



Air Basics, Inc.

1580 Lincoln St • Suite 780 • Denver, CO 80203 • (303) 329-9295 • airbasicsinc.com

August 9, 2021

Colorado Department of Public Health & Environment
Air Pollution Control Division, APCD-SS-B1
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Subject: Magpie Operating Inc.
Richfield-Wirick-Federal 1

On behalf of Magpie Operating Inc. (Magpie), please accept the attached application for a gas venting individual permit.

Please find attached the following items:

Attachment	Form	Requesting
A	Filing Fees	
	Table of Fees	
	Check	
B	Completeness Checklist	
	Form APCD-100 Completeness Checklist	
C	Company Contact Info	
	Form APCD-101 Company Contact Information	
D	APENS/ Forms	
	Form APCD-211 Gas Venting APEN	IP
E	Supporting Calculations	
	Emissions Calculations	

If you have any questions on this submittal, please contact me by email at seyma@airbasicsinc.com.

Respectfully,

Seyma Yilmaz
Air Quality Engineer
Air Basics, Inc.

August 9, 2021

Date

Attachment A: Filing Fees

Breakdown of Filing Fees:

Richfield-Wirick-Federal 1 Permit Application	
	APEN - \$242.00
Gas Venting	1
TOTAL	\$242.00

Attachment B: Completeness Checklist



Oil & Gas Industry Construction Permit Application Completeness Checklist

Ver. November 29, 2012

Company Name: Magpie Operating, Inc.

Source Name: Richfield-Wirick-Federal 1

Date: 8/9/2021

Are you requesting a facility wide permit for multiple emissions points? Yes ☐ No ☒

In order to have a complete application, the following attachments must be provided, unless stated otherwise. If application is incomplete, it will be returned to sender and filing fees will not be refunded.

Attachment	Application Element	Applicant	APCD
A	APEN Filing Fees	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B	Air Pollutant Emission Notice(s) (APENs) & Application(s) for Construction Permit(s) – APCD Form Series 200	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C	Emissions Calculations and Supporting Documentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D	Company Contact Information - Form APCD-101	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E	Ambient Air Impact Analysis <input type="checkbox"/> Check here if source emits only VOC (Attachment E not required)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
F	Facility Emissions Inventory – Form APCD-102 <input checked="" type="checkbox"/> Check here if single emissions point source (Attachment F not required)	<input type="checkbox"/>	<input type="checkbox"/>
G	Process description, flow diagram and plot plan of emissions unit and/or facility <input checked="" type="checkbox"/> Check here if single emissions point source (Attachment G not required)	<input type="checkbox"/>	<input type="checkbox"/>
H	Operating & Maintenance (O&M) Plan – APCD Form Series 300 <input checked="" type="checkbox"/> Check here if true minor emissions source or application is for a general permit (Attachment H not required)	<input type="checkbox"/>	<input type="checkbox"/>
I	Regulatory Analysis <input checked="" type="checkbox"/> Check here to request APCD to complete regulatory analysis (Attachment I not required)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
J	Colorado Oil and Gas Conservation Commission (COGCC) 805 Series Rule Requirements– Form APCD-105 <input checked="" type="checkbox"/> Check here if source is not subject to COGCC 805 Series requirements (Attachment J not required)	<input type="checkbox"/>	<input type="checkbox"/>

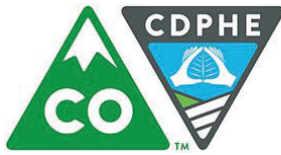
Send **Complete** Application to: **Colorado Department of Public Health & Environment**
APCD-SS-B1
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Check box if facility is an existing Title V source: ☐ Send an additional application copy

Check box if refined modeling analysis included: ☐ Send an additional application copy

Check box if application is for major NA NSR or PSD permit: ☐ Send eight (8) total application copies

Attachment C: Company Contact Information



Company Contact Information Form

Ver. September 10, 2008

Company Name: Magpie Operating Inc.

Source Name: Richfield-Wirick-Federal 1

Permit Contact¹:	Seyma Yilmaz		
Address:	1580 Lincoln Street Suite 780		
	Street		
	Denver	CO	80203
	City	State	Zip
Phone Number:	720-291-0586		
Fax Number:			
E-mail:	seyma@airbasicsinc.com		

Compliance Contact²:	Ross Warner		
Address:	2707 South County Road 11		
	Street		
	Loveland	CO	80537
	City	State	Zip
Phone Number:	720-309-9380		
Fax Number:	907-669-6396		
E-mail:	ross.magpieoil@gmail.com		

Billing Contact: (Permit Fees)³	Ryan Warner		
Address:	2707 South County Road 11		
	Street		
	Loveland	CO	80537
	City	State	Zip
Phone Number:	970-669-6308		
Fax Number:	970-669-6396		
E-mail:	magpieoil@yahoo.com		

Billing Contact: (Annual Fees)⁴	Ryan Warner		
Address:	2707 South County Road 11		
	Street		
	Loveland	CO	80537
	City	State	Zip
Phone Number:	970-669-6308		
Fax Number:	907-669-6396		
E-mail:	magpieoil@yahoo.com		

Check how would you like to receive your permit fee invoice?

 Mail: ☒

 E-mail: ☐

 Fax: ☐

Footnotes:

- ¹ The permit contact should be the point of contact for technical information contained in the permit application. This may be a company representative or a consultant.
- ² The compliance contact should be the point of contact for discussing inspection and compliance at the permitted facility.
- ³ The billing contact (Permit fees) should be the point of contact that should receive the invoice for fees associated with processing the permit application & issuing the permit. (Reg. 3, Part A, Section VI.B)
- ⁴ The billing contact (Annual fees) should be the point of contact that should receive the invoices issued on an annual basis for fees associated with actual emissions reported on APENs for the facility. (Reg. 3, Part A, Section VI.C)

Attachment D: APENS/ Forms



Gas Venting APEN - Form APCD-211

Air Pollutant Emission Notice (APEN) and Application for Construction Permit

All sections of this APEN and application must be completed for both new and existing facilities, including APEN updates. Incomplete APENs will be rejected and will require re-submittal. *Your APEN will be rejected if it is filled out incorrectly, is missing information, or lacks payment for the filing fee. The re-submittal will require payment for a new filing fee.*

This APEN is to be used only for gas venting emissions from gas/liquid separators, pneumatic pumps, and other events. If your emission source does not fall into this category, there may be a more specific APEN for your source (e.g. routine or predictable gas venting, amine sweetening unit, hydrocarbon liquid loading, etc.). Current guidance on the use of this form versus the Routine or Predictable Gas Venting APEN (Form APCD-213) can be found on the Air Pollution Control Division (APCD) website. In addition, the General APEN (Form APCD-200) is available if the specialty APEN options will not satisfy your reporting needs. A list of all available APEN forms can be found on the APCD website.

This emission notice is valid for five (5) years. Submission of a revised APEN is required 30 days prior to expiration of the five-year term, or when a reportable change is made (significant emissions increase, increase production, new equipment, change in fuel type, etc.). See Regulation No. 3, Part A, II.C. for revised APEN requirements.

Permit Number: _____

AIRS ID Number: _____ / _____ / _____

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 1 - Administrative Information

Company Name¹: Magpie Operating, Inc.

Site Name: Richfield-Wirick-Federal #1

Site Location: SESE Sec 14 T5N R88W

Site Location
County: Routt

Mailing Address:
(Include Zip Code) 2707 South County Road 11
Loveland, CO 80537

NAICS or SIC Code: 211111

Contact Person: Ross Warner

Phone Number: 720-309-9380

E-Mail Address²: ross.magpieoil@gmail.com

¹ Use the full, legal company name registered with the Colorado Secretary of State. This is the company name that will appear on all documents issued by the APCD. Any changes will require additional paperwork.

² Permits, exemption letters, and any processing invoices will be issued by the APCD via e-mail to the address provided.

Permit Number: _____

AIRS ID Number: _____

/ /

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 2 - Requested Action

☒ NEW permit OR newly-reported emission source

- OR -

☐ MODIFICATION to existing permit (check each box below that applies)

☐ Change fuel or equipment

☐ Change company name³

☐ Add point to existing permit

☐ Change permit limit

☐ Transfer of ownership⁴

☐ Other (describe below)

- OR -

☐ APEN submittal for update only (Note blank APENs will not be accepted)

- ADDITIONAL PERMIT ACTIONS -

☐ Limit Hazardous Air Pollutants (HAPs) with a federally-enforceable limit on Potential To Emit (PTE)

Additional Info & Notes: _____

³ For company name change, a completed Company Name Change Certification Form (Form APCD-106) must be submitted.

⁴ For transfer of ownership, a completed Transfer of Ownership Certification Form (Form APCD-104) must be submitted.

Section 3 - General Information

General description of equipment and purpose: Separator produced gas venting to ECD

Company equipment Identification No. (optional): _____

For existing sources, operation began on: _____

7/19/2021

For new, modified, or reconstructed sources, the projected start-up date is: _____

☒ Check this box if operating hours are 8,760 hours per year; if fewer, fill out the fields below:

Normal Hours of Source Operation: _____

hours/day

days/week

weeks/year

Will this equipment be operated in any NAAQS nonattainment area?

☐ Yes

☒ No

Is this equipment located at a stationary source that is considered a Major Source of (HAP) Emissions?

☐ Yes

☒ No

Is this equipment subject to Colorado Regulation No. 7, Part D, Section II.F?

☐ Yes

☒ No

Permit Number: _____

AIRS ID Number: _____

/ /

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 4 - Process Equipment Information☒ Gas/Liquid Separator☐ Vapor Recovery Tower☐ Pneumatic Pump

Make: _____ Model: _____ Serial #: _____ Capacity: _____ gal/min

☐ Compressor Rod Packing

Make: _____ Model: _____ # of Pistons: _____ Leak Rate: _____ Scf/hr/pist

☐ Other

Description: _____

If requested uncontrolled VOC emissions from a **Gas/Liquid Separator** are greater than 100 tpy in the ozone attainment area or greater than 50 tpy in the ozone nonattainment area, **Gas Venting** must be used as a process parameter.

Are requested uncontrolled VOC emissions from a **Gas/Liquid Separator** greater than 100 tpy (ozone attainment) or 50 tpy (ozone nonattainment)?

☐ Yes☒ No**Gas Venting****Process Parameters⁵:**

			Vent Gas Heating Value:	1392.997	BTU/SCF
Requested:	1.643	MMSCF/year	Actual:	1.095	MMSCF/year

-OR-**Liquid Throughput****Process Parameters⁵:**

Requested:		bbl/year	Actual:		bbl/year
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Vented Gas Properties:

Molecular Weight:	23.8688
VOC (Weight %)	37.650
Benzene (Weight %)	0.1147
Toluene (Weight %)	0.0244
Ethylbenzene (Weight %)	0.0013
Xylene (Weight %)	0.0045
n-Hexane (Weight %)	1.2046
2,2,4-Trimethylpentane (Weight %)	0.0016

Additional Required Documentation (not required for APEN updates):

- ☒ Attach a representative gas analysis (including BTEX & n-Hexane, temperature, and pressure) when **Gas Venting** is used as a process parameter
- ☐ Attach a representative pressurized extended liquids analysis (including BTEX & n-Hexane, temperature, and pressure) when **Liquid Throughput** is used as a process parameter

⁵ Requested values will become permit limitations or will be evaluated for exempt status, as applicable, and should consider future process growth. Requested values are required on all APENs, including APEN updates.

Permit Number: _____

AIRS ID Number: _____

/ /

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 5 - Geographical/Stack Information

Geographical Coordinates (Latitude/Longitude or UTM)
40.387100/-107.220050

☐ Check box if the following information is not applicable to the source because emissions will not be emitted from a stack. If this is the case, the rest of this section may remain blank.

Operator Stack ID No.	Discharge Height Above Ground Level (Feet)	Temp. (°F)	Flow Rate (ACFM)	Velocity (ft/sec)
Unknown	Unknown	Unknown	Unknown	Unknown

Indicate the direction of the stack outlet: (check one)

☒ Upward☐ Downward☐ Upward with obstructing raincap☐ Horizontal☐ Other (describe): _____

Indicate the stack opening and size: (check one)

☒ Circular

Interior stack diameter (inches): _____

☐ Square/rectangle

Interior stack width (inches): _____

Interior stack depth (inches): _____

☐ Other (describe): _____**Section 6 - Control Device Information**

☐ Check this box if no emission control equipment or practices are used to reduce emissions, and skip to the next section.

<input type="checkbox"/> VRU:	Pollutants Controlled: _____ Size: _____ Make/Model: _____ Requested Control Efficiency: _____ % VRU Downtime or Bypassed: _____ %
<input checked="" type="checkbox"/> Combustion Device:	Pollutants Controlled: <u>VOC, HAPs</u> Rating: _____ MMBtu/hr Type: <u>ECD</u> Make/Model: _____ Requested Control Efficiency: <u>95</u> % Manufacturer Guaranteed Control Efficiency: <u>98</u> % Minimum Temperature: _____ Waste Gas Heat Content: _____ Btu/scf Constant Pilot Light: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Pilot burner Rating: _____ MMBtu/hr
<input type="checkbox"/> Other:	Pollutants Controlled: _____ Description: _____ Requested Control Efficiency: _____ %

Permit Number: _____

AIRS ID Number: _____

/ /

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 7 - Criteria Pollutant Emissions Information

Attach all emission calculations and emission factor documentation to this APEN form (not required for APEN updates).

Is any emission control equipment or practice used to reduce emissions? ☒ Yes ☐ No

If yes, describe the control equipment AND state the requested control efficiencies (report the overall, or combined, values if multiple emission control methods were identified in Section 6):

Pollutant	Control Equipment Description	Overall Requested Control Efficiency (% reduction in emissions)
PM		
SO _x		
NO _x		
CO		
VOC	ECD	95
HAPs	ECD	95
Other:		

From what year is the following reported *actual annual emissions* data?2021

Use the following table to report the criteria pollutant emissions from source:

Pollutant	Emission Factor			Actual Annual Emissions		Requested Annual Permit Emission Limit(s) ⁵	
	Uncontrolled Basis	Units	Source (AP-42, Mfg., etc.)	Uncontrolled Emissions (tons/year)	Controlled Emissions ⁶ (tons/year)	Uncontrolled Emissions (tons/year)	Controlled Emissions (tons/year)
PM							
SO _x							
NO _x							
CO							
VOC	23,711.543	lb/MMscf	Representative Sample	12.982	0.649	19.473	0.974

⁵ Requested values will become permit limitations or will be evaluated for exempt status, as applicable, and should consider future process growth. Requested values are required on all APENs, including APEN updates.⁶ Annual emission fees will be based on actual controlled emissions reported. If source has not yet started operating, provide projected emissions.**Section 8 - Non-Criteria Pollutant Emissions Information**

Does the emissions source have any uncontrolled actual emissions of non-criteria pollutants (e.g. HAP - hazardous air pollutant) equal to or greater than 250 lbs/year?

☒ Yes☐ No

If yes, use the following table to report the non-criteria pollutant (HAP) emissions from source:

Chemical Name	Chemical Abstract Service (CAS) Number	Emission Factor			Actual Annual Emissions	
		Uncontrolled Basis	Units	Source (AP-42, Mfg., etc.)	Uncontrolled Emissions (lbs/year)	Controlled Emissions ⁶ (lbs/year)
Benzene	71432					
Toluene	108883					
Ethylbenzene	100414					
Xylene	1330207					
n-Hexane	110543	758.637	lb/MMscf	Representative Sample	830.708	41.535
2,2,4-Trimethylpentane	540841					
Other:						

⁶ Annual emission fees will be based on actual controlled emissions reported. If source has not yet started operating, provide projected emissions.

Permit Number: _____

AIRS ID Number: _____

/ /

[Leave blank unless APCD has already assigned a permit # and AIRS ID]

Section 9 - Applicant Certification

I hereby certify that all information contained herein and information submitted with this application is complete, true, and correct.

Signature of Legally Authorized Person (not a vendor or consultant)

Date

James Warner

President

Name (print)

Title

Check the appropriate box to request a copy of the:

- ☒ Draft permit prior to issuance
- ☒ Draft permit prior to public notice

(Checking any of these boxes may result in an increased fee and/or processing time)

This emission notice is valid for five (5) years. Submission of a revised APEN is required 30 days prior to expiration of the five year term, or when a reportable change is made (significant emissions increase, increase production, new equipment, change in fuel type, etc.). See Regulation No. 3, Part A, II.C. for revised APEN requirements.

Send this form along with \$242.00 to:

Colorado Department of Public Health and Environment
Air Pollution Control Division
APCD-SS-B1
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Make check payable to:

Colorado Department of Public Health and Environment

For more information or assistance call:

Small Business Assistance Program
(303) 692-3175
OR
(303) 692-3148

APCD Main Phone Number
(303) 692-3100

Attachment E: Supporting Calculations

LP Gas Venting Emissions Information

LP Gas Sample - Emission Factors				
Compound	Molecular Weight (lb/lbmol)	Mol %	Weight %	Emission Factors (lb/MMscf)
Oxygen/Argon	31.998		0.1540	96.987
Carbon Dioxide	44.009		1.5698	988.634
Nitrogen	28.014		1.2746	802.722
Methane	16.043		50.0657	31,530.559
Ethane	30.070		9.2858	5,848.045
Propane	44.097		14.8506	9,352.665
Isobutane	58.124		2.4967	1,572.381
n-Butane	58.124		8.3853	5,280.925
Isopentane	72.151		2.7129	1,708.540
n-Pentane	72.151		2.8550	1,798.032
Cyclopentane	70.135		0.3929	247.442
n-Hexane	86.178		1.2046	758.637
Cyclohexane	84.160		0.4485	282.458
Other Hexanes	86.178		2.6282	1,655.197
Heptanes	100.205		1.1394	717.575
Methylcyclohexane	98.189		0.3317	208.899
2,2,4-Trimethylpentane	114.232		0.0016	1.008
Benzene	78.114		0.1147	72.236
Toluene	92.141		0.0244	15.367
Ethylbenzene	106.168		0.0013	0.819
Xylenes	106.168		0.0045	2.834
Octanes	114.232		0.0343	21.602
Nonanes	128.259		0.0133	8.376
Decanes	142.286		0.0104	6.550
*assuming molar volume of 379 scf/lb-mol			VOC Total Emission Factor	23,711.543
EPA Emission Inventory Improvement Program Publication:				
Volume II, Chapter 10 - Displacement Equation (10.4-3)				



LP Gas Venting Emissions Information

LP Gas Emission Factors					
Pollutant	Emission Factor Source	Uncontrolled lb/MMscf			
VOC	Site Specific Sampling	23,711.543			
Benzene	Site Specific Sampling	72.236			
Toluene	Site Specific Sampling	15.367			
Ethylbenzene	Site Specific Sampling	0.819			
Xylene	Site Specific Sampling	2.834			
n-Hexane	Site Specific Sampling	758.637			
224-TMP	Site Specific Sampling	1.008			
Combustion Byproduct Emission Factors					
Pollutant	Emission Factor Source	Uncontrolled lb/MMBtu	Uncontrolled lb/MMscf	LP Gas Properties	
				Heating Value	1392.997 BTU/scf
NOx	AP-42 Chapter 13.5	0.068	94.724	Molecular Wt	23.8688 lb/lbmol
CO	AP-42 Chapter 13.5	0.31	431.829	VOC Wt %	37.650 %
PM10	AP-42 Table 1.4-2	0.0075	10.447	Source: Site Specific Sample	
PM2.5	AP-42 Table 1.4-2	0.0075	10.447		
SOx	AP-42 Table 1.4-2	0.0006	0.836		
LP Gas Emissions Inventory					
		Actual		PTE	
	Units	Uncontrolled	Controlled	Uncontrolled	Controlled
Annual Production	MMscf/yr	1.095		1.643	
PM	tons/yr	0.006	0.006	0.009	0.009
SOx	tons/yr	0.000	0.000	0.001	0.001
VOC	tons/yr	12.982	0.649	19.473	0.974
NOx	tons/yr	0.052	0.052	0.078	0.078
CO	tons/yr	0.236	0.236	0.355	0.355
Benzene	lb/yr	79.099	3.955	118.648	5.932
Toluene	lb/yr	16.827	0.841	25.240	1.262
Ethylbenzene	lb/yr	0.896	0.045	1.345	0.067
Xylene	lb/yr	3.103	0.155	4.655	0.233
n-Hexane	lb/yr	830.708	41.535	1,246.062	62.303
224-TMP	lb/yr	1.103	0.055	1.655	0.083





5530 Marshall Street
Arvada, Colorado 80002
Phone: 303-420-5949
Fax: 303-420-5920

EXTENDED GAS ANALYSIS

SAMPLE DATA

PROJECT NO..... OG-2021-0481
COMPANY NAME..... Magpie Operating, Inc.
SITE..... Richfield Wirick Federal 1
UNIT ID..... Richfield Wirick Federal 1
SAMPLED BY..... AJM

SAMPLE ID..... Separator Gas
ANALYSIS DATE..... 7/30/2021
SAMPLE DATE..... 7/30/2021
CYLINDER NO..... GV-49
LAB ANALYST..... CLB

FIELD DATA

SAMPLE PRESSURE..... 10.7 psig
AMBIENT PRESSURE..... 11.6 psi

SAMPLE TEMP..... 100 F
AMBIENT TEMP..... 70 F

COMMENTS:

LABORATORY DATA

COMPONENT	MOLE %	WT%	GPM
HYDROGEN SULFIDE.....	0.0000	0.0000	0.0000
CARBON DIOXIDE.....	0.8514	1.5698	0.1456
NITROGEN.....	1.0860	1.2746	0.1197
METHANE.....	74.4903	50.0657	12.6531
ETHANE.....	7.3710	9.2858	1.9752
PROPANE.....	8.0386	14.8506	2.2190
ISOBUTANE.....	1.0253	2.4967	0.3362
N-BUTANE.....	3.4435	8.3853	1.0878
ISOPENTANE.....	0.8975	2.7129	0.3289
N-PENTANE.....	0.9445	2.8550	0.3430
CYCLOPENTANE.....	0.1337	0.3929	0.0397
N-HEXANE.....	0.3337	1.2046	0.1375
CYCLOHEXANE.....	0.1272	0.4485	0.0434
OTHER HEXANES.....	0.7344	2.6282	0.2871
HEPTANES.....	0.2729	1.1394	0.1224
METHYLCYCLOHEXANE.....	0.0806	0.3317	0.0325
2,2,4 TRIMETHYLPENTANE.....	0.0003	0.0016	0.0002
BENZENE.....	0.0350	0.1147	0.0098
TOLUENE.....	0.0063	0.0244	0.0021
ETHYLBENZENE.....	0.0003	0.0013	0.0001
XYLENES.....	0.0010	0.0045	0.0004
OCTANES.....	0.0072	0.0343	0.0034
NONANES.....	0.0025	0.0133	0.0013
DECANES.....	0.0018	0.0104	0.0010
SUBTOTAL	99.8851	99.8460	19.8892
OXYGEN/ARGON	0.1149	0.1540	0.0102
TOTAL	100.00	100.00	19.90

BTU @

MOLECULAR WEIGHT.....	23.8688	NET DRY REAL	1262.9908 /scf
RELATIVE DENSITY (AIR=1).....	0.8241		
COMPRESSIBILITY FACTOR.....	0.9955	GROSS DRY REAL	1392.9974 /scf
		GROSS WET REAL	1368.4828 /scf