Form 5500-SF

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Short Form Annual Return/Report of Small Employee Benefit Plan

This form is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA), and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code).

▶ **Complete all entries in accordance with the instructions to the Form 5500-SF.**

OMB Nos. 1210-0110
1210-0089

2017

This Form is Open to Public Inspection

Part I Annual Report Identification Information

For calendar plan year 2017 or fiscal plan year beginning 01/01/2017 and ending 12/31/2017

A This return/report is for:
- [X] a single-employer plan
- [ ] a multiple-employer plan (not multiemployer) (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.)
- [ ] a one-participant plan
- [ ] a foreign plan

B This return/report is
- [ ] the first return/report
- [ ] the final return/report
- [ ] an amended return/report
- [ ] a short plan year return/report (less than 12 months)

C Check box if filing under:
- [ ] Form 5558
- [ ] automatic extension
- [ ] DFVC program
- [ ] special extension (enter description)

Part II Basic Plan Information—enter all requested information

1a Name of plan
PENSION PLAN FOR HOURLY BARGAINING UNIT OF TECHNISAND - TROY GROVE

1b Three-digit plan number (PN) ▶ 001

1c Effective date of plan 11/21/1991

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)
TECHNISAND, INC.

P.O. BOX 177
WEDRON, IL 60557-0177

2b Employer Identification Number (EIN) 34-1684239

2c Sponsor's telephone number 815-433-2449

2d Business code (see instructions) 212310

3a Plan administrator's name and address [X] Same as Plan Sponsor.

3b Administrator's EIN

3c Administrator's telephone number

4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report.
a Sponsor's name
c Plan Name

4b EIN

4d PN

5a Total number of participants at the beginning of the plan year	**5a**	48
b Total number of participants at the end of the plan year	**5b**	48
c Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	**5c**	
d(1) Total number of active participants at the beginning of the plan year	**5d(1)**	36
d(2) Total number of active participants at the end of the plan year	**5d(2)**	36
e Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	**5e**	0

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including, if applicable, a Schedule SB or Schedule MB completed and signed by an enrolled actuary, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	07/27/2018	MICHELLE PEZANOSKI
	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

6a Were all of the plan's assets during the plan year invested in eligible assets? (See instructions.) ..... [X] Yes [ ] No

b Are you claiming a waiver of the annual examination and report of an independent qualified public accountant (IQPA) under 29 CFR 2520.104-46? (See instructions on waiver eligibility and conditions)..... [X] Yes [ ] No

If you answered "No" to either line 6a or line 6b, the plan cannot use Form 5500-SF and must instead use Form 5500.

c If the plan is a defined benefit plan, is it covered under the PBGC insurance program (see ERISA section 4021)? ..... [X] Yes [ ] No [ ] Not determined

If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year 4047122. (See instructions.)

Part III Financial Information

7 Plan Assets and Liabilities		(a) Beginning of Year	(b) End of Year
a Total plan assets	7a	976447	1170140
b Total plan liabilities	7b		
c Net plan assets (subtract line 7b from line 7a)	7c	976447	1170140
8 Income, Expenses, and Transfers for this Plan Year		**(a) Amount**	**(b) Total**
a Contributions received or receivable from: (1) Employers	8a(1)	37814	
(2) Participants	8a(2)		
(3) Others (including rollovers)	8a(3)		
b Other income (loss)	8b	158485	
c Total income (add lines 8a(1), 8a(2), 8a(3), and 8b)	8c		196299
d Benefits paid (including direct rollovers and insurance premiums to provide benefits)	8d		
e Certain deemed and/or corrective distributions (see instructions)	8e		
f Administrative service providers (salaries, fees, commissions)	8f	2606	
g Other expenses	8g		
h Total expenses (add lines 8d, 8e, 8f, and 8g)	8h		2606
i Net income (loss) (subtract line 8h from line 8c)	8i		193693
j Transfers to (from) the plan (see instructions)	8j		

Part IV Plan Characteristics

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

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

Part V Compliance Questions

10 During the plan year:		Yes	No	Amount
a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? (See instructions and DOL's Voluntary Fiduciary Correction Program)	10a		X	
b Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 10a.)	10b		X	
c Was the plan covered by a fidelity bond?	10c	X		5000000
d Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	10d		X	
e Were any fees or commissions paid to any brokers, agents, or other persons by an insurance carrier, insurance service, or other organization that provides some or all of the benefits under the plan? (See instructions.)	10e		X	
f Has the plan failed to provide any benefit when due under the plan?	10f		X	
g Did the plan have any participant loans? (If "Yes," enter amount as of year-end.)	10g		X	
h If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	10h		X	
i If 10h was answered "Yes," check the box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3	10i			

Part VI Pension Funding Compliance

11	Is this a defined benefit plan subject to minimum funding requirements? (If "Yes," see instructions and complete Schedule SB (Form 5500) and line 11a below)	[X] Yes [ ] No
11a	Enter the unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40	**11a** 0
12	Is this a defined contribution plan subject to the minimum funding requirements of section 412 of the Code or section 302 of ERISA? (If "Yes," complete line 12a or lines 12b, 12c, 12d, and 12e below, as applicable.)	[ ] Yes [X] No
a	If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions, and enter the date of the letter ruling granting the waiver. Month _____ Day _____ Year _____	

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

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

Part VII Plan Terminations and Transfers of Assets

13a	Has a resolution to terminate the plan been adopted in any plan year?		[ ] Yes [X] No
	If "Yes," enter the amount of any plan assets that reverted to the employer this year	**13a**	
b	Were all the plan assets distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?		[ ] Yes [X] No
c	If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)		

13c(1) Name of plan(s):	**13c(2)** EIN(s)	**13c(3)** PN(s)

SCHEDULE SB (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Single-Employer Defined Benefit Plan Actuarial Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500 or 5500-SF.**

OMB No. 1210-0110

2017

This Form is Open to Public Inspection

For calendar plan year 2017 or fiscal plan year beginning 01/01/2017 and ending 12/31/2017

▶ **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
PENSION PLAN FOR HOURLY BARGAINING UNIT OF TECHNISAND - TROY GROVE

B Three-digit plan number (PN) ▶ 001

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
TECHNISAND, INC.

D Employer Identification Number (EIN)
34-1684239

E Type of plan: [X] Single [ ] Multiple-A [ ] Multiple-B

F Prior year plan size: [ ] 100 or fewer [X] 101-500 [ ] More than 500

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2017

2 Assets:

a Market value	**2a**	976409
b Actuarial value	**2b**	989027

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	0	0	0
b For terminated vested participants	12	159611	159611
c For active participants	36	875218	987969
d Total	48	1034829	1147580

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**	6.15 %
6 Target normal cost	**6**	0

Statement by Enrolled Actuary

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

SIGN HERE

Signature of actuary

07/13/2018
Date

MATTHEW R. KLEIN
Type or print name of actuary

17-06865
Most recent enrollment number

FINDLEY, INC.
Firm name

216-875-1900
Telephone number (including area code)

1660 W. SECOND STREET, SUITE 900
CLEVELAND, OH 44113-1461
Address of the firm

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

Part II Beginning of Year Carryover and Prefunding Balances

		(a) Carryover balance	(b) Prefunding balance
7	Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	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 8.47 %	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)		92
	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 6.34%		6
	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		98
	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	86.18%
15	Adjusted funding target attainment percentage	15	86.18%
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	96.06%
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
04/14/2017	16707	0			
07/18/2017	16707	0			
10/13/2017	4400	0			
			Totals ► 18(b)	37814	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	36802

20 Quarterly contributions and liquidity shortfalls:

a Did the plan have a "funding shortfall" for the prior year? [X] Yes [ ] No

b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? [X] Yes [ ] No

c If line 20a is "Yes," see instructions and complete the following table as applicable:

Liquidity shortfall as of end of quarter of this plan year

(1) 1st	(2) 2nd	(3) 3rd	(4) 4th
0	0	0	0

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

21 Discount rate:

a Segment rates:

1st segment:	2nd segment:	3rd segment:	
4.16%	5.72%	6.48%	☐ N/A, full yield curve used

b Applicable month (enter code)	**21b**	4
22 Weighted average retirement age	**22**	62

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**	0
b Excess assets, if applicable, but not greater than line 31a	**31b**	0

32 Amortization installments:

	Outstanding Balance	Installment
a Net shortfall amortization installment	158553	36749
b Waiver amortization installment		

33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount	**33**	
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)	**34**	36749

	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**	36749
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	**37**	36802
38 Present value of excess contributions for current year (see instructions)		
a Total (excess, if any, of line 37 over line 36)	**38a**	53
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 26 - Schedule of Active Participant Data

January 1, 2017 Valuation
Pension Plan for Hourly Bargaining Unit Employees of Technisand - Troy Grove
(EIN: 34-1684239; PN: 001)

Attained Age	Years of Credited Service									
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up
Under 25	-	-	-	-	-	-	-	-	-	-
25 to 29	-	3 (*)	-	-	-	-	-	-	-	-
30 to 34	-	-	3 (*)	1 (*)	-	-	-	-	-	-
35 to 39	-	1 (*)	4 (*)	-	-	-	-	-	-	-
40 to 44	-	1 (*)	3 (*)	1 (*)	1 (*)	-	-	-	-	-
45 to 49	-	1 (*)	2 (*)	1 (*)	1 (*)	1 (*)	1 (*)	-	-	-
50 to 54	-	-	1 (*)	1 (*)	-	-	2 (*)	-	-	-
55 to 59	-	-	2 (*)	-	1 (*)	-	2 (*)	-	-	-
60 to 64	-	-	-	-	1 (*)	-	1 (*)	-	-	-
65 to 69	-	-	-	-	-	-	-	-	-	-
70 & up	-	-	-	-	-	-	-	-	-	-

* Average compensation is not shown since there are fewer than 1,000 active participants in this plan

Appendix B

Statement of Actuarial Assumptions and Methods

Interest Rates

Funding: 24-month segment rates averaged through the end of August 2016 and published in September 2016:

		Pre MAP-21/ HATFA	Reflecting MAP-21/ HATFA
a.	First Rate, Years 1-5	1.34%	4.43%
b.	Second Rate, Years 5-20	4.03%	5.91%
c.	Third Rate, Years 20+	5.06%	6.65%
d.	Effective Interest Rate using the above rates	4.69%	6.34%
e.	Interest rate for developing expected value of assets, (limited by statute)	7.40%	

Mortality

Funding: RP-2000 static, non-generational Mortality Table as described in Regulation 1.430(h)(3) projected by Scale AA, to between 7 and 15 years beyond the year of the obligation, male and female, with combined rates for annuitants and nonannuitants.

Rates of Retirement

Age(s)	Rate
55	2%
56-59	1
60	4
61	10
62	16
63	12
64	35
65	100

Weighted Average Retirement Age is 62. This is the average retirement age for someone eligible to retire at all ages using the assumed retirement rates and no other decrements.

Appendix B (Continued)

Rates of Disability

100% of Table S-10 of the 11th Railroad Retirement Board Valuation (modified). Sample rates and ages are as follows.

Age(s)	Rate
25	.060%
40	.120
55	1.070

Rates of Turnover

Based on age and length of service as follows:

	Completed Years of Service			
Age	0	1	2	3+
25	17.37%	13.03%	8.68%	4.29%
35	12.11	9.08	6.05	2.86
40	9.47	7.11	4.74	2.14
45	6.84	5.13	3.42	1.43
55	1.58	1.18	0.79	0.00

Assumptions Made In Valuing Spouse's Benefit

Eighty-five percent of the male and fifty percent of the female employees included in the valuation are assumed to be married. These percentages are used as the probabilities that survivor benefits will be payable due to preretirement deaths. The wife is assumed to be three years younger than the husband.

Provision for Expenses

None. Expenses are paid outside of plan assets.

MAP-21 Elections

The MAP-21 segment rates have been used for minimum funding purposes as well as for the calculation of the AFTAP.

Standing Elections

The client has not signed an election that provides for the automatic use of the Carryover and/or Prefunding Balance if necessary at the end of the plan year to meet the minimum funding requirement.

Appendix B (Continued)

Asset Method	Funding: Market Value of Assets plus interest adjusted accrued but unpaid contributions as of the valuation date plus an adjustment to defer full recognition of investment losses and gains over a two-year period. The investment (gain)/loss for every year equals the market value at the beginning of the year projected to the end of the year using the interest rate above, but no greater than the third segment rate for the plan year, minus the end of the year actual market value. The actuarial value of assets will be no less than 90% and no more than 110% of the market value (including interest-adjusted accrued but unpaid contributions). Note that due to the regulatory constraint on the interest rate, a characteristic of this asset valuation method is that, over time, it may be more likely to produce an actuarial value of assets that is less than the market value of assets.
Employees Valued	Only participants as of the valuation date were valued.
Selection of Assumptions	The segment rates and mortality table used to determine minimum funding and funded ratios were based on methodology mandated by Internal Revenue Code and rates published by the Internal Revenue Service to affect it. A complete review of non-economic assumptions, to satisfy ASOP 35, was done in 2011, but we monitor the gains and losses annually to ensure the assumptions are still reasonable.
Changes in Assumptions and Methods since the Last Actuarial Valuation	The interest rates used for determining the funding target were 4.72%, 6.11% and 6.81%. These rates were updated to the rates required for the current plan year. The mortality table for the funding target was changed as required under PPA ’06. The expected return on assets was 7.50%.
Justification for Changes in Actuarial Assumptions	The only assumption changes were to prescribed actuarial assumptions or as a result of At-Risk status. Therefore, the plan did not need IRS approval to change assumptions and there is no need to disclose any “Change in Actuarial Assumptions.”

SCHEDULE SB (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Single-Employer Defined Benefit Plan Actuarial Information

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▶ **File as an attachment to Form 5500 or 5500-SF.**

OMB No. 1210-0110

2017

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▶ **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
PENSION PLAN FOR HOURLY BARGAINING UNIT OF TECHNISAND - TROY GROVE

B Three-digit plan number (PN) ▶ 001

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
Technisand, Inc.

D Employer Identification Number (EIN)
34-1684239

E Type of plan: [X] Single [ ] Multiple-A [ ] Multiple-B

F Prior year plan size: [ ] 100 or fewer [X] 101-500 [ ] More than 500

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2017

2 Assets:

a Market value	**2a**	976,409
b Actuarial value	**2b**	989,027

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	0	0	0
b For terminated vested participants	12	159,611	159,611
c For active participants	36	875,218	987,969
d Total	48	1,034,829	1,147,580

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**	6.15%
6 Target normal cost	**6**	0

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

MRK — Signature of actuary

7-13-2018 — Date

MATTHEW R. KLEIN — Type or print name of actuary

1706865 — Most recent enrollment number

FINDLEY, INC. — Firm name

216-875-1900 — Telephone number (including area code)

1660 W. SECOND STREET, SUITE 900

CLEVELAND OH 44113-1461 — Address of the firm

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

Part II Beginning of Year Carryover and Prefunding Balances

		(a) Carryover balance	(b) Prefunding balance
7	Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	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 8.47%	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)		92
	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 6.34%		6
	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		98
	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	86.18%
15	Adjusted funding target attainment percentage	15	86.18%
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	96.06%
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
04/14/2017	16,707	0			
07/18/2017	16,707	0			
10/13/2017	4,400	0			
			Totals ▶ 18(b)	37,814	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	36,802

20 Quarterly contributions and liquidity shortfalls:

a Did the plan have a "funding shortfall" for the prior year? [X] Yes [ ] No

b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? [X] Yes [ ] No

c If line 20a is "Yes," see instructions and complete the following table as applicable:

Liquidity shortfall as of end of quarter of this plan year

(1) 1st	(2) 2nd	(3) 3rd	(4) 4th
0	0	0	0

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

21 Discount rate:

a Segment rates:

1st segment:	2nd segment:	3rd segment:	
4.16 %	5.72 %	6.48%	☐ N/A, full yield curve used

b Applicable month (enter code)	21b	4
22 Weighted average retirement age	22	62

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	0
b Excess assets, if applicable, but not greater than line 31a	31b	0

32 Amortization installments:

	Outstanding Balance	Installment
a Net shortfall amortization installment	158,553	36,749
b Waiver amortization installment		

33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount	33	
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)	34	36,749

	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	36,749
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	37	36,802
38 Present value of excess contributions for current year (see instructions)		
a Total (excess, if any, of line 37 over line 36)	38a	53
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 (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Single-Employer Defined Benefit Plan Actuarial Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500 or 5500-SF.**

OMB No. 1210-0110

2017

This Form is Open to Public Inspection

For calendar plan year 2017 or fiscal plan year beginning 01/01/2017 and ending 12/31/2017

▶ **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
PENSION PLAN FOR HOURLY BARGAINING UNIT OF TECHNISAND - TROY GROVE

B Three-digit plan number (PN) ▶ 001

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
Technisand, Inc.

D Employer Identification Number (EIN)
34-1684239

E Type of plan: [X] Single [ ] Multiple-A [ ] Multiple-B

F Prior year plan size: [ ] 100 or fewer [X] 101-500 [ ] More than 500

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2017

2 Assets:

a Market value	**2a**	976,409
b Actuarial value	**2b**	989,027

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	0	0	0
b For terminated vested participants	12	159,611	159,611
c For active participants	36	875,218	987,969
d Total	48	1,034,829	1,147,580

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**	6.15%
6 Target normal cost	**6**	0

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

MRK — Signature of actuary

7-13-2018 — Date

MATTHEW R. KLEIN — Type or print name of actuary

1706865 — Most recent enrollment number

FINDLEY, INC. — Firm name

216-875-1900 — Telephone number (including area code)

1660 W. SECOND STREET, SUITE 900

CLEVELAND OH 44113-1461 — Address of the firm

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

Part II Beginning of Year Carryover and Prefunding Balances

		(a) Carryover balance	(b) Prefunding balance
7	Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	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 8.47%	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)		92
	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 6.34%		6
	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		98
	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	86.18%
15	Adjusted funding target attainment percentage	15	86.18%
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	96.06%
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
04/14/2017	16,707	0			
07/18/2017	16,707	0			
10/13/2017	4,400	0			
			Totals ▶ 18(b)	37,814	18(c) 0

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21 Discount rate:

a Segment rates:

1st segment:	2nd segment:	3rd segment:	
4.16 %	5.72 %	6.48%	☐ N/A, full yield curve used

b Applicable month (enter code)	21b	4
22 Weighted average retirement age	22	62

23 Mortality table(s) (see instructions) ☒ Prescribed - combined ☐ Prescribed - separate ☐ Substitute

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26 Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment. ☒ Yes ☐ No

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	Outstanding Balance	Installment
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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
Pension Plan for Hourly Bargaining Unit Employees of Technisand – Troy Grove
January 1, 2017 Valuation
EIN/PN: 34-1684239 / 001

Rates of Retirement

Age(s)	Under 25 Years of Service	Over 25 Years of Service
55	2%	5%
56-59	1	5
60	4	10
61	10	10
62	16	25
63	12	25
64	35	25
65	100	100

Weighted Average Retirement Age is 62. This is the average retirement age for someone eligible to retire at all ages using the assumed retirement rates and no other decrements.

Appendix A

Summary of Principal Plan Provisions

Plan Sponsor	Technisand Inc.-Troy Grove
EIN/PN	34-1684239/001
Effective Date	November 21, 1991; amended and restated effective January 1, 2010.
Last Bargaining Agreement	Effective November 22, 2011, one-year extension of agreement until November 22, 2016.
Plan Year	The 12-month period beginning each January 1.
Participation	An employee covered by the Collective Bargaining Agreement with the Aluminum, Brick, and Glassworkers International Union AFL-CIO, CLC, and its Local 427G enters the Plan upon completion of one year of service and attainment of age 20½.
Vesting Service	One year of vesting service is earned for each plan year in which 1,000 hours are worked.
Credited Service	One-twelfth of a year of credited service is granted for each 173⅓ hours and part thereof completed in a Plan Year.
Accrued Benefit	A monthly life annuity with 120 payments certain starting at age 65 equal to the benefit unit at termination multiplied by the number of years of Credited Service.

Date of Termination	Benefit Unit
Prior to 1/01/1995	$14.00
1/01/1995 to 12/31/1995	15.00
1/01/1996 to 12/31/1996	16.00
1/01/1997 to 12/31/1997	17.00
1/01/1998 to 12/31/1998	18.00
1/01/1999 to 12/31/1999	19.00
1/01/2000 to 11/24/2000	20.00
11/25/2000 to 11/21/2003	21.00
11/22/2003 to 11/21/2004	22.00
11/22/2004 to 11/21/2005	23.00
11/22/2005 to 11/21/2006	24.00
11/22/2006 to 11/21/2007	25.00
11/22/2007 to 11/21/2008	26.00
11/22/2008 to 11/21/2009	27.00
11/22/2009 to 11/21/2010	28.00

Appendix A (Continued)

Accrued Benefit (Continued)	11/22/2010 to 11/21/2011 29.00 11/22/2011 to 11/21/2012 30.00 11/22/2012 to 11/21/2013 31.00 11/22/2013 to 11/21/2014 32.00 11/22/2014 and after 33.00
Normal Retirement Benefit	*Eligibility:* Age 65 or, if later, fifth anniversary of joining the Plan. *Monthly Benefit:* The Accrued Benefit.
Early Retirement Benefit	*Eligibility:* Age 55 and 10 years of Vesting Service. *Monthly Benefit:* The Accrued Benefit at early retirement reduced by 0.5% for each month retirement precedes age 65.
Disability Retirement Benefit	*Eligibility:* Permanent and total disability after completion of at least 10 years of Vesting Service. *Monthly Benefit:* The Accrued Benefit.
Termination Benefit	*Eligibility:* Upon termination of employment prior to retirement but after completion of at least five years of Vesting Service a participant is 100% vested. *Monthly Benefit:* The vested benefit commences in full at age 65, or in a reduced amount under the early retirement provisions if at least 10 years of Vesting Service had been completed.

Appendix A (Continued)

Death Benefit	*Eligibility:* 100% vested and married for at least one year. *Monthly Benefit:* A monthly benefit for life commencing at the time the participant would have been eligible for retirement. The benefit is equal to 50% of the benefit vested on the date of death, adjusted as appropriate for early commencement and the 50% Joint and Survivor Annuity form of payment.
Optional Forms Available	The following optional forms are available under this plan: Life Annuity; 5, 10, and 15 Year Certain and Continuous Annuity; 50%, 75% and 100% Joint and Survivor Annuity. See Lump Sums below. Optional forms are determined using the 1994 Group Reserve Table (male and female) for mortality and 5.5% interest.
Benefits Available as Lump Sums	This plan pays only small benefit amounts (lump sums less than $1,000).
Changes in Plan Provisions	The automatic changes, if any, in the maximum benefit limit were recognized.

Schedule SB, Line 32 – Schedule of Amortization Bases
Pension Plan for Hourly Bargaining Unit Employees of Technisand – Troy Grove
January 1, 2017 Valuation
EIN/PN: 34-1684239 / 001

Exhibit VII

Schedule of Amortization Bases

Plan Year Beginning **1/01/2017**

	Date Established	Present Value of Payments	Remaining Years	Amortization Installment
Shortfall Amortization Bases	1/01/2017	$ 134,101	7	$ 22,021
	1/01/2016	24,632	6	4,584
	1/01/2015	6,421	5	1,391
	1/01/2014	(14,291)	4	(3,794)
	1/01/2013	(20,221)	3	(7,017)
	1/01/2012	17,041	2	8,694
	1/01/2011	10,870	1	10,870
	Total	$ 158,553		$ 36,749
Waiver Amortization Bases	1/01/2017	$ 0		$ 0

Schedule SB, line 24 – Change in Actuarial Assumptions
Pension Plan for Hourly Bargaining Unit Employees of Technisand – Troy Grove
January 1, 2017 Valuation
EIN/PN: 34-1684239 / 001

Changes in Assumptions and Methods since the Last Actuarial Valuation

The retirement rates were changed to better reflect those for participants who are eligible for unreduced retirement with attainment of 25 years of vesting service and 75 points.

Due to the unreduced early retirement provision the Weighted Average Retirement age changed from 63 to 62.