

Aspen Limestone Property

Caribou and Bear Lake Counties, Idaho

Keith Cox

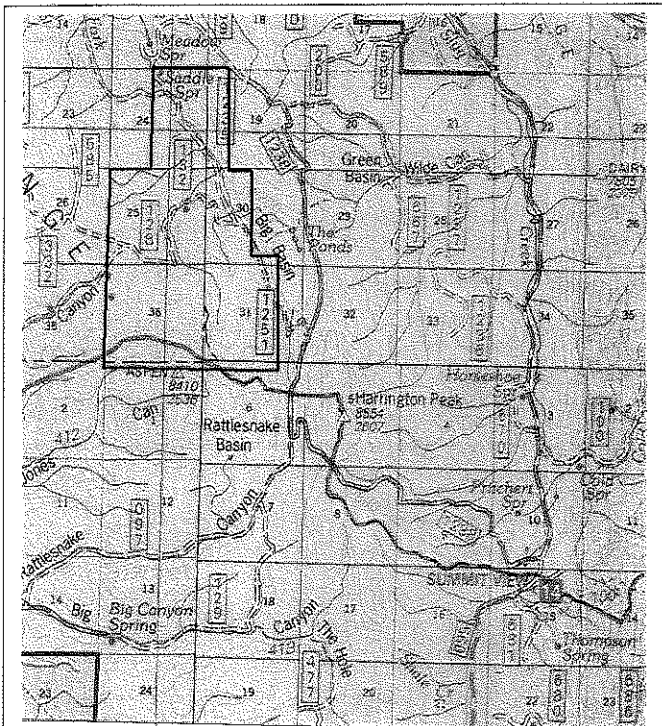
Contract Geologist

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Introduction

The Aspen property lies within sections 1(T. 10 S.- R. 43 E.), 6(T. 10 S.- R. 44 E.), 24, 25, 36, (T. 9 S.- R. 43 E.) and 19, 30, 31(T. 9 S.- R. 44 E.) and is located approximately 13 miles east of Soda Springs Idaho and seven miles north east from the Union Pacific rail line at its nearest point. The property is accessed via Soda Springs or Georgetown along the Trail Canyon road or the Georgetown Canyon road respectively. Each connects with the Slug creek road which should be followed to the national forest route 1238 just north of the Summit View camp ground. If the gate at this location is open

then follow 1238 North West to the property. If the gate is closed then another route to the north must be taken. Four miles north of the intersection of Slug Creek road and 1238 (summit View camp) is a road which runs through Wilde Canyon and Green Basin before climbing to join national forest route 1238 north east of the property. Further access to the property can be found along national forest route 1251 which intersects 1238 near the south east corner of the property.



Approximate property location with access from Slug Creek Road.

(m/s). In order to cover a wide area within the claim block a total of 66 rock samples were collected for chemical analysis.

The Aspen (MP) claims cover a generally northward dipping package of Mississippian and Pennsylvanian sediments which include the Aspen Range Formation. The formation has approximately 1,400 feet of favorable thick bedded crystalline (xl), finely crystalline (fxl), and micritic limestones

It is recommended that 1) An understanding of the Aspen Range Formation be developed by investigation of the Sando W.J., Sandberg C.A., and Gutschick R.C, type section five miles South East of the Aspen (MP) claims. 2) Stratigraphic mapping or location of marker beds should be determined in order to locate areas of best potential for drilling. 3) Although not in the claim block sampling of the upper members of the Madison group should be undertaken in order to determine added potential at depth 4) Due to the anticipated time of two years for permission to drill the permitting process should be started as soon as is possible.

Geologic Mapping

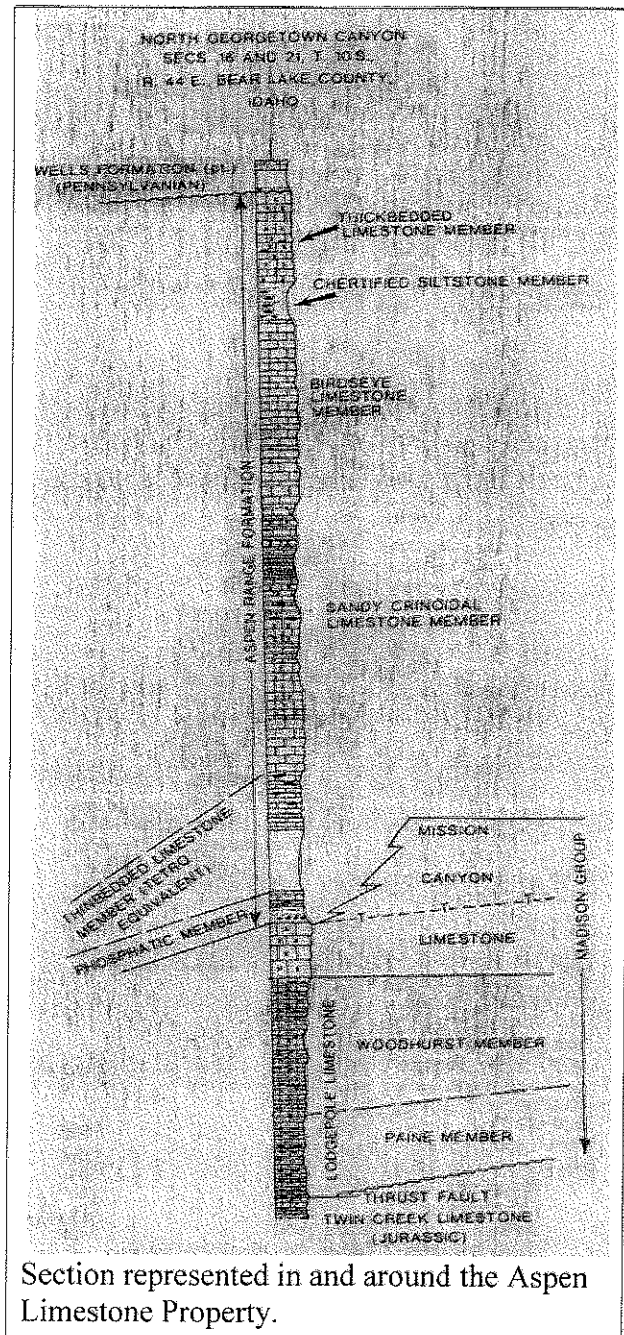
Geologic mapping was completed at a scale of 1"=1,000' (1:12,000) during the time period of September 27 to October 9, 2008. Mapping consisted of field observations (strike and dip of beds, sampling, and rough notes) and data compilation.

Aspen Range Formation

The dominant lithology at Aspen (MP claims) is the Mississippian Aspen Range Formation which has been previously mapped as both the Brazer limestone and the Deseret equivalent. It is now subdivided into six members. The following descriptions are taken from Sando et al, 1981.

The lowest unit in the Aspen Range Formation is the phosphatic member, which consists of at least 66 ft of phosphatic carbonaceous siltstone and mudstone, thin beds of micritic and crinoidal limestone, calcareous claystone, mudstone and siltstone.

The next succeeding unit is the thin bedded limestone member, which consists of 297 ft of thin bedded, cherty micritic limestone. The thin bedded member is overlain by the sandy crinoidal limestone member, which consists of 640 ft of predominantly thick bedded fossiliferous crinoidal



limestone that is interbedded with quartz sand-stone and siltstone in the upper half of the member.

The next succeeding unit is the birdseye limestone member, which consists of 432 ft of predominantly thick bedded micritic limestone having birdseye texture or irregular patches of clear coarse calcite. This is overlain by 93 ft of cross-bedded certified siltstone which is found at the type section location as a float covered slope. A zone of sandy cross bedded limestone float was found on the ridge in the south east corner of the map area. The highest unit of the Aspen Range Formation is the thickbedded limestone member, which consists of 215 ft of thick bedded crinoidal limestone that contains some nodular chert and forms a massive cliff.

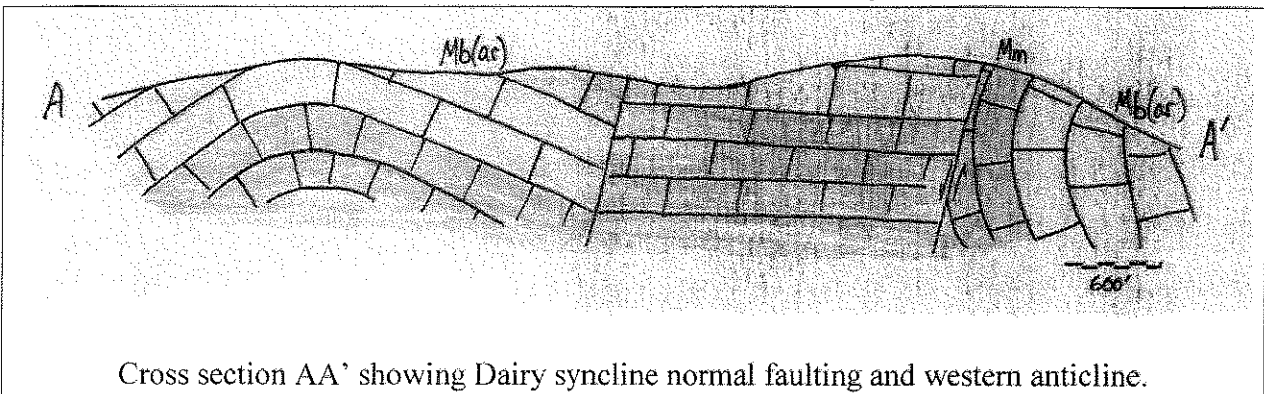
The most prominent fossil within the project area is the *Streptelasma* or "horn coral" (or it maybe that is just more recognizable than others). This fossil is nearly ubiquitous and may help to locate ourselves within the section.

Wells Formation

The Pennsylvanian and possibly Permian Wells formation overlies the Aspen Range Formation and is represented along the northern edge of the Aspen claim group. The formation is subdivided into two members. The lower member, which is about 800 ft thick contains gray and brownish-gray interbedded limestone and sandstone that occur as thick-bedded units. The sandstone is generally calcareous. The upper member is mostly sandstone though some limestone is also present. (Gulbrandsen, R.A. et al, 1956)

Structure

The Wells, and Aspen Range Formations, as well as the underlying Madison Group are an overthrust sheet of the Meade overthrust which have been compressed into north-striking folds (Cressman, E. R., 1964). The closest of these large folds is the Dairy syncline. It is tightly folded, overturned to the east, and nearly recumbent. Erosion has



Cross section AA' showing Dairy syncline normal faulting and western anticline.

removed most of the overturned western limb, but a large normal fault places the roughly horizontal Aspen Range formation against locally overturned beds. This can be seen along the ridge which makes up the eastern edge of the claim block. Cressman,

E.R. 1964 has mapped a few more north south, down to the west, normal faults across the claims as well a small anticline along the western edge.

Geochemical Sampling

A total of 66 rock samples were mainly collected from the fine crystalline and micritic limestones of the Aspen Range Formation. Approximately 3-5 pound samples were taken by chopping chunks of limestone off the outcrop being careful to remove all caliche and weathered surfaces. Most samples contained minor amounts of free calcite in the form of veining or fossil fragments and/or traces of iron oxides. Rock sample locations and descriptions are found in table 1.

Table 1.		Aspen Rock Samples KC Oct 2008			
Sample No.	East UTM	North UTM	Rock Type	Calcite%	FeOx%
MP-100	469494	4719124	fxl	3	Tr. Goe.
MP-101	469368	4719208	sls	Tr.	1
MP-102	469365	4719394	mls	Tr.	0
MP-103	469207	4719495	mls	Tr.	Tr.
MP-104	469088	4719740	fxl	Tr.	Tr.
MP-105	469116	4719700	xl	Tr.	0
MP-106	469377	4718895	sio2	Tr.	15
MP-107	469269	4719791	mls	0	0
MP-108	469553	4719963	fxl	Tr.	0
MP-109	469664	4719989	fsl	Tr.	0
MP-110	470028	4719643	fxl	3	0
MP-111	470198	4719558	fxl	0	0
MP-112	469753	4719278	mls	3	1
MP-113	469573	4719244	fsl	Tr.	0
MP-114	471199	4715210	fxl	1	0
MP-115	471132	4715214	fxl	3	Tr.
MP-116	470887	4715263	mls	1	0
MP-117	470726	4715365	cls	1	Tr.
MP-118	470746	4715557	xl	3	Tr.
MP-119	470757	4715768	xl	3	Tr.
MP-120	470461	4715787	fxl	1	0
MP-121	471101	4715706	xl	1	0
MP-122	470806	4716334	fxl	3	1
MP-123	470507	4716250	xl	1	0
MP-124	470538	4716366	fsl	Tr.	0

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MP-125	470546	4716849	xl	Tr.	0
MP-126	469598	4716717	fxl	Tr.	0
MP-127	469698	4716819	mls	3	0
MP-128	469975	4716800	mls	1	0
MP-129	470257	4716505	mls	3	2
MP-130	470181	4716404	fxl	3	0
MP-131	469730	4716211	mls	3	1
MP-132	469447	4715897	fxl	3	0
MP-133	469010	4715823	fxl	Tr.	1
MP-134	469073	4715551	mls	3	0
MP-135	469403	4715450	mls	3	1
MP-136	469942	4715445	mls	0	Tr.
MP-137	469140	4716147	mls	1	0
MP-138	469493	4716168	mls	1	0
MP-139	469118	4716701	mls	1	3
MP-140	468445	4716991	mls	Tr.	0
MP-141	468372	4716676	fsl	1	2
MP-142	468838	4716827	mls	1	Tr.
MP-143	468767	4717650	fxl	Tr.	1
MP-144	468544	4717567	fxl	1	Tr.
MP-145	468309	4717489	none		
MP-146	468555	4717323	fxl	5	Tr.
MP-147	468949	4717311	mls	1	Tr.
MP-148	469011	4717000	mls	1	Tr.
MP-149	470399	4717733	fxl	1	Tr.
MP-150	470397	4717740	sls	Tr.	0
MP-151	470384	4717919	mls	3	2
MP-152	468756	4718012	fxl	0	1
MP-153	468876	4718352	mls	1	Tr.
MP-154	469328	4718763	mls	3	Tr.
MP-155	469713	4718745	mls	1	1
MP-156	469934	4718815	mls	Tr.	Tr.
MP-157	469966	4718589	mls	1	1
MP-158	469442	4717815	sls	Tr.	Tr.
MP-159	469452	4717662	mls	1	Tr.
MP-160	469487	4717509	mls	Tr.	0
MP-161	469782	4717427	mls	Tr.	Tr.
MP-162	469751	4717627	mls	3	Tr.
MP-163	470215	4718343	xl	3	Tr.
MP-164	470234	4717417	mls	3	Tr.
MP-165	469927	4717271	fxl	3	Tr.

Summary and Recommendations

The Aspen property contains a very significant deposit of fine crystalline and micritic limestone within the Aspen Range Formation. This block of carbonates is roughly two square miles and probably ranges in thickness from 300' in the southern part to 1,200' in the northern part. Sample results are awaited to determine the chemical content.

Recommendations for the property include:

- 1) An understanding of the Aspen Range Formation should be developed by investigation of the Sando W.J., Sandberg C.A., and Gutschick R.C, type section five miles South East of the Aspen (MP) claims.
- 2) Stratigraphic mapping or location of marker beds should be determined in order to locate areas of best potential for drilling.
- 3) Although not in the claim block sampling of the upper members of the Madison group should be undertaken in order to determine added potential at depth
- 4) Due to the anticipated time of two years for permission to drill the permitting process should be started as soon as is possible.

Included information:

1"=1,000' geologic mapping sheet and geologic compilation overlay.

References

- Cressman, E.R., and Gulbrandsen, R.A., 1955, GEOLOGY OF THE DRY VALLEY QUADRANGLE, CARIBOU COUNTY, IDAHO; U.S. Geological Survey Bulletin 1015-I, plate 27.
- Gulbrandsen, R.A, McLaughlin, K.P, Honkala, F.S, and Clabaugh, S.E, 1956, GEOLOGY OF THE JOHNSON CREEK QUADRANGLE, CARIBOU COUNTY, IDAHO; U.S. Geological Survey Bulletin 1042-A, plate 1.
- Cressman, E.R, 1964, GEOLOGY OF THE GEORGETOWN CANYON-SNOWDRIFT MOUNTAIN AREA, SOUTHEASTERN IDAHO; U.S. Geological Survey Bulletin 1153.
- Sando, W.J, Sandberg, C.A, and Gutschick, R.C, 1981, STRATIGRAPHIC AND ECONOMIC SIGNIFICANCE OF MISSISSIPPIAN SEQUENCE AT NORTH GEORGETOWN CANYON, IDAHO; American association of Petroleum Geologists, Volume 65-8, August 1981.