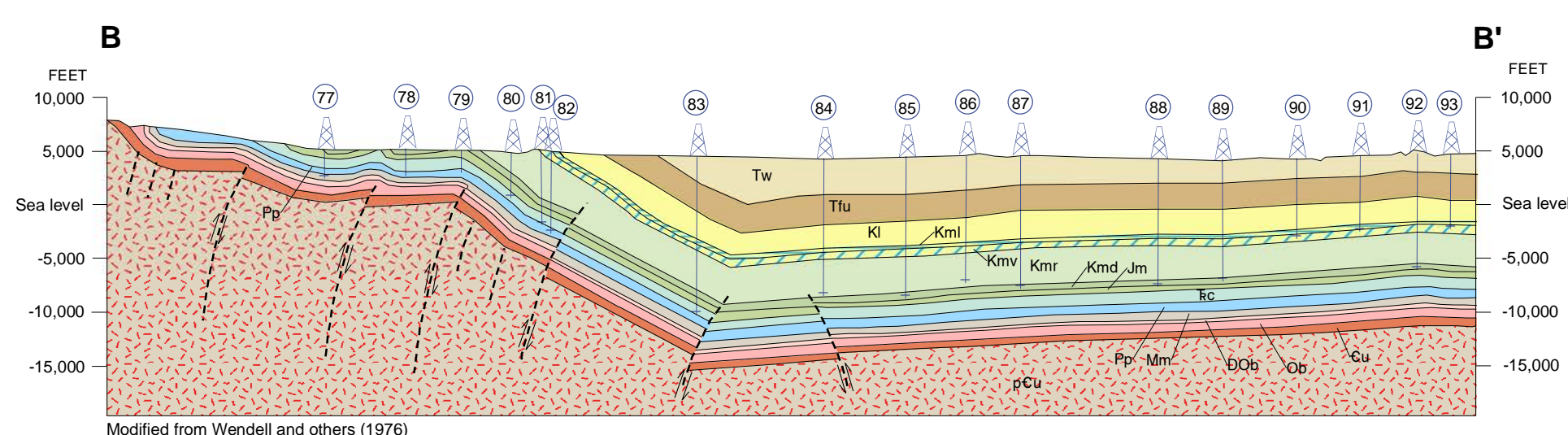
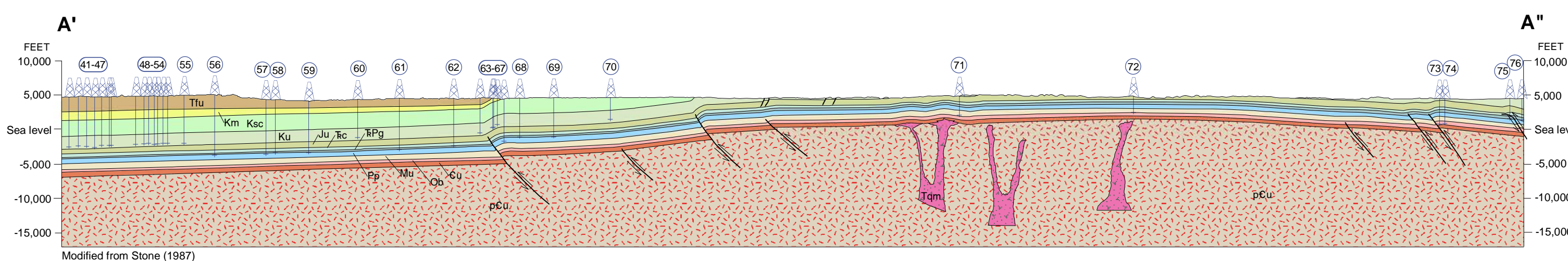
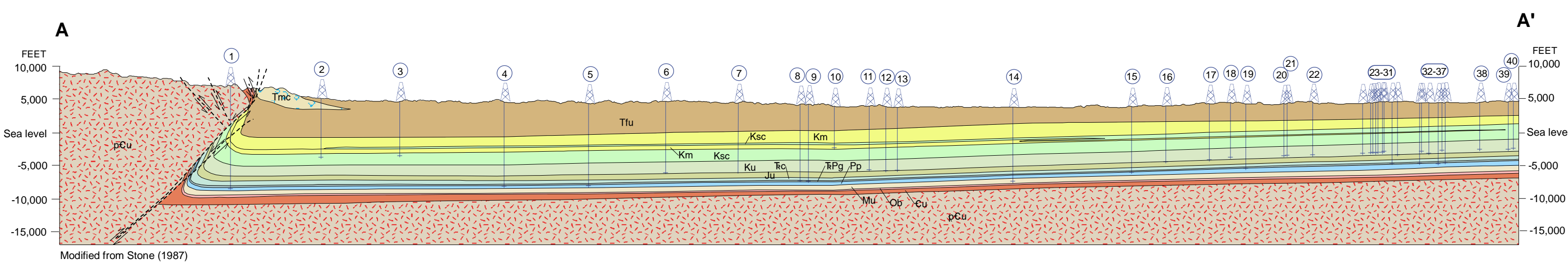




Geology - Interpreting the past - providing for the future

GEOLOGIC CROSS SECTIONS, POWDER RIVER BASIN, WYOMING

Vertical exaggeration ~ 2x



EXPLANATION

CROSS SECTION SYMBOLS

- Formation contact - Dashed where inferred
- Fault - Dashed where inferred; arrows indicate relative movement
- Drill hole - Well logs used to construct cross sections

GEOLOGIC UNITS

CENOZOIC

- Tertiary**
- Wasatch Formation
 - Moncrief and Kingsbury Conglomerate Members of Wasatch Formation
 - Quartz monzonite intrusion
 - Fort Union Formation

MESOZOIC

- Cretaceous**
- Lance Formation
 - Meetetse Formation
 - Lewis Shale
 - Mesaverde Formation
 - Muddy Sandstone
 - Mowry Shale
 - Skull Creek Shale
 - Cretaceous rocks, undifferentiated

PALEOZOIC

- Permian**
- Phosphoria Formation
 - Triassic and Permian Goose Egg Formation
- Mississippian**
- Madison Limestone
 - Mississippian rocks, undifferentiated

Devonian and Ordovician

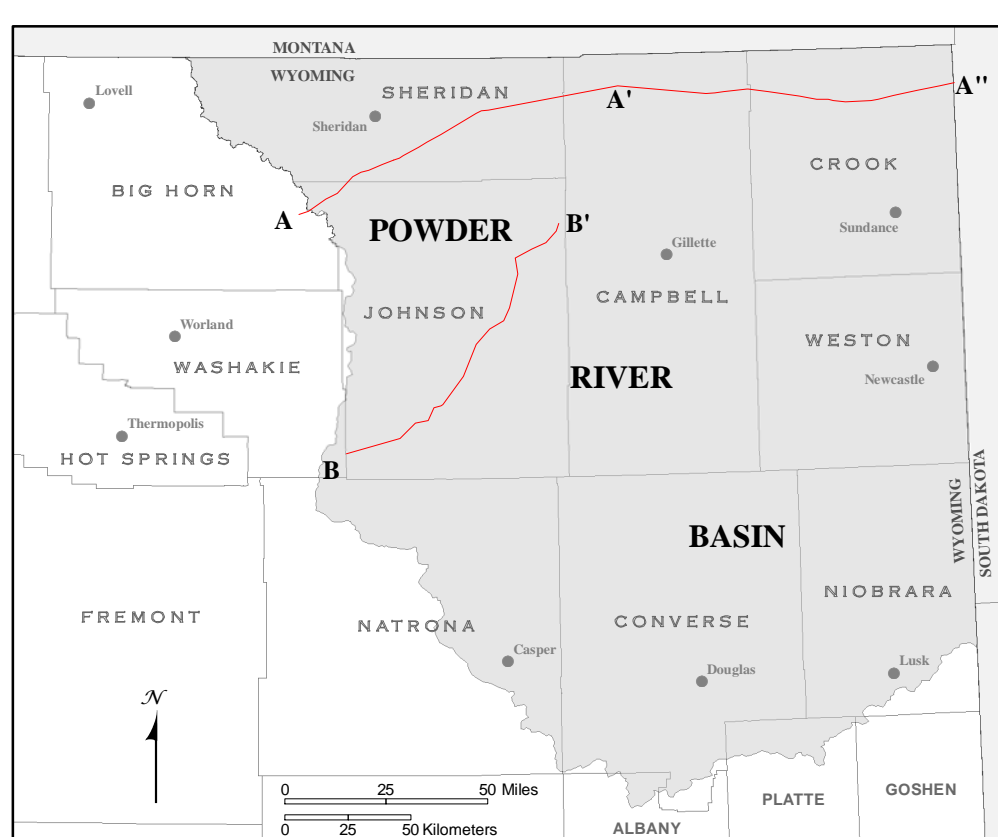
- Devonian rocks and Bighorn Dolomite, undifferentiated
- Ordovician Bighorn Dolomite

Cambrian

- Cambrian rocks, undifferentiated

PRECAMBRIAN

- Precambrian rocks, undifferentiated



NOTICE TO USERS OF INFORMATION FROM THE WYOMING STATE GEOLOGICAL SURVEY

The WSGS encourages the fair use of its material. We request that credit be expressly given to the "Wyoming State Geological Survey" when citing information from this publication. Please contact the WSGS at 307-766-2286, ext. 224, or by email at wsgs.sales@wyo.gov if you have questions about citing materials, preparing acknowledgments, or extensive use of this material. We appreciate your cooperation.

Individuals with disabilities who require an alternative form of this publication should contact the WSGS. For the TTY relay operator call 1-800-877-9975.

For more information about the WSGS or to order publications and maps, go to www.wsgs.uwyo.edu, call 307-766-2286, ext. 224, or email wsgs.sales@wyo.gov.

DISCLAIMERS

The Wyoming State Geological Survey (WSGS) and the State of Wyoming make no representation or warranty, expressed or implied, regarding the use, accuracy, or completeness of the data presented herein, or of a map printed from these data. The act of distribution shall not constitute such a warranty. The WSGS does not guarantee the digital data or any map printed from the data to be free of errors or inaccuracies.

The WSGS and the State of Wyoming disclaim any responsibility or liability for interpretations made from these digital data or from any map printed from these digital data, and for any decisions based on the digital data or printed maps. The WSGS and the State of Wyoming retain and do not waive sovereign immunity.

The use of or reference to trademarks, trade names, or other product or company names in this publication is for descriptive or informational purposes only, or is pursuant to licensing agreements between the WSGS or State of Wyoming and software or hardware developers/vendors, and does not imply endorsement of those products by the WSGS or the State of Wyoming.

WELL CONTROL ALONG CROSS SECTIONS

Well no.	API no.	Operator	Well name	Bottom formation	Surface location			County	Spud year
					sec.	T.	R.		
1	49-033-20176	Gulf Energy Corporation	Granite Ridge Fee 1-9-2D	Amsden	9	53 N	84 W	Sheridan	1983
2	49-033-20086	Anadarko Petroleum Corporation	Dempsey Swearingin A 1	Shannon	32	54 N	83 W	Sheridan	1973
3	49-033-20128	Florida Gas Exploration Co.	Fordyce Stout Fee 1-16	Shannon	16	54 N	82 W	Sheridan	1980
4	49-033-20133	Union Oil Co. of California	Scales Fee 1-H-10	Minnelusa	10	54 N	81 W	Sheridan	1981
5	49-033-20184	SWEPI LP	State 79-330 33-3	Madison	3	55 N	82 W	Sheridan	1984
6	49-033-20093	Phillips Petroleum Company	Peters-B 1	Skull Creek	12	55 N	81 W	Sheridan	1974
7	49-033-20014	BP America Production Company	Roberts A Patented 1	Morrison	2	55 N	80 W	Sheridan	1968
8	49-033-05021	Amerada Hess Corporation	Boland 1	Minnelusa	19	56 N	79 W	Sheridan	1963
9	49-033-20019	Dagger William L. Jr.	Petrofina W-0324779 1	Minnelusa	30	56 N	79 W	Sheridan	1968
10	49-033-20002	Dagger William L. Jr.	Donald H Roberts Pat 1	Parkman	21	56 N	79 W	Sheridan	1967
11	49-033-20018	BP America Production Company	Don H Roberts D Pat 1	Morrison	31	56 N	78 W	Sheridan	1968
12	49-033-20030	BP America Production Company	Don H Roberts E Pat 1	Morrison	15	56 N	79 W	Sheridan	1968
13	49-033-20137	Harper Oil Company	Griffith Roberts Fee 10-14	Morrison	14	56 N	79 W	Sheridan	1980
14	49-033-20170	Hershey Oil Corporation	Buffalo Creek Fee 1-10	Madison	10	56 N	78 W	Sheridan	1983
15	49-033-20177	Amberex Corporation	State 77-674 23-12	Amsden	12	56 N	77 W	Sheridan	1983
16	49-05-20504	Brinkerhoff Drilling Company	Brinkerhoff Patented 2266-1	Morrison	22	56 N	76 W	Campbell	1968
17	49-05-21538	Texaco Exploration & Production	M H Lacey A W0311410 1	Morrison	11	56 N	76 W	Campbell	1969
18	49-05-23435	Davis Oil Company	Ida Federal 1	Skull Creek	12	56 N	76 W	Campbell	1973
19	49-05-20503	Dow Glenn A	Kirby W-0151480A 1	Minnelusa	18	56 N	75 W	Campbell	1968
20	49-05-22553	Davis Oil Company	Gil W-084345 2	Skull Creek	9	56 N	75 W	Campbell	1970
21	49-05-23084	The Termo Company	Joe Creek Ut Patent 10	Skull Creek	10	56 N	75 W	Campbell	1972
22	49-05-22526	Apache Corporation	U S Plank 1	Skull Creek	11	56 N	75 W	Campbell	1970
23	49-05-20667	Atlantic Richfield Company	Beard W-1885 7	Skull Creek	8	56 N	74 W	Campbell	1968
24	49-05-20790	Powder River Oil	Greenough 9-8	Skull Creek	8	56 N	74 W	Campbell	1968
25	49-05-20331	Adams Don and Associates	Recluse Unit W-1885 458	Dakota	8	56 N	74 W	Campbell	1968
26	49-05-20272	Oilfield Salvage & Service Company	Greenough W-043718 5	Muddy	9	56 N	74 W	Campbell	1968
27	49-05-20288	Adams Don and Associates	Recluse Unit W-1885 457	Skull Creek	9	56 N	74 W	Campbell	1968
28	49-05-20271	Atlantic Richfield Company	Beard W-1885 1	Skull Creek	9	56 N	74 W	Campbell	1968
29	49-05-20177	Oilfield Salvage & Service Company	Greenough W-043718 3	Skull Creek	9	56 N	74 W	Campbell	1968
30	49-05-20275	P&M Petroleum Management LLC	U S Apache A W-2498 7	Minnelusa	9	56 N	74 W	Campbell	1968
31	49-05-24356	Oilfield Salvage & Service Company	Greenough W-43718 7	Skull Creek	10	56 N	74 W	Campbell	1976
32	49-05-28628	Yates Petroleum Corporation	Calamity Spring Unit 6	Minnelusa	11	56 N	74 W	Campbell	1985
33	49-05-22904	Apache Corporation	U S Thomas W-091203 1-11	Skull Creek	11	56 N	74 W	Campbell	1971
34	49-05-20219	McClure Enterprises	Southland W-0311394 1	Morrison	11	56 N	74 W	Campbell	1967
35	49-05-27067	Southland Royalty Company	T R Ranch W-25915 1-12	Minnelusa	12	56 N	74 W	Campbell	1967
36	49-05-21399	Sumedon Oil Corporation	Greenough 1	Skull Creek	1	56 N	74 W	Campbell	1969
37	49-05-24777	Coquina Oil Corporation	Leister Fee 1	Minnelusa	7	56 N	73 W	Campbell	1977
38	49-05-20966	Kissinging Petroleum Corporation	Stoddy Patented 1	Skull Creek	9	56 N	73 W	Campbell	1968
39	49-05-22660	Kissinging Petroleum Corporation	Exeter Phillip W3097 6-10	Skull Creek	10	56 N	73 W	Campbell	1971
40	49-05-21667	Oilfield Salvage & Service Company	Chan Muddy Sand Unit 2-10	Skull Creek	10	56 N	73 W	Campbell	1969
41	49-05-22896	Main Energy Inc.	Chan Muddy Sand Unit 6-11	Skull Creek	11	56 N	73 W	Campbell	1972
42	49-05-22898	Oilfield Salvage & Service Company	Chan Muddy Ut W-3097 8-11	Skull Creek	11	56 N	73 W	Campbell	1971
43	49-05-22712	Oilfield Salvage & Service Company	Chan Muddy Ut W-1872 4-12	Skull Creek	12	56 N	73 W	Campbell	1971
44	49-05-27792	Henderson Petroleum Corp.	Chan Muddy Ut W-6522 6-12	Muddy	12	56 N	73 W	Campbell	1984
45	49-05-22303	Petroleum Inc.	Atlantic 2	Skull Creek	7	56 N	72 W	Campbell	1970
46	49-05-24264	Davis Oil Company	Klaenhammer W-39064 1	Skull Creek	7	56 N	72 W	Campbell	1976
47	49-05-21415	Petroleum Inc.	Atlantic 1	Skull Creek	7	56 N	72 W	Campbell	1969
48	49-05-20810	Gibson W R	Emigh A Patented 16-8	Skull Creek	8	56 N	72 W	Campbell	1968
49	49-05-20480	Century Energy	Whitetail W-048897 107	Muddy	9	56 N	72 W	Campbell	1968
50	49-05-20484	Century Energy	Whitetail W-0310894 6	Muddy	9	56 N	72 W	Campbell	1968
51	49-05-20725	Century Energy	Whitetail W-055891 105	Muddy	9	56 N	72 W	Campbell	1968
52	49-05-20477	Century Energy	Whitetail W-055891-A 7	Skull Creek	10	56 N	72 W	Campbell	1968
53	49-05-20724	Century Energy	Whitetail W-048897 5	Skull Creek	10	56 N	72 W	Campbell	1968
54	49-05-20720	Century Energy	Whitetail W-0310894 106	Skull Creek	10	56 N	72 W	Campbell	1968
55	49-05-20876	True Oil LLC	Jones Patented 31-14	Skull Creek	14	56 N	72 W	Campbell	1968
56	49-05-21787	Kissinging Clyde G	Union Texas W0277310 1-7	Skull Creek	7	56 N	71 W	Campbell	1969
57	49-05-06105	Union Oil Co. of California	Swinhart W-030971 1-9	Minnelusa	9	56 N	71 W	Campbell	1962
58	49-05-06113	Gulf Oil Corporation	Govt B W-0271844 1	Minnelusa	3	56 N	71 W	Campbell	1965
59	49-05-06106	Powder River Oil	Allison Patented 1	Minnelusa	12	56 N	71 W	Campbell	1958
60	49-05-21037	Davis Oil Company	Cow Gulch W-054671B 1	Skull Creek	5	56 N	70 W	Campbell	1968
61	49-05-27157	BP America Production Company	Eighty Five Divide 45117 1	Minnelusa	3	56 N	70 W	Campbell	1983
62	49-05-27378	Amberex Corporation	Federal W-56565 33-6	Minnelusa	6	56 N	69 W	Campbell	1983
63	49-05-21382	Love Oil Company	Skyline W-0323663 5-1	Skull Creek	5	56 N	69 W	Campbell	1969
64	49-05-20776	Love Oil Company	Knapp Etal Patented 1	Skull Creek	4	56 N	69 W	Campbell	1968
65	49-05-22299	Webb Resources Inc.	Knapp Patented 4-1A	Skull Creek	4	56 N	69 W	Campbell	1970
66	49-05-21288	Gary-Williams Production Company	Knapp Patented 4-2	Skull Creek	4	56 N	69 W	Campbell	1969
67	49-05-06112	Conoco Inc.	Knapp Patented 1	Madison	4	56 N	69 W	Campbell	1940
68	49-05-06109	Union Texas Petroleum	Gentry W-022667B 1	Minnelusa	3	56 N	69 W	Campbell	1963
69	49-05-22716	Consolidated Oil & Gas Inc.	Federal W-17860 1-1	Minnelusa	1	56 N	69 W	Campbell	1971
70	49-05-06128	Murray Rob	Oris Roberts B040764 1	Skull Creek	4	56 N	68 W	Campbell	1948
71	49-011-06126	Atlantic Richfield Company	Sheridan 1	Bighorn	27	56 N	65 W	Crook	1959
72	49-011-06123	Atlantic Richfield Company	W J Pannell Patent 1	Bighorn	30	56 N	63 W	Crook	1959
73	49-011-06127	Hunt Oil Company	Miller 1	Deadwood	14	56 N	61 W	Crook	1953
74	49-011-20222	McCullough Oil	Bright Patented 1-14	Winnipeg	14	56 N	61 W	Crook	1970
75	49-011-21341	Penrod Geisinger Exploration	Geisinger Fee 1-9	Minnelusa	9	56 N	60 W	Crook	1983
76	49-011-06129	Dunbar O D	Geisinger Patented 1	Minnelusa	4	56 N	60 W	Crook	1958
77	49-019-05854	The Chicago Corporation	C L Harlan 1	Madison	4	42N	83W	Johnson	1953
78	49-019-20178	Husky Oil Company	Husky 7-13	Minnelusa	13	43N	83W	Johnson	1975
79	49-019-05976	Union Oil Co of California	Arndt-Fed 1	Tensleep	9	43N	82W	Johnson	1961
80	49-019-20132	General American Oil Co of Texas	Univ Res-Fed-Kaycee 1	Tensleep	26	44N	82W	Johnson	1974
81	49-019-06249	BP America Production Company	North Fork Unit 13	Tensleep	25	44N	82W	Johnson	1962
82	49-019-06002	The Daube Company	North Fork Unit 13	Madison	19	44N	81W	Johnson	1951
83	49-019-06204	SWEPI LP	Pheasant Unit 22X18	Minnelusa	18	45N	80W	Johnson	1966
84	49-019-20168	Wexpro Company	Boumas Zezas 1-3	Frontier	3	46N	80W	Johnson	1974
85	49-019-20115	Phillips Petroleum Company	Faxla A 1	Morrison	18	47N	79W	Johnson	1974
86	49-019-20101	Davis Oil Company	Curtis Draw Unit 1	Frontier	11	47N	79W	Johnson	1973
87	49-019-20088	Davis Oil Company	Indian Creek Unit 1	Skull Creek	25	48N	79W	Johnson	1973
88	49-019-20107	Davis Oil Company	South Rainbow 1-A	Skull Creek	8	49N	78W	Johnson	1974
89	49-019-20116	Davis Oil Company	North Rainbow-Fed 1	Skull Creek	20	50N	78W	Johnson	1974
90	49-019-06118	Davis Oil Company	Fed-Walker 1	Mesaverde	12	50N	78W	Johnson	1958
91	49-019-06129	SWEPI LP	Govt 41-18	Mesaverde	18	51N	76W	Johnson	1957
92	49-019-20031	Fred Goodstein	Goodstein-MKM 1	Morrison	24	51N	77W	Johnson	1969
93	49-019-06123	SWEPI LP	Govt 11-3	Mesaverde	3	50N	77W	Johnson	1957

REFERENCES

- Stone, D.S., 1987, Rocky Mountain Transect—Wyoming, transect segments NE 3, NE 4, NE 5, NE 6, NE 7, NE 8. Littleton, Co., DVD, version 2.0.
- Wendell, W.G., Glass, G.B., Breckenridge, R.M., Root, F.K., Lageson, D., and the Remote Sensing Lab at the University of Wyoming, 1976, Johnson County, Wyoming—Geologic map atlas and summary of land, water and mineral resources: Geological Survey of Wyoming [Wyoming State Geological Survey], County Resource Series, no. 4.

ACKNOWLEDGMENT

The Wyoming State Geological Survey thanks D.S. Stone for his permission to modify portions of the Rocky Mountain Transect, as shown in cross section A - A'.

Layout and design by Phyllis A. Ranz and Robert Kirkwood
Edited by Suzanne C. Lühr