Tom
15 Sep 82
8.40

1244 00

36° 19' N
116° 25' W

9

A up rolling + down
B land c

"

9

A up change down
vac t down.

B —

4e

S.2 green
grey c
moving cf.
cold pc cf.

"

9

A falling.
B —

S-2 grey c
blue cf.
outdoors c

(2)

36° 19' N
116° 25' W

I

A Cercis florens
B —

"

?

A florens
B —

S-2 vegetation cf.
dark cf
high cf.

Dol? —

"

?

A rising rolling
B Hill

S-2 rise rolling pc
falling cf
rocky c
dirt c
brown c
rock & dirt mixture c
wet cf.

1244 0?

(3)

wind sounds pc
clean air c
high cef.
brown grasses cf

Bol Breab
large rollins
hill brown
dirt + rock
stream runnel
down side.
grey clay.
Wyomins.

36° 19' N
116° 25' W

I

A up Jallins.
flat
B —
mt valley c

5-2 very high cef
open c
wide open c
wooded Beautiful.
A1 Large valley.
Breab. Suit
Sud

1244 09

Tom
15 Sept 82
0840

36° 19' N
116° 25' W

A - up rolling down
B - land c

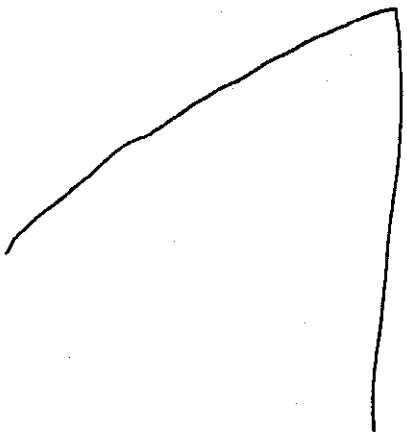
36° 19' N
116° 25' W

A up cld down fast

B—

s-z Green c
Gray c
moving CFB
cold ~~CFB~~ CFB

36° 19' N
116° 25' W



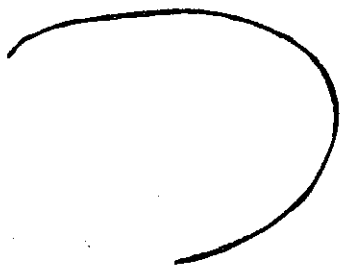
A falling C

B—

s-z Gray c
Blue CFB
→ outdoors c

1244 00

36° 19' N
116° 25' W



A Curving flowing

B —

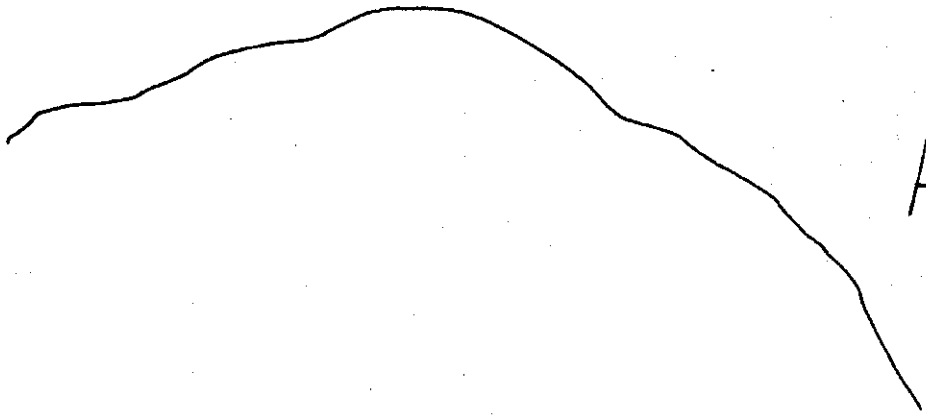
36° 19' N
116° 25' W

A flowing

B —

S-2 Vegetation CFB
dark CFB
High CFB

36° 19' N
116° 25' W



A rising Rolling
land

B - Hill

S-2 rippling PR
falling CFB
Rocky C
Dirt C
Brown
Rock + Dirt C
Wet CFB

Wind Sound Pc

1241 00 c clean smelling Ai

High CFB

Brown grasses

AOL Breck

large Rolling hill

Brown distant Rock

Stream running down

side

grey sky

Wyomings

Sum ~~tan Hill~~

land - down feet

~~Green~~ Grey

outdoor

falling feeling

Grey

Curving/flowing

Hill

Rock/Dirt mixture

Brown

Clean Smelling Air

1244 00 ④

36° 19' N
116° 25' W

A- up cliff faking flat

B—
Mountain/Valley C

S-2 Very High
Open c
Wide open c
Wooded

AT Book
Large Valley
Site
Beautiful
End

and a sign around his neck that said "Merry Christmas, Patti." He had the softest coat I have ever touched.

"We rescued him from a coyote near the water tank," Anne said. "We couldn't find his mother, so we tried to get a group of burros to accept him. They wouldn't, so we brought him home and gave him a name."

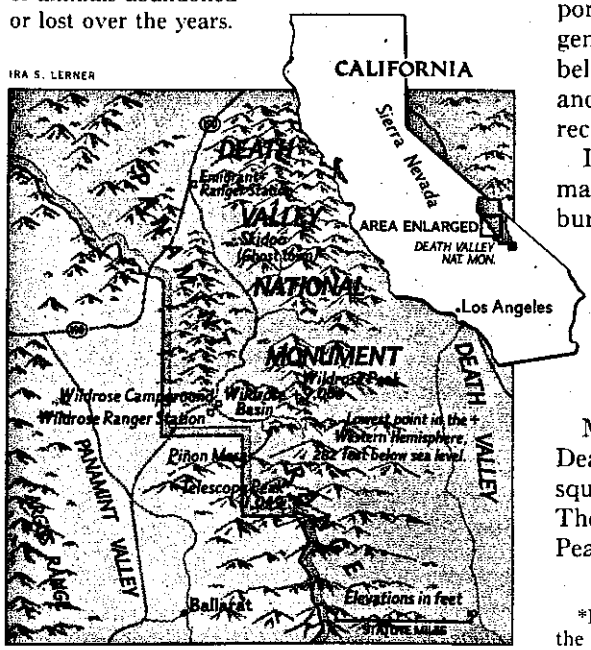
That night, as I led Sweet Pea to my winter quarters in a cabin at the ranger station, I realized what a rare and rewarding companion I had acquired. The monument's rules prohibit pets for residents, but Sweet Pea officially became a research animal, and he proved invaluable for the insights he gave me into burro behavior.

Sweet Pea joined me when I was about halfway through an 18-month study of the wild burros of Death Valley's Panamint Range (map, below). Despite increasing public attention to the fate of these animals, I discovered that relatively little was known about their behavior and place in the life system.

1214 00

Brays rend the air as jacks battle in Death Valley National Monument's Panamint Range—focus of the author's research. Descended from the wild ass of northeast Africa, *Equus asinus* reached the New World with the Spanish in the early 1500's. Today more than 10,000 range Western lands, the free-roaming progeny of animals abandoned or lost over the years.

IRA S. LERNER



Our Western States contain more than 10,000 wild descendants of those sturdy symbols of the Old West, the pack animals of Spanish padres and grizzled prospectors. Today perhaps 700 inhabit the southern Panamint Range on the western flank of 140-mile-long Death Valley. They need fear no predator of consequence, except man.

Burros Provoke Opposing Views

Now men debate whether the burro fits into Death Valley's ecosystem. Critics say it pollutes water holes and eats away vegetation that holds the soil and sustains insects, bird life, and mammals as large as desert bighorn sheep. Defenders maintain that burros are not numerous enough to cause appreciable damage. A key to this question is numbers: How many burros will the land support?

The responsibility for deciding, as well as for devising a management program, rests with the National Park Service. Its guiding policy calls for restoration and maintenance of the land and its life-forms as they were before the white man came. There are those within the park system who see the burro as exotic—that is, non-native—and advocate total removal from the monument. Others would keep small herds in areas accessible to tourists, in deference to the animal's place in frontier history.

Another viewpoint—and one that I share, based on my observations—favors a management program that would retain the burros at a level the area would comfortably support. We might remember that *Equus,* the genus to which all asses, horses, and zebras belong, originally evolved on this continent and had a niche in the ecosystem perhaps as recently as 8,000 years ago.

In any event, before the Park Service makes a final decision on Death Valley's wild burros, other interested Government agencies and the public will have a chance to comment, under procedures set up by the National Environmental Policy Act. I hope my research will prove helpful in the formulation of a humane policy.

My study area covered about a third of Death Valley's Emigrant District, a 300-square-mile section in the Panamint Range. The region includes 11,049-foot Telescope Peak, highest point in the monument.*

*Rowe Findley wrote of "Death Valley, the Land and the Legend" in the January 1970 GEOGRAPHIC.

bluff than blows, more braying than blood (pages 504 and 508-9).

In late May I moved from the cabin to a clearing on Piñon Mesa, about five miles southeast of the Wildrose Ranger Station. From this 6,500-foot height, I could look west across the Argus Range and far, far away to the snow-topped Sierra Nevada—a cooling sight during the hot months. For shelter and sleep I had a tent.

Burros sleep and browse with apparent indifference to rain and snow, thunder and lightning—and most of all to summer's mercilessly hot sunshine.

In winter, snow sometimes blankets the mountains down to about 6,000 feet. Though it snowed at 4,000 to 5,000 feet, where I spent much of the winter, the flakes rarely remained long on the ground. Nevertheless, the cold often numbed my glove-clad fingers and night temperatures in the 20's were common.

In summer, when the temperature crept into the 90's—and that was some 30 degrees cooler than the floor of Death Valley—I donned a lightweight shirt, shorts, sandals, and floppy cotton hat. I carried a canteen everywhere, and sometimes emptied it over my head to avert a sun-induced headache.

My faculty adviser, Dr. John T. Emlen of the University of Wisconsin's Department of Zoology, arrived in June to see how my project was progressing. We set up our tents in the Wildrose Campground and made daily treks

(Continued on page 512)

Getting to Know the Wild Burros of Death Valley

By PATRICIA DES ROSES MOEHLMAN

Photographs by IRA S. LERNER and the author

MOTHERING A FOUR-LEGGED ORPHAN was the last thing I expected to do when I began my study of Death Valley's wild burro population. I had planned to keep my distance from my subjects, to affect their behavior as little as possible, and to protect my objectivity as an observer. But, as far as Sweet Pea was concerned, my resolve went out the window.

I was returning to my study area in Death Valley National Monument after a trip east and stopped at Wildrose Ranger Station to see if I had any mail. My knock brought Anne Farabee, wife of Ranger Charles (Butch) Farabee, to the door. Behind her stood a small fuzzy animal with big ears

1244 00

IRA S. LERNER

Sharing a sunset with Sweet Pea, the author ends another day in her study of wild burros. On most federal lands, a new law protects these "living symbols of the historic and pioneer spirit of the West." But the statute omits national parks and monuments, where the continued existence of the burro has become an issue.