

Form 5500 Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Annual Return/Report of Employee Benefit Plan This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6047(e), 6057(b), and 6058(a) of the Internal Revenue Code (the Code). ▶ Complete all entries in accordance with the instructions to the Form 5500.	OMB Nos. 1210-0110 1210-0089
		2015
		This Form is Open to Public Inspection

Part I	Annual Report Identification Information
For calendar plan year 2015 or fiscal plan year beginning <u>12/01/2015</u> and ending <u>11/30/2016</u>	
A This return/report is for:	☐ a multiemployer plan; ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions); or ☒ a single-employer plan; ☐ a DFE (specify) ____
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 If the plan is a collectively-bargained plan, check here.	☐
D Check box if filing under:	☐ Form 5558; ☐ automatic extension; ☒ the DFVC program; ☐ special extension (enter description)

Part II	Basic Plan Information —enter all requested information
1a Name of plan <u>QUAKER CHEMICAL CORPORATION PENSION PLAN</u>	1b Three-digit plan number (PN) ▶ <u>111</u> 1c Effective date of plan <u>01/01/1983</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>QUAKER CHEMICAL CORPORATION</u> <u>ONE QUAKER PARK</u> <u>901 E. HECTOR STREET</u> <u>CONSHOHOCKEN, PA 19428</u>	2b Employer Identification Number (EIN) <u>23-0993790</u> 2c Plan Sponsor's telephone number <u>610-832-4000</u> 2d Business code (see instructions) <u>325900</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 accompanying schedules, statements and attachments, 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>	<u>09/10/2017</u>	<u>ALYCE SABA</u>
	Signature of plan administrator	Date	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
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE
Preparer's name (including firm name, if applicable) and address (include room or suite number)			Preparer's telephone number

3a Plan administrator's name and address ☒ Same as Plan Sponsor	3b Administrator's EIN 3c Administrator's telephone number <div style="background-color: #cccccc; height: 40px; width: 100%;"></div>
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
5 Total number of participants at the beginning of the plan year	5 685
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines 6a(1) , 6a(2) , 6b , 6c , and 6d).	
a(1) Total number of active participants at the beginning of the plan year.....	6a(1) 175
a(2) Total number of active participants at the end of the plan year	6a(2) 152
b Retired or separated participants receiving benefits.....	6b 260
c Other retired or separated participants entitled to future benefits.....	6c 220
d Subtotal. Add lines 6a(2) , 6b , and 6c	6d 632
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.....	6e 36
f Total. Add lines 6d and 6e	6f 668
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	6g
h Number of participants that terminated employment during the plan year with accrued benefits that were less than 100% vested	6h 0
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)	7
8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions: 1A 1C 1I	
b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:	
9a Plan funding arrangement (check all that apply) (1) ☒ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	9b Plan benefit arrangement (check all that apply) (1) ☒ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor
10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)	
a Pension Schedules (1) ☒ R (Retirement Plan Information) (2) ☐ MB (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary (3) ☒ SB (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary	b General Schedules (1) ☒ H (Financial Information) (2) ☐ I (Financial Information – Small Plan) (3) ☒ <u>1</u> A (Insurance Information) (4) ☒ C (Service Provider Information) (5) ☒ D (DFE/Participating Plan Information) (6) ☐ G (Financial Transaction Schedules)

Part III	Form M-1 Compliance Information (to be completed by welfare benefit plans)
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11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2015 Form M-1 annual report. If the plan was not required to file the 2015 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code _____

<div><div>SCHEDULE A</div><div>(Form 5500)</div><div>Department of the Treasury Internal Revenue Service</div><div>Department of Labor Employee Benefits Security Administration</div><div>Pension Benefit Guaranty Corporation</div></div>	<div>Insurance Information</div> <div>This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).</div> <div>▶ File as an attachment to Form 5500.</div> <div>▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).</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 12/01/2015 and ending 11/30/2016		
A Name of plan QUAKER CHEMICAL CORPORATION PENSION PLAN	B Three-digit plan number (PN) ▶	111
C Plan sponsor's name as shown on line 2a of Form 5500 QUAKER CHEMICAL CORPORATION	D Employer Identification Number (EIN) 23-0993790	

Part I	Information Concerning Insurance Contract Coverage, Fees, and Commissions Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.
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1 Coverage Information:

(a) Name of insurance carrier PRINCIPAL LIFE INSURANCE COMPANY
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(b) EIN	(c) NAIC code	(d) Contract or identification number	(e) Approximate number of persons covered at end of policy or contract year	Policy or contract year	
				(f) From	(g) To
42-0127290	61271	405642	0	12/01/2015	11/30/2016

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid	(b) Total amount of fees paid

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).
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(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

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	(c) Amount	(d) Purpose	

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(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4 Current value of plan's interest under this contract in the general account at year end	4	0
5 Current value of plan's interest under this contract in separate accounts at year end	5	1396626

6 Contracts With Allocated Funds:**a** State the basis of premium rates ▶

b Premiums paid to carrier	6b	
c Premiums due but unpaid at the end of the year	6c	
d If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount. Specify nature of costs ▶	6d	

e Type of contract: (1) ☐ individual policies (2) ☐ group deferred annuity
(3) ☐ other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ▶ ☐**7 Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)**

a Type of contract: (1) ☐ deposit administration (2) ☐ immediate participation guarantee
(3) ☐ guaranteed investment (4) ☐ other ▶

b Balance at the end of the previous year	7b	0
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c Additions: (1) Contributions deposited during the year	7c(1)		
(2) Dividends and credits	7c(2)		
(3) Interest credited during the year	7c(3)		
(4) Transferred from separate account	7c(4)		
(5) Other (specify below)	7c(5)		
▶			

(6) Total additions	7c(6)	0
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d Total of balance and additions (add lines 7b and 7c(6))	7d	0
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e Deductions:			
(1) Disbursed from fund to pay benefits or purchase annuities during year	7e(1)		
(2) Administration charge made by carrier	7e(2)		
(3) Transferred to separate account	7e(3)		
(4) Other (specify below)	7e(4)		
▶			

(5) Total deductions	7e(5)	0
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f Balance at the end of the current year (subtract line 7e(5) from line 7d)	7f	0
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Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

- a** ☐ Health (other than dental or vision)
b ☐ Dental
c ☐ Vision
d ☐ Life insurance
e ☐ Temporary disability (accident and sickness)
f ☐ Long-term disability
g ☐ Supplemental unemployment
h ☐ Prescription drug
i ☐ Stop loss (large deductible)
j ☐ HMO contract
k ☐ PPO contract
l ☐ Indemnity contract
m ☐ Other (specify) ▶

9 Experience-rated contracts:

a Premiums: (1) Amount received.....	9a(1)		
(2) Increase (decrease) in amount due but unpaid.....	9a(2)		
(3) Increase (decrease) in unearned premium reserve.....	9a(3)		
(4) Earned ((1) + (2) - (3)).....		9a(4)	0
b Benefit charges (1) Claims paid.....	9b(1)		
(2) Increase (decrease) in claim reserves.....	9b(2)		
(3) Incurred claims (add (1) and (2)).....		9b(3)	0
(4) Claims charged.....		9b(4)	
c Remainder of premium: (1) Retention charges (on an accrual basis) --			
(A) Commissions.....	9c(1)(A)		
(B) Administrative service or other fees.....	9c(1)(B)		
(C) Other specific acquisition costs.....	9c(1)(C)		
(D) Other expenses.....	9c(1)(D)		
(E) Taxes.....	9c(1)(E)		
(F) Charges for risks or other contingencies.....	9c(1)(F)		
(G) Other retention charges.....	9c(1)(G)		
(H) Total retention.....		9c(1)(H)	0
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.).....		9c(2)	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement.....		9d(1)	
(2) Claim reserves.....		9d(2)	
(3) Other reserves.....		9d(3)	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line 9c(2).).....		9e	

10 Nonexperience-rated contracts:

a Total premiums or subscription charges paid to carrier.....	10a	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount.....	10b	

Specify nature of costs ▶

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

<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 12/01/2015 and ending 11/30/2016

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.

<div>A Name of plan QUAKER CHEMICAL CORPORATION PENSION PLAN</div>	<div>B Three-digit plan number (PN) 111</div>
<div>C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF QUAKER CHEMICAL CORPORATION</div>	<div>D Employer Identification Number (EIN) 23-0993790</div>

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 12 Day 01 Year 2015			
2 Assets:			
a Market value	2a	47809665	
b Actuarial value	2b	49572141	
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	294	27751127	27751127
b For terminated vested participants	223	7106308	7106308
c For active participants	175	10466139	10627953
d Total	692	45323574	45485388
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	6.12%	
6 Target normal cost	6	275000	

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.

<div>SIGN HERE</div>	<div>07/27/2017</div>
<div>TIMOTHY H. WAITE</div>	<div>Date</div>
<div>MERCER</div>	<div>17-06310</div>
<div>THREE LOGAN SQUARE, 1717 ARCH STREET, SUITE 1100 PHILADELPHIA, PA 19103-2797</div>	<div>Most recent enrollment number</div>
<div>Address of the firm</div>	<div>215-982-4600</div>
	<div>Telephone number (including area code)</div>

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	0
8 Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	0
9 Amount remaining (line 7 minus line 8)	0	0
10 Interest on line 9 using prior year's actual return of <u>1.11</u> %	0	0
11 Prior year's excess contributions to be added to prefunding balance:		
a Present value of excess contributions (line 38a from prior year)		656454
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>6.33</u> %		41554
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.....		698008
d Portion of (c) to be added to prefunding balance		0
12 Other reductions in balances due to elections or deemed elections		0
13 Balance at beginning of current year (line 9 + line 10 + line 11d – line 12).....	0	0

Part III Funding Percentages		
14 Funding target attainment percentage.....	14	108.98 %
15 Adjusted funding target attainment percentage	15	108.98 %
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	107.19 %
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
03/15/2016	1050000	0			
06/20/2016	1050000	0			
09/19/2016	1050000	0			
12/15/2016	1050000	0			
03/17/2017	1000000	0			
06/19/2017	1000000	0			
			Totals ►	18(b)	6200000
				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	5875190
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

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 4
22 Weighted average retirement age				22 64
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	275000	
b Excess assets, if applicable, but not greater than line 31a	31b	275000	
32 Amortization installments:	Outstanding Balance	Installment	
a Net shortfall amortization installment	0	0	
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	0	
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)...	34	0	
	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	0	
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	37	5875190	
38 Present value of excess contributions for current year (see instructions)			
a Total (excess, if any, of line 37 over line 36)	38a	5875190	
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		

<div>SCHEDULE C</div> <div>(Form 5500)</div> <div>Department of the Treasury Internal Revenue Service</div> <div>Department of Labor Employee Benefits Security Administration</div> <div>Pension Benefit Guaranty Corporation</div>	<div>Service Provider Information</div> <div>This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).</div> <div>▶ File as an attachment to Form 5500.</div>	OMB No. 1210-0110
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For calendar plan year 2015 or fiscal plan year beginning 12/01/2015 and ending 11/30/2016		
A Name of plan QUAKER CHEMICAL CORPORATION PENSION PLAN	B Three-digit plan number (PN) ▶	111
C Plan sponsor's name as shown on line 2a of Form 5500 QUAKER CHEMICAL CORPORATION	D Employer Identification Number (EIN) 23-0993790	

Part I	Service Provider Information (see instructions)
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You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

- a Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions)..... ☐ Yes ☒ No
- b If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
--

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2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

MILL CREEK ADVISORS, LLC

41-2212501

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
51	NONE	126304	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

MERCER

13-2834414

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
11 17 70	NONE	97917	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

PNC BANK

22-1146430

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
21	NONE	36697	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

CONFLUENCE INVESTMENT MANAGEMENT

26-1764456

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
51	NONE	30101	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

THOMAS WHITE INTERNATIONAL, LTD.

36-3831152

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28	NONE	24678	Yes ☒ No ☐	Yes ☐ No ☒	556	Yes ☐ No ☒

(a) Enter name and EIN or address (see instructions)

ZIEGLER CAPITAL MANAGEMENT, LLC

43-1273600

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28	NONE	24214	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

AGINCOURT CAPITAL MANAGEMENT, LLC

54-1947440

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
51	NONE	16846	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

Part I Service Provider Information (continued)

3 If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received \$1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide

Part III **Termination Information on Accountants and Enrolled Actuaries (see instructions)**
(complete as many entries as needed)

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)

Part II Information on Participating Plans (to be completed by DFEs)

(Complete as many entries as needed to report all participating plans)

a Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN

SCHEDULE H (Form 5500) <small>Department of the Treasury Internal Revenue Service</small> <small>Department of Labor Employee Benefits Security Administration</small> <small>Pension Benefit Guaranty Corporation</small>	Financial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2015 This Form is Open to Public Inspection
For calendar plan year 2015 or fiscal plan year beginning <u>12/01/2015</u> and ending <u>11/30/2016</u>		
A Name of plan <u>QUAKER CHEMICAL CORPORATION PENSION PLAN</u>	B Three-digit plan number (PN) ►	<u>111</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>QUAKER CHEMICAL CORPORATION</u>	D Employer Identification Number (EIN) <u>23-0993790</u>	

Part I	Asset and Liability Statement		(a) Beginning of Year	(b) End of Year
1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.				
	Assets			
a	Total noninterest-bearing cash	1a		
b	Receivables (less allowance for doubtful accounts):			
	(1) Employer contributions	1b(1)	700000	3050000
	(2) Participant contributions	1b(2)		
	(3) Other.....	1b(3)	155318	144329
c	General investments:			
	(1) Interest-bearing cash (include money market accounts & certificates of deposit)	1c(1)	873701	3084673
	(2) U.S. Government securities.....	1c(2)	0	162279
	(3) Corporate debt instruments (other than employer securities):			
	(A) Preferred	1c(3)(A)		
	(B) All other.....	1c(3)(B)	9458352	9729503
	(4) Corporate stocks (other than employer securities):			
	(A) Preferred	1c(4)(A)		
	(B) Common	1c(4)(B)	15529917	13620005
	(5) Partnership/joint venture interests	1c(5)		
	(6) Real estate (other than employer real property)	1c(6)		
	(7) Loans (other than to participants)	1c(7)		
	(8) Participant loans	1c(8)		
	(9) Value of interest in common/collective trusts.....	1c(9)		
	(10) Value of interest in pooled separate accounts.....	1c(10)	1404998	1425729
	(11) Value of interest in master trust investment accounts	1c(11)		
	(12) Value of interest in 103-12 investment entities	1c(12)		
	(13) Value of interest in registered investment companies (e.g., mutual funds).....	1c(13)	18438250	18424838
	(14) Value of funds held in insurance company general account (unallocated contracts).....	1c(14)		
	(15) Other	1c(15)	398822	259363

1d Employer-related investments:

		(a) Beginning of Year	(b) End of Year
(1) Employer securities	1d(1)	852300	1272400
(2) Employer real property	1d(2)		
e Buildings and other property used in plan operation	1e		
f Total assets (add all amounts in lines 1a through 1e)	1f	47811658	51173119

Liabilities

g Benefit claims payable	1g		
h Operating payables	1h	0	0
i Acquisition indebtedness	1i		
j Other liabilities	1j	28604	24185
k Total liabilities (add all amounts in lines 1g through 1j)	1k	28604	24185

Net Assets

l Net assets (subtract line 1k from line 1f)	1l	47783054	51148934
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Part II Income and Expense Statement

2 Plan income, expenses, and changes in net assets for the year. Include all income and expenses of the plan, including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

Income**a Contributions:**

		(a) Amount	(b) Total
(1) Received or receivable in cash from: (A) Employers	2a(1)(A)	6200000	
(B) Participants	2a(1)(B)		
(C) Others (including rollovers)	2a(1)(C)		
(2) Noncash contributions	2a(2)		
(3) Total contributions. Add lines 2a(1)(A) , (B) , (C) , and line 2a(2)	2a(3)		6200000

b Earnings on investments:**(1) Interest:**

(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)	3701	
(B) U.S. Government securities	2b(1)(B)	1127	
(C) Corporate debt instruments	2b(1)(C)	421174	
(D) Loans (other than to participants)	2b(1)(D)		
(E) Participant loans	2b(1)(E)		
(F) Other	2b(1)(F)	13186	
(G) Total interest. Add lines 2b(1)(A) through (F)	2b(1)(G)		439188

(2) Dividends: (A) Preferred stock	2b(2)(A)		
(B) Common stock	2b(2)(B)	248799	
(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)	558861	
(D) Total dividends. Add lines 2b(2)(A) , (B) , and (C)	2b(2)(D)		807660

(3) Rents	2b(3)		
(4) Net gain (loss) on sale of assets: (A) Aggregate proceeds	2b(4)(A)	15143178	
(B) Aggregate carrying amount (see instructions)	2b(4)(B)	15552729	
(C) Subtract line 2b(4)(B) from line 2b(4)(A) and enter result	2b(4)(C)		-409551

(5) Unrealized appreciation (depreciation) of assets: (A) Real estate	2b(5)(A)		
(B) Other	2b(5)(B)	563294	
(C) Total unrealized appreciation of assets. Add lines 2b(5)(A) and (B)	2b(5)(C)		563294

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		38371
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		
(9) Net investment gain (loss) from 103-12 investment entities	2b(9)		
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)	2b(10)		265856
c Other income	2c		
d Total income. Add all income amounts in column (b) and enter total	2d		7904818

Expenses**e** Benefit payment and payments to provide benefits:

(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	3997279	
(2) To insurance carriers for the provision of benefits	2e(2)		
(3) Other	2e(3)		
(4) Total benefit payments. Add lines 2e(1) through (3)	2e(4)		3997279
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions)	2g		
h Interest expense	2h		
i Administrative expenses: (1) Professional fees	2i(1)	138769	
(2) Contract administrator fees	2i(2)		
(3) Investment advisory and management fees	2i(3)	215573	
(4) Other	2i(4)	187317	
(5) Total administrative expenses. Add lines 2i(1) through (4)	2i(5)		541659
j Total expenses. Add all expense amounts in column (b) and enter total	2j		4538938

Net Income and Reconciliation

k Net income (loss). Subtract line 2j from line 2d	2k		3365880
l Transfers of assets:			
(1) To this plan	2l(1)		
(2) From this plan	2l(2)		

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) ☐ Unqualified (2) ☐ Qualified (3) ☒ Disclaimer (4) ☐ Adverse

b Did the accountant perform a limited scope audit pursuant to 29 CFR 2520.103-8 and/or 103-12(d)?

☒ Yes ☐ No

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: BDO USA, LLP

(2) EIN: 13-5381590

d The opinion of an independent qualified public accountant is **not attached** because:

(1) ☐ This form is filed for a CCT, PSA, or MTIA. (2) ☐ It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

4 CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete lines 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete lines 4j and 4l. MTIAs also do not complete line 4l.

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? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)		X		
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.)		X		

	Yes	No	N/A	Amount
c Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)		X		
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.)		X		
e Was this plan covered by a fidelity bond?	X			2000000
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?		X		
g Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?		X		
h Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?		X		
i Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.)	X			
j Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked, and see instructions for format requirements.)	X			
k Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?		X		
l Has the plan failed to provide any benefit when due under the plan?		X		
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)				
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3.				
o Did the plan trust incur unrelated business taxable income?				
p Were in-service distributions made during the plan year?				

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year?

If "Yes," enter the amount of any plan assets that reverted to the employer this year. ☐ Yes ☒ No Amount:

5b 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.)

5b(1) Name of plan(s)	5b(2) EIN(s)	5b(3) PN(s)

5c 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 V Trust Information

6a Name of trust

6b Trust's EIN

6c Name of trustee or custodian

6d Trustee's or custodian's telephone number

SCHEDULE R (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Retirement Plan Information This schedule is required to be filed under section 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code). ▶ File as an attachment to Form 5500.	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 12/01/2015 and ending 11/30/2016

A Name of plan <u>QUAKER CHEMICAL CORPORATION PENSION PLAN</u>	B Three-digit plan number (PN) ▶ <u>111</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>QUAKER CHEMICAL CORPORATION</u>	D Employer Identification Number (EIN) <u>23-0993790</u>

Part I	Distributions
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All references to distributions relate only to payments of benefits during the plan year.

1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions.....	1	<u>0</u>
2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits): EIN(s): <u>22-1146430</u> <u>42-0127290</u>		
Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.		
3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year.....	3	<u>6</u>

Part II	Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part)
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4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)?	☐ Yes	☒ No	☐ N/A
If the plan is a defined benefit plan, go to line 8.			
5 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 ruling letter granting the waiver. Date: Month _____ Day _____ Year _____ If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.			
6 a Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived)	6a		
b Enter the amount contributed by the employer to the plan for this plan year	6b		
c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount).....	6c		
If you completed line 6c, skip lines 8 and 9.			
7 Will the minimum funding amount reported on line 6c be met by the funding deadline?	☐ Yes	☐ No	☐ N/A
8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change?	☐ Yes	☐ No	☒ N/A

Part III	Amendments
-----------------	-------------------

9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box.	☐ Increase	☐ Decrease	☐ Both	☒ No
---	-----------------------------------	-----------------------------------	-------------------------------	--

Part IV	ESOPs (see instructions). If this is not a plan described under Section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.
----------------	---

10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan?	☐ Yes	☐ No
11 a Does the ESOP hold any preferred stock?	☐ Yes	☐ No
b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.)	☐ Yes	☐ No
12 Does the ESOP hold any stock that is not readily tradable on an established securities market?	☐ Yes	☐ No

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

Schedule R (Form 5500) 2015
v. 150123

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that contributed more than 5% of total contributions to the plan during the plan year (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

14	Enter the number of participants on whose behalf no contributions were made by an employer as an employer of the participant for:		
	a The current year	14a	
	b The plan year immediately preceding the current plan year	14b	
	c The second preceding plan year	14c	
15	Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:		
	a The corresponding number for the plan year immediately preceding the current plan year	15a	
	b The corresponding number for the second preceding plan year	15b	
16	Information with respect to any employers who withdrew from the plan during the preceding plan year:		
	a Enter the number of employers who withdrew during the preceding plan year	16a	
	b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers	16b	
17	If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment. ☐		

Part VI	Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans
----------------	---

18	If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐
19	If the total number of participants is 1,000 or more, complete lines (a) through (c)
	a Enter the percentage of plan assets held as: Stock: _____% Investment-Grade Debt: _____% High-Yield Debt: _____% Real Estate: _____% Other: _____%
	b Provide the average duration of the combined investment-grade and high-yield debt: ☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more
	c What duration measure was used to calculate line 19(b)? ☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify): _____

Part VII	IRS Compliance Questions
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20a Is the plan a 401(k) plan?	☐ Yes	☐ No
20b 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
20c 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
21a 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
21b 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
22a Has the plan been timely amended for all required tax law changes?	☐ Yes	☐ No ☐ N/A
22b 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).		
22c 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 _____.		
22d 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 ____/____/____.		
23 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

Quaker Chemical Corporation

Pension Plan

Financial Statements and Supplemental Schedules as of and for the
Years ended November 30, 2016 and 2015

Quaker Chemical Corporation Pension Plan

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* Other supplemental schedules required by Section 2520.103-10 of the Department of Labor Rules and Regulations for Reporting and Disclosure under ERISA have been omitted because they are not applicable.



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Philadelphia, PA 19103

Independent Auditor's Report

To the Plan Administrator and
Global Pension Committee
Quaker Chemical Corporation Pension Plan
Conshohocken, Pennsylvania

Report on the Financial Statements

We were engaged to audit the accompanying financial statements of the Quaker Chemical Corporation Pension Plan (the Plan), which comprise the statements of net assets available for benefits as of November, 30, 2016 and 2015, and the related statements of changes in net assets available for benefits for the years ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on conducting the audits in accordance with auditing standards generally accepted in the United States of America. Because of the matter described in the *Basis for Disclaimer of Opinion* paragraph, however, we were not able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion.

Basis for Disclaimer of Opinion

As permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974, the plan administrator instructed us not to perform, and we did not perform, any auditing procedures with respect to the information summarized in Note 6, which was certified by PNC Bank, the trustee, and Principal Life Insurance Company, a custodian, except for comparing such information with the related information included in the financial statements. We have been informed by the plan administrator that the trustee and custodian hold the Plan's investment assets and execute investment transactions. The plan administrator has obtained a certification from the trustee and the custodian as of November 30, 2016 and 2015 and for the years ended November 30, 2016 and 2015 that the information provided to the plan administrator by the trustee and custodian is complete and accurate.



Disclaimer of Opinion

Because of the significance of the matter described in the *Basis for Disclaimer of Opinion* paragraph, we have not been able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion. Accordingly, we do not express an opinion on these financial statements.

Other Matter

The supplemental schedules of assets (held at end of year) as of November 30, 2016 and reportable transactions for the year ended November 30, 2016 are required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974 and are presented for the purpose of additional analysis and are not a required part of the financial statements. Because of the significance of the matter described in the *Basis for Disclaimer of Opinion* paragraph, we do not express an opinion on these supplemental schedules.

Report on Form and Content in Compliance With DOL Rules and Regulations

The form and content of the information included in the financial statements and supplemental schedules, other than that derived from the information certified by the trustee and custodian, have been audited by us in accordance with auditing standards generally accepted in the United States of America and, in our opinion, are presented in compliance with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974.

BDO USA, LLP

Philadelphia, Pennsylvania
September 7, 2017

Quaker Chemical Corporation Pension Plan

Statements of Net Assets Available for Benefits

	As of November 30,	
	2016	2015
Cash and cash equivalents	\$ 3,084,673	\$ 873,701
Investments, at fair value		
Registered investment companies	18,424,838	18,438,250
Common stocks	14,892,405	16,382,217
Corporate bonds	9,729,503	9,458,352
Pooled separate accounts	1,425,729	1,404,998
Fixed income U.S. and foreign government securities	421,642	398,822
Total investments	44,894,117	46,082,639
Receivables		
Receivables due from broker	144,329	155,318
Employer contributions	3,050,000	700,000
Total receivables	3,194,329	855,318
Total assets	51,173,119	47,811,658
Liabilities		
Accrued expenses	24,185	28,604
Total liabilities	24,185	28,604
Net assets available for benefits	\$ 51,148,934	\$ 47,783,054

The accompanying notes are an integral part of the financial statements.

Quaker Chemical Corporation Pension Plan

Statements of Changes in Net Assets Available for Benefits

	For the Year Ended November 30,	
	2016	2015
Additions		
Investment income		
Interest and dividends	\$ 1,246,848	\$ 1,374,803
Net increase (decrease) in fair value of investments	457,970	(558,577)
Total Investment Income	1,704,818	816,226
Employer contributions	6,200,000	700,000
Total additions	7,904,818	1,516,226
Deductions		
Benefit payments	3,997,279	3,697,584
Administrative expenses	541,659	488,794
Total deductions	4,538,938	4,186,378
Net increase (decrease)	3,365,880	(2,670,152)
Net assets available for benefits		
Beginning of year	47,783,054	50,453,206
End of year	<u>\$ 51,148,934</u>	<u>\$ 47,783,054</u>

The accompanying notes are an integral part of the financial statements.

Quaker Chemical Corporation Pension Plan

Notes to Financial Statements

NOTE 1 – DESCRIPTION OF PLAN

The following description of the Quaker Chemical Corporation Pension Plan (the "Plan") provides only general information. Participants should refer to the Plan document for a more complete description of the Plan's provisions.

General

The Plan is maintained by Quaker Chemical Corporation (the "Company") and is a noncontributory pension plan. Prior to December 31, 2005, the Plan covered substantially all employees of the Company who had at least one year of eligible service and had attained age 21. Effective December 31, 2005, the Plan was amended to freeze benefit accruals with respect to participants who were not part of a collective bargaining unit. Effective after November 30, 2013, the Plan was further amended to freeze benefit accruals for the remaining members of a collective bargaining unit. The Plan is administered by the Global Pension Committee, which is appointed by the Company's Board of Directors. The Plan is subject to the Employee Retirement Income Security Act of 1974 ("ERISA").

Administrative Expenses

Investment manager fees for investment management and other services, actuary fees, and the Pension Benefit Guaranty Corporation ("PBGC") premium are paid by the Plan. All other expenses incurred in connection with the administration of the Plan are paid by the Company and are excluded from these financial statements.

Pension Benefits

Prior to January 1, 2001, pension benefits were determined based solely on a participant's average salary and length of service. Effective January 1, 2001, the Plan implemented a cash balance feature, whereby a credit was provided to a participant's cash balance account for a plan year in an amount equal to a designated percentage of eligible compensation as determined by adding the participant's age to years of credited service (both as of the beginning of the plan year) in accordance with the following schedule:

<u>Age Plus Years of Service</u>	<u>Percent of Compensation</u>
Less than 40	3.0%
40 to 59	4.0%
50 to 59	5.0%
60 to 69	6.0%
70 or more	7.0%

However, a contribution credit was provided to a participant's cash balance account for a plan year only if the participant completed at least 1,000 hours of service in the plan year, began participating, retired or died in that plan year. Also, the contribution credit was reduced if the participant was credited with fewer than 12 months of service in the plan year. Effective December 31, 2005, no additional contribution credits were made for participants who were not part of a collective bargaining unit, and, also, no additional contribution credits were made for the remaining participants who were part of a collective bargaining unit effective after November 30, 2013. See the General section for further information.

The cash balance account of each participant is credited with interest each plan year, using a percentage equal to the average annual interest rate applicable to 30-year Treasury securities for the second month proceeding the first day of the plan year. However, a participant's actual accrued benefit may vary due to transition rules from the Plan's former benefit calculation.

All accrued pension benefits became fully vested after an employee had completed 3 years of vesting service or upon reaching age 65. However, for employees who terminated before December 1, 2008, full vesting required 5 years of vesting service or attainment of age 65.

Pension benefits accrued prior to 1973, are paid by Principal Life Insurance Company ("Principal"), a wholly owned subsidiary of Principal Financial Group, Inc, in accordance with a group annuity contract. This contract is supported by investments in pooled separate accounts of Principal.

Participants are entitled to monthly pension benefit payments and, in certain cases, to lump sum distributions. The normal form of payment is a straight life annuity for unmarried participants and a 50% joint and survivor annuity for married participants, beginning at the normal retirement age of 65. Participants ages 60-64 are eligible to receive early retirement benefits if they have completed 10 years of vesting service. Participants are entitled to receive their vested cash balance account prior to age 60 if they terminate employment.

If a participant is vested in his or her benefit under the Plan and dies before the benefit commencement date, the participant's beneficiary will receive the total vested Plan benefit (or in the case of a participant's surviving spouse, the "minimum spouse's death benefit," as provided in the Plan, if greater). This benefit is paid in a lump sum except that if the participant was married and his or her spouse is the beneficiary, the surviving spouse may, under certain circumstances, elect to receive the benefit as an annuity for his or her lifetime and may defer payment up to the date that the participant would have reached age 65. If the participant dies after the

Quaker Chemical Corporation Pension Plan

Notes to Financial Statements – Continued

benefit commencement date, the beneficiary is entitled to receive the survivor benefit (if any) under the form of benefit elected by the participant. If a participant becomes totally and permanently disabled before the applicable Plan freeze date, he or she will continue to receive contribution credits until the earliest of the various time periods provided under the Plan. However, no contribution credits were made after the applicable Plan freeze date.

Plan Amendments

The Plan was amended and restated effective December 1, 2015 to incorporate prior amendments and to (i) include a lump sum window, and (ii) increase the dollar limit on involuntary cash-outs.

NOTE 2 – SUMMARY OF ACCOUNTING POLICIES

Basis of Accounting

The Plan's financial statements are prepared under the accrual basis of accounting.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and changes therein, and disclosure of contingent assets and liabilities, including the actuarial present value of accumulated plan benefits at the date of the financial statements and changes in the present value of actuarial accumulated plan benefits. Actual results could differ from those estimates.

Cash Equivalents

Cash equivalents are comprised of highly liquid investments, which have original maturities of three months or less. At times, the cash and cash equivalent balances may exceed federally insured limits. The Plan mitigates this risk by monitoring cash balances and investing excess funds as necessary. At November 30, 2016 and 2015, the total uninsured cash balance held at financial institutions was \$2,834,673 and \$623,701, respectively.

Investment Valuation and Income Recognition

Investments are reported at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Company's Global Pension Committee and Plan management determine the Plan's valuation policies utilizing information provided by its investment advisors, custodians and insurance company. See Note 4 for a discussion of fair value measurements.

Security transactions are recorded on a trade-date basis. Interest income is recorded on an accrual basis. Dividends on registered investment companies and common stocks are recorded on the ex-dividend date; capital gain distributions are recorded in dividend income. Income from pooled separate accounts is included in the separate account value and is reflected as unrealized appreciation. Net increases (decreases) in the Plan's investments include the Plan's gains and losses on investments bought and sold as well as held during the year.

Actuarial Present Value of Accumulated Plan Benefits

Accumulated plan benefits are those future periodic payments that are attributable under the Plan's provisions to the service employees have rendered. Accumulated plan benefits include benefits expected to be paid to (a) retired or terminated employees or their beneficiaries, (b) beneficiaries of employees who have died and (c) present employees or their beneficiaries. Benefits payable under all circumstances - retirement, disability, death and termination of employment are included to the extent that they are deemed attributable to employee service rendered to the valuation date.

The actuarial present value of accumulated plan benefits is determined by consulting an independent actuary, Mercer, and is that amount that results from applying actuarial assumptions to adjust the accumulated plan benefits to reflect the time value of money (through discounts for interest) and the probability of payment (by means of decrements such as for disability, death, withdrawal or retirement) between the valuation date and the expected date of payment.

The significant actuarial methods and assumptions used in the actuarial valuation as of December 1, 2015 are as follows:

Expected rate of return	- 7.20%
Mortality basis	- No collar RP 2014 employee mortality table, adjusted to remove post-2007 improvement projections, and projected generationally using Mercer's modified version of the MP2014 projection scale.
Retirement age	- Graduated retirement rates between ages 60 and 70, with a weighted average retirement age of 64

Quaker Chemical Corporation Pension Plan

Notes to Financial Statements – Continued

All foregoing actuarial methods and assumptions are consistent with the prior year, except for updates to the expected rate of return, and are based on the presumption that the Plan will continue. Were the Plan to terminate, different actuarial assumptions and other factors might be applicable in determining the actuarial present value of accumulated plan benefits. The computations of the actuarial present value of accumulated plan benefits were made as of December 1, 2015. Had the valuation been performed as of November 30, there would be no material differences.

Payment of Benefits

Benefit payments to participants are recorded when paid.

NOTE 3 – RISKS AND UNCERTAINTIES

Investment securities are exposed to various risks such as interest rate, market, and credit risks. Due to risks associated with certain investment securities, it is possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the statements of net assets available for benefits. The Plan therefore invests in various investment securities so as to mitigate these risks.

Plan contributions are made and the actuarial present value of accumulated plan benefits are reported based on certain assumptions pertaining to interest rates, inflation rates and employee demographics, all of which are subject to change. Due to uncertainties inherent in the estimations and assumptions process, it is at least reasonably possible that changes in these estimates and assumptions in the near term would be material to the financial statements.

NOTE 4 – FAIR VALUE MEASUREMENTS

The Plan applies the guidance of the Financial Accounting Standards Board regarding fair value measurements, which establishes a common definition for fair value. Specifically, the guidance utilizes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The following is a brief description of those three levels:

- Level 1: Observable inputs such as quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.
- Level 3: Unobservable inputs that reflect the reporting entity's own assumptions.

The asset's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques maximize the use of relevant observable inputs and minimize the use of unobservable inputs.

The following is a description of the valuation methodologies used for the investments measured at fair value, including the general classification of such instruments pursuant to the valuation hierarchy:

Registered Investment Companies

The shares of registered investment companies, which represent the net asset values ("NAV") of shares held by the Plan, are valued based on quoted market prices on an exchange in an active market and are classified as Level 1 investments.

Common Stocks

Common stocks are valued based on quoted market prices on an exchange in an active market and are classified as Level 1 investments.

Corporate Bonds

Corporate bonds are valued using third party pricing services which are based on a combination of quoted market prices on an exchange in an active market as well as proprietary pricing models and inputs using observable market data and are classified as Level 2 investments.

Fixed income U.S. and foreign government securities

Fixed income U.S. and foreign government securities are valued using third party pricing services which are based on a combination of quoted market prices on an exchange in an active market as well as proprietary pricing models and inputs using observable market data and are classified as Level 2 investments.

These preceding methods may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the Plan believes its valuation methods are appropriate and consistent with other market participants, the use

Quaker Chemical Corporation Pension Plan

Notes to Financial Statements – Continued

of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

As of November 30, 2016 and 2015, the Plan's investments measured at fair value on a recurring basis were as follows (there were no nonrecurring fair value measurements at November 30, 2016 and 2015):

		Fair Value Measurements at November 30, 2016			
		Total	Using Fair Value Hierarchy		
<u>Assets</u>	<u>Fair Value</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	
Registered investment companies	\$ 18,424,838	\$ 18,424,838	\$ -	\$ -	-
Common Stocks	14,892,405	14,892,405	-	-	-
Corporate bonds	9,729,503	-	9,729,503	-	-
Fixed income U.S. and foreign government securities	421,642	-	421,642	-	-
Total investments in fair value hierarchy	43,468,388	33,317,243	10,151,145	-	—
Pooled separate accounts measured at NAV*	1,425,729	-	-	-	-
Total Investments	<u>\$ 44,894,117</u>	<u>\$ 33,317,243</u>	<u>\$ 10,151,145</u>	<u>\$ -</u>	<u>-</u>
		Fair Value Measurements at November 30, 2015			
		Total	Using Fair Value Hierarchy		
<u>Assets</u>	<u>Fair Value</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	
Registered investment companies	\$ 18,438,250	\$ 18,438,250	\$ -	\$ -	-
Common Stocks	16,382,217	16,382,217	-	-	-
Corporate bonds	9,458,352	-	9,458,352	-	-
Fixed income U.S. and foreign government securities	398,822	-	398,822	-	-
Total investments in fair value hierarchy	44,677,641	34,820,467	9,857,174	-	-
Pooled separate accounts measured at NAV*	1,404,998	-	-	-	-
Total Investments	<u>\$ 46,082,639</u>	<u>\$ 34,820,467</u>	<u>\$ 9,857,174</u>	<u>\$ -</u>	<u>-</u>

* Certain investments that are measured at fair value using the NAV per share (or its equivalent) have not been classified in the fair value hierarchy. The fair value amount presented in these tables are intended to permit reconciliation of the fair value hierarchies to the line items presented in the statements of net assets available for benefits. There are currently no redemption restrictions, and the redemption frequency is daily. Unfunded commitments are not applicable for these investments.

NOTE 5 – PLAN TERMINATION

Although the Company has not expressed any intent to do so, it has the right under the Plan to terminate the Plan subject to the provisions set forth in ERISA.

In the event the Plan terminates, the net assets of the Plan will be allocated, as prescribed by ERISA and its related regulations, generally to provide the following benefits, in the order indicated:

- There shall be set aside an amount which will provide retirement income for employees, spouses, or designated beneficiaries who are receiving benefits or who were eligible to receive benefits at least three years prior to termination of the Plan, based on provisions in effect five years prior to the date of termination.
- There shall next be set aside an amount sufficient to discharge all other benefits insured by the PBGC.
- There shall next be set aside an amount which will provide all other vested benefits as determined under the Plan which are not insured.
- The balance of the fund, if any, shall be set aside to provide for all other benefits provided under the Plan.

Certain benefits under the Plan are insured by the PBGC if the Plan terminates. Generally, the PBGC guarantees most vested normal age retirement benefits, early retirement benefits, and certain disability and survivor's pensions. However, the PBGC does not guarantee all types of benefits under the Plan, and the amount of benefit protection is subject to certain limitations. Vested benefits under the Plan are guaranteed at the level in effect on the date of the Plan's termination (with certain exceptions for increases in benefits adopted within five years of termination). Should the Plan terminate at some future date, the benefits provided to participants will depend on the sufficiency, at that time, of the Plan's net assets to provide those benefits and may also depend on the financial condition of the Company and the level of benefits guaranteed by the PBGC.

Quaker Chemical Corporation Pension Plan

Notes to Financial Statements – Continued

NOTE 6 – INFORMATION CERTIFIED BY TRUSTEE AND CUSTODIAN

In accordance with Section 2520.103-5 of the Department of Labor Rules and Regulations for Reporting and Disclosure under ERISA, PNC Bank (“PNC”), the Trustee, and Principal, a custodian, certified certain information which was relied upon in the preparation of the financial statements and schedules of the Plan. The investments and related investment activity included in the statements of net assets available for benefits at November 30, 2016 and 2015, the statements of changes in net assets available for benefits for the years then ended, the Schedule of Assets (Held at End of Year), and the Schedule of Reportable Transactions for the Plan as of and for the year ended November 30, 2016 have been compiled from statements certified as complete and accurate by PNC and Principal. The Plan’s independent accountants did not perform auditing procedures with respect to this information except for comparing such information to the related information included in these accompanying financial statements and supplemental schedules.

NOTE 7 - FUNDING POLICY

Employer contributions are funded based upon amounts required under the provisions of ERISA as determined by the actuary, Mercer, and are designed to fund the Plan's normal service costs. The Company’s contributions for 2016 and 2015 were \$6,200,000 and \$700,000, respectively, which exceeded the minimum funding requirements of ERISA.

NOTE 8 – ACCUMULATED PLAN BENEFITS

The actuarial present value of accumulated Plan benefits as of December 1, 2015 is as follows:

	<u>2015</u>
Vested benefits:	
Inactive participants currently receiving payments	\$ 27,681,938
Other participants	17,036,599
Total vested benefits	<u>44,718,537</u>
Non-vested benefits	<u>201,357</u>
Total present value of accumulated Plan benefits	<u>\$ 44,919,894</u>

The changes in the actuarial present value of accumulated Plan benefits are as follows:

Actuarial present value of accumulated Plan benefits, at the beginning of the year	\$ 45,877,380
(Decrease) increase due to:	
Benefits accumulated and (gains)/losses	(221,432)
Increase for interest due to decrease in discount period	2,961,530
Benefits paid	(3,697,584)
Net decrease	<u>(957,486)</u>
Actuarial present value of accumulated Plan benefits, at end of year	<u>\$ 44,919,894</u>

NOTE 9 – RELATED PARTY AND PARTY-IN-INTEREST TRANSACTIONS

The Plan invests in the Principal Life Bond and Mortgage Fund, which is managed by Principal, a custodian of the assets. The Plan also invests in shares of Quaker Chemical Corporation. At November 30, 2016 and 2015, the Plan held 10,000 shares of Quaker Chemical Corporation worth \$1,272,400 and \$852,300, respectively. Transactions in such investments qualify as party-in-interest transactions and are exempt from the prohibited transaction rules. As described in Note 1, the Plan paid certain expenses related to plan operations and investment activity to various service providers. These transactions are also considered party-in-interest transactions.

NOTE 10 – TAX STATUS

The Internal Revenue Service (“IRS”) determined and informed the Company by letter dated March 20, 2012, that the Plan and related trust, as then designed, were qualified under IRC Section 401(a). The Plan has since been amended, however, the plan administrator continues to believe the Plan is designed and being operated in compliance with the applicable requirements of the IRC. The Plan was submitted for a favorable determination letter application on January 29, 2016. The plan administrator has not identified any uncertain tax positions which would require adjustment to or disclosure in the Plan’s financial statements. The IRS has the ability to examine the Plan’s tax return filings for all open tax years, which is generally the three prior years. Currently, there are no examinations for any open tax years.

Quaker Chemical Corporation Pension Plan

Notes to Financial Statements – Continued

NOTE 11 – SUBSEQUENT EVENTS

As described in the plan amendments section, the Plan was amended and restated effective December 1, 2015 to include a lump sum window. Subsequent to November 30, 2016, the end of the Plan year for these financial statements, the Plan offered a cash settlement to its vested terminated participants, which allowed them to receive the value of their pension benefits as a single lump sum payment. The payments were payable effective June 1, 2017 with actual lump sum payments distributed on June 1, 2017 in the amount of \$1,542,804 and June 26, 2017 in the amount of \$2,449,132 for a total payout of \$3,991,936.

The Plan evaluated subsequent events through September 7, 2017, the date the financial statements were issued, and there were no further subsequent events, other than described above, which impacted the Plan's Net Assets Available for Benefits or the Plan's Changes in Net Assets Available for Benefits as of and for the year ended November 30, 2016 or which required additional disclosure.

Supplemental Schedules

Quaker Chemical Corporation Pension Plan
Schedule I

Schedule H, Line 4i, Schedule of Assets (Held at End of Year)

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
* Principal Mutual Life Bond and Mortgage Fund	Pooled Separate Account	\$ 985,674	\$ 1,425,729
American Beacon Funds	Registered Investment Co.	670,387	867,129
iShares MSCI Value Index Fund	Registered Investment Co.	1,147,848	1,081,112
iShares MSCI EAFE Growth Index Fund	Registered Investment Co.	1,054,276	1,213,530
PIMCO Funds Moderate Duration Institutional Fund	Registered Investment Co.	1,988,545	1,927,978
PIMCO Funds Total Return Institutional Fund	Registered Investment Co.	2,455,695	2,286,444
SPDR MSCI ACWI	Registered Investment Co.	1,505,239	1,376,719
Vanguard FTSE Emerging Markets ETF	Registered Investment Co.	879,506	804,953
Vanguard Small Cap Growth ETF	Registered Investment Co.	220,524	531,240
Vanguard Small Cap Value ETF	Registered Investment Co.	225,858	520,960
Vanguard Total STK MKT Index Fund	Registered Investment Co.	4,042,657	7,814,773
*# Quaker Chemical Corporation	Common Stock	225,105	1,272,400
Allergan Inc.	Common Stock	432,902	327,395
Credicorp LTD (BAP)	Common Stock	17,396	17,079
Elbit Systems LTD (ESLT)	Common Stock	17,508	18,483
NXP Semiconductors	Common Stock	236,309	286,643
Banco Latinoamericano	Common Stock	22,588	19,395
AIA Group LTD	Common Stock	28,519	26,168
Abbvie Inc (ABBV)	Common Stock	153,853	162,093
Airbus Group	Common Stock	38,822	35,922
Akamai Technologies	Common Stock	95,403	112,856
Alibaba Group Holding LTD	Common Stock	27,088	31,026
Alphabet Inc CA - CL C - 3751707	Common Stock	166,401	241,815
Alphabet Inc CA - CL A - 3751692	Common Stock	139,376	218,798
American Express Co 3751707	Common Stock	303,771	264,459
American International Group, Inc	Common Stock	220,052	276,245
Apple Inc	Common Stock	216,202	226,898
Astra International - UNSP ADR	Common Stock	32,390	30,273
Banco Bilbao Vizcaya (BBVA)	Common Stock	26,940	26,667
BHP Billiton LTD (BHP)	Common Stock	50,289	56,610
BP PLC	Common Stock	51,789	39,596
Baidu Inc	Common Stock	26,591	19,700
Bayer A G	Common Stock	23,861	33,552
Bed Bath and Beyond	Common Stock	252,929	174,669
WR Berkley Corp	Common Stock	220,910	277,066
Berkshire Hathaway Inc	Common Stock	242,617	276,150
Boeing Co	Common Stock	141,750	177,209
Bristol Myers Squibb Co	Common Stock	101,863	105,148
British American Tobacco PLC	Common Stock	24,146	25,515
CK Hutchison Holding - Unsp Adr	Common Stock	49,854	37,266
CRH PLC	Common Stock	26,664	28,706
CSL LTD-Sponsored ADR	Common Stock	37,523	31,329
Canadian Natl Railway Co	Common Stock	28,286	29,004
Capgemini SA	Common Stock	48,896	41,474

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
Carnival Corp	Common Stock	146,148	160,329
Celgene Corp	Common Stock	116,957	183,216
Cerner Corp	Common Stock	132,750	110,661
China Biologic Products Inc	Common Stock	31,690	32,205
Compagnie Financier Richemont	Common Stock	261,281	195,468
Continental AG	Common Stock	25,857	18,843
Costco Wholesale Corp	Common Stock	118,627	131,346
Dankse Bank A/S - Spon ADR	Common Stock	24,748	26,875
Darden Restaurants	Common Stock	122,911	139,050
Disney Walt Co	Common Stock	130,252	131,929
Diageo Plc	Common Stock	256,427	227,891
Discovery Communications CL C	Common Stock	332,996	252,000
Dr. Reddy's Lab - ADR	Common Stock	25,367	25,888
East Japan Railway Co	Common Stock	26,086	24,056
Ecolab Inc	Common Stock	120,953	120,582
Expedia Inc Del New Class	Common Stock	113,226	159,280
Experian PLC	Common Stock	39,141	40,924
Express Scripts Holding Co 20-75-010-3751692	Common Stock	171,669	155,933
Express Scripts Holding Co 20-75-010-3751707	Common Stock	212,963	242,816
Facebook Inc A	Common Stock	112,805	149,209
Fastenal Co	Common Stock	237,549	264,255
Fedex Corporation	Common Stock	58,271	122,285
Fidelity National Information	Common Stock	112,557	140,640
General Electric Co	Common Stock	133,697	131,222
Grainger W W Inc	Common Stock	134,785	136,728
Grupo Fin Banorte Spon Adr	Common Stock	23,286	24,980
Hang Lung Properties SP	Common Stock	18,738	19,161
Harman International Industries	Common Stock	108,467	139,228
Henkel AG & Company	Common Stock	28,869	30,287
Home Depot Inc	Common Stock	133,578	148,681
Honda Motor Co Ltd	Common Stock	33,182	32,684
Honeywell Intl Inc	Common Stock	98,257	114,396
Hoya Corp	Common Stock	54,393	55,955
Icici Bank LTD	Common Stock	36,417	39,176
Illinois Tool Works Inc	Common Stock	193,807	286,161
Infosys Ltd Sponsored	Common Stock	37,056	37,069
ING Groep N V	Common Stock	22,837	24,901
Itau Unibanco Banco Holding	Common Stock	45,894	47,088
Japan Tobacco Inc - Unspn Adr	Common Stock	27,967	29,980
Johnson & Johnson	Common Stock	215,208	238,627
Koc Holding As-Unspn	Common Stock	26,296	21,227
Koninklijke Ahold	Common Stock	30,213	27,520
Korea Elec PW Corp	Common Stock	22,957	32,080
LG Display Co Ltd	Common Stock	28,297	24,687
LVMH Moet Hennessy Louis	Common Stock	41,803	45,992

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
Linde AG	Common Stock	25,929	26,278
Lowes Companies Inc	Common Stock	197,946	241,634
Markel Corp	Common Stock	193,303	262,315
Mastercard Inc CL A - 3751692	Common Stock	89,449	118,041
Mastercard Inc CL A - 3751707	Common Stock	226,159	314,265
Mccormick & Co Inc	Common Stock	81,049	99,408
Michelin	Common Stock	29,467	28,652
Microsoft Corp	Common Stock	149,069	171,319
Munich RE Group	Common Stock	57,785	53,943
Netease Inc	Common Stock	16,887	28,685
Nippon Teleg & Tel Corp	Common Stock	32,001	35,546
Nissan Mtrs	Common Stock	35,187	34,620
Nomura Holdings Inc	Common Stock	43,140	36,654
Nordea BK AB	Common Stock	29,598	29,448
Palo Alto Networks Inc	Common Stock	108,314	101,987
Pandora A/S-Unsp ADR	Common Stock	46,165	60,256
Pepsico Inc	Common Stock	248,354	265,665
Perusahaan Perseroan Persero P	Common Stock	30,998	27,988
Ping An Insurance (Group) Co Of	Common Stock	25,177	29,800
Potash Corp Saskatchewan	Common Stock	18,686	21,220
Rakuten Inc ADR	Common Stock	30,633	26,381
Regeneron Pharmaceuticals Inc	Common Stock	133,941	124,391
Relx NV	Common Stock	47,554	46,314
Roche Holding Ltd Sponsored ADR	Common Stock	33,926	30,592
Royal Bk CDA Montreal Que	Common Stock	40,137	40,318
Royal DSM N V	Common Stock	23,771	23,763
Royal Dutch Shell PLC	Common Stock	70,923	74,299
Ryohin Keikaku Co - UNSP ADR	Common Stock	33,170	31,386
Safran SA	Common Stock	31,239	27,972
Sampo OYJ A SHS	Common Stock	18,866	18,299
Schlumberger LTD	Common Stock	246,311	273,163
Sekisui House	Common Stock	29,386	32,640
Shire PLC	Common Stock	20,197	18,158
Smith & Nephew P/C	Common Stock	36,844	32,997
Sodexo SA	Common Stock	32,025	31,900
Softbank Group Corp Adr	Common Stock	38,334	33,454
Starbucks Corp	Common Stock	94,695	141,447
Stryker Corp	Common Stock	213,940	257,554
TDK Corp	Common Stock	26,511	24,675
TJX Companies Inc New 3751692	Common Stock	134,666	168,196
TJX Companies Inc New 3751707	Common Stock	226,660	282,651
Taiwan Semiconductor Mtg Co	Common Stock	37,216	54,659
Target Corp	Common Stock	124,784	134,784
Tata Mtrs Ltd	Common Stock	27,863	23,248
Techtronic Industries SP ADR	Common Stock	23,811	35,096

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
Tencent Holdings Ltd	Common Stock	11,941	27,135
Thermo Fisher Scientific Inc	Common Stock	202,214	241,550
Tokio Marine Holdings	Common Stock	31,816	32,650
Total SA	Common Stock	26,075	25,307
Unilever NV New Yorks Shares New	Common Stock	31,428	30,430
United Technologies Corp	Common Stock	257,599	271,239
Verizon Communications Inc	Common Stock	148,022	148,802
Visa Inc	Common Stock	73,432	133,609
Walgreen Boots Alliance Inc	Common Stock	178,033	186,152
Williams Sonoma Inco	Common Stock	122,454	128,350
AT&T Inc Bonds	Corporate Bond	257,713	250,096
AT&T Broadband Corp	Corporate Bond	76,907	74,505
Abbvie Inc	Corporate Bond	78,026	78,833
Ace Ina Holdings	Corporate Bond	50,117	50,026
Air Products & Chemicals	Corporate Bond	14,782	14,927
Allstate Corp	Corporate Bond	15,222	15,260
America Movil SAB DE CV	Corporate Bond	110,093	103,640
American Express Credit Sr Unsecured	Corporate Bond	63,094	64,260
Ameriprise Financial Inc Sr Unsecured	Corporate Bond	57,885	57,800
Amgen Inc	Corporate Bond	38,576	39,099
Analog Devices Inc	Corporate Bond	54,208	51,361
Anheuser-Busch Inbev Fin	Corporate Bond	99,682	101,026
Archer Daniels Midland C Notes	Corporate Bond	23,511	22,867
Atmos Energy Corp Sr unsecured	Corporate Bond	87,481	78,847
BB&T Corporation	Corporate Bond	45,527	45,365
BHP Billiton FIN USA Ltd	Corporate Bond	95,712	95,171
Bank of America Notes	Corporate Bond	407,101	402,130
Berkshire Hathaway Fin Com GTD	Corporate Bond	9,965	9,872
Bear Stearns Commercial Mtg Sec	Corporate Bond	49,390	48,720
Berkshire Hathaway Energ	Corporate Bond	37,336	35,620
Berkshire Hathaway Fin	Corporate Bond	9,869	10,219
British Telecom PLC	Corporate Bond	55,440	53,302
Bunge Limited Financed - Co.	Corporate Bond	112,689	109,286
Burlington North Santa FE Debentures	Corporate Bond	64,126	64,141
CSX Corp Notes	Corporate Bond	25,013	25,566
CVS Caremark Corp	Corporate Bond	45,094	44,158
CVS Caremark Corp Senior Unsecured	Corporate Bond	56,431	56,475
Canadian Natl Resources	Corporate Bond	46,685	50,326
Canadian Pacific RR Notes	Corporate Bond	63,734	64,703
Capital One Financial Co	Corporate Bond	74,873	75,140
Caterpillar Inc Sr Unsecured	Corporate Bond	15,100	15,127
Celegne Corp	Corporate Bond	57,438	55,613
Chevron Corp	Corporate Bond	127,025	125,970
Citigroup Inc UNSC	Corporate Bond	289,731	290,804
Comcast Corp	Corporate Bond	58,188	59,984

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
Commercial Mtg Pass Thru Cert	Corporate Bond	205,534	200,396
Conoco Phillips Company	Corporate Bond	108,090	103,214
Constellation Brands Inc Co Guarnt Ser WI	Corporate Bond	36,435	36,619
Deustsche Telekim Intl Fin	Corporate Bond	53,215	51,054
Devon Energy Corporation Call	Corporate Bond	121,739	138,416
Diageo Capital PLC	Corporate Bond	67,803	65,364
Dominion Resources Inc Notes	Corporate Bond	76,943	73,553
Dominion Resources Inc	Corporate Bond	21,398	20,473
Dow Chemical	Corporate Bond	182,733	160,853
Duke Energy Corp Sr Unsecured	Corporate Bond	141,229	134,971
Duke Energy Corp	Corporate Bond	53,393	51,246
Eaton Corp	Corporate Bond	34,856	34,586
Ecolab INC	Corporate Bond	76,649	75,336
Enterprise Products Oper Com GTD	Corporate Bond	124,717	119,172
Fedex Corp	Corporate Bond	42,445	39,940
Fiserv Inc	Corporate Bond	75,658	76,645
Florida Power Corp	Corporate Bond	11,170	10,726
France Telecom	Corporate Bond	82,149	79,634
General Motors CO UNSC	Corporate Bond	123,369	122,136
Gilead Sciences Inc	Corporate Bond	64,754	61,623
GlaxoSmithKline Capital	Corporate Bond	60,576	60,388
Goldman Sachs Group Inc	Corporate Bond	159,486	155,285
HSBC Holdings PLC	Corporate Bond	94,151	91,459
Home Depot Inc	Corporate Bond	93,610	90,283
International Business Mach Corp	Corporate Bond	95,287	90,117
Intl Paper Co Sr Unsec	Corporate Bond	85,747	85,748
Interpublic Group Cos Sr Notes	Corporate Bond	10,392	10,376
JP Morgan Chase & Co Sr Unsec - due 07/22/2020	Corporate Bond	317,508	313,723
JP Morgan Chase & Co Sr Unsec - due 10/15/2020	Corporate Bond	59,507	58,397
JP Morgan Chase & Co Sr Unsec - due 01/15/2049	Corporate Bond	11,487	11,283
JP Morgan Chase & Co Sr Unsec - due 02/12/2049	Corporate Bond	52,577	51,483
JP Morgan Chase & Co Sr Unsec - due 02/15/2051	Corporate Bond	81,458	79,792
Kroger CO/THE call 11/01/2021	Corporate Bond	83,592	80,902
LYB Intl Finance BV	Corporate Bond	49,029	52,049
Lockheed Martin Corp Call 01/15/2023	Corporate Bond	15,202	15,184
Mckesson Corp	Corporate Bond	15,123	15,399
Medtronic Inc	Corporate Bond	51,058	51,313
MetLife Inc	Corporate Bond	70,026	71,639
Microsoft Corp	Corporate Bond	61,120	60,674
MidAmerican Energy Co	Corporate Bond	110,939	109,962
MidAmerican Energy Co call 7/15/2024	Corporate Bond	65,737	62,376
Morgan Stanley Unsc	Corporate Bond	155,523	154,281
National Rural Util Coop Collateral Trust due 11/01/2018	Corporate Bond	70,668	69,613

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
National Rural Util Coop Collateral Trust due 11/01/2020	Corporate Bond	77,310	74,874
Novartis Capital Corp	Corporate Bond	25,280	24,926
Nucor Corp Call Unsec	Corporate Bond	108,810	109,287
Oracle Corp	Corporate Bond	83,087	83,574
PNC Funding Corp	Corporate Bond	55,411	54,167
Pacificorp	Corporate Bond	75,667	74,319
Pemex Proj FDG Master	Corporate Bond	172,021	155,400
Pepsico Inc	Corporate Bond	22,401	21,499
Pepsico Inc Sr Unsec	Corporate Bond	5,258	5,171
Progress Energy Inc	Corporate Bond	21,349	21,271
Prudential Financial Inc Sr Nts	Corporate Bond	250,486	230,822
Reed Elsevier PLC Sr Unsecured	Corporate Bond	205,108	180,438
Rock-Tenn Co Cogt - due 03/01/2019	Corporate Bond	107,774	104,567
Rock-Tenn Co Cogt - due 03/01/2022	Corporate Bond	21,821	21,790
Roper Industry Inc Sr Nts	Corporate Bond	163,778	159,039
Shell International due 05/11/2025	Corporate Bond	26,597	24,934
Shell International due 11/10/2020	Corporate Bond	59,753	59,805
Southern Calif Gas Co	Corporate Bond	26,926	25,332
Southwest Airlines Co	Corporate Bond	109,824	110,300
State Street Corp	Corporate Bond	15,721	15,415
Statoil ASA	Corporate Bond	64,964	68,444
Statoilhydro ASA	Corporate Bond	62,256	59,274
Sunoco Logistics Partner Comp Guarnt	Corporate Bond	70,057	68,510
Sunoco Logistics Partner Call	Corporate Bond	73,733	73,107
Suntrust Banks Inc Call Unsec - due 10/01/2018	Corporate Bond	50,640	50,476
Suntrust Banks Inc Call Unsec - due 04/01/2019	Corporate Bond	74,933	75,675
TC Pipelines LP Sr Unsec	Corporate Bond	124,829	125,041
Telefonica Emisiones Sav Co	Corporate Bond	76,503	74,865
Telefonica Emisiones Sav Sedol	Corporate Bond	63,023	59,932
Thermo Fisher Scientific	Corporate Bond	42,898	42,877
Time Warner Inc	Corporate Bond	68,493	64,621
Toyota Motor Credit Corp	Corporate Bond	29,852	29,712
Trans-Canada Pipelines	Corporate Bond	65,810	67,897
21st Centy Fox Amer Inc	Corporate Bond	84,319	86,550
US Bancorp	Corporate Bond	15,915	15,667
UnitedHealth Group Inc	Corporate Bond	46,463	46,751
Valero Energy Corp	Corporate Bond	138,764	138,356
Ventas Realty LP/CAP	Corporate Bond	83,819	86,061
Verizon Communications Unsc	Corporate Bond	126,828	127,321
Virginia Elec & Power Co Call 01/15/2022	Corporate Bond	21,060	20,363
Virginia Elec & Power Co Call 03/15/2023	Corporate Bond	20,276	19,861
Virginia Elec & Power Co Call 02/15/2024	Corporate Bond	58,412	56,704
Vodafone Group PLC	Corporate Bond	46,926	48,703
Wal-Mart Stores Inc	Corporate Bond	103,987	104,034

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
Waste Management Inc Com GTD	Corporate Bond	55,791	54,072
WellPoint Inc Notes	Corporate Bond	83,637	84,827
Wells Fargo & Company	Corporate Bond	54,975	53,943
Wells Fargo & Company SR Note	Corporate Bond	134,623	131,007
Ontario Province	Government Fixed Income	65,714	65,345
Quebec Prov CDA	Government Fixed Income	208,765	194,018
US Treasury Notes	Government Fixed Income	163,188	162,279
		<u>\$ 38,240,799</u>	<u>\$ 44,894,117</u>

* Party-in-Interest

Related Party

Quaker Chemical Corporation Pension Plan
Schedule H, Line 4j, Schedule of Reportable Transactions
For the Year Ended November 30, 2016

Schedule II

Quaker Chemical Corporation Pension Plan, EIN 23-0993790, PN 111

(a) Identity of Party Involved	(b) Description of Asset	(c) Purchase Price	(d) Selling Price	(g) Cost of Asset	(h) Current Value of Asset on Transaction Date	(i) Net Gain (Loss)
* PNC	Prime Money Market Fund		\$ 6,348,552	\$ 6,348,552		-
* PNC	Prime Money Market Fund	\$ 8,559,494			\$ 8,559,494	-
* Party-in-interest						

The above are a series of transactions which are considered to be category (iii) reportable transactions. There were no category (i), (ii) or (iv) reportable transactions.

Schedule SB, line 26 — Schedule of Active Participant Data

Attained age	Years of credited service										
	Under 1	1–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40 & up	Total
Under 25											
25–29											
30–34			4								4
35–39			13	7							20
40–44			11	10	3						24
45–49			6	6	7	1					20
50–54			7	9	2	3	3	1			25
55–59			5	9	4	9	8	2			37
60–64		1	3	4	3	1	3	5	2		22
65–69			1	1	3	4	2	3	4	1	19
70 & up				2			1		1		4
Total		1	50	48	22	18	17	11	7	1	175

In each cell, the top number is the count of active participants for each age/service combination.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods**Actuarial Assumptions for December 1, 2015 Funding Valuation****Discount rate sponsor elections**

• Segment rates or full yield curve	Segment		
• Look-back months	4		
		Stabilized	Nonstabilized
• First 5 years		4.72%	1.32%
• Next 15 years		6.11%	4.06%
• Over 20 years		6.81%	5.09%
• Rationale	<i>Interest rates are prescribed by the IRS.</i>		

Mortality sponsor elections

• Healthy participants	Section 430(h)(3) prescribed separate static annuitant and non-annuitant mortality tables. These tables are based on the RP-2000 mortality tables projected with mortality improvement to the valuation year plus 7 and 15 years based on Scale AA. <i>The mortality assumption was prescribed by the IRS.</i>
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Cash balance plans

• Interest accumulation rate	4.50% <i>This assumption has been set based on expected long term growth and a review of historical and expected 30 year Treasury Bond rates in effect during October preceding each plan year, not to be less than 3.79%.</i>
• Whipsaw calculations	No
• Basis used to compute the minimum cash balance for grandfathered participants	5.25% and the mortality table for PPA lump sum conversions. <i>This assumption has been set based on the review of historical and expected high quality bond yields and the mortality table used under the plan for lump sum conversions.</i>

Other economic assumptions

• Salary increases	N/A
• Social Security taxable wage base increases	N/A
• Expected investment return	7.25% per year for 2013 plan year, 6.75% per year for the 2014 plan year and 6.75% for 2015 plan year. These rates have been selected based on the Plan's allocation of investments and analysis of market data for long term expected returns
• Expenses	\$250,000 added to 2014 plan year normal cost and \$275,000 added to 2015 plan year normal cost. Expense amounts have been set based on a review of historical and expected expenses paid by the plan.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods**Demographic assumptions**

· Withdrawal	Rates at sample ages are shown below:	
	<u>Attained age</u>	<u>Rate</u>
	20	13.7%
	25	10.2
	30	7.2
	35	4.8
	40	3.0
	45	1.7
	50	0.5
	55	0.0
	60	0.0
· Disability incidence	No disability incidence or recovery rates are assumed	
· Retirement age	Rates at sample ages are shown below:	
	<u>Attained age</u>	<u>Rate</u>
	60	5%
	61	5
	62	20
	63	15
	64	15
	65	85
	66	25
	67	25
	68	25
	69	25
	70	100
· Benefit commencement age for		
- Future vested deferred	65	
- Current vested deferred	65	
	For current vested deferred participants, if the cash balance is not paid in the initial year of termination, it is assumed that the cash balance will be paid at age 65	
· Spouse assumptions	<u>Male participants</u>	<u>Female participants</u>
- Percentage married	80%	80%
- Spouse age difference	2 years younger	2 years older
<i>Demographic assumptions have been set based on review of historical experience and expectations for future demographic experience</i>		

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

Form of payment

All participants are assumed to elect payment in the form of a single life annuity for benefits earned through December 31, 2000. For benefits earned since January 1, 2001, the assumed payment form elected is a single lump sum distribution.

The form of payment assumption has been set based on review of historical experience and expected future elections

Unpredictable contingent event assumptions

Not applicable

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods**Actuarial Methods for Funding*****Asset Methods***

The asset valuation method is an average of the adjusted market value for each year during the last two years preceding the valuation date. The adjusted market value is the market value at each determination date, adjusted to the valuation date based on actual cash flows and expected interest at the lesser of the expected rate of return and the third segment rate. This amount is adjusted to be no greater than 110 percent and no less than 90 percent of the fair market value, as defined in IRC Section 430.

A characteristic of this asset method is that, over time, it is slightly more likely to produce an actuarial value of assets that is less than the market value of assets than an actuarial value that is greater than the market value.

Minimum Funding Methods

The funding target for minimum funding calculations is computed using the traditional unit credit method of funding. The objective under this method is to fund each participant's benefits under the plan as they accrue. Thus, the total pension to which each participant is expected to become entitled at retirement is broken down into units, each associated with a year of past or future credited service.

A detailed description of the calculation follows:

- The plan's valuation date is the beginning of the plan year.
- An individual's **funding target** is the present value of future benefits based on credited service and average pay as of the beginning of the plan year, and an individual's **target normal cost** is the present value of the benefit expected to accrue in the plan year. If multiple decrements are used, the funding target and the target normal cost for an individual is the sum of the component funding targets and target normal costs associated with the various anticipated separation dates.
- The plan's **target normal cost** is the sum of the individual target normal costs, and the plan's **funding target** is the sum of the individual funding targets for all participants under the plan.

Quaker Chemical Corporation Pension Plan
Schedule H, Line 4j, Schedule of Reportable Transactions
For the Year Ended November 30, 2016

Schedule II

Quaker Chemical Corporation Pension Plan, EIN 23-0993790, PN 111

(a) Identity of Party Involved	(b) Description of Asset	(c) Purchase Price	(d) Selling Price	(g) Cost of Asset	(h) Current Value of Asset on Transaction Date	(i) Net Gain (Loss)
* PNC	Prime Money Market Fund		\$ 6,348,552	\$ 6,348,552		-
* PNC	Prime Money Market Fund	\$ 8,559,494			\$ 8,559,494	-
* Party-in-interest						

The above are a series of transactions which are considered to be category (iii) reportable transactions. There were no category (i), (ii) or (iv) reportable transactions.

SCHEDULE SB (Form 5500) <small>Department of the Treasury Internal Revenue Service</small> <hr/> <small>Department of Labor Employee Benefits Security Administration</small> <hr/> <small>Pension Benefit Guaranty Corporation</small>	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 12/01/2015 and ending 11/30/2016

► **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 QUAKER CHEMICAL CORPORATION PENSION PLAN	B Three-digit plan number (PN) ► <u>111</u>
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF QUAKER CHEMICAL CORPORATION	D Employer Identification Number (EIN) 23-0993790

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
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1	Enter the valuation date: Month <u>12</u> Day <u>01</u> Year <u>2015</u>	
2	Assets:	
	a Market value	2a 47,809,665
	b Actuarial value	2b 49,572,141
3	Funding target/participant count breakdown	
	a For retired participants and beneficiaries receiving payment	(1) Number of participants: 294 (2) Vested Funding Target: 27,751,127 (3) Total Funding Target: 27,751,127
	b For terminated vested participants	223 7,106,308 7,106,308
	c For active participants	175 10,466,139 10,627,953
	d Total	692 45,323,574 45,485,388
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 6.12%
6	Target normal cost	6 275,000

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	<u>TIMOTHY H. WAITE</u> Signature of actuary	<u>07/27/2017</u> Date
	<u>TIMOTHY H. WAITE</u> Type or print name of actuary	<u>1706310</u> Most recent enrollment number
	<u>MERCER</u> Firm name	<u>215-982-4600</u> Telephone number (including area code)
	<u>THREE LOGAN SQUARE, 1717 ARCH STREET, SUITE 1100 PHILADELPHIA PA 19103-2797</u> 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 ☐

Liquidity shortfall as of end of quarter of this plan year

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 4
22 Weighted average retirement age			22 64
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	275,000
b Excess assets, if applicable, but not greater than line 31a		31b	275,000
32 Amortization installments:		Outstanding Balance	Installment
a Net shortfall amortization installment		0	0
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	0
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33) ...		34	0
	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	0
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)		37	5,875,190
38 Present value of excess contributions for current year (see instructions)			
a Total (excess, if any, of line 37 over line 36)		38a	5,875,190
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, line 22 — Description of Weighted Average Retirement Age

Each employee is assumed to retire in accordance with the table of retirement rates. The proportion of employees expected to retire at each potential retirement age is shown below. The average retirement age is 64

(A) Retirement age	(B) Retirement Percent	(C) Lx	(D) Number of employees expected to retire (B) x (C)	(E) (A) x (D)
60	5.00%	10,000.00	500.00	30,000.00
61	5.00%	9,500.00	475.00	28,975.00
62	20.00%	9,025.00	1,805.00	111,910.00
63	15.00%	7,220.00	1,083.00	68,229.00
64	15.00%	6,137.00	920.55	58,915.20
65	85.00%	5,216.45	4,433.98	288,208.86
66	25.00%	782.47	195.62	12,910.71
67	25.00%	586.85	146.71	9,829.75
68	25.00%	440.14	110.03	7,482.35
69	25.00%	330.10	82.53	5,694.28
70	100.00%	247.58	247.58	17,330.43
Total			10,000.00	639,485.59
Average				63.95

Schedule SB, Part V — Summary of Plan Provisions

Effective date and plan year	Original plan: November 30, 1942 Plan year: December 1 – November 30
Status of the Plan	<p>Participation in the plan is frozen effective December 1, 2005 to employees who are not covered under a collective bargaining agreement. Benefits are frozen effective December 1, 2005 for employees not covered under a collective bargaining agreement with the exception of interest on the retirement account balance.</p> <p>Participation in the plan is frozen effective December 1, 2005 for collectively bargained employees. Benefits are frozen effective November 30, 2013 for collectively bargained employees with the exception of interest on the retirement account balance.</p>
Significant events that occurred during the year	None
Definitions	
Eligibility	<p>Age 21 and one year of service for any employee of the company except:</p> <ul style="list-style-type: none"> § Those who are compensated on a commission only basis; § Those who are covered under a collective bargaining agreement (unless the agreement provides for plan coverage); § Those working for an affiliate who did not adopt this plan; § Any employee of AC Products other than the President of AC Products. <p>Participation in the plan is frozen effective December 1, 2005 for employees who are not covered under a collective bargaining agreement.</p> <p>Participation in the plan is frozen effective December 1, 2013 for collectively bargained employees.</p>

Schedule SB, Part V — Summary of Plan Provisions

Accrued benefit	<p>Through December 31, 2000:</p> <p>A life annuity equal to the sum of (a.) and (b.):</p> <p>(a.) Past Service Benefit</p> <p>1.1% of participant's highest average earnings, plus .5% of his/her highest average earnings in excess of 1996 covered compensation, multiplied by the participant's years of service from the earlier of (1.) age 21 and one year of service and (2.) the date of eligibility to December 1, 1996.</p> <p>Highest average earnings is the highest three consecutive years of compensation through 1996 including overtime, shift differential, bonuses and commissions.</p> <p>In no event will the accrued benefit as of December 1, 1996 be less than the benefit which was accrued before this benefit update.</p> <p>(b.) Future Service Benefit</p> <p>For each year of service after December 1, 1996 the future service benefit depends on total years of service as follows:</p> <p>Before 35 year total service mark:</p> <p>1.15% of annual pay plus .6% of annual pay over current year covered compensation.</p> <p>After 35 years of total service:</p> <p>1.3% of annual pay.</p> <p>Since January 1, 2001:</p> <p>A single sum equal to the retirement account balance beginning January 1, 2001.</p> <p>Each participant is allocated at the end of each plan year, a percent of annual pay. The percent is based on the sum of the participant's chronological age and credited service at the beginning of the plan year. The formula is:</p> <table border="1"> <thead> <tr> <th>Age + Service</th><th>Allocation</th></tr> </thead> <tbody> <tr> <td>Less than 40</td><td>3%</td></tr> <tr> <td>40-49</td><td>4%</td></tr> <tr> <td>50-59</td><td>5%</td></tr> <tr> <td>60-69</td><td>6%</td></tr> <tr> <td>70 or more</td><td>7%</td></tr> </tbody> </table>	Age + Service	Allocation	Less than 40	3%	40-49	4%	50-59	5%	60-69	6%	70 or more	7%
Age + Service	Allocation												
Less than 40	3%												
40-49	4%												
50-59	5%												
60-69	6%												
70 or more	7%												

Schedule SB, Part V — Summary of Plan Provisions

· Accrued benefit (continued)	<p>Interest is credited to the account annually. The effective annual interest rate used to compute interest credits during a plan year is the 30-year Treasury Bond rate in effect during the October preceding the plan year, not to be less than 3.79%.</p> <p>For participants age 50 or more with at least 10 years of vesting service on January 1, 2001, the minimum account balance is the lump sum value of accumulated accruals based on the prior plan formula. The lump sum value is computed using the interest and mortality assumptions prescribed in Code Section 417(e)(3) for plan years beginning in 2008, as required under the Pension Protection Act of 2006.</p> <p>The accrued benefit is frozen as of December 31, 2005 for participants who are not covered under a collective bargaining agreement. Accrued benefit is frozen as of November 30, 2013 for collectively bargained employees.</p> <p>Retirement account balances will continue to accumulate with interest.</p>
Normal retirement	
· Eligibility	Age 65
· Benefit	The accrued benefit.
Early retirement	
· Eligibility	Age 60 and 10 years of service
· Benefit	For benefits earned under the prior formula, the accrued benefit reduced 1/180 for each month commencement precedes normal retirement date. For benefits earned under the cash balance formula, the accrued benefit based on age, salary, service and credited interest rates to date of retirement.
Late retirement	
· Eligibility	Commencement after age 65
· Benefit	The accrued benefit based on age, salary, service and credited interest rates to date of retirement.
Additional benefit	
· Eligibility	Participants listed in Appendix B of the plan document.
· Benefit	Beginning December 1, 2003, additional benefits are paid to certain former participants of the Non-qualified Pension Plan. The list of affected individuals and their additional benefits are outlined in Appendix B of the plan document.

Schedule SB, Part V — Summary of Plan Provisions

Deferred vested	
· Eligibility	3 years of service or age 65
· Benefit	Accrued benefit payable at normal retirement
Disability	
· Eligibility	Total and permanent disability
· Benefit	A participant continues to be credited with service for vesting and benefit accrual. While disabled, he or she receives one year of service for each full year of service accrued before becoming disabled. However, service accruals cease at normal retirement date.
Pre-retirement death	
· Eligibility	Participant with a vested accrued benefit and a surviving spouse on his date of death.
· Benefit	<p>For benefits earned through December 31, 2000, each married active participant who has completed three or more years of service and each terminated vested married participant has an automatic death benefit for his or her spouse.</p> <p>The death benefit is a life annuity determined as if the participant:</p> <ul style="list-style-type: none"> - Terminated employment on the date of death (or actual termination date, if earlier); - Survived to earliest retirement date (or date of death, if later); - Retired with a 50% joint and survivorship option in effect; and - Died on the following day. <p>Payment of this death benefit begins on the participant's earliest retirement date, or date of death, if later.</p> <p>For benefits earned since January 1, 2001, each active participant who has completed three or more years of service and each terminated vested participant has an automatic death benefit. This benefit – equal to 100% of the participant's account balance – is payable regardless of the participant's marital status at death.</p>

Schedule SB, Part V — Summary of Plan Provisions

Form of benefits	
· Automatic form for unmarried participants	Single life annuity
· Automatic form for married participants	50% Joint and Survivor annuity
· Optional forms	<ul style="list-style-type: none"> - Single life annuity - 5-year certain and life annuity - 10-year certain and life annuity - 75% Joint and Survivor annuity - 100% Joint and Survivor annuity - Lump sum (cash balance formula)
· Optional form conversion factors	Factors for converting benefits from the normal form of payment are described in Appendix A of the plan document.
Miscellaneous	
· Maximum compensation	Compensation for any 12-month period used to determine accrued benefits may not exceed the limits in IRC Section 401(a)(17) for the calendar year in which the 12-month period begins. This limit is indexed annually.
· Maximum benefits	Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2015, the limit is \$210,000.

Benefits Included or Excluded

Unless noted below, all benefits provided by the plan, as restated effective December 1, 2015, are included in this valuation.

- **Late retirement increases:**
 - *Active participants:* The plan provides benefit suspension notices to participants who work beyond normal retirement; therefore, late retirement actuarial increases only apply to participants who defer retirement beyond age 70½. This valuation includes increases for current participants over age 70½.
 - *Deferred vested participants:* Current deferred vested participants over normal retirement age are valued including the late retirement actuarial increase.
- **Internal Revenue Code limitations:** The limitations of Internal Revenue Code Section 415(b) and 401(a)(17) have been incorporated into our calculations.
- **Benefits not included:** The disability benefit is valued implicitly. No explicit disability incidence rate is included in the actuarial assumptions.
- **IRC Section 416 rules for top-heavy plans:** We did not test whether this plan is top-heavy (when the present value of benefits for key employees equals or exceeds 60% of the present value for all participants). However, we expect that the plan is not top-heavy due to the large number of rank-and-file participants; therefore, the funding target and target normal cost do not reflect any liability for top-heavy benefit accruals.

Schedule SB, Part V — Summary of Plan Provisions**Plan Provisions Specific to Funding*****Additional Benefits Included or Excluded***

- **IRC Section 436 benefit restrictions:**
 - *Unpredictable contingent event benefits:* This valuation excludes restricted contingent event benefits that occurred before the valuation date but includes contingent event benefits which are expected to occur on or after the valuation date regardless of anticipated funding-based limitations.
 - *Plan amendments:* See above.
 - *Prohibited payments:* Limitations on prohibited benefits (if any) are reflected for annuity starting dates before the valuation date but are ignored for annuity starting dates on or after the valuation date.
 - *Benefit accruals:* The plan's funding target does not reflect any limitation on benefit accruals. The target normal cost does not reflect any limitation on benefit accruals.
- **Unpredictable contingent event benefits:** The plan does not have any unpredictable contingent event benefits.

Plan Provision Changes Since Prior Valuation

- There have been no changes since the prior valuation.

Quaker Chemical Corporation Pension Plan

Schedule I

Schedule H, Line 4i, Schedule of Assets (Held at End of Year)

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
* Principal Mutual Life Bond and Mortgage Fund	Pooled Separate Account	\$ 985,674	\$ 1,425,729
American Beacon Funds	Registered Investment Co.	670,387	867,129
IShares MSCI Value Index Fund	Registered Investment Co.	1,147,848	1,081,112
IShares MSCI EAFE Growth Index Fund	Registered Investment Co.	1,054,276	1,213,530
PIMCO Funds Moderate Duration Institutional Fund	Registered Investment Co.	1,988,545	1,927,978
PIMCO Funds Total Return Institutional Fund	Registered Investment Co.	2,455,695	2,286,444
SPDR MSCI ACWI	Registered Investment Co.	1,505,239	1,376,719
Vanguard FTSE Emerging Markets ETF	Registered Investment Co.	879,506	804,953
Vanguard Small Cap Growth ETF	Registered Investment Co.	220,524	531,240
Vanguard Small Cap Value ETF	Registered Investment Co.	225,858	520,960
Vanguard Total STK MKT Index Fund	Registered Investment Co.	4,042,657	7,814,773
*# Quaker Chemical Corporation	Common Stock	225,105	1,272,400
Allergan Inc.	Common Stock	432,902	327,395
Credicorp LTD (BAP)	Common Stock	17,396	17,079
Elbit Systems LTD (ESLT)	Common Stock	17,508	18,483
NXP Semiconductors	Common Stock	236,309	286,643
Banco Latinoamericano	Common Stock	22,588	19,395
AIA Group LTD	Common Stock	28,519	26,168
Abbvie Inc (ABBV)	Common Stock	153,853	162,093
Airbus Group	Common Stock	38,822	35,922
Akamai Technologies	Common Stock	95,403	112,856
Alibaba Group Holding LTD	Common Stock	27,088	31,026
Alphabet Inc CA - CL C - 3751707	Common Stock	166,401	241,815
Alphabet Inc CA - CL A - 3751692	Common Stock	139,376	218,798
American Express Co 3751707	Common Stock	303,771	264,459
American International Group, Inc	Common Stock	220,052	276,245
Apple Inc	Common Stock	216,202	226,898
Astra International - UNSP ADR	Common Stock	32,390	30,273
Banco Bilbao Vizcaya (BBVA)	Common Stock	26,940	26,667
BHP Billiton LTD (BHP)	Common Stock	50,289	56,610
BP PLC	Common Stock	51,789	39,596
Baidu Inc	Common Stock	26,591	19,700
Bayer A G	Common Stock	23,861	33,552
Bed Bath and Beyond	Common Stock	252,929	174,669
WR Berkley Corp	Common Stock	220,910	277,066
Berkshire Hathaway Inc	Common Stock	242,617	276,150
Boeing Co	Common Stock	141,750	177,209
Bristol Myers Squibb Co	Common Stock	101,863	105,148
British American Tobacco PLC	Common Stock	24,146	25,515
CK Hutchison Holding - Unsp Adr	Common Stock	49,854	37,266
CRH PLC	Common Stock	26,664	28,706
CSL LTD-Sponsored ADR	Common Stock	37,523	31,329
Canadian Natl Railway Co	Common Stock	28,286	29,004
Capgemini SA	Common Stock	48,896	41,474

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
Carnival Corp	Common Stock	146,148	160,329
Celgene Corp	Common Stock	116,957	183,216
Cerner Corp	Common Stock	132,750	110,661
China Biologic Products Inc	Common Stock	31,690	32,205
Compagnie Financier Richemont	Common Stock	261,281	195,468
Continental AG	Common Stock	25,857	18,843
Costco Wholesale Corp	Common Stock	118,627	131,346
Dankse Bank A/S - Spon ADR	Common Stock	24,748	26,875
Darden Restaurants	Common Stock	122,911	139,050
Disney Walt Co	Common Stock	130,252	131,929
Diageo Plc	Common Stock	256,427	227,891
Discovery Communications CL C	Common Stock	332,996	252,000
Dr. Reddy's Lab - ADR	Common Stock	25,367	25,888
East Japan Railway Co	Common Stock	26,086	24,056
Ecolab Inc	Common Stock	120,953	120,582
Expedia Inc Del New Class	Common Stock	113,226	159,280
Experian PLC	Common Stock	39,141	40,924
Express Scripts Holding Co 20-75-010-3751692	Common Stock	171,669	155,933
Express Scripts Holding Co 20-75-010-3751707	Common Stock	212,963	242,816
Facebook Inc A	Common Stock	112,805	149,209
Fastenal Co	Common Stock	237,549	264,255
Fedex Corporation	Common Stock	58,271	122,285
Fidelity National Information	Common Stock	112,557	140,640
General Electric Co	Common Stock	133,697	131,222
Grainger W W Inc	Common Stock	134,785	136,728
Grupo Fin Banorte Spon Adr	Common Stock	23,286	24,980
Hang Lung Properties SP	Common Stock	18,738	19,161
Harman International Industries	Common Stock	108,467	139,228
Henkel AG & Company	Common Stock	28,869	30,287
Home Depot Inc	Common Stock	133,578	148,681
Honda Motor Co Ltd	Common Stock	33,182	32,684
Honeywell Intl Inc	Common Stock	98,257	114,396
Hoya Corp	Common Stock	54,393	55,955
Icici Bank LTD	Common Stock	36,417	39,176
Illinois Tool Works Inc	Common Stock	193,807	286,161
Infosys Ltd Sponsored	Common Stock	37,056	37,069
ING Groep N V	Common Stock	22,837	24,901
Itau Unibanco Banco Holding	Common Stock	45,894	47,088
Japan Tobacco Inc - Unspn Adr	Common Stock	27,967	29,980
Johnson & Johnson	Common Stock	215,208	238,627
Koc Holding As-Unspn	Common Stock	26,296	21,227
Koninklijke Ahold	Common Stock	30,213	27,520
Korea Elec PW Corp	Common Stock	22,957	32,080
LG Display Co Ltd	Common Stock	28,297	24,687
LVMH Moet Hennessy Louis	Common Stock	41,803	45,992

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
Linde AG	Common Stock	25,929	26,278
Lowes Companies Inc	Common Stock	197,946	241,634
Markel Corp	Common Stock	193,303	262,315
Mastercard Inc CL A - 3751692	Common Stock	89,449	118,041
Mastercard Inc CL A - 3751707	Common Stock	226,159	314,265
Mccormick & Co Inc	Common Stock	81,049	99,408
Michelin	Common Stock	29,467	28,652
Microsoft Corp	Common Stock	149,069	171,319
Munich RE Group	Common Stock	57,785	53,943
Netease Inc	Common Stock	16,887	28,685
Nippon Teleg & Tel Corp	Common Stock	32,001	35,546
Nissan Mtrs	Common Stock	35,187	34,620
Nomura Holdings Inc	Common Stock	43,140	36,654
Nordea BK AB	Common Stock	29,598	29,448
Palo Alto Networks Inc	Common Stock	108,314	101,987
Pandora A/S-Unsp ADR	Common Stock	46,165	60,256
Pepsico Inc	Common Stock	248,354	265,665
Perusahaan Perseroan Persero P	Common Stock	30,998	27,988
Ping An Insurance (Group) Co Of	Common Stock	25,177	29,800
Potash Corp Saskatchewan	Common Stock	18,686	21,220
Rakuten Inc ADR	Common Stock	30,633	26,381
Regeneron Pharmaceuticals Inc	Common Stock	133,941	124,391
Relx NV	Common Stock	47,554	46,314
Roche Holding Ltd Sponsored ADR	Common Stock	33,926	30,592
Royal Bk CDA Montreal Que	Common Stock	40,137	40,318
Royal DSM N V	Common Stock	23,771	23,763
Royal Dutch Shell PLC	Common Stock	70,923	74,299
Ryohin Keikaku Co - UNSP ADR	Common Stock	33,170	31,386
Safran SA	Common Stock	31,239	27,972
Sampo OYJ A SHS	Common Stock	18,866	18,299
Schlumberger LTD	Common Stock	246,311	273,163
Sekisui House	Common Stock	29,386	32,640
Shire PLC	Common Stock	20,197	18,158
Smith & Nephew P/C	Common Stock	36,844	32,997
Sodexo SA	Common Stock	32,025	31,900
Softbank Group Corp Adr	Common Stock	38,334	33,454
Starbucks Corp	Common Stock	94,695	141,447
Stryker Corp	Common Stock	213,940	257,554
TDK Corp	Common Stock	26,511	24,675
TJX Companies Inc New 3751692	Common Stock	134,666	168,196
TJX Companies Inc New 3751707	Common Stock	226,660	282,651
Taiwan Semiconductor Mtg Co	Common Stock	37,216	54,659
Target Corp	Common Stock	124,784	134,784
Tata Mtrs Ltd	Common Stock	27,863	23,248
Techtronic Industries SP ADR	Common Stock	23,811	35,096

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
Tencent Holdings Ltd	Common Stock	11,941	27,135
Thermo Fisher Scientific Inc	Common Stock	202,214	241,550
Tokio Marine Holdings	Common Stock	31,816	32,650
Total SA	Common Stock	26,075	25,307
Unilever NV New Yorks Shares New	Common Stock	31,428	30,430
United Technologies Corp	Common Stock	257,599	271,239
Verizon Communications Inc	Common Stock	148,022	148,802
Visa Inc	Common Stock	73,432	133,609
Walgreen Boots Alliance Inc	Common Stock	178,033	186,152
Williams Sonoma Inco	Common Stock	122,454	128,350
AT&T Inc Bonds	Corporate Bond	257,713	250,096
AT&T Broadband Corp	Corporate Bond	76,907	74,505
Abbvie Inc	Corporate Bond	78,026	78,833
Ace Ina Holdings	Corporate Bond	50,117	50,026
Air Products & Chemicals	Corporate Bond	14,782	14,927
Allstate Corp	Corporate Bond	15,222	15,260
America Movil SAB DE CV	Corporate Bond	110,093	103,640
American Express Credit Sr Unsecured	Corporate Bond	63,094	64,260
Ameriprise Financial Inc Sr Unsecured	Corporate Bond	57,885	57,800
Amgen Inc	Corporate Bond	38,576	39,099
Analog Devices Inc	Corporate Bond	54,208	51,361
Anheuser-Busch Inbev Fin	Corporate Bond	99,682	101,026
Archer Daniels Midland C Notes	Corporate Bond	23,511	22,867
Atmos Energy Corp Sr unsecured	Corporate Bond	87,481	78,847
BB&T Corporation	Corporate Bond	45,527	45,365
BHP Billiton FIN USA Ltd	Corporate Bond	95,712	95,171
Bank of America Notes	Corporate Bond	407,101	402,130
Berkshire Hathaway Fin Com GTD	Corporate Bond	9,965	9,872
Bear Stearns Commercial Mtg Sec	Corporate Bond	49,390	48,720
Berkshire Hathaway Energ	Corporate Bond	37,336	35,620
Berkshire Hathaway Fin	Corporate Bond	9,869	10,219
British Telecom PLC	Corporate Bond	55,440	53,302
Bunge Limited Financed - Co.	Corporate Bond	112,689	109,286
Burlington North Santa FE Debentures	Corporate Bond	64,126	64,141
CSX Corp Notes	Corporate Bond	25,013	25,566
CVS Caremark Corp	Corporate Bond	45,094	44,158
CVS Caremark Corp Senior Unsecured	Corporate Bond	56,431	56,475
Canadian Natl Resources	Corporate Bond	46,685	50,326
Canadian Pacific RR Notes	Corporate Bond	63,734	64,703
Capital One Financial Co	Corporate Bond	74,873	75,140
Caterpillar Inc Sr Unsecured	Corporate Bond	15,100	15,127
Celegne Corp	Corporate Bond	57,438	55,613
Chevron Corp	Corporate Bond	127,025	125,970
Citigroup Inc UNSC	Corporate Bond	289,731	290,804
Comcast Corp	Corporate Bond	58,188	59,984

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
Commercial Mtg Pass Thru Cert	Corporate Bond	205,534	200,396
Conoco Phillips Company	Corporate Bond	108,090	103,214
Constellation Brands Inc Co Guarnt Ser WI	Corporate Bond	36,435	36,619
Deustsche Telekim Intl Fin	Corporate Bond	53,215	51,054
Devon Energy Corporation Call	Corporate Bond	121,739	138,416
Diageo Capital PLC	Corporate Bond	67,803	65,364
Dominion Resources Inc Notes	Corporate Bond	76,943	73,553
Dominion Resources Inc	Corporate Bond	21,398	20,473
Dow Chemical	Corporate Bond	182,733	160,853
Duke Energy Corp Sr Unsecured	Corporate Bond	141,229	134,971
Duke Energy Corp	Corporate Bond	53,393	51,246
Eaton Corp	Corporate Bond	34,856	34,586
Ecolab INC	Corporate Bond	76,649	75,336
Enterprise Products Oper Com GTD	Corporate Bond	124,717	119,172
Fedex Corp	Corporate Bond	42,445	39,940
Fiserv Inc	Corporate Bond	75,658	76,645
Florida Power Corp	Corporate Bond	11,170	10,726
France Telecom	Corporate Bond	82,149	79,634
General Motors CO UNSC	Corporate Bond	123,369	122,136
Gilead Sciences Inc	Corporate Bond	64,754	61,623
GlaxoSmithKline Capital	Corporate Bond	60,576	60,388
Goldman Sachs Group Inc	Corporate Bond	159,486	155,285
HSBC Holdings PLC	Corporate Bond	94,151	91,459
Home Depot Inc	Corporate Bond	93,610	90,283
International Business Mach Corp	Corporate Bond	95,287	90,117
Intl Paper Co Sr Unsec	Corporate Bond	85,747	85,748
Interpublic Group Cos Sr Notes	Corporate Bond	10,392	10,376
JP Morgan Chase & Co Sr Unsec - due 07/22/2020	Corporate Bond	317,508	313,723
JP Morgan Chase & Co Sr Unsec - due 10/15/2020	Corporate Bond	59,507	58,397
JP Morgan Chase & Co Sr Unsec - due 01/15/2049	Corporate Bond	11,487	11,283
JP Morgan Chase & Co Sr Unsec - due 02/12/2049	Corporate Bond	52,577	51,483
JP Morgan Chase & Co Sr Unsec - due 02/15/2051	Corporate Bond	81,458	79,792
Kroger CO/THE call 11/01/2021	Corporate Bond	83,592	80,902
LYB Intl Finance BV	Corporate Bond	49,029	52,049
Lockheed Martin Corp Call 01/15/2023	Corporate Bond	15,202	15,184
Mckesson Corp	Corporate Bond	15,123	15,399
Medtronic Inc	Corporate Bond	51,058	51,313
MetLife Inc	Corporate Bond	70,026	71,639
Microsoft Corp	Corporate Bond	61,120	60,674
MidAmerican Energy Co	Corporate Bond	110,939	109,962
MidAmerican Energy Co call 7/15/2024	Corporate Bond	65,737	62,376
Morgan Stanley Unsc	Corporate Bond	155,523	154,281
National Rural Util Coop Collateral Trust due 11/01/2018	Corporate Bond	70,668	69,613

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
National Rural Util Coop Collateral Trust due 11/01/2020	Corporate Bond	77,310	74,874
Novartis Capital Corp	Corporate Bond	25,280	24,926
Nucor Corp Call Unsec	Corporate Bond	108,810	109,287
Oracle Corp	Corporate Bond	83,087	83,574
PNC Funding Corp	Corporate Bond	55,411	54,167
Pacificorp	Corporate Bond	75,667	74,319
Pemex Proj FDG Master	Corporate Bond	172,021	155,400
Pepsico Inc	Corporate Bond	22,401	21,499
Pepsico Inc Sr Unsec	Corporate Bond	5,258	5,171
Progress Energy Inc	Corporate Bond	21,349	21,271
Prudential Financial Inc Sr Nts	Corporate Bond	250,486	230,822
Reed Elsevier PLC Sr Unsecured	Corporate Bond	205,108	180,438
Rock-Tenn Co Cogt - due 03/01/2019	Corporate Bond	107,774	104,567
Rock-Tenn Co Cogt - due 03/01/2022	Corporate Bond	21,821	21,790
Roper Industry Inc Sr Nts	Corporate Bond	163,778	159,039
Shell International due 05/11/2025	Corporate Bond	26,597	24,934
Shell International due 11/10/2020	Corporate Bond	59,753	59,805
Southern Calif Gas Co	Corporate Bond	26,926	25,332
Southwest Airlines Co	Corporate Bond	109,824	110,300
State Street Corp	Corporate Bond	15,721	15,415
Statoil ASA	Corporate Bond	64,964	68,444
Statoilhydro ASA	Corporate Bond	62,256	59,274
Sunoco Logistics Partner Comp Guarnt	Corporate Bond	70,057	68,510
Sunoco Logistics Partner Call	Corporate Bond	73,733	73,107
Suntrust Banks Inc Call Unsec - due 10/01/2018	Corporate Bond	50,640	50,476
Suntrust Banks Inc Call Unsec - due 04/01/2019	Corporate Bond	74,933	75,675
TC Pipelines LP Sr Unsec	Corporate Bond	124,829	125,041
Telefonica Emisiones Sav Co	Corporate Bond	76,503	74,865
Telefonica Emisiones Sav Sedol	Corporate Bond	63,023	59,932
Thermo Fisher Scientific	Corporate Bond	42,898	42,877
Time Warner Inc	Corporate Bond	68,493	64,621
Toyota Motor Credit Corp	Corporate Bond	29,852	29,712
Trans-Canada Pipelines	Corporate Bond	65,810	67,897
21st Centy Fox Amer Inc	Corporate Bond	84,319	86,550
US Bancorp	Corporate Bond	15,915	15,667
UnitedHealth Group Inc	Corporate Bond	46,463	46,751
Valero Energy Corp	Corporate Bond	138,764	138,356
Ventas Realty LP/CAP	Corporate Bond	83,819	86,061
Verizon Communications Unsc	Corporate Bond	126,828	127,321
Virginia Elec & Power Co Call 01/15/2022	Corporate Bond	21,060	20,363
Virginia Elec & Power Co Call 03/15/2023	Corporate Bond	20,276	19,861
Virginia Elec & Power Co Call 02/15/2024	Corporate Bond	58,412	56,704
Vodafone Group PLC	Corporate Bond	46,926	48,703
Wal-Mart Stores Inc	Corporate Bond	103,987	104,034

Quaker Chemical Corporation Pension Plan**Schedule I**

Schedule H, Line 4i, Schedule of Assets (Held at End of Year) - Continued

As of November 30, 2016

Quaker Chemical Pension Plan, EIN 23-0993790, PN 111

(a)(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par or maturity value	(d) Cost	(e) Current Value
Waste Management Inc Com GTD	Corporate Bond	55,791	54,072
WellPoint Inc Notes	Corporate Bond	83,637	84,827
Wells Fargo & Company	Corporate Bond	54,975	53,943
Wells Fargo & Company SR Note	Corporate Bond	134,623	131,007
Ontario Province	Government Fixed Income	65,714	65,345
Quebec Prov CDA	Government Fixed Income	208,765	194,018
US Treasury Notes	Government Fixed Income	163,188	162,279
		<u>\$ 38,240,799</u>	<u>\$ 44,894,117</u>

* Party-in-Interest

Related Party

Schedule SB, line 24 — Change in Actuarial Assumptions

The expense component of normal cost increased from \$250,000 to \$275,000.