

An Actuarial Report Review prepared by  
**SIGMA** Actuarial Consulting Group, Inc.





July 31, 2021

Samuel Jackson  
Director of Risk Management  
XYZ Brokers, Inc.  
123 Lafayette Avenue, Suite 456  
Atlanta, GA 30303

**Re: *Review of Actuarial Analysis***

Mr. Jackson:

Enclosed is our review of the methodology and findings of the reserve study as of December 31, 2020 dated April 30, 2021 prepared by ABC Actuarial, Inc. for SAMPLE Company's retained large deductible or self-insured losses.

If you have any questions related to our review or require any additional information, please let us know. It has been a pleasure working on this assignment, and we look forward to future opportunities to work together.

A handwritten signature in blue ink that reads "Al J. Rhodes".

Regards,

AL J. Rhodes, ACAS, MAAA  
President & Senior Actuary  
SIGMA Actuarial Consulting Group, Inc.

**Qualification Statement:** I, Al J. Rhodes, am associated with the firm of SIGMA Actuarial Consulting Group, Inc. I am a member of the American Academy of Actuaries and meet its qualification standards, and I am an Associate of the Casualty Actuarial Society.

## Scope

At the request of XYZ Brokers, Inc. (XYZ), SIGMA Actuarial Consulting Group, Inc. (SIGMA) conducted a review of an actuarial analysis as of December 21, 2020 for SAMPLE Company (the Company) completed by ABC Actuarial, Inc. (ABC). We have relied on the data and analysis as documented in the ABC report provided to us.

Our review was limited to the actuarial analysis only. We have not audited or verified the data. Our findings may need to be revised if any of the underlying data is found to be inaccurate or incomplete. Likewise, we have not attempted to independently estimate the reserves. An independent analysis by SIGMA would not necessarily use the same methods or assumptions, nor would it necessarily produce similar results. Actuarial estimates are subject to uncertainty from various sources, including economic conditions, legislative changes, and judicial decisions. Future emergence may vary significantly from the actuarially estimated reserves. **SIGMA is not issuing an actuarial opinion on the specific amount of estimated required reserves.**

This report is intended for the use of the Company and XYZ. If released to any third party, it should be released only in its entirety. Please advise the authors at SIGMA of the release of this report to any parties. SIGMA reserves the right to supplement this review with additional explanations and qualifications as it deems appropriate for each user.

## Background

The Company's large deductible program began on 1/1/13. Therefore, this review is only for liabilities for workers compensation and general liability claims incurred between 1/1/13 and 12/31/20 as shown in ABC's analysis.

## Methodology – Reserves as of 12/31/20

ABC uses five methods to estimate ultimate losses. The five methods consist of three loss development methods, a Bornhuetter-Ferguson method, and a frequency/severity method. The development methods are based on incurred losses, paid losses, and case outstanding reserves. The Bornhuetter-Ferguson and frequency/severity methods are based on incurred losses only.

The five methods are compared, and a selection of ultimate loss is made for each period. The estimated required reserves are calculated as the estimated ultimate losses for each period minus the actual paid losses as of 12/31/20. The IBNR reserves are calculated as the estimated ultimate losses minus the actual reported losses as of 12/31/20.

The reported and paid loss development factors used are based on unique development triangles and industry data benchmark factors unique to the Company. Reasonable weight is given to the Company's unique development considering the available loss history.

### **Findings – Reserves as of 12/31/20**

The total IBNR reserves for net (retained) loss and ALAE are \$2,612,698, as shown on the summary on page 12 of the ABC report. The case reserves are \$1,071,206. Therefore, the overall IBNR/CASE ratio is approximately 2.4.

### **Comments on the Methodology and Key Assumptions**

Based on our review, the primary key assumptions in the report provide a reasonable point estimate of required reserves. The development factors used are reasonable and applied appropriately in the analysis. The selected estimated ultimate losses seem reasonable based on the results of the various methods. We did, however, note that the exposures for SAMPLE are growing significantly over the last two years for workers compensation. We would advise that the exposure of the current years be monitored for shifts in class code and geography.

### **Summary**

The ABC report is signed by a credentialed actuary of the Casualty Actuarial Society with a qualification statement related to the liabilities contained in the report. Subject to the limitations of our review, it is our opinion that the actuarial report as of December 31, 2020 prepared by ABC applies reasonable actuarial methods to establish the actuarial estimates of the Company's net (retained) loss and ALAE reserves as of December 31, 2020. In addition, it is also our opinion that the actuary's assumptions used in the actuarial report are reasonable.

## About SIGMA

Founded in 1995, SIGMA Actuarial Consulting Group, Inc. is an independent property and casualty actuarial firm located in Brentwood Tennessee. SIGMA provides casualty actuarial consulting services to captive managers, risk managers, brokers, risk management consultants, TPAs, and CPAs. Our credentials cover a broad spectrum from actuarial credentials and advanced academic degrees to risk management and captive insurance specialty credentials. SIGMA is dedicated to offering professional services to its clients and prides itself in the method used to communicate the results of the analysis. We are known for providing an easy to read and understandable analysis free of actuarial jargon. The findings are presented in such a way that individuals not necessarily familiar with actuarial principles and procedures can follow and reasonably understand how the calculations are made and the implications of the results. The analyses of loss data are objective and reference the most recently available insurance industry statistics when necessary and appropriate. SIGMA has won numerous industry awards that highlight our commitment to excellence and education.



Actuarial Firm  
SIGMA



Actuary  
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Feasibility Study  
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