

W.A. Cobban, the Cookes Range, N.H. Darton, J.G. Love, and Me*

Stephen C. Hook¹

Search and Discovery Article #51624 (2019)**

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Abstract

My four-decade long collaboration with Bill Cobban began on October 20, 1976, when he and I measured an Upper Cretaceous section south of Cookes Peak, southwest New Mexico. A week earlier, I had rediscovered Darton's enigmatic "Prionotropis" bed near Frying Pan Spring, Cookes Range. Corroded and oyster-encrusted ammonite steinkerns from that bed led to that field trip to the "Cookie Range" with Bill and to a lifetime's association with one of the greatest paleontologists of the twentieth century. Together, we published more than 40 peer-reviewed papers and established more than 1,000 numbered USGS Mesozoic Invertebrate fossil localities (Denver), mostly in New Mexico. The papers range from monographic studies of ammonites to paleogeographic maps, to oyster evolution, to stratigraphic studies. Our 1989 memoir on the ammonite faunas of southwest New Mexico resulted from that first field trip to the Cookes Range. The late Cenomanian/early Turonian faunas of southwest New Mexico are a mixture of Tethyan and Boreal ammonites, allowing for international correlation of the largely endemic faunas to the north. This research led to the recognition of three new upper Cenomanian ammonite zones in the Western Interior, along with the discovery of five new genera and 27 new species of ammonites. The late Cenomanian fauna is one of the most diverse in the world with 59 named species in 32 genera, all coming from small isolated outcrops in southwest New Mexico, but anchored by those in the Cookes Range. Yet, my association with Bill might not have occurred if not for John Galloway Love, a Wyoming sheep rancher, who saved Darton's life by pulling him, his wagon, and team of horses from the flood-swollen, raging Wind River in the summer of 1903. John Galloway Love (1870-1950) — the father of Wyoming's greatest geologist, John David Love (1913-2002) — had never met a geologist before rescuing Darton. Without this lifesaving encounter, Darton (1865-1948) would not have found the Prionotropis bed in 1910 and I may not have worked with Bill Cobban. My professional career would have been poorer, as would the Cretaceous geology of New Mexico. Darton's loss to the geology of the Western Interior would have been catastrophic, especially in New Mexico where, among many accomplishments after 1903, he mapped the geology of the entire state singlehandedly in 1928.

W. A. Cobban

(1916 - 2015)



Photograph by
Neal Larson
August 26, 2006

The Cookes Range, NM

Rattlesnake Ridge measured section

Darton's Hill

Darton's 1910
Prionotropis bed



New Mexico

● Albuquerque

● Socorro

■ Cookes Range

● Deming

Backside of Darton's Hill

Bed 107

Bridge Creek
Limestone Member
20 ft thick

Bed 103

“Bill Cobban Field Cookies”

Bill and I took these cookies with us on our first field trip into the “Cookie” Range, New Mexico, in October 1976 and on every field trip after that.



N. H. Darton

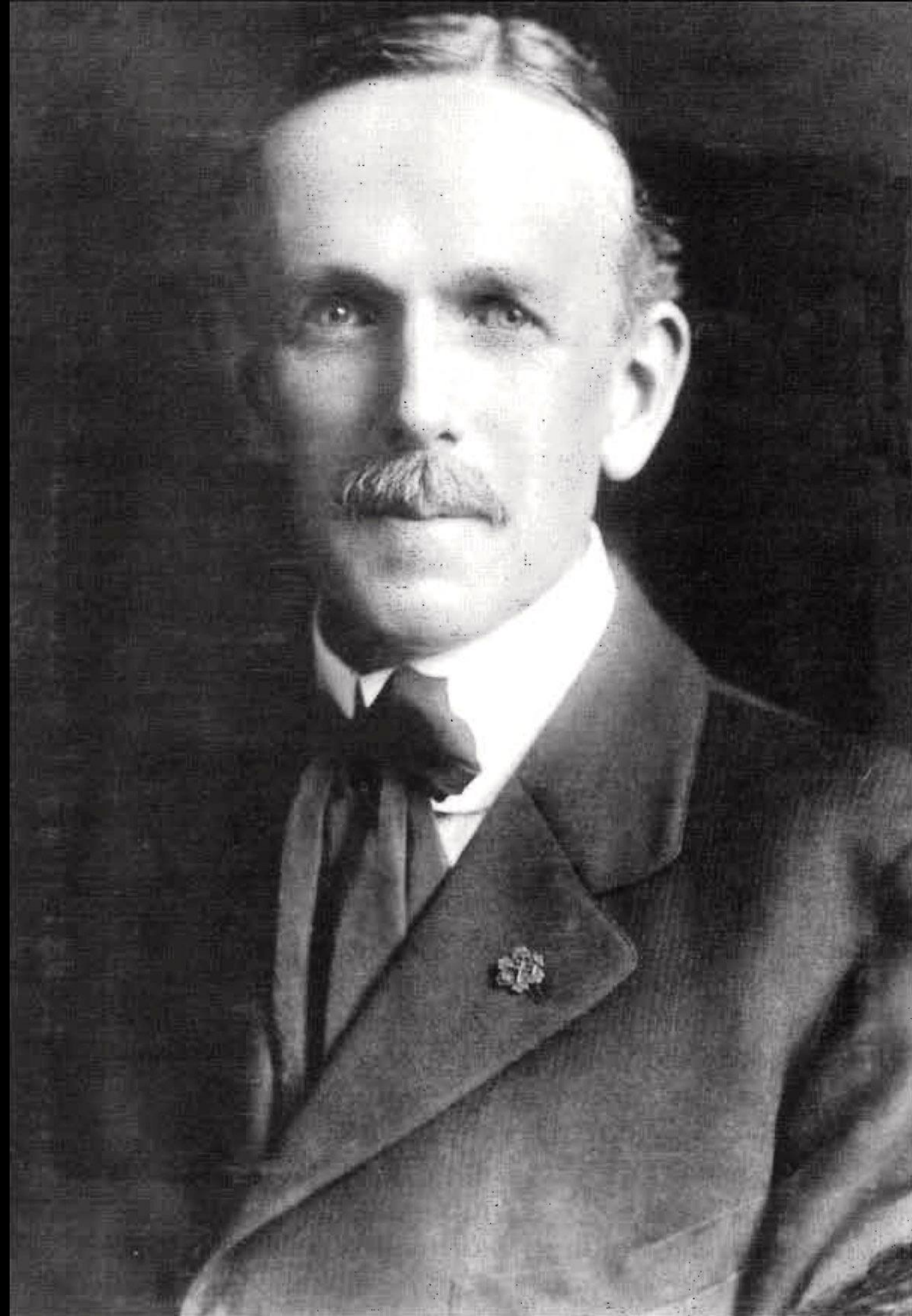
(1865 - 1948)

Collected the *Prionotropis*
bed in the Cookes Range
in 1910 (6533).

One layer contains many
scattered cephalopods,
which are difficult to obtain
in good condition.

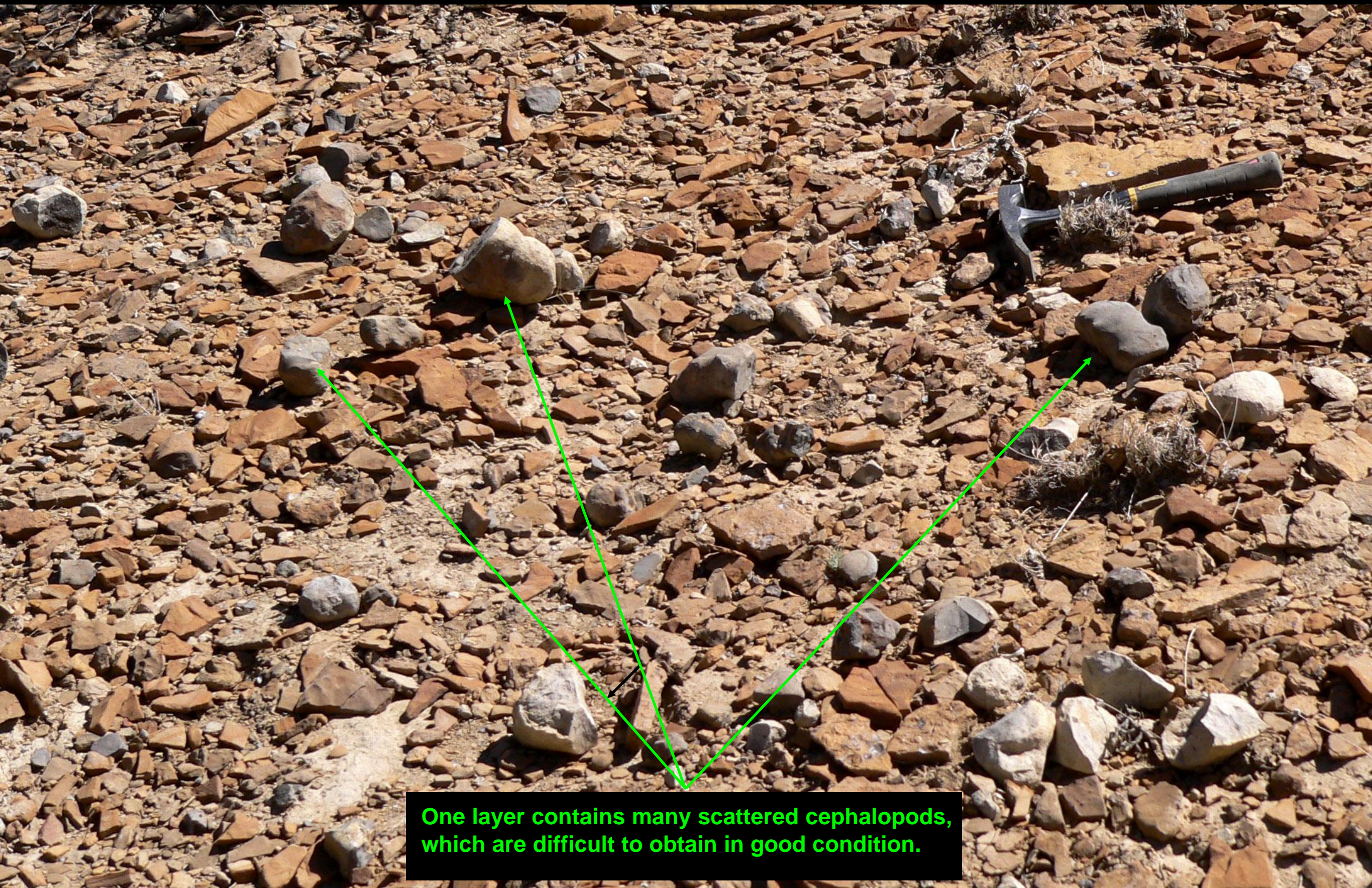
Published the Geologic Map
of New Mexico
in 1928.

“A very welcome map of
a little-known state.”



Darton's *Prionotropis* bed (6533)

(= D10114 *Pseudaspidoceras pseudonodosoides*)



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6533 Cret-Benton

North west of Frying Pan Spring
Deming Quad, N. M.

coll W H Darton 1910

Prionotropis sp.

Prionotropis sp.

Prionotropis sp.

Prionotropis sp.

Darton's 1910
Prionotropis
collection (6355)

Photograph by
C. Stuckey (USGS)

J. Galloway Love

(1870 - 1950)

Wyoming sheep rancher.

Father of Wyoming's Dave Love.

Grandfather of NM's Dave Love.

**Saved Darton's life in the
summer of 1903.**



Photograph provided by
NM's Dave Love.

N. H. Darton

(1865 - 1948)

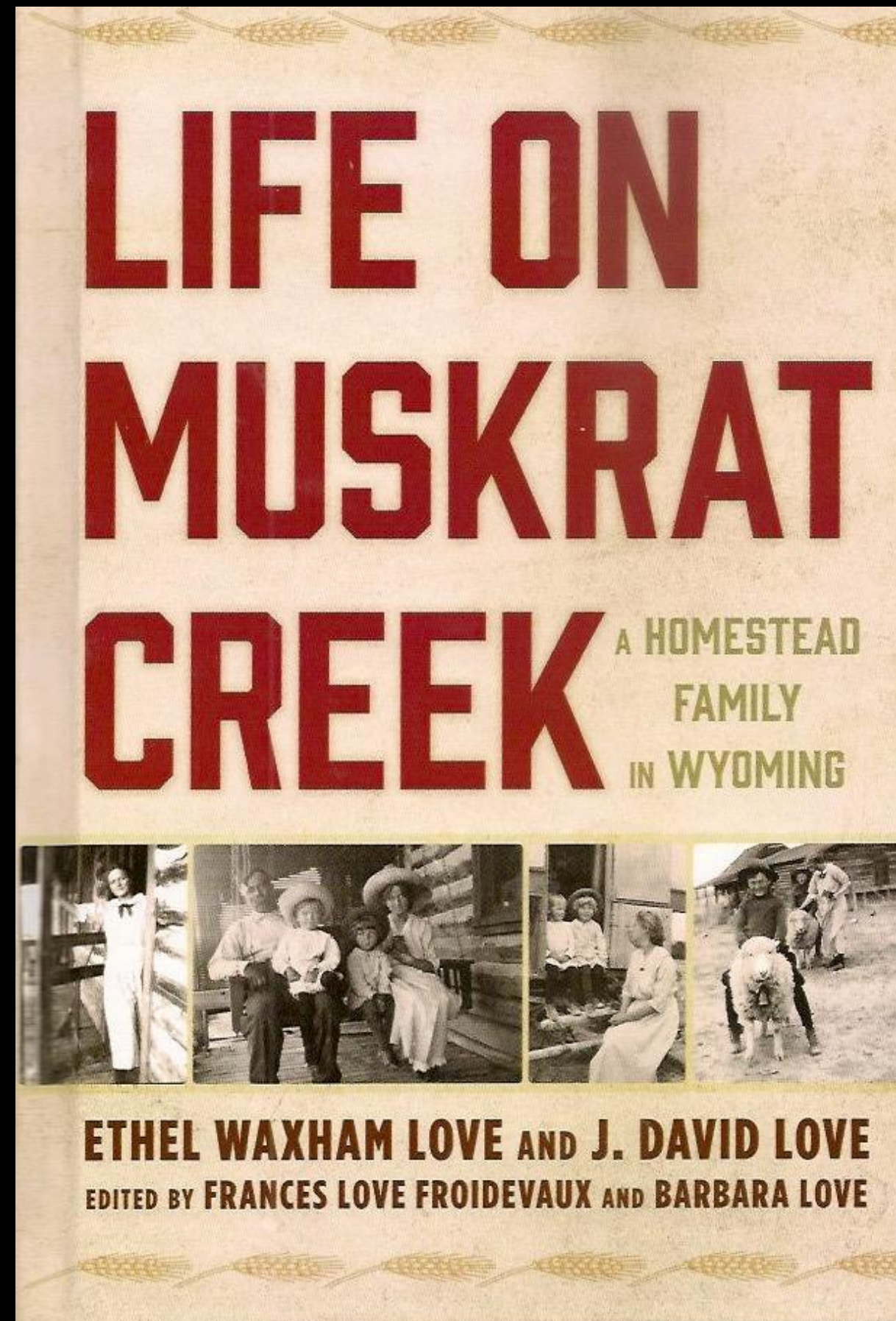
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One morning in the summer of **1903**, Dad and Big Red heard a cry for help over the rush of the Wind River. They saw a spring wagon, whose team had lost its footing and was being washed downstream. Dad lassoed the lead horse, saving the team, the wagon, and the driver. The driver was **Nelson Horatio Darton**, a mapmaker, the first geologist J. G. Love ever met.

Paraphrased from
Love and Love, 2018, p. 235.

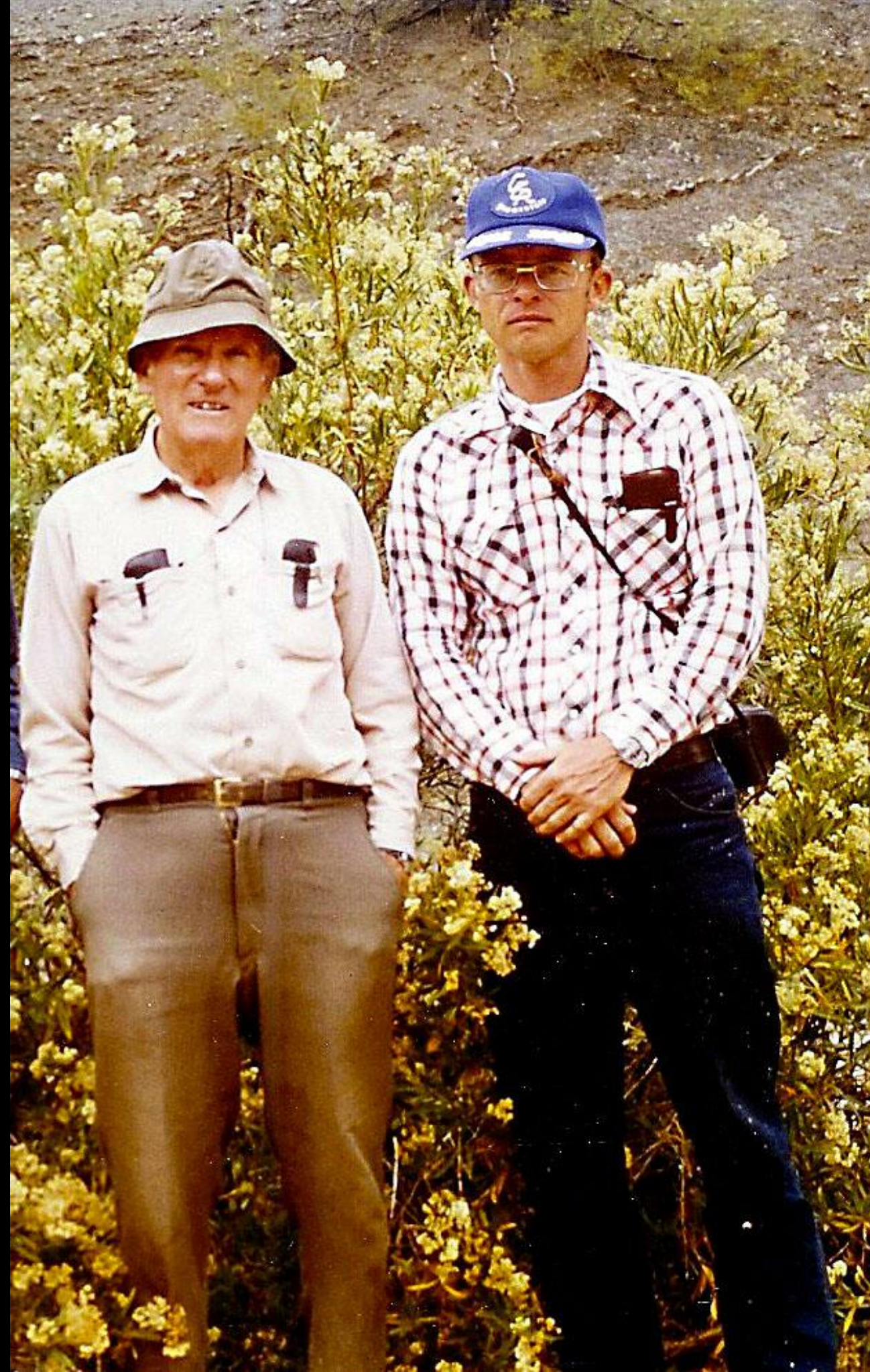


October 16, 1982
Big Burro Mountains,
southwestern NM

W. A. Cobban (65 years old)
&
me (36 years old).

Bill's heroes were
Field Geologists.

My heroes were
Baseball Players.

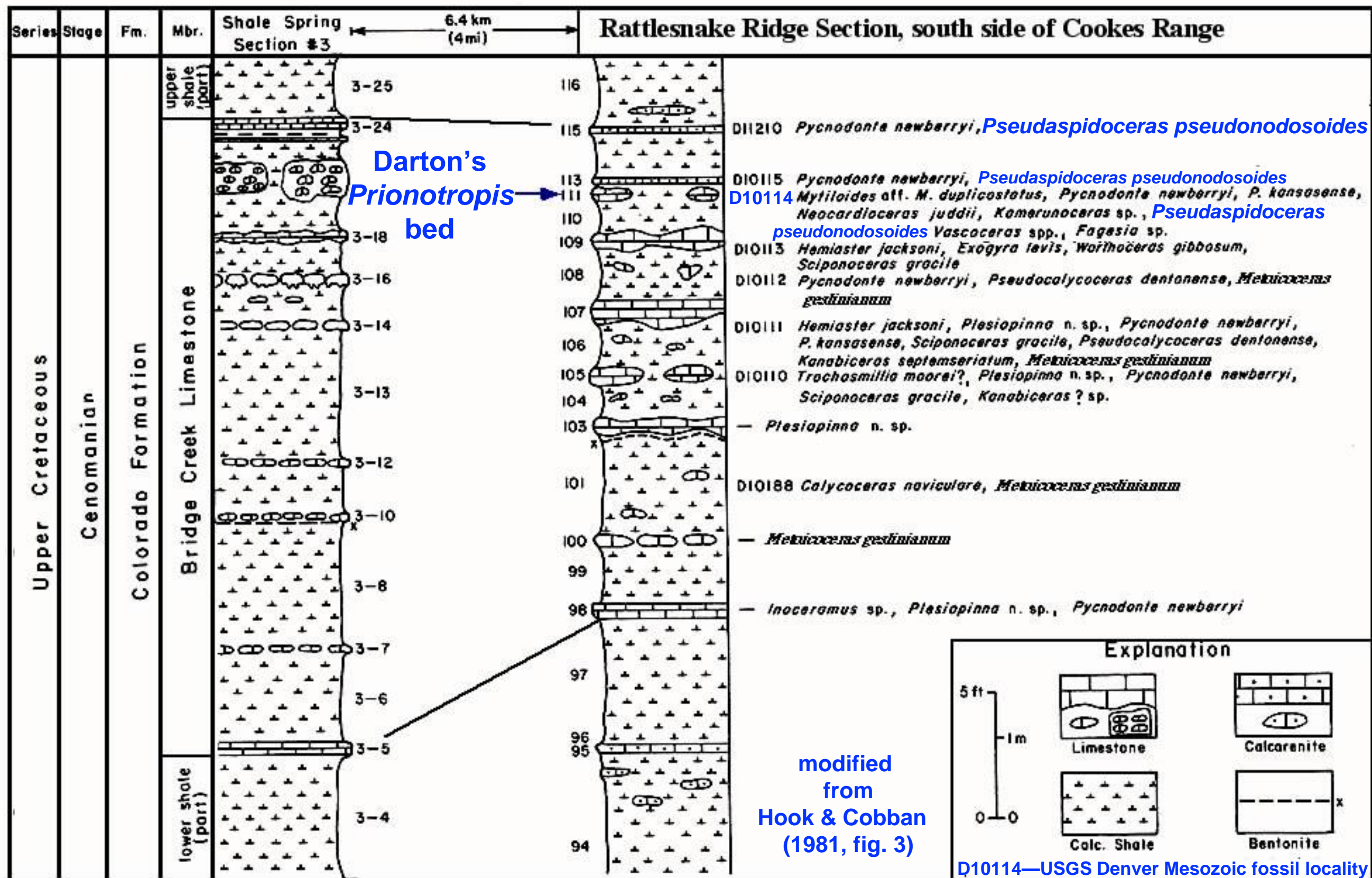


Backside of Darton's Hill

Bed 107

Bridge Creek
Limestone Member
20 ft thick

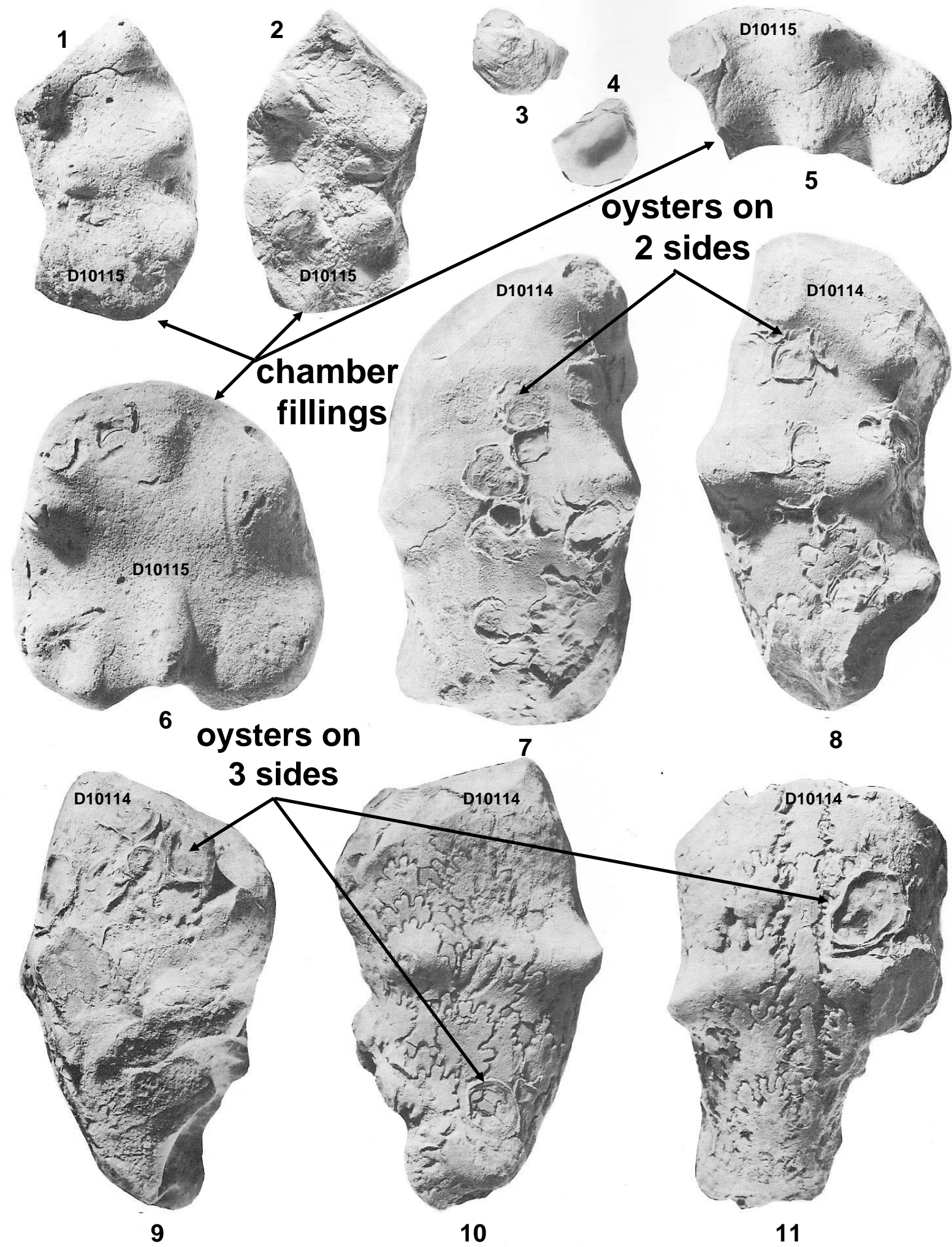
Bed 103



Fossils from D10114 (Darton's 1910 bed) and D10115.

**Figures 1-2, 5, & 6 (D10115):
Bored & burrowed chamber
fillings of two species of
ammonites.**

**Figures 7-8, & 9-11 (D10114):
Oyster-encrusted internal
molds corroded on one side.**



D10114: Simplified Geologic History

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More than 100 Years Ago

Hyatt (1903, p. 103), discussing the late Cenomanian Brazilian ammonite *Vascoceras hartti* Hyatt* stated that:

“there is not the slightest fragment of shell upon this cast, but there are the remains of the cemented valves of two or three ostreans. ... This cast must ... have been a fossil at the time the ostreans were building their shells, since their valves are attached to the surface of the cast and fit into irregularities produced by abrasion before they began to grow on its exposed surface.”

**Vascoceras hartti* occurs with *Pseudaspidoceras pseudonodosoides* in D10114 in the Cookes Range.

Upper Cretaceous rocks
and ammonite faunas of
southwestern New Mexico

W. A. Cobban, S. C. Hook, and W. J. Kennedy



***Neocardioceras juddii* occurs with
Pseudaspidoceras pseudonodosoides
in D10114 in the Cookes Range.**

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Memoir 45 Assessment

- 1. Systematically excellent;**
- 2. Internationally important;**
- 3. Biostratigraphically out-of-date;**
- 4. Assemblage zones difficult to determine;**
- 5. Faunal content of beds not shown;**
- 6. Stratigraphically incomplete; and**
- 7. Many outcrops inaccessible.**

Memoir 45 revised:

Part 1: Digital database (20 fields);

Part 2: Updated biostratigraphy;

Part 3: 20 measured sections.

Part 1: Database with 20 attributes

1. Locality number;
2. Geographic area;
3. USGS Mesozoic Invertebrate locality number (D#);
4. Biostratigraphic Zone number;
5. Biostratigraphic Zonal index (initials);
6. Genus
7. Species
8. Provenance;
9. Figure number;
10. Page;
11. Notes;
12. Measured section name;
13. Stratigraphic position number;
14. Member name;
15. County;
16. Quadrangle;
17. Year collected;
18. Locality description (PLS);
19. Latitude; and
20. Longitude.

Part 2: Biostratigraphy

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1. Section extends from lowermost upper Cenomanian into uppermost lower Turonian — from the *Calycoceras canitaurinum* Zone into the *Mammites nodosoides* Zone;

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3. Assemblage zones are tabulated.

Part 3: Stratigraphy

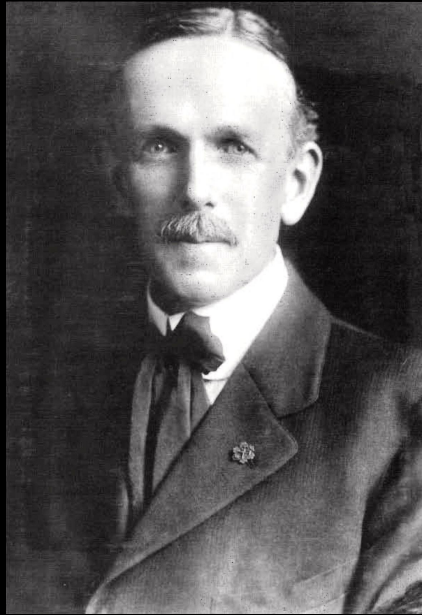
Part 3: Stratigraphy

1. **Cookes Range, east:** Shale Spring #1, #2, #3;
2. **Cookes Range, south:** Rattlesnake Ridge;
3. **Santa Rita:** Santa Rita Mine;
4. **Lone Mountain:** Cameron Creek;
5. **Fort Bayard:** none;
6. **Silver City Range:** Cane Spring Canyon & Schmitt Draw;
7. **Little Burros:** Red Rock Canyon #1, #2;
8. **Big Burros, northeast:** Reed Canyon & Wild Horse Canyon;
9. **Big Burros, northwest:** Coral thicket, Clyde Creek #1, #2, Foxtail Creek, & Slate Creek #1, #2, #3; **and**
10. **Virden:** Virden #1, #2, #3 & Riley Peaks.



Summary

I owe a great debt to each of the principal players in this story:



Conclusion

After having the privilege and honor of working with and learning from Bill Cobban for more than 40 years, I feel like

Lou Gehrig on July 4, 1939



“I consider myself the luckiest man on the face of the earth.”

W. A. Cobban

(1916 - 2015)

