5/4/2021

NRCS Diesel Engine Emissions Inventory Worksheet

USDA United States Department of Agriculture
Natural Resources Conservation Service

Contract No.: [SIP ID: 3776]

Participant Name:

Service Center: Madera

Old Engine(s)

Equipment Function	Tractor	Engine Serial No.	[redacted]	Destruction Facility	A & S Metals
Vehicle Manufacturer	John Deere	EPA Engine Family		Destruction Location	644 E Olive Ave, Fresno
Vehicle Model	2640	Engine Fuel Type	Diesel, Non-Tier	Date Destroyed	5/27/2020
Equipment VIN	[redacted]	Horse Power	84	Verified By Name	[redacted]
Engine Make	Deere Power Systems Group Of	Annual Hours	1000	Verification Date	5/27/2020
Engine Model No.	5277981	Initial Hour Meter Reading			
Engine Model Year	1978				

New Engine(s)

Equipment Function	Tractor	Engine Serial No.	[redacted]
Vehicle Manufacturer	John Deere	EPA Engine Family	KJDXL04.5315
Vehicle Model	5100ML	Engine Fuel Type	Diesel, Tier 4 Final
Equipment VIN	[redacted]	Horse Power	100
Engine Make	John Deere Power Systems	Annual Hours	1000
Engine Model No.	4045HLV78	Initial Hour Meter Reading	94
Engine Model Year	2019		

OLD Tractor.

USDA

~~BASELINE~~ IN-USE EQUIPMENT AND ENGINE WORKSHEET

California Air Quality – CPS 372 Combustion System Improvement
USDA Natural Resources Conservation Service

The applicant is to complete a separate worksheet for each in-use equipment/engine
See Instructions on the back before answering questions below

Applicant Name: [redacted]

1. Report the total acres this equipment/engine serves: 38
2. Years operated on these acres:

3. Fuel Type
- [x] Diesel
- [ ] B20 diesel
- [ ] B100 biodiesel
- [ ] Other:

4. Emissions Tier Level:
- [x] Non-Tier
- [ ] Tier 1
- [ ] Tier 2

5. Describe the in-use equipment (check one):
- [x] Wheeled Tractor
- [ ] Rubber-Tired Loader
- [ ] Tracked Tractor
- [ ] Rough-Terrain Forklift
- [ ] Bulldozer
- [ ] Stationary Diesel-Powered Irrigation
- [ ] Portable Diesel-Powered Irrigation
- [ ] Other:

6. Name of Equipment/Engine Owner: [redacted]
7. Year Purchased: 1989

8. Equipment Manufacturer: John Deere
9. Equipment Model: 2640
10. Equipment Model Year: ~87
11. Equipment VIN: [redacted]
12. Annual Hours of Operation: 1000
13. Annual Fuel Usage (gal/year): 492 gal

14. Engine Manufacturer: JD - 2640
15. Engine Model: 5277981
16. Engine Model Year: 1978
17. Engine Serial No: [redacted]
18. Engine Horsepower (bhp): ~~89~~ 84 hp ~ 75hp
19. PTO Horsepower: *(if applicable)*

20. EPA Engine Family Name: *(For Tier 1 or 2, attach the ARB Executive Order)* n/a

21. Months in Operation:
- [ ] January
- [ ] February
- [ ] March
- [ ] April
- [ ] May
- [ ] June
- [ ] July
- [ ] August
- [ ] September
- [ ] October
- [ ] November
- [ ] December
- [x] Operates throughout the year

22. The planned location on where the equipment/engine will be scrapped and properly disposed:

23. *The applicant is to provide two documents verifying engine and equipment ownership and one document verifying the equipment/engine operations over the previous 12-consecutive month period prior to the submittal of this worksheet and EQIP application.*

24. Additional Information:

Purchase ~~1989~~ 2014.

NRCS, CA
December 2015

Instructions
BASELINE IN-USE EQUIPMENT AND ENGINE WORKSHEET

1. **Report the total acres this equipment/engine serves:** The total acres this off-road mobile agricultural equipment operates on or the total acres being irrigated from the well powered by this diesel engine.
2. **Years Operated on these acres:** Approximate length of time the engine & equipment has been operating at this location.
3. **Fuel Type:** All fuels must be suitable for use in a compression-ignition engine and meet California Air Resources Board (CARB) standards. "Diesel" is represented as petroleum-based "CARB diesel" and may be blended with up to 5% biodiesel (B5). "B20 diesel" is petroleum-based CARB diesel blend of up to 20% biodiesel. "B100" is non petroleum-based biodiesel. More information on California diesel fuels may be found at: http://www.arb.ca.gov/fuels/diesel/diesel.htm.
4. **Emissions Tier Level:** Select "Non-Tier" for non-emissions certified or uncontrolled emissions diesel engines. Select "Tier 1" or "Tier 2" for emissions-certified diesel engines. Please consult your engine vendor.
5. **Describe the in-use equipment:** Check the box that best describes the in-use equipment. If "other", please describe (e.g. forage harvester, combine, sprayer, shaker, etc.).
6. **Name of Equipment/Engine Owner:** Identify ownership (see No. 23).
7. **Year Purchased:** The year the equipment was purchased by the owner (see No. 6 and No. 23)
8. **Equipment Manufacturer:** The equipment make. For example, Case IH, John Deere, Massey Fergusson, Ford, etc.
9. **Equipment Model**: The manufacturer's equipment model designation. For example, 1600, 3300, 294S, etc.
10. **Equipment Model Year:** The year in which the equipment was manufactured.
11. **Equipment VIN:** The equipment Vehicle or Product Identification Number (not the engine serial number).
12. **Annual Hours of Operation:** Report the engine's actual annual hours of operation on the acres reported, which will be used for estimating baseline operations. *Exaggerating hours may affect the project screening and ranking, or deem the project ineligible.*
13. **Annual Fuel Usage (gal/year):** The amount of fuel use yearly in gallons. Annual fuel consumption may be used for estimating the baseline annual hours of operation.
14. **Engine Manufacturer:** The make of the diesel engine (e.g. Cummins, John Deere, Perkins, Caterpillar, Fiat, Ford, etc.)
15. **Engine Model:** The model number of the in-use engine. For example, 6BTA5.9C.
16. **Engine Model Year:** The year the engine was manufactured (this can be different than the equipment model year).
17. **Engine Serial No.:** The engine serial number listed on the engine block or engine identification label.
18. **Engine Horsepower (bhp)**: The manufacturer's rated advertised brake (or gross) horsepower. Do not report "net", "peak" or "PTO" horsepower. If not available, estimate engine horsepower by multiplying the PTO horsepower by 1.20.
19. **PTO Horsepower:** The advertised PTO horsepower if the equipment is equipped with a power take-off unit (e.g. a tractor).
20. **EPA Engine Family Name:** ***Only for Tier 1 or 2 -certified diesel engines.*** Identify the engine family name assigned by the EPA. If available, attach the applicable CARB Executive Order for this engine, which should be available through your engine vendor or on-line at: www.arb.ca.gov/msprog/offroad/cert/cert.php.
21. **Months in Operation:** Select whether the in-use engine operates throughout the year or on specific months.
22. **The planned location on where equipment/engine will be scrapped and properly disposed:** Identify where the equipment/engine is planned for final destruction and disposal. Knocking a hole in the block only disables the engine and does not render the engine and equipment as being destroyed. Destruction and final disposal is at a mutually approved metal scrap yard location in California.
23. **Ownership and Operations Verification:** Provide two documents verifying ownership and one document verifying operation status for the existing equipment/engine. Ownership documents may include bill of sale, insurance records, bank appraisals, maintenance or service records, general ledgers, fuel records, or other documents. Operations documents may include maintenance or service records, usage records, routine inspections, hour meter reading logs, historical fuel usage logs, or other documents. Please refer to CPS 372-Specifications for more information.
24. **Additional Information**: Include any information pertinent to this equipment/engine, including and not limited to: evaluating other alternatives, whether incentive funds from other public or private programs are being sought in addition to this application, and/or attach applicable permits or documentation from a local air district.

PROPOSED NEW EQUIPMENT AND ENGINE/MOTOR WORKSHEET

California Air Quality – CPS 372 Combustion System Improvement
USDA Natural Resources Conservation Service

The applicant is to complete a separate worksheet for each new equipment/engine/motor
See Instructions on the back before answering questions below

Applicant Name: [redacted]

1. Report the total acres this equipment/engine/motor will serve: 38

2. Identify the county or counties this equipment/engine/motor will operate and the percent use for each county listed:

Madera = 100%.

3. Fuel Type	4. Emissions Tier-Level:	5. Describe the new equipment (check one):	
☒ Diesel	☒ Tier 3	☒ Wheeled Tractor	☐ Stationary Diesel-Powered Irrigation
☐ B20 diesel	☐ Tier 4 Interim	☐ Rubber-Tired Loader	☐ Portable Diesel-Powered Irrigation
☐ B100 biodiesel	☒ Tier 4 Final	☐ Tracked Tractor	☐ Electric-Powered Irrigation
☐ Electric	☐ Electric:	☐ Rough-Terrain Forklift	☐ Other:
☐ Other:		☐ Bulldozer	

6. Equipment Manufacturer: John Deere	12. Engine/Motor Manufacturer: John Deere
7. Equipment Model: 5100ML	13. Engine/Motor Model: 4045PWL
8. Equipment Model Year: 2015	14. Engine/Motor Serial No.: —
9. Equipment VIN: —	15. Engine/Motor Model Year: 2015
10. Annual Hours of Operation: 1,000	16. Engine (bhp) or Motor Horsepower: 100
11. Annual Fuel Usage (gal/year): 492 gal	17. PTO Horsepower: *(if applicable)*

18. EPA Engine Family Name: *(Attach the applicable ARB Executive Order)* FJDXL04.5305

19. Months in Operation:

☒ Operates throughout the year

☐ January	☐ February	☐ March
☐ April	☐ May	☐ June
☐ July	☐ August	☐ September
☐ October	☐ November	☐ December

20. Cost Estimate of the New Equipment/Engine/Motor: [redacted]

21. Describe the fuel source (i.e. location of fuel storage and dispensing system):

Diesel

Instructions
PROPOSED NEW EQUIPMENT AND ENGINE/MOTOR WORKSHEET

1. **Report the total acres this equipment/engine/motor will serve:** The total acres the proposed off-road mobile agricultural equipment will operate on or the total acres to be irrigated by the well powered by the proposed diesel engine or electric motor.
2. **Identify the county or counties where this equipment/engine/motor will operate and the percent use for each county:** Report 100% if the engine and equipment will operate only in a single county. For multiple counties, estimate percent annual usage for each county by dividing the hours of use in each county by the total annual hours and multiplying by 100.
3. **Fuel Type:** All fuels must be suitable for use in a compression-ignition engine and meet California Air Resources Board (CARB) standards. "Diesel" is represented as petroleum-based "CARB diesel" and may be blended with up to 5% biodiesel (B5). "B20 diesel" is petroleum-based CARB diesel blend of up to 20% biodiesel. "B100" is non petroleum-based biodiesel. More information on California diesel fuels may be found at: http://www.arb.ca.gov/fuels/diesel/diesel.htm. Select "Electric" for a new irrigation motor.
4. **Emissions Tier Level:** Select the appropriate Tier-level emissions certification of the new diesel engine. Select "Electric" for a new irrigation motor.
5. **Describe the new equipment:** Check the box that best describes the new equipment. If "other", please describe (e.g. forage harvesters, combines, sprayers, shakers, etc.). *A new engine powers equipment that will serve the same function and perform the same work to the equipment that's being replaced.* Replacements are intended to reduce emissions of air pollution and not for any production related purpose.
6. **Equipment Manufacturer:** The equipment make. For example, Case IH, John Deere, Massey Fergusson, Ford, etc.
7. **Equipment Model:** The manufacturer's equipment designation. For example, 1600, 3300, 294S, etc.
8. **Equipment Model Year:** The year in which the equipment was manufactured.
9. **Equipment VIN:** The equipment Vehicle or Product Identification Number (not the engine serial number).
10. **Annual Hours of Operation:** Report the engine's actual total annual hours of operation on the total acres reported. Exaggerating hours may affect the project screening or ranking, or deem the project ineligible.
11. **Annual Fuel Usage (gal/year):** The amount of fuel use yearly in gallons. Annual fuel consumption may be used for estimating the baseline annual hours of operation.
12. **Engine/Motor Manufacturer:** The make of the diesel engine or electric motor. Diesel engine examples include: Cummins, John Deere, Fiat, Caterpillar, etc.
13. **Engine/Motor Model:** The model number of the in-use engine. For example, 6BTA5.9C.
14. **Engine/Motor Serial No.:** The engine serial number listed on the engine block or engine ID label.
15. **Engine/Motor Model Year:** The year the engine was manufactured.
16. **Engine (bhp) or Motor Horsepower**: For diesel engines, the manufacturer's rated advertised brake (or gross) horsepower. **Do not** report "net", "peak", "drawbar" or "PTO" horsepower, and **do not** estimate new engine horsepower by multiplying PTO horsepower by 1.20. For electric motors, report the rated motor horsepower.
17. **PTO Horsepower:** The advertised PTO horsepower if the equipment is equipped with a power take-off unit (e.g. a tractor).
18. **EPA Engine Family Name:** Identify the engine family name assigned by the EPA and attach the applicable CARB Executive Order for this diesel engine, which should be available through your engine vendor or on-line at: www.arb.ca.gov/msprog/offroad/cert/cert.php.
19. **Months in Operation:** Select whether the equipment/engine/motor will operate throughout the year or by the month.
20. **Cost Estimate of the New Equipment/Engine/Motor:** Please attach an estimate that clearly itemizes the costs.
21. **Describe the fuel source:** Describe how the fuel or electricity will be supplied to the new engine. If the diesel engine will be fueled by biofuel or biofuel blends, please identify the vendor supplying the fuel

US DEPARTMENT OF AGRICULUTRE
NATURAL RESOURCES CONSERVATION SERVICE
CALIFORNIA

IMPLEMENTATION REQUIREMENTS FOR 372-COMBUSTION SYSTEM IMPROVEMENT

ENGINES

For: Business Name: [redacted]

Job Location: Madera, CA

County: Madera **RCD:** Mad/Chowchilla **Farm/Tract No.:** [redacted]

Contract No:

IT SHALL BE THE RESPONSIBILITY OF THE OWNER/OPERATOR TO OBTAIN ALL NECESSARY PERMITS AND/OR RIGHTS, AND TO COMPLY WITH ALL ORDINANCES AND LAWS PERTAINING TO THIS INSTALLATION.

Installation shall be in accordance with the following drawings, specifications, and special requirements. **NO CHANGES ARE TO BE MADE IN THE DRAWINGS OR SPECIFICATIONS WITHOUT PRIOR APPROVAL OF THE NRCS.**

1. **Drawings, No.:**
2. **Practice Specifications:** 372
3. **Critical Air Quality Period:** April-September
4. **Existing Engine/Equipment:**

Existing Unit No. 1	☐ Tier 0 Diesel ☐ Tier 1 ☐ Tier 2 ☐ Tier 3 ☐ Natural Gas ☐ Gasoline ☐ Other:		
Year Equip Purchased:		Equip Model Year:	
Equipment Make:	John Deere		
Equipment Model:	2640		
Equipment Type (Use):	Diesel Tractor		
Equipment VIN:	[redacted]		
Engine Manufacturer:	John Deere		
Engine Model:	2640		
Engine Serial No:	[redacted]		
EPA Engine Family:	n/a		
Engine Model Year:	1978	Engine Rated HP:	84

372-2

Annual Hours Use:	1000	PTO Horsepower:	
Existing Unit No. 2	☐ Tier 0 Diesel ☐ Tier 1 ☐ Tier 2 ☐ Tier 3 ☐ Natural Gas ☐ Gasoline ☐ Other:		
Year Equip Purchased:		Equip Model Year:	
Equipment Make:			
Equipment Model:			
Equipment Type (Use):			
Equipment VIN:			
Engine Manufacturer:			
Engine Model:			
Engine Serial No:			
EPA Engine Family:			
Engine Model Year:		Engine Rated HP:	
Annual Hours Use:		PTO Horsepower:	

5. **Existing In-Use Engine Verification and Emissions**

Owner provided the following documentation (per 372 Specificiations):

Verification of ownership

Verification of the in-use engine/equipment operational status

Existing Engine Emissions:	NOx	ROG	PM10
Existing #1 (tons/yr):	.784	.085	.039
Existing #2 (tons/yr):			
Total Emissions (tons/yr):	.784	.085	.039

6. **Destruction:**

After being replaced, the existing engine and mobile off-road agricultural equipment shall be rendered inoperable, permanently destroyed and scrapped. The owner shall assure destruction and provide the NRCS with a written certification that the engine and associated equipment has been permanently destroyed and scrapped. The certification must specify that no parts or components were or will be parted-out, used or sold as parts, or used to rebuild an engine or equipment that was intended for destruction. NRCS staff may follow-up with a site visit to verify engine and equipment destruction.

Additional Destruction and Disposal Requirements:

7. Combustion Improvement To:

☐ Tier 3 diesel ☐ Tier 4 Interim diesel ☐ Tier 4 Phase-Out diesel
☐ Tier 4 Phase-In Alt NOx ☒ Tier 4 Final diesel
☐ New Electric Motor
☐ Spark-ignition engine utilizing natural gas, LPG, biogas, etc.
☐ Other: _____

Engines must be certified by the California Air Resources Board (and/or the local APCD/AQMD for irrigation engines) as meeting the applicable emission standards.

The following equipment / engine is approved under this contract:

Equipment Make:	John Deere		
Equipment Model:	5100ML		
Equipment Type (Use):	Diesel Tractor		
Engine Manufacturer:	John Deere		
Engine Model:	4045HLV78		
EPA Engine Family:	KJDXL04.5315		
Engine Model Year:	2019	Engine Rated HP:	100
Annual Hours Use:	1000	PTO Horsepower:	

Purchase of this equipment/engine will result in the following emissions:

	NOx	ROG	PM10
New Engine Emissions:			
Total Emissions (tons/yr):	.020	.004	.001

Purchase of this equipment/engine will result in the following emission reductions:

Total Reductions (tons/yr):	.764	.081	.039
Percent Reductions:	97.4	95.5	98.2

If no new equipment/engine model is selected at time of contracting or there is a change or modification to the new equipment/engine model described above, contact the appropriate NRCS Field Office to schedule an appointment in order to verify the new equipment/engine is eligible for EQIP payment under this contract. The participant shall not purchase the new equipment/engine until after seeking NRCS concurrence and approval of the new equipment/engine modification or addition.

8. Work shall be completed with the period: April 2019 – March 2021

9. **Special Requirements:**
   a. Installation must adhere to Practice Code 372 Specifications and O&M.
   b. The participant under contract shall notify the NRCS field office after the purchase has been made for NRCS to perform a final verification of the new equipment/engine.
   c. New engine, electric motor, and associated equipment shall be maintained and operated according to manufacturer's requirements and specifications.
   d. No modifications shall be made to the engine, electric motor, or equipment that would compromise the integrity of the emission reductions.
   e. The participant under contract must provide the NRCS field office with the final, applicable EPA engine family name and engine model descriptions prior to purchase for emissions verification and concurrance.
   f. Once the installation is in place, the participant shall provide the NRCS field office with the new engine make, model, horsepower, and serial number; the equipment make, model, and Vehicle Identification Number (if applicable); and the total hours from the non-resettable time meter recorded at the time of purchase.
   g. The participant shall maintain annual usage records of the new engine operations over the 10-year practice lifespan beginning the year following installation. At a minimum, the usage report shall include the total hours recorded from the non-resettable time meter and identify the locations the engine and equipment operated within the calendar year.
   h. For mobile engines within the San Joaquin Valley, participants shall submit yearly usage reports to the NRCS annually over the 10-year practice lifespan beginning the year following installation. Please refer to CPS 372 - Operations and Maintenance.
   i. If emission testing is required by the local air quality authority, the source test shall be performed by an ARB-certified independent contractor.
   j. Other requirements:

PRACTICE APPROVAL

Job Classification: This job is classified as Class: _____

Plan Approved by: [redacted] Date: 7/14/20

LANDOWNER'S/OPERATOR'S ACKNOWLEDGEMENT

The landowner/operator acknowledges that:

a. He/she has received a copy of the drawings and specifications, and that he/she has an understanding of the contents and requirements.
b. He/she has obtained all the necessary permits, where applicable.
c. No changes will be made in the installation of the job without prior concurrence of the NRCS.
d. Maintenance of the installed work is necessary for proper performance during the 10-year project life.

Accepted by: [redacted] Date: 7-01 2020

PRACTICE COMPLETION:

I have made an on-site inspection of the site (or I am accepting owner/contractor documentation), and certify the practice meets NRCS standards and specifications.

Completion Certification by:

/s/ _____ Date: _____

NRCS

California Emissions Calculation Worksheet

Air Quality - Combustion System Improvement
Off-Road/Stationary Diesel Engine Emissions Determination

Applicant Name: [redacted]

Application Number: [redacted] Date: 2/27/2020

Existing Engine Emissions Calculations

Existing Engine: Manufacturer(s): John Deere

Engine Model Year(s): 1987

1980-1987 Diesel — Equipment Type(s): Tractors, Diesel

Serial Number(s): [redacted]

Baseline Emissions:		NOx	ROG	PM10	
Max Rated Brake Horsepower(s):		84	84	84	bhp maximum
Annual Hours of Operation:	x	1000	1000	1000	Hours/Year
Emission Factor(s):	x	12.090	1.310	0.605	g/bhp-hour
Load Factor(s):	x	0.700	0.700	0.700	
Conversion to Tons:	÷	**907,200**	**907,200**	**907,200**	grams/Ton
Annual Emissions (EE)	=	0.784	0.085	0.039	Tons/Year

New Engine Emission Calculations (Report as zero emissions if electric)

New Engine: Manufacturer: John Deere

Model Year Engine: 2019

Tier 4 Final Diesel — Equipment Type: Tractors, Diesel

Serial Number (if available) 4045HLV78

New Engine Emissions:		NOx	ROG	PM10	
Max Rated Brake Horsepower:		100	100	100	bhp maximum
Annual Hours of Operation:	x	1000	1000	1000	Hours/Year
Emission Factor:	x	0.260	0.050	0.009	g/bhp-hour
Load Factor:	x	0.700	0.700	0.700	
Conversion to Tons:	÷	**907,200**	**907,200**	**907,200**	grams/Ton
Annual Emissions (NE)	=	0.020	0.004	0.001	Tons/Year

Calculation Results

	NOx	ROG	PM10	
Annual Emission Reductions: (EE)-(NE)=	0.764	0.081	0.039	Tons/Year
Percent Emission Reductions: [(EE-NE) / (EE)] x 100=	97.4	95.5	98.2	%

User:

Emission Factors and Agricultural Equipment Default Load Factors from Carl Moyer Program Guidelines, Tables D10 through D14

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In-Use Off-Road Mobile Equipment Field Verification Worksheet

California Air Quality – CPS 372 Combustion System Improvement
USDA Natural Resources Conservation Service

Contract No: [redacted] Date of Site Visit: 1/14/19
Contract Name: [redacted]
Field Office: Madera
NRCS Verifier Name: T. Fridrich

In-Use Equipment and Engine Information

Equip Model Year: 1978 Year Purchased:
Equipment Make: John Deere
Equipment Model: 2640
Equipment Type (Use): Diesel Tractor
Equipment VIN: [redacted]
Engine Manufacturer: JD
Engine Model: 2640
Engine Serial Number: [redacted]
EPA Family Name: N/A
Engine Model Year: 1978 Engine HP: 84
Annual Hours of Use: 1,000 PTO HP:

Is the above information similar to what is described in the supplemental application worksheet submitted by the participant? If "No", update the project file accordingly. ☒ Yes ☐ No

Checklist

Check all that applies during the site visit to verify that the in-use unit (engine, equipment, and components) is fully functional and in operating condition (leave blank if not applicable):

☒ Yes ☐ No The unit appears to be well maintained and shows visible signs of in-use operations.
☒ Yes ☐ No The engine starts-up (battery is charged and connected) and powers the equipment as intended.
☒ Yes ☐ No The engine self-propels the equipment forwards and backwards with no drivetrain problems.
☐ Yes ☒ No If Tier-certified, the Engine Family Name and Model label is affixed to the engine *and* visible
☒ Yes ☐ No Fuel gauge, hour meter, oil pressure guage, etc. are all functional.
☒ Yes ☐ No The tires have sufficient tread, hold air, and are not flat.
☒ Yes ☐ No Buckets, blades, hydraulics, rollers, 3-point hitch, PTO, etc. are in working order.
☒ Yes ☐ No Hydrolics show no leaks or blockages and are able to operate components as intended.
☒ Yes ☐ No The PTO was connected to an implement and demonstrated good working condition.
☒ Yes ☐ No The fuel tank is in usable condition with no visible leaks.
☒ Yes ☐ No Undercarriage is structurally sound with no signs of once being compromised.
☒ Yes ☐ No The unit has not been vandalized and no parts have been stripped or removed.
☒ Yes ☐ No Photographs were taken to be placed in the project file.

If "No" or "Blank", please explain on the back of this worksheet.

Verification Results

☒ Yes ☐ No The in-use engine and equipment align with CPS 372 criteria and specifications

If "No", explain:

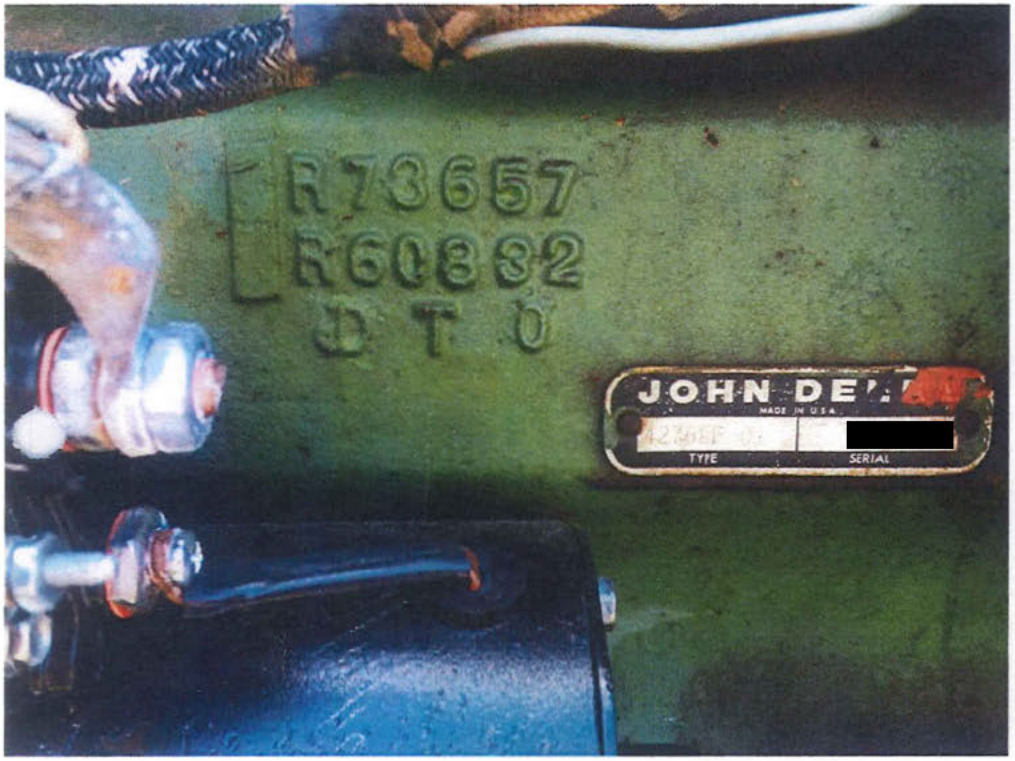
NRCS Verifier Signature: Taylor Date: 1/14/19

Engine Verification

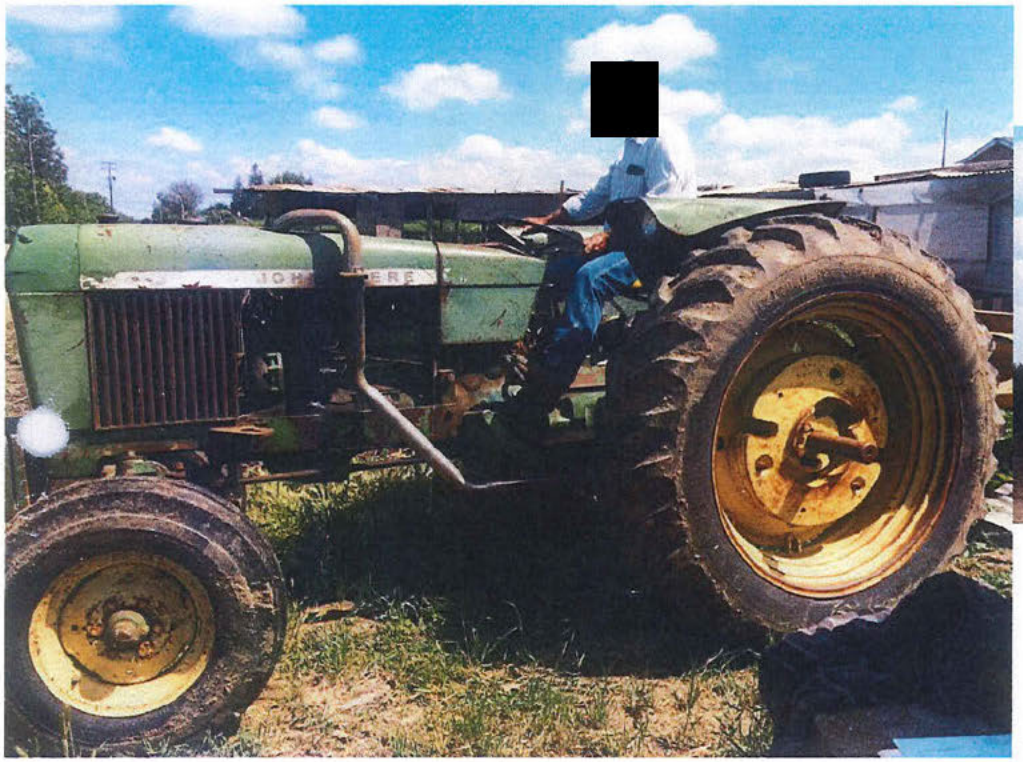
[redacted]

4/11/2016 by N. Smith

John Deere 2640 Serial [redacted]



Meets all NRCS Program Standards for Field Verification, will be used in Almond Orchard



2

Rec'd 6/4/20
[redacted] to re-send photos by email PB

USDA [redacted]

ENGINE/EQUIPMENT DESTRUCTION CERTIFICATION WORKSHEET

California Air Quality – CPS 372 Combustion System Improvement
USDA Natural Resources Conservation Service

This worksheet serves to document that the engine/equipment identified below has been disabled by placing a hole in the block, permanently destroyed by shearing, crushing, or shredding into scrap metal, and properly disposed of as scrap metal at a California facility. No engine, drive-train components, hydraulics, and other essential engine or equipment components were or will be parted-out, used or sold as parts, or used to build or rebuild other engines or equipment. The completed certification worksheet shall be signed and submitted to the NRCS Field Office after destruction and final disposal.

Participant Name: [redacted]	
EQIP Contract Num [redacted]	
Equipment Manufacturer and Model: John Deese 2640	Engine Manufacturer and Model: JD 2640
Equipment Type: Diesel Tractor	Engine Model Year: 1978
Equipment VIN: [redacted]	Engine Serial No. [redacted]
Equipment Model Year: 1989	☒ Diesel Engine ☐ Spark-Ignition Engine
Date engine/equipment was disabled:	
Engine/Equipment Owner's Name (Print): [redacted]	
Owner's Signature: [redacted]	Date: 5-27-2020

The engine/equipment identified above were delivered for destruction and disposal at:

Destruction Facility Name: 435 Metals		
Address: 644 E. Olive Ave		
City: Madera	State: CA	Zip Code: 93638
Date engine/equipment was destroyed and scrapped: 2-3-20		

The engine/equipment has been destroyed and scrapped.

Destruction Facility Contact Name (Print): [redacted]	Phone No: [redacted]
Contact Signature: [redacted]	Date: 2-3-20

Attach date stamped photographs of the engine/equipment pre- and post-demolition that includes clearly identifiable engine serial number and vehicle identification number.

Destruction photos from A+S
Rcvd 7/1/20

NRCS-CA NAQI | 2021 Annual Report
SIP ID 3776, Madera County


924

New Off-Road Mobile Equipment Field Worksheet

California Air Quality – CPS 372 Combustion System Improvement
USDA Natural Resources Conservation Service

Contract No: [redacted] Date of Site Visit: 10/13/20

Contract Name: [redacted]

Field Office: Madera

NRCS Verifier Name: Taylor Fridrich

New Equipment and Engine Information

Equip Model Year: ~~John Deere~~ 2019 Date Purchased:

Equipment Make: John Deere

Equipment Model: 5100 ML

Equipment Type (Use): Diesel Tractor

Equipment VIN: [redacted]

Engine Manufacturer: John Deere

Engine Model (Type): 4045HLV78

Engine Serial Number: [redacted]

Engine Family Name: KJDXL04.5315

Engine Model Year: 2019 Engine Rated HP: 100 hp

Hour Meter Reading: 94.2 PTO Horsepower:

Checklist

Check all that applies:

- [x] Yes [ ] No The Engine Family Name and Model (type) label is affixed to the engine or equipment.
- [x] Yes [ ] No The Engine Family Name and Model label is clearly visible.
- [x] Yes [ ] No The Engine Family Name and Model match the applicable ARB Executive Order.
- [x] Yes [ ] No The engine serial number label is affixed to the engine or equipment.
- [x] Yes [ ] No The VIN (PIN) number label is affixed to the equipment.
- [x] Yes [ ] No The non-resetable hour meter is functional and the total hours are recorded above.
- [x] Yes [ ] No Photographs were taken to be placed in the project file.

(*For San Joaquin Valley projects only*):

- [ ] Yes [x] No The participant was informed of and provided with the annual reporting documents.

If "No" or "blank", explain: I did not have them with me, will provide at a later date

Notes:

Verification Results

- [x] Yes [ ] No The new equipment and engine aligns with CPS 372 criteria and specifications

If "No", explain:

NRCS Verifier Signature: Taylor Fridrich Date: 10/14/20

CALIFORNIA AIR RESOURCES BOARD	JOHN DEERE POWER SYSTEMS	EXECUTIVE ORDER U-R-004-0569 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in California Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2019	KJDXL04.5315	4.5	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Control Module, Exhaust Gas Recirculation, Selective Catalytic Reduction-Urea, Electronic Direct Injection, Turbocharger, Charge Air Cooler, Oxidation Catalyst, Ammonia Oxidation Catalyst	Loaders, Tractor, Dozer, Pump, Compressor, Generator Set, Other Industrial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
56 ≤ kW < 130	Tier 4 Final	OPTIONAL STD	0.19	0.40	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.02	0.33	--	0.1	0.02	--	--	--

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for New 2011 and Later Tier 4 Off-Road Compression Ignition Engines, Part I-D" adopted October 20, 2005 and last amended October 25, 2012.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 12 day of October 2018.

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division

8/3/2018

Engine Model Summary Form

EO#: U-R-004-0569

Attachment. Page 1 of 1

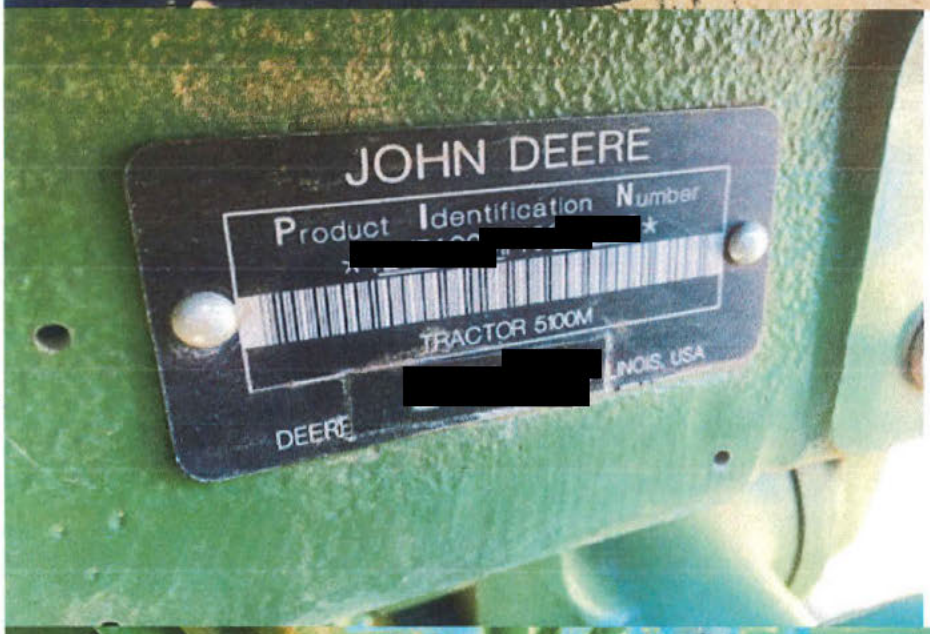
Manufacturer: John Deere Power Systems
Engine category: Nonroad CI
EPA Engine Family: KJDXL04.5315
Mfr Family Name: 350HCG
Process Code: New Submission

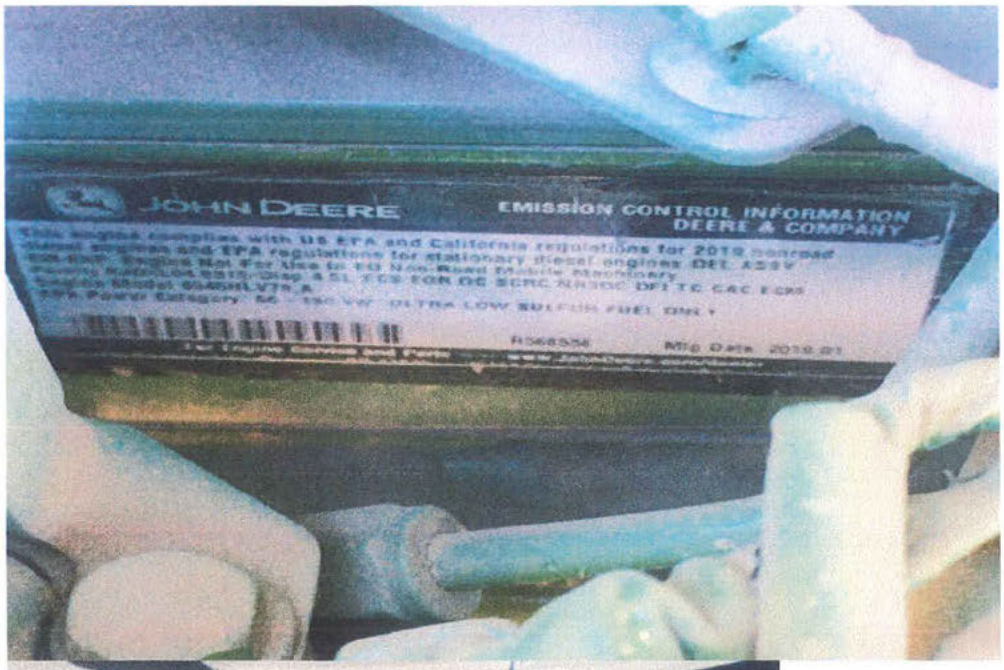
1. Engine code	2. Engine Model	3. kW@RPM (SAE Gross)	4. Fuel Rate: mm/stroke@peak kW (for diesel only)	5. Fuel Rate: (kg/hr)@peak kW (for diesels only)	6. Torque (Nm) @RPM (SEA Gross)	7. Fuel Rate: mm/stroke@peak torque	8. Fuel Rate: (kW/hr)@peak torque	9. Emission Control Device Per SAE J1930
4045HAC05A	4045	104@2200	100.9@2200	22.6@2200	540@1600	113.7@1600	18.5@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HAC05B	4045	86@2200	84.6@2200	19@2200	506@1600	105.8@1600	17.3@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04A	4045	104@2200	100.9@2200	22.6@2200	540@1600	113.7@1600	18.5@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04B	4045	100@2400	96.2@2400	23.5@2400	540@1600	114.2@1600	18.6@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04C	4045	93@2400	88.6@2400	21.7@2400	493@1600	103.1@1600	16.8@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04D	4045	93@2200	90.8@2200	20.4@2200	536@1600	112.7@1600	18.4@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04E	4045	86@2400	82.2@2400	20.1@2400	461@1600	96.8@1600	15.8@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04F	4045	86@2200	84.6@2200	19@2200	506@1600	105.8@1600	17.3@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04G	4045	74@2400	70.4@2400	17.2@2400	391@1600	84.2@1600	13.7@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04H	4045	74@2400	70.4@2400	17.2@2400	391@1600	84.2@1600	13.7@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04I	4045	74@2200	73.5@2200	16.5@2200	427@1600	89.3@1600	14.6@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04J	4045	74@2200	73.5@2200	16.5@2200	427@1600	89.3@1600	14.6@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04K	4045	63@2400	63.9@2400	15.6@2400	333@1600	72.2@1600	11.8@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04L	4045	63@2400	63.9@2400	15.6@2400	333@1600	72.2@1600	11.8@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04M	4045	63@2200	64.2@2200	14.4@2200	363@1600	68.4@1600	11.2@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04N	4045	63@2200	64.2@2200	14.4@2200	363@1600	68.4@1600	11.2@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFC04O	4045	110@2200	107.4@2200	24.1@2200	540@1600	113.8@1600	18.6@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFG04A	4045	99@1800	115.1@1800	21.1@1800				EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFG04B	4045	80@1800	92.6@1800	17@1800				EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFG04C	4045	67@1800	77.1@1800	14.1@1800				EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFG04D	4045	80@1500	106.7@1500	16.3@1500				EGR OC SCRC NH3OC DFI TC CAC ECM
4045HFG04E	4045	67@1500	90.8@1500	13.9@1500				EGR OC SCRC NH3OC DFI TC CAC ECM
4045HLV73	4045	99@2200	98.2@2200	22@2200	540@1600	113.2@1600	18.5@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HLV75	4045	94@2200	93.4@2200	21@2200	519@1600	107.9@1600	17.6@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HLV76	4045	86@2400	81.5@2400	19.9@2400	519@1600	107.9@1600	17.6@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HLV78	4045	94@2200	93.4@2200	21@2200	519@1600	107.9@1600	17.6@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HMC05A	4045	104@2200	102@2200	23@2200	540@1600	113@1600	18.5@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HMC05B	4045	86@2200	85@2200	19.2@2200	480@1600	101@1600	16.4@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HP075	4045	94@2200	93.4@2200	21@2200	519@1600	107.9@1600	17.6@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HP075A	4045	99@2200	98.8@2200	21.7@2200	540@1600	113.7@1600	18.5@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HPRNT14	4045	106@2400	99.6@2400	24.4@2400	577@1600	123.1@1600	20.1@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HT096	4045	94@2200	93.4@2200	21@2200	519@1600	107.9@1600	17.6@1600	EGR OC SCRC NH3OC DFI TC CAC ECM
4045HLV78A	4045	99@2200	98.8@2200	21.7@2200	540@1600	113.7@1600	18.5@1600	EGR OC SCRC NH3OC DFI TC CAC ECM

SCR-U, A Rng

[redacted]

New Tractor Inspection
Inspected by: Taylor Fridrich and Prospero Gonzalez
10/13/20
John Deere 5100ML 100HP
EPA Engine Family Name: KJDXL04.5315
***Note: Engine serial # photo is obscured by machine parts, but info is recorded on the field verification worksheet**


JOHN DEERE
Product Identification Number
[redacted]
TRACTOR 5100M
[redacted]
DEERE



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