

Form 5500-SF Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Short Form Annual Return/Report of Small Employee Benefit Plan This form is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA), and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code). ► Complete all entries in accordance with the instructions to the Form 5500-SF.	OMB Nos. 1210-0110 1210-0089 2015 This Form is Open to Public Inspection
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Part I Annual Report Identification Information	
For calendar plan year 2015 or fiscal plan year beginning <u>01/01/2015</u> and ending <u>12/31/2015</u>	
A This return/report is for:	☒ a single-employer plan ☐ a multiple-employer plan (not multiemployer) (Filers checking this box must attach a list of participating employer information in accordance with the form instructions) ☐ a one-participant plan ☐ a foreign plan
B This return/report is	☐ the first return/report ☐ the final return/report ☐ an amended return/report ☐ a short plan year return/report (less than 12 months)
C Check box if filing under:	☒ Form 5558 ☐ automatic extension ☐ DFVC program ☐ special extension (enter description)

Part II Basic Plan Information—enter all requested information			
1a Name of plan <u>ZIRCOA, INC. SALARIED EMPLOYEES PENSION PLAN</u>	1b Three-digit plan number (PN) ►	<u>002</u>	
2a Plan sponsor's name (employer, if for a single-employer plan) Mailing address (include room, apt., suite no. and street, or P.O. Box) City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions) <u>ZIRCOA, INC.</u> <u>31501 SOLON ROAD</u> <u>SOLON, OH 44139-3526</u>		1c Effective date of plan <u>03/01/1988</u>	
		2b Employer Identification Number (EIN) <u>34-1570175</u>	
		2c Sponsor's telephone number <u>440-248-0500</u>	
		2d Business code (see instructions) <u>327100</u>	
3a Plan administrator's name and address ☒ Same as Plan Sponsor.		3b Administrator's EIN 3c Administrator's telephone number	
4 If the name and/or EIN of the plan sponsor has changed since the last return/report filed for this plan, enter the name, EIN, and the plan number from the last return/report. a Sponsor's name		4b EIN 4c PN	
5a Total number of participants at the beginning of the plan year		5a	<u>79</u>
b Total number of participants at the end of the plan year		5b	<u>76</u>
c Number of participants with account balances as of the end of the plan year (defined benefit plans do not complete this item)		5c	
d(1) Total number of active participants at the beginning of the plan year		5d(1)	<u>21</u>
d(2) Total number of active participants at the end of the plan year		5d(2)	<u>19</u>
e Number of participants that terminated employment during the plan year with accrued benefits that were less than 100% vested		5e	<u>0</u>
Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.			
Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including, if applicable, a Schedule SB or Schedule MB completed and signed by an enrolled actuary, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.			
SIGN HERE	<u>Filed with authorized/valid electronic signature.</u> Signature of plan administrator	<u>10/06/2016</u> Date	<u>RONNE PROCH</u> Enter name of individual signing as plan administrator
SIGN HERE	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
Preparer's name (including firm name, if applicable) and address (include room or suite number)			Preparer's telephone number

- 6a** Were all of the plan's assets during the plan year invested in eligible assets? (See instructions.) ☒ Yes ☐ No
- b** Are you claiming a waiver of the annual examination and report of an independent qualified public accountant (IQPA) under 29 CFR 2520.104-46? (See instructions on waiver eligibility and conditions.) ☒ Yes ☐ No
- If you answered "No" to either line 6a or line 6b, the plan cannot use Form 5500-SF and must instead use Form 5500.**
- c** If the plan is a defined benefit plan, is it covered under the PBGC insurance program (see ERISA section 4021)? ☒ Yes ☐ No ☐ Not determined

Part III Financial Information

7 Plan Assets and Liabilities		(a) Beginning of Year	(b) End of Year
a Total plan assets.....	7a	9752748	9169621
b Total plan liabilities	7b	0	0
c Net plan assets (subtract line 7b from line 7a)	7c	9752748	9169621
8 Income, Expenses, and Transfers for this Plan Year		(a) Amount	(b) Total
a Contributions received or receivable from:			
(1) Employers	8a(1)	327943	
(2) Participants	8a(2)	0	
(3) Others (including rollovers)	8a(3)	0	
b Other income (loss)	8b	-127900	
c Total income (add lines 8a(1), 8a(2), 8a(3), and 8b)	8c		200043
d Benefits paid (including direct rollovers and insurance premiums to provide benefits)	8d	744636	
e Certain deemed and/or corrective distributions (see instructions)....	8e	0	
f Administrative service providers (salaries, fees, commissions).....	8f	38534	
g Other expenses	8g	0	
h Total expenses (add lines 8d, 8e, 8f, and 8g).....	8h		783170
i Net income (loss) (subtract line 8h from line 8c)	8i		-583127
j Transfers to (from) the plan (see instructions)	8j		

Part IV Plan Characteristics

9a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristic Codes in the instructions:
1A 3H

B If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristic Codes in the instructions:

Part V Compliance Questions

10 During the plan year:		Yes	No	N/A	Amount
a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? (See instructions and DOL's Voluntary Fiduciary Correction Program)	10a		X		
b Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 10a.)	10b		X		
c Was the plan covered by a fidelity bond?.....	10c	X			500000
d Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	10d		X		
e Were any fees or commissions paid to any brokers, agents, or other persons by an insurance carrier, insurance service, or other organization that provides some or all of the benefits under the plan? (See instructions.).....	10e		X		
f Has the plan failed to provide any benefit when due under the plan?	10f		X		
g Did the plan have any participant loans? (If "Yes," enter amount as of year end.)	10g		X		
h If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	10h				
i If 10h was answered "Yes," check the box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3.....	10i				
j Did the plan trust incur unrelated business taxable income?	10j				

Part VI Pension Funding Compliance

11 Is this a defined benefit plan subject to minimum funding requirements? (If "Yes," see instructions and complete Schedule SB (Form 5500) and line 11a below)..... ☒ Yes ☐ No

11a Enter the unpaid minimum required contribution for all years from Schedule SB (Form 5500) line 40..... **11a** 0

12 Is this a defined contribution plan subject to the minimum funding requirements of section 412 of the Code or section 302 of ERISA?... ☐ Yes ☒ No

(If "Yes," complete line 12a or lines 12b, 12c, 12d, and 12e below, as applicable.)

- a** If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions, and enter the date of the letter ruling granting the waiver. Month Day Year

If you completed line 12a, complete lines 3, 9, and 10 of Schedule MB (Form 5500), and skip to line 13.

- b** Enter the minimum required contribution for this plan year **12b**
- c** Enter the amount contributed by the employer to the plan for this plan year **12c**
- d** Subtract the amount in line 12c from the amount in line 12b. Enter the result (enter a minus sign to the left of a negative amount) **12d**
- e** Will the minimum funding amount reported on line 12d be met by the funding deadline? ☐ Yes ☐ No ☐ N/A

Part VII Plan Terminations and Transfers of Assets

- 13a** Has a resolution to terminate the plan been adopted in any plan year? ☐ Yes ☒ No
- If "Yes," enter the amount of any plan assets that reverted to the employer this year **13a**
- b** Were all the plan assets distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC? ☐ Yes ☒ No
- c** If during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)
- | 13c(1) Name of plan(s): | 13c(2) EIN(s) | 13c(3) PN(s) |
|--------------------------------|----------------------|---------------------|
| | | |

Part VIII Trust Information

- 14a** Name of trust **14b** Trust's EIN
- 14c** Name of trustee or custodian **14d** Trustee's or custodian's telephone number

Part IX IRS Compliance Questions

- 15a** Is the plan a 401(k) plan? ☐ Yes ☐ No
- 15b** If "Yes," how does the 401(k) plan satisfy the nondiscrimination requirements for employee deferrals and employer matching contributions (as applicable) under sections 401(k)(3) and 401(m)(2)? ☐ Design-based safe harbor method ☐ ADP/ACP test
- 15c** If the ADP/ACP test is used, did the 401(k) plan perform ADP/ACP testing for the plan year using the "current year testing method" for nonhighly compensated employees (Treas. Reg sections 1.401(k)-2(a)(2)(ii) and 1.401(m)-2(a)(2)(ii))? ☐ Yes ☐ No
- 16a** Check the box to indicate the method used by the plan to satisfy the coverage requirements under section 410(b): ☐ Ratio percentage test ☐ Average benefit test
- 16b** Does the plan satisfy the coverage and nondiscrimination tests of sections 410(b) and 401(a)(4) by combining this plan with any other plans under the permissive aggregation rules? ☐ Yes ☐ No
- 17a** Has the plan been timely amended for all required tax law changes? ☐ Yes ☐ No ☐ N/A
- 17b** Date the last plan amendment/restatement for the required tax law changes was adopted ____/____/____. Enter the applicable code ____ (See instructions for tax law changes and codes).
- 17c** If the plan sponsor is an adopter of a pre-approved master and prototype (M&P) or volume submitter plan that is subject to a favorable IRS opinion or advisory letter, enter the date of that favorable letter ____/____/____ and the letter's serial number _____.
- 17d** If the plan is an individually-designed plan and received a favorable determination letter from the IRS, enter the date of the plan's last favorable determination letter ____/____/____.
- 18** Is the Plan maintained in a U.S. territory (i.e., Puerto Rico (if no election under ERISA section 1022(i)(2) has been made), American Samoa, Guam, the Commonwealth of the Northern Mariana Islands or the U.S. Virgin Islands)? ☐ Yes ☐ No
- 19** Were in-service distributions made during the plan year? ☐ Yes ☐ No
- If "Yes," enter amount **19**
- 20** Were required minimum distributions made to 5% owners who have attained age 70 ½ (regardless of whether or not retired), as required under section 401(a)(9)? ☐ Yes ☐ No ☐ N/A

<div>SCHEDULE SB (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation</div>	<div>Single-Employer Defined Benefit Plan Actuarial Information</div> <div>This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code).</div> <div>▶ File as an attachment to Form 5500 or 5500-SF.</div>	<div>OMB No. 1210-0110</div> <div>2015</div> <div>This Form is Open to Public Inspection</div>
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For calendar plan year 2015 or fiscal plan year beginning 01/01/2015 and ending 12/31/2015

▶ Round off amounts to nearest dollar.
▶ Caution: A penalty of \$1,000 will be assessed for late filing of this report unless reasonable cause is established.

A Name of plan ZIRCOA, INC. SALARIED EMPLOYEES PENSION PLAN	B Three-digit plan number (PN) ▶ 002
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF ZIRCOA, INC.	D Employer Identification Number (EIN) 34-1570175

E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B **F** Prior year plan size: ☒ 100 or fewer ☐ 101-500 ☐ More than 500

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2015			
2 Assets:			
a Market value	2a	9752748	
b Actuarial value	2b	9774473	
3 Funding target/participant count breakdown	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment	34	5232318	5232318
b For terminated vested participants	25	1008623	1008623
c For active participants	20	3498464	3508192
d Total	79	9739405	9749133
4 If the plan is in at-risk status, check the box and complete lines (a) and (b)	☐		
a Funding target disregarding prescribed at-risk assumptions	4a		
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor	4b		
5 Effective interest rate	5	6.26%	
6 Target normal cost	6	36574	

Statement by Enrolled Actuary
To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

SIGN HERE		
Signature of actuary	10/05/2016	Date
MICHAEL M. SPICKARD, EA, MSPA, CPC	14-05310	Most recent enrollment number
Type or print name of actuary	330-644-2044	Telephone number (including area code)
CBIZ RETIREMENT PLAN SERVICES		
Firm name		
13680 CLEVELAND AVE NW UNIONTOWN, OH 44685		
Address of the firm		

If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions ☐

Part II Beginning of Year Carryover and Prefunding Balances		
	(a) Carryover balance	(b) Prefunding balance
7 Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	335922
8 Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	276054
9 Amount remaining (line 7 minus line 8)	0	59868
10 Interest on line 9 using prior year's actual return of <u>4.65</u> %	0	2784
11 Prior year's excess contributions to be added to prefunding balance:		
a Present value of excess contributions (line 38a from prior year)		0
b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of <u>6.47</u> %		0
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		0
c Total available at beginning of current plan year to add to prefunding balance.....		0
d Portion of (c) to be added to prefunding balance		0
12 Other reductions in balances due to elections or deemed elections	0	0
13 Balance at beginning of current year (line 9 + line 10 + line 11d – line 12).....	0	62652

Part III Funding Percentages		
14 Funding target attainment percentage.....	14	99.61 %
15 Adjusted funding target attainment percentage	15	100.25 %
16 Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement.....	16	93.83 %
17 If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage.....	17	%

Part IV Contributions and Liquidity Shortfalls					
18 Contributions made to the plan for the plan year by employer(s) and employees:					
(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
09/28/2015	206052	0			
11/17/2015	8592	0			
05/03/2016	2866	0			
05/05/2016	433	0			
05/18/2016	110000	0			
			Totals ►	18(b)	327943
				18(c)	0

19 Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:		
a Contributions allocated toward unpaid minimum required contributions from prior years.	19a	0
b Contributions made to avoid restrictions adjusted to valuation date.....	19b	0
c Contributions allocated toward minimum required contribution for current year adjusted to valuation date	19c	306940
20 Quarterly contributions and liquidity shortfalls:		
a Did the plan have a "funding shortfall" for the prior year? ☒ Yes ☐ No		
b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner?..... ☐ Yes ☒ No		
c If line 20a is "Yes," see instructions and complete the following table as applicable:		
Liquidity shortfall as of end of quarter of this plan year		
(1) 1st	(2) 2nd	(3) 3rd
0	0	0
		(4) 4th
		0

Part V Assumptions Used to Determine Funding Target and Target Normal Cost

21 Discount rate:				
a Segment rates:	1st segment: 4.72 %	2nd segment: 6.11 %	3rd segment: 6.81 %	☐ N/A, full yield curve used
b Applicable month (enter code).....				21b 0
22 Weighted average retirement age				22 63
23 Mortality table(s) (see instructions) ☐ Prescribed - combined ☒ Prescribed - separate ☐ Substitute				

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment.	☐ Yes ☒ No
25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment.	☐ Yes ☒ No
26 Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment.....	☒ Yes ☐ No
27 If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment.....	27

Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

28 Unpaid minimum required contributions for all prior years	28	0
29 Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a).....	29	0
30 Remaining amount of unpaid minimum required contributions (line 28 minus line 29)	30	0

Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):			
a Target normal cost (line 6)	31a	36574	
b Excess assets, if applicable, but not greater than line 31a	31b	0	
32 Amortization installments:	Outstanding Balance	Installment	
a Net shortfall amortization installment	37312	248016	
b Waiver amortization installment	0	0	
33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount	33		
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)...	34	284590	
	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement.....	0	0	0
36 Additional cash requirement (line 34 minus line 35)	36	284590	
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	37	306940	
38 Present value of excess contributions for current year (see instructions)			
a Total (excess, if any, of line 37 over line 36)	38a	22350	
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	38b	0	
39 Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37)	39	0	
40 Unpaid minimum required contributions for all years.....	40	0	

Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)

41 If an election was made to use PRA 2010 funding relief for this plan:			
a Schedule elected	☐ 2 plus 7 years ☐ 15 years		
b Eligible plan year(s) for which the election in line 41a was made	☐ 2008 ☐ 2009 ☐ 2010 ☐ 2011		
42 Amount of acceleration adjustment	42		
43 Excess installment acceleration amount to be carried over to future plan years	43		

SCHEDULE SB ATTACHMENT

Line 26 - Schedule of Active Participant Data

Plan Name: Zircoa, Inc. Salaried Employees' Pension Plan

EIN/PN: 34-1570175/002

Valuation Date: January 1, 2015

Compensation is show below only for cells where the counts are greater than 20.

	Years of Credited Service														
Att.	Under					5 to	10 to	15 to	20 to	25 to	30 to	35 to	40 &		
Age:	1	1	2	3	4	9	14	19	24	29	34	39	Up	Total	
Under	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25 to	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
30 to	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35 to	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40 to	-	-	-	-	-	1	-	-	-	-	-	-	-	1	
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
45 to	-	-	-	-	-	3	-	-	1	-	-	-	-	4	
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50 to	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
55 to	-	-	-	-	-	-	1	1	-	3	3	1	-	9	
59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
60 to	-	-	-	-	-	-	1	1	-	2	-	-	-	4	
64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
65 to	-	-	-	-	-	1	-	-	-	-	-	-	-	1	
69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
70 &	-	-	-	-	-	1	-	-	-	-	-	-	-	1	
Up	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	-	-	-	-	-	6	2	2	1	5	3	1	-	20	
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

ACTUARIAL ASSUMPTIONS

Valuation Census Date

Census data was provided by the Plan Sponsor as of January 01, 2015. We have reviewed the data for consistency and have no reason to doubt its substantial accuracy.

Valuation Interest Rates

IRS-Prescribed Three-Segment Rates, for the month that includes the valuation date (Jan).

24-Month Segment Rates		
	Unadjusted	Limited to 25 Year Corridor
Segment I:	1.22%	4.72%
Segment II:	4.11%	6.11%
Segment III:	5.20%	6.81%

The "Limited to 25 Year Corridor" rates are adjusted by the applicable maximum and applicable minimum percentages of the 25-year average segment rates, as set forth in the Highway and Transportation Funding Act of 2014 ('HATFA-14') for use in Minimum Required Contribution calculations. The IRS Maximum Deductible Limit Calculations use the rates from the "Unadjusted" column above.

The Effective Interest Rate (EIR) for the 2015 Plan Year was 6.26%. For the prior Plan year, the EIR was 6.47%.

The EIR is the single rate of interest which, if used to determine the Funding Target, would equal the Funding Target determined using the plan sponsor's above elected discount rates. The EIR is used to discount contributions for minimum funding requirements and to accumulate excess contributions to the end of the year.

PBGC Discount Rates

The segment rates used to calculate the PBGC vested liabilities are as follows:

	<u>General Rule</u> (month prior to valuation)	<u>Alternative Rule</u> (Unadjusted funding rates)
Segment I:	1.48%	1.22%
Segment II:	3.77%	4.11%
Segment III:	4.79%	5.20%

Mortality Table Elected

IRS Prescribed Mortality with Separate Annuitant and Non-Annuitant Rates, for Males and Females for the Current Plan Year.

ACTUARIAL ASSUMPTIONS

Expected Return on Assets

The expected return on assets (EROA) used in the calculation of the Actuarial Value of Assets (AVA) is the lesser of a) or b), below:

a) The plan sponsor's expected long-term rate of return on assets based on actual trust allocations; or

b) The third segment rate in the IRS-Prescribed Three-Segment Rates plan sponsor for minimum funding purposes.

The results are as follows:

<u>Plan Year</u>	<u>(a)</u>	<u>(b)</u>	<u>EROA</u>
2014	7.50%	6.99%	6.99%
2013	7.50%	6.76%	6.76%

Expenses

Administrative expenses were assumed to equal actual expenses in the prior year. Under this assumption, expenses of \$36,574 were included in the Normal Cost.

Salary Scale

None. Plan accruals are Frozen.

Taxable Wage Base Increases

The Social Security Taxable Wage Base is assumed to increase at 3.00% per year.

Inflation

The consumer price index is assumed to increase at 3.00% per year.

Withdrawal Rates

Rates are based on age. Below is a table of representative rates.

<u>Age</u>	<u>Rates</u>
20	17.50%
25	17.50%
30	8.50%
35	8.50%
40	5.80%
45	4.00%
50	1.00%
55	1.00%
60	1.00%

Disability Incidence

None assumed.

ACTUARIAL ASSUMPTIONS

Retirement Rates

Rates are based on age. Below is a table of representative rates.

Age	Rates
55	1.00%
56	1.00%
57	1.00%
58	5.00%
59	5.00%
60	5.00%
61	5.00%
62	30.00%
63	30.00%
64	30.00%
65	100.00%

Spousal Assumptions

85% of Males and 65% of Females are assumed to be married.
Females are assumed to be 3 years younger than males.

Benefit Commencement Age

Active retirements - Based on retirement rates
Current deferred vested - Age 65
Future deaths - Age 65
Future deferred vested - Age 65
Future disabilities - N/A

Form of Payment

Active retirements - Single Life Annuity with 6 Years Certain
Future deferred vested - Single Life Annuity with 6 Years Certain
Future disabilities - N/A
Current deferred vested - Single Life Annuity with 6 Years Certain
Future deaths - 100% Joint & Survivor Annuity

Changes in non-required assumptions since the prior valuation

None.

ACTUARIAL METHODS

Minimum Funding Cost Method

The actuarial cost method used to determine the liabilities for minimum funding calculations is the Traditional Unit Credit method. The objective under this method is to fund each participant's benefits under the plan as they accrue. Under this cost method, the actuarial accrued liability is the sum of the individual accrued liabilities for all participants and the normal cost is the sum of the individual normal costs for each participant. The individual accrued liability for a participant is the present value of the accrued benefit as of the valuation date taking into account service and/or pay as of the valuation date. The individual normal cost for a participant is the present value of the benefit expected to accrue in the plan year being valued.

If a plan is frozen, there is no normal cost attributable to benefit accruals.

Maximum deductible contribution method

The actuarial cost method used to determine the liabilities for maximum deductible calculations is the Projected Unit Credit method. The objective under this method is to fund each participant's benefits under the plan as they accrue, taking into consideration expected future compensation increases. Under this cost method, the actuarial accrued liability is the sum of the individual accrued liabilities for all participants and the normal cost is the sum of the individual normal costs for all participant. The individual accrued liability for a participant is the sum of 1) the present value of the accrued benefit earned as of the valuation date taking into account service and/or pay as of the valuation date; plus 2) the present value of the accrued benefit expected to be earned because of any expected future compensation increases.

The individual normal cost for a participant is the sum of the present value of the benefit expected to accrue in the plan year being valued taking into account any expected future compensation increases.

ACTUARIAL METHODS

Asset Method

We used financial data submitted by the trustee as of the valuation date without further audit. This information was not be verified by a plan's actuary. We have reviewed the information for internal consistency, and we have no reason to doubt is substantial accuracy.

Per IRS Notice 2009-22, Actuarial Value of Assets is determined by averaging assets over a two year period, using 3 annual determination dates, adjusted for expected earnings and cashflows. A long-term rate of return of 7.50%, limited to be no greater than the third segment rate of 6.99%, is used. AVA is held to a minimum of 90% and a maximum of 110% of Fair Market Value.

SCHEDULE SB (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Single-Employer Defined Benefit Plan Actuarial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code). ▶ File as an attachment to Form 5500 or 5500-SF.	OMB No. 1210-0110 2015 This Form is Open to Public Inspection
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For calendar plan year 2015 or fiscal plan year beginning 01/01/2015 and ending 12/31/2015

▶ **Round off amounts to nearest dollar.**

▶ **Caution:** A penalty of \$1,000 will be assessed for late filing of this report unless reasonable cause is established.

A Name of plan ZIRCOA, INC. SALARIED EMPLOYEES PENSION PLAN	B Three-digit plan number (PN) ▶ 002
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF ZIRCOA, INC.	D Employer Identification Number (EIN) 34-1570175
E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B	F Prior year plan size: ☒ 100 or fewer ☐ 101-500 ☐ More than 500

Part I Basic Information			
1 Enter the valuation date: Month 01 Day 01 Year 2015			
2 Assets:			
a Market value		2a	9,752,748
b Actuarial value		2b	9,774,473
3 Funding target/participant count breakdown	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment	34	5,232,318	5,232,318
b For terminated vested participants	25	1,008,623	1,008,623
c For active participants	20	3,498,464	3,508,192
d Total	79	9,739,405	9,749,133
4 If the plan is in at-risk status, check the box and complete lines (a) and (b) ☐			
a Funding target disregarding prescribed at-risk assumptions		4a	
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor		4b	
5 Effective interest rate	5	6.26%	
6 Target normal cost	6	36,574	

Statement by Enrolled Actuary

To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

SIGN HERE	MICHAEL M. SPICKARD, EA, MSPA, CPC 	10/05/2016
MICHAEL M. SPICKARD, EA, MSPA, CPC		Date
Type or print name of actuary		1405310
CBIZ RETIREMENT PLAN SERVICES		Most recent enrollment number
Firm name		330-644-2044
13680 CLEVELAND AVE NW		Telephone number (including area code)
UNIONTOWN OH 44685		
Address of the firm		

If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions ☐

For Paperwork Reduction Act Notice and OMB Control Numbers, see the instructions for Form 5500 or 5500-SF.

Schedule SB (Form 5500) 2015 v. 150123

Part II		Beginning of Year Carryover and Prefunding Balances	
		(a) Carryover balance	(b) Prefunding balance
7	Balance at beginning of prior year after applicable adjustments (line 13 from prior year).....	0	335,922
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	276,054
9	Amount remaining (line 7 minus line 8)	0	59,868
10	Interest on line 9 using prior year's actual return of <u>4.65</u> %	0	2,784
11	Prior year's excess contributions to be added to prefunding balance:		
	a Present value of excess contributions (line 38a from prior year).....		0
	b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of <u>6.47</u> %		0
	b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		0
	c Total available at beginning of current plan year to add to prefunding balance		0
	d Portion of (c) to be added to prefunding balance.....		0
12	Other reductions in balances due to elections or deemed elections	0	0
13	Balance at beginning of current year (line 9 + line 10 + line 11d – line 12)	0	62,652

Part III		Funding Percentages	
14	Funding target attainment percentage	14	99.61%
15	Adjusted funding target attainment percentage	15	100.25%
16	Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement.....	16	93.83%
17	If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage.	17	%

Part IV						Contributions and Liquidity Shortfalls	
18 Contributions made to the plan for the plan year by employer(s) and employees:							
(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees		
09/28/2015	206,052	0					
11/17/2015	8,592	0					
05/03/2016	2,866	0					
05/05/2016	433	0					
05/18/2016	110,000	0					
Totals ▶			18(b)	327,943	18(c)	0	

19 Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:			
a Contributions allocated toward unpaid minimum required contributions from prior years.....	19a	0	
b Contributions made to avoid restrictions adjusted to valuation date	19b	0	
c Contributions allocated toward minimum required contribution for current year adjusted to valuation date	19c	306,940	
20 Quarterly contributions and liquidity shortfalls:			
a Did the plan have a "funding shortfall" for the prior year? ☒ Yes ☐ No			
b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? ☐ Yes ☒ No			
c If line 20a is "Yes," see instructions and complete the following table as applicable:			
Liquidity shortfall as of end of quarter of this plan year			
(1) 1st	(2) 2nd	(3) 3rd	(4) 4th
0	0	0	0

Part V Assumptions Used to Determine Funding Target and Target Normal Cost

21 Discount rate:				
a Segment rates:	1st segment: 4.72%	2nd segment: 6.11%	3rd segment: 6.81%	☐ N/A, full yield curve used
b Applicable month (enter code)				21b 0
22 Weighted average retirement age				22 63
23 Mortality table(s) (see instructions) ☐ Prescribed - combined ☒ Prescribed - separate ☐ Substitute				

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment.	☐ Yes ☒ No
25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment.	☐ Yes ☒ No
26 Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment.	☒ Yes ☐ No
27 If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment	27

Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

28 Unpaid minimum required contributions for all prior years	28	0
29 Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a)	29	0
30 Remaining amount of unpaid minimum required contributions (line 28 minus line 29)	30	0

Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):			
a Target normal cost (line 6)	31a	36,574	
b Excess assets, if applicable, but not greater than line 31a	31b	0	
32 Amortization installments:	Outstanding Balance	Installment	
a Net shortfall amortization installment	37,312	248,016	
b Waiver amortization installment	0	0	
33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount	33		
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)	34	284,590	
	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	0	0
36 Additional cash requirement (line 34 minus line 35)	36	284,590	
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	37	306,940	
38 Present value of excess contributions for current year (see instructions)			
a Total (excess, if any, of line 37 over line 36)	38a	22,350	
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	38b	0	
39 Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37)	39	0	
40 Unpaid minimum required contributions for all years	40	0	

Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)

41 If an election was made to use PRA 2010 funding relief for this plan:			
a Schedule elected	☐ 2 plus 7 years ☐ 15 years		
b Eligible plan year(s) for which the election in line 41a was made	☐ 2008 ☐ 2009 ☐ 2010 ☐ 2011		
42 Amount of acceleration adjustment	42		
43 Excess installment acceleration amount to be carried over to future plan years	43		

SCHEDULE SB ATTACHMENT

Line 19 - Discounted Employer Contributions

Plan Name: Zircoa, Inc. Salaried Employees' Pension Plan

EIN/PN: 34-1570175/002

Valuation Date: January 1, 2015

Total Contributed: \$327,943.00

Total Discounted to Valuation Date: \$306,940.00

Date	Amount	Plan Year Beginning	Effective Rate of Interest	Amount Discounted	Penalty Rate of Interest	Additional Amount Discounted	Present Value on Date of Valuation
09/28/2015	206,052	01/2015	6.26%	9,050	11.26%	1,843	195,159
11/17/2015	8,592	01/2015	6.26%	445			8,147
05/03/2016	2,866	01/2015	6.26%	223	11.26%	36	2,607
05/05/2016	433	01/2015	6.26%	34	11.26%	6	393
05/18/2016	110,000	01/2015	6.26%	8,823	11.26%	543	100,634

SCHEDULE SB ATTACHMENT**Line 22 - Description of Weighted Average Retirement Age****Plan Name: Zircoa, Inc. Salaried Employees' Pension Plan****EIN/PN: 34-1570175/002****Valuation Date: January 1, 2015**

The average retirement age for Line 22 was calculated by creating a hypothetical life table with retirement as the only decrement and then computing the average retirement age for the table, as shown in the following exhibit(s):

(A)	(B)	(C)	(D)	(E)
Retirement age	Retirement Percent	Lx	Number of employees expected to retire (B) x (C)	(A) x (D)
55	1.00%	10,000	100	5,500
56	1.00%	9,900	99	5,544
57	1.00%	9,801	98	5,587
58	5.00%	9,703	485	28,139
59	5.00%	9,218	461	27,193
60	5.00%	8,757	438	26,271
61	5.00%	8,319	416	25,374
62	30.00%	7,903	2,371	146,998
63	30.00%	5,532	1,660	104,559
64	30.00%	3,873	1,162	74,353
65	100.00%	2,711	2,711	176,201
Total			10,000	625,717
Average				62.57

SUMMARY of PLAN BENEFITS

The following is a summary of what we understand to be the most relevant plan provisions for purposes of actuarial valuations. This summary should not be used for purposes of determining plan benefits.

Plan Sponsor	Zircoa, Inc.
Plan Name	Zircoa, Inc. Salaried Employees' Pension Plan
Plan Effective Date	March 1, 1988. Most recently amended and restated January 1, 2009. Last amended July 31, 2014.
Plan Year	January 1 through December 31
Status of Plan	The plan was frozen as of December 31, 2012 and no further entrants and no further benefit accruals are granted.
Vesting	100% vesting upon earning 5 Years of Vesting Service.
Accrued Benefit Formula	Each Participant's monthly Accrued Benefit will be an amount equal to the Accrued Benefit as of December 31, 2010 based on the terms of Plan in effect prior to this amendment. No additional benefits will accrue after December 31, 2010.
Average Compensation	The average of the pensionable earnings during all years of service of the participant. In no event shall pensionable earnings exceed the limitation specified in Section 401(a)(17) of the Internal Revenue Code.
Normal Retirement Age	Upon attainment of 65 and five Years of Service.
Early Retirement	<p><u>Eligibility:</u> Upon attainment of age 55 and completion of 5 Years of Service.</p> <p><u>Benefit:</u> The accrued benefit is reduced $1/180^{\text{th}}$ for each of the first 60 complete calendar months and $1/360^{\text{th}}$ for each additional month that commencement precedes age 65.</p> <p><u>Eligibility:</u> Upon attainment of age 55 and 30 Years of Benefit Service.</p> <p><u>Benefit:</u> Unreduced Normal Retirement Benefit.</p>

SUMMARY of PLAN BENEFITS

Disability Retirement

Eligibility: Upon completion of 10 Years of Benefit Service and eligible to receive disability benefits under the Federal Social Security Act.

Benefit: Accrued Normal Retirement Benefit as of date of Disability.

Pre-Retirement Death

Eligibility: Upon completion of vesting eligibility

Benefit: The spouse is eligible for 50% of the benefit that would have been payable, if the Participant had lived to Early Retirement Eligibility and elected a 50% Qualified Joint and Survivor Annuity. The benefit is payable upon the Participant's Early Retirement Eligibility date.

Normal Form of Payment

Unless otherwise elected, the benefit payable for a married participant is an actuarially equivalent 50% Joint and Survivor benefit with the first 6 years guaranteed. For unmarried participants, the Normal Form is a single life annuity with the first 6 years guaranteed.

Optional Forms

Benefits may be elected from:

- 50%, 75% and 100% Joint and Survivor with the first 6 years guaranteed
- Social Security Level Income
- Single Life Annuity with the first 6 years guaranteed

Optional Form Conversion Factors

Optional forms of benefit are calculated as actuarially equivalent to the Single Life Annuity using the following assumptions:

Lump Sum Distributions –

- Interest – IRC Section 417(e) Applicable Interest Rates in effect for the first month prior to the first day of the plan year in which the distribution begins;
- Mortality – IRC Section 417(e)(3) Applicable Mortality Table for the Plan Year in which the distribution occurs.

Annuities –

- Interest – 6.00%;
- Mortality – Based on the factors defined in the plan document, with an age set back of 1 year for pensioners and an age set forward 1 year for beneficiaries.
-

SUMMARY of PLAN BENEFITS

**Changes in Plan
Provisions since the last
valuation**

The plan was amended effective July 31, 2014 to rescind the plan termination.

SCHEDULE SB ATTACHMENT

Line 32 - Amortization Bases Used in the Valuation

Plan Name: Zircoa, Inc. Salaried Employees' Pension Plan

EIN/PN: 34-1570175/002

Valuation Date: January 1, 2015

<u>Original Valuation</u>	<u>Remaining Years</u>	<u>Amortization Type</u>	<u>Outstanding Balance</u>	<u>Current Year Amortization</u>
1/1/2015	7	7 Year	(325,299)	
1/1/2014	6	7 year	(484,513)	(91,202)
1/1/2013	5	7 year	269,287	58,936
1/1/2012	4	7 year	(124,537)	(33,320)
1/1/2011	3	7 year	280,759	97,934
1/1/2010	2	7 year	421,615	215,668