

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 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 2022 This Form is Open to Public Inspection
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Part I	Annual Report Identification Information
For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022	
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.) ☒ 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)
E If this is a retroactively adopted plan permitted by SECURE Act section 201, check here.	☐

Part II	Basic Plan Information —enter all requested information
1a Name of plan ADVANCED EMISSIONS SOLUTIONS, INC. PROFIT SHARING RETIREMENT PLAN	1b Three-digit plan number (PN) ▶ 001
	1c Effective date of plan 01/01/1988
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) ADVANCED EMISSIONS SOLUTIONS, INC. 8051 E. MAPLEWOOD AVE. SUITE 210 GREENWOOD VILLAGE, CO 80111	2b Employer Identification Number (EIN) 27-5472457 2c Plan Sponsor's telephone number 720-598-3592 2d Business code (see instructions) 541330

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	Filed with authorized/valid electronic signature.	10/02/2023	LORRAINE LANG
	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

For Paperwork Reduction Act Notice, see the Instructions for Form 5500.

Form 5500 (2022)
v. 220413

3a Plan administrator's name and address ☒ Same as Plan Sponsor		3b Administrator's EIN
		3c Administrator's telephone number
4 If the name and/or EIN of the plan sponsor 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
5 Total number of participants at the beginning of the plan year		5 188
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) 140
a(2) Total number of active participants at the end of the plan year		6a(2) 146
b Retired or separated participants receiving benefits		6b 0
c Other retired or separated participants entitled to future benefits.....		6c 48
d Subtotal. Add lines 6a(2) , 6b , and 6c		6d 194
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.		6e 0
f Total. Add lines 6d and 6e		6f 194
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item).....		6g 180
h Number of participants who 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: 2E 2F 2G 2J 2K 2T 3D		
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) ☐ 0 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)

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 2022 Form M-1 annual report. If the plan was not required to file the 2022 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 _____

SCHEDULE C (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Service Provider Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110
		2022
		This Form is Open to Public Inspection.

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan ADVANCED EMISSIONS SOLUTIONS, INC. PROFIT SHARING RETIREMENT PLAN	B Three-digit plan number (PN) ▶	001
C Plan sponsor's name as shown on line 2a of Form 5500 ADVANCED EMISSIONS SOLUTIONS, INC.	D Employer Identification Number (EIN) 27-5472457	

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
CHARLES SCHWAB & CO. INC. AFFIL
94-1737782

(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)

SYM FINANCIAL ADVISORS

35-1550787

(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 50	NONE	47948	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

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

SCHWAB RETIREMENT PLAN SERVICES, INC

34-1479833

(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?
15 50 64	NONE	23575	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
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(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:

SCHEDULE H (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	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 2022 This Form is Open to Public Inspection
For calendar plan year 2022 or fiscal plan year beginning <u>01/01/2022</u> and ending <u>12/31/2022</u>		
A Name of plan <u>ADVANCED EMISSIONS SOLUTIONS, INC. PROFIT SHARING RETIREMENT PLAN</u>	B Three-digit plan number (PN) ►	<u>001</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>ADVANCED EMISSIONS SOLUTIONS, INC.</u>	D Employer Identification Number (EIN) <u>27-5472457</u>	

Part I	Asset and Liability Statement		
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) Beginning of Year	(b) End of Year
a Total noninterest-bearing cash.....		1a	
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions.....		1b(1)	0
(2) Participant contributions.....		1b(2)	
(3) Other.....		1b(3)	
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit).....		1c(1)	361966
(2) U.S. Government securities		1c(2)	
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred		1c(3)(A)	
(B) All other		1c(3)(B)	
(4) Corporate stocks (other than employer securities):			
(A) Preferred		1c(4)(A)	
(B) Common.....		1c(4)(B)	
(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)	633306
(9) Value of interest in common/collective trusts.....		1c(9)	
(10) Value of interest in pooled separate accounts		1c(10)	
(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)	16694138
(14) Value of funds held in insurance company general account (unallocated contracts).....		1c(14)	
(15) Other		1c(15)	

1d Employer-related investments:		(a) Beginning of Year	(b) End of Year
(1) Employer securities	1d(1)		
(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	17689410	15359427

Liabilities

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

Net Assets

l Net assets (subtract line 1k from line 1f)	1l	17689410	15359427
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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) Amount	(b) Total
a Contributions:			
(1) Received or receivable in cash from: (A) Employers	2a(1)(A)	480550	
(B) Participants	2a(1)(B)	980870	
(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)		1461420
b Earnings on investments:			
(1) Interest:			
(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)	667	
(B) U.S. Government securities	2b(1)(B)		
(C) Corporate debt instruments	2b(1)(C)		
(D) Loans (other than to participants)	2b(1)(D)		
(E) Participant loans	2b(1)(E)	32280	
(F) Other	2b(1)(F)		
(G) Total interest. Add lines 2b(1)(A) through (F)	2b(1)(G)		32947
(2) Dividends: (A) Preferred stock	2b(2)(A)		
(B) Common stock	2b(2)(B)		
(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)	365267	
(D) Total dividends. Add lines 2b(2)(A) , (B) , and (C)	2b(2)(D)		365267
(3) Rents	2b(3)		
(4) Net gain (loss) on sale of assets: (A) Aggregate proceeds	2b(4)(A)		
(B) Aggregate carrying amount (see instructions)	2b(4)(B)		
(C) Subtract line 2b(4)(B) from line 2b(4)(A) and enter result	2b(4)(C)		0
(5) Unrealized appreciation (depreciation) of assets: (A) Real estate	2b(5)(A)		
(B) Other	2b(5)(B)		
(C) Total unrealized appreciation of assets. Add lines 2b(5)(A) and (B)	2b(5)(C)		0

		(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)		
(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)		-3357754
c Other income	2c		
d Total income. Add all income amounts in column (b) and enter total	2d		-1498120
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	760340	
(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)		760340
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)		
(2) Contract administrator fees	2i(2)		
(3) Investment advisory and management fees	2i(3)	47948	
(4) Other	2i(4)	23575	
(5) Total administrative expenses. Add lines 2i(1) through (4)	2i(5)		71523
j Total expenses. Add all expense amounts in column (b) and enter total	2j		831863
Net Income and Reconciliation			
k Net income (loss). Subtract line 2j from line 2d	2k		-2329983
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) ☒ Unmodified (2) ☐ Qualified (3) ☐ Disclaimer (4) ☐ Adverse

b Check the appropriate box(es) to indicate whether the IQPA performed an ERISA section 103(a)(3)(C) audit. Check both boxes (1) and (2) if the audit was performed pursuant to both 29 CFR 2520.103-8 and 29 CFR 2520.103-12(d). Check box (3) if pursuant to neither.

(1) ☒ DOL Regulation 2520.103-8 (2) ☐ DOL Regulation 2520.103-12(d) (3) ☐ neither DOL Regulation 2520.103-8 nor DOL Regulation 2520.103-12(d).

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

(1) Name: MOSS ADAMS

(2) EIN: 91-0189318

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:

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.)

	Yes	No	Amount
4a		X	

	Yes	No	Amount
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.)			
4b		X	
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.)			
4c		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.)			
4d		X	
e Was this plan covered by a fidelity bond?	X		1000000
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	
4f		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?			
4g		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?			
4h		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		
4i	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.)			
4j		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?			
4k		X	
l Has the plan failed to provide any benefit when due under the plan?			
4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)			
4m		X	
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.			
4n			

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? ☐ Yes ☒ No
If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

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 Was the plan a defined benefit plan covered under the PBGC insurance program at any time during this plan year? (See ERISA section 4021 and instructions.) ☐ Yes ☐ No ☐ Not determined
If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year _____.

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 sections 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 2022 This Form is Open to Public Inspection.
For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan ADVANCED EMISSIONS SOLUTIONS, INC. PROFIT SHARING RETIREMENT PLAN		B Three-digit plan number (PN) ► 001
C Plan sponsor's name as shown on line 2a of Form 5500 ADVANCED EMISSIONS SOLUTIONS, INC.		D Employer Identification Number (EIN) 27-5472457
Part I	Distributions	
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 0
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): 82-3967259		
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
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.)	
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, see the Instructions for Form 5500.		
Schedule R (Form 5500) 2022 v. 220413		

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that (1) contributed more than 5% of total contributions to the plan during the plan year or (2) was one of the top-ten highest contributors (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 deferred vested and retired participants (inactive participants), as of the beginning of the plan year, whose contributing employer is no longer making contributions to the plan for:	14a	
a The current plan year. Check the box to indicate the counting method used to determine the number of inactive participants: ☐ last contributing employer ☐ alternative ☐ reasonable approximation (see instructions for required attachment).....	14b	
b The plan year immediately preceding the current plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	14c	
c The second preceding plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)		
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): _____

20 PBGC missed contribution reporting requirements. If this is a multiemployer plan or a single-employer plan that is not covered by PBGC, skip line 20.

a Is the amount of unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 greater than zero? ☐ Yes ☐ No

b If line 20a is "Yes," has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box:

☐ Yes.

☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date.

☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date.

☐ No. Other. Provide explanation _____

Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan

*Year ended December 31, 2022
Financial Statements and Supplemental Schedule
with Report of Independent Auditors*

Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan

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Report of Independent Auditors

The Plan Administrative Committee
Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan

Report on the Audit of the Financial Statements

Scope and Nature of the ERISA Section 103(a)(3)(C) Audit

We have performed audits of the financial statements of Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan, an employee benefit plan subject to the Employee Retirement Income Security Act of 1974 (ERISA), as permitted by ERISA Section 103(a)(3)(C) (ERISA Section 103(a)(3)(C) audit). The financial statements comprise the statements of net assets available for benefits as of December 31, 2022 and 2021, and the related statement of changes in net assets available for benefits for the year ended December 31, 2022, and the related notes to the financial statements.

Management, having determined it is permissible in the circumstances, has elected to have the audits of Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan's financial statements performed in accordance with ERISA Section 103(a)(3)(C) pursuant to 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. As permitted by ERISA Section 103(a)(3)(C), our audits need not extend to any statements or information related to assets held for investment of the plan (investment information) by a bank or similar institution or insurance carrier that is regulated, supervised, and subject to periodic examination by a state or federal agency, provided that the statements or information regarding assets so held are prepared and certified to by the bank or similar institution or insurance carrier in accordance with 29 CFR 2520.103-5 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA (qualified institution).

Management has obtained certifications from a qualified institution as of December 31, 2022 and 2021, and for the year ended December 31, 2022, stating that the certified investment information, as described in Note 7 to the financial statements, is complete and accurate.

Opinion

In our opinion, based on our audits and on the procedures performed as described in the Auditor's Responsibilities for the Audit of the Financial Statements section:

- the amounts and disclosures in the accompanying financial statements, other than those agreed to or derived from the certified investment information, are presented fairly, in all material respects, in accordance with accounting principles generally accepted in the United States of America (GAAP).
- the information in the accompanying financial statements related to assets held by and certified to by a qualified institution agrees to, or is derived from, in all material respects, the information prepared and certified by an institution that management determined meets the requirements of ERISA Section 103(a)(3)(C).

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our ERISA Section 103(a)(3)(C) audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with GAAP, and for 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. Management's election of the ERISA Section 103(a)(3)(C) audit does not affect management's responsibility for the financial statements.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan's ability to continue as a going concern within one year after the date that the financial statements are available to be issued.

Management is also responsible for maintaining a current plan instrument, including all plan amendments, administering the plan, and determining that the plan's transactions that are presented and disclosed in the financial statements are in conformity with the plan's provisions, including maintaining sufficient records with respect to each of the participants, to determine the benefits due or which may become due to such participants.

Auditor's Responsibilities for the Audit of the Financial Statements

Except as described in the Scope and Nature of the ERISA Section 103(a)(3)(C) Audit section of our report, our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- exercise professional judgment and maintain professional skepticism throughout the audit.
- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan's internal control. Accordingly, no such opinion is expressed.

- evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan's ability to continue as a going concern for a reasonable period of time.

Our audits did not extend to the certified investment information, except for obtaining and reading the certification, comparing the certified investment information with the related information presented and disclosed in the financial statements, and reading the disclosures relating to the certified investment information to assess whether they are in accordance with the presentation and disclosure requirements of GAAP.

Accordingly, the objective of an ERISA Section 103(a)(3)(C) audit is not to express an opinion about whether the financial statements as a whole are presented fairly, in all material respects, in accordance with GAAP.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Other Matter

Supplemental Schedule Required by ERISA

The supplemental schedule of Schedule of Assets (Held at End of Year) as of December 31, 2022, is presented for purposes of additional analysis and is not a required part of the financial statements but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information included in the supplemental schedule, other than that agreed to or derived from the certified investment information, has been subjected to the auditing procedures applied in the audits of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with GAAS. For information included in the supplemental schedule that agreed to or is derived from the certified investment information, we compared such information to the related certified investment information.

In forming our opinion on the supplemental schedule, we evaluated whether the supplemental schedule, other than the information agreed to or derived from the certified investment information, including its form and content, is presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA.

In our opinion:

- the form and content of the supplemental schedule, other than the information in the supplemental schedule that agreed to or is derived from the certified investment information, is presented, in all material respects, in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosures under ERISA.
- the information in the supplemental schedule related to assets held by and certified to by a qualified institution agrees to, or is derived from, in all material respects, the information prepared and certified by an institution that management determined meets the requirements of ERISA Section 103(a)(3)(C).

Moss Adams LLP

Denver, Colorado
September 29, 2023

Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan

Statements of Net Assets Available for Benefits

	As of December 31,	
	2022	2021
ASSETS		
Investments at fair value	\$ 14,642,358	\$ 17,056,104
Receivables		
Employer contribution	555,947	480,550
Notes receivable from participants	717,069	633,306
Total receivables	1,273,016	1,113,856
Net assets available for benefits	<u>\$ 15,915,374</u>	<u>\$ 18,169,960</u>

See accompanying notes to the financial statements.

Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan
Statement of Changes in Net Assets Available for Benefits

	<u>Year Ended December 31,</u> <u>2022</u>
Additions:	
Investment (loss) income:	
Net depreciation in fair value of investments	\$ (3,358,817)
Interest	1,008
Dividends	365,267
	<u>(2,992,542)</u>
Contributions:	
Employer	555,947
Participants	980,870
Other	722
	<u>1,537,539</u>
Interest income on notes receivable from participants	32,280
Total investment loss and contributions	<u>(1,422,723)</u>
Deductions:	
Benefits paid to participants	760,340
Administrative expenses	71,523
Total deductions	<u>831,863</u>
Net change in net assets available for benefits	(2,254,586)
Net assets available for benefits at beginning of year	18,169,960
Net assets available for benefits at end of year	<u><u>\$ 15,915,374</u></u>

See accompanying notes to the financial statements.

Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan
Notes to Financial Statements

Note 1 - Description of the Plan

General

The Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan (the "Plan") is a defined contribution plan covering the employees of Advanced Emissions Solutions, Inc. ("ADES"), and its wholly-owned subsidiaries ADA-ES, Inc., Red River Environmental Products and ADA Carbon Solutions, LLC (collectively the "Company"). The Plan's investments are held in a trust fund (the "Trust") managed by the trustee, which is Charles Schwab Trust Bank (collectively the "Trustee"). The Plan's administrator is Advanced Emissions Solutions, Inc. (collectively the "Administrator").

Employees are eligible to participate in the Plan upon the employees' date of hire if they are at least 18 years of age.

Although it has not expressed any intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of Employee Retirement Income Security Act ("ERISA").

Contributions

Each year, participants may contribute up to 100% of annual compensation, either on a "before-tax" deferred compensation or on an "after-tax" ("Roth contributions") basis, not to exceed \$20,500 in 2022 (or \$27,000 for individuals age 50 or older electing to make catch-up contributions). Participants may also contribute amounts representing distributions from other qualified defined benefit, defined contribution plans, or IRAs ("Rollover"). Participants direct the investment of their contributions into various investment options offered by the Plan.

The Company will make the Safe Harbor Contributions in cash to eligible participants in the Plan in an amount equal to 3% of eligible compensation as defined by the Plan, during the applicable Plan Year, which is January 1 - December 31. Such contributions are fully vested and non-forfeitable. Participants are eligible to receive the Safe Harbor Contributions on January 1st, April 1st, July 1st or October 1st that coincides with or follows the date that the participant satisfies the age requirement. Additionally, the Company can elect to make a discretionary matching employer contribution up to 4% of eligible compensation as defined by the Plan. If the Company elects to make a discretionary matching employer contribution, participants must have completed one Year of Service (with at least 1,000 Hours of Service), as defined by the Plan. The Company did not make any discretionary matching contributions for the year ended December 31, 2022.

Participant Accounts

Each participant's account includes participant's contributions and Company nonelective contributions, as well as allocations of the Company's elective contributions and Plan earnings. Participant accounts are charged with an allocation of administrative expenses that are paid by the Plan. Allocations of Plan expenses are based on participant earnings, account balances, or specific participant transactions, as defined. The benefit to which a participant is entitled is the benefit that can be provided from the participant's vested account.

Vesting

Participants contributions are vested immediately plus actual earnings thereon. Further, the Company match and nonelective contributions are immediately vested at 100%.

Administrative Expenses

Each participant's account is charged with an allocation of administrative expenses, either on a pro-rata basis or an equal dollar basis.

Notes Receivable from Participants

Subject to their account balance, participants may borrow from their fund accounts a minimum of \$1,000 up to a maximum equal to the lesser of \$50,000 or 50% of their vested account balance. The loans are secured by 50% of the balance in the participant's account. The loan interest rate, determined at the time of the loan, is set monthly at 1% above the prime rate, as defined in the Plan. Principal and interest is paid ratably through monthly payroll deductions and partial repayments or accelerated payments are permitted. These loans are recorded at their unpaid principal balance plus any accrued but unpaid interest. Interest income on notes receivable from participants is recorded when it is earned. Related fees are deducted from participants accounts as incurred. As of December 31, 2022, the rates of interest on outstanding loans ranged from 4.25% to 7.25%, with various maturities through June 2035.

Payment of Benefits

On termination of service due to death, disability, or retirement, a participant may elect to receive either a lump sum amount equal to the value of a participant's vested interest in his or her account, or installments over a period of not more than their assumed life expectancy (or the assumed life expectancies of the participant and their beneficiary).

Forfeited Accounts

At December 31, 2022, forfeited accounts totaled zero. If there is an unvested balance of forfeited accounts, it may be used to reduce employer contributions and pay plan expenses.

The above information is intended as a general description of the Plan's operating guidelines. Reference should be made to the Plan documents for more specific provisions.

Note 2 - Summary of Significant Accounting Policies

Basis of Accounting

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"), using the accrual basis of accounting.

Use of Estimates

The preparation of the financial statements in conformity with U.S. GAAP requires estimates and assumptions that affect the amounts reported in these financial statements and accompanying notes. Actual results could differ from those estimates.

Investment Valuation and Income Recognition

Investments are reported at fair value. The Plan's Trustee certifies to the fair value of all investments.

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 Plan's valuation policies utilize information provided by the investment advisers and custodians. See Note 3 for discussion of fair value measurements.

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date. Net depreciation includes the Plan's gains and losses and unrealized appreciation and depreciation on those investments.

Notes Receivable from Participants

Notes receivable from participants are measured at their unpaid principal balance plus any accrued but unpaid interest. Interest income is recorded on the accrual basis. Related fees are deducted from participant accounts and are expensed when they are incurred. Delinquent notes receivable from participants are reclassified as distributions upon the occurrence of a distributable event, based on the terms of the Plan Agreement. No allowance for credit losses has been recorded as of December 31, 2022 and 2021.

Payment of Benefits

Benefits are recorded when paid.

Expenses

Certain expenses of maintaining the Plan are paid by the Plan, unless otherwise paid by the Company. Expenses that are paid by the Company are excluded from these financial statements. Fees related to the administration of notes receivable from participants are charged directly to a participant's account and are included in expenses. Investment related expenses are presented as administrative expenses in the Statement of Changes in Net Assets Available for Benefits. The Company pays the external auditor fees on behalf of the Plan.

Note 3 - Fair Value Measurements

Fair value is defined as 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 uses the hierarchy prescribed under accounting principles generally accepted in the United States ("U.S. GAAP") for fair value measurements, based upon the available inputs to the valuation and the degree to which they are observable or not observable in the market.

The three levels in the hierarchy are as follows:

- Level 1 Inputs - Quoted prices (unadjusted) for identical assets or liabilities in active markets that are accessible as of the measurement date;

- Level 2 Inputs - Inputs other than quoted prices within Level 1 that are observable either directly or indirectly, including but not limited to quoted prices in markets that are not active, quoted prices in active markets for similar assets or liabilities and observable inputs other than quoted prices such as interest rates or yield curves;
- Level 3 Inputs - Unobservable inputs reflecting the Company's own assumptions about the assumptions that market participants would use in pricing the asset or liability, including assumptions about risk

The asset or liability'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 techniques and inputs used for each major class of assets measured by the Plan. There have been no changes in the methodologies used at December 31, 2022 and 2021.

Money market: Value based on quoted prices in active markets for identical assets.

Mutual funds: Mutual funds are valued at the daily closing prices as reported by the fund. Mutual funds held by the Plan are open-end mutual funds that are registered with the U.S. Securities and Exchange Commission. These funds are required to publish their daily net asset value ("NAV") and to transact at that price. The mutual funds held by the Plan are deemed to be actively traded.

The following table set forth by level within the fair value hierarchy the Plan's investment assets at fair value, as of December 31, 2022 and 2021. Assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurements:

As of December 31, 2022				
Fair Value Measurement Using				
	Level 1	Level 2	Level 3	Assets at Fair Value
Money market	\$ 27,175	\$ —	\$ —	\$ 27,175
Mutual funds	14,615,183	—	—	14,615,183
Total assets at fair value	<u>\$ 14,642,358</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 14,642,358</u>

As of December 31, 2021				
Fair Value Measurement Using				
	Level 1	Level 2	Level 3	Assets at Fair Value
Money market	\$ 361,966	\$ —	\$ —	\$ 361,966
Mutual funds	16,694,138	—	—	16,694,138
Total assets at fair value	<u>\$ 17,056,104</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 17,056,104</u>

Note 4 - Tax Status

The Plan's underlying volume submitter plan document has received an opinion letter from the Internal Revenue Service (the "IRS") dated March 31, 2014 stating that the written form of the underlying volume submitter document is qualified under Section 401 of the Internal Revenue Code (the "Code"). Any employer adopting this volume submitter plan will be considered to have a plan qualified under Section 401 of the Code and therefore, the related trust is tax-exempt. Once qualified, the Plan is required to operate in conformity with the IRC to maintain its qualification. Although the Plan has been amended since the date of the opinion letter, the Plan Administrator believes the Plan is being operated in compliance with the applicable requirements of the Code and therefore, believes the Plan is qualified and the related trust is tax-exempt.

U.S. GAAP requires plan management to evaluate uncertain tax positions taken by the Plan. The financial statement effects of a tax position are recognized when the position is more likely than not, based on the technical merits, to be sustained upon examination by the IRS. The Plan Administrator has analyzed the tax positions taken by the Plan, and has concluded that as of December 31, 2022, there are no uncertain positions taken or expected to be taken. The Plan has recognized no interest or penalties related to uncertain tax positions. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress.

Note 5 - Commitments and Contingencies

The Plan, which is subject to the jurisdiction of the IRS and the Department of Labor ("DOL"), may be selected for a governmental investigation into the Plan's operations. Such matters are subject to many uncertainties and to outcomes, the financial impacts of which, are not predictable with assurance and that may not be known for extended periods of time. The Plan records a liability in its financial statements for costs related to claims, settlements, and judgments when the Plan has assessed that a loss is probable and an amount can be reasonably estimated. Estimates of probable losses resulting from investigative proceedings involving the Plan are inherently difficult to predict, particularly when the matters are in early procedural stages.

There were no significant commitments or contingencies as of December 31, 2022.

Note 6 - Risks and Uncertainties

The Plan invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the Statements of Net Assets Available for Benefits.

Note 7 - Information Certified by the Trustee

The Plan administrator has elected the method of compliance permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. Accordingly, Charles Schwab Trust Bank, collectively the Trustee of the Plan, has certified to the completeness and accuracy of the following:

- Investments and notes receivable from participants reflected on the accompanying statements of net assets available for benefits as of December 31, 2022 and 2021.
- Net depreciation in fair value of investments, dividends and interest, and interest income on notes receivable from participants reflected on the accompanying statement of changes in net assets available for benefits for the year ended December 31, 2022.
- Investments reflected on the schedule of assets (held at end of year).

Note 8 - Transactions with Parties-in-Interest

Party-in-interest transactions include certain plan investments in shares of mutual funds managed by Charles Schwab. Charles Schwab is the Trustee as defined by the Plan. Permissible Plan loans to participants are also party-in-interest transactions. These transactions are exempt from the prohibited rules under ERISA.

Note 9 - Reconciliation of Financial Statements to Form 5500

The following is a reconciliation of Net Assets Available for Benefits per the financial statements to the Form 5500 due to the Form 5500 being prepared on a cash basis:

	As of December 31,	
	2022	2021
Net Assets Available for Benefits per the financial statements	\$ 15,915,374	\$ 18,169,960
Employer contribution receivable	(555,947)	(480,550)
Net Assets Available for Benefits per the Form 5500	<u>\$ 15,359,427</u>	<u>\$ 17,689,410</u>

The following is a reconciliation of the changes in Net Assets Available for Benefits per the financial statements to the changes in Net Assets Available for Benefits per the Form 5500 due to the Form 5500 being prepared on a cash basis:

	Year Ended December 31,
	2022
Net Change in Net Assets Available for Benefits per the financial statements	\$ (2,254,586)
Employer contributions receivable allocated to participants	(75,397)
Other	—
Net Change in Net Assets Available for Benefits per the Form 5500	<u>\$ (2,329,983)</u>

Note 10 - Subsequent Events

Management evaluated subsequent events through September 29, 2023, the date financial statements were available to be issued.

Plan Merger

On February 1, 2023, ADES acquired all of the direct and indirect equity interests of Arq Limited's subsidiaries ("Arq"). Upon acquisition, management approved for employees of Arq to participate in the Plan, effective March 1, 2023. There were no transfers into the Plan from Arq employees.

Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan
Schedule H, line 4i - Schedule of Assets (Held at End of Year)
December 31, 2022
EIN: 27-5472457
Plan Number: 1

(a)	(b) Identify of Issue, Borrower, Lessor or Similar Party	(c) Description of Investments, including Maturity Date, Rate of Interest, Collateral, Par of Maturity Value	(d) Cost	(e) Current Value
	DFA Emerging Markets Portfolio	Mutual Fund	**	\$ 191,501
	DFA Intermediate Government Fixed Income Portfolio	Mutual Fund	**	63,292
	DFA International Value Portfolio	Mutual Fund	**	299,251
	DFA Large Cap International Portfolio	Mutual Fund	**	239,073
	DFA One-Year Fixed Income Portfolio	Mutual Fund	**	75,670
	DFA Real Estate Securities Portfolio	Mutual Fund	**	98,191
	DFA U.S. Large Cap Value Portfolio	Mutual Fund	**	507,135
	DFA U.S. Micro Cap Portfolio	Mutual Fund	**	126,806
	DFA U.S. Small Cap Value Portfolio	Mutual Fund	**	45,354
	Doubleline Total Return Bond Fund Class I	Mutual Fund	**	126,778
	Vanguard 500 Index Fund	Mutual Fund	**	537,433
	Vanguard Growth Index Fund	Mutual Fund	**	956,179
	Vanguard Mid-Cap Index Fund	Mutual Fund	**	248,270
	Vanguard Small-Cap Growth Index Fund	Mutual Fund	**	150,701
	Vanguard Small-Cap Index Fund	Mutual Fund	**	250,871
	Vanguard Target Retirement 2020 Fund	Mutual Fund	**	58,180
	Vanguard Target Retirement 2025 Fund	Mutual Fund	**	1,852,407
	Vanguard Target Retirement 2030 Fund	Mutual Fund	**	1,599,214
	Vanguard Target Retirement 2035 Fund	Mutual Fund	**	1,758,624
	Vanguard Target Retirement 2040 Fund	Mutual Fund	**	1,224,167
	Vanguard Target Retirement 2045 Fund	Mutual Fund	**	1,445,527
	Vanguard Target Retirement 2050 Fund	Mutual Fund	**	1,480,817
	Vanguard Target Retirement 2055 Fund	Mutual Fund	**	917,118
	Vanguard Target Retirement 2060 Fund	Mutual Fund	**	316,015
	Vanguard Target Retirement 2065 Fund	Mutual Fund	**	2,392
	Vanguard Target Retirement Income Fund	Mutual Fund	**	10,935
	Vanguard Total Bond Market Index Fund	Mutual Fund	**	33,282
*	Schwab Bank Savings	Money Market Fund	**	27,175
	Total investments at fair value			14,642,358
		Interest rates ranging from 4.25% to 7.25% with various maturities	-	717,069
				<u>\$ 15,359,427</u>

* Indicates party-in-interest to the Plan.

** Information is not required as investments are participant-directed.

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

NAME OF PLAN SPONSOR:	Advanced Emissions Solutions, Inc.
NAME OF PLAN:	Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan
EIN:	27-5472457
PLAN NUMBER:	001

(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
*	PARTICIPANT LOANS	Loans (4.25% - 7.25%)		717,069
*	SCHWAB BANK SAVINGS	Money Market / Cash Equivalent		27,175
	DFA EMERGING MARKETS	Registered Investment Company		191,501
	DFA INTERMED GOVT FIXED INCOME	Registered Investment Company		63,292
	DFA INTL VALUE PORTFOLIO	Registered Investment Company		299,251
	DFA LARGE CAP INTERNATIONAL	Registered Investment Company		239,073
	DFA ONE YEAR FIXED INCOME	Registered Investment Company		75,670
	DFA REAL ESTATE SECURITIES	Registered Investment Company		98,191
	DFA U.S. LARGE CAP VALUE	Registered Investment Company		507,135
	DFA US MICRO CAP	Registered Investment Company		126,806
	DFA US SMALL CAP VALUE PORT	Registered Investment Company		45,354
	DOUBLELINE TOTAL RETURN BOND I	Registered Investment Company		126,778
	VANGUARD 500 INDEX ADMIRAL	Registered Investment Company		537,433
	VANGUARD GROWTH INDEX ADMIRAL	Registered Investment Company		956,179
	VANGUARD MID CAP INDEX ADMIRAL	Registered Investment Company		248,270
	VANGUARD SMALL CAP GRTH INDEX	Registered Investment Company		150,701
	VANGUARD SMALL CAP INDEX ADMRL	Registered Investment Company		250,871
	VANGUARD TARGET RETIREMNT 2020	Registered Investment Company		58,180
	VANGUARD TARGET RETIREMNT 2025	Registered Investment Company		1,852,407
	VANGUARD TARGET RETIREMNT 2030	Registered Investment Company		1,599,214
	VANGUARD TARGET RETIREMNT 2035	Registered Investment Company		1,758,624
	VANGUARD TARGET RETIREMNT 2040	Registered Investment Company		1,224,167
	VANGUARD TARGET RETIREMNT 2045	Registered Investment Company		1,445,527
	VANGUARD TARGET RETIREMNT 2050	Registered Investment Company		1,480,817
	VANGUARD TARGET RETIREMNT 2055	Registered Investment Company		917,118
	VANGUARD TARGET RETIREMNT 2060	Registered Investment Company		316,015
	VANGUARD TARGET RETIREMNT 2065	Registered Investment Company		2,392
	VANGUARD TARGET RETMT INCOME	Registered Investment Company		10,935
	VANGUARD TTL BOND MKT IDX ADM	Registered Investment Company		33,282

* Party-in-interest