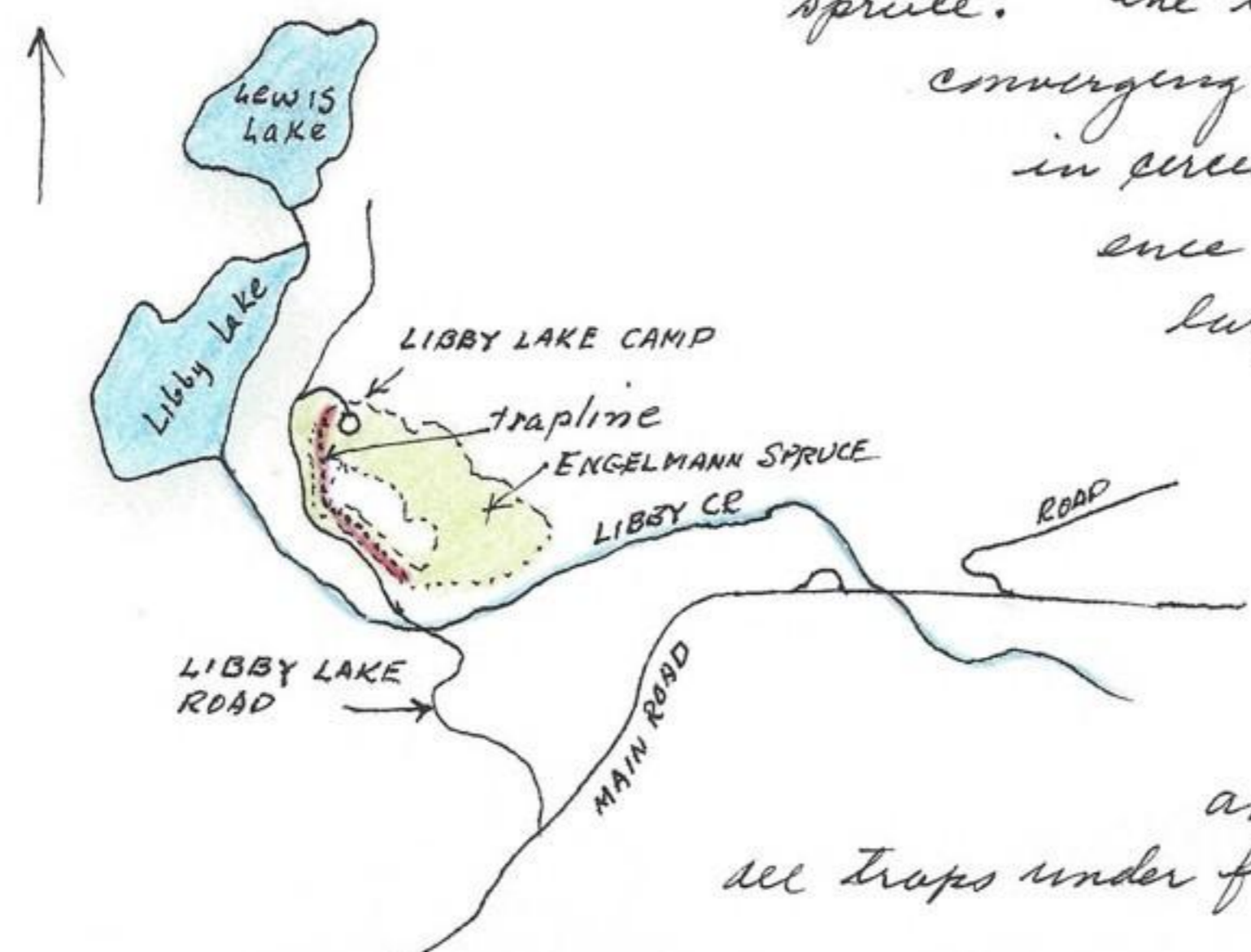
Collected mammals from spruce climax forest W and S of camp.
 min temp. last night 36°F. Only 5 traps sprung.

800804-1	Sorex	110-42-1-6-8gms ♀	4x3 emb 2mm
800804-2	"	109-42-12-6-4.5gm ♂	testis 4mm
800804-3	"	110-40-12-6-8gms ♀	at normal, suckling
800804-4	"	110-40-13-7-8gms ♀	suckling
800804-5	<i>Peromyscus maniculatus</i>	188-85-21-18-35gm ♀	4x3 emb. 14mm
800804-6	<i>Eutamias minimus</i>	195-8x9-21-16-36gms ♀	at. normal
800804-7	<i>Peromyscus maniculatus</i>	150-64-20-15-18gms ♂	testis 9mm
800804-8	"	140-58-20-16-14gms ♀	uterus slightly enlarged
800804-9	<i>Clethrionomys gapperi</i>	128-40-19-13-17gms ♂	testis 9mm
800804-10	<i>Clethrionomys</i>	138-38-18-13-29gms ♀	3x3 emb. 12mm
800804-11	"	137-43-18-14-15gms ♀	5x1 emb 7mm
800804-12	"	130-38-18-13-21gms ♂	testis 10mm
800804-13	"	128-40-19-13-16gms ♀	at. enlarged
800804-14	<i>Zonotrichia leucophrys</i>	TL. 182	wt. 32gm, adult
800804-15	"	T.L 174	wt. 28gm imm
SKU 800804-16	<i>Peromyscus maniculatus</i>	143-62-19-17-21gms	♂ testis 10mm
800804-17	<i>Eutamias minimus</i>	200-92-30-15-43gms	♂ testis 4mm

Sorex 800804-1 had 12/10 grams of mammary tissue on body. The embryos are arranged thus:



The trapline ⁽⁵⁰⁾ of the above catch was set in the evening of last yesterday from west side of Libby Camp grounds S for 1000 feet between the ridge and the main road below. This side hill is of Engelmann spruce. One large tree of 2 trunks



converging at base measured 216 inches in circumference or 18' circumference. These are some of the largest spruce before the dwarf conifers of the alpine and timberline. Ground covered with fallen logs and minimum ground cover. Dry and dusty from road below. see traps under fallen logs & protected from rain.

at 8:00 A.M. California quail flew up lakes. This single night camp at almost 11,000 ft was to test the effect of altitude on recent double coronary bypass. There was no adverse effect in fact I seemed to operate at high altitudes better than low altitudes, no dizziness, fatigue or increased pressure in heart area.

Sheep had been in area recently and wherever they had open gopher corridors, the gophers had closed them with soil. Left camp ^{9:50 A.M.} and temporarily set up on S shore of Mirror Lake where I prepared the mammals captured last night. Gray-headed junco ^{and white-crowned sparrows} here. From this place took 12 photos of the range to W and immediate environs.

- 800804-18 chimney on face of Snowy Range W of lake. (Mirror)
- 800804-19 face Snowy Range E side W of Mirror Lake showing dikes.
- 800804-20 main prominent cliff on Snowy Range W of Mirror Lake
- 800804-21 ibid but just S with main peak to left.
- 800804-22 upper reaches of main cliff W Mirror Lake
- 800804-23 Mirror Lakes and peaks to W on Snowy Range.
- 800804-24 ibid.
- 800804-25 ibid
- 800804-26 ibid
- 800804-27 ibid
- 800804-28 ibid
- 800804-29 ibid, trailer and Annette to left.
- 800804-30 Mirror Lake and Range.
- 800804-30a Snowy Range from Mirror Lake.

Today the wind was more moderate and blew across the lake from the SW, occasionally it would blow from the south. On way over from Libby Camp, noted 8 *Citellus richardsonii* on Libby Flats, 10 more on other side of divide along the road descending to lake area to W. Three Cassin's purple finch were also noted on Libby Flats, also 3 raven. From pass on Libby Flats took six photos (35mm) of Snowy Range with different magnifications.

- 800804-31 general view Snowy Range ^{to} W
- 800804-32 " " " " "
- 800804-33 " " " " " showing intrusive dikes.

Lakes and ponds down a little. Red snow (algae) prevalent. Left Mirror Lake 4:22 P.M. ^{One} Three photos at Spillway at Lake Marie:

800804-37 Outlet of Lake Marie

800804-38 Creek a few feet below outlet of Lake Marie.

In spite of a dry summer, there are more flowers than previous years. Left Lake Marie, thence Silver Lake area, thence down grade to open meadows below. The W side of Snowy Range seems to be greener than E side. Beyond down canyon there is a noticeable advance of small conifers out onto ^{or mammal} previously open meadows (S side canyon). The only bird observed from Silver Lake area to Ryan Park area was one robin, no birds between here and beaver meadows this side of gap or canyon before N Platte River Valley. Marsh hawk at beginning of gap. mouth canyon and now beginning of flats. *Citellus richardsonii*, 20 Antelope & side road. *Citellus*, 2 *Citellus*, 2 barn swallows, *Citellus* road kill, raven, redtail hawk, 2 magpies, swallow, swallow, 3 magpies eating *Citellus richardsonii* road kill, magpie, swallow, mourning dove, 2 magpies, 3 raven, old fields now follow and solid will, left and low on slope (5'-6' high or more), 2 magpies eating *Citellus richardsonii* road kill, at old pond on left now filling in with vegetation, 6 mallards (of the year) in pond. This pond is at Elk Creek. N. Platte River. And ^{at} usual level. It is interesting that there were no sparrow hawks in area just cover whereas in previous years there were many. *Citellus richardsonii*, old prairie dog towns on W side valley along road are now eradicated and as far as I can see there are no prairie dogs. It is obvious they have been poisoned. now 5:30 A.M. at highway 130. *Citellus* road kill, many prairie dog communities obliterated, rabbit road kill. Cassette ended here but we continued N to Saratoga, thence to lake N & E of Saratoga where we camp near S end of dam. This evening a muskrat swam W at sundown. A ♀ mallard and 4 young swam by to E at same time. The yellow-headed blackbirds also move E along the rush-lined shore. Red-billed grebe in area and did not show signs of definite direction pattern. Photos 800804-39 and 800804-40 of sunset to W of camp.

Saratoga Lake, 1 mi. N, 1 mi. E Saratoga, approx 6800 ft., Carbon Co., Wyoming.

Aug 5, 1980

This morning at sunrise a muskrat moved E by camp and may have fed all night near dam. Also a ♀ mallard & 4 young moved W. The yellow-headed blackbirds also moved W. Grebes still no direction in movement. The following birds in area; Red-billed grebe with various numbers of young (2-6) and overage

3/4 size adults.

Mallard - young about 1/2 size of parent (average)

Pentail - young 1/3 size parent

coot - 1/4 size adult.

mushrat.

bank swallow

barn swallow

cliff swallow.

California gull

Ring-billed gull.

Brewer's blackbird.

Swanson hawk - flew

over lake 11:30 A.M.

nighthawks - numerous in evening

chipping sparrow

striped skunk

coyote.

vesper sparrow - jump up and down on ground as if disturbed by something on ground

Sage thrasher.

Set 2 rat snap traps for *Citellus richardsonii* and caught one in one trap and 2 in second trap (both feeding at trap at same time and both caught at same time. These mammals measured (camp among *Artemisia* and rushes.

800805-1	<i>Citellus richardsonii</i>	284-76-43-13-336 gm ♂ testes 9 mm
SKU 800805-2	" "	267-70-40-13-262 gm ♀ ut. normal
800805-3	" "	264-70-41-13-310 gm ♂ testes 10 mm

Left lake at 2:40 P.M. for Seminac Res. Will keep record of observations as we travel N. *Citellus richardsonii*, 5 antelope, 2 swallows, 3 antelope, 1 antelope, antelope, jack-rabbit road kill, rabbit road kill, rabbit rd. kill, rabbit road kill. Pass Creek road. 2 antelope, jack rabbit road kill, rabbit road kill, rabbit road kill, rabbit road kill bridge across major drainage along road, 6 antelope right side just beyond bridge, 2 left side. Now on Interstate 80 west, at 3:50 P.M. No birds or mammals between here and Sinclair turnoff. Sinclair now ^{To Rawlins and then return to Sinclair} 2 antelope by lake. Now N of Sinclair on Seminac Road. 3 antelope, 2 antelope, antelope, Carbon Co. line. *Citellus richardsonii*, *Citellus*, *Citellus*, low places greasewood, slopes *Artemisia*, considerable alkali and associated plants. 2 rabbit road kills. Rabbit road kill, rabbit road kill, rabbit road kill, (all jackrabbits), jackrabbit road kill, jackrabbit, jackrabbit, jackrabbit, all road kills. The road leading up first escarpment passes over several flat areas which might be old lake levels. Sandunes associated with new topography and different plant communities. Rabbit road kill. As we approached the

escarpment the wind increased in velocity. First divide in interescarpment valley. Passing a river that is the North Platte River. Cliff swallows along river. 20 cliff swallows, vesper sparrow, cable crossing. This river is characterized by lack of large trees, cottonwoods for instance, along shore of river, some willow however but these are bushes rather than tree type. 2 Brewer blackbirds. Artemisia best developed near river than on slopes. Green extends up 30' or so and then plant growth sparse and depauperate. Magpie being chased by Brewer blackbird, small sparrowlike bird, Calif. gull flying up river, cliff swallow, river ^{with} clear water. No great blue heron or waterbirds. Many exposures of river worn rock show river much higher at one time. Cliff swallow, first group of cottonwood trees, mourning dove. Leaving river at old cabin (new roof), now on uplands, 2 cliff swallows, lark sparrow, rabbit road kill, 2 antelope at edge of first playa lake, rabbit road kill, rabbit road kill, rabbit road kill, playa lake to left and monolith to right (on ridge). This area is a series of ridges and flat valleys. More and more of reddish color sagebrush type vegetation and good stands of greasewood. Cattle, fence guard. Country flat or open areas of more growth of vegetation as if they occupied old extinct lake beds. Rabbit road kill, horned lark, 17 antelope and easily spooked at 2/10 mi, youngest over half size. This is on south side of broad valley as we approach the next mt. range. 2 antelope 2/10 S of a reservoir. At this reservoir are 1 great blue heron, 6 antelope below dam, 8 green-wing teal, 12 mallards, 16 pintail ducks, 1 Calif gull. 5/10 mile N of reservoir 1 white-tailed prairie dog and 6 or 7 mounds. This entire country is suitable for prairie dogs and it is a natural for these mammals. Another live prairie dog. Second cattle guard fence, horned lark, sage thrasher, 10-12 prairie dog mounds. Prairie dogs inhabit the flat depressional areas. One prairie dog sitting up on road bed 2 feet from macadamized surface, horned lark. Cross drainage creek. First view of Seminoe Reservoir with upturned beds on N side (beds sloping to S), 4 antelope one of which is 1/2 size of adult (height). Hummocks three here are made of sand and especially noticeable in road cuts. Rabbit road kill. 4 antelope at point where one can see continuous reservoir on other side of ridge (beset it).

Private boating area, ^{sign} rabbit road kill. (State Park 7 mi. from here)
 active sandune to left crossing valley to S. Rabbit road kill.
 vesper sparrow. Sand near top of distant ridge to W, ^{leeside} Major
 turn on top of ridge and large sandune beyond. 3 antelope,
 12 antelope in high wire grass, 4 of them half grown. 1 three
 photos:

800805-4 antelope in sedges.

800805-5 antelope moving out of sedges into artemisia

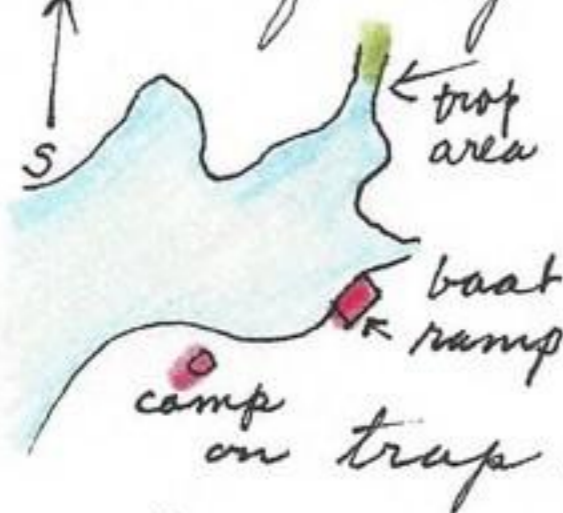
above at a ranch turnoff to right. Photo 8008057
 just east of large sandune and before turnoff, showing
 artemisia and kind of grass growing on sandune.
 Series of outwash plains from canyon to N, many of them
 eroded by more recent erosion. 3 mule deer at edge of
 willows in swale of damp marsh vegetation. They walked
 into the willows. One flock 60 Brewer blackbirds.
 ♀ and young (1/4 height of adult) ran across road. The young
 was able to keep up with adult. This is in a gully
 where road is cut thru a ridge. Ridge dips to S (20°).
 5 antelope in swale other side of ridge cut. 3 antelope on
 hills to W. 2 antelope. Hogback dipping 45°. Now
 going thru red rock road cut with beds dipping 45° to S,
 and is probably Triassic - Jurassic with white of Permian,
 etc. below. Mourning dove. Rocks on other side the rocks
 (white) are dipping 80° and there may be a fault between
 the red & white rocks. Good view of res. to east. 3 antelope
 crossed road, on 1/2 size adult (second red rock road cut).
 Turning off road south of red hills at Seminoe State Park
 (boat ramp area) No artemisia on slopes leading down to
 reservoir. Reservoir dark bluish-black. 950.0 at
 Seminoe Camp. Camped on high knoll overlooking lake and
 bay just E of boat ramp. Photo 800805-8 of evening clouds to W.

Seminoe State Park, Carbon Co., Wyoming.

Aug 6, 1980

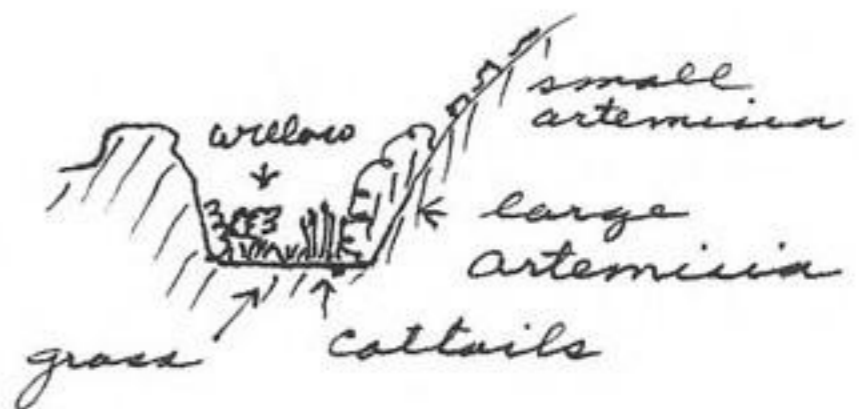
This is the southern of the two camps. BP 156/80. In evening
 last night counted the following groups of antelope; one of 24
 S of bay on benchland, 2 along lake to W, 6 on ridge to W. The
 growth W of bay moved from bench down to lake & then east along
 shore. Noted bedding depression of antelope on rocky slope
 45° angle; shrubs eaten and dwarfed as far as the antelope

could reach from the prone position. It measured 24 x 36 inches and 4" deep. There are many trail of antelope and tracks in all places. This A.M could not see antelope. mt bluebirds and Cassins finch at camp. made trip to grassy swale on SW side of bay where I had set 50 traps among cattails, marshy



grass and dense artemisia, a most likely place for small mammals. Of the 50 traps only 4 were sprung and these may have been mechanical failures. Bait still (oatmeal) remained on trap. Last evening when I set the traps in the evening a large rattlesnake was observed (5 feet long) in the area where traps were set and I speculate that this unusual congregation of damp loving plants was being used by rattlesnake for hunting small mammals. They apparently most successful in keeping the population down. Old beaver trail led up thru marsh for 150'. It had not been used recently although a beaver was observed swimming at the head of the bay last night. It bank nests were 1 foot below the high water mark a now left dry and deserted. They were using hole presently below water level. Muskrats were very active and swam back and forth across the head of the bay at contact with the marsh area. noted 1 adult and 3 young. In the morning they were not active. At the head of the bay in shallow water were about 10 large 2 foot long carp feeding among the submerged and emergent plant growth. The edge of the lake are in green scum. Lark hunting and active gophers in area. Measured raccoon track at rear foot 90 mm, front foot of same mammal 60 mm, Coyote track measured 80 mm front foot and 50 mm rear foot. In the marsh area were 12' high willows

sharppart of marsh area and the antelope had used the area for bedding with trails leading ~~through~~ throught the willows. Tracks were common



at the edge of the marsh area. Left camp at 9:45 A.M and continued n along highway. 2 antelope, 9 antelope. These antelope (9) were recorded in photo 800806-1 from the road. Single Clarks Crow flew over these antelope. At first vantage point overlooking canyon area, 4 Turkey vultures continuously flew back and forth below the vantage point. Photo 800806-2 of this canyon area but of reservoir to S.

To W where weather station rests on mt. top, a redtail circled above. Clark's nutcracker called from hillside. At second vantage point going N on highway an adult rock wren fed four young near size of adult. At dam (Semnole), which is not impressive when compared to, so Flaming Gorge Dam in Utah, (from road vantage point ^{Highway 35}) noted the water was a green color from algal growth. Have seen several Kinglet size birds that I have not as yet identified, Ponderosa pine in canyon beyond dam area. Grade ^{and endless} steep. Ponderosa are very large in canyon floors but small on upper slopes, ^{Cottonwoods,} Aspen, willow, birch and river hawthorn dominant trees in canyon, Canyon may or may not have water in it. Most of canyon floor is in road. Nine antelope at mouth of canyon at guard rail, in willows and other lush vegetation in the drainage, 5 antelope 1/10 mile beyond last ones observed, 2 horned larks, second gate just as one drops down into river valley, 2 antelope N Platte River, robin, good composite, Brewer blackbird at 11:20 A.M. Antelope prefer green vegetation near water and cultivation or civilization. Granite mt and floodplain abrupt. Leo community. Lone antelope near top of next pass. SE part of valley from divide the granite mountains make an abrupt contact with slopes below them. Valley broad to N. and a forest of telephone posts. Just beyond divide is a sparrow hawk and first one seen since Lawrence, Kansas!! 11 antelope near big knob of granite. Passing reservoir with high dam a dark blue water. Meadowlark, 2 antelope just beyond cattle guards. Golden eagle 972.7 or 2/10 mile S of where road goes under ^{part of} utility lines, Beginning of high plateau. Fresh jackrabbit road kill, 2 antelope (leaves of green on sidehill) to west, jackrabbit road kill, another one, 2 jackrabbit road kills and seems to be a concentration of road kill when compared with what I have seen elsewhere along this road. Rabbit road kill, rabbit road kill, horned lark, horned lark, rabbit (jack) road kill, jackrabbit road kill, jackrabbit road kill (100 feet from last one). Begin hardtop at 977.3. Mileage, jackrabbit road kill, 3 antelope, jackrabbit road kill, another. Prairie dog on edge of road that descends into alcove reservoir area (at about the white outcrop level. 2 jackrabbits. Photo of reservoir just as we dropped down onto main road 800806-3.

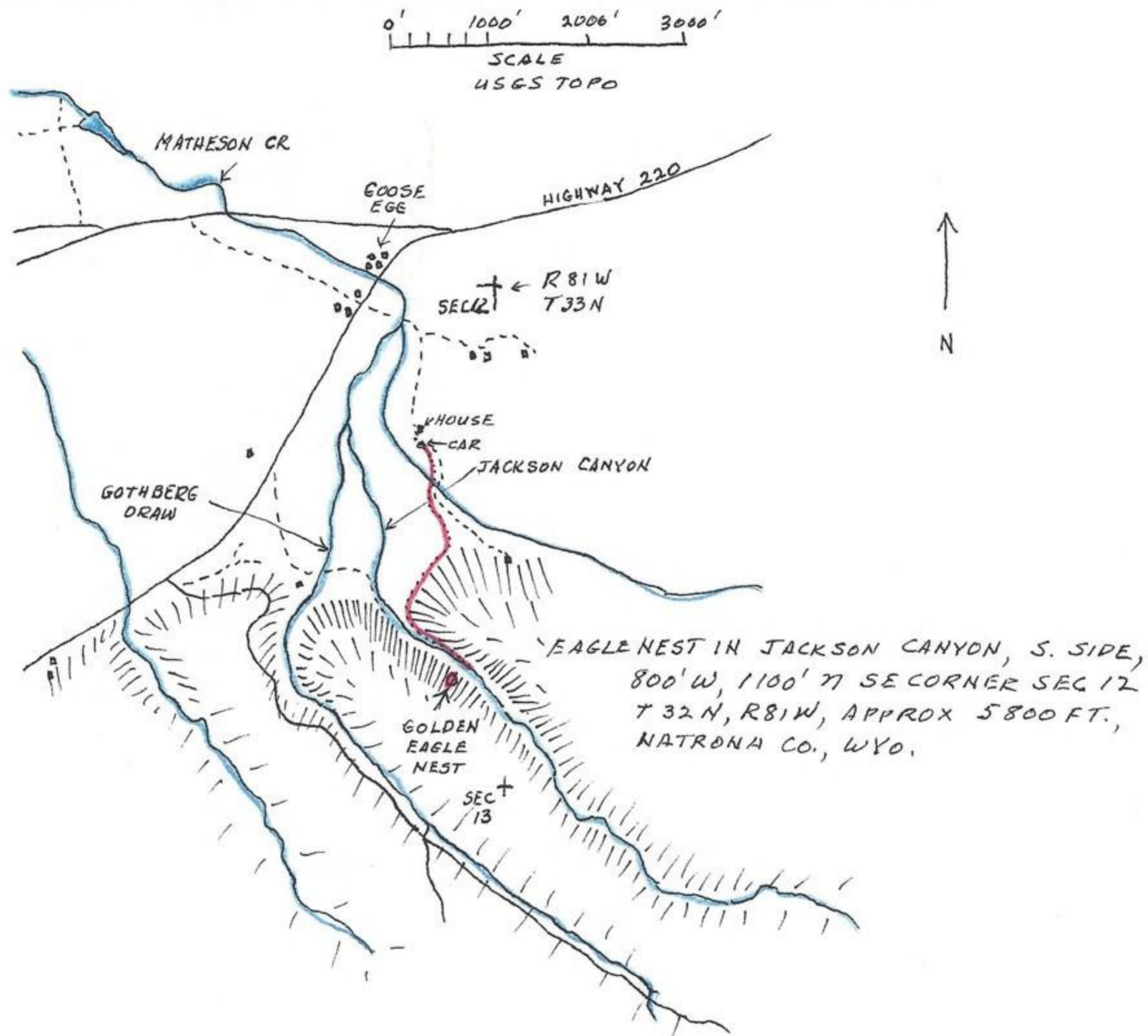
Last photo at 12:30 P.M. Bluebird, Sparrow hawk 1 mi. S of Fremont River bridge toward Pathfinder Res. yellowish green moss growing along side of river below dam. Turkey vulture in canyon below dam. 3 antelope. Had lunch at Pathfinder dam W side at camp site. Photos 800806-4 of Annette leaning against balsam or cottonwood with Pathfinder Res. in background, 800806-5 same, 800806-6 Annette on beach and hammering it up. 800806-7 same. Left and at bridge crossing Fremont River took 3 photos of Canyon nos. 800806-8, 800806-9, 800806-10. Shrike at Cottonwood beach on Alcova Res. First chipmunk since Saratoga Lake, no ground squirrels but a few prairie dogs along route. Continued N to Alcova Dam, 4 antelope. Photo 800806-11 of overturned beds before Alcova. Casper about 4:00 P.M. Stayed at Mary P Bees home at 835 E 14th St., Casper. Min temp on Aug 8 at Casper was 61

Casper mountain, Casper, Wyoming.
~~the mountain~~
 Aug. 9, 1980

Annette, Mary and I made trip to eagle nest in Jackson Canyon, thence along Casper-Medicine Bow road to peak drive to top, thence down slope to Casper. Min. temp last night 54°F. Drove to Goose Egg and then to home of Bill Young where we received permission to cross his property to the mouth of Jackson Canyon (by foot). Mr Young has known about the golden eagle nest in Jackson Canyon for the last 10 years as nesting birds but in the last 4 years he did not believe that they had nested there. The drainage above his house (drainage first N of Jackson Canyon has springs and damp soils with willows and cottonwoods and other wet types of vegetation, good pastures for small mammals. The magpie is the most common bird here. From this canyon we gain ridge at mouth and walked across base of mountain to the mouth of Jackson Canyon. The mouth is a eroded gully with old outwash plains below. The ascent up canyon was without difficulty. The steep grade had produced steps because of the steep dip of the strata. The depressional concavities were formed by water and boulders. The boulders, some of them weighing tons, have been displaced by the power of water moving at a high velocity. The stratigraphy is of Madison in age.

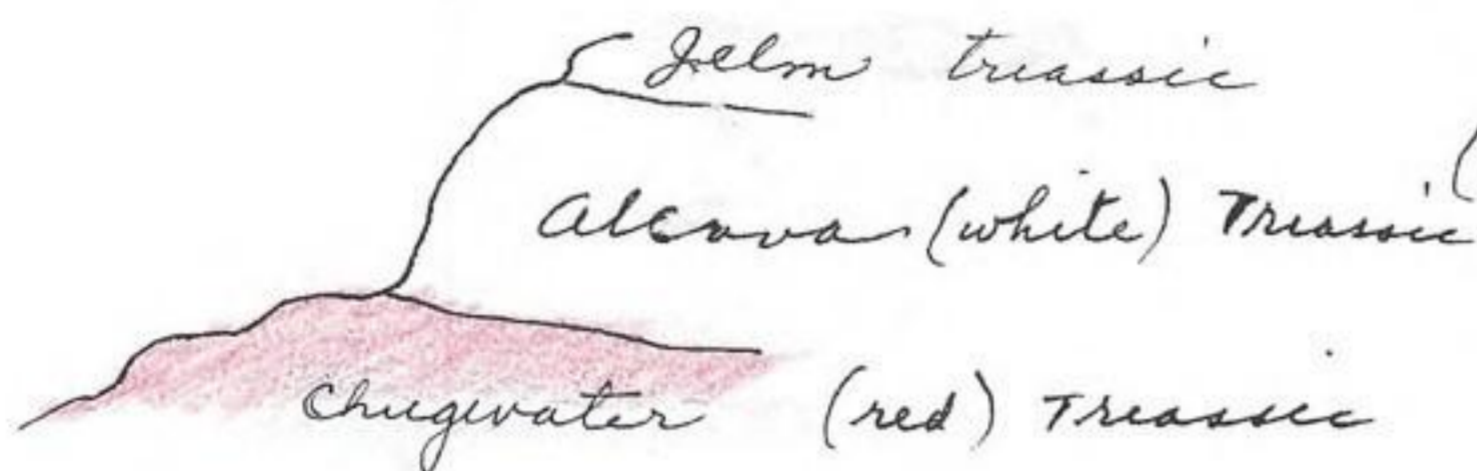


NEST SITE GOLDEN EAGLE, W END CASPER MT., WYO.



and are dipping steeply to the west. In the upper part of the canyon the floor is rock. The golden eagle nest is on the S side of the canyon about 30' from the base of the cliff. It is approx. 4 feet in height and made of dry sticks of various sizes. These dry sticks go clear to top of nest and there is no indication that the nest has recently been used at least since last year. A rope would be required to reach the nest although it could be viewed and contents observed from higher on N side of canyon. Several large ponderosa pines are in canyon and according to Mr Young are used as roosting perches in winter by bald eagles. He reports that years ago approx 15 bald eagle died in this canyon because of poisoning and along with a similar situation in Jackson Wyoming received national publicity. Photo 800809-1 is of the golden eagle nesting cliff to right. From mouth Jackson Canyon.

Other birds observed in the Canyon were clarks Crow, rock wren, mourning dove, green-tailed towhee and Eutamias (chipmunk). Returned to car. Mr Scott who own the ranch W of Burnett's ranch in the Shirley Basin area has a new home just S of the mouth of Jackson Canyon. He is the bird authority in Wyoming and a friend of mine. Continued on Goose Egg road to Casper - Medicine Bow road via 220. along this highway (220) took photo of contact between the Jelm - Alceva - Chugwater formations no 800809-2



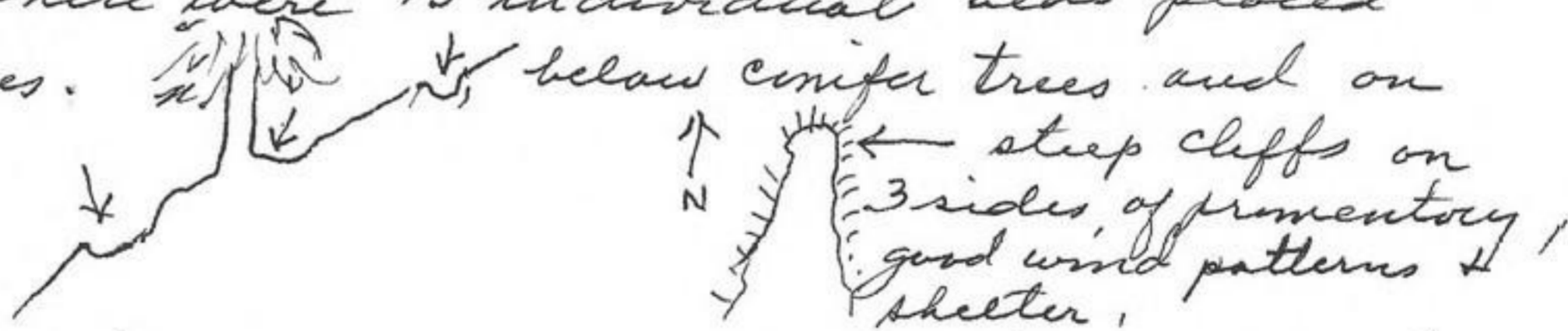
The Alceva is a resistant layer and caps the (Chugwater) wherever present. The red color of the Chugwater indicates its formation was created tidal flats or

shore lines where the water was shallow and oxidation was able to act on the shales, sandstones and siltstones thus producing the red color. Because the strata are evenly spaced and continuous my guess is that the formation was created is broad tidal flats. Left highway 220 and followed the old Casper - Medicine Bow road. Between the beginning of this road and the point it converges with the Circle Drive road observed the following; 2 antelope, 2 mourning doves, meadowlark, 5 meadowlarks, 2 horned larks, one group 35 meadowlarks. A short distance along the Circle Drive road up canyon took 2 photographs of the massive slope of the red Chugwater capped by the Alceva. The brink of this slope along the top of the Alceva formation would be a very interesting hike. This outcrop almost circles the muddy mountain and is relatively flat. These photos are nos 800809-3 and 800809-4. Travelling up canyon on Circle Drive one sees red slopes of the Chugwater whereas when one nears the divide to E the slopes are green and covered with trees and vegetation which grow on the NE exposures. Near the divide took photo 800809-5 of "Jenkins trench" which is a trench along the valley ridge of the Goose Egg formation. Erosion seems to be the deciding factor in its formation but more like due to faulting or slippage, actually it look more like a pit dug for road material or mine, ^{just beyond photos 800809-6 and 800809-7} of valley near divide. Continued to divide, thence N. Circle drive produced 10 antelope on lower limits and 7 to divide. Descended mountain and on foothills 1/2 way to Casper on outer limit of home building noted 3 antelope.

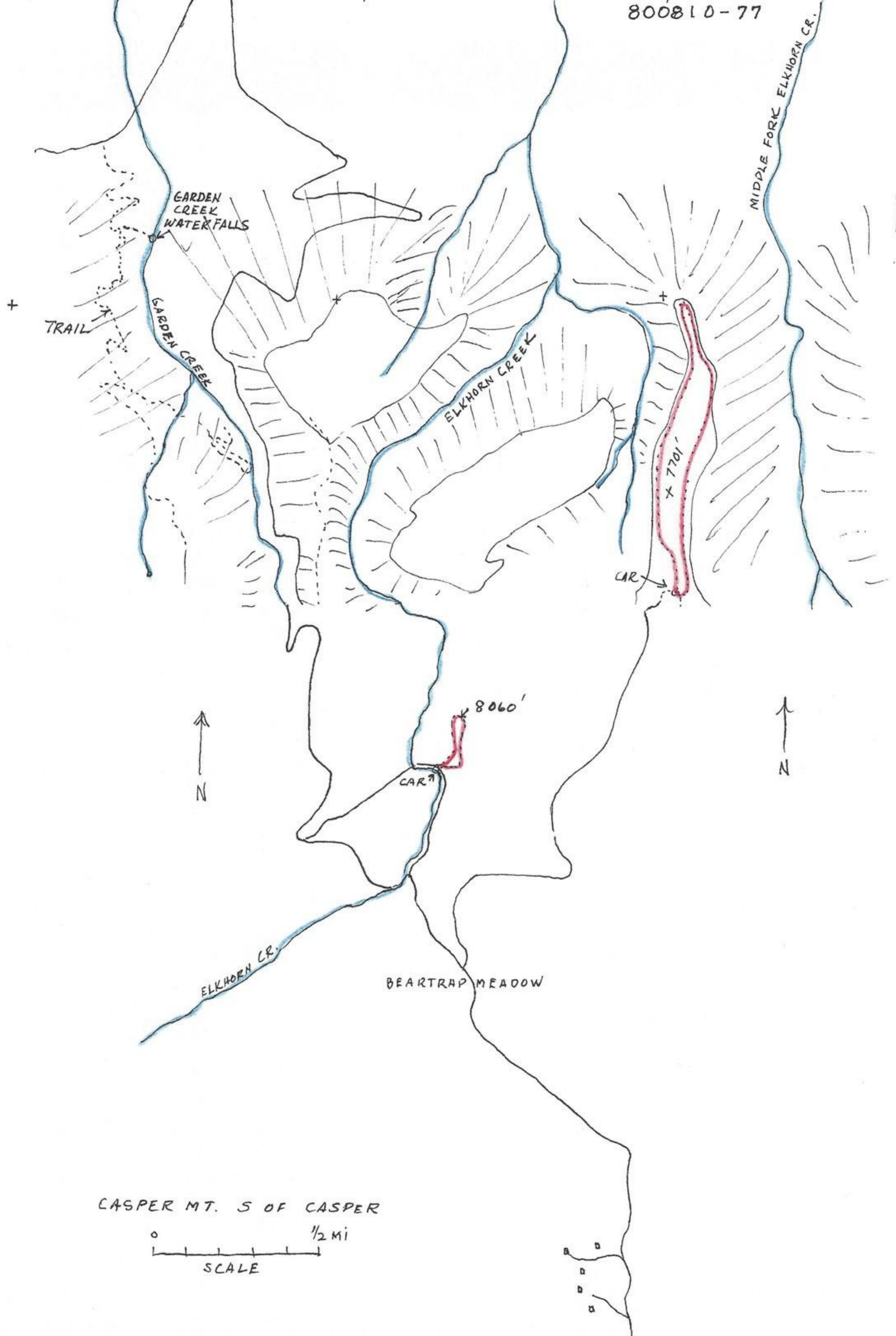
Top Casper mountain, S of Casper, Natrona Co., Wyoming

Aug. 10, 1980

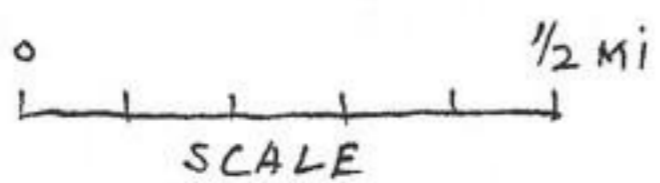
Mary Pauline and I made trip to top of Casper mt this A.M. to check on a flat plateau on N side of mountain and to get lumber and young conifer trees for her yard in Casper. min. temp. last night 60°F . Followed regular route to Bear Flat meadows, thence N on road that led to the property of the ^{Christian Science Church} Seventh Day Adventists. This road leads first thru a gravel pit, then E thru a north exposure of lodgepole pine? then N across an open knoll and finally out on the beginning of ^{one of the} flats above the steep cliffs. This is not the plateau we expected to find but we will check it out. The Christian Science Church owns all of the flat plus other property to the west and in my opinion one of the choicest piece of property on the mountain. It is used as a summer camp. They get their water from a well which produces 5 gals per minute and from a spring that produces another 5 gals per minute. The water is housed in a large tank at their center. Followed west bank of open fields to point and returned E edge of field. This flat area is not as flat as it appears on map in contrast to promontory next to W and the one we thought we were on. The only birds on the extreme N end of plateau was a Clark Crow, a rock wren and a turkey vulture that flew by. This knoll at the north end also held a concentrated bedding grounds of the mule deer. There were 15 individual beds placed under conifer trees.



slopes not associated with the overhead protection of the trees. There were considerable fresh droppings. No *Eutamias* observed. Gophers active and displaced dirt produces higher grasses and vegetation than elsewhere. Arrowhead balsam dry. On return on east side took photo ⁸⁰⁰⁹⁰⁶ 800910-1 of a natural bridge. Across canyon is an interesting fault that interrupts the ridge. Continued to car and returned to Mary's friend who owns an A frame cabin and offered her any firewood she might find on the property. The two track road leading to the cabin has a good growth of lodgepole pine up to $4\frac{1}{2}$ feet high. They occur more commonly



CASPER MT. S OF CASPER



here than elsewhere in the forest. We selected a couple of dozen small trees for transplanting in her yard in Casper. 3 *Tameascurus* observed in the forest.

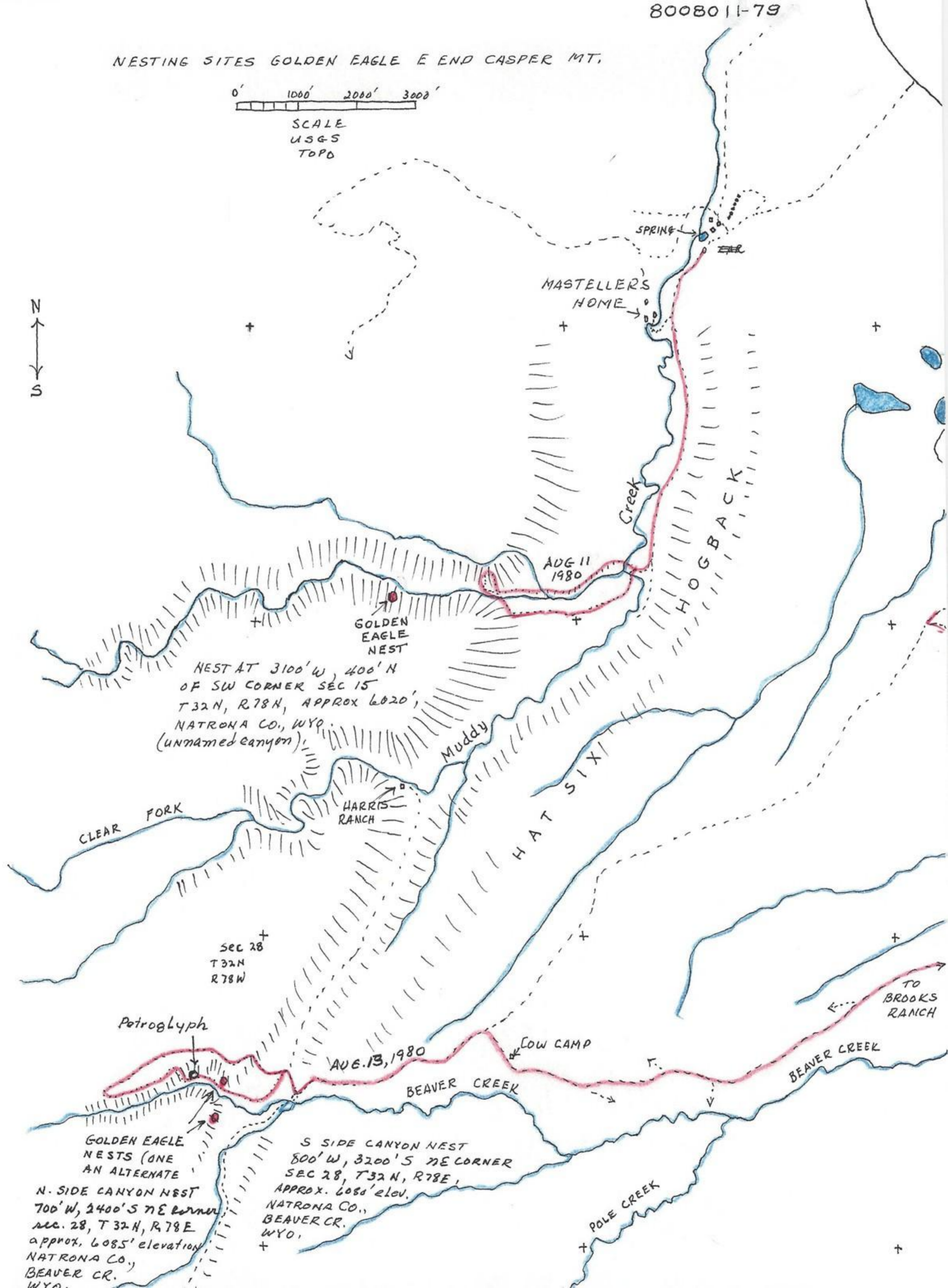
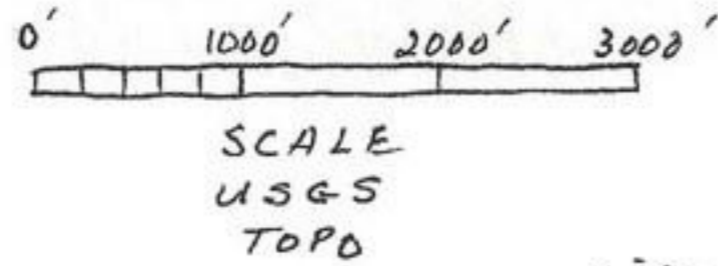
Casper, Natrona Co., Wyoming
~~in~~ ~~in~~ ~~in~~
 Aug 10, 1980

This evening we visited Mary's next door neighbor who lives at 827 E 14th St, a Mr & Mrs Kevin Lineman who showed us two unusual photographs of a golden eagle (one full head of bird) taken at Bear Trap meadows on top of Casper Mountain S of Casper. This bird was feeding on a rabbit (snowshoe?) in meadows. Camera with 300 mm lens. Summer of 1977. He also had a photo of a black-footed ferret which he had taken in 1977 in the field on divide E of Hat Six Ranch (see position on map of Aug 13, 1980). He captured this ferret and presented them to the Wyoming Fish and Game Department in 1977. Lineman also reports having seen seven golden eagles above the dam in Alcova Canyon.

Hat Six Hogback Area, Natrona Co., Wyoming
~~in~~ ~~in~~ ~~in~~
 Aug 11, 1980

min temp last night 50°F. At beginning Hat Six Road at mileage 20171.6 at 9:35 A.M. Observed antelope, 7 antelope, cormorant, 2 sparrow hawks, 6 antelope. Continued to Hat Six Ranch and got permission to drive to first eagle canyon (first canyon on W side of Clear Fork of the Muddy Creek). Stopped at Mr. Masteller's Ranch at mouth of Muddy Creek. He reports that there are two nests in Beaver Canyon and one of the two was used last year but not this year. He also said that there are old nests in the first canyon on the W side of Muddy Creek. The hillsides of cliff rose attract many deer in winter. He has not heard of any recent reports of the black-footed ferret in the prairie dog colonies in the Six Hat area but had seen them years ago. The prairie dogs have been poisoned and even today they are under control by permission of the government. Golden eagles are not effected by the poison used on prairie dogs as the eagles get sick and vomit the poison food. 2 sparrow hawks and 24 Brewer blackbirds at ^{his} ranch

NESTING SITES GOLDEN EAGLE E END CASPER MT.



NEST AT 3100' W, 400' N
OF SW CORNER SEC 15
T32N, R78W, APPROX 6020',
NATRONA CO., WYO.
(unnamed canyon)

HARRIS RANCH

SEC 28
T32N
R78W

Petroglyph

AUG. 13, 1980

LOW CAMP

BEAVER CREEK

BEAVER CREEK

TO BROOKS RANCH

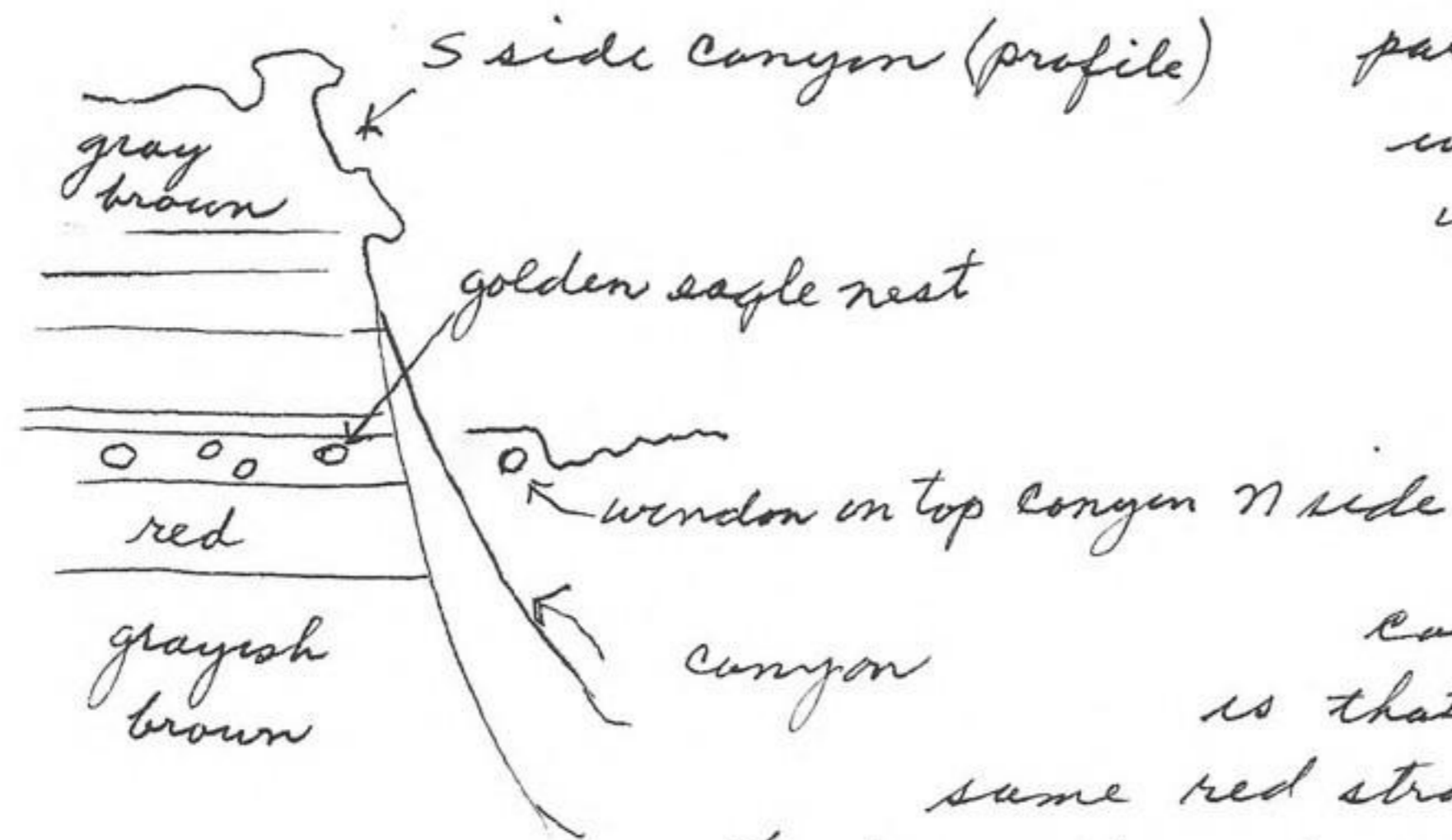
GOLDEN EAGLE
NESTS (ONE
AN ALTERNATE

N. SIDE CANYON NEST
700' W, 2400' S NE CORNER
SEC. 28, T32N, R78E
approx. 6085' elevation
NATRONA CO.,
BEAVER CR.,
WYO.

S SIDE CANYON NEST
800' W, 3200' S NE CORNER
SEC 28, T32N, R78E,
APPROX. 6080' elev.
NATRONA CO.,
BEAVER CR.,
WYO.

POLE CREEK

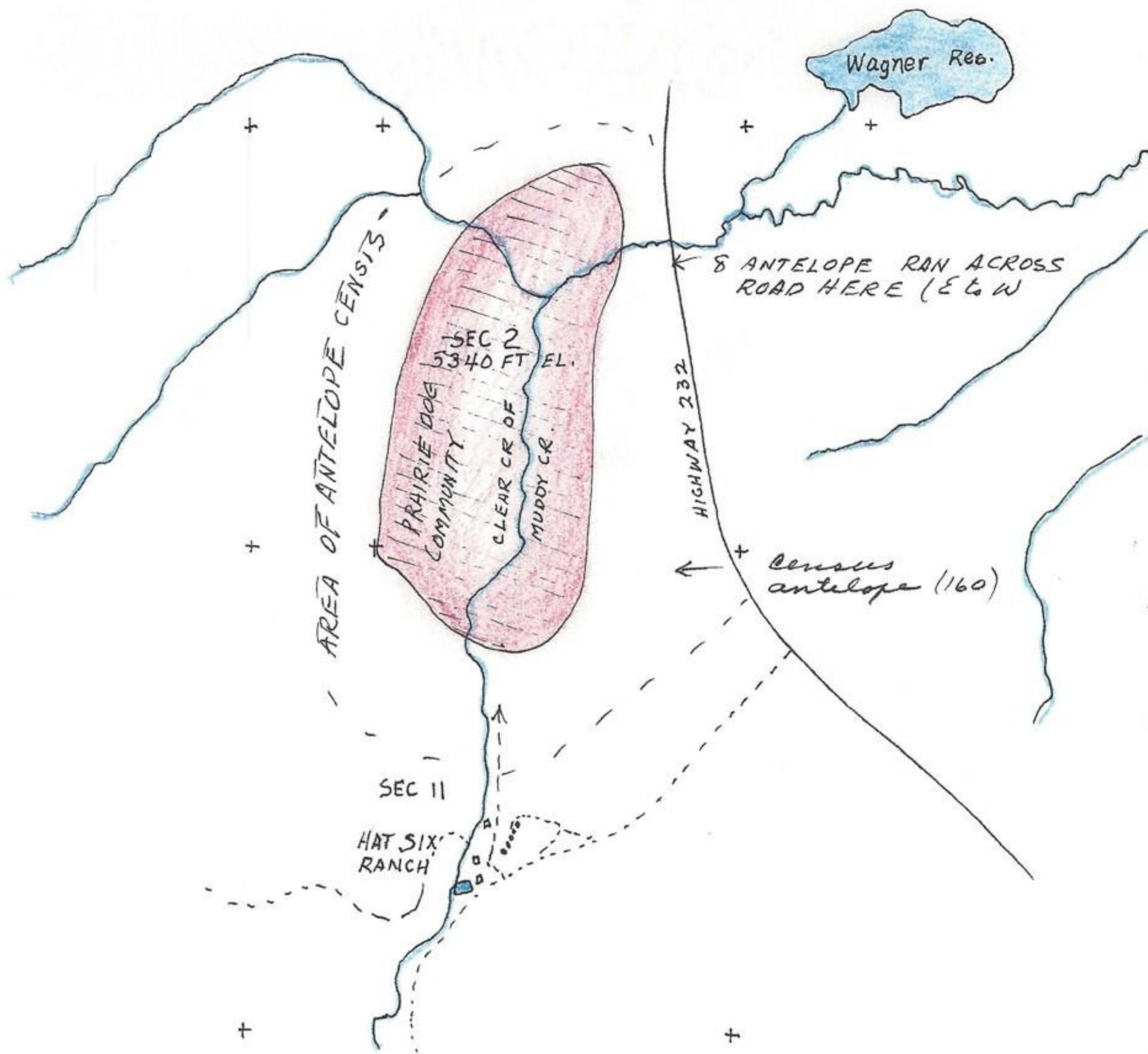
Left for eagle canyon from mosteller's ranch by car at 11:00 A.M. The creek is very interesting and attractive and my guess is that it is full of trout, just the right size for fly fishing. The slopes on W side canyon are heavily grown to cliff rose and mt. mahogany while the E ridge or Hat Six hogback is unique. Arrived at mouth of eagle canyon (will call this canyon "Cove Canyon" for lack of a name on the U.S.G.S Topo map because of the many coves on the N side of the canyon. The approach to the canyon is three open fields and creek bed. at 11:20 noted a golden eagle sail straight north along the crest of the hog back just above the ridge top. Birds in this area are magpies, mourning doves, western tanager, robin, flicker. Continued up canyon. Cattle trails switch from N to S side of creek and to keep on one or the other side creates difficult passage thru dense growth of boulder, ash and other creek edge vegetation. The floor is of springs and creeks of which in the past were used for a fish-hatchery and many concrete ponds are still in position. The best route up canyon is on N sidehill about 1/3 way up slope where the route is free of the dense growth in the creek bed of canyon. This would be an excellent place to trap small mammals. Continued. Photo 800811-1 of canyon from its mouth. Eagle nest on N exposure and coves on N side. 2 natural windows on top of canyon (N side) where canyon makes a turn to the S.W. The eagle nest, ^{observed} from a point on N side about 40' above canyon floor has this profile.



The nest is in a concavity in red strata on lower part of cliff. N exposure in conifers, S exposure with conifers but more open. It is on this N side that one would traverse

the canyon to the coves beyond. My guess is that these coves in the same red strata would be used by turkey vultures for nesting and certainly

would contain archeological sites. Photo 800811-2 of this canyon and eagle nest sites. Photo 800811-3 of Annette along creek. (From into mouth canyon and like 800811-1 (which did not turn out satisfactorily))



PRAIRIE DOG COMMUNITY, SEC 2 AND 11, R78W, T32N,
NATRONA CO. WYO

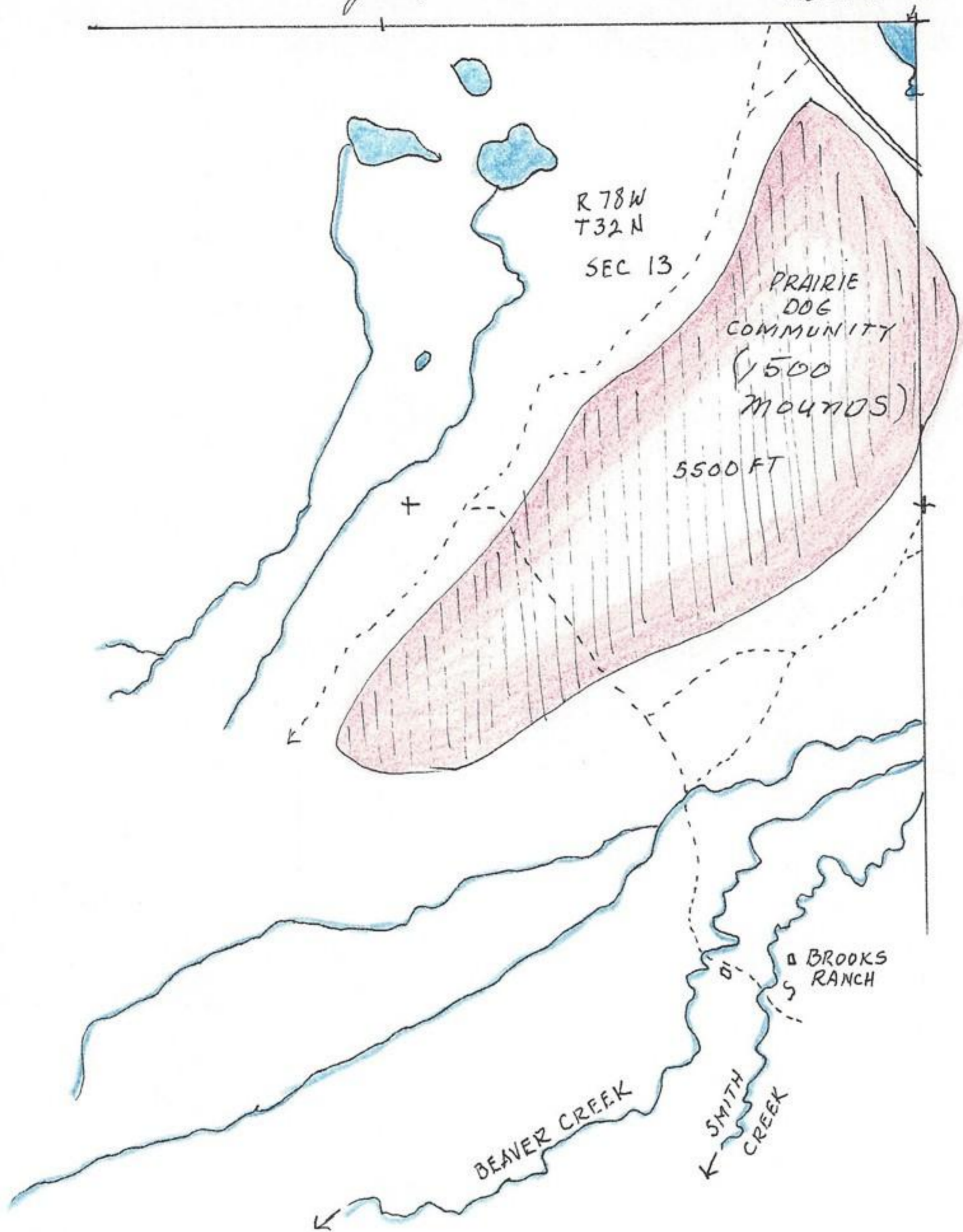
SCALE
USGS TOPO

The vegetation is typical spring fed growth. These same springs would have offered the Indians a source of water near their caves. Birds in area are white-throated swifts, Steller jay. Returned to car via ridge on south side of creek. From this ridge took photo 800811-4 of canyon showing better the covers in red strata on N side of canyon. Returned to car at 1:00 P.M. Packs here. Return to main highway and from point indicated on above map counted antelope in cultivated river valley N of Hat Six Ranch to highway. There were 159 generally distributed. ♂ ran across road from E to W. In an alfalfa field about half way from here to interstate highway counted 19 antelope, all in the cultivated field.

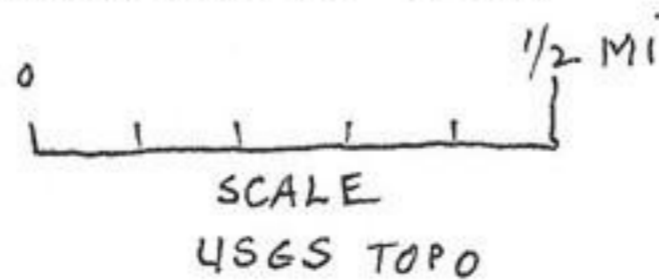
Beaver Creek, E end Casper mt., Natrona Co., Wyoming

Aug 13, 1980

McDONALD RES



PRAIRIE DOG COMMUNITY SW McDONALD RES., FIRST VALLEY W BEAVER CREEK
NATRONA CO. WYO.



made trip to Beaver Creek at point where canyon has developed w up the Hat Six hogback at E end of Casper mountain. Enroute counted 29 antelope in same alfalfa field where 17 were observed Aug 11, 1980. They were all confined to field and none observed beyond.

at the river bottoms \approx Hat Six Ranch observed the same concentration of antelope. From a point on highway 232 in shallow valley between Beaver Creek and larger valley w toward Hat Six Reservoir noted a large prairie dog community of approx. 1500 mounds. 50 prairie dogs were active. These animals are utilizing the vegetation of the area and it points up the fact that these communities should come under the protection of wildlife agencies both by patrolling the area and by purchase of the property. The ranchers should not be responsible for perpetuating ^{the excessive numbers of} these animals or any other animal (game species) at their expense. Prairie dogs are inhabiting unprofitable dry areas but eventually these areas will be made agriculturally or productive grazing lands with manipulation of water resources and at that time the dogs will become extirpated. It is in this area that Mr. Lineman (see Aug 10, 1980 for particulars) collected the black-footed ferret and made several photographs of them. In this area were 3 families of sparrow hawk with each family consisting of adults and 3 to 4 young. At the turn-off ranch road to Brooks Ranch met a Mr. Thomas J. Varcalli (1733 Westridge Way, Casper, Wyoming, 82601) a game warden of the Wyoming Game and Fish Commission. He is a former student ^{and advisee} of Dr. Reed Fautin of the Univ. of Wyoming (Emeritus). Mr Varcalli was counting the age groups of antelope in this area of which there were approximately 45 animals. He met the present manager of The Brooks Ranch and got permission to travel across his land. Varcalli invited me to transport me to Beaver Creek Canyon as he was interested in the golden eagle nests that I was planning to investigate. He told me that he had checked on a pair of golden eagles in Chalk Canyon, ^{S. exposure,} which hatched and raised successfully 2 eaglets. It was my feeling that he had not been to the Beaver Canyon eagle nests. He reported that there were so many antelopes in this area that they were going to open season and harvest 1500 to reduce numbers. I told him that these areas here are areas of concentration and that there should be means of dispersing these animals for at least the critical periods of ranch land productivity. Actually these ranches have ~~exposed~~ usurped the normal and originally favorable grazing lands of the antelope so the animals should at least share the areas as normal, natural constituents of the land. The excessive numbers of antelope should be dispersed by trained dogs ^(expel)

or by wolves who keep mammals dispersed as is currently the case of the wolf-carrion relationships in the arctic. In the states the main propagation of cattle ^(as unhygienic as it is) should be in the feed pens. Sheep are raised in pastures, turkeys in coups and pigs in special breeding and growing pens, why not cattle. Reintroduce the buffalo and antelope in open ranges and harvest their surpluses. Ranchers and farmers will have to share their lands with wildlife if these animals are expected to be perpetuated as natural entities on this planet. Dispersion then will currently solve the damage done by the heavy concentration of antelope in this area. Mr. Vercelli also said that SE of here across valley is the highest concentration of elk in the area. Mule deer are every where. He said that in Casper at the Country Club Golf Course, deer come on to greens in the evening and early morning at it is a great delight to members of the club. Antelope occur here but less frequently. Coyotes are rarely observed. As we approached the hogback we noticed a mule deer at the edge of willows along Beaver Creek. He said that antelope are seldom seen among willows, riparian areas or trees to which I disagreed as many of my observations are of antelope in riparian situation where they feed, rest & bed among the willows. He has a method of recording info for the computer started 2 years ago by the Commission. Observations are recorded by nearest section of the map and of 7 or eight categories such as kind of animal, number, time, ecological position such as open field, base cliffs among vegetation etc, sex and age. This info is run thru computer. Marsh hawk and flocks of Brewer's blackbirds in valley along Beaver Creek. We drove thru man-cut road thru upturned beds of the hog-back and parked car just beyond at mouth of canyon. The first nest of the eagle was located on N side of canyon at mouth, near to of main ledge. It was entire but looked old, (see map of Aug. 11 1980 for this trip) however, I could not say that it had been used last year. This nest is near the angle of the canyon axis and the N-S trend of the E end of Casper Mountain. Continued up canyon which is an easy passage compared to the first canyon (Cove Canyon) examined a few days ago which water, springs & riparian growth checked our passage. Approximately 700' up canyon floor from mouth of canyon we found an overhang cliff with pictographs

800813-1
PICTOGRAPHS
(black carbon)
AUG 13, 1980



inscribed on the inner wall. The Indian drawings were of animals, birds, anthropomorphic figures and continuous curved lines. Five rifle or pistol ^{shots} marked the wall. Photo 800813-1 is of this site and the previous page is copied from an enlargement of the colored slide. The figures are in a carbon-like substance and shows signs of deterioration of the picture. It is definitely a genuine scene and authentic Indian source. Examined a skeleton of a deer without head. From Indian site climbed up N slope of canyon to top and thence up rim of canyon to a point where we could definitely determine that another eagle nest was not in the canyon. On south side of canyon noted a doe lying down below a large bush. It remain in same position for several minutes and then left leisurely and walked to top of ridge. The separation of the canyon gave her security and she took advantage of it. The bed was very large and had probably been used for many years. Mt Mahogany covered slopes there. Only magpie observed was at head of canyon. Noted 3 Sceloporus, a western tanager ♂, rock wren and lark sparrow. Returned ~~and~~ to car. Took photo 800813-2 to SW showing the alternate eagle nest on front facing cliffs near top (nest in shadow of right hand side of cliff). This nest appeared not to have been used this year but could have been occupied last year. Drove to my parked car and thence home.

Casper mt., S of Casper, Natrona Co., Wyoming

Aug. 13, 1980

Annette and I made trip to top Casper mt late this afternoon to check a particular flat plateau facing N from top of mountain and to collect some small conifer trees for Mary's yard. From Bear Trap Meadows took circuit road and near where creek crosses road left car and climbed N to top of ridge to see if we could locate the flat ridge but without success. Mule deer came and allowed us to view them from car while they fed among aspens only 30' away. Junction in area.

Casper, Wyoming

Aug 14, 1980

Left Mary's place at mileage 20265.0 Left 9:00 AM for Lawrence.

Today overcast, rain last night. 10 antelope in field to right of Hat Six turnoff. Prairie dog, antelope. Converse Co. line. Antelope 3/10 mi. w Co line in a new oil well site. 3 antelope mileage post 171. First Brewer blackbird at Glenrock. 4 antelope 159 mileage post by pond with few ducks. 2 turkey vultures at m. post 157 at La Prele reservoir on right hand side. Birby road. Barber Rd. Natural bridge turnoff. First magpie in creek just before m. post 147. Also meadowlark and mourning dove. Turkey vulture just before mileage post 144. N. Platte River. Turkey vulture at Lusk turnoff. N Platte River at 10:45 A.M. just beyond Lusk turnoff. Platte Co. 10:50 A.M. Upper Glendo reservoir down 30-40 feet. 4 turkey vultures on shoreline. Glendo turnoff. Casa Rd. At Casa Radio Tower hell will keep complete census for a while. 2 mourning dove, at El Rancho rd, Highway 26 and leaving Interstate 25. at 11:35 A.M. mileage markers now start from Interstate 25. mourning dove, 2 mourning doves, 2 mourning doves, mourning dove, meadow lark, mourning dove, mile post 10, barn swallow, mileage post 12 mourning dove. m.p. 14, 2 barn swallows. Guernsey Lake turnoff, N. Platte River fell, 2 barn swallows, (could be Cliff swallows), Guernsey for lunch. 2 mourning dove at Goshen Co. line, at m.p. 20. Temp 72, no antelope. at 1:00 P.M. 3 mourning doves, 4 mourning doves, m.p. 24, redheaded woodpecker along N. Platte River at before m.p. 25, mourning dove, 2 mourning doves, 2 small birds, striped skunk rd kill m.p. 27, Ford Laramie and sp. tickel, striped skunk rd kill, kingbird w, 2 mourning doves, w kingbird. m.p. 31, w kingbird, 2 w kingbird, mourning dove, mourning dove, mourning dove, 5 w kingbird, w kingbird, w kingbird, mourning dove, barn swallow, highway 157 turnoff at m.p. 32. Redwing, meadowlark, w kingbird, s skunk rd kill, 2 mourning doves, w kingbird, m.p. 35, sparrow hawk, 2 mourning doves, m.p. 36, w kingbird, small bird, Lingle, w. kingbird, barn swallow, meadowlark, barn swallow, Torrington, 3 Brewer blackbirds, w kingbird, mourning dove, striped skunk rd kill, sparrow hawk, m.p. 54, car mileage, 20419.1 Nebraska State Line at the town of Henry, marsh hawk, sparrow hawk, m.p. 5 (from State line). mourning dove, Morrill, barn swallow, Mitchell, 2 robins m.p. 33 at Scatts Bluff, 10 redwings, sea gull, barn swallow,

barn swallow, redwing, extensive fields (2 miles in length)
 of native grass, redwing, barn swallow, minature, mourning
 dove at nine mile creek, w kingbird, morrill Co., this is
 a broad, lush valley of cultivated crops, wild horse creek,
 no S on highway 26, 2 mourning dove, redwing, 2 barn swallow,
 mp 44, Beard Bayard, barn swallow, N. Platte River at 3:10
 P.M., overcast in series of close cumulus clouds, no blue sky,
 highway 92 + 26 at mp 50, in lower part of valley some
 alkaline flats, 2 barn swallows, barn swallow, no in
 area of spring lakes and cattails, 2 barn swallows, 18 cow
 birds, Bridgeport, N Platte River, unusual amount of
 Russian olives outward from main riparian forests toward
 open fields, m.p. 64, meadowlark, mourning dove, red-
 headed woodpecker and 2 barn swallows, 68 m.p., 2 W
 Kingbirds, dickcissel?, mourning dove, 2 mourning doves,
 2 mourning doves, sparrow hawk, striped skunk rd kill,
 the obvious few barn swallows we have encountered
 may be a factor of poor reproductive period this year
 or the season of the year, mourning dove, some
 badger diggings, 2 mourning doves, m.p. 85 ground squirrel
 or prairie dog digging ^{N side rd.} (just before 85 m.p.) mourning dove,
 m.p. 87, mourning dove, mourning dove, most doves
 flying toward river, Garden Co. fine, Lisko, 2 barn
 swallows, 2 barn swallows, 2 barn swallows, mourning
 dove, 2 mourning doves, 3 mourning doves, mourning
 dove, killdeer, 5 mourning doves, 5 w kingbirds,
 mourning dove, mourning dove, mourning dove, Oshkosh at
 4:40 P.M., 3 mourning doves, mourning dove, E kingbird
 1 mi. E Oshkosh, m.p. 110, barn swallow, Swanson hawk,
 at m.p. 114, striped skunk rd. kill, 115 m.p., E kingbird,
 2 mourning doves, Lewellen, 3 killdeer, N. Platte
 River at 5:20 crossing bridge to S. 2 cliff swallows,
 20 ⁵⁴ ~~15~~ 1.5 upper end Lake Mc Conaughy Lake at Ash
 Hollow ^{Historical} State Park. This is an Indian preserved dove.
 Travelled 276 miles today. Robin, night hawk, E kingbird
 at camp among cottonwood trees. 8 deer tracks across mouth of
 canyon to W, surface debris from drainage out onto valley
 floor for 2/10 miles. Conspicuous erosional bench on W side
 of valley and marked by steep slip which carries up into
 canyon to the W. Probably caused by stream erosion when
 Platte River is high & swades the valley.

Ash Hollow Historical Park, Garden Co., Nebraska

Aug. 15, 1980

Rain this A.M. Night hawk and poor-will hawking early this A.M. over open field. Left 7:00 A.M. and continued up canyon to S to plateau, 5 mourning doves. 2 mourning doves. This is a continuation of complete census started yesterday at Casa, Wyoming and will continue to Lawrence, Kansas. Rain of last night & this A.M. has freshened up the country side, mourning dove, mourning, 4 pheasants 1/3 grown, Bibb rd at M.P. 126, 2 mourning doves, Keith Co., mourning dove, entire plateau of sand and shows considerable sidehill slippage, 2 E Kingbirds, M.P. 128, fog from river valley, mourning dove, M.P. 129, meadowlark, Eagle Canyon Rd., 2 mourning doves, 2 mourning doves, Brulle Rd turnoff, Lake View Rd, Scene View, mourning dove, Ogallala S Platte River at bridge very low, continued to Interstate 80 thence E, most of morning fog and rain, up to 8:30 A.M. Paton Rd turnoff, 2 barn swallows, E Kingbird, Lincoln Co. line, E Kingbird, Sutherland turnoff. Rain temporarily stopped, both sides road dry, mourning dove, Russian olive still conspicuous all along was associated with riparian channels, M.P. 159 mileage, mourning dove, ^{M.P.} 161 mileage, now raining again, clouds completely overcast, 3 mourning doves, M.P. 167. North Platte 10:43. white foam washed on W end borrow pits along road, nothing on E end. Dawson Co. line, still raining, still raining. Mourning doves, less rain at 226 M.P. Johnson Reservoir, few ⁽¹⁵⁰⁰⁾ bank swallows, no ducks or heron. Good place to camp in State Park. all the rest of lake in private homes, 6 E Kingbirds, 2 mourning doves and meadowlark. Mourning dove. Trouting highway 283, barn swallow, Plum Creek, barn swallow, 2 E Kingbirds, 2 mourning doves, now going S, mourning dove, shrike, mourning dove, barn swallow, 2 swallows, mourning dove, striped skunk road kill, barn swallow, 2 mourning doves, Farnas Co. line, barn swallow, mourning dove, barn swallow, E Kingbird, mourning dove. Aropahoe, muddy Cr. (looks muddy) Republican River, mourning dove, mourning dove, mourning dove, mourning dove, E Kingbird, mourning dove. Beaver Creek and railroad tracks, barn swallow, 2 mourning. Kansas line ^{20740.4} ~~20470~~. at 2:00 P.M., mourning dove, mourning dove, barn swallow,

mourning dove, Norton, mourning dove, 126 mileage,
 barn swallow, meadowlark, Phillips Co line, mourning
 dove, barn swallow, 2 mourning doves, Phillipsburg at
 3:10 P.M., 3 mourning doves, Deer Creek, E Kingbird, 2
 mourning doves, 2 mourning doves, Glade, mourning dove,
 mourning dove, barn swallow, mourning dove, 2 mourning
 doves, 4 mourning doves, 2 mourning doves, mourning
 dove, mourning dove, 2 mourning doves, Smith Co. line,
 mourning dove, 9 redwings, E Kingbird, barn swallow,
 barn swallow, 2 mourning doves, mourning dove, mourning
 dove, 2 barn swallows, Cedar Cr., E Kingbird, 2 mourning
 doves, sparrow hawk, mourning dove, barn swallow, meadow
 lark, sparrow, mourning dove, mourning dove, Gaylord, sp. hawk,
 2 barn swallows, 2 barn swallows, 2 mourning doves, 2
 E Kingbirds, turkey vulture, barn swallows, E Kingbird,
 now S on 9 highway, mourning dove, meadowlark, 2
 mourning dove, m. dove, swallow, barn swallow,
 m. dove, dickcissel like bird, m. dove, m. dove, m. dove.
 Harland, m. dove, sparrow hawk, m. dove, dickcissel,
 m. dove, m. dove, Osborne Co. line, Portis just beyond,
 N Solomon River now east on 24-9, 3 barn swallows,
 barn swallow, barn swallow, 2 m doves, 2 barn
 swallow, one blue jay, 2 barn swallows, E Kingbird,
 3 barn swallows, N Solomon River, low, last 1 1/2 hrs
 no rain, at 5:30 P.M. storm ahead, 2 swallows, meadowlark,
 Downs, Mitchell Co., Oak Creek, blue jay, mourning dove,
 2 mourning doves, Tucker, m. dove, m. dove, 2 m. doves,
 2 more, mourning dove, m. dove, m. dove, m. dove,
 2 m. doves, 2 barn swallows, Granite Creek, 2 m. doves,
 m. doves, m. dove, Glen Elder Dam Lake Camp Grounds.
 at 6:00 P.M. mileage here 20853.5 having travelled
 314.5 miles today. Camped approx 2/10 mi. S of marina
 store along lake. From here counted 8 ring-billed gulls,
 60 black terns 40 of which were immatures, 1 lesser yellowlegs,
 10 killedeer, 12 barn swallows, 95 grackles, 4 redwings, 1
 cowbird, the blackbird flock (mixed) flew W in evening,
 E Kingbirds 3, least sandpipers 4, sandpiper 1, pied-billed
 grebe 2, golden eagle 1, 13 lined ground squirrels 4. Set
 30 traps in willows at edge of lake at camp and
 promontory S of camp. Collect 12 examples of Cretaceous
 shells from along edge of lake. The Composite number is 800816-1

Eskridge Rd (exit 342), Shawnee Co. line, barn swallow,
Missim Creek (470), Shawnee Lake 2 m. doves, yellow-billed
Cuckoo, Douglas Co. line, turkey vulture, Stull, striped skunk
rd. kill, red-headed woodpecker, Baltimore Oriole, E King-
bird, 3 barn swallows, first Cicada sound in Lawrence,
home (402 Yorkshire Dr, Lawrence, Kansas) at mileage
21051.5 at 3:30 P.M.

Walonda Lake, Mitchell Co., Kansas

Aug. 16, 1980

From willows along n side lake (30 traps) caught:

800816-1	<i>Peromyscus leucopus</i>	147-75-22-15-28gms ♂ testes 11mm
800816-2	" "	181-86-23-16-27gm ♂ testes 10mm
800816-3	" "	173-75-23-15-21gm ♀ wt. enlarged

min temp last night 67°F. Left for home 9:30 A.M. will continue complete census to Lawrence, mourning dove, mourning dove, 3 barn swallows, redtail hawk at MP 215, many field still use stone cut fence posts, 2 barn swallows, Salamon Rapids, mourning dove, 2 mourning doves, 5 E kingbirds, mourning dove, Beloit, m. dove, m. dove, 3 meadow larks, 2 barn swallows, Plum Creek, 2 m. doves, junction 193, 3 barn swallows, m. dove, 2 m. doves, 2 barn swallows, m. dove, 5 barn swallows, m. dove, 2 m. doves, killedeer, Jamestown turnoff, 2 m doves, 2 barn swallows, m. dove, m. dove, Glasgow, m. dove, 2 m. doves, 3 m. doves, 2 m. doves, m. dove, MP 245, minneapolis turnoff, m. dove, barn swallow, 2 m doves, junction 81, 2 m doves, meadowlark, swallow & m. dove, barn swallow, 2 m doves, meadowlark, 2 barn swallows, 2 m. doves, m. dove, Aurora turnoff, barnswallow, m. dove, m. dove, 2 m. doves, m. dove, 2 m. doves, 2 m. doves, 189, 2 barn swallows, m. dove, Meltrvale turnoff. at MP ~~288~~, 2 bluejays, m. dove, 2 m doves, m. dove, killedeer in middle highway (24), 3 m. doves, m. dove, Clay Co. line, 2 barn swallows, m. dove, mmarch butterflies moving S at 1 per 2 miles, m. dove, 268 MP, junction 897, 2 m doves, 270 m junction 832, m. dove, 2 m. doves, 271 m P. redtail hawk 273 M.P., raccoon rd kill, m. dove, Republican Run, average amount water, Clay Center 11:00 A.M., Leonardville, m. dove, 2 m. doves, m. dove, m. dove, m. dove, m. dove, redtail, striped skunk rd. kill, junction 412, 3 m. doves, m. dove, 3 m. dove, m. dove, 2 m doves, brown thrasher, m. dove, 2 m. dove, red-headed woodpecker 301 mileage, (2/10 mi. this side junction 113), striped skunk rd. kill, striped skunk rd. kill, 313 MP, m. dove, Manhattan, Seary Co., now E., turkey vulture, 2 barn swallows, Wabaunsee Co. line, 2 m. doves, Wabaunsee Road, Spring Cr. Rd (exit 332) MP 333 is Nickerson farm and railroad, (1/10 mi. beyond is Mill Creek), water high to average.

Walters Lake, Perry Reservoir area, Jefferson Co., Kansas
Aug. 25, 1980

Birds observed to lake: mileage at home (402 Yorkshire, Lawrence 21167.4) Left 9:44 A.M.
 meadowlark, mourning dove.

Kasold + Farmer's turnpike. mourning dove 1-1-1. Barn swallow 1-1-1-1-2.

Farmer's Turnpike - Leecompton Rd. 2 Eastern Kingbirds, 6 cowbirds
 1 barn swallow.

S end Leecompton bridge. water low, 2 barn swallows.
 Highway 24 Barn swallow 1-1.

SE corner Perry Reservoir area

Ferguson Rd Barn swallow 1

Big Slough bridge 23 ring-billed gulls, barn swallow 2-2.

E side Walters area 10:30 A.M. 12 turkey vultures one group.

Walters Lake (10:40-2:00 P.M.), group turkey vultures over lake 2-4-4-2-2-2, 2 mourning doves only other birds in area!, however heard the red-headed woodpecker and the yellow-billed cuckoo to S. 5 beaver trails from lake up over dam where they get food + bring back to N side dam. to clean of bark. 150 lumps at one point.

Kaw River, 7/20 mi. W, 1/2 mi. S NE corner Sec 33, T12S, R20E, 800 ft.,
Leavenworth Co., Kansas

Aug. 26, 1980

checked erosion in weavers bottoms. Edge of river now approx 150' beyond road. Banks high and clean cut. within the new erosional area were approx. 250

swallows clinging to perpendicular sandy wall or resting on erosional knobs on the wall. There was continuous interexchange of birds and no one bird seemed to remain on the wall for any period of time. There was continuous hovering activity on the wall.

They did not seem to be feeding or in fact resting. Composition of group was 90% cliff swallows, 10% barn swallows, 8 per cent bank swallows 1/2% tree swallows and 1/2% rough-wing swallows.

at beginning of sand bar at a point that was slightly higher than rest of sand bar and sand a purer and wind blown?, counted 28 nests of the soft-shelled turtle, *Apodyma spmifera*? Each nest had been excavated by a coyote

three areas excavated but did not produce eggs. The eggs had been placed from 5-8 inches deep and

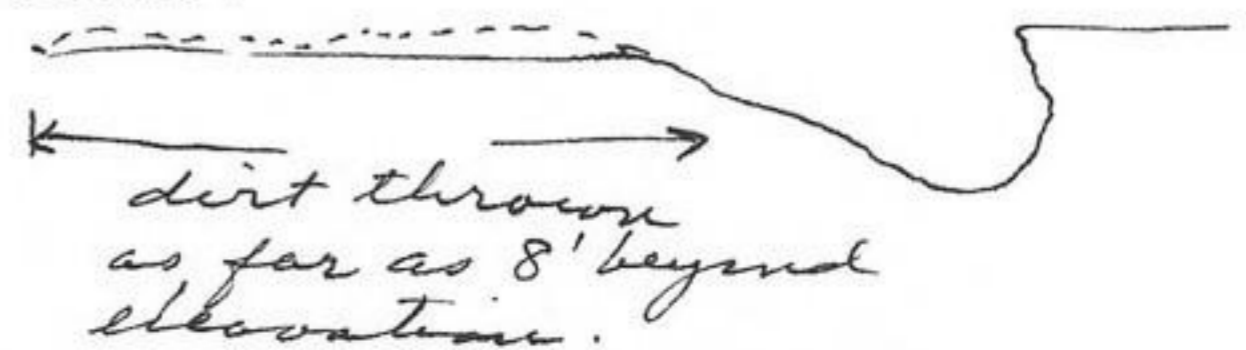
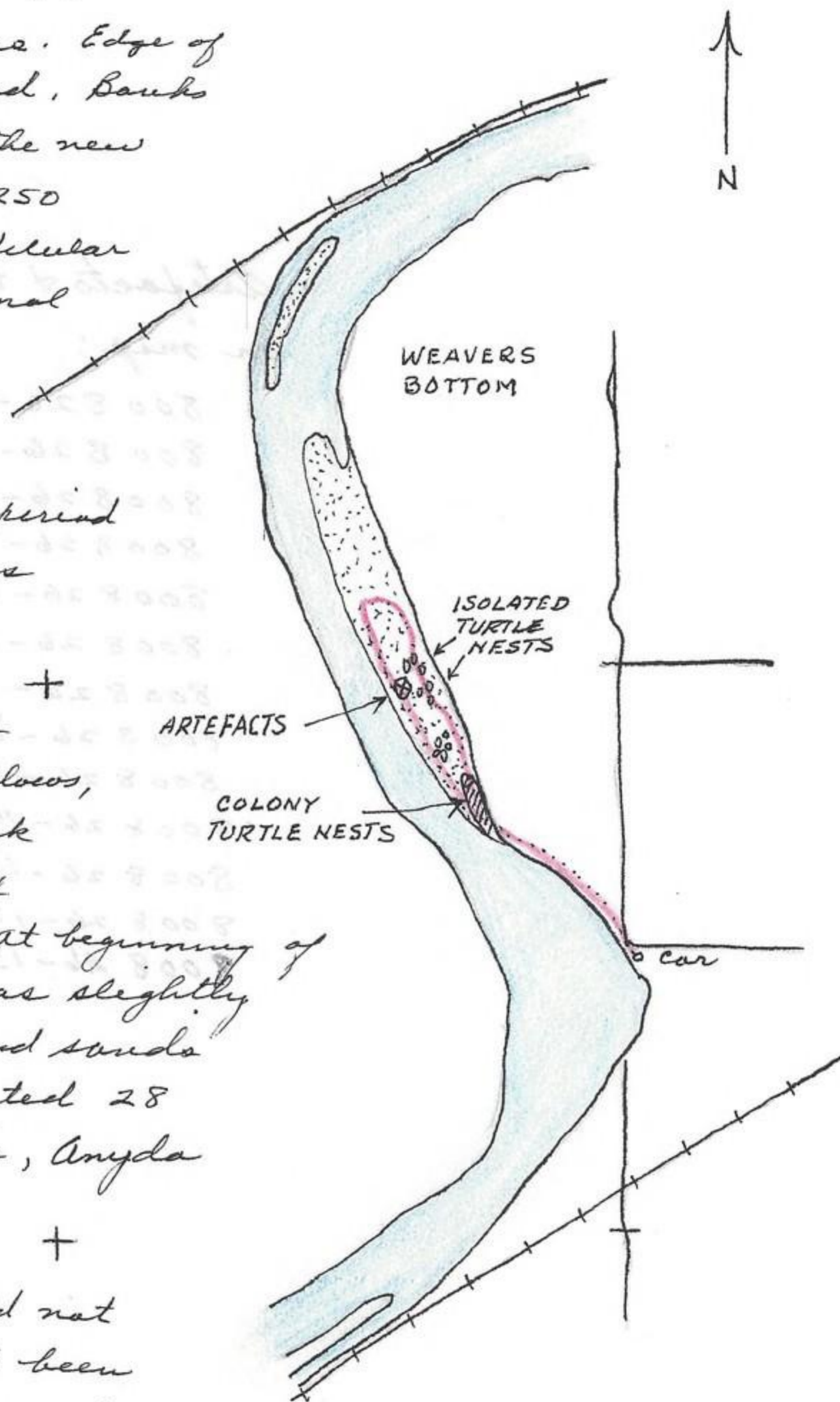
number of eggs of several excavations examined were 6-8-10-10-11-13-4-10-9-8. These were eggs that could have been hatched as none was complete but so:

been hunting for addled eggs

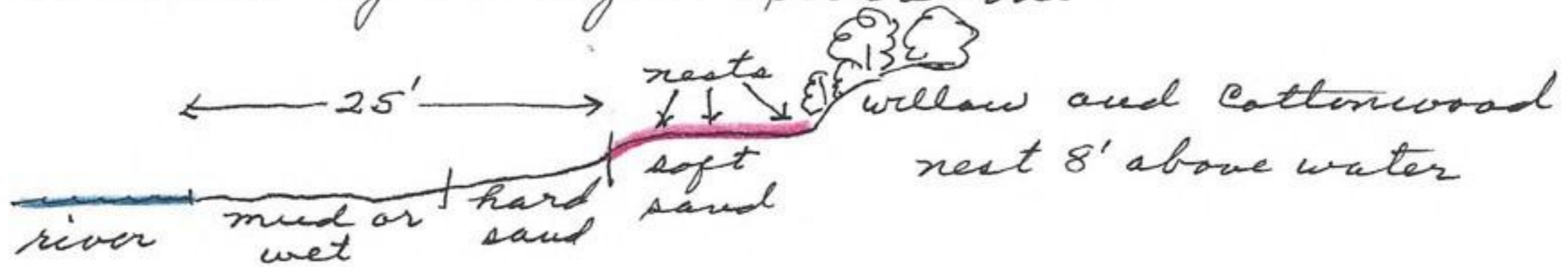
that had not hatched. Several

of the eggs had some yolk which was foul smelling. The coyote dug whole eggs or salvaged eggs that had already hatched. The excavations were thus:

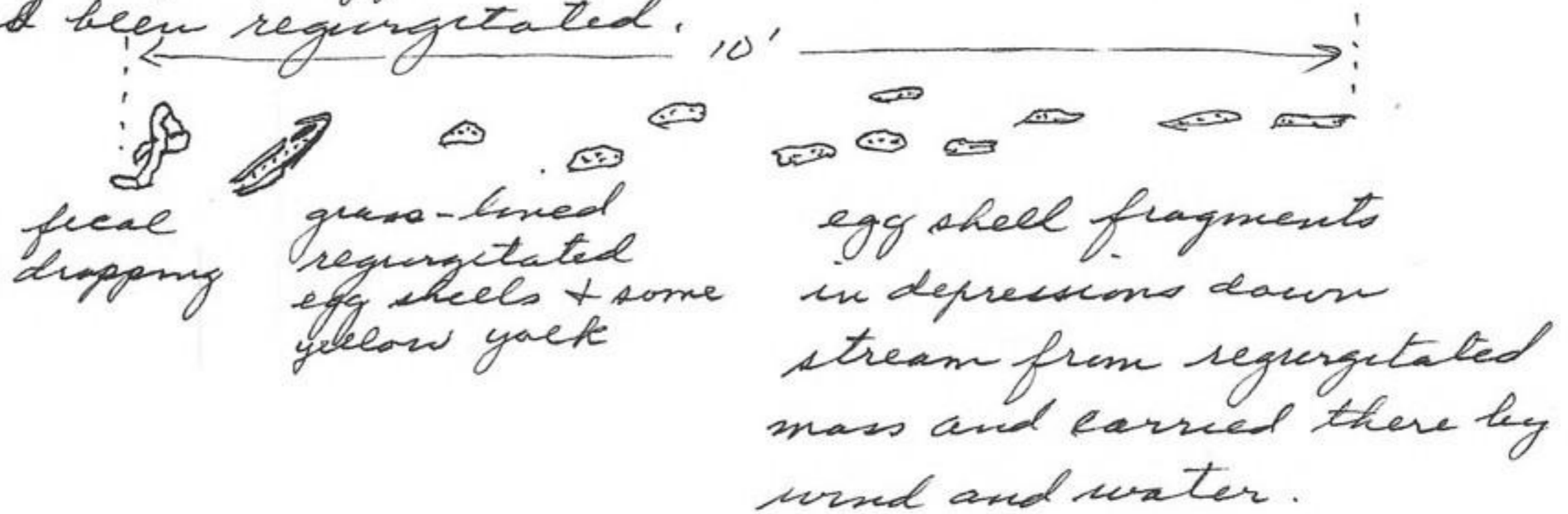
In the area of 100 x 25' were 28 excavations of 25 nests.



a mole had placed its corridor thru 2 nests but it could not be ascertained if it had eaten any of the eggs. as the evidence had been erased by the coyote excavations.



diameters of several eggs are: 24 mm, 27 mm, 23 mm, 20 mm, 23 mm. Shells white and hard underlaid by white membrane. Raccoon tracks along edge of water, ^(25' away) of river but not at nests. The coyote left nesting colony and dropped down to river and followed along edge of river for approx. 1/10 mile where it deposited a fecal mass on the mud of the river. It was full of hair and undigested corn. A regurgitated grass lined pellet of white egg shells was about 1 foot away. In addition was approx 3/4 cup of egg shells in a dozen or so depressions that had been regurgitated.



The coyote tracks then continued along edge of water downstream. Length front foot 74, width front foot 54. Length hind foot 69, length width hind foot 52 mm.

Birds feeding along this long sand bar shoreline were: 13 pectoral sandpipers, they chased each other frequently, sometimes 2 would approach each other, lie prone then either walk away from each other or approach each other and with heads & body spar for a few second and then leave or actually make contact like fighting cocks.

18 sanderling.

10 Baird sandpipers.

2 dowitchers. white on back best distinguishing feature.

8 Least sandpipers.

9 Lesser yellowlegs.

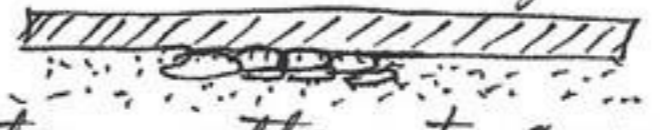
1 piping plover. Pounds feet (alternately) ^{dry or damp} on sands to dislodge insects.

8 Killdeer. In shallow water advances foot (alternately) and as a result gets insects 9 out of 10 movements.

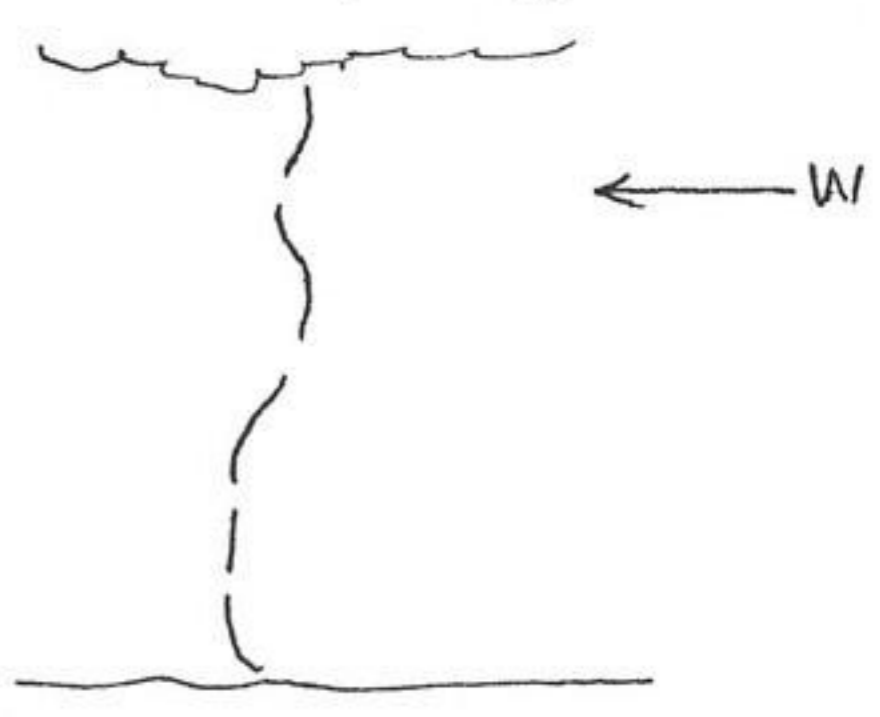
- 4 semipalmated sandpipers
- 8 great blue herons
- 1 common egret
- 1 immature little blue heron
- 40 gadwals
- 20 bluewing teal
- 2 adult, 4 imm. black tern

- 8 goldfinches
- 1 mourning dove
- 2 turkey vultures.

Under a 3/4 inch board on sand was a group of 7 small toads (1" to 1 3/4") in moist sand (from excretion) in compact arrangement.



A male had dug an intermittent corridor 200' from vegetation across absolutely bare sands to edge of water. Do not know which direction it had travelled. It travelled in a fairly direct line. If it went to water it must have returned same route or over sand or continued across the river.



A great blue heron dropped ^{white} excrement on sands and trailed for 12' as a solid line.

James Robert Bee told me that swallows fed on insects on the side of a building near a light during middle of day. I have also observed purple martens feeding on insects on upper parts of telephone or light poles that had lights burning during the night.

Lake View, Kansas

Aug. 27, 1980

Birds at lake: 6 Kildeer, solitary sandpiper, 2 sanderlings, family group 5 Eastern Kingbirds, 3 great blue heron eating blue sunfish, 3-4 inches long. Lotus in blossom at N end lake. Sand dredging full operation.

~~Lake at State Park 9:00-1:00. 1 grackle, 2 prairie, 2 robins, 7 fish
from boat ramp to 1/10 mi. W (area of census) 20 bluegill (2 1/2" to 8"),
3 green sunfish, 4 fingerling bass, all with fly.~~

~~Clinton Reservoir, Douglas Co., Kansas~~

~~July 25, 1980~~

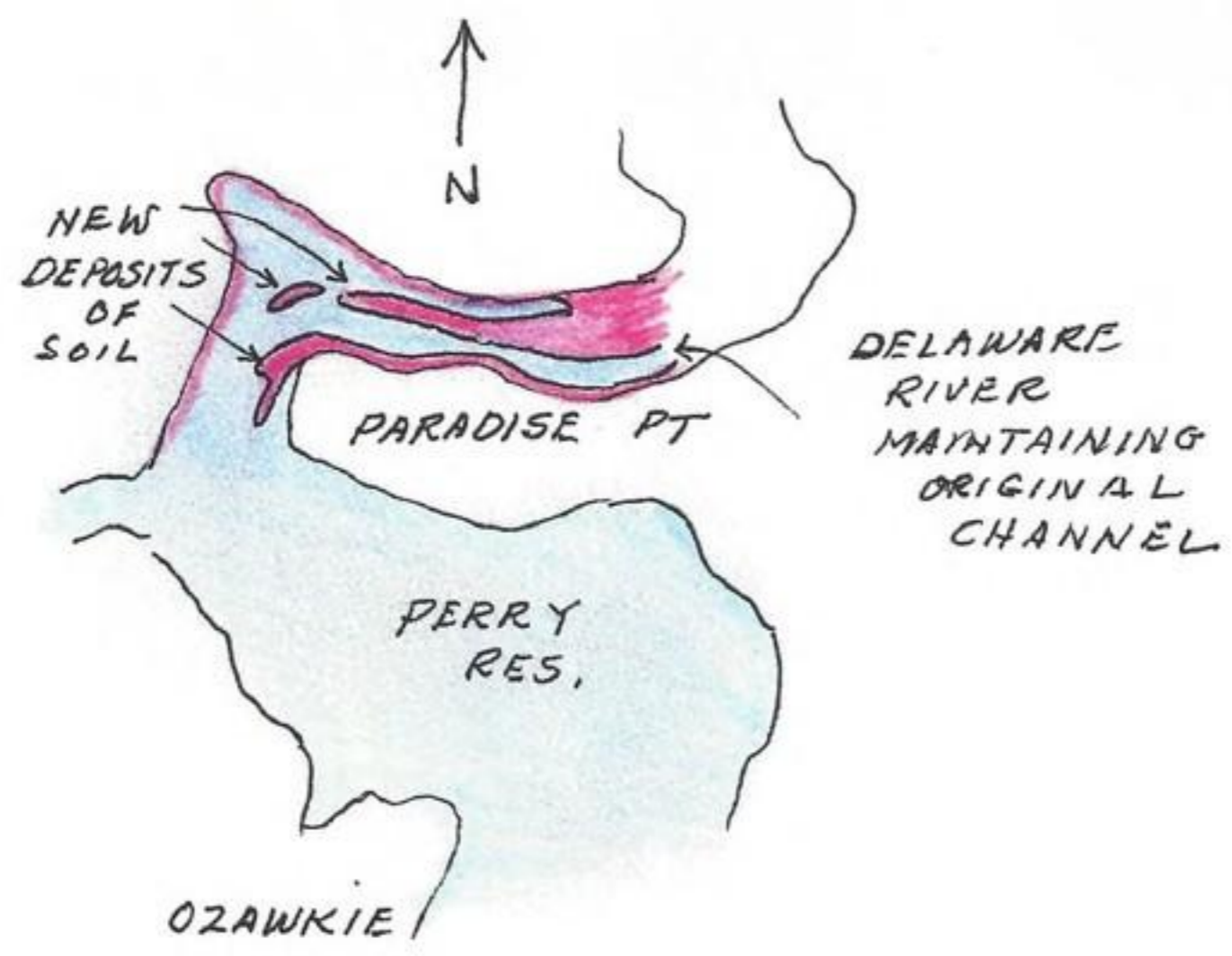
~~Enroute highway 40, robin, barn swallow, p. martin, meadow-
lark, dickcissel, redheaded woodpecker, bluebird, grackle.
From 2/10 mi. W State Park boat ramp (nearest headquarters be
seemline there) 8 grackles, green heron, yellow-billed, 3
cuckoo, E kingbird, crow, field sparrow.~~

~~Perry Reservoir, Jefferson Co., Kansas~~

~~Aug. 28, 1980~~

Left 9:00 A.M. at 21358.2 mileage. Temp predicted as 90°F today.
Will keep complete listing of birds. ^{Grass} Fields draining deerfield
area from Peterson to Turnpike have been plowed this year
for at least the last 7 years. This will modify the research
area. Atmosphere muggy and distant hills disappear from
fog. Kasold and "farmer's turnpike", meadowlark, mourning
dove, 15 grackles one group, 2 barn swallows, barn swallows
across country occur in pairs and not the large groups noted
in the past. This might reflect pesticide mortality of swallows.
2 cowbirds, 3 barn swallows, 3 bluejays, mourning dove,
Leempton Rd., striped skunk rd. kill. 3 mourning doves,
2 meadowlarks, mourning dove, fox squirrel rd. kill, from
top of hill S of Leempton cannot see water tanks ^{or antennas} in Perry
reservoir area because fog. S side Leempton bridge,
river bed 6% sand. Highway 24. SE Perry Reservoir area.
at E end dam on N side at small bay 100' NE of dam,
osprey in knee high water along shore and feeding with
sweeping action of bill, 3 killdeer and 6 mourning doves
associated along shore. Approx 50 barn swallows hawking
just N of dam between E end and outlet gates. One
g. b. heron. There are 20 cliff and 6 bank swallows
mixed in and addition to 50 above barn swallows. Slight
breeze from S. Water smooth on lee of dam but ripple beyond
no water fowl along entire base of dam. 250 Cliff swallows
flying above top of dam beyond outlet to W end dam.
One great blue heron at turn of dam. Not much fish
activity. W end dam now right or N. 2 red-headed wood-

peckers. no ducks or gulls on lake proper. mourning dove,
 no E on peninsula. Shrike at E point. no ducks or gulls
 or shorebirds. 2 mourning doves, mourning dove. mourning
 dove. 2 E. kingbirds, grackle, 2 E kingbirds, E side final
 bay, four killdeer, no ducks. 2 E kingbirds, downy
 woodpecker, 2 E kingbirds, garter. E kingbird, 2
 mourning doves, base of hill, top hill. Highway 237,
 barn swallows, State Park (Pt. Jefferson), 2 killdeers,
 Rock Creek bridge, 2. Forster terns, 28 ring-billed gulls in
 marina bay E of rock pier in bay. 10:25 E kingbird,
 4 mourning doves, killdeer, 2 bluejays, now rd, straight
 N., Ozawie Rd. E., yellow-billed cuckoo, 2 E kingbirds
 now Ozawie Rd at bridge. Chimney swift, 3 barn
 swallows, mourning dove, 18 black tern on submerged
 Co. rd. to W. also 2 ring-billed gulls, 2 E kingbirds,
 4 barn swallows, barn swallow, bluejay. Old Town of
 Ozawie, ^{turkey vulture,} 4 killdeer, 2 ring-billed gulls, mayflies common
 along water edge. 2 ring-billed gulls, 2 cranes, 11:00 A.M.
 E. kingbird. 4 crows, now N. now W to Paradise Pt.,
 mourning dove, 40 grackles at sand point. Gates, now S to
 turn around, at turn-around at beach, measured beaver
 rear track in mud as 180, deer 178, 180, these deer came
 down to drink, g.b. heron tracks 103, 125, 140, raccoon tracks
 in mud, rear 78+102, coyote front 80, 52 wide, rear
 70 long 48 wide. barn swallows (3), E. kingbird. no
 shore birds. First right to picnic area, bluejay, old
 channel floods everything to north, and except for
^{small} bay to N all in willow vegetation and dry land. Great
 blue heron, no shore birds, 11:45 A.M. now top of highest hill
 and pine trees, turned left. Even though Labor Day is
 pending, the reservoir area seems deserted, no one on
 Paradise Point. W end SW peninsula point, 2 bluejays, little
 first road circuit on W end peninsula, Common egret, blue
 heron, 4 great blue herons, 3 ring-billed gulls, 1 snowy egret,
 (yellow feet & dark bill, yellow below the face), turkey vulture,
 little blue heron, common egret, little blue, little blue. These
 are all along W end of Paradise Peninsula. 1/10 mi. of sand
 or mud bar extends W from NE end peninsula and is in
 vegetation and in this area are 1 snowy egret, 1 little blue
 and 12 great blue heron. The distribution of fall-in of
 bay with mud and sand is:



It is estimated that in a few years the sediments from Delaware River will fill all of bay E of Ozawkie and N of the Ozawkie causeway, leaving the old Delaware River meandering channel in its original valley. Plants collected from vegetation on new islands and along edge of peninsula are:

Polygonum coccineum, Swamp Smartweed; *Bidens polylepis*,

Bur marigold; *Abutilon theophrasti*, Velvetleaf; *Ambrosia trifida*, Great Hogweed; *Xanthum strumarium*, Cocklebur; *Amaranthus reflexus*, Green Amaranth and *Amaranthus hybridus*, green amaranth. Species should be checked.

12:40 left for boat ramp. 2 E. Kingbird, Extreme E end of bay now in ^{large} willows in area of initial invasion of willows. Water conforming to river channel. It would be interesting to check successional areas and see what kinds of animals & birds are involved with successional stages. I am surprised that there is a lack of ducks and shorebirds in area. 2

turkey vultures, left area. Gates on way out, barn swallows, 4 corners, turkey vultures, ? barn swallows, 2 mourning doves, turn-off Big Slough Park. Gates. now E to boat ramp. bi-pass boat ramp; ^{and capture 5, then within N along lake.} Lake with foot waves, bay with large oaks at head,

2 turkey vultures, Co rd above water (1 1/2 feet higher than water), spotted sandpiper, pond on E side Co. road 1 foot higher than lake, Gape Point, no shore birds, water birds or gulls, 2 turkey vultures, on top, turkey vulture, 2 E Kingbirds just before gates, Ferguson road. Big Slough Creek bridge, 4 corners or SE corner of Perry Res. area. S end Leecompton bridge, 8 grackles, 2 barn swallows,

Kasald, home, 2:00 P.M. Summary of Perry Res. area: 0 = totals
 avocet ① crow ② red-headed woodpecker ② forster term ② black tern ①⑧

- Killdeer 3-4-1-1-4 = ⑬ shrike ①
- downy woodpecker ① chimney swift ①
- mourning dove 6-1-2-1-1-2-4-1-2 = ⑳ E. Kingbird 2-2-2-2-1-1-2-2-1-1-2-2 = ⑳
- barn swallows 50-1-3-4-1-3-1-2 = ⑥⑤ grackle 1-40 = ④① common egret 1-1 = ②
- Cliff swallows 20-250 = ②⑦⑦ ring-billed gull 28-2-2-2-3 = ③⑦ little blue ^{heron} 1-1-1-1 = ④
- bank swallow ⑥ turkey vulture 1-1-2-1-2-2-1 = ⑩ snowy egret 1-1 = ②
- great blue heron 1-1-4-12 = ⑱ blue jay 2-1-1-2 = ⑥ spotted sandpiper ①
- yellow billed cuckoo ①

402 Yorkshire Dr., Lawrence, Douglas Co., Kansas

Aug. 31, 1980

Flock of blackbirds (grackles, redwings) flew N between 7:23 and 7:45 A.M. First group massive. Rain all time. Temp 65°F. Wind from SE.

2 mi. downstream mouth Oakley Cr., Kaw River, Douglas Co., Kansas

Aug. 31, 1980

Observed buff-breasted sandpiper on sand bar along shore of S side Kaw River, riparian forest beyond, bank 10'-12' high. Some of the characters are: reddish tail; size pectoral sandpiper but longer legs and bill; buffy belly; upper tail (toward body) light buffy, darker buffy distally; the lighter upper tail inconspicuous when standing; under wings dark; same size bill as solitary sandpiper; body slightly longer and thinner than solitary sandpiper; longer legs than solitary; displaced solitary sandpiper and pectoral sandpiper, flies straight + down not zigzag; stretches wings outward + upward when alighting; narrower + longer than pectoral sandpiper. Remained in area for 15 minutes, left + then returned. observed at 50'

From sand in same area collected:

800831-1 atlas	800831-4 vertebra
800831-2 phalanges	800831-5 tooth
800831-3 Condyle	800831-6 tooth.

Kaw River, Eudora, Leavenworth Co., Kansas

Sept. 2, 1980

on sand bar, 1/10 mi. up Kaw from bridge measured great blue heron imprint at 120 mm. Other birds in area semipalmated plover, killdeer, pectoral sandpiper, sandpiper, green heron, great blue heron, semipalmated sandpiper.

Kaw River 3/10 mi below Kaw bridge, Leavenworth Co., Kansas

Sept. 3, 1980

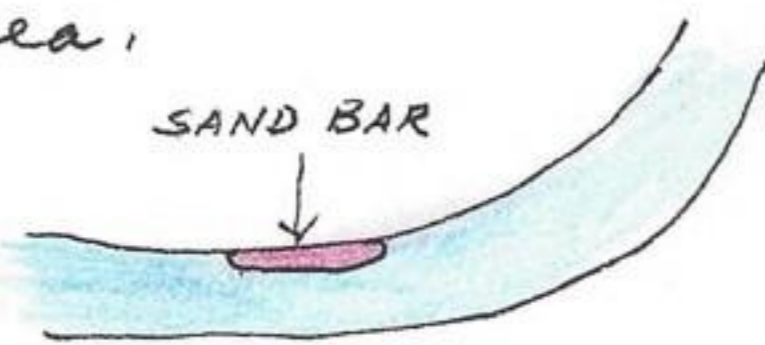
Birds: semipalmated sandpiper, great blue heron, green heron (alighted on sandbar and walk 100' fishing along the way), killdeer, pectoral sandpiper, kingfisher, spotted sandpiper, 8 semipalmated sandpipers remained in one place for 20 min, then searched shore up and down 3 times). 18 soft shell turtles along 30 feet of sandbar at edge of river. Another group 5 200' down river. These turtle moved locally but mainly stayed put.

On return to bridge followed riparian growth along S side of river, blue jay, grackle only bird in forest, redtail, troed mole ridge 1/10 mi from tree out on sand bars, deer tracks in forest, when one approaches soft shell turtles, especially when on log, they immediately leave but when ^{I am} not seen but through a stick at them, they remain, even when stick lands 1 foot away and makes a definite audible splash.

Kaw River, 1/2 mi E, 1/10 mi N SW corner sec 25, R 20E, T 12S,
800' elev. Leavenworth Co., Kansas

Sept. 4, 1980

Followed Union Pacific R.R. tracks from Mud Creek to above area.



Left 1:15 P.M. one group 29 grackles, 3 singles, turtle trail in sand 110 mm wide; deer tracks, yellow-shafted flicker. Along R.R. tracks on N side an alfalfa field 2/10 mi long

and 200' wide was populated with a yellow & orange butterfly (coch) every square meter of space. From a small sandbar collected:

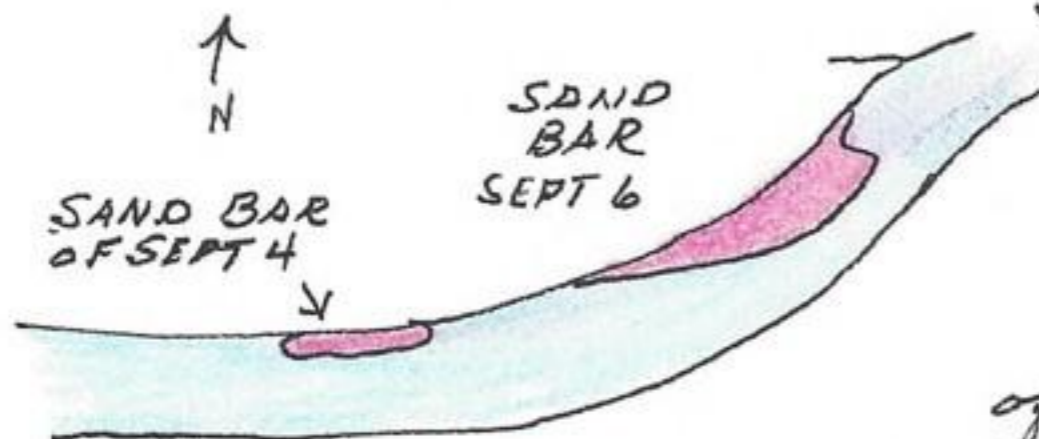
800904-1 potsherd
 800904-2 "
 800904-3 "
 800904-4 "
 800904-5 beaver skull

800904-6 beaver femur
 800904-7 Condyle eaten by beaver
 800904-8 teeth (elk?)
 800904-9 Carpal-tarsal bone,

Left 4:44 (having been on sandbar since 2:45 P.M. 39 killdeer in one group on bar. On return to ear noted striped skunk and opossum ^{tracks} ~~road~~ kills. In one spot on R.R. right of way hundreds of yellow butterflies were breeding on rocks & ~~solid~~ soil without moisture. 5 or six ♂ concerned with one ♀.

Kaw River, 1/10 mi E, 3/10 mi S NW corner sec. 31, R 21E, T 12S, 800 ft. elev.
Leavenworth Co., Kansas

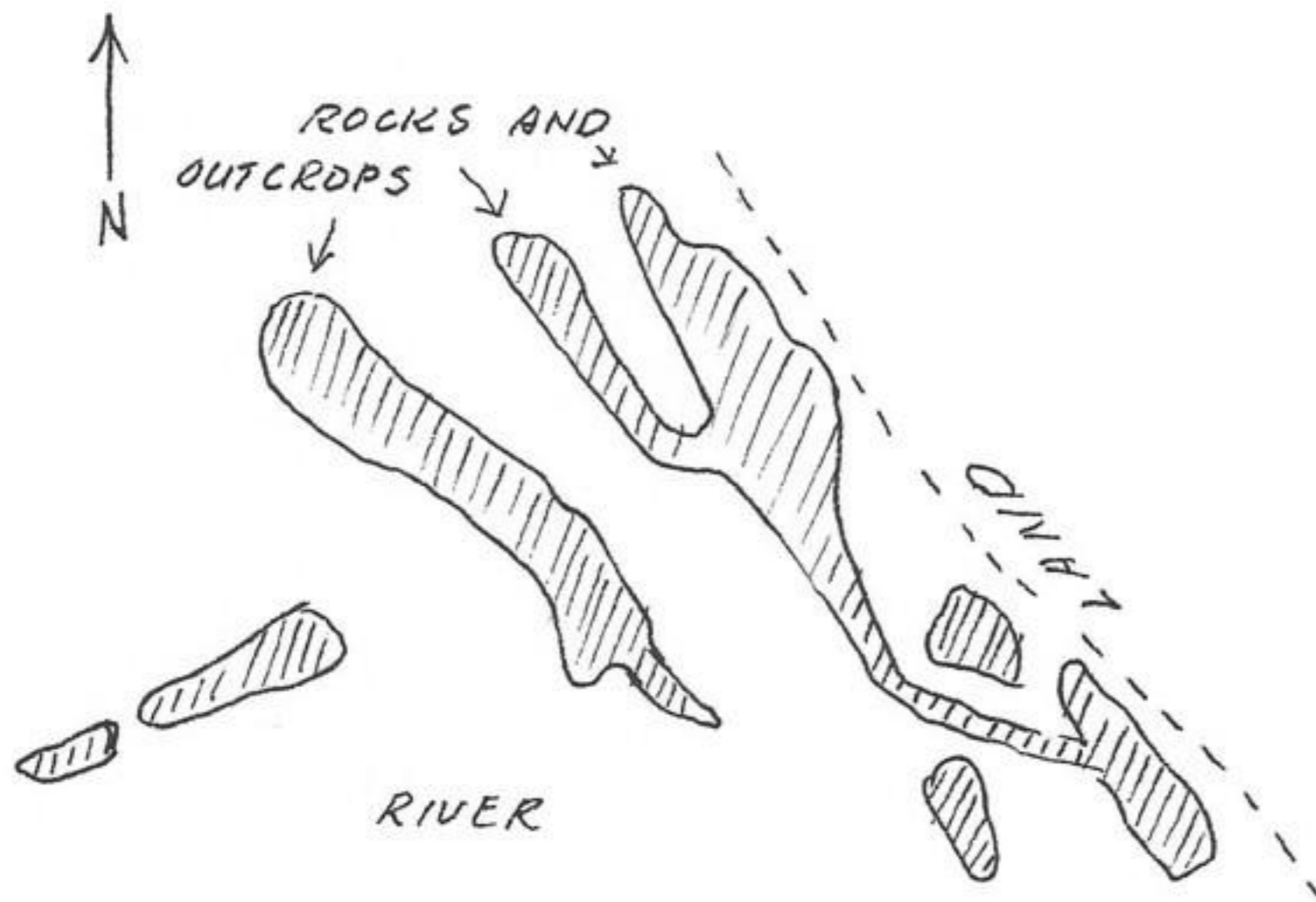
Sept 6, 1980



This sandbar is on N side of river opposite the high bank and forested "island" to the E on S side of river. From this large sandbar collected the following specimens:

- | | | | |
|----------|-------------------|-----------|--------------------------|
| 800906-1 | clavical vertebra | 800906-8 | buffalo lumbar vert. |
| 800906-2 | deer antler | 800906-9 | buffalo atlas |
| 800906-3 | Tooth | 800906-10 | " thoracic vert. |
| 800906-4 | hoof | 800906-11 | lumbar vert, buffalo |
| 800906-5 | Calcaneus | 800906-12 | " " " |
| 800906-6 | lower jaw, deer | 800906-13 | Tibia?, Indian artefact? |
| 800906-7 | deer skull | | |

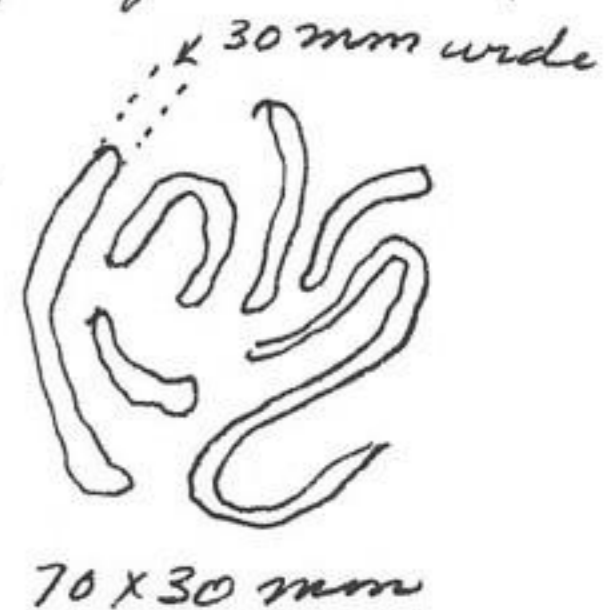
On return home checked "fish weir" at Fall Leaf (to W)
see previous notes of former years.



Kaw River, 2 1/2 mi. SE mouth Buck Creek to 1 1/2 mi. downstream,
Jefferson & Douglas counties, Kansas.
Sept. 8, 1980

Checked sandbars on S side river. Observed 82 bluewing teal,
2 deer tracks 68 mm and 60 mm, tracks of great blue heron 140, 130,
110, 120, raccoon tracks 60 front, 80 rear, beaver 180 rear x 90 front.
Turkey vulture, 4 semipalmated plover, 8 pectoral sandpiper,
7 killdeer, 24 Baird sandpiper, 1 solitary sandpiper, 6 semipalmated
sandpiper, 4 lesser yellowlegs, 2 great blue heron, 1 barn
swallow, 350 blue wings (one flock) arrived, 6 mallards, 1 crow,
solitary sandpiper frequently teeters body. Semipalmated sandpiper
probes general and localized in mud. Some kind of organism

produces a series of tracks in shallow water or dry land
From sands collected the following
bones.




800908-1 buffalo tharasic
 800908-2 toe bone
 800908-3 toe bone
 800908-4 calcaneus


800908-5 toe bone
 800908-6 lumbar vertebra
 800908-7 pelvic bone.

On way back checked Lake View and observed: 5 pectoral sandpipers, solitary sandpiper, 6 killdeer, 2 bluewinged ducks and 12 Baird sandpipers.

Lake View, Douglas Co., Kansas
 Sept. 10, 1980

Checked birds this A.M. semipalmated plover stops when searching for food whereas sandpipers continue moving as the feed. Some semipalmated plovers with incomplete ring but dark and wide beyond.  They all have dark backs, killdeer 10, great blue heron 4, semipalmated plovers 6, sanderling 12, pectoral sandpipers 8, redwing blackbirds 42, bank swallow .4, solitary sandpiper 1, lesser yellowlegs 3. ^{200ft then.} 2 semipalmated plover chased each other across land, in air for 200' and finally left area but returned. Semipalmated plover displaces killdeer, sanderling and its own kind. Sanderling can raise head and neck high and stand upright like an upland plover.

Sept. 12, 1980

at Lake View noted semipalmated plover displace sanderling ...
 Sanderling stand  Pectoral Sandpiper



Lawrence, Douglas Co., Kansas

Sept. 13, 1980

Chris Nye, a former student of mine reported 15 turkey vultures in one group on beach at Clinton marina feeding on dead fish. Observed only bluewing teal.

Perry Reservoir, Jefferson Co., Kansas

Sept 14, 1980

Water level 890 ft. water 3 feet ^{wide} between dam and outlet structure. Turkey vulture and sparrow hawk near dam on west end of lake

1/2 mi. down stream (Kaw River) from mouth of Oakley Cr., Douglas Co., Kansas

Sept. 15, 1980

From sandbar on S side river collected the following: bones & artifacts

800915-1 pot sherd	800915-13 phalanges
800915-2 buffalo, thoracic vert.	800915-14 calcaneus
800915-3 " " "	800915-15 vertebra
800915-4 " " "	800915-16 phalanges
800915-5 tibia, fibula, horse	800915-17 hoof
800915-6 meta carpal-tarsal	800915-18 bone condyle
800915-7 fibula, horse	800915-19 " "
800915-8 pig jaw & teeth.	800915-20 tibia
800915-9 squamosal	800915-21 scapula
800915-10 cervical vert.	800915-22 rock in root.
800915-11 lumbar "	800915-23 conglomerates bonded with calcium carbonate surrounding root.
800915-12 phalanges	

Lake View, Douglas Co., Kansas

Sept 19, 1980

Deciduous forests just starting to show yellow in summer green leaves. Group 4 great blue heron on sands of receded lake bottom, one standing, another standing, 1 resting on ankle with body above ground, one with body in ground, all facing wind. Other birds in area: 4 pectoral sandpipers, 4 sanderling, 12 killdeer, 2 semipalmated plovers, 2 Baird sandpipers, 2 long-billed dowitchers, no swallows today.

Sept 21, 1980

Check birds as above and found same general composition and numbers of birds.

402 Yorkshire Dr., Lawrence, Kansas

Sept. 22, 1980

High wind caused flock of grackles, redwings & robins to fly side-wise for 2/10 mile.

Kaw River, 1/2 mi downstream mouth Oakley Cr., Douglas Co., Kansas

Sept 22, 1980

From same sandbar as Sept. 15, 1980 collected the following bones:

800922-1 carnivore jaw	800922-3 thoracic vertebra
800922-2 thoracic vert.	800922-4 humerus

800922-5 calcaneus

800922-9 teeth

800922-6 hoof

800922-10 leg

800922-7 leg

800922-8 teeth

4 turkey vultures flew above sandbar.

On return checked Lake View at 2:00 P.M. also at 10:00 A.M. on way to sandbar found only 6 killdeer. Shorebirds must have left yesterday afternoon or last night.

Kaw. River, 2/10 mi SE mouth Brush Cr to 1 1/2 mi downstream,
Jefferson & Douglas Cos., Kansas

Sept. 26, 1980

Collected following artefacts:

800926-1 to 800926-6 vertebrae

800926-7, 800926-8 atlas

800926-9 to 800926-13 phalanges

800926-14, 800926-15 hooves

800926-16 to 800926-22 skull fragments

800926-23 to 800926-25 teeth

800926-26 misc bones

800926-27 to 800926-30 leg bones

800926-31 pelvis

800926-32 to 800926-34 ankle bones.

Country Club Golf Course, 5 Princeton Ave., Lawrence, Kansas

Sept. 28, 1980

Estimated by sectional count 1 1/2 million grackles including some redwings, cowbirds and robins. They occupied a space;

This figures about.

165,600 sq. feet and if 3 birds per sq foot would total 1,490,900 birds.

100' x 200'

1/10 mi x 200'

166' x 200'

402 Yorkshire Dr., Lawrence, Kansas

Sept. 29, 1980

Approx 2,000,000 grackles, redwings, and cowbird and some robins moved over house to S from 5:50 to 7:00 P.M. and flight about continuous. This may have been part of flock observed yesterday on Golf Course.

Lone Star Lake, Douglas Co., Kansas,

Sept. 30, 1980

Checked condition of lake which is drained for work on outlet valve. All lake dry except small pond of an acre or so S of outlet on dam and some drainage water from bay where residential homes are located (SW). Pond filled with dead fish, mud surround wet areas. Birds in water and along drainage are: 2 black-bellied plover, 6 sandpiper, 2 killdeer, 4 turkey vultures in air. Continued clockwise around lake. At Lock Creek bridge on Perry Reservoir, no birds. On Wakarusa bridge on same highway (N of bridge in flooded bay, approx 2000 Franklin gulls, 12 Canadian geese, 60 ring-billed gulls, 6 great blue heron, 1 common egret, 2 cormorants, 1 pelican, 1 barn swallow, 12 coot, 8 bluewing teal. The water from lake is at lake level at bridge and beyond and fields to NW of bridge are inundated. Considerable number of trees along river still standing.

Kaw River, Nature Trail, N side river, Lawrence, Kansas

Oct. 4, 1980

At midpoint of trail set up exhibit of birds, mammals, insects, herps, geology, history, and literature of area for approx 200 girl scouts of Douglas Co., Council. Talked to troops every 20 minutes between 9:00 A.M. and 2:00 P.M. Each individual scout was encouraged to develop interest and plans for developing and operating a nature museum showing natural items to be found on trail. As the girl scouts would run the museum on a daily basis throughout the year, one girl per day, it would be necessary to have the museum near developed places where security of girls could be insured. A log cabin in back of City Hall or a room on top floor of City Hall overlooking the Kaw would be an ideal location. Hikers on both N & S nature trails could avail themselves of this service. It would also promote interest in the city's facilities. The area below the dam could be made into a refuge for wild life that could be view by telescopes from the museum. By artificial feed one could attract muskrat, raccoon, opossums, red fox, beaver, muskrat, geese, ducks, gulls, cranes, and even bald eagles in winter. While at station observed 4 killdeer, 1 bluejay, 2 yellow-shafted flickers, 1 black-capped chickadee. Recognized by a girl scout tie pin by council.

Clinton Reservoir, Lone Star Lake, Douglas Co., Kansas

Oct. 6, 1980

Left for Clinton and Lone Star and will keep list of all birds & mammals. 22734.2 at home. 8 grackles, turnoff to Clinton Res from highway 40. turkey vulture flew $2\frac{1}{10}$ mi straight against the wind. Clinton dam. white-cops on lake and good surf on shallow areas, 10 waves constituting surf. At N end dam, 12 ring-billed gulls, 1 crow, 1 turkey vulture and 2 cormorants along beach ^{at N end} when a turkey vulture flew N up beach about 15' above water, all the gulls left the beach but immediately returned. Cormorants remained on edge of beach. Groups of 8-4-2-6-4 barn swallows along dam. no other gulls or shorebirds along length of dam. At S end dam at 10:45^{N-5} can see approx. 60,000 Franklin gulls in a long raft in middle of lake, at least 20,000 in air and moving out of the area. 62 pelicans in bays beyond center island on W side (Rock Creek side), 18 cormorant flew by into wind from the SW and they dropped down to within a foot of the water at which time, one of the cormorants near the rear of the formation dropped down and alighted on the water before the rest of them set their legs indicating that it anticipated that the rest of the flock decided to alight on the water which they immediately did or it may have enticed the other cormorants to alight. 120 starling on telephone line on Lone Star road. 3 grackles, 4 barn swallows, Crow at Lone Star village, Lone Star dam. many Franklin gull arriving from N and alighting in lake bed (recently drained except ^{small} open pond of an acre and other drainage canals. 300 Franklin gulls, 64 ring-billed gulls, 8 dowitcher and 8 pectoral sandpipers feeding in mud that is up to their knees (heel). Something displaced all birds, gulls returned but most of them left area. Pectoral now feeding to belly in mud where the dowitcher sunk down to only a half inch from knee. Franklin gulls have darker backs and 3 to 4, generally 4 spots visible in wing primaries when resting. Ring-bill generally 2-3. Two small turtles working up a channel and backs completely covered with mud and heaped up into 3 or 4 masses in addition. Group 12 ring-billed gulls feeding like dabbling ducks with head low ^{and submerged to eyes and bill open} + bill sweeping from right to left.

The unusual thing is the speed in which they move forward. Both immatures and adults performed. Crow near by. No Franklin gull was observed to feed in this manner. Heelides mostly greens and ^{greenish} yellows and not into fall colors, all trees have leaves.

8 Crows in one group. Logs in the bridge (old Co. bridge now exposed in lake bottom) show sharp edges from original tree cuts and one cottonwood still has bark on it. Crow chased ring-billed gull that had fish (the gull) in mouth, gull remained in pond area and flew back & forth and dodging crow. Crow almost succeeded several times but finally gave up and gull alighted and fed on fish. 2 gadwall and 2 blue-wing teal came into pond where ring-bill gulls were feeding. Some of the dowitchers which seem to be larger are feeding in deeper waters. Only a superficial covering of mud on top of bridge or on logs of the bridge, more like a film. Old slopes of lake still show stratification of slate and trees are without sediment as if the debris settles at headwaters where drainages enter lake. Left 12:30 P.M. Fox squirrel at vantage point E side. No water out of E bay, South bay but some standing water in bay where homes are located. Now on road (first N of dam) going W. At Rock Creek bridge (new road) approx. 3000 Franklin gulls and 12 pelicans. N in next bay (2/10 mi), 3000 pelicans. When great blue heron trips, it extends wing out into water to stabilize itself. Franklin gulls continuously arriving and leaving from up river. At Wakarusa causeway at 12:45 and left 1:15 P.M. Continued E to dam where at N end where gulls were resting this A.M. there were none. No white caps, continued thru State Park to boat ramp E of Coon Creek and from inundated trees to S & W counted 1718 cormorants in trees. Left 1:45 P.M. Also 8 pelicans from here in bay directly S of boat ramp. Home at 2:00 ^{P.M.} at mileage 22789.1

Perry Reservoir, Jefferson Co., Kansas

Oct. 7, 1980

Left 9:45 A.M. Kasold's farmers turnpike" 22812.1 Clear skies, 82°F predicted for today. Smoke straight up. Will keep complete list. 8 grackles, striped skunk road kill at Lake View turnoff. Continuing on "farmers turnpike", 2 grackles, 2 grackles, mourning dove, 5 side Leempton Bridge, more sandbars exposed than a week ago. 2 grackles, highway 40 N Perry. SE corner of Perry Reservoir area.

It is interesting that there are not more grackles in the field in considering the millions that come to roost in Lawrence every evening. They come from farmland beyond the city. E end dam. Lake mirrorlike. 120 barn swallows congregated on E end dam. 80 loat swimming about 8 feet from shore. 2 pied-billed grebes, 40 coot and generally distributed in lake. 55 coot along shore in water W end of lake (dam). Most conspicuous color in forests are the red leaves of the virginia creeper growing around trunks and upper branches. There are brilliant yellows, mainly walnut and good greens of summer. Bluejay, bluejay, bluejay, now on regular road, bluejay. 8 ring-billed gulls localized in lake. 50% of trees are green and 50% yellow, 2 grackles, 2 bluejays. Gates, 200' beyond gates, white-tailed deer standing in road and remained until I drove slowly to within 100' and it then jumped down into brush. State Park to right. Top of hill. Fields to W have just been mowed and cut to roots. Rock Creek causeway, no gulls or aquatic wildlife, 3 turkey vultures, mourning dove, 2 turkey vultures, decided decrease of mourning doves since a month ago. Shrike, sparrow hawk, mourning dove, mourning dove, redtail hawk about 1/2 way along N-S road toward Ozawkie road (Indian Ridge turnoff). Now on Ozawkie road to E. 8 grackles, Ozawkie causeway, 2 ring-bill gulls (surprized not more Franklins). 12 ring-bill gulls SW peninsula Old Ozawkie Town. Red-tail hawk at 4 corners, now N. 2 mourning doves, turkey vulture where road goes W to Paradise Pt. Young white-tailed deer at gate of Paradise Pt. ^{Box} Turtle crossing road. Lake still like a mirror. Now S on circuit road, sumac in brilliant red, 2 flickers, 5 crows, now on one way road SW corner, 2 killdeer, 3 killdeer, 4 meadowlarks, first circle on W end peninsula. On sand bar in channel on W end of Channel include, 6 pelicans, 180 cormorant, 1600 Franklin gulls, 8 killdeer. Bluejay in forest. It is surprising that these birds were not using main lake to south. Great blue heron and 3 ring-billed gulls near by. At 11:10 a great blue heron flew over gulls at 10 feet. All Franklin gulls left, 50% returned to sandbar. The other Franklin gulls circled high and then moved to N. Cormorants came to attention but did not leave. I Left at 11:15 A.M. Now on second circuit on W end of Paradise peninsula. In NE part of bay 15 cormorants, 2 ring-bills and 3 great blueheron.

Continued to boat ramp, no birds. Bay NE of Paradise Point with greens of willow invading bay contrast with color on hill. River now in old position thru sediment filled valley. Sediment ^{tongues} already to W end Paradise Point: Gates on way out. It would appear to me that the great number of Pelicans, cormorants, Franklingulls and other shorebirds are in the Clinton Lake. now main road to S, 6,000 grackles 2/10 mi long in formation (line) flying east. 11:30 four corners going S. Flecker, Little Slough Cr., Walter's Property, Big Slough Turnoff. Continuing on main Ferguson road. Big Slough bridge, no gull or birds, water greenish. To marina, boats still in water. SE corner Perry Reservoir area, mourning dove and sparrow hawk. Bluejay, Perry, Thru Leecompton and now on "farmer's turnpike". Birds rare. 3 grackles, bluejay, Home 12:15 22887.0.

Watkins Memorial Hospital, Univ. Kansas, Lawrence, Kansas

Oct. 8, 1980

Annette's associates at the hospital (student) gave her a banquet and presented her with luggage and a quilted bed spread, made by the nurses of the hospital, as appreciation for her 23 years as a registered nurse (immunologist) at the hospital. She also received a scarf and needlework art for her retirement. The quilt was a composition of events of her life, especially at K.U. Photo 801008-5 is of this quilt. Photos nos 801008-1, 801008-2 and 801008-3 are of a cake made by Mrs. Kumb, a nurse (husband in geology dept.).

Lawrence, Kansas

Oct. 13, 1980

Grackles, redwings, starling and robins flying N and S at 9th and Iowa from 6:00 P.M. to 7:10 P.M. There must have been millions in the flight and irregularity of movement might indicate preparation of migration to the south.

402 Yorkshire Dr., Lawrence, Kansas

Oct 17, 1980

Mary and Annette C. arrived from Casper and Seattle respectively for Annette's retirement functions. It was a complete surprise to both Annette and myself.

Lone Star Lake, Douglas Co., Kansas

Oct. 18, 1980

Mary, Annette and Gary and I visited lake, now drained for repair of outlet valve. We investigated the old county bridge now preserved in lake bottom. This wooden bridge is made of logs. Since the lake ^{was made} and bridge inundated, the logs have remained incredible well preserved for such a long period of time and what is even more extraordinary is the lack of sediment on top of the bridge and on the log structure below. Beyond the bridge the old road had some mud on top of it. In the main the sediment is confined to delta from headwater drainages. Old slate cliffs were free of debris and old trees are without coating of mud. The logs still retain the sharp edges of the axe cuts and a few of the logs (cottonwood) still retained bark. This lake should be examined for rate of sedimentation and mechanics of silt deposit. Photo 801018-1 of the three on bridge. No 801018-2 and 801018-3 of meander drainage into SW bay. This meander could be the original Washington Creek bed.

23rd St and Narneth, Lawrence, Kansas

Nov. 5, 1980

millions of grackles ^{80%}, redwings 15%, starling 4%, robins 10% (all estimates) flying into wooded park S of end of Narneth Street for night roosting.

402 Yorkshire Dr., Lawrence, Kansas

Nov. 7, 1980

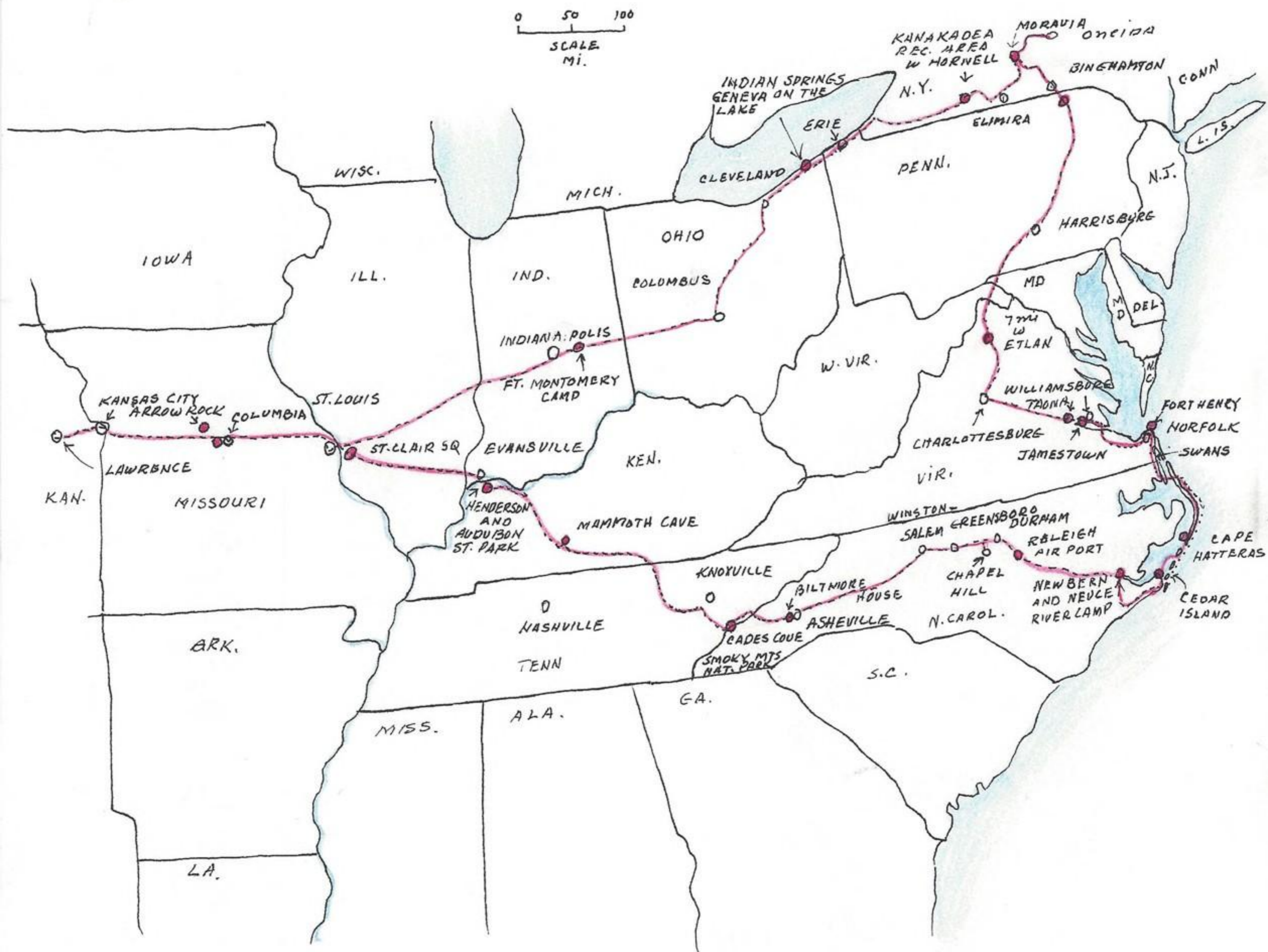
Photos 801107-1 to 801107-4 of winter wood for fireplace, all from house being constructed by Garber Construction. It amounts to a tree 5' in diameter and 30' high. This is all sized wood and could be mortised and glued for house construction. Most is fireplace size but one pile of 2x4, 6x4, 8x4, 10x4, 12x4 and larger from 3 feet to 10' long. It is a shame this lumber is wasted. Also wasted is plywood, wall board, finishing moulding and insulation.

402 Yorkshire Dr., Lawrence, Kansas

Nov. 7, 1980

Prepared for trip to east to see Colonial homes etc. + Thanksgiving with Jim and Liz.

Winter trip, E Coast (Kan., Mo., Ill., Ind., Ken., Tenn., N.C., Vir., W. Vir., Md., Penn., N.Y., Ohio), Nov 8 - Dec 10, 1980, Nov. 8, 1980



Lawrence, 402 Yorkshire Dr., Kansas
Nov. 8, 1980

Annette and I made winter trip to E Coast and Moravia, New York for Thanksgiving. Pulled trailer, Left 1:35 P.M. at mileage 23429.5. Followed 32 to Kansas City, thence 70-40 across Missouri to St. Louis. At bridge across Kaw at Lawrence noted 20 gulls below dam on sandbar. Day cloudless, slight wind from SW. Temp 82°F . which is unusual for this season of the year. On upland NE Lawrence on highway 32 leaves off trees or those remaining are brown, a typical

winter condition. must look with dry leaves, some ^{bright} maroon others dull faded maroon, some ^{other} trees show slight green. 451.7 striped skunk road kill and cottontail road kill. 452.6 opossum road kill. 454.5 opossum road kill. 454.7 Wyandotte Co. line. Except for 4 crows have not seen other kinds of birds so far. On valley slopes E of Bonner Springs, trees free of leaves except dead and slightly maroon colored oaks. Junipers show thru as green. Crow at 462.7 Willows in green leaves, Cottonwoods leafless. 2 mourning doves at 29th street on 32, and first non-crow bird so far. Sandbars along Kaw are gravel. Around Lawrence one never sees gravel of this size but mainly sand. Crossing Kansas River at 463.3. Crow at Liberty, also 2000 grackles in one group in flight and another group of some number on ground. Yellow-shafted flicker 2 miles W of Bates, Missouri. No road kills along 70 indicating high speed traffic has eliminated small mammals in the area. Rural Missouri has more trees on all exposures than Lawrence. Wind still out of SW. First sizeable hills at Odessa, Raccoon road kill 1 mi. W Concordia. Sun down just before Sweet Springs. Area at House-tonia on 71 exit is relatively flat like W Kansas, in contrast to hills east of Kansas City. Arrived Arrow Rock State Park at 6:15 at mileage ^{23576.0}~~23429.5~~ having travelled 156.5 miles today (P.M). Camped on upper slopes in trees above spring area.

Arrow Rock State Park, Cooper Co., Missouri

Nov. 9, 1980

From trailer observed changing lights with advance of daybreak.



sun up 6:55. min temp. last night 46°F.

small things now show separate trees on ridge

shrubs last to differentiate from solid black

Shortly after sun-up made 1/2 hour hike in general area of open fields, forests and creek bottom and observed:

yellow-shafted flicker 1

downy woodpecker 1-3-4

cardinal 2-1-1-1

blue jay 2-1-1

meadowlark (in tree 6)

robin 6

red-bellied woodpecker (placing acorn in bark)

slate-colored junco 1-1-1

fox squirrel (nest)

grackles 8-1

collared tail 1 (diggings 1 per sq meters in bordering fields)

no microtine runways.

crow 1

gray squirrel 1.

Trees in area: white oak, *Quercus alba*; Chinkapin oak, *Quercus muehlenbergii*; northern red oak, *Quercus rubra*; shingle oak, *Quercus imbricaria*; maple, elm, walnut, pin oak, *Quercus palustris*.

This state park should acquire bottomlands to edge of Missouri River for more adequate biological area. Cliffs not prominent. At Arrow Rock town are many early (in 1700) homes and unusually old for this area and period of time. A ferry at this point over the Missouri was responsible for the early development of this area. met 2 people who were progeny of the Bingham family ^(artist and old home & studio E. end town) that originally settled the Arrow Rock area. ^{His mother's father was 4 years old when they came to Arrow Rock.} One was owner of the gas station in the W end of town and the other was living in one of the early homes. Arrow Rock State Park is definitely one of the more interesting historical sites in Missouri. Left at 8:30 A.M. Sky clear, blue, no wind. Country like Lawrence (undulating topography) and Arrow Rock bluffs first ones as one travels east. Bluffs are covered with forests, mainly oaks. Land used more for grazing than farming. Sparrow hawk at ^{Lamine River} ~~Missouri~~ bridge on Highway 70-40. Old bridge still visible. Sparrow hawk junction 5 and 40. Sparrow hawk ^{1 mi.} east junction 5 and 40. Red-tail hawk 4 mi. E junction 5 and 40. Sparrow hawk 5 mi. E junction 5 and 40. These sparrow hawks are on a broad valley of the Missouri River. Hillside in predominantly oak and bluffs of rock are exposed along the edge of the valley.

opossum rd kill junct. of 40-240 (east end where 240 returns to 40)
 613.4 Boone Co. line. now on 70 just beyond midway. Fox sq.
 junct. RA and J near Millersburg enroute to Fulton
 which S of highway 70. Some islands of timber are solid
 oak. Fox squirrel rd. kill city limits (W) of Fulton. at
 Fulton visited the church that was bombed in England and
 subsequently moved to Fulton and reconstituted as one of the
 classical architectural buildings of its time. This is the
 site of the Winston Churchill Iron Curtain speech in 1946 and
 preserves his memory with this Churchill memorial. Took
 4 photos:

801109-1 Fulton Church from S.

801109-2 " " " E

801109-3 Chandelier inside main church

801109-4 Oil painting of Churchill.

This church The church of St Mary Aldermanbury was
 transported from London and rebuilt in Fulton as the
 Winston Churchill memorial. Left and returned to high-
 way 70 where at Calwood we saw a redtail, also sparrow
 hawk. at about 3 miles W of city limits ^{near Missouri River} of St. Louis a
 pileated woodpecker flew N across the road. (3:40 P.M).
 Continued thru St. Louis, across ^{Mississippi} river, East St Louis and
 finally stopped ^{5:30} at St. Claire shopping Center where we
 camped on parking lot at the Sears automotive Center.

E. St. Louis, St Claire parking lot, ^{Illinois} ~~Missouri~~,
 nov. 10, 1980

Had new starter put in car and then left 12:50 P.M. at
 mileage? ~~2798.8~~. Day clear, cold & windy. 795.2 coyote
 road kill on highway 64. Osage orange common in this
 country. Some trees have a yellowish leaf still on trees.
 Birds rare in this area and only birds observed since leaving
 the E St. Louis area is 2 crows and these were at Baden.
 Kaskaskia River at 11.6, Washington Co line on E side bridge.
 just passed the population center of United States. Area
 bordering river is swamplike with trees. Agricultural
 country with 3 times as many farm house per
 unit than Kansas. Ducks on a barrow pit. This part
 of Illinois is more Kansaslike than elsewhere (prairie).
 Barrow pit with 20 ducks some may be winter ducks as they
 have considerable white on body (mileage 818.7). Best

forests are on low hills created either by glaciation or wind blown ridges from valley. Trees larger than in Lawrence. Oaks increasing in dominance. Crow only birds observed in the forests. There is a lack of conifer trees. Fewer farms and longer distances between cities on highway 64. First grove of pines and in restricted area of consocias and relatively young, mixed ^(as groups of conifers) in forests. Birds still rare. 837.3 Jefferson Co. line. Forest follow drainage lines but others planted beyond. Barrow pits for first time surrounded by cattails. Other dense isolated islands of conifer which may or may not have been planted. Now E on 64 toward Louisville. First striped skunk road kill. Trees definitely increasing. (oaks) east of mt. Vernon. Still no conifers except the isolated islands. Most trees on slight elevations or drainage systems. Most fields in cultivation, rarely native grasses. Oaks to edge of forest and then stops without ecotone. Junction 64 and 242 on NE section are 5 large smooth surfaced boulders (sandstone or limestone) and may be erratics. Striped skunk 1 mile beyond here, also fox squirrel rd. kill. Redtail hawk at milepost 104. which is 880.1 our mileage. Country flat except for dune farmations which are covered with oak trees. In low areas some natural drainages and others 5-10' deep made by man. Drainage creeks & rivers remind me of Wakarusa in Kansas. Red-bellied woodpecker and first bird seen in a long time this day. Redtail. Even though leaves of oaks are red & dry they are outstanding in color. Willows still in green or yellow. Have seen 15-20 flocks of starling from 50 to 300 in each flock ~~since~~ generally distributed since this A.M. Junction 45-64 mileage 2888.9 and heard first meadowlark across Illinois, 894.3 at white Co line, and more hills and first Andropogon observed in Illinois. Rabbit road kill. Broad flat country to N beyond. Wabash River, 902.1. Group of pines on NW slope of hill and may have been planted. The groups of pines are few and far between, fence lines are lined with brain bushes. Have not observed an out crop of rocks ~~since~~ across Illinois except the erratics mentioned before. 909.0 Wabash River at 3:50 P.M.

909.4 Indiana State line. One of the highest oak covered ridges is ~~at~~ ^{w of} Griffin. First spring across Illinois and so far in Indiana. Indiana like Illinois so far except more Andropogon-like grass. There is a definite increase of Andropogon as we move into Indiana. Color of leaves and other changes so far is same as in Lawrence, Kansas. Milepost 12.0, country flattens out especially to left, more burning palliation here. No evidence of unusual erosion of slopes as there is in W. states. Ground vetch is green on N exposures and brown on S exposures of road cuts. Andropogon grows better on S exposures than N exposures of road cuts. 932.6 Gibson Co. line. 933.9 now S on 41 at 4:10 P.M. meadowlark and only second one seen today. Now to Evansville, sundown at 4:35 P.M. ^{Thousands of} Grackles moving in large flocks to the east across town. These are the first grackles observed today and odd that they are in the city. Sun down 4:45. Kentucky at. ~~954.1~~ ^{951.1} mileage. 952.4 Ohio River on bridge. Arrived Audubon S.P. 23954.9 mileage at 5:15 P.M.

Audubon State Park, Henderson Co., Kentucky.
Nov. 11, 1980

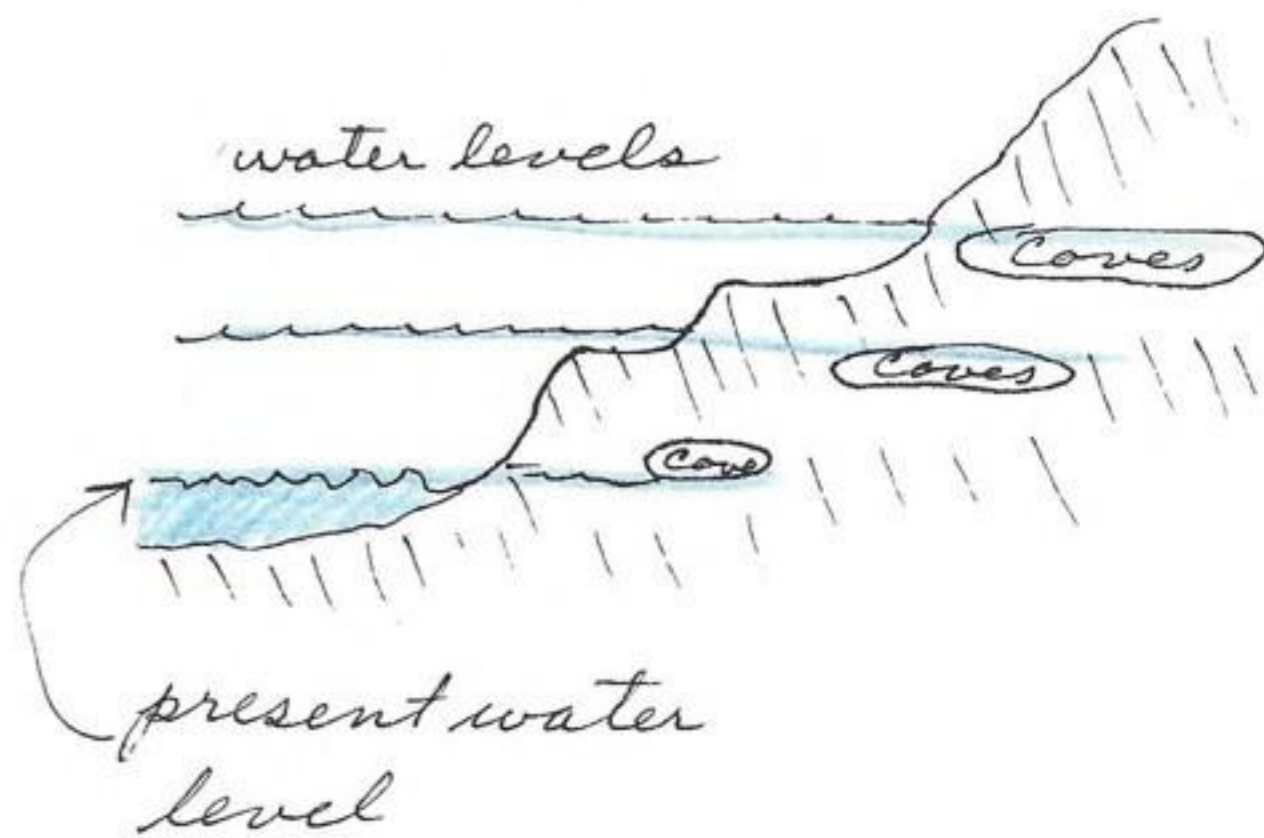
min. temp 34°F last night. At sunrise at camp noted 4 cardinals, 2 brown creepers, 6 grackles. Had breakfast and left 7:45 A.M. for a hike along lake and on distant trails. On S side of lake observed 1 robin, 8 juncos, cardinal, bluejay. Took photos 80111-1 of yellow leaves along lake. Leaves in water at edge of shore extended out 8' and felled small baep. Photo 80111-2 another shot of yellow leaves along edge of lake. At N end of lake at island, 3 bluejays, 1 cardinal. Left lake and N to Sycamore shelter and dramatic increase of birds associated with shelter including: 8 slate-colored juncos, 1 warbler, 4 robins, 2 flickers, 2 cardinals, 1 downy. From museum travelled nature trail .3 mi and observed white-breasted nuthatch, the only bird. Noted that the leaves of the pin oak fall from trees and reach ground thru a whirling action. Tulip poplar, ^a common tree. Followed coffee tree trail to observation point at which point I saw a winter wren. At Lake overlook noted a cardinal, 2 titmice. Arrived lake 10:00 A.M. 17 mallards in E end, robin crossed trail with broken wing (no white in tail feathers). Pileated woodpecker call at east end of lake. Yellow-shafted flicker in area. The leaves remain

on trees here later than in Lawrence, Kansas. At beginning of
 out country trail (2.7 mi.) are rock outcroppings. The road from here
 to museum should never have been constructed. Photo 80111-4
 of forest trees and shadows. Warbler trail, 2 robins, 2 cardinals.
 The greater percentage of chestnut and oak leaves laid on ground
 face down. On this trail were ¹² robins, white-breasted nuthatch,
 2 titmice, black-capped chickadee¹, red-headed woodpecker, purple
 finch, 3 white-throated sparrows, 2 cardinals. ^{bluejay}, Photo 80111-5
 of white flowers at museum, Photo 80111-6 of yellow flowers all still
 growing. Between museum and camp were 4 goldfinch, 8 juncos.
 The general distribution of buds is rare in forest and more common
 near habitation, Arrived camp 11:45 gray squirrel here.
 Left camp 12:25 P.M. at mileage 23954.9. Temp. 48°F. First
 group crows, 28, at Spottsville just before bridge. ^(Green River) Tree have
 retained more leaves than in Lawrence, Kansas. Weeping
 willow are greenish yellow and Lombardi popular still have
 green leaves. 1:00 P.M. Temp 52°F. 142-54 most massive
 stand of conifers so far. Mockingbird. Striped skunk
 road kill, at mile post 10. Opossum rd. kill. at m.p. 1.
 Looks like natural occurring pines which before have
 been in groups, around homes or planted along roads.
 This occurrence of pines is associated with higher hills and
 rougher country. Yellow leaves of deciduous trees less
 conspicuous than before with more pine. More leaves off
 trees than before. Red fox road kill at 1 mi west 79-54
 junction, Leitchfield at 2:30 P.M. at mileage 24044.8.
 Have been travelling highway 54. Continued S on 20 to
 Mammoth Cove Headquarters where we camped in grounds
 SE of Headquarters. This evening drove around the
 visitors center at Mammoth cave and counted white-tail
 deer in car lights. They were feeding on lawns and open
 areas associated with the visitor centers area. There were
 14 and generally distributed. 20% of them were fawns and
 about 1/2 the size or height of adults. This seems like they
 young are not of sufficient size to stand the winter. From
 here we drove to ferry and on way observed 2 deer. On
 Joppa Ridge motor trail noted 1 deer and 1 small opossum.
 On main highway on return noted 8 on right-of-way clearing.
 On headquarters road observed 6 in groups of (1-1-4). Total
 31. There is a preference for open grassy situations
 rather than forests. At restaurant 3 raccoons 1/2 grown

mammoth Cove National Park, Mammoth Cove, Kentucky.

Nov. 12, 1980

2 turkey vultures flew over camp just before sunrise, also 3 deer moved into timber from night's grazing in open fields. measured leaves on ground (4-8) averaging 6 inches deep. The leaves in the east, in contrast to Kansas deciduous forests, are everywhere and make continuous covering under trees and of much greater depth than to west. This A.M. at 11:35 made trip to Niagara cave, one deer. This cave is outstanding and supports many and delicate stalagmites and stalactites. The National Park should research the dust & dirt on formations created by trail-making and other man associated influences. I believe that if man produced they should be clean to original native cave surface. This afternoon took nature trail to river and return to n. At 1:30 turkey vulture flew by over river. Gray squirrel. At river could see how erosion of river valley could have produced the cave system from evidence of erosional levels. Other birds observed were 9 turkey vultures in one group, blue jay, 2 downy woodpeckers gray squirrel, 2 slate colored juncos. From vantage point on trail that circles NW from mammoth Cove

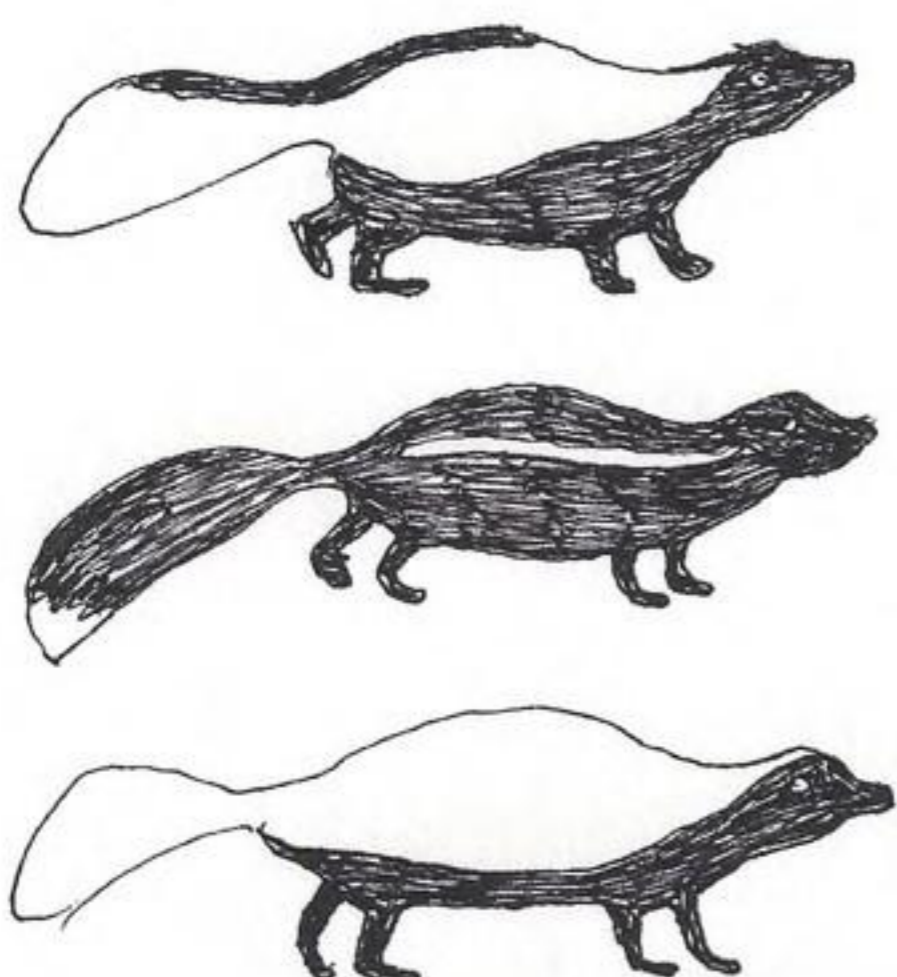


entrance took photo 80112-1 of sycamores in Green River Valley. These valleys are characterized by sycamores as the valley floor tree. no. 80112-2 of upper branches of one of the trees. Some large trees have lightning rods & cables leading to base of tree and I believe they should be removed. Considerable smoke in air from forest fire. Another turkey vulture flew by. This evening drove to Great Onyx to check on deer (after dark). no mammals of any kind but back at visitor Center lawns saw large bucks in deer herd for first time at the park.

Nov. 13, 1980

min. temp. last night 32°F. deer come on to lawn at sundown and leave about 8:00 A.M. 3 pass by camp. Have seen 11 raccoon at mammoth Coves this visit.

Left mammoth cave at 9:15 A.M. at mileage 24105.6. at 2/10 mi from camp on main road a pileolated woodpecker flew across the road and alighted in a tree and then continued from tree to tree. Crows calling in visitors center most of the time. Turkey vulture 1 mi. down road. Junction 65 opossum road kill. Junction 485 opossum road kill, 5/10 mi. beyond another opossum road kill. Robin in area. ~~The~~ Trees in Glasgow ^{area} retaining ^{colored} leaves much later than in Lawrence, Kansas. 1 mi. w Glasgow striped skunk road kill. Turkey vulture at Subtle turnoff, also striped skunk rd. kill, 2 vultures and flicker also at Subtle Turnoff. Birds rare. Turkey vulture just E of Subtle Turnoff on 90. Examined creek bed of flat solid limestone 25' wide. Only erosion was in fracture systems that went at a tangent to flow of water. Black concretions exposed in limestones. Continued S to highway 90. (11:10 A.M). Burkesville 11:25 A.M. Crossing Cumberland River, clear water, 3 turkey vultures. Canyons ^{are} graded to Cumberland mts at Burkesville and they high and valleys narrow and steep making this the perfect part of Kentucky so far. Turkey vulture. made shortcut route to Albany. First crow for some time. Intense reds and greens in trees at Lockwood (greens of Conifus and reds & yellows of deciduous trees + oaks. Photo 80113-1 and 80113-2 of colors on N side rd. just out of Lockwood. In Lawrence, Kaw. the leaves are off trees. Fox squirrel road kill, Clinch River. by Kingston Power Plant. Continued thru Tennessee to outskirts of Nashville via 127, 27, 62, thence S to Maryville, Townsend and finally Cades Cove in Great Smoky mountains National Park, arriving at 6:15 P.M. at mileage 24363.3 Checked camp grounds after dark (we we one of 5 trailers in this camp. to check on nocturnal mammals and birds.



Counted 9 striped skunks and 3 raccoons in camp feeding from garbage drums and from refuge in fire pits. 4 skunk pelage variations present.

when raccoons set facing they have the characteristics of cats with long necks and round heads

Cades Cove, Great Smoky Mountains National Park, Tennessee,
 Nov. 14, 1980

min temp last night 48°F. white-breasted nuthatch, 1 deer, and 9 wild turkey at camp. also gray squirrel and crow. Informants say there are 3 periods of high population of visitors in this national Park, any one period to be avoided, one spring when flowers and beginning to show, second one at peak of summer vacation and 3 (a bumper to bumper parade) during autumn colors.

Left Cades Cove for loop

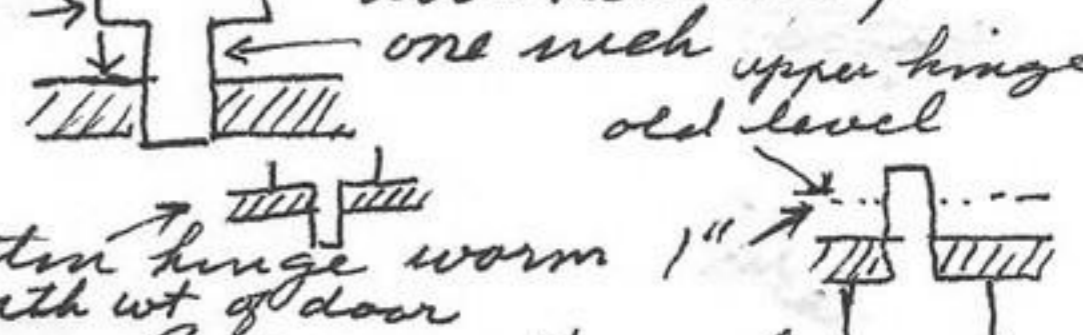
trip of 11 miles thru former valley of early pioneers. By car and short lateral trails to historical cabins etc. Left at mileage 24363.3 at 9:00 A.M. Will keep complete list of observations. Crow, 3 white-tailed deer (all deer whitetail), 1 deer, 4 crows, ploger deer is dark, 3 point buck, another buck & crow nearby. 2 small does. Checked log cabin with fence surrounding it, and saw doe deer and 6 crows, tamarack principal conifer tree, deer grazing in open grass meadows, continuing on to next stop. 2 deer in meadows to left, deer (6) in field, Sloped at Cades Cove Church organized 1687. at this point 5 deer, the smallest 20" high which seems small for deer facing winter. Gray squirrel, another deer in forest, 5 deer in forest at edge, 2 crows; height of a small deer as measured on weed stem it was standing by is 23 inches, accompanying 2 does, robin, 5 juncos (state-colored), at second church (unnamed) facing N gray squirrel, lone deer in field of sparse Andropogon? Cades Cove Missionary Baptist Church founded in 1839 facing S. 3 deer in shadows at edge of fields, one a buck, bluebird, (eastern), cowbird, 2 crows, marmot (woodchuck) in open field, another in same field about 300' from trees and out on slope toward valley. They are living in these open fields in unprotected holes. They must not hibernate in this area or are late in going into hibernation. 7 deer in compact group ^{in open fields} 1/10 mi from trees, 8 crows calling, 4 deer, 2 crow in point opposite a cemetery in middle of valley below, yellow-shafted flicker, crow, crow, side road to Abrahams Falls, marmot feeding in grass field. These fields are cut regularly and are relatively short. The marmots are conspicuous; second marmot in middle of field. Continued S to parking lot that leads trails to Abrahams Falls and

Elegant Oliver cabin. In field before last mentioned parking lot in open field were the holes of marmots in field arranged: the average distance between hole was slightly less than 200'. Grackle in field, 2 different kinds of butterflies active (a yellow and a peacock winged),

← 200' →

5 square nails collected here: 801114-1, 801114-2, 801114-3, 801114-4 and 801114-5

Continued on by trail to Oliver cabin. Spring and trickle of water crossing trail. At cabin, water in drainage 1 cup per 4 seconds. The ^{lower} hinge on door had worn down one inch since in use.

One can calculate the time door has been in use by push up or drop of upper hinge ^{This point to hole now worn. Shown with weight of door}  A marmot under barn with 3 holes, also a pileated woodpecker near cabins.

Returned to car and continued loop trip. Crow, marmot, marmot. At John T. Cablemill, marmot tracks around buildings. One deer in field beyond Nature Trail. 3 marmot ^W beyond house with beehives ⁱⁿ front, Crow, 4 Crows, barn with overhang and a balanced structure, nest open field N of balanced barn with 5 wild turkey feeding 30' out from edge of forest, 2 crows ^{with turkeys}, 9 crows, a hiker and wife on road report seeing a bear a week ago and they believed there are 8 in the area, one female with 2 cubs included, 3 crows, 6 crows, a gray ruffed grouse, 5 crows at vantage point, by one of the principal streams, 8 juncos, returned to camp, had dinner and then left. Summary of Cades Cove trip this A.M.

Crows 1-4-1-6-2-2-8-2-1-1-1-1-4-2-9-3-6-5 = (57)

deer 3-1-0-0-2-1-1-2-6-5-1-5-1-2-1-3-0-7-4-1 = (49)

marmots 1-1-1-1-1-1-1-3 = (11)

wild turkey 5 = (5)

pileated woodpecker 1 = (1)

juncos 5-8 = (13)

cowbird 1 = (1)

gray squirrel 1-1 = (2)

robin 1 = (1)

bluebird 1 = (1)

yellow-shafted flicker 1 = (1)

Grackle 1 = (1)

butterflies 2 = (2)

gray-ruffed grouse 1 = (1)

Total 146 animals

Before leaving camp noted a striped skunk with white on head in usual place and white stripe only to shoulder where it stopped, rest of skunk black, one skunk had a white rostrum. The skunks are compatible with crows and feed side by side. Workmen ^{at Cades Cove} cleaning grounds report 7 black bears in camp one day and on another 5, all in one tree. Left camp 2:20 P.M. and continued N. Sycamore trees in canyons are straight to top and not typical of sycamores which have a branchy top of many major limbs. Krugfisher along river. Some trees on N exposures a in near full autumn color, trees on S exposures par for season. Continued to headquarters thence W to Gatlinburg which is the tourist trap of the area, thence E back up road. At divide turned SW toward Clingmans Dome which is the highest point in Tennessee (6644 ft) but just before last ascent a heavy rain cloud enveloped the entire area and with falling temperatures did not want to be involved in a snowstorm so returned and continued down slope on North Carolina side to Smoke Mountain where we camped. Later in evening visited the Cherokee operated town (competes with Gatlinburg for tourists).

Smoke Mountain, Great Smoky Mountains N.P., North Carolina
Nov. 15, 1980

min temp 50, rained last night and this A.M. Crows arrived 7:15 and fed thru camp although raining. 12 crows at visitor center at Oconaluftee. Not much erosion on denuded hills as grass seems to take over immediately. Arrived Asheville 12:30 P.M. and used motel which was convenient to Biltmore House ^{for} tomorrow. Mileage 24525.1

Asheville, North Carolina, (Biltmore House)
Nov. 16, 1980

Visited Biltmore House and Gardens. The house was built by George W. Vanderbilt in 1890's and with his opulence put together one of the extremes of excessive show and ostentatiously ornamented of any house of I have seen. Its size and architecture reminds me of some institutional building. He was manifestly attempting to attract attention. It is full of antiques and artwork and is surrounded by formal gardens on a 12,000 acre estate, at Deer

Park at calf barns were 120 crows in one flock. Photos
 801116-1 of general view of house from S. with Annette
 801116-2 House with Annette & car & trailer at front door.
 801116-3 general view of Biltmore with Annette in foreground.
 The first eastern chipmunk was seen just inside of the
 Biltmore gates (a mansion in itself). From view window
 in Biltmore house observed 4 individual turkey
 vultures fly in open fields to Also kelder on estate.
 Left Biltmore and Asheville at 3:50 P.M. Followed route 40
 to Statesville, thence S to Duke Powers State Park, closed at
 night so camped at front gates. Central North Carolina
 is experiencing a population explosion and cars and
 people are everywhere, especially cars, trucks and commercial-
 ization. Traffic is insane, especially in evening and night.

Duke Powers State Park, Iredell Co., N. Carolina.
 Nov. 17, 1980

Walked beyond gates to lake and observed 3 crows, robin,
 1 kingfisher and 2 titmice. Left 8:15 AM at mileage
 24664.3. Day gray, no wind. Pine with needles 5 inches
 long in 3's, also different oak. On way out noted 12
 junco, all slate-colored. Still recording striped skunk
 road kills and all raptors, Turkey vulture at Montville
 turnoff. Redtail at Montville turnoff, more leaves on
 trees than in W. Piedmont series of rolling hills, and
 hilltops all at same level. Continued on 40 to Chapel Hill
 turnoff, to Chapel Hill, thru University to find address of
 Dr. Donald and Jessie McIntyre (831 Shadybourn) but found
 it impossible to find. Traffic in Chapel Hill as bad as
 Mexico City - bumper to bumper. Continued to Durham, thence
 to Raleigh Air Port where we camped. Rained all afternoon
 and night.

Air Port, Raleigh, N. Carolina
 Nov. 18, 1980

Left Raleigh at 7:35 at mileage 24884.4. min Temp. 34°F
 Trees just beyond
 peak of color, leaves still on trees. Golden, yellows, reds, maroons.
 So far the farther east from Lawrence the less advanced is the
 season, probably by 2-3 weeks. Many long-needled pine in
 area. First meadowlark in N. Carolina. Crow common
 Eng sparrow & starling present but not much in birdlife otherwise

as we travel SE more evidence of tobacco cultivation taking
 up most of the land. Barns ^{2 stories high} with chimney outlets and
 drying sheds associated. Most ancillary buildings do not
 look as if they are being used. Plantation workers house
 most prevalent of homes. Sparrow hawk 3 mi SE of
 Smithfield and first bird seen in a long time. Sparrow
 hawk 1 mi N Goldsboro. Robin in city of Goldsboro.
 Birds rare. Beginning at La Grange increase number of
 seafood eateries or shops. Country increasingly flatter.
 First shrike beyond La Grange. Sparrow hawk 3 mi. SE
 La Grange. Increase in ground fog. Sparrow hawk
 5 mi. SE La Grange. There is an increase in numbers of
 sparrow hawks as we approach to ocean. Starling about
 the only other kind of bird. Sparrow hawk. Sparrow hawk
 3 mi. NW Kin. Ten first large central storehouse for tobacco.
 Ponds beginning to look like bayou with large based trees
 standing in water. Sparrow hawk. Dover turnoff. Pond
 with 7 ducks. Losing deciduous forests to pines. First great blue heron
 between Dover and Cores City on 41 highway. Deciduous
 forests are still here but growing under the pines. Pine are
 long needed. At a point approaching New Bern a pond
 with raised center and several ducks. Temp at New Bern
 is 48° F. at 11:50 A.M. at Tryon Palace. This is a restoration
 of elegant Georgian buildings completed in 1770 as residence of
 colonial governor and meeting place of the colonial assembly.
 It later became the State Capital. Elaborately furnished with
 antiques and artworks. Several gardens on the Palace grounds
 are designed in the manner of the 18th century gardens in England.
 Restoration of the historic Jones, Stephenson & John Wright
 Stanly houses adjoin the Palace Grounds. Continued on
 highway 17 to Neuse River Camp Grounds arriving at
 25021.4. This camp should bring a canal to camp for
 boats.

Neuse River Campgrounds, highway 17, North Carolina
 Nov. 19, 1980

Min. temp. 29° F last night. Left and headed for the
 coast on highway 17. Sparrow hawk 2 mi. N Palslockville.
 also one just 1 mi. S of Palslockville. now on highway 58
 Shrike, sparrow hawk, mourning dove, sea gull in field,
 Emerald Island at 11:35 A.M. Trees green along streets

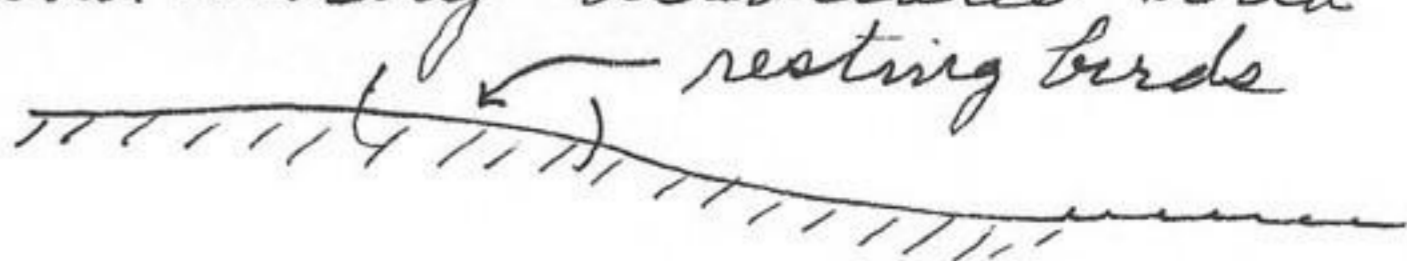
Sparrow hawk at Ramada Inn, another 1/10 mi beyond.
 Sparrow hawk 2/10 mi. beyond. Sparrow hawk at bridge to
 mainland. First boat-tailed grackle at morehead. Crossing
 New Port River, ring-bill, herring and laughing gulls. On
 way to Cedar Island noted 5 boat-tailed grackles. Pied-billed
 grebe and great blue heron. Kingfisher sitting on snag at
 water level, meadowlark, redtail on Cedar Island (just begin-
 ing, also pied-billed grebe and kingfisher. Entire island only
 about 3' above water. 5 mourning doves. Cedar Island at mileage
 25144.2 at 4:00 P.M. This is where the ferry leaves and
 passage by appointment so we will camp here until ferry
 leaves tomorrow morning. Stayed at camp grounds on
 S side of Ferry area. Not operating in winter. Good area
 for shorebirds and many can be seen from trailer. Checked
 area S of ferry terminal along lake and bay shoreline and
 observed: 2 Wilson scribe, 4 coot, 8 gadwall, 28 lesser yellow-
 legs, 45 dunlin, 18 sanderling, 1 willet, 1 great blue heron,
 5 great black-backed gulls, 30 herring gulls, 6 ring-billed gulls,
 2 laughing gulls, 1 cormorant and 18 swallows (not cliff or
 barn).

Cedar Island Ferry Terminal Campgrounds, North Carolina
 Nov. 20, 1980 Min Temp 32° F.

Sun up at 6:40 A.M. Observed some activity of birdlife
 before we left on ferry. While a marsh hawk sailed over
 another which was on the ground (12' above), the one on the
 ground spread its tail fanlike. The one in the air returned
 and alighted 3 feet away. They immediately approached
 each other and for 10 seconds they had combat in upright
 position. Watched marsh hawks dart down from normal
 hunting course and pick up artefacts on the ground. At
 7:30 A.M. survey the same area as last night and observed
 the following. 4 crows, 5 brown pelicans, 3 great black-backed
 gulls, 23 ring-billed gulls, 8 herring gulls, 7 laughing gulls,
 21 black-bellied plover, 8 tree or violet green swallows, 8
 coot, 150 redwing blackbirds (40% ♀, 60% ♂), 18 starling, 98
 dunlins, 8 sanderling, 6 greater yellowlegs, 1 mockingbird,
 2 cormorants, 1 Bonaparte gull, 1 Caspian tern, 6 semipalmated
 plovers, 2 native sparrowlike birds, 6 flocks ducks over ocean,
 5 flocks large marime ducks.

The black-bellied plovers spent most of the time resting

on the dry uplands 150' from water (lake). At times 80
 dunlin also on the uplands and closely associated with
 the black-bellied plovers



Left ferry slip at Cedar
 Island at 1:00 P.M. Enroute

to Ocracoke took photo 801120-1 of gulls following boat
 including ring-bills, laughing and herring gulls. Also
 801120-2^{and}3 of gulls and reflected water. Photo 801120-4
 of trailer. One group 10 Bonaparte gulls flew by
 one foot above water and in a single line. 6 others flew
 by over ferry. 18 cormorant passed by in single file.
 also 15 brown pelicans. Swales approx. 15' wide and
 4 feet high. Arrived Ocracoke 3:10 P.M. on Ocracoke
 Island. Across Ocracoke Island noted 17 sparrow
 hawks, 4 marsh hawks, 8 redwings, gull or gulls about
 1 per 3/10 miles, no view of ocean except by trail to water.
 no ponies, many gulls at ferry. Left Island 5:00 P.M.
 usual number birds but as we approached Hatteras
 there was a dramatic increase in all birds especially
 gulls and cormorants. Channel varied but well marked.
 Continued on to Sea and Sea & Surf soup grounds.

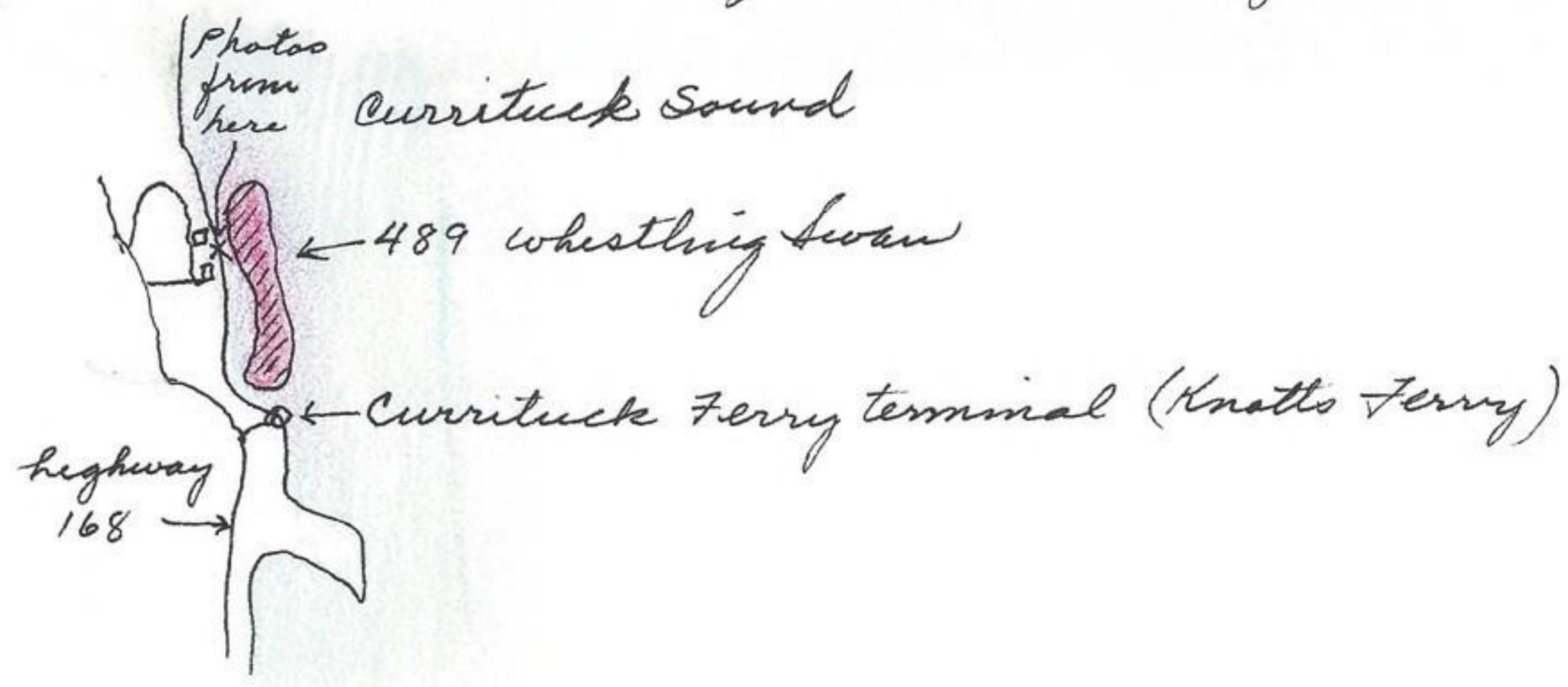
Sea and Surf Camp Grounds, about 4 mi. N.E. Hatteras City,
Hatteras Island, N. Carolina.

Nov. 21, 1980

Min Temp. last night 50°F. At 8:10 still raining.
 clouds arriving from ocean and from mainland seaward.
 As the mainland clouds struck the landward winds &
 clouds they were turned back and reversed direction at a
 lower level. Even though raining, 6 gulls & 4 crows
 flew over camp. (60°F, 70% humidity, barometric temperature
 high). One flock 28 redwing blackbirds come into camp.
 3 brown pelican in air while raining. Left at 8:40 A.M.
 3 crows along road at Supton. One group 20 crows, King-
 fisher. At Cape Hatteras Light house observed turnstone,
 4 willet, 4 sandwing & laughing gull. Raining hard.
 At light house climbed to top (274 steps). Surf in a
 belligerent mood and can see why so many ships have
 been lost in this area. Caretaker of museum said the
 wind direction dial was needing repairs as it was swinging
 from N to S until I informed her of the observations of

earlier this morning. From the lighthouse could see one surf out from shore, then smooth water and then another surf near shore ~~cccccccc~~ ~~cccccccc~~ ~~TTTT~~. The museum person said that sometimes the glaucous gull is seen here in winter. Still raining hard at 10:00 AM. 2/10 mi beyond Camp grounds. 48 crows flew E across road toward ocean at Camp grounds at Hatteras. Sparrow hawk at Avon. 3 gulls. gull, 2 gulls. Salvo, 4 crows, gull, gull, gull, herring gull eating rabbit road kill, 4 coal-tail grackle, Cormorant, gull, sand profile either hummocks or straight ridges. Fishermen carry surf pole on front bumper. 4-6 sticking straight up. As we approached bays, they are loaded with gulls and bird life. 100 snow geese along side of road & elsewhere 200-300 snow geese, gulls. This is a localized aggregate of birds. This is a Dept. Interior wildlife Refuge. ^(Red Island) In this area there is a definite increase of gulls flying across the road. In distance is Bodie Island lighthouse, now over Oregon Inlet. Now over bridge. dredging attracting thousands of gulls. The bridge area is a good place to camp & see birds. Over bridge 6 dead birds from car collision. Oregon Inlet Campgrounds is in this area. Bodie Island lighthouse area. At turnoff, sparrow hawk, Flicker. now W to mantee. Great blue heron. Gull flying right above (1 foot) railing of bridge, sparrow hawk. ^{Returned to Highway 12.} Temp 47°F at Nags-head. Wright Brothers monument too large for area. Wright terminal bridge now W. no dead birds in this bridge. at P Harbour, 5 gulls only flew by. Mockingbird. Sparrow hawk. Will discontinue complete census at Point Harbor. sparrow hawk, sparrow hawk at Powell's Point. Sparrow hawk 2/10 mi. beyond. Sparrow hawk 2/10 mi S of Canjock junction 158 and 168 approx. 3000 redwings. Sparrow hawk at Barco. Sparrow hawk, sparrow hawk, sparrow hawk. maple. Trees with leaves on and in good color. Sparrow hawk, sparrow hawk. 150 ring-bills following plow in field. at 3/10 mi. N of Knotts Ferry S to the bay just north of ferry terminal were 489 whistling swans. Specifically they were on W side of sound of Currituck from Currituck Ferry terminal (Knotts Ferry) to 3/10 mi. NNW 100' to 400' from shore. These swans were counted from photos taken

from W shore 3/10 mi. N of Currituck Ferry Terminal.



Photos 801121-1 to 801121-12. Taken at 3:15 P.M.

According to the owner of the property from whom I received permission to cross, actually his backyard, these birds came in last night and called continuously, during the earlier part of the day when raining they came closer to the shore, at places almost at edge of sound. According to the operator of the ferry he had noticed fewer than today (I wonder if he is not confusing the snow geese with these swans because it does contradict the statement of the home owner that they came in last night. Snow geese are moving thru this area by the thousands according to the home owner.) at home owners property 1500 redwing blackbirds. The home owner says the sound freezes over and the snow geese then move S. and the swans precede the snow geese. Left and continued N to Virginia State line on 168, We had expected to cross ferry and go up Coastal road but small ferry had school bus priority. ^{or towards} now on 164. Sparrow hawk. Continued to Fort Henry State Park arriving 5:30 P.M. at mileage 25362.9.

Fort Henry State Park, Virginia
 Nov. 22, 1980

There are approx 25 foreign ships at anchor N of the State Park, well lighted at night and impressive this A.M. These ships are between here and Chesapeake Bridge, Tunnel. Cape Henry is the landing place of the English in 1607. At the shore at ramp counted 30 gulls and 8 cormorant in field of 10x binocular per 100 feet. Wind all night.

no birds on beach. Trash dumped by ships come a shore and represents 10-15 different nations. 5 sets cottontail rabbit tracks across dunes, some to edge of water. Fish in the area are: flounder, speckled trout, gray trout, King mackerel, sea bass, channel bass, black drum, spott, bluefish, whiting. Left camp and continued W on 60 across Lynnhaven Bay, east to Chesapeake bridge tunnel, N Norfolk to Willoughby Spit, hence ⁶⁴⁻⁶⁰ across James River to Hampton, hence to Williamsburg. ^{arr. 11:20 A.M.} Trees in Norfolk area last to show color change of any place visited so far. Checked Williamsburg hurriedly for camp site info and then purchased 2 tickets to see Williamsburg, leaving center by bus for the main part of Williamsburg, stayed on bus for complete circuit, then got off and walked most of the area which is extensive. Colonial Williamsburg refers to the preservation and restoration of the 18th century Williamsburg. The restored area gives one an idea of the social life, politics, economics, home life of most of Virginia for that period of time. It shows what vitality these people had in the beginning of the nation's birth. The area is about 1 mile long and less than 1/2 mile wide and would require a week to do justice to the area. We visited the Capitol where the principals of self-government, individual liberty and leadership were developed by Virginia's patriots. Wythe House where George Wythe taught Jefferson & Marshall and the headquarters of General Washington before Yorktown was taken, an apothecary store, Printer Bookbinder, musical instrument maker, College of William & Mary since 1695, (Wren Building), Episcopal church of 1775 and several other places. Then returned late to Visitor Center, had evening meal and departed for Jamestown to set up camp. Colonial Parkway runs under middle of Williamsburg and follows a beautiful forested parkway to Jamestown, while at Williamsburg took the following photographs:

- 801122-1 of Annetta by a brilliant red flower.
- 801122-2 Govern. Palace.
- 801122-3 Annetta by tree at Governor Palace
- 801122-4 Sign for Colonial Toilet.

at Jamestown Camp approx 3 mi. NW of Jamestown Proper
in a camp ground at edge of James River. Area has latest colors
in trees.

Campground, Jamestown, Virginia

Nov. 23, 1980

This A.M. walked E to terminal of ferry, via river edge
and observed 1 bald eagle immature, 2 pileated woodpecker
8 Titmice, 12 song sparrows, 6 cardinals, 8 goldfinch,
Herring gulls, slate-colored juncos, crows, white-throated
sparrow, 2 deer and a kingfisher and 2 mallards.
Photos 801123-1 and 801123-2 of trees along edge of James
River, both light strucken. There were several of my best
shots that had to be thrown out. Left camp ^{10:00 AM} and visited
Jamestown. Met Anna May Warden, Program Coordinator
'74, Jamestown, Va 23081 who was a former advisee
and student of mine at Univ. Kansas. Most of the
excavations are later than the first colonists town, a
triangle fort now having been destroyed by erosion of the
James River. So the first evidence is gone here at the
first English colony in America 1607-1699, but farther
down James River on same side a colony established as
I remember a year later and is the evidence of first colonists
in America. It has not been excavated. ^{at Jamestown} The only
standing structure is an 18th Century Ambler House. This
settlement that was carved in the wilderness grey from
the rude palisade now destroyed. For 13 years (until 1620)
only colony in Virginia and served as capital for 92 years.
After capital moved to Williamsburg, Jamestown declined.
The best collection of artifacts in possession show how people
live in the daily life of 17th Century colonists ^{Louptrip with many} unearthed structures.

Left Jamestown and at turnoff to Carter's Grove photos 801123-3
of red color in tree. Redtail turnoff to Carter's Grove. Carter's
Grove Plantation is one of the greatest homes of colonial
times (790 acres) about 6 mi. SE Williamsburg. It was
completed in 1755 and has been called the most beautiful
house in America. 3 mourning doves, 60 crows in one flock,
mockingbird at Carter's Grove. Left and returned Williamsburg,
thence W to Toano (Twin Pines Camp) arriving 5:00 P.M.

Toano (Twin Pines Camp), Virginia

Nov. 24, 1980

Left camp 8:45 AM at 25484.0. min temp last night 43° F. Rain.

Crow and bluejay here. Redtail and sparrow hawk at turnoff to Talleyville. Fog increasing w of Richmond. Raining. Opossum rd kill at Short Pump turnoff. Redtail hawk. About only birds along route are the crows. Continued w to Charlottesville, thence to Monticello. Entire route fog and rain. At Monticello fog obscured what I would believe would be a very beautiful view of the surrounding country as it is perched upon a high hill top. Thomas Jefferson was only 26 when he began constructing his home. Forty two years later, the main house was completed. Inspired and ingenious, the house was designed by Jefferson, including numerous furnishings. The many dependencies are located beneath long terraces and are connected by all weather passage ways. His museum at one time occupied the main hall at the entrance. The 7 day also was above entrance. From Monticello to Ash Lawn, another house and neighbor of Jefferson. One room or hall to low to stand and it faces Monticello. Jefferson was always kidding his neighbor for bowing when he faced Jefferson's house. Temp 40°F Some fields, especially after rain, are brilliant red and may be Andropogon. Soil about same color as grass. Drove to Etlan, thence 2 mi. w to a place we camped. Today via 29, 231, 522. Recorder malfunctioned.

7 mi. w Etlan (near Sperryville), Virginia.
Nov. 25, 1980

Beautiful camp at side of road last night. Min temp 38°F. Left mileage 25656.0. Returned to Etlan, thence n along 522 highway. Recorder still malfunctioning without my knowledge. This country is beautiful rural Virginia. Many crows. Continued n via 522, Loyal front, 522, Winchester, 81, West Virginia, 81 to Martinsburg, Hagerstown, and thence 81 all the way to New York State. Turkey vultures up to at least w. Virginia. Penn State line 11:00. Striped skunk rd. kill, sparrow hawk, Wilson College turnoff, sparrow hawk lit 696. Redtail, colors in trees limited. First snow 5 mi. S Harrisburg, 2 sparrow hawks at Harrisburg, a new white-barked tree in landscape on ridges, may be birch near Minersville. Deer road kill at Frackville. Trees on these high ridges are dwarfed. Deer road kill at Hazelton.

Continued on 81 To ^{new} Milford and stayed at Blue Ridge motel at new milford. Arrived 6:00 P.M. Snow flakes all along since A.M.

new milford, Penn.

Nov. 26, 1980

Left at 26000.8 mileage. min temp last night 5°F, sky clear and all storm clouds have passed over. This is definitely a new cold front. Left 8:00 A.M. Snow now all over and up to shoulders of road. new york state line. more snow as we continued N. arrived moravia via 90 and last part 38.

moravia, Cayuga Co., New York.

Nov 27, 1980

Stayed at Jim & Liz Malseeds for Thanksgiving visit.

Nov 28, 1980

Nov 29, 1980

Birds at feeder. 14 goldfinch, 10 chickadees, 1 hairy, 1 downy, 2 w. b. nuthatches, 1 cardinal, 2 bluejays & evening grosbeaks. Dominance in red, frequency = black

Nov. 30, 1980

Took several 35 mm photos at the home of Jim & Liz Malseed, mostly to capture beauty of creek that runs along their property line.

801130-1 N side of house, over 100 years old.

801130-2 ^{+E} N side house and creek in foreground.

801130-3 Creek E end property.

801130-4 " " " "

801130-5 " NE end property,

801130-6 " N side.

801130-7 " N side

801130-8 " N side

801130-9 " N side

801130-10 " NE corner

801130-11 " N side

801130-12 House & Creek NE corner

801130-13 Creek, E side

801130-14 Creek, NE

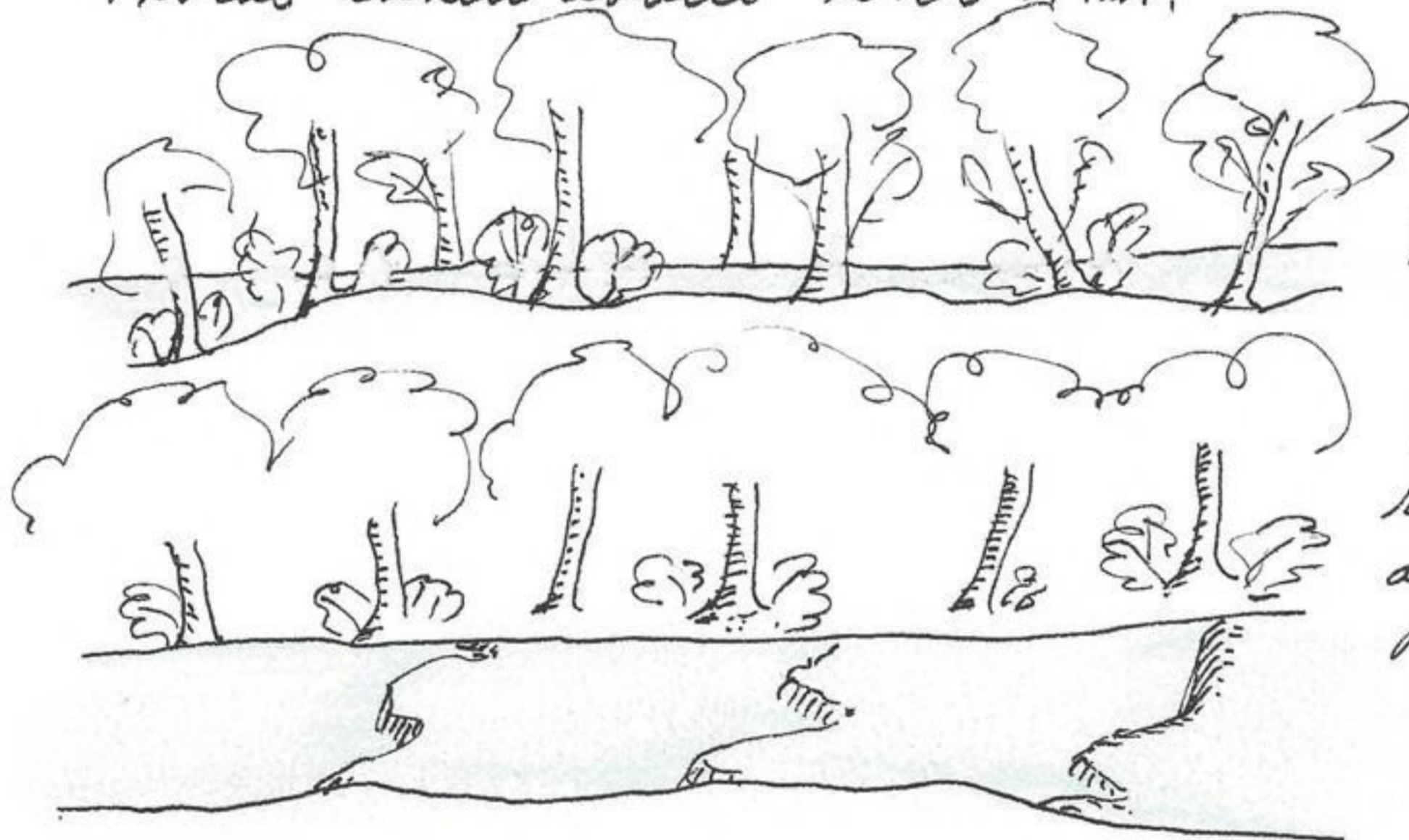
801130-15 W road at dam.

801130-16 W road at dam

801130-17 W road below first falls at dam.

- 801130-18 across road to W below dam.
 801130-19 " " " " " "
 801130-20 " " " " top main falls at brink
 801130-21 " " " " base falls on apron
 801130-22 Sign w house along road "The first cast iron plow
 in the world was made by Jethro Wood at the foot
 of the falls, 1819
 801130-23 n of Malaced house, creek and cascade.
 801130-24 Front door of Malaced home.
 801130-25 " " " trees in front Malaced home.

Photos taken about 10:00 A.M.



Present
 view of stream
 from window of
 house.

Some area of trees
 removed this side
 and graded bank.
 Plant trees on
 opposite side.

It also would be desirable to extend living area n to edge of stream and have full view window looking directly into creek. Also one could have continuous recording of water sound piped to living room.

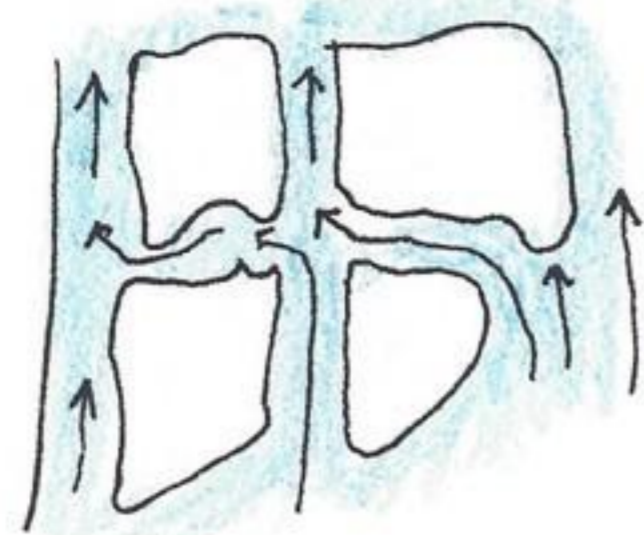
This afternoon drove to Uthica to see where Jimmy was building Condominium and to see his new home (foundation only) enroute. Observed at his place, cottontail, hairy woodpecker, redtail, 2 sparrow hawks. He has a real unique setting for his home. Returned Moravia.

Moravia, New York

Dec 1, 1980

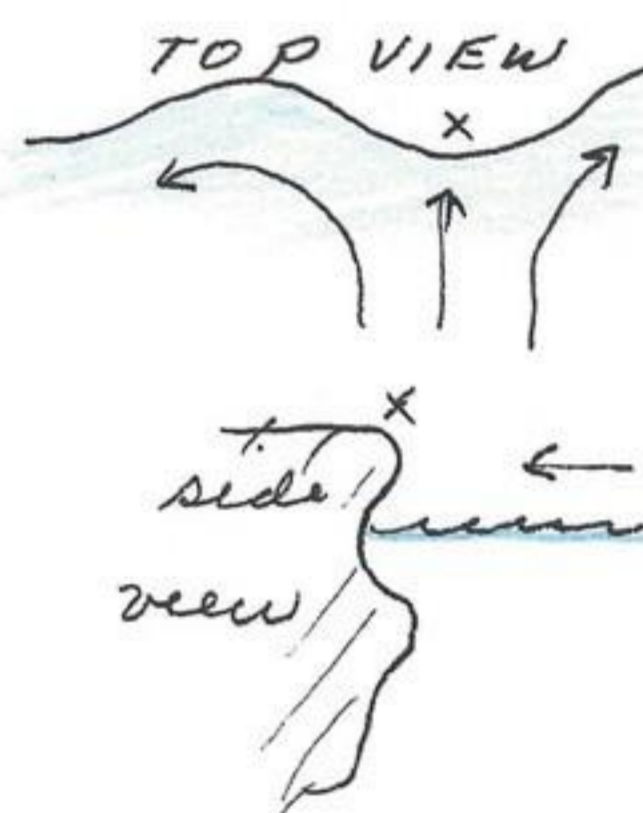
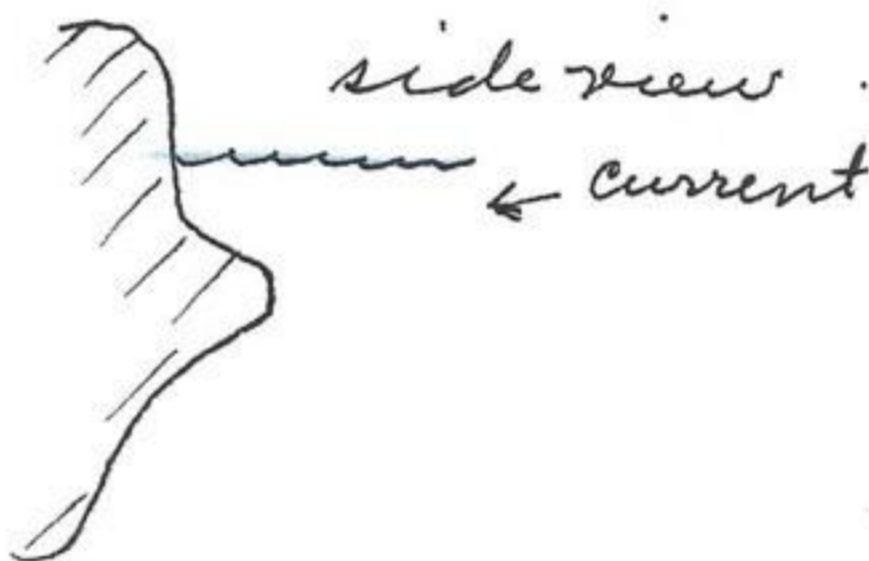
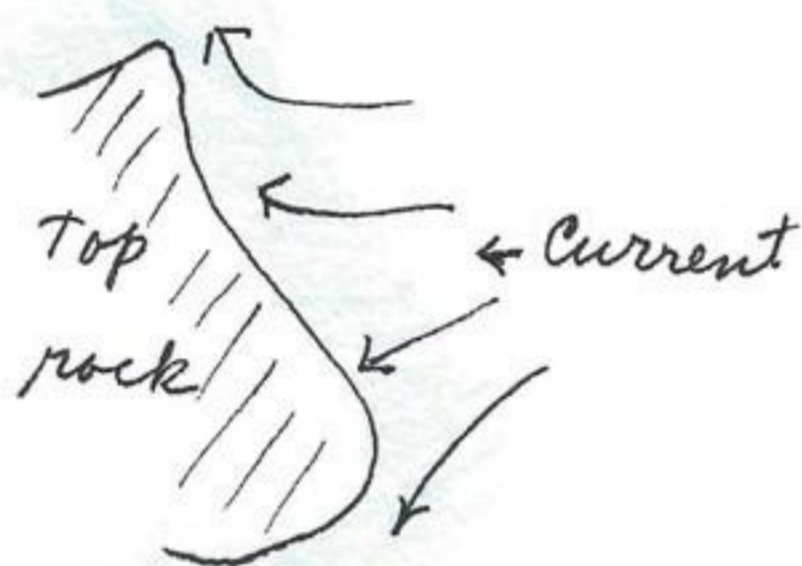
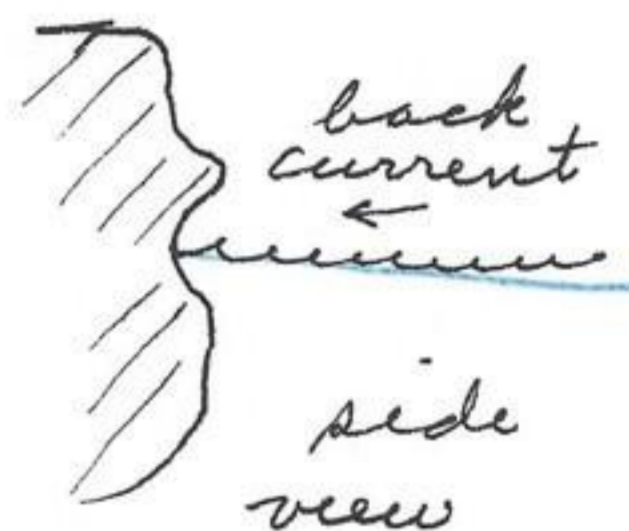
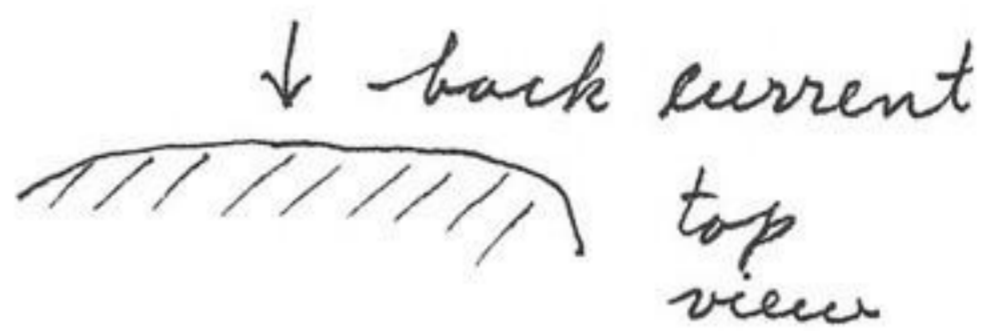
measure cottonwood tree at corner (NE) of n main and Oakhill. (Hall property) as 26' in circumference. Three other Cottonwood trees SW in town on W Cayuga Street just E of the Guidance Incorporated where Jimmy works as 18'1", 18'2", 20'0". These 4 trees measured in July 24, 1972, 8 years ago were: 25'4", 17'2", 17'3", 19'8" averaging 8.5 inches growth (cir) 4"-11" min, max.

This afternoon checked erosion patterns in creek bed of fracture systems at Malceeds home.

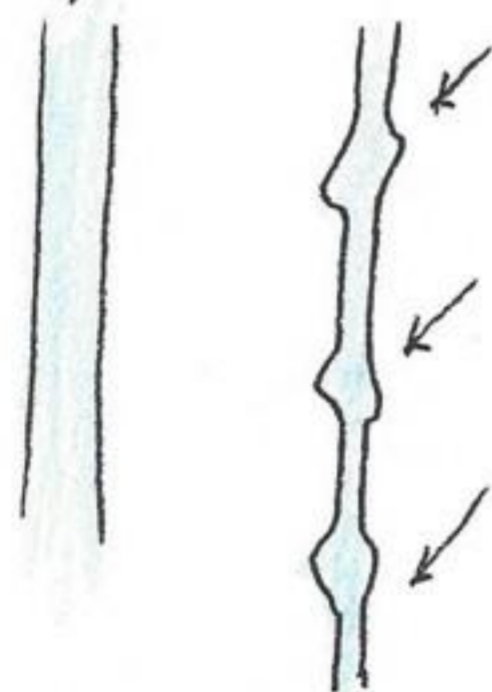


back current against edge of rocks and may be produced by chemical action of highly aerated water in back current.

↑
direction
main
flow



current (no side erosion)



current at angle to fracture
and erosion of sides
of fracture systems, into
meanders.

made trip to auburn: enroute along ^W side Owaseo, especially near N end observed. 85 Canadian geese, redtail, sparrow hawk², red-breasted merganser⁶, gulls¹²⁰, huffle heads 12, mallards 28, Bonaparte gulls 50, ring-billed gulls 12. at auburn observed 80 Canadians in one group and another of 2,000. also redtail. while in auburn visited Steward house^(alaska, purchase). Returned to moravia at 5:00 P.M. 40 Canadian geese flew over town.

Moravia, Cayuga Co., New York
Dec. 2, 1980

Trip to Oneida to purchase silverware. after returned S side Oneida

Lake and observed only gulls. Rained entire time, 2 sparrow hawks as we pulled away from lake. Returned to moravia.

moravia, Cayuga Co., New York
Dec. 3, 1980

Snowed 3 inches last night & high N. wind, 7 hr.
Dec 4, 1980

Day cold, min temp last night 2° F.
Dec 5, 1980

Day cold.

moravia, Cayuga Co., New York
Dec. 6, 1980

Left moravia at 9:25 A.M. at mileage 26266.4. Checked Corning museum and glass factory ^{at Corning}, thence W on highway 17 to Hornell Lake where we camped at Gates to park. It seems that all State Parks or government Parks are closed. min temp last night 33° F.

Hornell Lake (Kanakadea Rec. Area), New York
Dec. 7, 1980

Left at mileage 26418.3 at 7:30 A.M. Continued W on highway to Westfield thence 20 SW, thence S to Erie, ^{Penn} where we drove out on Presque Island, then continued S on 20 (all the way) to Geneva on the Lake and camped at Indian Cr. Camp. Some wind last night.

Geneva on the Lake, Ohio

Dec 8, 1980

Left early and continued on highway 20, 271 around Cleveland Columbus, to approx 18 mi. E of 465 by-pass of Indianapolis where we camped at ^{port} Montgomery Park arriving at 4:00 P.M. at mileage 27002.9. The recorder malfunctioned since we left moravia so I can only recollect for today. Rain stopped middle Illinois. 2 sparrow hawks from E Illinois to ^{port} Montgomery. 6 turkey vultures E Illinois. many leaves on ground & many hickory trees with leaves still on. Indiana flat and also Illinois. Crow & starling practically only birds.

Fort Montgomery Park, approx 18 mi. E Indianapolis, Indiana

Dec 9, 1980

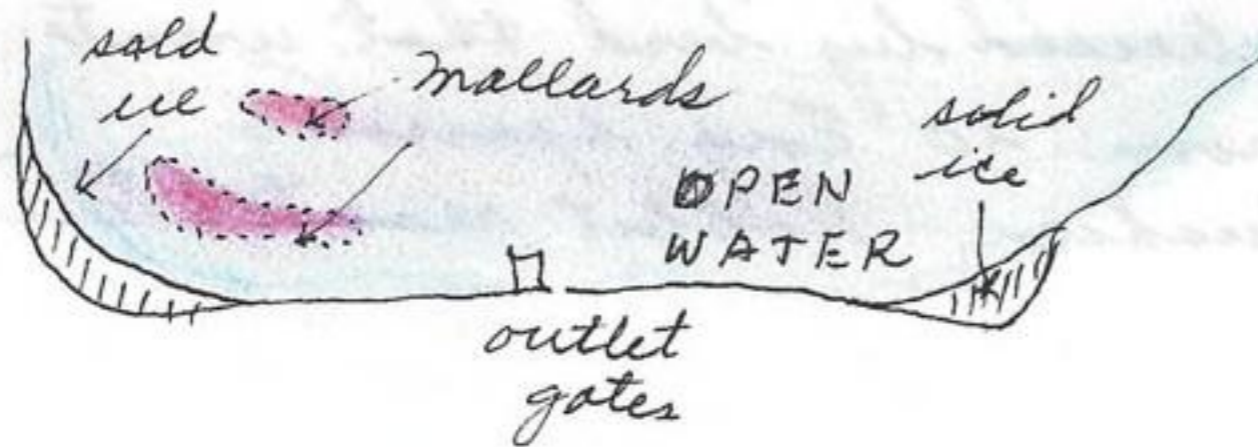
min temp 40° F. Rain all night. Creek could flood camp. arrived Rockport ^{camp ground 5:00}
Rockport Camp Grounds, on the Missouri River, Missouri (Interstate 70)

min. temp 26° F. Left mileage 27416.2. Camp deserted, arrived Lawrence 11:15 P.M.
Dec 10, 1980
(4146.5 mi total trip) 27576.0

Reservoir
 Leecompton - Perry, Douglas - Jefferson Cos., Kansas

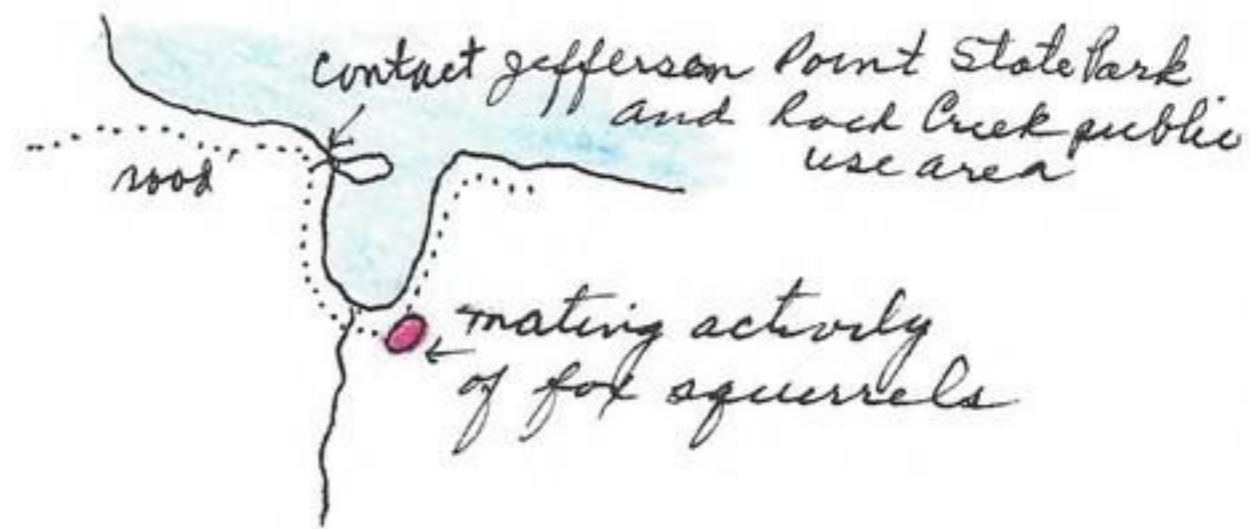
Dec. 6, 1980

Checked eagles at Leecompton & Perry Reservoir. Left Lawrence 12:00 AM. Temp. 40, sky temporarily clearing, strong wind from NW, mileage 28154. Will record selective observations. Sparrow hawk at Kasald and Lake View Road (Farmers Turnpike), marsh hawk at turnoff road to Lake View. Turn N on first road W Bruner and followed to river (at river 1/10 mi. NE dike). One immature bald eagles with impure white in head and tail (dirty white with other streaks of black and an adult bald eagle. The adult was in tree on N side of river NW. The immature on sand in river bed. Continued or returned to main road and at N end of Lake View observed a sparrow hawk. 1 mi beyond along road another sparrow hawk. At 1 mi. E of mouth of Cahley Cr noted immature bald eagle flying down river at tree top height. From S end of Leecompton bridge 1 adult bald eagle on ice in river bed of Kaw, 1 immature flying near adult above and one adult bald eagle in tree 2 1/10 mi. W mouth of Delaware River in tree on north side, at Perry dam at outlet water at 889.8 feet, water one foot (toward down) from base of gates. No ducks in river below but 12,000 male and female mallards in reservoir W of outlet, (12:45 P.M.)



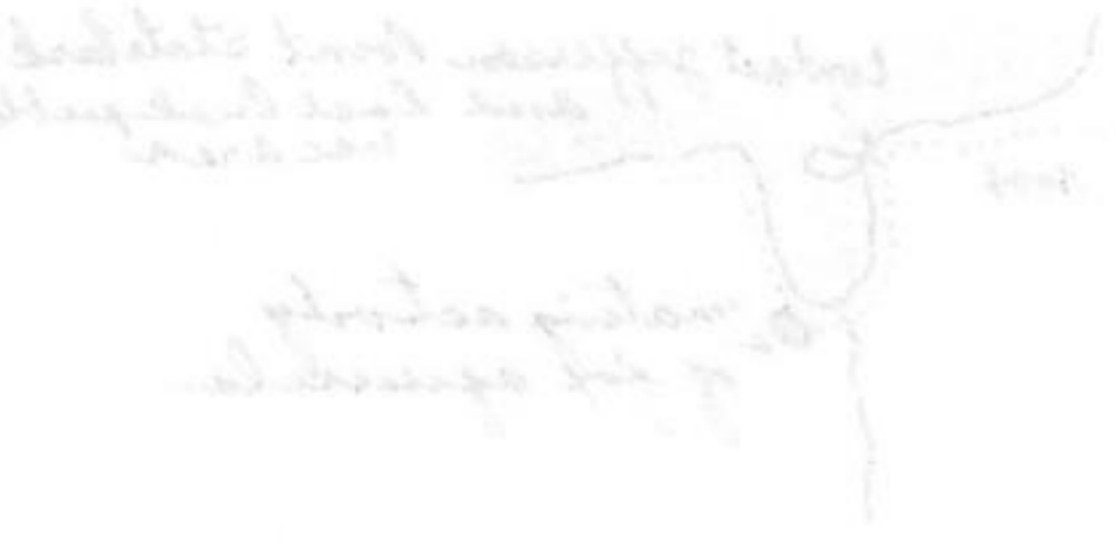
Continued N along W side of road and at a point in a bay area south of the 58 corner of the Jefferson Point - Rock Creek contact observed the mating habits of *Sciurus niger* (fox-squirrel) (see map below).

Approx 18 fox squirrels were first observed in an area of 25'x25' bordering the main road. The entire area seemed to be moving with these squirrels, some groups 2-4 chasing each other up trees, thru the bushes, on the ground, over rocky terrain, and along shoulder of road. There were temporary contacts on tree trunks or on the ground but activity was mainly the act of chasing each other. This was mating behavior and continued uninterrupted for 2 minutes while we watch from car on edge of road not over



402 Yorkshire Dr. Lawrence, Kansas
Dec. 24, 1980

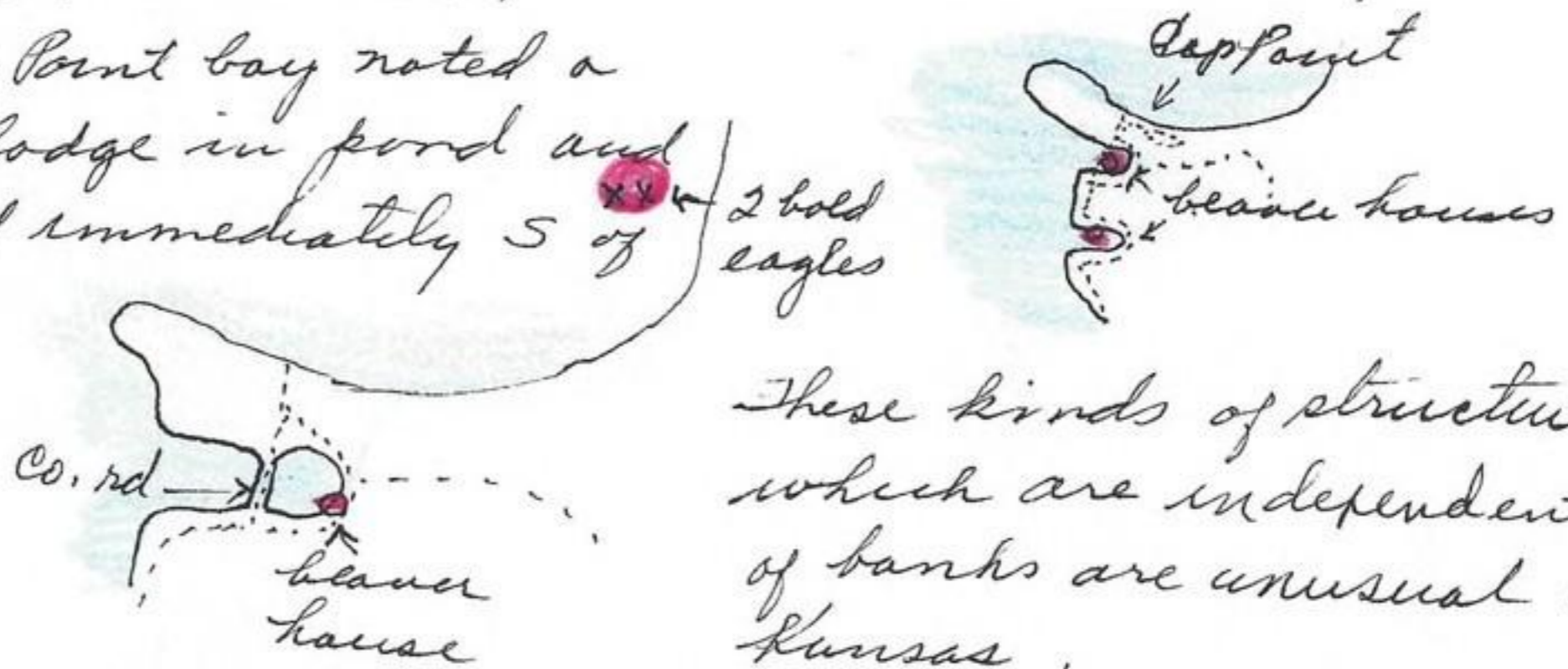
Filled goldfinch feeder Dec 17 but little take until Dec 22
 Today snow on ground, high wind. There are now 8 goldfinch
 and 12 pine siskin on an 8 peg thistle seed feeder.
 Goldfinch take 24 seeds per minute while pinesiskin take
 only 20 per minute. This is without stress. With stress
 of defending position on feeder - goldfinch 12 per minute
 and pinesiskin 9 per minute. Pine siskin have
 longer sharper bills and should be able to extract the
 seeds more readily than goldfinch. Pine siskin
 extend wings in defense, whereas goldfinch do not.
 Goldfinch restrict circumference of body and extend
 body out from feeder when stressed by bird that wants to
 displace the bird. At noon 20 Eng. sparrows
 harassed cottontail among bushes. Rabbit reacted to it,



...for sparrows were first
 observed in an area of 2500
 ...the snow bank. The
 entire area seemed to be moving
 with this movement, some people
 ...the ground, now nearly
 ...the ground, now nearly
 ...the ground, now nearly
 ...the ground, now nearly

20 to 40 feet from the activity. After 2 minutes the performance was diluted as groups chased each other out of the localized breeding area and after 6 minutes the last of them disappeared into the trees and bushes of the understory. The area supported 20% partly cleared areas among the understory & trees. Continued Ozarkian bridge, N & S in ice but some open leads. No ducks or gulls. At Little Slough bridge, water covered $\frac{1}{2}$ of creek bed. Sparrow hawk here.

At bay S of Gap Point bay noted a typical beaver lodge in pond and also one in pond immediately S of Gap Point where old county road crosses a bay



These kinds of structures which are independent of banks are unusual in Kansas.

From boat camp at Gap Point to N observed 85 ring-billed gulls generally distributed along a wide lead on W side of bay. They were flying. On E side of bay noted 2 immature bald eagles on ice. They left and gained high elevation above bay and then sailed to E. No ducks in bay N of Gap Point as far as the Celestron would carry. At top of hill E of Gap Point noted white-tailed deer standing in open field. It ran to top of hill and crossed in Traditional Crossover. At Big Slough 1 imm. bald eagle, 2 gulls, new ice, 8 ducks. The total eagles today was 11. Birds rare all along route today. no redtails.

Lawrence, 402 Yorkshire Dr., Lawrence, Kansas
Dec. 26, 1980

This A.M. Mary Pauline Bee and I checked a few boxes of Dad's mineral collection. $\frac{3}{5}$ of the minerals, all catalogued were prepared for shipment to Casper. The other $\frac{2}{5}$ of which were many uncatalogued specimens remained here to be packed and catalogued. The new numbers are a continuation of Dad's catalogue numbers. (a Xerox copy of the catalogue is added to this journal, catalogued specimens and new numbered specimens are checked in pencil on copy. Mary will do same with the specimens she will take back to Casper. She is to have collection appraised, select good museum specimens and sell or trade all others. This will reduce the collection to a reasonable size for housing as a private collection.

32	3/15/59	Iron Pyrite	KCC Bingham Camille Arlett
33	3/15/59	Sphalerite (Zinc)	Baldon Colo. Frank Searles
34	3/15/59	Quartz	Cole Pitt-Craig
To Joe Searles			
35	4/15/58	Bismuthinite - quartz	Mifflin Mass. Dist. H. Thiericke
36	2/21/59	Iron Pyrite	KCC Bingham Camille Arlett
37	3/15/59	Lead	USMing Co. Philip Ortega
38	"	Iron pyrite	KCC Bingham Camille Arlett
39	"	"	"
40	3/15/59	Uranium Ore	Moab, UT Frank Searles
41	1959	Pyrites & Iron	KCC Bingham ?
42		Rhodochrosite & gold	Butterfield Utah Leonard Benette
43	1958	Chalcopyrite	KCC Bingham ?
44	"	"	" ?
45	"	Azurite - malachite	" ?
46	"	Chalcopyrite	" ?
47	"	Mica	KCC Bingham ?
48	"	Iron pyrite	USMing Co. ?
49	"	" " - calc.	" Chas Gallegos
74	5/1/59	"	KCC Bingham Frank Searles
75	"	"	"
71	"	Gold Ore	Butterfield Utah H. Thiericke
72	"	Ruby Silver	Utah H. Thiericke
73	"	Bismuthinite	Utah H. Thiericke
76	1953	Chalcopyrite	USMing Co. ?
78	1955	Iron Ore	Chas Gallegos
77	1958	Uranium	USMing Co. ?
79	1960	Viridinite	Utah Cop. Co. Joe Searles
80	1960	Iron conglomerate	" " "
83	1960	Pyrite & quartz	USMing Co. Chas Gallegos
81	"	Pyrite	"
82	"	Seacock Copper	part of KCC Eddie B. ...

No	Date	Mineral	Location	Owner
50	3/25/59	Quartz	USMing Co Lark UT	Jos Lopez
51	"	" Iron	"	"
52	"	" "	"	"
53	"	" "	"	"
54	"	" Pyrite	"	Jos Cruz
55		Desert Rose	Monahan. Chlo.	Donathea Gillies
56		" "	"	"
57	aug 15 1912	Petrified wood.	Mouth Lake Fk-Wasatch Co	RCBee
58	3/10/59	Montana agate	montana	moanderson millar Co.
59	3/20/59	Volcanic Ash.	Puente Co	RCBee
60		?	KCC-Bing	?
61	1958	Green Stone		D Bates
62	4/26 1959	Iron pyrite	KCC. Bing.	?
63	4/25/59	Iron pyrite	Lark. USMing Co	Benson Maitney
64	"	" "	"	"
65	1958	?	?	?
66	4-22 59	Petrified Wood.	Josay Mesa	RSB
67	"	" "	"	"
68	5-18 1959	Iron Pyrite.	Bingham USMing Co	Clas. Gallegos
69	5-18 1959	" " (Twin)	KCC. Bingham	Conello Arillez
70	11-59	" " & nearby	Do	Lepez
84	5-12 59	Calcite	USMing Co.	Tom
85	4-20 69	Vivianite	Tom Lark. KCC Co	Corzales Big Jim
86	"	Turquoise	Bingham	Bing
87	5-1 60	Calcite	Do.	Juan Rivera
88	5-10 60	Iron Pyrite - Enargite	KCC. Bingham	Big Jim Bingham
89	5-14 60	Calcite & Iron Pyrite	USMing Co Lark	David Ortega
90	5-20 60	Calcite & Iron Pyrite	USMing Co Lark	Don A Cochran - malad
91	5-20 60	Quartz & Calcite	Lark-UT	Chas Gallegos
92	5-25 60	Calcite	" "	Adolph Csagy
			Emp. depot. Mouth of Puro Canyon	Exclusion

93	inlinit. Joquinto	Clay deposits - Jackson	
94	Do	mouth of Jordan on	
95	"	"	"
96	"	"	"
97	Pyrite	El Sombrero	Onesmo
98	Pyrite & Quartz	Lark City	Tajoye
99	7/60 Selenite	So Missouri	
100	7/60 Silomelano	Stirling	
101	7/60 Selenite	Lark City	Tajoye
102	7/60 Pyrite	"	Tajoye
103	Dumors Barre	Ruby mesa	Tajoye
104	8/60 Calcite	U.S. Mng Co	Rock Shop Colo
105	7/60 Quartz	Lark City	Campos
106	7/60 Lead crystals	Antario Mine	Ross
107	7/60 Pyrite & Quartz	Lark City	Morgan
108	7/60 Calcite	U.S. Mng Co	Tajoye
109	7/60 Calcite	Lark City	Campos
110	7/60 " Joque Serratto	U.S. Mng Co	"
111	8/60 Vivianite	Lark City	"
112	8/60 " "	"	"
113	6/60 Selenite Needles	Font Stanton	Pat
114	" " "	New Mex.	Dickerson
115	" " "	"	"
116	7/60 Topaz	Topaz Mt	"
117	7/60 " "	Theolo Co-Lt.	"
118	9/60 Realgar & Orpiment	Mercur	"
119	7/46 Mndrosite-gold	Eagle I.D. Holt	Benette & Co
120	9/60 Vivianite	Frisura-Putte	J. E. Dickerson
121	" Calcite	Bingham	Benette & Co
122	" " "	U.S. Mng Co	J. E.
123	" " "	Lark City	Martinez
124	" " "	"	"
125	" " "	"	"

126	9-17-60	Calcite		USMing Co. Park-W	J. E. Martiner
127	"	"		"	"
128	"	"		"	"
129	"	"		"	"
130	"	"		"	"
131	8-18-60	Bismuthite ^{date} June 1959		Exp Lake Mico	Pat Dickerson
132	2-24-59	Bismuthite		(Schmer as Not)	Norman Heinsohn
133	9-18-60	Calcite with interstitial		?	Grace Bee
134	"	Malachite + Azurite		Dixie Mine - S. George	Ross Morgan
135	"	Malachite		Do	"
136	"	Tetrahedrite + Azurite		Park-Wah mine	"
137	9-21-60	Quartz		?	Grace Spear
138	9-21-60	Petrified Wood		Neso Canyon Detur	Junge Peak Pro
139	"	"		"	"
140	"	"		"	"
141	"	"		"	"

142	9-19-60	Petrified Wood	Loc	Q	Loc
143	9-19-60	Calcite		10 mi from Dickinson North Dakota	Grace Bee
144	"	"		USMNG Co Charles Sumner	Fred Leijba
145	"	"		" Squirrh	"
146	"	"		"	"
147	"	"		"	" Ismael Baynes
148	9-29-60	Cup sum.		Hern Silver Mine	Spring St. H. Heinicke
149	"	Iron Pyrite		Daily Area - Fair City	Chas Pasquale
150	9-30-60	Calcite		USMNG Co - Capirrh	SICO L.C. Campos
151	"	"		"	" Pat Duker
152	"	"		"	" Jas Stanley Jones
153	9-21-60	Petrified Wood		Rose Canyon Ogishrh	Runge Paski Bro
154	Apr 1960	Selenite melanophosce after globelite		Rear Section of Canyon Leads 20 ft up in rocky about	Mrs Mrs Trapnell - Phoenix Ariz
155	"	"		"	"
156	10-11-60	Calcite		U.S. mine Crescent Canyon	St E Martinez

167	10-11-60	Calcite		Wistons Quinb Range 3300' level	See Martinez
168	"	"		"	"
169	"	"		"	"
160	"	"		"	"
161	"	"		"	"
162	"	Tungite Synite crystals		ESMITINE - Crystals Range	"
163	"	"		"	"
164	"	Lead Zinc Quartz		"	"
165	"	Petrified wood		Deep Valley	Hanley Jones
166	10-12-60	Synite Lead quartz		Esmitine Range	Fred Keyba
167	"	Lead crystals		"	"
168	10-17-60	Calcite		Esmitine 3000 level Bingham Mag Dist	"
169	"	"		"	"
170	"	"		"	"
171	"	Phosphite		"	Chas Fallegas
172	"	Quartz		"	"
173	"	Calcite		"	Fred Keyba

✓ 174	10-19-60	Calcite	U.S. Mng Co 3000 lbs Bingham Mag. Dist.	Sec Martinez
175	"	"	"	Fred Leyba
✓ 176	Nov 1, 1960 March 1960	Coppe sulfate	A.C. Bingham	Fiddie Spentil
✓ 177	"	"	"	"
✓ 178	"	"	"	"
✓ 179	"	"	"	"
✓ 180	"	"	"	"
✓ 181	Nov 7-60	Calcite	U.S. Mng Co. Lab.	Sec. Martinez
✓ 182	"	"	"	"
✓ 183	"	"	"	"
✓ 184	"	"	"	"
✓ 185	"	"	"	"
✓ 186	"	"	"	"
✓ 187	"	"	"	"

To R. J. Boyd
Minterton Cole

Sample No.	Date	Mineral	Company	Location	Collector
188	11-7-60	Calcite	U.S.Mng. Co.	Lk. Ut.-3,000 level	Joe Martinez
189	"	"	Do	"	Do
190	"	"	"	"	"
191	"	"	"	"	"
192	"	"	"	"	"
193	"	"	"	"	"
194	"	"	"	"	"
195	"	"	"	"	"
196	"	"	"	"	"
197	"	"	"	"	"
198	"	"	"	"	"
199	"	"	"	"	"
200	11-9-60	"	"	"	"
201	"	"	"	"	"
202	"	"	"	"	"
203	"	"	"	"	"
204	"	"	"	"	"
205	"	"	"	"	"
206	"	"	"	"	"
207	"	"	"	"	"
208	"	Iron pyrite and enargite	U.S. Mng. Co.	Lark Ut. -3000 level	Chas. Gallegos
209	"	Large drusy calcite with large crystals	"	"	Fred leyba
210	"	do	"	"	"
211	"	"	"	"	"
212	"	"	"	"	"

*La Top Gerdon
minthra lulo.*

15

213	11-9-60	Drusy calcite with larger crystals	U.S.Mng. Co.	-3000 level	Fred Leyba
214					
215	11-18-60	Drusy calcite with larger crystals	U.S.Mng. Co.	-3000 level.	Fred Leyba. <i>J.T.S.S.</i>
216	"	"	"	"	"
217	"	Calcite	"	"	"
218	"	"	"	"	"
219	"	"	"	"	"
220	"	"	"	"	"
221	"	"	"	"	"
222	"	"	"	"	"
223	"	"	"	"	"
224	"	"	"	"	"
225	"	"	"	"	"
226	"	"	"	"	"
227	"	"	"	"	"
228	"	"	"	"	"
229	"	"	"	"	"
230	"	"	"	"	"
231	"	"	"	"	"
232	"	"	"	"	"
233	"	"	"	"	"
234	"	"	"	"	"
235	"	"	"	"	"
236	"	"	"	"	"
237	"	"	"	"	"
238	"	"	"	"	"

Sierrita Mills
Do Rio Gordon, Montrose, Colorado.

✓
 ✓

✓
 ✓

✓

		U.S. Mng. Co. 3000 level, Lark, Ut.	Fred leyba To San De
239	11-18-60	Calcoite	"
240	"	"	do
✓ 241	11-20-60	"	"
242	"	"	"
✓ 243	"	"	"
✓ 244	"	"	"
✓ 245	"	"	"
246	"	"	"
247	"	"	"
② 248	"	"	"
249	"	"	"
250	11-24-60	Calcoite crystals on lead & pyrite	"
251	"	Drusy & larger crystals of Calcoite on lead	"
252	"	Iron stined calcoite and lead	"
253	"	Drusy and a large crystal of calcoite on lead	"
254	"	Calcoite crystals	"
255	"	Drusy and larger crystals of calcoite on lead	"
257	"	do / and pyrite	"
256	"	"	"
258	"	"	"
259	"	"	"
260	"	"	"
261	"	"	"
262	"	Long calcoite crystal on "group base	"
263	"	Calcoite group crystals on lead and pyrite	"
264	"	" "	"
265	"	Drusy & larger crystals on lead & zinc	"

J. Pat Dickerson

Joe Martinez

To Top Gordon Mountain Colo

To Kip Gordon, Montrose, Colo.

✓ 266	11-24-60	Group calcite crystals	U.S.Mng. Co., Lark, Ut. 3000 level.	Joe Matinez
267	"	do	do	do <i>To Nick Paski</i>
268	"	Drusy calcite with larger crystals on lead and zinc	do	"
269	"	do	"	" <i>To Chas Lockerbis</i>
270	"	"	on lead, zinc & pyrite	" <i>To Chas Lockerbis</i>
271	"	Drusy calcite with larger crystals on lead & zinc	"	"
272	"	Calcite	U.S.Mng. Co. Lark, Utah	Chas. Gallegos
273	11-25-60	"	do 3000 level	Manuel Varella <i>To TSS</i>
274	11-29-60	"	"	Pablo Tafoya
✓ 275	"	Lead & Zinc on porphyry	Kennett Copper Co	Joe Scorsatto
276	"	Selenite <i>Cyprusum (acetic acid)</i>	Do <i>5190</i>	Nick Paski
✓ 277	12-1-60	Velvety selenite	U.S.Mng Co. -3000 level	Fred leyba
278	"	"	"	"
279	"	"	"	"
280	"	Selenite crystals	"	"
281	"	" crystal (2-1/4 in)	"	"
282	"	Drusy selenite	"	"
283	"	"	"	"
284	"	Iron stained selenite	"	"
285	"	Mauve selenite with larger crystals among drusy	do	"
286	"	Large specimen of flatish selenite	"	"
287	"	Clear selenite crystals	"	"
288	12-3-60	Good	Dugway mt. area, Tooele Co, Ut.	Chas Lockerbis
289	"	same other half.	do	"
290	"	Druzy quartz	Curay, Colo. <i>774. Zinc Cr</i>	Ladaslalo Cruz
291	12-9-60	Large iron pyrite group	1600 level U.S.Mng. Co Lark	Dave Crtega

292	12-10-60	Twin layer calcite group	3000 level U.S.Mng. Co. Lark, Ut.	Pablo Tafoya
293	"	Small group calcite crystals	do	Fred Leyba
294	12-13-60	Drusy & lg calcite	"	do
295	"	do	"	"
296	"	Drusy calcite	"	"
297	"	Drusy & lg calcite	"	"
298	12-17-60	Large calcite crystals	"	Precopio Vijil
299	"	do	"	"
300	12-18-60	Trilobite (anthropod)	Delta area <i>Eriothia kirgii</i>	Pat Dickerson
301	12-23-60	Lead crystals topped with drusy calcite	" 1600 lev.	Dave Ortega
302	12-31-60	Iron pyrite	New Jersey Zinc Co-Gilman, Colo.	Boniface Tafoya
303	"	" In quartz & calcite	do	"
304	"	" galena-tetrahedrite (?)	"	"
305	1-4-61	Temaska Fern petraefaction	7-8 mi se Castledale, Utah.	Stanley Jones
306	1-7-61	Calcolite	3000 ft level U.S.Mng Co Lark, Ut.	Joe Martinez
307	"	" (drusy form)	do	"
308	"	" (drusy & larger crystals)	"	"
309	1-26-61	Lead-silver (<i>Sphaalerz</i>)	New Jersey Zinc Co-Gilman, Colo.	Boniface Tafoya
310	"	Quartz Crystals	do	"
311	2-11-61	Iron pyrite	3000 level U.S.Mng. Co. Lark, Ut.	Joe Martinez
312	do	do	do	"
313	"	Calcolite crystals	"	" T.C.S
314	"	"	"	"
315	"	"	"	"
316	"	" (gypsum)	"	"
317	"	"	"	"
318	1-28-61	quartz crystals	Ouray, Colo.	

Number	Date	Description	Source	Collector
✓ 319	2-18-1961	Vivianite	Kennecott Copper Co.	Piere Giorgio
✓ 320	do	Peacock Copper	do	do
✓ 321	"	Pyrolucite dendrites	"	"
✓ 322	2-25-1961	Pentagonal duodecahedron	Highland Boy Mine-Bingham	Julio Rubalcava
✓ 323	do	Pyrite and quartz	Kennecott Copper Co	do
✓ 324	"	Single quartz crystal	New Jersey Zinc Co., Gilman, Colo	Boniface Tafoya
✓ 325	3-1-61	Native copper in porphyry	Kennecott Copper Co	Pio Ben
✓ 326	do	Peacock Copper	do	do
✓ 327	"	do	"	"
✓ 328	3-11-61	Iron pyrite (twinning)	U.S.Mng. Co.-Lark Ut.	Trinidad Lopez
✓ 329	do	" (18 facets)	do	Onesimo Tafoya
✓ 330	"	" (twin)	"	do
✓ 331	"	" (38 facets)	"	"
✓ 332	"	Large calcite crystals	" (3,000 level)	Mrs Ben Cruz
✓ 333	3-10-61	Calcite	do	Trinidad Lopez
✓ 334	do	"	"	do
✓ 335	"	Drusy calcite	"	Joe Martinez
✓ 336	"	do	"	"
✓ 337	"	Medium sized crystals of calcite	"	"
✓ 338	"	Half inch "	"	" J.T.S.S.
✓ 339	"	Larger and drusy calcite	"	" J.T.S.S.
✓ 340	"	1/4 in "	"	" J.T.S.S.
✓ 341	"	Large crystal group of calcite 7x1	"	"
✓ 342	4-22-61	Coated calcite 7x1	Ouray, Colo. Campbell Mine	Clara Cruz
✓ 343	"	Iron pyrite 4x4	U.S.Mng. Co. (Bing. side)	Mike Laventis
✓ 344	"	Pink calcite 4x4	do	do

374	6-28-61	Drusy calcite	2-5/16 in.	U.S. Mng Co- Lk, Ut.	3M level	Joe Martinez
375	"	do	4-5/16	do		do
376	"	" with lg cry.	4-7/8	"		"
377	7-25-61	"	9-3/4	"	Fred Leyba	
378	"	"	5-5/8	"	"	
379	"	"	10-1/8	"	"	
380	"	" with lg crys.	7-1/8	"	"	
381	"	Iron pyrite -sing. cry	3-1/4	"	"	
382	8-2-61	group cry	9-1/4	"	"	
383	7-31-61	Hematite-chalcopyrite- gold-galena-quartz-bismuth enite-silver		Minton, Colo. Beaver Mng. Dst.		Mrs. Leyba Herman Heinecke
384	do	do				
385	7-9-61	Drusy calcite on galena	8-1/4 in.	U.S. Mng. Co-Lark, Ut.	3,000 level	Joe Martinez
386	"	do	4-3/8	do	do	"
387	"	do	11-3/8	"	"	"
388	"	" (1 lg cry)	3-1/8	"	"	"
389	"	"	7-1/4	"	"	"
390	"	"	4-5/8	"	"	"
391	"	"	7-3/8	"	"	"
392	"	"	7-1/4	"	"	"
393	"	" (plus lg. cry)	3-3/8	"	"	"
394	"	do	3-3/4	"	"	"
395	"	Lg. cry. Calcite	"	"	"	"
396	9-20-61	Quartz crystals	<i>Campbell Mine</i>	Ourray, Colo.		
397	10-27-61	Copper sulfate	4-5/8"	Kennecott Copper Co. <i>do Dan</i>	Conrad Valdez	
398	12-11-61	" concentrated	4"	do	pit	"
399	"	Bismuthenite	4-3/4	Milford Mng Dst.	(Heinecke property)	H. Heinecke

✓
✓

✓
✓

8012220

Greatest length

Sample No.	Date	Mineral	Location	Length	Notes
400	12-11-61	Peacock Copper & Marmatite	Milford Mng. Dst. (Helnecke lease)	3-1/8"	H. Helnecke
401	"	do	do	3-1/2"	do
402	"	Marmatite	"	3-1/2"	"
403	1-15-62	Iron pyrite	400 level park, Ut	2-3/4"	Onesimo Tafoya
404	"	" & quartz	do	2-13/16"	do
405	"	"	"	2-1/4"	"
406	"	" -chalcopyrite nodule	"	1-3/4"	"
407	"	"	"	1-1/4"	"
408	"	"	"	2-5/16"	"
409	2	" quartz & "	"	2-3/4"	"
410	1-27-62	Muscovite	Alblon Basin, Alta, S.L.Co	6-3/8"	Joe Scorsatto
411	"	"	do	3-7/8"	do
412	"	Mica	"	4-5/8"	"
413	"	"	"	4-3/4"	"
414	"	"	"	4"	"
415	?	Synthetic crystals (?)	?	155 mm	?
416	3-14-62	Cinnabar & quartz	U.S. Mine (8" vein-rare)	3-11/16"	Chas Gallegos
417	"	Selenite (?)	U.S. Mine	3-1/4 in	L.C. Campos
418	"	Calcite & Lead	"	4-1/4 in.	Chas Gallegos
419	Labor day 1960	Nodule	On surface S.E. of Castle Dale imbedded in Moencopl laid in like an egg		Bert Oman
420	7-22-62	Greenish ONyx slab	Enterprize, Oregon (quarry)	9-1/2"	Emery Davis
421	7-26-62	Rose quartz	Custer, So. Dakota	5-3/4"	Don A. Jensen

422	5-15-62	Iron Pyrite	1-3/16"	Ridgway, Colo.	Chas. Gallegos
423	do	do	15/16	do	do
424	"	"	7/8	"	"
425	"	"	2-1/4	"	"
426	"	"	1-7/8	"	"
427	"	"	2-3/4	"	"
428	"	"-lead -silver	2-1/2	"	"
429	"	" "	3-1/2	"	"
430	"	Quartz	4-7/8	"	"
431	"	"	5	"	"
432	"	"	4-7/8	"	"
433	"	Native copper in porphy	4-3/8	"	"
434	7-30-62	Iron pyrite & ?	3-3/4	Gillman, Colo. Fx	Tafoya Onessimo
435	8-2-62	Rose quartz Xx	7-1/4	Lark, Utah. Xx	Tibola
436	do	Calcite	3-1/4	do Xx	"
437	1-1-18	Modified iron pyrite	7-1/4	Highland Boy Mine, Bingham	Italian (?)
438	do	do	3-3/4	do	do
439	"	"	3-1/4	"	"
440	"	"	2-1/4	"	"
441	"	"	2-3/16	"	"
442	9-10-62	Quartz & iron pyrite	1-5/6	Lark, Utah	Tafoya Onessimo
443	1-1-18	Iron Pyrite (Twinning)	2-3/4	Highland Boy Mine	It. (?)
444	9-10-62	Quartz & Iron Pyrite	2-5/8	Lark, Utah (2800)	Tafoya Onessimo
445	"	Iron pyrite	2-7/8	do	do
446	"	do	2	do	"
447	"	Quartz & Iron pyrite	1-1/8	"	"
448	"	do	7/8"	"	"

90
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✓ 449	9-11-62	Calcolite over lead	6-3/4"	Old Jordan (U.S.-Bing.)	Mike Laventis
450	Yr. 1940	Quartz with crystals	2-3/8	Rockfellow plateau, Antarctica	R.G. Frazier
451	10-7-62	Quartz & chert	3-3/8	Alps, Europe-ne town of Plo Ben.	
452	do	Sedimentary	2-15/16	do	
453	"	Peacock Copper	3-5/8	Kennecott Copper-Bingham	"
454	"	do	3-3/8	do	"
✓ 455	10-21-62	Iron pyrite	7	U.S.Mng. Co.-Lark	Preceplo Vigil
456	11-14-62	Trilobites (Elrathia kingi)	5-1/2	Wheeler shale Mid-cambrian	
457	do	Oil shale	5-1/2	Antelope springs-Millard Co	Don A Jensen
458	12-22-62	Iron pyrite	2-3/4	Rifle, Colo	Eugene Phelps
459	do	do in talo & porphry	5-1/4	Lark, Ut -U.S.Mine	Onesimo Tafoya
✓ 460	2-8-63	Chalcopyrite & pyrite	3-1/2	Kennecott Copper-Bingham	Mrs. Felix Gonzales
461	do	Iron pyrite, lead, sphal- erite	3-1/2	U.S.Mng. Co, Lark, Ut.	Onnessimo Tafoya
462	"	Iron pyrite-quartz	5-1/2	do	do
463	"	Iron pyrite	1-3/16	"	"
464	3-2-1963	Gold bearing quartz	1-7/8	do Africa	Geo. Heinecke
465	3-2-1963	Iron pyrite & "	1-5/8	U.S.Mng Co.	L.U. Campos
466	4-6-63	Native Copper	3-3/8"	Utah Copper Co	Copper Shep-Bingham
467	"	Vivianite	7-1/4	"	do
468	"	"	9	"	"
469	5-1-63	Cuprite	1-1/8	Dealer-S.L. (Mexico)	
470	6-10-63	Iron Pyrite	2-7/8	U.S.Mng. Co.-Lark	Tafoya Onessimo

471	6-10-63	Iron pyrite-chalcopyrite-quartz	2-5/8"	U.S.Mng. Co.-Lark	EX	Tafoya Obessimo
✓ 472	"	" & quartz-coated <i>marcasite</i>	3-5/8	X7 do		Randall
473	"	"	3-3/4	7X1 "		Tafoya Onessimo
474	"	" (glazed by fault)	4	XXX "		Tafoya Onessimo
475	6-25-63	Calcolite, galena, pyrite	5-1.4	7X1 "		"
476	"	Calcolite, chalcopyrite, quartz	4-7/8	7EX "		"
477	7-26-63	Iron pyrite (Exchange)	3-1/4	Minturn, Colo. (Gillman)		Skip Gordon
478	"	Sphalerite-pyrite, galena & 7X1	4-5/8	do N.S. Zinc Co.		do
479	"	do	4-1/2	" "		"
480	"	"	4-3/4	" "		"
481	"	Drusy Calcolite, galena, pyrite ets	4	Lark, U.S.Mng. Co. K1		Leo Gsi Campos
482	"	quartz on sphalerite & pyrite	3-3/8	Minturn, Colo. (Gillman)		Skip Gordon
483	7-15-63	Desert Rose	3-3/4	Norman, Okla.		Cynthia Coombes
484	7-25-63	Dina bone (quartz marrow)	7-3/4	Westwater draw Colo Riv		do Kelley Rook Shop
485	"	" (calcolite ")	6-1/2	Nucla, Colo.		" "
486	"	Petrified bird bone (?)	5-7/8	Cottonwood, Colo.		" "
487	"	do	3-1/2	do		" "
488	7-15-63	Desert Rose	2-3/4	Norman Oklahoma		Cynthia Coombes
489	"	"	1-5/8	do		do
490	2-28-64	Iron pyrite-quartz	6			Robt. J Imez
491	"	<i>Fluorite</i>	1-3/4	Wolf Creek - W.F.K Duchens		Stanley Jones.
492	4-25-64	Calcolite	4-5/8	3000 level Lark (U.S.Mng)		Alf. Pacheco
493	5-16-64	Cuprite xls & copper	2-1/16	Arizona		PROVOROCK Show
494	"	Gold in quartz	2-1/8	South Africa		Geo Heinecke
495	64 Jade		3-3/4	Bernstein, Austria		Don. A. Jensen

Sample No.	Date	Mineral	Matrix	Location	Notes
496	12-1-64	Calcite	Fx	U.S. Mine-Lark, Ut.	Joe Lopez
497	"	"	Fx	do	do
498	12-10-64	Galena & Quartz	xix	6-7/8	Robt. Jimenez
499	2-3-65	Sphalerite	xix	2-13/16 Picher, Okla	Stanley Jones
500	"	Fluorite	"	13/16	Stanley Jones
501	"	"	"	1-1/4	do
502	"	"	"	1-1/16	"
503	4-10-65	Iron Pyrite	"	50 singles & groups-50% no cleav.	Ben Reyes
504	do	"	"	34	"
505	4-29-65	" & quartz	"	4-3/8 Kennecott Copper Co-Ut	Cirillo Co. / oz. W. Bee
506	3-28-65	Volcanic Ash	"	5-1/4" Pavant Cone-12 mi w Michfield	W. Bee
507	3-28-65	"	"	2-7/8 do	"
508	5-3-65	"	"	3-3/16 "	"
509	5-1-65	Obsidian (1964)	"	3" F. Level N. side Utah Copper	Joe Scorsatto
510	"	Quartz (?)	"	13/16 Albian Basin Alta-S.L.Co.	"
511	"	Tourmaline	"	7/16 DO	"
512	4-29-65	Iron Pyrite & Quartz	"	2-1/2 Kennecott Copper Co-Bingham	Cirillo-Mv.
513	6-25-65	"	"	3-1/2 "	"
514	5-1-65	Tourmaline	"	1" Albian Basin, Alta, S° L° Co/	Joe Scorsatto
515	5-5-66	Vivianite	"	4-3/8 Kennecott Copper Co	do
516	7-20-66	Molybdenite	"	3-7/8 do	Pio Ben
517	5-23-66	Sandstone-3-1/8"	"	carried to Lawrence, Kan from Minn. (Ice age)	J.W. Bee
518	July 1966	Good	"	Dugway area	
519	"	"	do	6/4"	
520	"	"	"	6/4"	
521	"	"	"	5-7/8"	
	"	"	"	5-3/4"	

522	July 1966	Geod		5-1/16	Dugway, Utah, area.	Orville Gallegos
523	do	"		"	do	"
524	Sept 25-66	quartz crystals		4-7/16	Gillman, Colo.	Orville Gallegos
525	do	nodule		8"	Emery Co, Utah	"
526	"	"		7-3/4"	do	"
527	May 3-1967	Molybdenum		6-1/2"	Kennecott Copper-5490	Joe Gorsato
528	do	Conglomerate bonded with copper sulfate approx. 60 yrs over pipe		5"	"	do
529	May 13 1967	Geod		4-3/16"	Durango, Mexico	Timp. Rock Jhor
530	Sept. 11, 1962	Iron pyrite		92.5 mm	U.S. Mng Co., Park, Utah.	Tofoya Dressino
531	"	Iron pyrite + quartzite		22.3 mm	"	"
532	"	"		43.3 mm	"	"
533	"	"		43.6 mm	"	"
534	"	Galena		93.2 mm	"	"
535	"	Pyrite		760 mm	"	"
536	"	"		44.0 mm	"	"
537	"	"		33.0 mm	"	"
538	"	"		36.8 mm	"	"
539	"	"		23.0 mm	"	"
540	"	"		53.0 mm	"	"

Cat.	Date	Name mineral
541	9-11-62	Pyrite
542	"	Iron pyrite - quartz
543	"	Iron pyrite.
544	"	" "
545	"	Iron pyrite - quartz
546	"	Iron pyrite
547	"	"
548	"	Iron pyrite
549	"	Iron pyrite (single cube)
550	"	Iron pyrite
551	"	"
552	"	Iron pyrite
553	"	"
554	"	"
555	"	"
556	"	"
557	"	"
558	"	"
559	"	"

Max. meas.	LOCALITY	SOURCE
66.2 mm	US Mng Co., Park, Utah	Tofoya Dressing
63.5 mm	"	"
31.5 mm	"	"
76.0 mm	"	"
22.7 mm	"	"
44.6 mm	"	"
33.2 mm	"	"
45.4 mm	"	"
21.5 mm	"	"
41.9 mm	"	"
25.0 mm	"	"
74.0 mm	"	"
26.0 mm	"	"
23.4 mm	"	"
36.7 mm	"	"
21.2 mm	"	"
28.5 mm	"	"
57.0 mm	"	"
49.8 mm	"	"

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cat. no.	date	mineral	meas.	locality	source
560	9/11/62	Iron pyrite - quartz	47.0 mm	4.5 mng Co., Lark, Utah	Tofoya Oneasimo
561	"	Iron pyrite	55.3 mm	"	"
562	"	"	110.2 mm	"	"
563	"	?	29.5 mm	"	"
564	"	Iron pyrite	31.4 mm	"	"
565	"	Iron pyrite - quartz - porphy	107.3 mm	"	"
566	"	"	68.2 mm	"	"
567	"	"	95.5 mm	"	"
568	"	"	77.5 mm	"	"
569	"	?	70.8 mm	"	"
570	"	Quartz	145.8 mm	"	"
571	"	"	176.0 mm	"	"
572	4/23/62	Iron pyrite - quartz - ^{calcite} porphy	80.0 mm	Ridgeway, Colorado	Clara Sallega
573	"	Iron pyrite	104.6 mm	U.S. mng Co., Lark, Utah	Tofoya Oneasimo
574	2/24/59	Beamuthinite	92.6 mm	Milford mng dist, Utah	H. H. Hengge
575	5/15/62	Galena	68.0 mm	Ridgeway, Colorado	Chao.
576	"	Galena	50.0 mm	"	Sallega
577	"	"	63.8 mm	"	"
578	"	"	91.8 mm	"	"

Number	Date	Location	Material	Weight (mm)	County	Collector
579	5/15/62	Halena		74.7 mm	Lidgerway, Colorado	Chas. Gallegos
580	"	"		42.8 mm	"	"
581		Ore (greenish)		115.8 mm	"	"
582		Granite		90.0 mm	"	"
583		Iron pyrite		90.0 mm	"	"
584		"		62.3 mm	"	"
585		"		87.5 mm	"	"
586		"		81.5 mm	"	"
587		"		64.6 mm	"	"
588		"		101.8 mm	"	"
589		"		88.0 mm	"	"
590		"		74.0 mm	"	"
591		"		87.0 mm	"	"
592		"		106.6 mm	"	"
593		Quartz		80.0 mm	"	"
594		"		75.0 mm	"	"
595		"		70.0 mm	"	"
596		"		71.6 mm	"	"
597		"		73.0 mm	"	"

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Sample No.	Date	Mineral	Size (mm)	Location
598	4/22/62	Galena-quartz	69.6 mm	Campbird mine, Ouray, Colo. Clara Cruz
599	"	Galena	35.8 mm	" " " "
600	"	Galena-quartz	75.8 mm	" " " "
601	"	Galena	34.0 mm	" " " "
602	"	"	46.5 mm	" " " "
603	"	"	72.7 mm	" " " "
604	"	Galena-quartz	65.0 mm	" " " "
605	"	Galena-	42.2 mm	" " " "
606	"	Galena-quartz	44.5 mm	" " " "
607	"	"	37.8 mm	" " " "
608	"	Galena	50.0 mm	" " " "
609	"	Galena-quartz-pyrite	52.6 mm	" " " "
610	"	Galena	40.5 mm	" " " "
611	"	quartz crystal	92.7 mm	" " " "
612	"	"	65.4 mm	" " " "
613	"	"	57.6 mm	" " " "
614	"	"	76.8 mm	" " " "
615	"	"	72.0 mm	" " " "
616	"	"	97.0 mm	" " " "

617	4-22-62	quartz crystal	71.5 mm	Campbird mine, Duray, Colo.	Clara Cruz
618	"	quartz crystals	79.6 mm	"	"
619	"	"	78.5 mm	"	"
620	"	"	64.3 mm	"	"
621	"	quartz crystal	78.7 mm	"	"
622		crystal	168.0 mm	"	"
623		quartz crystal	77.0 mm	"	"
624		"	77.4 mm	"	"
625		"	83.2 mm	"	"
626		"	68.0 mm	"	"
627	7-26-63	Selenite, dark crystals	206.0 mm	Montezuma Colorado	Kip Gordon
628	"	"	197.0 mm	New Jersey Zinc Co. Gilman	Kip Gordon
629	"	"	260.0 mm	Montezuma, Colorado	"
630	"	"	297.0 mm	"	"
631	7-26-63 4-22-62	"	118.0 mm	New Jersey Zinc Co., Gilman, Colo	Kip Gordon
632	11-1-60	Copper sulfate	77.0 mm	U.S. Mining Co., Lark, Utah	Eddie Sontel
633	4-22-62	quartz crystals, iron pyrite	55.7 mm	Campbird mine, Duray, Colo.	Clara Cruz
634	8-11-62	Iron pyrite	155.0 mm	U.S. Mining Co., Lark, Utah	Totona Onedding
635	7-19-60	Calcite	310.0 mm	U.S. Mining Co., Lark, Utah	Fred Heyba

636	9-21-60	Petrified wood (red)	103.0 mm	Rose Canyon, Quartz Range, Utah, Park	1	
637			211.0 mm			
638	1918	Chrysotile	81.0 mm	Highland Boy, Bingham Canyon, Utah		
639	9-10-62	Quartz - iron pyrite	35.7 mm	U.S. Mng Co., Lark, Utah, Tafuya Onusimo		
640	"	"	34.2 mm	"	"	
641	"	"	31.8 mm	"	"	
642	3-14-59	Pyrite of iron	49.5 mm	Kennecott Copper Co., Utah, Cammie Miller		
643	"	"	66.7 mm	"	"	
644	"	"	71.5 mm	"	"	
645	"	"	47.8 mm	"	"	
646	"	"	44.7 mm	"	"	
647	"	"	33.7 mm	"	"	
648	11-25-58	Iron pyrite - quartz	47.0 mm	U.S. Mng Co., Lark, Utah, Sane Ortega		
649	"	"	54.5 mm	"	"	
650	"	Quartz	53.8 mm	"	"	
651	9/15/80	Conglomerate bonded with calcium carbonate	325.0 mm	Angels Co., Kansas, J. W. Bee (860915-23)	80	
652	8/2/72	Asbestos	100.5 mm	1/2 mi. E. Mouth Oakley Cr., Kaw R. (860915-23)	20	
653	"	amber	67.5 mm	L'Anse au Clair, Laborador	22	
654	"	amber	84.6 mm	"	James W. Bee (720802-32)	6
655	"	Native Copper	57.4 mm	"	James W. Bee (720802-33)	6
					James W. Bee (720802-34)	6
					James W. Bee (720802-35)	6

656	12-10-64	Galena	82.8 mm	U.S. Mng Co., Lark, Utah	Joe Lopez
657	?	Quartzite?	44.0 mm	?	?
658	9-20-61	Loose quartz	72.8 mm	Campbird mine, Ouray, Colo	Clara Gallegos
659	?	Mica	52.7 mm	?	?
660	9-21-60	Petrified wood	175.0 mm	Loose Canyon, Ogden Range	James Paski
661	"	"	142.0 mm	"	"
662	"	"	225.0 mm	"	"
663	"	"	375.0 mm	"	"
665	"	"	195.0 mm	"	"
666	7-25-61	Iron pyrite crystal	33.5 mm	U.S. Mining Co., Lark, Utah	Aracimo Tofaya
667	9-10-78	Petrified wood	174.0 mm	(Petrotonic) Gerty Chromium mine, Shirley Basin, Wyo.	Mary P. Bee

Kinds of minerals in collection:	Kind of mineral (nos. where first occur in catalogue)
agate, montana 58	oil shale 457
aluminum 89	onyx, green 420
amber 653	ore 581
azurite 26	orpiment 118
asbestos 652	pentagonal duodecahedron 322
beryllium 1	perlite 89
bismuthinite 7	petrified wood 57
calcite 5	porphyry 18
calcite, coated 342	psilomelane 100
calcite, drusy 209	pyrolucite dendrites 321
calcite, pink 344	quartz 6
cerrusite 638	quartz, rose 421
chalcopyrite 5	realgar 118
copper 5	rhodochrosite 42
copper, peacock 30	rhodonite 171
Copper sulfate 176	selenite 92
cuprite 469	selenite, mauve 285
desert rose 55	selenite, velvety 277
enargite 88	schist 101
florite 500	silicon 89
galena 22	silver 7
gem stone 61	silver, ruby 72
geod. 288	sphalerite 33
glaberite 154	synthetic crystal 415
gold 7	tetrahedrite 136
granite 582	Topoz 116
gypsum 148	tourmaline 514
hematite 383	tungsten 1
iron 5	turquoise 2
iron pyrite 6	volcanic 77
jade 495	volcanic ash 59
lead 5	vivianite 85
limonite 131	uranium ore
malachite 43	zinc 6
marmatite 400	
mica 19	
molybdenite 516	
muscovite 410	
obsidian 509	

Source of minerals in collection: (Collectors)

Asay, Adolph	Oman, Bert
Aviles, Cammile	Ortego, Davis
Bates, A.	Ortiz, Cirilio
Bee, James W Bee	Paski, Nick
Bee, Mary P. Bee	Pacheco, Alf.
Bee, Robert G.	Phelps, Eugene
Baratto, Leonard	Pasquale, Chas
Brentel, Eddie	Pio, Ben
Caywood, Cope	Reyes, Ben
Campos, L.C.	Rivera, Juan
Coombes, Cynthia	Rubalcova, Julio
Cruz, Clara	Scorsato, Joe
Cruz, Joe	Shapmaker, L.K.
Cruz, Ladaslais	Spear, Grace
Cruz, Pet	Suassio, Frank
Davis, Emery	Tangara, Jno
Dickerson, Pat	Trapnell, Mr. & Mrs.
Frazier, R.G.	Tafoya, Bonifacio
Gallegos, Chas.	Tafoya, Greg
Gallegos, Clara O.	Tafoya, Onesimo
Gillies, Dorothea	Tafoya, Pablo
Giorgio, Pierre	Valdez, Conrad
Gonzales, Felix	Varela, Manuel
Gonzales, Tom	Vasquez, Reuben
Gordon, Skip	Vijil, Precopio
Heinecke, Herman	
Jensen, Don A.	
Jimenez, Robert	
Jones, Stanley	
Kelley	
Laventis, Mike	
Leyba, Fred	
Leyba, Mrs. Fred	
Lockerbie, Chas	
Lopez, Jessie	
Lopez, Joe	
Lopez, Trinidad	
Martinez, Joe E.	
Monterey, Buses	
Morgan, Ross	

mines and geographical areas represented:

Agosaldo, NE Alps, Italy
 Albion Basin, Alta, Salt Lake Co., Utah
 Africa, South
 Antelope Springs, Millard Co., Utah
 Apex Mining Co., Bingham, Utah
 Beaver Mining District, Utah
 Beldon, Colorado.
 Bernstein, Austria
 Blue Gem mine, Battle mt. mining dist., Nevada
 Cornbird Mine, Auray, Colorado.
 Creole mine, Lincoln mining dist., Beaver, Utah
 Custer, S. Dakota
 Dailey judge, Park City, Utah
 Delta area, Utah
 Diamond mine, Eureka, Nevada
 Dixie mine, St. George, Utah
 Dugway mt. area, Tooele Co., Utah
 Durango, Mexico
 Eagle bud fissure, Butterfield Tun., Salt Lake Co., Utah.
 Emery Co., Utah
 Enterprise (Quarry), Oregon
 Fort Stanton, New Mexico
 Gilman, Colorado
 Highland Boy mine, Bingham, Utah.
 Horn Silver mine, SF mining dist., Beaver Co., Utah
 Kaw River, 1/2 mi. E Oakley Cr., Douglas Co., Utah
 Kennecott Copper Co., Bingham, Utah
 Lake Fork (mouth), Wasatch Co., Utah
 Lake mt. (E side), Utah Co., Utah
 L'Anse au Clair, Labrador
 mercur, Oguruk Range, Utah
 Milford, Beaver Co., Utah.
 Milford mining dist., Beaver Co., Utah
 Minton, Colorado
 Missouri, S
 Moab, Utah
 Montvern, Colorado
 New Jersey zinc. Co., Auray, Colorado
 Old Jordan (U.S. - Bingham), Utah
 Onida Perlite Corp, Malad, Idaho.

Ortamio mine, Park City, Utah.

Park, Utah mine, Utah

Pavant Co 12 mi. W Fillmore, Millard Co., Utah.

Picher, Oklahoma

Pravo Canyon (mouth), Utah Co., Utah

Rex (Ron) oil and mining Co., 35 mi W Jerico, Nevada

Redgeway, Colorado

Rifle, Colorado

Rackefeller Plateau, Antarctica

Rose Canyon, Ogurrah Range, Utah

Ruby mesa, mesa Co., Utah

Topaz mt., Tooele Co., Utah

Torrey mesa, Utah

Wolf Creek, W Fork Duchene, Utah

U.S. mining Co., Lark, Utah.

Lawrence, Douglas Co., Kansas [INSERT] 801226-172

July 13, 1980

This article in Journal World dated July 13, 1980 written by
Bunny Smith; Photos by Van Haesen and consultant James W. Bee.

Coming home



By **BUNNY SMITH**
Variety Editor

When the floodgates on the Wakarusa came down and the waters of Clinton Lake began to swallow the land, dozens of families were driven from their homes.

But some creatures are just naturally more stubborn than others, and it takes more than an inundation to force a family of red-tailed hawks from its accustomed nesting place.

It's a stubbornness that has a lot to do with instinct and perhaps a little with tradition. For when a hawk builds a nest, it's home sweet home forever.

"A red-tail may have alternate nests in its territory, and it will return to one or the other of them year after year," explained James Bee, Kansas University professor emeritus of systematics and ecology. "Some nests that have been securely anchored have been used as long as 10 years."

THAT'S THE upper limit of a red-tailed hawk's lifespan, Bee added.

Red-tails customarily build their nests in thickets of towering trees — the higher the better for observing prey — near open fields, Bee said. The black willow in which this nest was built once fit that bill. Now, with Clinton's waters swirling some 20 feet below, this territory hardly seems ideal, but these hawk parents have returned there from their wintering grounds in northern Texas, Louisiana or Mississippi nevertheless.

As more and more fishermen, boaters and waterskiers invade the waters below their aerie, these hawks may eventually

abandon this site, to build again somewhere offshore. But not this season. The 2-month-old fledglings who have in recent days tried their wings outside the safe confines of the nest will soon be off in search of territories of their own.

FIRST, THEY will be taught to hunt by their parents, who will circle above them and then, with a closing motion of their wings, swoop down near the prey intended for their young to find. It is a lesson that will be learned very quickly, for red-tailed hawks are formiddable hunters by nature, Bee explained.

"A hawk will sit on its perch for hours, then when it sees its prey, it'll dive down at last," he said. "They do miss, but not very often."

Their prey are mainly rodents — especially small field mice — small rabbits, squirrels, frogs and snakes — even the deadly diamond-back rattlesnake. Rarely will a red-tail become a nuisance to man, killing fowl or livestock, Bee said.

"It's really a shame. There are some hawks that feed primarily on birds and chickens," Bee said, "but the hawks that suffer are these red-tails, which are 95 to 100 percent beneficial to the farmer. They're innocent."

Distinguishable by its distinctive rust-red tailfeathers and hoarse, descending shriek, the red-tail and all other hawks are now protected from the vengeance of man by federal law, Bee pointed out. In fact, Bee said, the appearance of these birds is becoming fairly commonplace today for those who know what to watch for.

See Hawks, page 3B

Photos by Kent Van Hoesen

Hawks return to nest

(Continued from page 1B)

There are few more thrilling sights for the birdwatcher than the hawk on the wing as it soars thousands of feet overhead, riding on the warm thermals of the earth's atmosphere.

Man has long revered the hawk, as evidenced by Egyptian hieroglyphics of favored royal falcons. It is perhaps their regal appearance — the

beak proudly curved downward in a fashion the ancients considered the height of physical beauty, the eyes focused straight ahead with deadly aim — which inspires such awe in man. Consider the appellation "eyes like a hawk."

"We think of ourselves as such a very evolved organism," Bee said, "but when it comes to eyes, we're very primitive in comparison."

Whether he's hunting with shotguns, poisoning with pesticides or flooding with new reservoirs, man is the hawk's biggest enemy, Bee said.

"Any other animal would think twice about trying to disturb a hawk," he said. "But man, he's the outstanding culprit."



Hawk haven

(Staff photo by Kent Van Hoesen)

Two young red-tailed hawks peer from their nest overlooking Clinton Lake west of Lawrence. When the lake flooded acres of land along the Wakarusa River it drove many families from their homes, but the hearty hawks have returned to nest in their traditional spot. Story and more photos in Sunday Variety, page 1B.

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The rising waters of Clinton Lake didn't discourage this family of red-tailed hawks from returning to its traditional nest, top photo. The family's two fledglings protest the presence of an intruder, above right, revealing newly attained wing feathers. Above, one of the parent hawks drops a newly killed rabbit into the nest for the young to feast upon.

