

C/015/018 Incoming

#4867

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Huntington, Utah 84528



April 7, 2015

Utah Coal Program
Utah Division of Oil, Gas, and Mining
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801

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DIV. OF OIL, GAS & MINING

Subj: Deer Creek Mine Closure – 5th North Mains Stream Crossing Area, Pre-Closure Subsidence Survey of Underground Workings, PacifiCorp, Deer Creek Mine, C/015/0018, Emery County, Utah.

PacifiCorp, by and through its wholly-owned subsidiary, Energy West Mining Company "Energy West" as mine operator, hereby submits an inspection report, map, photographs and charts of the 5th North Mains (Blind Canyon Seam) crossing under the Right Fork of Rilda Canyon. At the time of the permit approval for the construction of the Rilda Canyon portals, Energy West committed in the permit to survey this area for the life of the mine to check for subsidence of the ground surface and/or any indications of the deterioration or collapse of the underground workings of this area to prevent damage to the stream in the Right Fork of Rilda Canyon.

The accompanying document summarizes findings of an inspection of the area conducted shortly after the completion of mining at Deer Creek Mine.

If you have any questions concerning this action, please contact myself at 435-687-4712 or Dennis Oakley at 801-687-4825.

Sincerely,

Kenneth Fleck
Geology and Environmental Affairs Manager

Enclosures: Letter and Maps Addressed to BLM indicating equipment quantity and location.

- Cc: Chuck Semborski, EWMC
- Dennis Oakley, EWMC
- Rick Poulson, EWMC
- Scott Child, Interwest Mining Co.
- Roger Bankert, BLM State Office
- Jeff McKenzie, BLM State Office
- Vaughn Hughes, BLM Price Office
- Steve Falk, BLM Price Office

file

Date: April 3, 2015

From: K.S. Fleck

To: File, Deer Creek Mine

Subject: Geotechnical Inspection of the 5th North Blind Canyon Mains, XC- 1 – 10, Deer Creek Mine, January 30, 2015

Introduction:

On Friday, January 30, 2015, Ken Fleck and Chuck Semborski inspected the 5th North Mains, Blind Canyon Seam, in the Deer Creek Mine. The purpose of the inspection was to examine and document conditions in the section from a geotechnical standpoint with regards to the stability of roof, ribs, and floor. This inspection and report fulfill commitments made in the mine permit regarding condition of the section and potential subsidence upon mine closure. The right fork of Rilda Canyon crosses over these mains from crosscut 4 (entry #4) on the northwest side of the section to XC-6 on the right side of the section (entry #5). The average overburden depth at the stream channel is about 200 feet. We traversed the section by walking up entry #1, crossing the section at XC-9, and back out of the section in entry #5 to XC-5, and diagonally across the section along the area of lowest cover from XC-5, entry #5 to XC-2, entry #2 (see Map & Photos).

This part of the 5th North Mains was mined between December, 1997 and May, 1998; the workings have been open now for over 16 years. The room and pillar layout was designed for maximum overburden support, with oversized pillars and offset 3-way intersections instead of the traditional 4-way intersections. This part of the 5th North Mains is over 2,800 feet horizontally from the nearest second mining area, so there will be no abutment loading on this area.

Inspection Results:

The condition of the roof, ribs and floor is stable, with minor slacking of the roof in places. The coal pillars have remained intact (no rib sloughage) and retain their full support capability after 16+ years. The roof in the belt entry, where the conveyor belt was suspended from the roof, is as stable as the rest of the entries where no load was exerted on the roof. The surface drill hole EM-161 was intercepted by the belt entry at XC-5, and is visible in the coal rib. This hole was cemented from the surface before mining and exhibits a solid cement fill with no water leakage.

Conclusion:

The Ground Stability Analysis – 4/5th North Mains Crossing of the Right Fork of Rilda Canyon, supplement to the North Rilda Permit Application, Volume 11A, (Appendix Volume), Engineering Section, Appendix A, page 6, makes the following commitment:

“Prior to final mine retreat and abandonment of the North Rilda Canyon Area, PacifiCorp will submit (for technical review and evaluation to the appropriate permitting management agencies) historical in-mine and surface stability data necessary to assess the long-term surface stability of

the Right Fork area of Rilda Canyon. An on-site review will be conducted to evaluate long-term stability of the Right Fork of Rilda Canyon.

Based on the site specific technical data review and evaluation mentioned above, final design and implementation of any additional ground support necessary to prevent long-term surface subsidence within the affected area will be based on the "best technology currently available" at the time of abandonment."

Surface stability data has been generated in the form of surface monitoring points in the right fork of Rilda Canyon. A set of four points (see Map) was established on June 25, 1998 that spans the 5th North crossing area. These points have been surveyed at least annually each year since they were established (see Table and Charts). None of the points has shown any signs of subsidence, reflecting the conditions observed underground.

The conclusion of the site visit and of this written report is that the area of mine workings that crosses under the right fork of Rilda Canyon, that has been open for 16+ years, has not deteriorated or subsided to any appreciable amount, is essentially stable for the foreseeable future, and will not subside or contribute to the degradation of Rilda Canyon riparian area or the diminution of the intermittent stream and alluvial waters within the riparian area. Therefore, no additional support measures are necessary or will be used in this area of the mine as the mine is being abandoned.

Photos:



#1 - Ent 1 XC 1-2 Inby



#2 - Ent 1 XC 2-3 Inby

Photos (Cont.)



#3 - Ent 1 XC 3 Looking Right



#4 - Ent 1 XC 4 Looking Left

Photos (Cont.)



#5 - Ent 1 XC 4-5 Looking Inby



#6 - Ent 1 XC 5-6 In

Photos (Cont.)



#7 - Ent 1 XC 6 Looking Right



#8 - Ent 1 XC 6-7 Looking Inby

Photos (Cont.)



#9 - Ent 1 XC 7 Looking Right



#10 - Ent 1 XC 8 Looking Right

Photos (Cont.)



#11 - Ent 1 XC 8-9 Inby



#12 - Ent 1 XC 9 Inby

Photos (Cont.)



#13 - Ent 1 XC 9 Right



#14 - Ent 3 Belt XC 9 Inby

Photos (Cont.)



#15 - Ent 3 Belt XC 9 Outby



#16 - Ent 5 XC 9-8 Looking Outby

Photos (Cont.)



#17 - Ent 5 XC 7 Looking Outby



#18 - Ent 3 XC 5 Belt Drillhole EM-161 Cement and PVC Pipe

Photos (Cont.)



#19 - Ent 2 XC 4-5 Looking Inby



#20 - Ent 2 XC-4 Looking Outby

HIAWATHA ACCESS
 (SEE DRAWING DU1817G FOR HIAWATHA SEAM WORKINGS)

SEALS

#1 Return Shaft
 Top Collar Elevation 7998.58
 Bottom Collar Elevation 7931.35
 16" Diameter X 6723' Length
 Completed 01/31/2001

#2 Return Shaft
 Top Collar Elevation 7999.86
 Bottom Collar Elevation 7922.27
 16" Diameter X 7759' Length
 Completed 03/09/2001

Top of Belt Hiawatha Slope
 Slope Length 574'
 28°W X 8 1/2" H
 Beginning Roof Elev. 8016.58
 Slope Grade 15.3%

EM-56C
 EM-164
 276.8' OB
 Culvert
 244.1' OB

EM-163
 244.1' OB

DECEMBER 99

EM-162
 212.7' OB

EM-161
 195.9' OB

EM-160
 161.6' OB

EM-159
 155.8' OB

EM-158
 117.1' OB

Energy West Mining Co.
 Deer Creek Mine
 Inspection of Workings - 01/30/15
 5th North Mains - B.C. Seam

EM-161
 195.9' OB

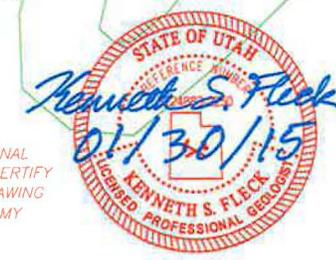
RC1

Path of Inspection Traverse

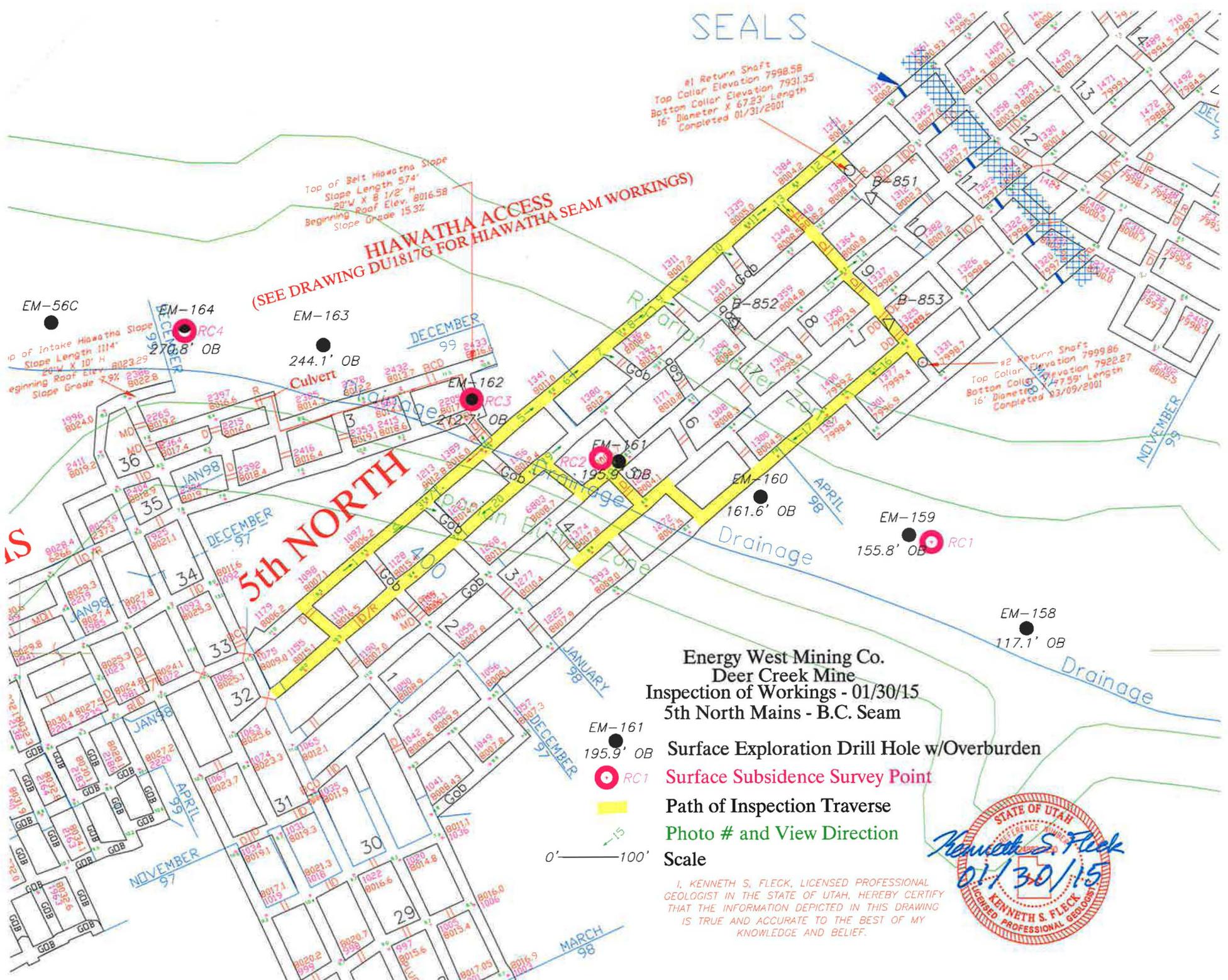
Photo # and View Direction

0' — 100'

- EM-161 195.9' OB
- RC1
- Path of Inspection Traverse
- Photo # and View Direction
- Scale



I, KENNETH S. FLECK, LICENSED PROFESSIONAL GEOLOGIST IN THE STATE OF UTAH, HEREBY CERTIFY THAT THE INFORMATION DEPICTED IN THIS DRAWING IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.



RILDA CANYON RIGHT FORK SURFACE MONITORING ABOVE 5TH NORTH

DATE	RC1 btm end			RC2			RC3			RC4 top end			Comments:
	N	E	ELEV.	N	E	ELEV.	N	E	ELEV.	N	E	ELEV.	
6/25/1998	392182.738	2093512.401	8161.66	392322.121	2092965.037	8208.76	392421.14	2092750.953	8231.12	392536.814	2092275.445	8296.77	Surveyed with transit
8/12/1998	392184.166	2093512.369	8162.87	392322.947	2092965.38	8209.12	392421.687	2092751.055	8231.47	392536.82	2092275.433	8296.21	Surveyed with transit
8/14/1998			8162.34			8209.27			8231.57			8296.22	Surveyed with level
10/1/1998			8162.33			8209.21			8231.51			8296.19	Surveyed with level
5/26/1999			8162.30			8209.16			8231.46			8296.18	Surveyed with level
7/6/1999			8162.47			8209.61			8231.97			8296.00	NOT A GOOD CLOSURE
8/25/1999			8162.35			8209.50			8231.37			8296.18	Surveyed with level
6/23/2000			8162.35			8208.28			8231.66			8296.11	Surveyed with level
10/17/2000			8162.15			8209.05			8231.38			8296.16	Surveyed with level
6/5/2001			8162.38			8209.29			8231.59			8296.18	Surveyed with level
7/9/2002			8162.27			8209.23			8231.51			8296.22	Surveyed with level
5/28/2003			8161.95			8208.68			8231.08			8295.96	Surveyed with level
7/26/2004			8161.99			8208.96			8231.35			8296.14	Surveyed with level
7/22/2005			8162.38						8231.52			8296.22	Surveyed with level RC2 not found
7/17/2006			8162.20						8231.44			8296.18	Surveyed with level RC2 not found
7/5/2007			8162.35						8231.50			8296.22	Surveyed with level RC2 not found
8/26/2008			8162.40						8231.50			8296.08	Surveyed with level RC2 not found
9/21/2009			8162.36						8231.54			8296.20	Surveyed with level RC2 not found
11/2/2010			8162.33						8231.51			8296.21	Surveyed with level RC2 not found
10/24/2011			8162.34			8209.23			8231.57			8296.28	Surveyed with level RC2 found
8/24/2012			8162.34			8209.21			8231.54			8296.25	Surveyed with level
9/24/2013			8162.34			8209.22			8231.57			8296.23	Surveyed with level
8/28/2014			8162.35			8209.24			8231.54			8296.20	Surveyed with level
Average			8162.30			8209.12			8231.49			8296.20	

Table 1. Rilda Canyon Right Fork Stream Crossing Area Surveyed Subsidence Monitoring Points

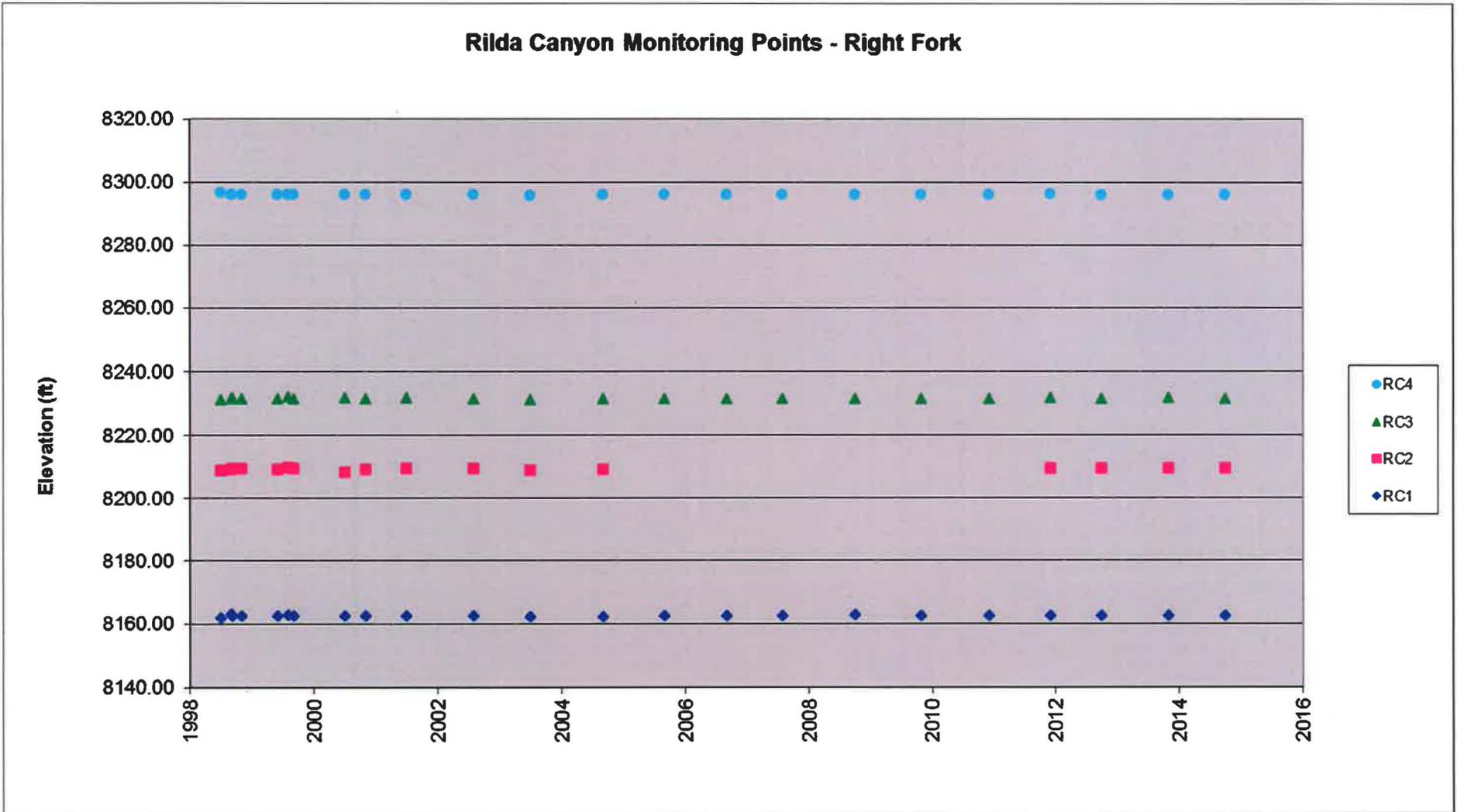


Chart 1. Graph of Rilda Canyon Right Fork Stream Crossing Area Surveyed Subsidence Monitoring Points vs. Year of Survey

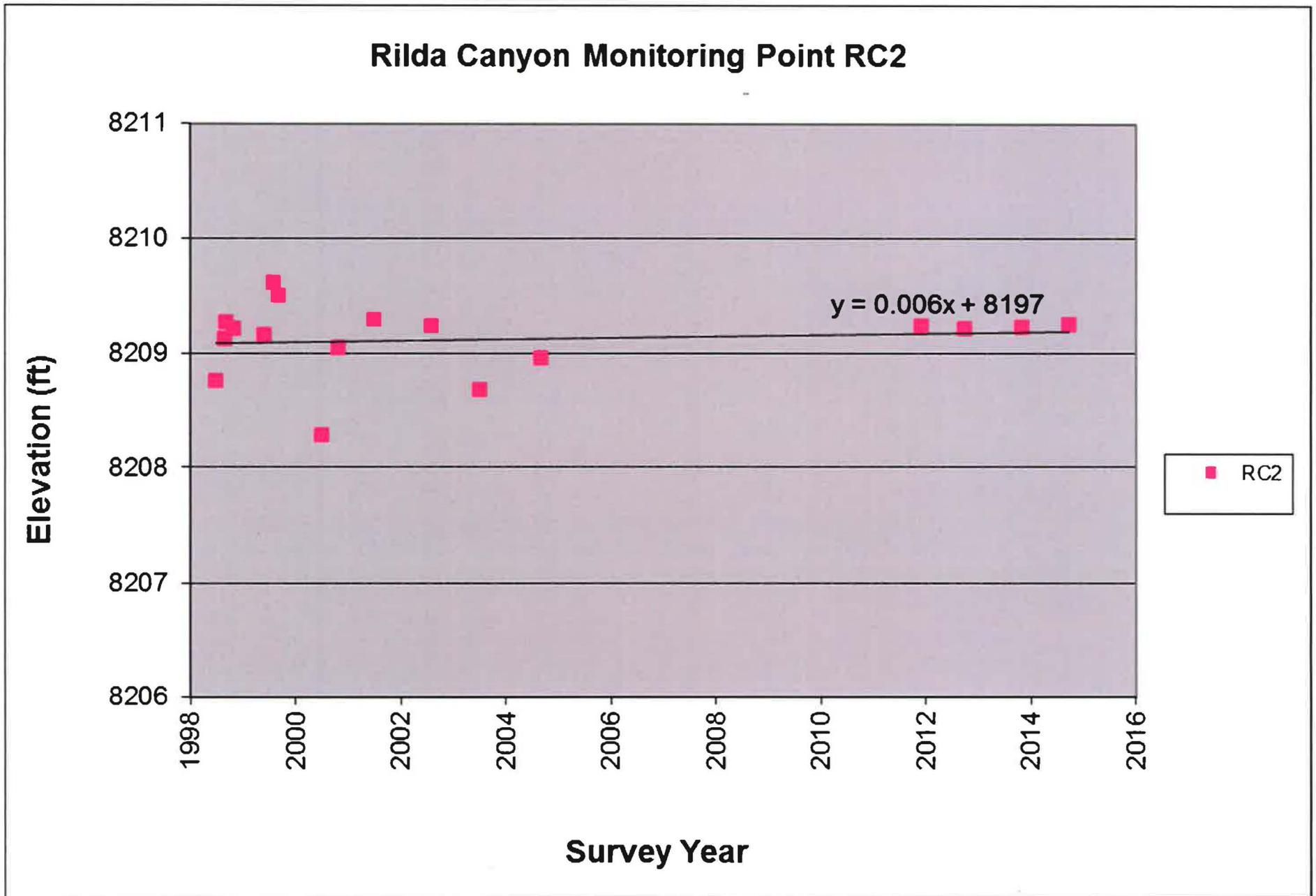


Chart 3. Graph of Rilda Canyon Right Fork Stream Crossing Area Surveyed Subsidence Monitoring Point RC2

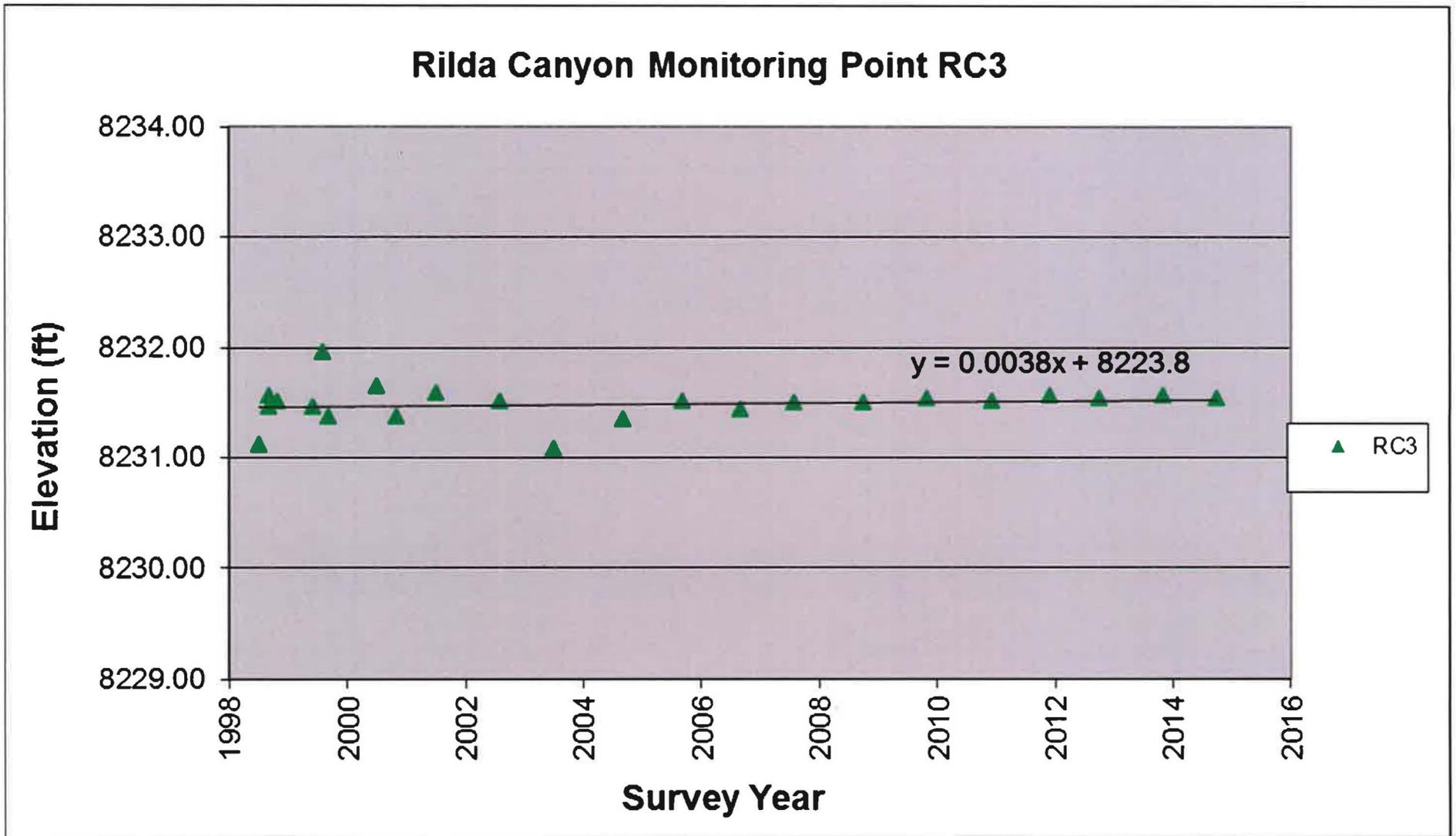


Chart 4. Graph of Rilda Canyon Right Fork Stream Crossing Area Surveyed Subsidence Monitoring Point RC3

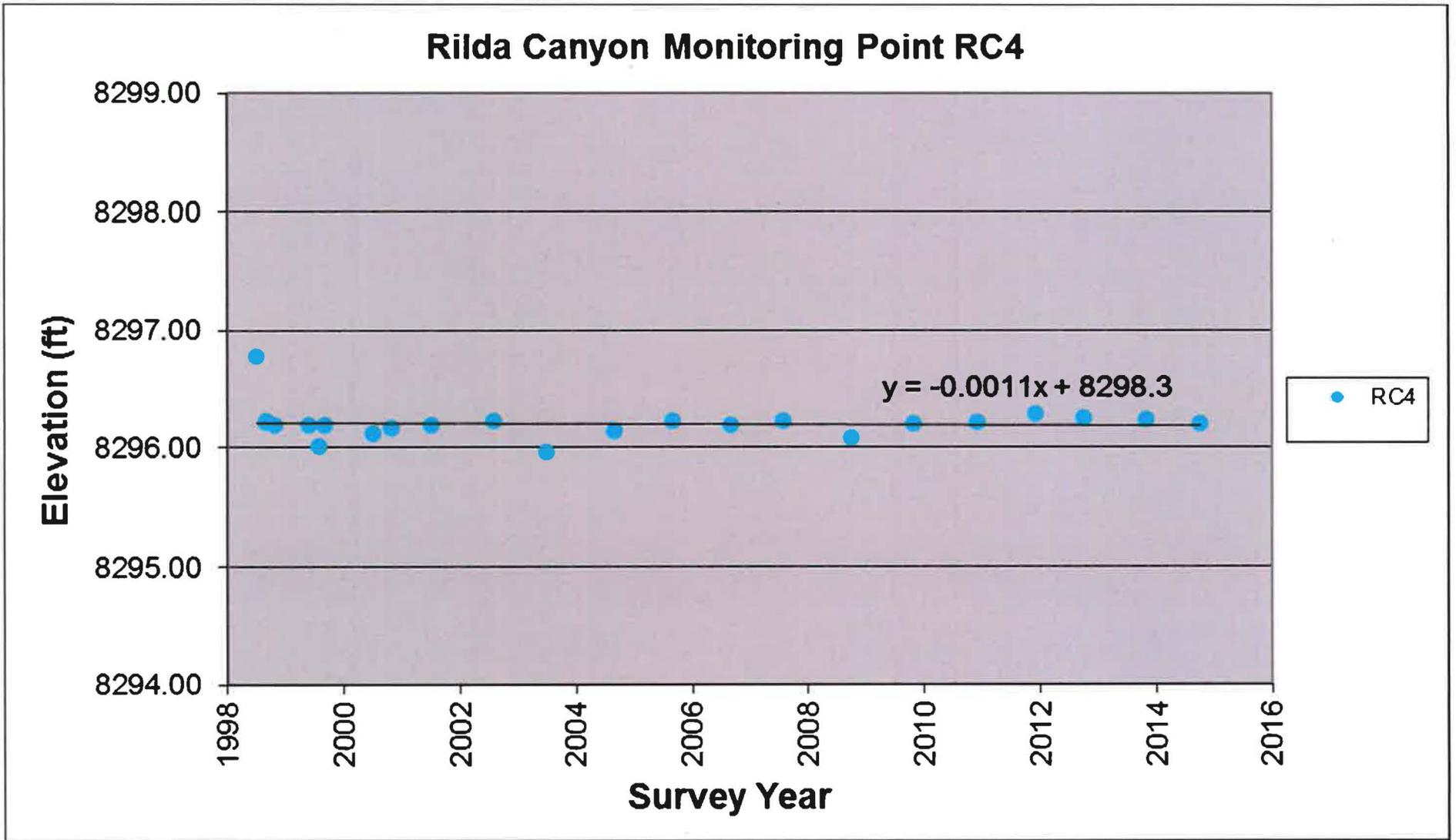


Chart 5. Graph of Rilda Canyon Right Fork Stream Crossing Area Surveyed Subsidence Monitoring Point RC4