DOCKETED	
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Project Title:	Abengoa Mojave Compliance
TN #:	261685
Document Title:	Segment 003 of COMPLIANCE7-08-00 Mojave Solar Project 2024 Annual Compliance Report (09-AFC-5C)
Description:	N/A
Filer:	Mahnaz Ghamati
Organization:	Abengoa Solar
Submitter Role:	Applicant
Submission Date:	2/11/2025 8:49:58 AM
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Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☐ Beta ☑	Date: 10/24/24
Operator: Diego Rodriguez	*To be completed each time unit is operated.
Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 155 psi

Discharge Pressure: 165 psi

Pump Suction Pressure: n/a. Pump Discharge pressure: 165 psi

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145 psi

Start time: 2141

Pump Suction Pressure: 15 psi Pump Discharge pressure: 150 psi

Stop time: 2151 Total time running 10 mins.

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☑ Mechanical ☑ Valves ☑ Water Jacket Heater ☑

Fuel level > 2/3: Yes ☐ No ☑ 1/2 Fuel Monthly Fuel Consumption: N/A.

Battery volt Crank 1: 27 Battery volt Crank 2: 27	Battery Condition: ✓
Starting hour meter: 136.6.	Start time: 2152
Oil pressure start: 66 psi	Oil Pressure finish: 54 psi
Pump Suction Pressure: 18 psi	Pump Discharge pressure: 150 psi
Coolant temperature after 30 minutes running: 190 °F	
Stop time: 2155 Stop hour meter: 136.6.	Total time running: 3 mins.

Comments:

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

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Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☐ BETA: ☑ Date: 11/30/24 Operator Anthony V.

Valve Shed # 1 by Condenser

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1 A/B1-1	0	O/C		Y ☐ N ☐	Fire System offline due to underground leak
2	SG Unit 2 A/B1-2		O/C		Y ☐ N ☐	
3	Reheaters A/B1-3		O/C		Y ☐ N ☐	
4	Rack 2 West HTF A/B1-4		O/C		Y ☐ N ☐	
5	Rack 2 East HTF A/B1-5		O/C		Y ☐ N ☐	
6	North Steel Pro A/B1-6		O/C		Y ☐ N ☐	
7	HTF Pumps A/B1-7		O/C		Y ☐ N ☐	
8	HTF Heaters A/B1-8		O/C		Y ☐ N ☐	
9	South Steel Pro A/B1-9		O/C		Y ☐ N ☐	
10	Lube Oil A/B1-10		O/C		Y ☐ N ☐	
11	Turbine Hose Stations A/B1-11		O/C		Y ☐ N ☐	
12	Turbine Bearings A/B1-12	↓	O/C		Y ☐ N ☐	

Valve Shed # 2 by Overflow

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels A/B2-1	0	O/C		Y ☐ N ☐	
2	Ullage Area A/B2-2		O/C		Y ☐ N ☐	
3	Ullage Structure A/B2-11		O/C		Y ☐ N ☐	
4	Rack 1 Middle Area A/B2-5		O/C		Y ☐ N ☐	
5	Overflow Tanks A/B2-9		O/C		Y ☐ N ☐	
6	Rack 1 South Area A/B2-6		O/C		Y ☐ N ☐	
7	Rack 1 West A/B2-7		O/C		Y ☐ N ☐	
8	Rack 1 North Area A/B2-4		O/C		Y ☐ N ☐	
9	Over flow AFFF A/B2-8		O/C		Y ☐ N ☐	
10	Expansion Vessel AFFF A/B2-3	↓	O/C		Y ☐ N ☐	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	0	O/C		Y ☐ N ☐	
2	Transformer Main	0	O/C		Y ☐ N ☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	0	O/C		Y ☐ N ☐	

Valve Shed # 5 by Control Bldg 10

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room A/B4-5	0	O/C		Y ☐ N ☐	
2	Offices A/B4-3		O/C		Y ☐ N ☐	
3	Electrical Room A/B4-4	↓	O/C		Y ☐ N ☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y ☑ N ☐	✓ O/C	
2	Bearing 3	Y ☑ N ☐	✓ O/C	
3	Bearing 4	Y ☑ N ☐	✓ O/C	
4	Bearing 5	Y ☑ N ☐	✓ O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y ☑ N ☐	✓ O/C	
2	MP-200A	Y ☑ N ☐	✓ O/C	
3	MP-200B	Y ☑ N ☐	✓ O/C	
4	MP-200C	Y ☑ N ☐	✓ O/C	
5	MP-200D	Y ☑ N ☐	✓ O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	0	Open	Y ☑ N ☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C ✓			
2	Warehouse/Maintenance Shop Drive Way #8	✓ O/C			
3	West Side Power Block by VS-3 # 9	✓ O/C			
4	West Side Power Block by VS-1 # 10	✓ O/C			
5	West Side Cooling Tower by VS-4 # 11	✓ O/C			
6	West side Cooling Tower by VS-4 # 12	✓ O/C			
7	N.W. Corner Chemical Storage #1	✓ O/C			
8	N.E. Corner Chemical Storage # 2	✓ O/C			
9	East Side W.T. by Multimedia Filters # 3	O/C ✓			
10	East Side W.T. by Multimedia Filters # 5	O/C ✓			
11	North Side Bldg 10 # 6	✓ O/C			
12	Between MP-444's and Water Treat # 4	O/C ✓			
13	Beta Only West Side Power Block Valve Shed #1	✓ O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris		Comments / Actions
1	Transformer Yard Refuse Check	Y ☐ N ☐		

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☐ BETA: ☑ Date: 11/25/24 Operator Anthony

Valve Shed # 1 by Condenser

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1 A/B1-1	0	O/C	✓	Y ☑ N ☐	Fire System Offline due to underground leak
2	SG Unit 2 A/B1-2	0	O/C	✓	Y ☑ N ☐	
3	Reheaters A/B1-3	0	O/C	✓	Y ☑ N ☐	
4	Rack 2 West HTF A/B1-4	0	O/C	✓	Y ☑ N ☐	
5	Rack 2 East HTF A/B1-5	0	O/C	✓	Y ☑ N ☐	
6	North Steel Pro A/B1-6	0	O/C	✓	Y ☑ N ☐	
7	HTF Pumps A/B1-7	0	O/C	✓	Y ☑ N ☐	
8	HTF Heaters A/B1-8	0	O/C	✓	Y ☑ N ☐	
9	South Steel Pro A/B1-9	0	O/C	✓	Y ☑ N ☐	
10	Lube Oil A/B1-10	0	O/C	✓	Y ☑ N ☐	
11	Turbine Hose Stations A/B1-11	0	O/C	✓	Y ☑ N ☐	
12	Turbine Bearings A/B1-12	0	O/C	✓	Y ☑ N ☐	

Valve Shed # 2 by Overflow

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels A/B2-1	0	O/C	✓	Y ☑ N ☐	
2	Ullage Area A/B2-2	0	O/C	✓	Y ☑ N ☐	
3	Ullage Structure A/B2-11	0	O/C	✓	Y ☑ N ☐	
4	Rack 1 Middle Area A/B2-5	0	O/C	✓	Y ☑ N ☐	
5	Overflow Tanks A/B2-9	0	O/C	✓	Y ☑ N ☐	
6	Rack 1 South Area A/B2-6	0	O/C	✓	Y ☑ N ☐	
7	Rack 1 West A/B2-7	0	O/C	✓	Y ☑ N ☐	
8	Rack 1 North Area A/B2-4	0	O/C	✓	Y ☑ N ☐	
9	Over flow AFFF A/B2-8	0	O/C	✓	Y ☑ N ☐	
10	Expansion Vessel AFFF A/B2-3	0	O/C	✓	Y ☑ N ☐	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	0	O/C	✓	Y ☑ N ☐	
2	Transformer Main	0	O/C	✓	Y ☑ N ☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	0	O/C	✓	Y ☑ N ☐	

Valve Shed # 5 by Control Bldg 10

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room A/B4-5	0	O/C	✓	Y ☑ N ☐	
2	Offices A/B4-3	0	O/C	✓	Y ☑ N ☐	
3	Electrical Room A/B4-4	0	O/C	✓	Y ☑ N ☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y ☑ N ☐	O/C	
2	Bearing 3	Y ☑ N ☐	O/C	
3	Bearing 4	Y ☑ N ☐	O/C	
4	Bearing 5	Y ☑ N ☐	O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y ☑ N ☐	O/C	
2	MP-200A	Y ☑ N ☐	O/C	
3	MP-200B	Y ☑ N ☐	O/C	
4	MP-200C	Y ☑ N ☐	O/C	
5	MP-200D	Y ☑ N ☐	O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	0	open	Y ☑ N ☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C			
2	Warehouse/Maintenance Shop Drive Way #8	O/C			
3	West Side Power Block by VS-3 # 9	O/C			
4	West Side Power Block by VS-1 # 10	O/C			
5	West Side Cooling Tower by VS-4 # 11	O/C			
6	West side Cooling Tower by VS-4 # 12	O/C			
7	N.W. Corner Chemical Storage #1	O/C			
8	N.E. Corner Chemical Storage # 2	O/C			
9	East Side W.T. by Multimedia Filters # 3	O/C			
10	East Side W.T. by Multimedia Filters # 5	O/C			
11	North Side Bldg 10 # 6	O/C			
12	Between MP-444's and Water Treat # 4	O/C			
13	Beta Only West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y ☐ N ☐	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☐ Beta ☑	Date: 11/17/24
Operator: Anthony	*To be completed each time unit is operated.
Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 155

Discharge Pressure: 163

Pump Suction Pressure: — Pump Discharge pressure: —

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145

Start time: 2220

Pump Suction Pressure: 15 Pump Discharge pressure: 150

Stop time: 2230 Total time running 10 min

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☐ Mechanical ☑ Valves ☑ Water Jacket Heater ☑

Fuel level > 2/3: Yes ☐ No ☑ Monthly Fuel Consumption: —

Battery volt Crank 1: 26 Battery volt Crank 2: 24	Battery Condition: Good
Starting hour meter: 136.6	Start time: 2234
Oil pressure start: 1	Oil Pressure finish: 46

Pump Suction Pressure: 15 Pump Discharge pressure: 150

Coolant temperature after 30 minutes running: 190@ 9 min

Stop time: 2243 Stop hour meter: 136.7 Total time running: 9 min

Comments:

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☐ BETA: ☑ Date: 11/14/24 Operator: DMOR

Valve Shed # 1 by Condenser

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	A/B1-1	140	O/C	✓	Y☑ N☐	
2	SG Unit 2	A/B1-2	140	O/C	✓	Y☑ N☐	
3	Reheaters	A/B1-3	145	O/C	✓	Y☑ N☐	
4	Rack 2 West HTF	A/B1-4	170	O/C	✓	Y☑ N☐	
5	Rack 2 East HTF	A/B1-5	140	O/C	✓	Y☑ N☐	
6	North Steel Pro	A/B1-6	140	O/C	✓	Y☐ N☑	
7	HTF Pumps	A/B1-7	140	O/C	✓	Y☑ N☐	
8	HTF Heaters	A/B1-8	155	O/C	✓	Y☑ N☐	
9	South Steel Pro	A/B1-9	140	O/C	✓	Y☑ N☐	
10	Lube Oil	A/B1-10	140	O/C	✓	Y☑ N☐	
11	Turbine Hose Stations	A/B1-11	140	O/C	✓	Y☐ N☑	
12	Turbine Bearings	A/B1-12	155	O/C	✓	Y☑ N☐	

Valve Shed # 2 by Overflow

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	A/B2-1	165	O/C	✓	Y☐ N☐	
2	Ullage Area	A/B2-2	160	O/C	✓	Y☐ N☐	
3	Ullage Structure	A/B2-11	160	O/C	✓	Y☐ N☐	
4	Rack 1 Middle Area	A/B2-5	160	O/C	✓	Y☐ N☐	
5	Overflow Tanks	A/B2-9	165	O/C	✓	Y☐ N☐	
6	Rack 1 South Area	A/B2-6	160	O/C	✓	Y☐ N☐	
7	Rack 1 West	A/B2-7	165	O/C	✓	Y☐ N☐	
8	Rack 1 North Area	A/B2-4	160	O/C	✓	Y☐ N☐	
9	Over flow AFFF	A/B2-8	160	O/C	✓	Y☐ N☑	
10	Expansion Vessel AFFF	A/B2-3	160	O/C	✓	Y☐ N☑	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	160	O/C	✓	Y☐ N☐	
2	Transformer Main	160	O/C	✓	Y☐ N☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	145	O/C	✓	Y☑ N☐	needs Sign.

Valve Shed # 5 by Control Bldg 10

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	A/B4-5	160	O/C	✓	Y☐ N☐	
2	Offices	A/B4-3	160	O/C	✓	Y☐ N☐	
3	Electrical Room	A/B4-4	160	O/C	✓	Y☐ N☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y☐ N☐	O/C	
2	Bearing 3	Y☐ N☐	O/C	
3	Bearing 4	Y☐ N☐	O/C	
4	Bearing 5	Y☐ N☐	O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y☐ N☑	O/C	
2	MP-200A	Y☐ N☐	O/C	
3	MP-200B	Y☐ N☐	O/C	
4	MP-200C	Y☐ N☐	O/C	
5	MP-200D	Y☐ N☐	O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	175	O	Y☑ N☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C			
2	Warehouse/Maintenance Shop Drive Way #8	O/C			
3	West Side Power Block by VS-3 # 9	O/C			
4	West Side Power Block by VS-1 # 10	O/C			
5	West Side Cooling Tower by VS-4 # 11	O/C			
6	West side Cooling Tower by VS-4 # 12	O/C			
7	N.W. Corner Chemical Storage #1	O/C			
8	N.E. Corner Chemical Storage # 2	O/C			
9	East Side W.T. by Multimedia Filters # 3	O/C			
10	East Side W.T. by Multimedia Filters # 5	O/C			
11	North Side Bldg 10 # 6	O/C			
12	Between MP-444's and Water Treat # 4	O/C			
13	Beta Only West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y☐ N☑	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☐ Beta ☑	Date: 11/7/24
Operator: Taylor	*To be completed each time unit is operated.
Reason for running pumps: Weekly test ☐ Maintenance ☐ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☐ Mechanical ☐ Valves ☐

Check the jockey pump on pressure drop. Start up pressure:

Discharge Pressure:

Pump Suction Pressure: Pump Discharge pressure:

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☐ Mechanical ☐ Valves ☐

Start the pump on pressure drop. Start up pressure:

Start time:

Pump Suction Pressure: Pump Discharge pressure:

Stop time: Total time running

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☑ Mechanical ☑ Valves ☑ Water Jacket Heater ☑

Fuel level > 2/3: Yes ☑ No ☐ Monthly Fuel Consumption:

Battery volt Crank 1: ✓ Battery volt Crank 2:	Battery Condition: Good
Starting hour meter: 136.6	Start time:
Oil pressure start:	Oil Pressure finish: N/A

Pump Suction Pressure: 71 Pump Discharge pressure:

Coolant temperature after 30 minutes running:

Stop time: Stop hour meter: Total time running:

Comments:

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☐ BETA: ☑ Date: 11-9-24 Operator Taylor

Valve Shed # 1 by Condenser

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	B1-1	160	O/C	✓	Y☐ N☐	
2	SG Unit 2	B1-2	160	O/C	✓	Y☐ N☐	
3	Reheaters	B1-3	160	O/C	✓	Y☐ N☐	
4	Rack 2 West HTF	B1-4	160	O/C	✓	Y☐ N☐	
5	Rack 2 East HTF	B1-5	160	O/C	✓	Y☐ N☐	
6	North Steel Pro	B1-6	160	O/C	✓	Y☐ N☐	
7	HTF Pumps	B1-7	160	O/C	✓	Y☐ N☐	
8	HTF Heaters	B1-8	160	O/C	✓	Y☐ N☐	
9	South Steel Pro	B1-9	160	O/C	✓	Y☐ N☐	
10	Lube Oil	B1-10	160	O/C	✓	Y☐ N☐	
11	Turbine Hose Stations	B1-11	160	O/C	✓	Y☐ N☐	
12	Turbine Bearings	B1-12	160	O/C	✓	Y☐ N☐	

Valve Shed # 2 by Overflow

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	B2-1	160	O/C	✓	Y☐ N☐	
2	Ullage Area	B2-2	160	O/C	✓	Y☐ N☐	
3	Ullage Structure	B2-11	160	O/C	✓	Y☐ N☐	
4	Rack 1 Middle Area	B2-5	160	O/C	✓	Y☐ N☐	
5	Overflow Tanks	B2-9	160	O/C	✓	Y☐ N☐	
6	Rack 1 South Area	B2-6	160	O/C	✓	Y☐ N☐	
7	Rack 1 West	B2-7	160	O/C	✓	Y☐ N☐	
8	Rack 1 North Area	B2-4	160	O/C	✓	Y☐ N☐	
9	Over flow AFFF	B2-8		O/C	✓	Y☐ N☐	
10	Expansion Vessel AFFF	B2-3		O/C	✓	Y☐ N☐	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	155	O/C	✓	Y☐ N☐	
2	Transformer Main	160	O/C	✓	Y☐ N☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	160	O/C	✓	Y☑ N☐	

Valve Shed # 5 by Control Bldg 10

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	B4-5	160	O/C	✓	Y☐ N☐	
2	Offices	B4-3	160	O/C	✓	Y☐ N☐	
3	Electrical Room	B4-4	160	O/C	✓	Y☐ N☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y☐ N☐	O/C	
2	Bearing 3	Y☐ N☐	O/C	
3	Bearing 4	Y☐ N☐	O/C	
4	Bearing 5	Y☐ N☐	O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y☐ N☐	O/C	
2	MP-200A	Y☐ N☐	O/C	
3	MP-200B	Y☐ N☐	O/C	
4	MP-200C	Y☐ N☐	O/C	
5	MP-200D	Y☐ N☐	O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	190	O	Y☐ N☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Maintenance Shop Drive Way #7	O/C			
2	Maintenance Shop Drive Way #8	O/C			
3	West Side Power Block by VS-3 # 9	O/C			
4	West Side Power Block by VS-1 # 10	O/C			
5	West Side Cooling Tower by VS-4 # 11	O/C			
6	West side Cooling Tower by VS-4 # 12	O/C			
7	N.W. Corner Chemical Storage #1	O/C			
8	N.E. Corner Chemical Storage # 2	O/C			
9	East Side W.T. by Multimedia Filters # 3	O/C			
10	East Side W.T. by Multimedia Filters # 5	O/C			
11	North Side Bldg 10 # 6	O/C			
12	Between MP-444's and Water Treat # 4	O/C			
13	West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y☐ N☑	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☐ Beta ☑	Date: 11/9/24
Operator: Anthony	*To be completed each time unit is operated.
Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 155

Discharge Pressure: 162

Pump Suction Pressure: — Pump Discharge pressure: —

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145

Start time: 2143

Pump Suction Pressure: 15 Pump Discharge pressure: 150

Stop time: 2153 Total time running 10 min

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☐ Oil ☐ Mechanical ☐ Valves ☐ Water Jacket Heater ☐

Fuel level > 2/3: Yes ☐ No ☐ Monthly Fuel Consumption:

Battery volt Crank 1: Battery volt Crank 2:	Battery Condition:
Starting hour meter:	Start time:
Oil pressure start:	Oil Pressure finish:

Pump Suction Pressure: Pump Discharge pressure:

Coolant temperature after 30 minutes running:

Stop time: Stop hour meter: Total time running:

Comments:

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☑ BETA: ☐ Date: 11/30/24 Operator Marcelino S.

Valve Shed # 1 by Condenser

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	A/B1-1	150	✓O/C	✓	Y☑ N☐	
2	SG Unit 2	A/B1-2	160	✓O/C	✓	Y☑ N☐	
3	Reheaters	A/B1-3	180	✓O/C	✓	Y☑ N☐	
4	Rack 2 West HTF	A/B1-4	150	✓O/C	✓	Y☑ N☐	
5	Rack 2 East HTF	A/B1-5	150	✓O/C	✓	Y☑ N☐	
6	North Steel Pro	A/B1-6	150	✓O/C	✓	Y☑ N☐	
7	HTF Pumps	A/B1-7	155	✓O/C	✓	Y☑ N☐	
8	HTF Heaters	A/B1-8	160	✓O/C	✓	Y☑ N☐	
9	South Steel Pro	A/B1-9	160	✓O/C	✓	Y☑ N☐	
10	Lube Oil	A/B1-10	170	✓O/C	✓	Y☐ N☑	
11	Turbine Hose Stations	A/B1-11	160	✓O/C	✓	Y☑ N☐	
12	Turbine Bearings	A/B1-12	155	✓O/C	✓	Y☑ N☐	

Valve Shed # 2 by Overflow

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	A/B2-1	160	✓O/C	✓	Y☐ N☐	
2	Ullage Area	A/B2-2	155	✓O/C	✓	Y☐ N☐	
3	Ullage Structure	A/B2-11	160	✓O/C	✓	Y☐ N☐	
4	Rack 1 Middle Area	A/B2-5	160	✓O/C	✓	Y☐ N☐	
5	Overflow Tanks	A/B2-9	155	✓O/C	✓	Y☐ N☐	
6	Rack 1 South Area	A/B2-6	160	✓O/C	✓	Y☐ N☐	
7	Rack 1 West	A/B2-7	175	✓O/C	✓	Y☐ N☐	
8	Rack 1 North Area	A/B2-4	160	✓O/C	✓	Y☐ N☐	
9	Over flow AFFF	A/B2-8	160	✓O/C	✓	Y☐ N☑	
10	Expansion Vessel AFFF	A/B2-3	155	✓O/C	✓	Y☐ N☑	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	160	✓O/C	✓	Y☑ N☐	
2	Transformer Main	170	✓O/C	✓	Y☑ N☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side		O/C		Y☐ N☐	

Valve Shed # 5 by Control Bldg 10

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	A/B4-5	170	✓O/C	✓	Y☑ N☐	
2	Offices	A/B4-3	170	✓O/C	✓	Y☑ N☐	
3	Electrical Room	A/B4-4	170	✓O/C	✓	Y☑ N☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y☑ N☐	✓O/C	
2	Bearing 3	Y☑ N☐	✓O/C	
3	Bearing 4	Y☑ N☐	✓O/C	
4	Bearing 5	Y☑ N☐	✓O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y☐ N☑	✓O/C	
2	MP-200A	Y☑ N☐	✓O/C	
3	MP-200B	Y☑ N☐	✓O/C	
4	MP-200C	Y☑ N☐	✓O/C	
5	MP-200D	Y☑ N☐	✓O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	170	✓	Y☑ N☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	✓O/C			
2	Warehouse/Maintenance Shop Drive Way #8	O/C ✓			
3	West Side Power Block by VS-3 # 9	✓O/C			
4	West Side Power Block by VS-1 # 10	✓O/C			
5	West Side Cooling Tower by VS-4 # 11	✓O/C			
6	West side Cooling Tower by VS-4 # 12	✓O/C			
7	N.W. Corner Chemical Storage #1	✓O/C			
8	N.E. Corner Chemical Storage # 2	✓O/C			
9	East Side W.T. by Multimedia Filters # 3	✓O/C			
10	East Side W.T. by Multimedia Filters # 5	✓O/C			
11	North Side Bldg 10 # 6	✓O/C			
12	Between MP-444's and Water Treat # 4	O/C ✓			
13	Beta Only West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y☐ N☐	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☑ Beta ☐	Date: 11/23/24
Operator:	*To be completed each time unit is operated.
Reason for running pumps: Weekly test ☑ Maintenance ☑ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑	
Check the jockey pump on pressure drop. Start up pressure: 155	
Discharge Pressure: 162	
Pump Suction Pressure: —	Pump Discharge pressure: —
Comments:	

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑	
Start the pump on pressure drop. Start up pressure: 145	
Start time: 0600	
Pump Suction Pressure: 70	Pump Discharge pressure: 150
Stop time: 0610	Total time running 10 min
Comments:	

Diesel Pump

Pre-start Inspection: Coolant ☐ Oil ☐ Mechanical ☐ Valves ☐ Water Jacket Heater ☐	
Fuel level > 2/3: Yes ☐ No ☐	Monthly Fuel Consumption:
Battery volt Crank 1: Battery volt Crank 2:	Battery Condition:
Starting hour meter:	Start time:
Oil pressure start:	Oil Pressure finish:
Pump Suction Pressure:	Pump Discharge pressure:
Coolant temperature after 30 minutes running:	
Stop time: Stop hour meter:	Total time running:
Comments:	
Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).	

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☑ BETA: ☐ Date: 11/23/24 Operator Marcelino S.

Valve Shed # 1 by Condenser

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	A/B1-1	160	✓ O/C	✓	Y ☑ N ☐	
2	SG Unit 2	A/B1-2	165	✓ O/C	✓	Y ☑ N ☐	
3	Reheaters	A/B1-3	160	✓ O/C	✓	Y ☑ N ☐	
4	Rack 2 West HTF	A/B1-4	160	✓ O/C	✓	Y ☑ N ☐	
5	Rack 2 East HTF	A/B1-5	160	✓ O/C	✓	Y ☑ N ☐	
6	North Steel Pro	A/B1-6	160	✓ O/C	✓	Y ☑ N ☐	
7	HTF Pumps	A/B1-7	160	✓ O/C	✓	Y ☑ N ☐	
8	HTF Heaters	A/B1-8	160	✓ O/C	✓	Y ☑ N ☐	
9	South Steel Pro	A/B1-9	160	✓ O/C	✓	Y ☑ N ☐	
10	Lube Oil	A/B1-10	160	✓ O/C	✓	Y ☐ N ☑	
11	Turbine Hose Stations	A/B1-11	160	✓ O/C	✓	Y ☑ N ☐	
12	Turbine Bearings	A/B1-12	16	✓ O/C	✓	Y ☑ N ☐	

Valve Shed # 2 by Overflow

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	A/B2-1	160	✓ O/C	✓	Y ☐ N ☐	
2	Ullage Area	A/B2-2	155	✓ O/C	✓	Y ☑ N ☐	
3	Ullage Structure	A/B2-11	155	✓ O/C	✓	Y ☑ N ☐	
4	Rack 1 Middle Area	A/B2-5	160	✓ O/C	✓	Y ☑ N ☐	
5	Overflow Tanks	A/B2-9	155	✓ O/C	✓	Y ☑ N ☐	
6	Rack 1 South Area	A/B2-6	160	✓ O/C	✓	Y ☑ N ☐	
7	Rack 1 West	A/B2-7	160	✓ O/C	✓	Y ☑ N ☐	
8	Rack 1 North Area	A/B2-4	165	✓ O/C	✓	Y ☑ N ☐	
9	Over flow AFFF	A/B2-8	150	✓ O/C	✓	Y ☐ N ☑	
10	Expansion Vessel AFFF	A/B2-3	150	✓ O/C	✓	Y ☐ N ☑	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	150	✓ O/C	✓	Y ☑ N ☐	
2	Transformer Main	150	✓ O/C	✓	Y ☑ N ☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	150	✓ O/C	✓	Y ☑ N ☐	

Valve Shed # 5 by Control Bldg 10

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	A/B4-5	150	✓ O/C	✓	Y ☑ N ☐	
2	Offices	A/B4-3	155	✓ O/C	✓	Y ☑ N ☐	
3	Electrical Room	A/B4-4	150	✓ O/C	✓	Y ☑ N ☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y ☑ N ☐	✓ O/C	
2	Bearing 3	Y ☑ N ☐	✓ O/C	
3	Bearing 4	Y ☑ N ☐	✓ O/C	
4	Bearing 5	Y ☑ N ☐	✓ O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y ☐ N ☑	✓ O/C	
2	MP-200A	Y ☑ N ☐	✓ O/C	
3	MP-200B	Y ☑ N ☐	✓ O/C	
4	MP-200C	Y ☑ N ☐	✓ O/C	
5	MP-200D	Y ☑ N ☐	✓ O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	155	✓	Y ☑ N ☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C			
2	Warehouse/Maintenance Shop Drive Way #8	O/C			
3	West Side Power Block by VS-3 # 9	✓ O/C			
4	West Side Power Block by VS-1 # 10	✓ O/C			
5	West Side Cooling Tower by VS-4 # 11	✓ O/C			
6	West side Cooling Tower by VS-4 # 12	✓ O/C			
7	N.W. Corner Chemical Storage #1	✓ O/C			
8	N.E. Corner Chemical Storage # 2	✓ O/C			
9	East Side W.T. by Multimedia Filters # 3	✓ O/C			
10	East Side W.T. by Multimedia Filters # 5	✓ O/C			
11	North Side Bldg 10 # 6	✓ O/C			
12	Between MP-444's and Water Treat # 4	O/C ✓			
13	Beta Only West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y ☐ N ☐	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☑ Beta ☐	Date: 11/18/24
Operator: Anthony	*To be completed each time unit is operated.
Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 155

Discharge Pressure: 162

Pump Suction Pressure: — Pump Discharge pressure: —

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145

Start time: 0087

Pump Suction Pressure: 15 Pump Discharge pressure: 150

Stop time: 0017 Total time running 10 min

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☑ Mechanical ☑ Valves ☑ Water Jacket Heater ☑

Fuel level > 2/3: Yes ☐ No ☑ Monthly Fuel Consumption: —

Battery volt Crank 1: 26 Battery volt Crank 2: 26	Battery Condition: Good
Starting hour meter: 132.8	Start time: 0019
Oil pressure start: 1	Oil Pressure finish: 39

Pump Suction Pressure: 15 Pump Discharge pressure: 150

Coolant temperature after 30 minutes running: 190 @ 12 min

Stop time: 0031 Stop hour meter: 132.9 Total time running: 12 min

Comments:

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☑ BETA: ☐ Date: 11-15-24 Operator RAY

Valve Shed # 1 by Condenser

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	A/B1-1	150	✓O/C	✓	Y☑ N☐	
2	SG Unit 2	A/B1-2	180	✓O/C	✓	Y☑ N☐	
3	Reheaters	A/B1-3	190	✓O/C	✓	Y☑ N☐	
4	Rack 2 West HTF	A/B1-4	155	✓O/C	✓	Y☑ N☐	
5	Rack 2 East HTF	A/B1-5	180	✓O/C	✓	Y☑ N☐	
6	North Steel Pro	A/B1-6	160	✓O/C	✓	Y☑ N☐	
7	HTF Pumps	A/B1-7	155	✓O/C	✓	Y☑ N☐	
8	HTF Heaters	A/B1-8	180	✓O/C	✓	Y☑ N☐	
9	South Steel Pro	A/B1-9	160	✓O/C	✓	Y☑ N☐	
10	Lube Oil	A/B1-10	160	✓O/C	✓	Y☑ N☐	
11	Turbine Hose Stations	A/B1-11	160	✓O/C	✓	Y☑ N☐	
12	Turbine Bearings	A/B1-12	160	✓O/C	✓	Y☑ N☐	

Valve Shed # 2 by Overflow

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	A/B2-1	160	✓O/C	✓	Y☑ N☐	
2	Ullage Area	A/B2-2	160	✓O/C	✓	Y☑ N☐	
3	Ullage Structure	A/B2-11	155	✓O/C	✓	Y☑ N☐	
4	Rack 1 Middle Area	A/B2-5	185	✓O/C	✓	Y☑ N☐	
5	Overflow Tanks	A/B2-9	150	✓O/C	✓	Y☑ N☐	
6	Rack 1 South Area	A/B2-6	160	✓O/C	✓	Y☑ N☐	
7	Rack 1 West	A/B2-7	160	✓O/C	✓	Y☑ N☐	
8	Rack 1 North Area	A/B2-4	160	✓O/C	✓	Y☑ N☐	
9	Over flow AFFF	A/B2-8	0	O/C✓	✓	Y☑ N☐	
10	Expansion Vessel AFFF	A/B2-3	0	O/C ✓	✓	Y☑ N☐	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	160	✓O/C		Y☐ N☐	
2	Transformer Main	190	✓O/C		Y☑ N☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	155	✓O/C	N	Y☐ N☑	

Valve Shed # 5 by Control Bldg 10

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	A/B4-5	160	✓O/C	✓	Y☐ N☐	
2	Offices	A/B4-3	160	✓O/C	✓	Y☑ N☐	
3	Electrical Room	A/B4-4	160	✓O/C	✓	Y☑ N☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y☑ N☐	✓O/C	
2	Bearing 3	Y☑ N☐	✓O/C	
3	Bearing 4	Y☑ N☐	✓O/C	
4	Bearing 5	Y☑ N☐	✓O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y☐ N☑	✓O/C	
2	MP-200A	Y☑ N☐	✓O/C	
3	MP-200B	Y☑ N☐	✓O/C	
4	MP-200C	Y☑ N☐	✓O/C	
5	MP-200D	Y☐ N☐	✓O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	170	✓	Y☑ N☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C ✓			
2	Warehouse/Maintenance Shop Drive Way #8	✓O/C			
3	West Side Power Block by VS-3 # 9	✓O/C			
4	West Side Power Block by VS-1 # 10	✓O/C			
5	West Side Cooling Tower by VS-4 # 11	✓ O/C			
6	West side Cooling Tower by VS-4 # 12	✓ O/C			
7	N.W. Corner Chemical Storage #1	✓ O/C			
8	N.E. Corner Chemical Storage # 2	✓ O/C			
9	East Side W.T. by Multimedia Filters # 3	✓ O/C			
10	East Side W.T. by Multimedia Filters # 5	✓ O/C			
11	North Side Bldg 10 # 6	✓ O/C			
12	Between MP-444's and Water Treat # 4	O/C ✓			
13	Beta Only West Side Power Block Valve Shed #1	✓O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y☐ N☑	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☑ Beta ☐	Date: 11-7-24
Operator: Ray	*To be completed each time unit is operated.
Reason for running pumps: Weekly test ☐ Maintenance ☐ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☐ Valves ☐

Check the jockey pump on pressure drop. Start up pressure: 155

Discharge Pressure: 162

Pump Suction Pressure: – Pump Discharge pressure: –

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☐ Valves ☐

Start the pump on pressure drop. Start up pressure: 145

Start time: 1528

Pump Suction Pressure: 20 Pump Discharge pressure: 160

Stop time: 1538 Total time running 10

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☑ Mechanical ☑ Valves ☑ Water Jacket Heater ☑

Fuel level > 2/3: Yes ☑ No ☐ Monthly Fuel Consumption:

Battery volt Crank 1: 27.1 Battery volt Crank 2: 27.1	Battery Condition: Good
Starting hour meter: 132.7	Start time: 1025
Oil pressure start: 59 psi	Oil Pressure finish: 42

Pump Suction Pressure: 10 psi Pump Discharge pressure: 150 psi

Coolant temperature after 30 minutes running: 185

Stop time: 1035 Stop hour meter: 132.8 Total time running: 10 min

Comments:

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 -"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☑ BETA: ☐ Date: 11/8/24 Operator Warehouse

Valve Shed # 1 by Condenser

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1		✓ O/C	✓	Y☐ N☐	
2	SG Unit 2	180	✓ O/C	✓	Y☐ N☐	
3	Reheaters	180	✓ O/C	✓	Y☐ N☐	
4	Rack 2 West HTF		✓ O/C	✓	Y☐ N☐	
5	Rack 2 East HTF	180	✓ O/C	✓	Y☐ N☐	
6	North Steel Pro	160	✓ O/C	✓	Y☐ N☐	
7	HTF Pumps	[illegible]	O/C ✓	✓	Y☐ N☑	
8	HTF Heaters	190	✓ O/C	✓	Y☐ N☐	
9	South Steel Pro	160	✓ O/C	✓	Y☐ N☐	
10	Lube Oil	160	✓ O/C	✓	Y☐ N☐	
11	Turbine Hose Stations	160	✓ O/C	✓	Y☐ N☐	
12	Turbine Bearings	160	✓ O/C	✓	Y☐ N☐	

Valve Shed # 2 by Overflow

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	160	✓ O/C	✓	Y☑ N☐	
2	Ullage Area	160	✓ O/C	✓	Y☑ N☐	
3	Ullage Structure	155	✓ O/C	✓	Y☑ N☐	
4	Rack 1 Middle Area	155	✓ O/C	✓	Y☑ N☐	
5	Overflow Tanks	153	✓ O/C	✓	Y☑ N☐	
6	Rack 1 South Area	160	✓ O/C	✓	Y☑ N☐	
7	Rack 1 West	160	✓ O/C	✓	Y☑ N☐	
8	Rack 1 North Area	160	✓ O/C	✓	Y☑ N☐	
9	Over flow AFFF	0	O/C ✓	✓	Y☐ N☑	Lo to
10	Expansion Vessel AFFF	0	O/C ✓	✓	Y☐ N☑	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	160	✓ O/C		Y☑ N☐	
2	Transformer Main	150	✓ O/C		Y☑ N☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	155	✓ O/C	N	Y☐ N☑	

Valve Shed # 5 by Control Bldg 10

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	160	✓ O/C	✓	Y☑ N☐	
2	Offices	160	✓ O/C	✓	Y☑ N☐	
3	Electrical Room	160	✓ O/C	✓	Y☑ N☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y☑ N☐	✓ O/C	
2	Bearing 3	Y☑ N☐	✓ O/C	
3	Bearing 4	Y☑ N☐	✓ O/C	
4	Bearing 5	Y☑ N☐	✓ O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y☐ N☑	✓ O/C	
2	MP-200A	Y☑ N☐	✓ O/C	
3	MP-200B	Y☑ N☐	✓ O/C	
4	MP-200C	Y☑ N☐	✓ O/C	
5	MP-200D	Y☑ N☐	✓ O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	120	✓	Y☑ N☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C ✓			
2	Warehouse/Maintenance Shop Drive Way #8	✓ O/C			
3	West Side Power Block by VS-3 # 9	✓ O/C			
4	West Side Power Block by VS-1 # 10	✓ O/C			
5	West Side Cooling Tower by VS-4 # 11	✓ O/C			
6	West side Cooling Tower by VS-4 # 12	✓ O/C			
7	N.W. Corner Chemical Storage #1	✓ O/C			
8	N.E. Corner Chemical Storage # 2	✓ O/C			
9	East Side W.T. by Multimedia Filters # 3	✓ O/C			
10	East Side W.T. by Multimedia Filters # 5	✓ O/C			
11	North Side Bldg 10 # 6	✓ O/C			
12	Between MP-444's and Water Treat # 4	O/C ✓			
13	Beta Only West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y☐ N☐	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☐ Beta ☑	Date: 11/2/24
Operator: Diego Rodriguez	*To be completed each time unit is operated.
Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 155psi

Discharge Pressure: 170psi

Pump Suction Pressure: 18psi Pump Discharge pressure: 170psi

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145psi

Start time: 0029

Pump Suction Pressure: 15psi Pump Discharge pressure: 150psi

Stop time: 0039 Total time running 10 mins

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☑ Mechanical ☑ Valves ☑ Water Jacket Heater ☑

Fuel level > 2/3: Yes ☐ No ☑ Monthly Fuel Consumption: N/A.

Battery volt Crank 1: 27 Battery volt Crank 2: 27.	Battery Condition: ✓
Starting hour meter: 136.6	Start time: 0040
Oil pressure start: 64psi	Oil Pressure finish: 51psi

Pump Suction Pressure: 18psi Pump Discharge pressure: 150psi

Coolant temperature after 30 minutes running:

Stop time: 0045 Stop hour meter: 136.16. Total time running: 5 mins.

Comments:

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☐ BETA: ☑ Date: 11/2/24 Operator Erick C.

Valve Shed # 1 by Condenser

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	B1-1	160	✓ O/C	✓	Y☐ N☑	
2	SG Unit 2	B1-2	165	✓ O/C	✓	Y☐ N☑	
3	Reheaters	B1-3	160	✓ O/C	✓	Y☑ N☐	
4	Rack 2 West HTF	B1-4	165	✓ O/C	✓	Y☑ N☐	
5	Rack 2 East HTF	B1-5	160	✓ O/C	✓	Y☑ N☐	
6	North Steel Pro	B1-6	165	✓ O/C	✓	Y☐ N☑	
7	HTF Pumps	B1-7	160	✓ O/C	✓	Y☑ N☐	
8	HTF Heaters	B1-8	160	✓ O/C	✓	Y☑ N☐	
9	South Steel Pro	B1-9	160	✓ O/C	✓	Y☑ N☐	
10	Lube Oil	B1-10	160	✓ O/C	✓	Y☑ N☐	
11	Turbine Hose Stations	B1-11	155	✓ O/C	✓	Y☐ N☑	
12	Turbine Bearings	B1-12	160	✓ O/C	✓	Y☑ N☐	

Valve Shed # 2 by Overflow

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	B2-1	165	✓ O/C	✓	Y☑ N☐	
2	Ullage Area	B2-2	165	✓ O/C	✓	Y☑ N☐	
3	Ullage Structure	B2-11	165	✓ O/C	✓	Y☑ N☐	
4	Rack 1 Middle Area	B2-5	165	✓ O/C	✓	Y☑ N☐	
5	Overflow Tanks	B2-9	160	✓ O/C	✓	Y☑ N☐	
6	Rack 1 South Area	B2-6	160	✓ O/C	✓	Y☑ N☐	
7	Rack 1 West	B2-7	160	✓ O/C	✓	Y☑ N☐	
8	Rack 1 North Area	B2-4	160	✓ O/C	✓	Y☑ N☐	
9	Over flow AFFF	B2-8	Late	O/C ✓	✓	Y☑ N☐	
10	Expansion Vessel AFFF	B2-3	Late	O/C ✓	✓	Y☑ N☐	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	160	✓ O/C	✓	Y☑ N☐	
2	Transformer Main	160	✓ O/C	✓	Y☑ N☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	160	O/C	✓	Y☑ N☐	

Valve Shed # 5 by Control Bldg 10

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	B4-5	160	✓ O/C	✓	Y☑ N☐	
2	Offices	B4-3	160	✓ O/C	✓	Y☑ N☐	
3	Electrical Room	B4-4	160	✓ O/C	✓	Y☑ N☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y☑ N☐	✓ O/C	
2	Bearing 3	Y☑ N☐	✓ O/C	
3	Bearing 4	Y☑ N☐	✓ O/C	
4	Bearing 5	Y☑ N☐	✓ O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y☑ N☐	✓ O/C	
2	MP-200A	Y☑ N☐	✓ O/C	
3	MP-200B	Y☑ N☐	✓ O/C	
4	MP-200C	Y☑ N☐	✓ O/C	
5	MP-200D	Y☑ N☐	✓ O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	180	O	Y☐ N☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Maintenance Shop Drive Way #7	O/C ✓			
2	Maintenance Shop Drive Way #8	✓ O/C			
3	West Side Power Block by VS-3 # 9	✓ O/C			
4	West Side Power Block by VS-1 # 10	✓ O/C			
5	West Side Cooling Tower by VS-4 # 11	✓ O/C			
6	West side Cooling Tower by VS-4 # 12	✓ O/C			
7	N.W. Corner Chemical Storage #1	✓ O/C			
8	N.E. Corner Chemical Storage # 2	✓ O/C			
9	East Side W.T. by Multimedia Filters # 3	✓ O/C			
10	East Side W.T. by Multimedia Filters # 5	✓ O/C			
11	North Side Bldg 10 # 6	✓ O/C			
12	Between MP-444's and Water Treat # 4	O/C ✓			
13	West Side Power Block Valve Shed #1	✓ O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y☐ N☐	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☑ BETA: ☐ Date: 11/2/24 Operator Antone

Valve Shed # 1 by Condenser

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	A/B1-1	160	✓O/C	✓	Y☑ N☐	
2	SG Unit 2	A/B1-2	160	✓O/C	✓	Y☑ N☐	
3	Reheaters	A/B1-3	160	✓O/C	✓	Y☑ N☐	
4	Rack 2 West HTF	A/B1-4	155	✓O/C	✓	Y☑ N☐	
5	Rack 2 East HTF	A/B1-5	160	✓O/C	✓	Y☑ N☐	
6	North Steel Pro	A/B1-6	155	✓O/C	✓	Y☑ N☐	
7	HTF Pumps	A/B1-7	160	✓O/C	✓	Y☑ N☐	
8	HTF Heaters	A/B1-8	160	✓O/C	✓	Y☑ N☐	
9	South Steel Pro	A/B1-9	160	✓O/C	✓	Y☑ N☐	
10	Lube Oil	A/B1-10	160	✓O/C	✓	Y☑ N☐	
11	Turbine Hose Stations	A/B1-11	160	✓O/C	✓	Y☑ N☐	
12	Turbine Bearings	A/B1-12	160	✓O/C	✓	Y☑ N☐	

Valve Shed # 2 by Overflow

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	A/B2-1	165	✓O/C	✓	Y☑ N☐	
2	Ullage Area	A/B2-2	160	✓O/C	✓	Y☑ N☐	
3	Ullage Structure	A/B2-11	155	✓O/C	✓	Y☑ N☐	
4	Rack 1 Middle Area	A/B2-5	155	✓O/C	✓	Y☑ N☐	
5	Overflow Tanks	A/B2-9	155	✓O/C	✓	Y☑ N☐	
6	Rack 1 South Area	A/B2-6	160	✓O/C	✓	Y☑ N☐	
7	Rack 1 West	A/B2-7	160	✓O/C	✓	Y☑ N☐	
8	Rack 1 North Area	A/B2-4	160	✓O/C	✓	Y☑ N☐	
9	Over flow AFFF	A/B2-8	0	O/C X	✓	Y☑ N☐	
10	Expansion Vessel AFFF	A/B2-3	0	O/C X	✓	Y☑ N☐	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	160	✓O/C	✓	Y☑ N☐	
2	Transformer Main	160	✓O/C	✓	Y☑ N☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	160	✓O/C	✓	Y☑ N☐	

Valve Shed # 5 by Control Bldg 10

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	A/B4-5	160	✓O/C	✓	Y☑ N☐	
2	Offices	A/B4-3	160	✓O/C	✓	Y☑ N☐	
3	Electrical Room	A/B4-4	160	✓O/C	✓	Y☑ N☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y☑ N☐	✓O/C	
2	Bearing 3	Y☑ N☐	✓O/C	
3	Bearing 4	Y☑ N☐	✓O/C	
4	Bearing 5	Y☑ N☐	✓O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y☑ N☐	✓O/C	
2	MP-200A	Y☑ N☐	✓O/C	
3	MP-200B	Y☑ N☐	✓O/C	
4	MP-200C	Y☑ N☐	✓O/C	
5	MP-200D	Y☑ N☐	✓O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	180	✓	Y☑ N☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C X			
2	Warehouse/Maintenance Shop Drive Way #8	✓O/C			
3	West Side Power Block by VS-3 # 9	✓O/C			
4	West Side Power Block by VS-1 # 10	✓O/C			
5	West Side Cooling Tower by VS-4 # 11	✓O/C			
6	West side Cooling Tower by VS-4 # 12	✓O/C			
7	N.W. Corner Chemical Storage #1	✓O/C			
8	N.E. Corner Chemical Storage # 2	✓O/C			
9	East Side W.T. by Multimedia Filters # 3	✓O/C			
10	East Side W.T. by Multimedia Filters # 5	✓O/C			
11	North Side Bldg 10 # 6	✓O/C			
12	Between MP-444's and Water Treat # 4	O/C X			
13	Beta Only West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y☐ N☑	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☑ Beta ☐	Date: 11 - 3 - 24
Operator: Jose Garcia	To be completed each time unit is operated. The NFPA Form AES 5.1must be completed weekly.
Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 155 psi

Discharge Pressure: 165 psi

Pump Suction Pressure: NA Pump Discharge pressure: 165

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145 psi

Start time: 1859

Pump Suction Pressure: 15psi Pump Discharge pressure: 150 psi

Stop time: 1909 Total time running 10min

Comments: Small leak on the suction side of Electric pump

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☑ Mechanical ☑ Valves ☑ Water Jacket Heater ☑

Fuel level > 2/3: Yes ☐ No ☑ Monthly Fuel Consumption: NA

Battery volt Crank 1: 26 Battery volt Crank 2: 26	Battery Condition: good needs cleaning
Starting hour meter: 132.7	Start time: 1913
Oil pressure start: 59psi	Oil Pressure finish: 49 psi

Pump Suction Pressure: 65 Pump Discharge pressure: 165 psi

Coolant temperature after 30 minutes running: 172

Stop time: 1923 Stop hour meter: 132.7 Total run time: 10min January 1st hour meter: Total YTD hours:

Comments:

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

This new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable ann ual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☐ Beta ☑ Date: 12/28/24

*To be completed each time unit is operated.

Operator: Diego. Rodriguez

Reason for running pumps: Weekly test ✓ Maintenance ☐ Emergency ☐

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 155psi

Discharge Pressure: 165psi

Pump Suction Pressure: Pump Discharge pressure: 167psi

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145psi

Start time: 1914

Pump Suction Pressure: 15psi Pump Discharge pressure: 150psi

Stop time: 1924 Total time running 10 mins.

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☑ Mechanical ☑ Valves ☑ Water Jacket Heater ☑

Fuel level > 2/3: Yes ☐ No ☑ Monthly Fuel Consumption: N/A.

Battery volt Crank 1: 26.5 Battery volt Crank 2: 26.5 Battery Condition: Good.

Starting hour meter: 136.7 H. Start time: 1925

Oil pressure start: 67psi Oil Pressure finish: 53psi

Pump Suction Pressure: 20psi Pump Discharge pressure: 150psi

Coolant temperature after 30 minutes running: 199 F.

Stop time: 1930 Stop hour meter: 136.7H Total time running: 5mins.

Comments:

Fuel TANK @ 1/2.

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

This new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25- "Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☐ BETA: ☑ Date: 12/28/24 Operator Erick C.

Valve Shed # 1 by Condenser

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1 A/B1-1	160	✓O/C	✓	Y☐ N☐	
2	SG Unit 2 A/B1-2	160	✓O/C	✓	Y☐ N☐	
3	Reheaters A/B1-3	160	✓O/C	✓	Y☐ N☐	
4	Rack 2 West HTF A/B1-4	165	✓O/C	✓	Y☐ N☐	
5	Rack 2 East HTF A/B1-5	155	✓O/C	✓	Y☐ N☐	
6	North Steel Pro A/B1-6	160	✓O/C	✓	Y☐ N☐	
7	HTF Pumps A/B1-7	160	✓O/C	✓	Y☐ N☐	
8	HTF Heaters A/B1-8	155	✓O/C	✓	Y☐ N☐	
9	South Steel Pro A/B1-9	160	✓O/C	✓	Y☐ N☐	
10	Lube Oil A/B1-10	160	✓O/C	✓	Y☐ N☐	
11	Turbine Hose Stations A/B1-11	160	✓O/C	✓	Y☐ N☐	
12	Turbine Bearings A/B1-12	160	✓O/C	✓	Y☐ N☐	

Valve Shed # 2 by Overflow

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels A/B2-1	165	O/C	✓	Y☐ N☑	
2	Ullage Area A/B2-2	165	O/C	✓	Y☐ N☑	
3	Ullage Structure A/B2-11	160	O/C	✓	Y☑ N☐	
4	Rack 1 Middle Area A/B2-5	165	O/C	✓	Y☐ N☑	
5	Overflow Tanks A/B2-9	155	✓O/C	✓	Y☑ N☐	
6	Rack 1 South Area A/B2-6	160	✓O/C	✓	Y☐ N☑	
7	Rack 1 West A/B2-7	160	✓O/C	✓	Y☑ N☐	
8	Rack 1 North Area A/B2-4	160	✓O/C	✓	Y☑ N☐	
9	Over flow AFFF A/B2-8	165	✓O/C	✓	Y☐ N☑	
10	Expansion Vessel AFFF A/B2-3	165	✓O/C	✓	Y☐ N☑	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	155	✓O/C	✓	Y☑ N☐	
2	Transformer Main	155	✓O/C	✓	Y☑ N☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	105	✓O/C	✓	Y☑ N☐	

Valve Shed # 5 by Control Bldg 10

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room A/B4-5	160	✓O/C	✓	Y☑ N☐	
2	Offices A/B4-3	160	✓O/C	✓	Y☑ N☐	
3	Electrical Room A/B4-4	155	✓O/C	✓	Y☐ N☑	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y☑ N☐	O/C	
2	Bearing 3	Y☑ N☐	O/C	
3	Bearing 4	Y☑ N☐	O/C	
4	Bearing 5	Y☑ N☐	O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y☑ N☐	O/C	
2	MP-200A	Y☑ N☐	O/C	
3	MP-200B	Y☑ N☐	O/C	
4	MP-200C	Y☑ N☐	O/C	
5	MP-200D	Y☑ N☐	O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	180	O	Y☑ N☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C ✓			
2	Warehouse/Maintenance Shop Drive Way #8	✓O/C			
3	West Side Power Block by VS-3 # 9	✓O/C			
4	West Side Power Block by VS-1 # 10	✓O/C			
5	West Side Cooling Tower by VS-4 # 11	✓O/C			
6	West side Cooling Tower by VS-4 # 12	✓O/C			
7	N.W. Corner Chemical Storage #1	✓O/C			
8	N.E. Corner Chemical Storage # 2	✓O/C			
9	East Side W.T. by Multimedia Filters # 3	✓O/C			
10	East Side W.T. by Multimedia Filters # 5	✓O/C			
11	North Side Bldg 10 # 6	✓O/C			
12	Between MP-444's and Water Treat # 4	O/C ✓			
13	Beta Only West Side Power Block Valve Shed #1	✓O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y☐ N☑	

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☐ Beta ☑ Date: 12/21/24

*To be completed each time unit is operated

Operator: Erick

Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 155

Discharge Pressure: 163

Pump Suction Pressure: N/A. Pump Discharge pressure: 163.

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145.

Start time: 23:58

Pump Suction Pressure: 15. Pump Discharge pressure: 150

Stop time: 00:06 Total time running 10

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☑ Mechanical ☑ Valves ☑ Water Jacket Heater ☑

Fuel level > 2/3: Yes ☑ No ☐ Monthly Fuel Consumption:

Battery volt Crank 1: 27.2 Battery volt Crank 2: 27.2. Battery Condition: Good.

Starting hour meter: 00:10 136.7. Start time: 00:10

Oil pressure start: 62 Oil Pressure finish: 52.

Pump Suction Pressure: 24 Pump Discharge pressure: 150

Coolant temperature after 30 minutes running: 174.

Stop time: 00:15. Stop hour meter: 136.7. Total time running: 5 min.

Comments: 1761 RPM

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

This new direct drive fire pump engine shall be limited to use for emergency fire suppression defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25- "Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. Title 17 CCR 93115.6(a)(4)

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☐ BETA: ☑ Date: 12/21/24 Operator: Diego F.

Valve Shed # 1 by Condenser

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1 A/B1-1	155	O/C	✓	Y ☐ N ☑	
2	SG Unit 2 A/B1-2	160	O/C	✓	Y ☐ N ☐	
3	Reheaters A/B1-3	160	O/C	✓	Y ☐ N ☐	
4	Rack 2 West HTF A/B1-4	165	O/C	✓	Y ☐ N ☐	
5	Rack 2 East HTF A/B1-5	155	O/C	✓	Y ☐ N ☐	
6	North Steel Pro A/B1-6	160	O/C	✓	Y ☐ N ☑	
7	HTF Pumps A/B1-7	155	O/C	✓	Y ☐ N ☐	
8	HTF Heaters A/B1-8	155	O/C	✓	Y ☐ N ☐	
9	South Steel Pro A/B1-9	160	O/C	✓	Y ☐ N ☐	
10	Lube Oil A/B1-10	155	O/C	✓	Y ☐ N ☐	
11	Turbine Hose Stations A/B1-11	155	O/C	✓	Y ☐ N ☑	
12	Turbine Bearings A/B1-12	160	O/C	✓	Y ☐ N ☐	

Valve Shed # 2 by Overflow

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels A/B2-1	160	O/C	✓	Y ☐ N ☐	
2	Ullage Area A/B2-2	160	O/C	✓	Y ☐ N ☐	
3	Ullage Structure A/B2-11	155	O/C	✓	Y ☐ N ☐	
4	Rack 1 Middle Area A/B2-5	160	O/C	✓	Y ☐ N ☐	
5	Overflow Tanks A/B2-9	165	O/C	✓	Y ☐ N ☐	
6	Rack 1 South Area A/B2-6	160	O/C	✓	Y ☐ N ☑	
7	Rack 1 West A/B2-7	160	O/C	✓	Y ☐ N ☐	
8	Rack 1 North Area A/B2-4	160	O/C	✓	Y ☐ N ☐	
9	Over flow AFFF A/B2-8	160	O/C	✓	Y ☐ N ☑	
10	Expansion Vessel AFFF A/B2-3	160	O/C	✓	Y ☐ N ☑	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	155	O/C	✓	Y ☐ N ☐	
2	Transformer Main	155	O/C	✓	Y ☐ N ☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	160	O/C	✗	Y ☑ N ☐	

Valve Shed # 5 by Control Bldg 10

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room A/B4-5	155	O/C	✓	Y ☐ N ☑	
2	Offices A/B4-3	155	O/C	✓	Y ☑ N ☐	
3	Electrical Room A/B4-4	155	O/C	✓	Y ☐ N ☑	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y ☐ N ☐	O/C	
2	Bearing 3	Y ☐ N ☐	O/C	
3	Bearing 4	Y ☐ N ☐	O/C	
4	Bearing 5	Y ☐ N ☐	O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y ☐ N ☑	O/C	
2	MP-200A	Y ☐ N ☐	O/C	
3	MP-200B	Y ☐ N ☐	O/C	
4	MP-200C	Y ☐ N ☐	O/C	
5	MP-200D	Y ☐ N ☐	O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	170	O	Y ☑ N ☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C			
2	Warehouse/Maintenance Shop Drive Way #8	O/C			
3	West Side Power Block by VS-3 # 9	O/C			
4	West Side Power Block by VS-1 # 10	O/C			
5	West Side Cooling Tower by VS-4 # 11	O/C			
6	West side Cooling Tower by VS-4 # 12	O/C			
7	N.W. Corner Chemical Storage #1	O/C			
8	N.E. Corner Chemical Storage # 2	O/C			
9	East Side W.T. by Multimedia Filters # 3	O/C			
10	East Side W.T. by Multimedia Filters # 5	O/C			
11	North Side Bldg 10 # 6	O/C			
12	Between MP-444's and Water Treat # 4	O/C			
13	Beta Only West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y ☐ N ☑	

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☐ Beta ☑ | Date: 12/14/24
*To be completed each time unit is operated

Operator: Erick

Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure:

Discharge Pressure: Pump not in service

Pump Suction Pressure: Pump Discharge pressure:

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure:

Start time: Pump not in Service.

Pump Suction Pressure: Pump Discharge pressure:

op time: Total time running

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☑ Mechanical ☑ Valves ☑ Water Jacket Heater ☑

Fuel level > 2/3: Yes ☑ No ☐ Monthly Fuel Consumption:

Battery volt Crank 1: Battery volt Crank 2: | Battery Condition: ✓

Starting hour meter: 136.7 | Start time: n/a

Oil pressure start: N/A | Oil Pressure finish: n/a.

Pump Suction Pressure: Pump Discharge pressure:

Coolant temperature after 30 minutes running:

Stop time: Stop hour meter: Total time running:

Comments: Pump is not in Service - valved out

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above

Note: Fuel consumption 27 gal/ h approximately

here is no limit on engine operation for emergency use. [Title 17 CCR 93115 6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☐ BETA: ☑ Date: 12/14/24 Operator: Diego R.

Valve Shed # 1 by Condenser

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1 A/B1-1	60	O/C	✓	Y☐ N☐	
2	SG Unit 2 A/B1-2	0	O/C	✓	Y☐ N☐	
3	Reheaters A/B1-3	0	O/C	✓	Y☐ N☐	
4	Rack 2 West HTF A/B1-4	150	O/C	✓	Y☐ N☐	
5	Rack 2 East HTF A/B1-5	130	O/C	✓	Y☐ N☐	
6	North Steel Pro A/B1-6	0	O/C	✓	Y☐ N☑	
7	HTF Pumps A/B1-7	145	O/C	✓	Y☐ N☐	
8	HTF Heaters A/B1-8	150	O/C	✓	Y☐ N☐	
9	South Steel Pro A/B1-9	150	O/C	✓	Y☐ N☐	
10	Lube Oil A/B1-10	0	O/C	✓	Y☐ N☐	
11	Turbine Hose Stations A/B1-11	0	O/C	✓	Y☐ N☑	
12	Turbine Bearings A/B1-12	140	O/C	✓	Y☑ N☐	

Valve Shed # 2 by Overflow

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels A/B2-1	135	O/C	✓	Y☐ N☐	
2	Ullage Area A/B2-2	135	O/C	✓	Y☐ N☐	
3	Ullage Structure A/B2-11	105	O/C	✓	Y☐ N☐	
4	Rack 1 Middle Area A/B2-5	0	O/C	✓	Y☐ N☐	
5	Overflow Tanks A/B2-9	140	O/C	✓	Y☐ N☐	
6	Rack 1 South Area A/B2-6	20	O/C	✓	Y☐ N☐	
7	Rack 1 West A/B2-7	125	O/C	✓	Y☐ N☐	
8	Rack 1 North Area A/B2-4	0	O/C	✓	Y☐ N☐	
9	Over flow AFFF A/B2-8	0	O/C	✓	Y☐ N☑	
10	Expansion Vessel AFFF A/B2-3	130	O/C	✓	Y☐ N☑	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	0	O/C	✓	Y☐ N☐	
2	Transformer Main	120	O/C	✓	Y☐ N☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	0	O/C	✗	Y☑ N☐	

Valve Shed # 5 by Control Bldg 10

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room A/B4-5	150	O/C	✓	Y☐ N☐	
2	Offices A/B4-3	150	O/C	✓	Y☐ N☐	
3	Electrical Room A/B4-4	150	O/C	✓	Y☐ N☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y☐ N☐	O/C	
2	Bearing 3	Y☐ N☐	O/C	
3	Bearing 4	Y☐ N☐	O/C	
4	Bearing 5	Y☐ N☐	O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y☐ N☑	O/C	
2	MP-200A	Y☑ N☐	O/C	
3	MP-200B	Y☑ N☐	O/C	
4	MP-200C	Y☑ N☐	O/C	
5	MP-200D	Y☑ N☐	O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	170	O	Y☑ N☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C			
2	Warehouse/Maintenance Shop Drive Way #8	O/C			
3	West Side Power Block by VS-3 # 9	O/C			
4	West Side Power Block by VS-1 # 10	O/C			
5	West Side Cooling Tower by VS-4 # 11	O/C			
6	West side Cooling Tower by VS-4 # 12	O/C			
7	N.W. Corner Chemical Storage #1	O/C			
8	N.E. Corner Chemical Storage # 2	O/C			
9	East Side W.T. by Multimedia Filters # 3	O/C			LoTo
10	East Side W.T. by Multimedia Filters # 5	O/C			LoTo
11	North Side Bldg 10 # 6	O/C			
12	Between MP-444's and Water Treat # 4	O/C			
13	Beta Only West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y☐ N☑	

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☐ Beta ☒ Date: 12/4/24

Operator: Diego Rodriguez *To be completed each time unit is operated

Reason for running pumps: Weekly test ☐ Maintenance ☐ Emergency ☐

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☐ Mechanical ☐ Valves ☐

Check the jockey pump on pressure drop. Start up pressure:

Discharge Pressure:

Pump Suction Pressure: Pump Discharge pressure:

Comments: VALVED OUT

Electric Pump

Pre-start Inspection: Electrical Feed ☐ Mechanical ☐ Valves ☐

Start the pump on pressure drop. Start up pressure:

Start time:

Pump Suction Pressure: Pump Discharge pressure:

Stop time: Total time running

Comments: VALVED OUT

Diesel Pump

Pre-start Inspection: Coolant ☐ Oil ☐ Mechanical ☐ Valves ☐ Water Jacket Heater ☐

Fuel level > 2/3: Yes ☐ No ☐ Monthly Fuel Consumption:

Battery volt Crank 1: Battery volt Crank 2: Battery Condition:

Starting hour meter: Start time:

Oil pressure start: Oil Pressure finish:

Pump Suction Pressure: Pump Discharge pressure:

Coolant temperature after 30 minutes running:

Stop time: Stop hour meter: Total time running:

Comments: VALVED OUT.

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

This new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above

Note: Fuel consumption 27 gal/ h approximately

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☐ BETA: ☑ Date: 12/7/24 Operator E. Camillo

Valve Shed # 1 by Condenser

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	A/B1-1	✓ O/C	✓	Y ☐ N ☑	
2	SG Unit 2	A/B1-2	✓ O/C	✓	Y ☐ N ☑	
3	Reheaters	A/B1-3	✓ O/C	✓	Y ☑ N ☐	
4	Rack 2 West HTF	A/B1-4	✓ O/C	✓	Y ☑ N ☐	
5	Rack 2 East HTF	A/B1-5	✓ O/C	✓	Y ☑ N ☐	
6	North Steel Pro	A/B1-6	✓ O/C	✓	Y ☐ N ☑	
7	HTF Pumps	A/B1-7	✓ O/C	✓	Y ☑ N ☐	
8	HTF Heaters	A/B1-8	✓ O/C	✓	Y ☑ N ☐	
9	South Steel Pro	A/B1-9	✓ O/C	✓	Y ☑ N ☐	
10	Lube Oil	A/B1-10	✓ O/C	✓	Y ☑ N ☐	
11	Turbine Hose Stations	A/B1-11	✓ O/C	✓	Y ☐ N ☑	
12	Turbine Bearings	A/B1-12	✓ O/C	✓	Y ☑ N ☐	

Valve Shed # 2 by Overflow

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	A/B2-1	✓ O/C	✓	Y ☐ N ☐	
2	Ullage Area	A/B2-2	✓ O/C	✓	Y ☐ N ☐	
3	Ullage Structure	A/B2-11	✓ O/C	✓	Y ☑ N ☐	
4	Rack 1 Middle Area	A/B2-5	✓ O/C	✓	Y ☑ N ☐	
5	Overflow Tanks	A/B2-9	✓ O/C	✓	Y ☑ N ☐	
6	Rack 1 South Area	A/B2-6	✓ O/C	✓	Y ☑ N ☐	
7	Rack 1 West	A/B2-7	✓ O/C	✓	Y ☑ N ☐	
8	Rack 1 North Area	A/B2-4	✓ O/C	✓	Y ☐ N ☑	
9	Over flow AFFF	A/B2-8	✓ O/C	✓	Y ☐ N ☑	
10	Expansion Vessel AFFF	A/B2-3	✓ O/C	✓	Y ☐ N ☑	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	—	O/C	✓	Y ☑ N ☐	
2	Transformer Main	—	O/C	✓	Y ☑ N ☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	—	O/C	✓	Y ☑ N ☐	

Valve Shed # 5 by Control Bldg 10

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	A/B4-5	✓ O/C	✓	Y ☑ N ☐	
2	Offices	A/B4-3	✓ O/C	✓	Y ☑ N ☐	
3	Electrical Room	A/B4-4	✓ O/C	✓	Y ☑ N ☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y ☑ N ☐	✓ O/C	
2	Bearing 3	Y ☑ N ☐	✓ O/C	
3	Bearing 4	Y ☑ N ☐	✓ O/C	
4	Bearing 5	Y ☑ N ☐	✓ O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y ☐ N ☐	✓ O/C	
2	MP-200A	Y ☑ N ☐	✓ O/C	
3	MP-200B	Y ☑ N ☐	✓ O/C	
4	MP-200C	Y ☑ N ☐	✓ O/C	
5	MP-200D	Y ☑ N ☐	✓ O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	—	O	Y ☑ N ☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C			
2	Warehouse/Maintenance Shop Drive Way #8	O/C			
3	West Side Power Block by VS-3 # 9	✓ O/C			
4	West Side Power Block by VS-1 # 10	✓ O/C			
5	West Side Cooling Tower by VS-4 # 11	✓ O/C			
6	West side Cooling Tower by VS-4 # 12	✓ O/C			
7	N.W. Corner Chemical Storage #1	✓ O/C			
8	N.E. Corner Chemical Storage # 2	✓ O/C			
9	East Side W.T. by Multimedia Filters # 3	O/C ✓			
10	East Side W.T. by Multimedia Filters # 5	O/C ✓			
11	North Side Bldg 10 # 6	O/C			
12	Between MP-444's and Water Treat # 4	O/C ✓			
13	Beta Only West Side Power Block Valve Shed # 1	✓ O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y ☐ N ☐	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☑ Beta ☐	Date: 12-28-24
Operator: Jose Garcia	**To be completed each time unit is operated. The NFPA Form AES 5.1must be completed weekly.**
Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑	
Check the jockey pump on pressure drop. Start up pressure: 155 psi	
Discharge Pressure: 165	
Pump Suction Pressure: ~~165~~ NA	Pump Discharge pressure: 165
Comments:	

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑	
Start the pump on pressure drop. Start up pressure: 165	
Start time: 1854	
Pump Suction Pressure: 15psi	Pump Discharge pressure: 150
Stop time: ~~1855~~ 1904	Total time running 10min
Comments:	

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☑ Mechanical ☑ Valves ☑ Water Jacket Heater ☑	
Fuel level > 2/3: Yes ☑ No ☐	Monthly Fuel Consumption: N/A
Battery volt Crank 1: 26.5 Battery volt Crank 2: 26.5	Battery Condition: ✓ mild cleaning
Starting hour meter: 1329	Start time: 2006
Oil pressure start: 56	Oil Pressure finish: 44 psi
Pump Suction Pressure: 15psi	Pump Discharge pressure: 165
Coolant temperature after 30 minutes running:	
Stop time: ~~2016~~ 2016 Stop hour meter: 1329 Total run time: 10min January 1st hour meter:	Total YTD hours:
Comments: Coolant Below minimum	

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

This new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable ann ual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☑ BETA: ☐ Date: 12/20/24 Operator Antone

Valve Shed # 1 by Condenser

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	160	☑ O/C	☑	Y ☑ N ☐	
2	SG Unit 2	160	☑ O/C	☑	Y ☑ N ☐	
3	Reheaters	160	☑ O/C	☑	Y ☑ N ☐	
4	Rack 2 West HTF	160	☑ O/C	☑	Y ☑ N ☐	
5	Rack 2 East HTF	160	☑ O/C	☑	Y ☑ N ☐	
6	North Steel Pro	160	☑ O/C	☑	Y ☑ N ☐	
7	HTF Pumps	160	☑ O/C	☑	Y ☑ N ☐	
8	HTF Heaters	160	☑ O/C	☑	Y ☑ N ☐	
9	South Steel Pro	160	☑ O/C	☑	Y ☑ N ☐	
10	Lube Oil	160	☑ O/C	☑	Y ☑ N ☐	
11	Turbine Hose Stations	160	☑ O/C	☑	Y ☑ N ☐	
12	Turbine Bearings	160	☑ O/C	☑	Y ☑ N ☐	

Valve Shed # 2 by Overflow

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	165	☑ O/C	☑	Y ☑ N ☐	
2	Ullage Area	165	☑ O/C	☑	Y ☑ N ☐	
3	Ullage Structure	155	☑ O/C	☑	Y ☑ N ☐	
4	Rack 1 Middle Area	155	☑ O/C	☑	Y ☑ N ☐	
5	Overflow Tanks	160	☑ O/C	☑	Y ☑ N ☐	
6	Rack 1 South Area	160	☑ O/C	☑	Y ☑ N ☐	
7	Rack 1 West	160	☑ O/C	☑	Y ☑ N ☐	
8	Rack 1 North Area	160	☑ O/C	☑	Y ☑ N ☐	
9	Over flow AFFF	155	☑ O/C	☑	Y ☑ N ☐	
10	Expansion Vessel AFFF	155	☑ O/C	☑	Y ☑ N ☐	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	160	☑ O/C	☑	Y ☑ N ☐	
2	Transformer Main	160	☑ O/C	☑	Y ☑ N ☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Cooling Tower West Side	160	☑ O/C	☑	Y ☑ N ☐	

Valve Shed # 5 by Control Bldg 10

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	165	☑ O/C	☑	Y ☑ N ☐	
2	Offices	165	☑ O/C	☑	Y ☑ N ☐	
3	Electrical Room	160	☑ O/C	☑	Y ☑ N ☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y ☑ N ☐	☑ O/C	
2	Bearing 3	Y ☑ N ☐	☑ O/C	
3	Bearing 4	Y ☑ N ☐	☑ O/C	
4	Bearing 5	Y ☑ N ☐	☑ O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y ☑ N ☐	☑ O/C	
2	MP-200A	Y ☑ N ☐	☑ O/C	
3	MP-200B	Y ☑ N ☐	☑ O/C	
4	MP-200C	Y ☑ N ☐	☑ O/C	
5	MP-200D	Y ☑ N ☐	☑ O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	180	☑	Y ☑ N ☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C X			
2	Warehouse/Maintenance Shop Drive Way #8	☑ O/C			
3	West Side Power Block by VS-3 # 9	☑ O/C			
4	West Side Power Block by VS-1 # 10	☑ O/C			
5	West Side Cooling Tower by VS-4 # 11	☑ O/C			
6	West side Cooling Tower by VS-4 # 12	☑ O/C			
7	N.W. Corner Chemical Storage #1	☑ O/C			
8	N.E. Corner Chemical Storage # 2	☑ O/C			
9	East Side W.T. by Multimedia Filters # 3	☑ O/C			
10	East Side W.T. by Multimedia Filters # 5	☑ O/C			
11	North Side Bldg 10 # 6	☑ O/C			
12	Between MP-444 s and Water Treat # 4	☑ O/C			
13	Beta Only West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y ☐ N ☑	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☑ Beta ☐ | Date: 12/21/24

Operator: Antone | *To be completed each time unit is operated.

Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 155

Discharge Pressure: NA

Pump Suction Pressure: NA Pump Discharge pressure: NA

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145

Start time: 2019

Pump Suction Pressure: 5 Pump Discharge pressure: 140

Stop time: 2029 Total time running 10 min

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☐ Oil ☐ Mechanical ☐ Valves ☐ Water Jacket Heater ☐

Fuel level > 2/3: Yes ☐ No ☐ Monthly Fuel Consumption:

Battery volt Crank 1: Battery volt Crank 2:	Battery Condition:
Starting hour meter:	Start time:
Oil pressure start:	Oil Pressure finish:

Pump Suction Pressure: Pump Discharge pressure:

Coolant temperature after 30 minutes running:

Stop time: Stop hour meter: Total time running:

Comments:

Corroded Battery terminal, no test due to low coolant lvl

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☑ BETA: ☐ Date: 12/21/21 Operator Jose Garcia

Valve Shed # 1 by Condenser

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	A/B1-1	100	✓ O/C	✓	Y ☑ N ☐	
2	SG Unit 2	A/B1-2	100	✓ O/C	✓	Y ☑ N ☐	
3	Reheaters	A/B1-3	100	✓ O/C	✓	Y ☑ N ☐	
4	Rack 2 West HTF	A/B1-4	100	✓ O/C	✓	Y ☑ N ☐	
5	Rack 2 East HTF	A/B1-5	100	✓ O/C	✓	Y ☑ N ☐	
6	North Steel Pro	A/B1-6	100	✓ O/C	✓	Y ☑ N ☐	
7	HTF Pumps	A/B1-7	100	✓ O/C	✓	Y ☑ N ☐	
8	HTF Heaters	A/B1-8	100	✓ O/C	✓	Y ☑ N ☐	
9	South Steel Pro	A/B1-9	100	✓ O/C	✓	Y ☑ N ☐	
10	Lube Oil	A/B1-10	100	✓ O/C	✓	Y ☑ N ☐	
11	Turbine Hose Stations	A/B1-11	100	✓ O/C	✓	Y ☑ N ☐	
12	Turbine Bearings	A/B1-12	100	✓ O/C	✓	Y ☑ N ☐	

Valve Shed # 2 by Overflow

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	A/B2-1	100	✓ O/C	✓	Y ☑ N ☐	
2	Ullage Area	A/B2-2	100	✓ O/C	✓	Y ☑ N ☐	
3	Ullage Structure	A/B2-11	100	✓ O/C	✓	Y ☑ N ☐	
4	Rack 1 Middle Area	A/B2-5	100	✓ O/C	✓	Y ☑ N ☐	
5	Overflow Tanks	A/B2-9	100	✓ O/C	✓	Y ☑ N ☐	
6	Rack 1 South Area	A/B2-6	100	✓ O/C	✓	Y ☑ N ☐	
7	Rack 1 West	A/B2-7	100	✓ O/C	✓	Y ☑ N ☐	
8	Rack 1 North Area	A/B2-4	100	✓ O/C	✓	Y ☑ N ☐	
9	Over flow AFFF	A/B2-8	100	✓ O/C	✓	Y ☑ N ☐	
10	Expansion Vessel AFFF	A/B2-3	100	✓ O/C	✓	Y ☑ N ☐	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	100	✓ O/C	✓	Y ☑ N ☐	
2	Transformer Main	100	✓ O/C	✓	Y ☑ N ☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	100	✓ O/C	✓	Y ☑ N ☐	

Valve Shed # 5 by Control Bldg 10

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	A/B4-5	100	✓ O/C	✓	Y ☑ N ☐	
2	Offices	A/B4-3	100	✓ O/C	✓	Y ☑ N ☐	
3	Electrical Room	A/B4-4	100	✓ O/C	✓	Y ☑ N ☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y ☑ N ☐	✓ O/C	
2	Bearing 3	Y ☑ N ☐	✓ O/C	
3	Bearing 4	Y ☑ N ☐	✓ O/C	
4	Bearing 5	Y ☑ N ☐	✓ O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y ☐ N ☑	✓ O/C	missing Red ZIP tie
2	MP-200A	Y ☐ N ☐	O/C	
3	MP-200B	Y ☐ N ☐	O/C	
4	MP-200C	Y ☐ N ☐	O/C	
5	MP-200D	Y ☐ N ☐	O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	180	O	Y ☑ N ☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C ✓			
2	Warehouse/Maintenance Shop Drive Way #8	✓ O/C			
3	West Side Power Block by VS-3 # 9	✓ O/C			
4	West Side Power Block by VS-1 # 10	✓ O/C			missing [illegible] Sign
5	West Side Cooling Tower by VS-4 # 11	✓ O/C			
6	West side Cooling Tower by VS-4 # 12	✓ O/C			
7	N.W. Corner Chemical Storage #1	✓ O/C			
8	N.E. Corner Chemical Storage # 2	✓ O/C			
9	East Side W.T. by Multimedia Filters # 3	✓ O/C			
10	East Side W.T. by Multimedia Filters # 5	✓ O/C			
11	North Side Bldg 10 # 6	✓ O/C			
12	Between MP-444's and Water Treat # 4	O/C ✓			
13	Beta Only West Side Power Block Valve Shed #1	O/C			Beta only

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y ☐ N ☑	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☑ Beta ☐	Date: 12/14/24
Operator: Antone	*To be completed each time unit is operated.
Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 155

Discharge Pressure: NA

Pump Suction Pressure: NA Pump Discharge pressure: NA

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145

Start time: 1953

Pump Suction Pressure: 10 Pump Discharge pressure: 140

Stop time: 2003 Total time running 10 mins

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☐ Oil ☐ Mechanical ☐ Valves ☐ Water Jacket Heater ☐

Fuel level > 2/3: Yes ☐ No ☐ Monthly Fuel Consumption:

Battery volt Crank 1: Battery volt Crank 2:	Battery Condition:
Starting hour meter:	Start time:
Oil pressure start:	Oil Pressure finish:

Pump Suction Pressure: Pump Discharge pressure:

Coolant temperature after 30 minutes running:

Stop time: Stop hour meter: Total time running:

Comments:

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☑ BETA: ☐ Date: 12/15/24 Operator Josey

Valve Shed # 1 by Condenser

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	160	✓ O/C	✓	Y☐ N☐	
2	SG Unit 2	160	✓ O/C	✓	Y☐ N☐	
3	Reheaters	160	✓ O/C	✓	Y☐ N☐	
4	Rack 2 West HTF	160	✓ O/C	✓	Y☐ N☐	
5	Rack 2 East HTF	160	✓ O/C	✓	Y☐ N☐	
6	North Steel Pro	160	✓ O/C	✓	Y☐ N☐	
7	HTF Pumps	160	✓ O/C	✓	Y☐ N☐	
8	HTF Heaters	160	✓ O/C	✓	Y☐ N☐	
9	South Steel Pro	160	✓ O/C	✓	Y☐ N☐	
10	Lube Oil	160	✓ O/C	✓	Y☐ N☐	
11	Turbine Hose Stations	160	✓ O/C	✓	Y☐ N☐	
12	Turbine Bearings	160	✓ O/C	✓	Y☐ N☐	

Valve Shed # 2 by Overflow

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	160	✓ O/C	✓	Y☑ N☐	
2	Ullage Area	160	✓ O/C	✓	Y☑ N☐	
3	Ullage Structure	A/B2-11	160	✓ O/C	✓	Y☑ N☐
4	Rack 1 Middle Area	A/B2-5	160	✓ O/C	✓	Y☑ N☐
5	Overflow Tanks	A/B2-9	160	✓ O/C	✓	Y☑ N☐
6	Rack 1 South Area	A/B2-6	160	✓ O/C	✓	Y☑ N☐
7	Rack 1 West	A/B2-7	160	✓ O/C	✓	Y☑ N☐
8	Rack 1 North Area	A/B2-4	160	✓ O/C	✓	Y☑ N☐
9	Over flow AFFF	A/B2-8	160	✓ O/C	✓	Y☑ N☐
10	Expansion Vessel AFFF	A/B2-3	160	✓ O/C	✓	Y☑ N☐

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	160	✓ O/C	✓	Y☑ N☐	
2	Transformer Main	160	✓ O/C	✓	Y☑ N☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	160	✓ O/C	✓	Y☑ N☐	

Valve Shed # 5 by Control Bldg 10

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	A/B4-5	160	✓ O/C	✓	Y☑ N☐
2	Offices	A/B4-3	160	✓ O/C	✓	Y☑ N☐
3	Electrical Room	A/B4-4	160	✓ O/C	✓	Y☑ N☐

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y☑ N☐	✓ O/C	
2	Bearing 3	Y☑ N☐	✓ O/C	
3	Bearing 4	Y☑ N☐	✓ O/C	
4	Bearing 5	Y☑ N☐	✓ O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y☐ N☑	✓ O/C	
2	MP-200A	Y☑ N☐	✓ O/C	
3	MP-200B	Y☑ N☐	✓ O/C	
4	MP-200C	Y☑ N☐	✓ O/C	
5	MP-200D	Y☑ N☐	✓ O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	180	O	Y☑ N☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C ✓			
2	Warehouse/Maintenance Shop Drive Way #8	✓ O/C			
3	West Side Power Block by VS-3 # 9	✓ O/C			
4	West Side Power Block by VS-1 # 10	✓ O/C			Sign is broken or is missing
5	West Side Cooling Tower by VS-4 # 11	✓ O/C			
6	West side Cooling Tower by VS-4 # 12	✓ O/C			
7	N.W. Corner Chemical Storage #1	✓ O/C			
8	N.E. Corner Chemical Storage # 2	✓ O/C			
9	East Side W.T. by Multimedia Filters # 3	✓ O/C			
10	East Side W.T. by Multimedia Filters # 5	✓ O/C			
11	North Side Bldg 10 # 6	✓ O/C			
12	Between MP-444's and Water Treat # 4	O/C ✓			
13	Beta Only West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y☐ N☑	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☑ Beta ☐	Date: 12/7/24
Operator: Jose Garcia	*To be completed each time unit is operated.
Reason for running pumps: Weekly test ☑ Maintenance ☐ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 145 psi

Discharge Pressure: 165 psi

Pump Suction Pressure: N/A Pump Discharge pressure: 165 psi

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145

Start time: ~~1243~~ 1243

Pump Suction Pressure: 15 psi Pump Discharge pressure: ~~165~~ 150

Stop time: ~~1253~~ 1253 Total time running 10min

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☑ Oil ☑ Mechanical ☑ Valves ☑ Water Jacket Heater ☑

Fuel level > 2/3: Yes ☐ No ☐ Monthly Fuel Consumption: NA

Battery volt Crank 1: 26 Battery volt Crank 2: 26	Battery Condition: Need cleaning
Starting hour meter: 132.9	Start time: 0100
Oil pressure start: 55	Oil Pressure finish:

Pump Suction Pressure: 16psi Pump Discharge pressure: 165 psi

Coolant temperature after 30 minutes running: 145 F

Stop time: 0108 Stop hour meter: ~~0000~~ Total time running: 8min

Comments:

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Automated Fire Systems Inspection Checklist

Plant: ALPHA ☑ BETA: ☐ Date: 12/6/24 Operator Antone

Valve Shed # 1 by Condenser

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	A/B1-1	160	✓O/C	✓	Y☑ N☐	
2	SG Unit 2	A/B1-2	160	✓O/C	✓	Y☑ N☐	
3	Reheaters	A/B1-3	160	✓O/C	✓	Y☑ N☐	
4	Rack 2 West HTF	A/B1-4	155	✓O/C	✓	Y☑ N☐	
5	Rack 2 East HTF	A/B1-5	160	✓O/C	✓	Y☑ N☐	
6	North Steel Pro	A/B1-6	160	✓O/C	✓	Y☑ N☐	
7	HTF Pumps	A/B1-7	160	✓O/C	✓	Y☑ N☐	
8	HTF Heaters	A/B1-8	160	✓O/C	✓	Y☑ N☐	
9	South Steel Pro	A/B1-9	160	✓O/C	✓	Y☑ N☐	
10	Lube Oil	A/B1-10	160	✓O/C	✓	Y☑ N☐	
11	Turbine Hose Stations	A/B1-11	160	✓O/C	✓	Y☑ N☐	
12	Turbine Bearings	A/B1-12	160	✓O/C	✓	Y☑ N☐	

Valve Shed # 2 by Overflow

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	A/B2-1	165	✓O/C	✓	Y☑ N☐	
2	Ullage Area	A/B2-2	165	✓O/C	✓	Y☑ N☐	
3	Ullage Structure	A/B2-11	160	✓O/C	✓	Y☑ N☐	
4	Rack 1 Middle Area	A/B2-5	155	✓O/C	✓	Y☑ N☐	
5	Overflow Tanks	A/B2-9	155	✓O/C	✓	Y☑ N☐	
6	Rack 1 South Area	A/B2-6	160	✓O/C	✓	Y☑ N☐	
7	Rack 1 West	A/B2-7	160	✓O/C	✓	Y☑ N☐	
8	Rack 1 North Area	A/B2-4	160	✓O/C	✓	Y☑ N☐	
9	Over flow AFFF	A/B2-8	155	✓O/C	✓	Y☑ N☐	
10	Expansion Vessel AFFF	A/B2-3	155	✓O/C	✓	Y☑ N☐	

Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux	160	✓O/C	✓	Y☑ N☐	
2	Transformer Main	160	✓O/C	✓	Y☑ N☐	

Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage		Comments
1	Cooling Tower West Side	160	✓O/C	✓	Y☑ N☐	

Valve Shed # 5 by Control Bldg 10

No.	System		PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	A/B4-5	160	✓O/C	✓	Y☑ N☐	
2	Offices	A/B4-3	160	✓O/C	✓	Y☑ N☐	
3	Electrical Room	A/B4-4	160	✓O/C	✓	Y☑ N☐	

Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Y☑ N☐	✓O/C	
2	Bearing 3	Y☑ N☐	✓O/C	
3	Bearing 4	Y☑ N☐	✓O/C	
4	Bearing 5	Y☑ N☐	✓O/C	

HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Y☑ N☐	✓O/C	
2	MP-200A	Y☑ N☐	✓O/C	
3	MP-200B	Y☑ N☐	✓O/C	
4	MP-200C	Y☑ N☐	✓O/C	
5	MP-200D	Y☑ N☐	✓O/C	

Fire Pump House Deluge System

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	190	✓	Y☑ N☐	

PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Warehouse/Maintenance Shop Drive Way #7	O/C X			
2	Warehouse/Maintenance Shop Drive Way #8	✓O/C			
3	West Side Power Block by VS-3 # 9	✓O/C			
4	West Side Power Block by VS-1 # 10	✓O/C			
5	West Side Cooling Tower by VS-4 # 11	✓O/C			
6	West side Cooling Tower by VS-4 # 12	✓O/C			
7	N.W. Corner Chemical Storage #1	✓O/C			
8	N.E. Corner Chemical Storage # 2	✓O/C			
9	East Side W.T. by Multimedia Filters # 3	✓O/C			
10	East Side W.T. by Multimedia Filters # 5	✓O/C			
11	North Side Bldg 10 # 6	✓O/C			
12	Between MP-444's and Water Treat # 4	✓O/C			
13	Beta Only West Side Power Block Valve Shed #1	O/C			

To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y☐ N☑	

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

Fire Pump Weekly Test Log

General Information

Plant: Alpha ☑ Beta ☐	Date: 12/1/24
Operator: Antone	*To be completed each time unit is operated.
Reason for running pumps: Weekly test ☑ Maintenance ☑ Emergency ☐	

Jockey Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Check the jockey pump on pressure drop. Start up pressure: 154

Discharge Pressure: 110

Pump Suction Pressure: Pump Discharge pressure:

Comments:

Electric Pump

Pre-start Inspection: Electrical Feed ☑ Mechanical ☑ Valves ☑

Start the pump on pressure drop. Start up pressure: 145

Start time: 0107

Pump Suction Pressure: 10 Pump Discharge pressure: 140

Stop time: 0117 Total time running 10 mins

Comments:

Diesel Pump

Pre-start Inspection: Coolant ☐ Oil ☐ Mechanical ☐ Valves ☐ Water Jacket Heater ☐

Fuel level > 2/3: Yes ☐ No ☐ Monthly Fuel Consumption:

Battery volt Crank 1: Battery volt Crank 2:	Battery Condition:
Starting hour meter:	Start time:
Oil pressure start:	Oil Pressure finish:

Pump Suction Pressure: Pump Discharge pressure:

Coolant temperature after 30 minutes running:

Stop time: Stop hour meter: Total time running:

Comments:

Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).

his new direct drive fire pump engine shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire water pressure. In addition, this engine shall be operated no more than 30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.

Note: Fuel consumption 27 gal/ h approximately.

There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]

Mojave Solar LLC
42134 Harper Lake Road
Hinkley, California 92347
Phone: 760 308 0400

Appendix I

Air Quality 54

Gasoline Tank Annual Test

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
www.MDAQMD.ca.gov • @MDAQMD

Rule 461 Pass/Fail Test Results

REQUIRED 30 days after testing

Submit form to **VaporRecoveryTesting@mdaqmd.ca.gov**

PLEASE TYPE OR PRINT Test date: 04/23/2024

Section 1: MDAQMD information

Company No.: Mojave Solar, LLC.	Facility No.: 3130	Permit No.: N0011039

Section 2: Test results

Aboveground Storage Tank Standing Loss EVR

Pass	Fail		
☑	☐	TP-201.1E	Leak rate & cracking pressure of P/V vent valves

Aboveground Storage Tank Phase I & II EVR

Pass	Fail		
☐	☐	TP-206.3	Static pressure performance
☑	☐	TP-201.4	Dynamic back pressure
☑	☐	TP-201.6C	Liquid removal test procedure
☑	☐	TP-201.1E	Leak rate & cracking pressure of P/V vent valves
☑	☐	TP-201.3B	AST static pressure performance
☐	☐	Ex. 7	Nozzle bag test

Aboveground Storage Tank Phase I & II Pre-EVR

Pass	Fail		
☐	☐	TP-201.6	Liquid removal test
☐	☐	TP-201.3	2-inch pressure decay
☐	☐	TP-201.4	Dynamic back pressure
☐	☐	Ex. 4	Vapor return integrity Healy G-70-187
☐	☐	Ex. 5	Fillneck vapor pressure Healy G-70-187

Underground Storage Tank Phase I EVR

Pass	Fail		
☐	☐	TP-201.3	2-inch WC static pressure
☐	☐	TP-201.1B	Static torque of rotable Phase I adaptors
☐	☐	TP-201.1C/D	Pressure integrity drop tube/drain valve
☐	☐	TP-201.1E	Leak rate & cracking pressure of P/V vent valves

Underground Storage Tank Phase II EVR - **ASSIST**

Pass	Fail		
☐	☐	Ex. 4	Determination of static pressure performance of the Healy Clean Air Separator
☐	☐	Ex. 5	Vapor to liquid volume ratio
☐	☐	Ex. 7	Nozzle bag test procedure (start up and after drive off)
☐	☐	Ex. 8	Required items in conducting TP-201.3
☐	☐	Ex. 9	Liquid condensate trap compliance test
☐	☐	Ex. 9	Veeder-Root ISD operability test
☐	☐	Ex. 10	FFS INCON ISD operability test
☐	☐	Ex. 11	Liquid condensate trap compliance procedure
☐	☐	Ex. 12	Veeder-Root maintenance tracker (optional)

Underground Storage Tank Phase II EVR - **BALANCE**

Pass	Fail		
☐	☐	TP-201.3	Determination of 2-inch WC static pressure performance of VR systems
☐	☐	TP-201.4	Dynamic back pressure
☐	☐	Ex. 4	Required items in conducting TP-201.3
☐	☐	Ex. 5	Liquid removal test procedure (TP-201.6C)
☐	☐	Ex. 6	Required items in conducting TP-201.4
☐	☐	Ex. 7	Nozzle bag test procedure (annually per IOM)
☐	☐	Ex. 8	VST ECS; hydrocarbon sensor verification test procedure
☐	☐	Ex. 9	VST ECS; determination of processor activation pressure
☐	☐	Ex. 10	Vapor pressure sensor verification test procedure
☐	☐	Ex. 11	Veeder-Root vapor polisher; operability test procedure
☐	☐	Ex. 12	Veeder-Root vapor polisher; hydrocarbon emissions verification test procedure
☐	☐	Ex. 13	Hirt VCS 100 processor; operability test procedure
☐	☐	Ex. 14	Franklin fueling systems CAS; static pressure performance test procedure
☐	☐	Ex. 15	VST Green Machine compliance test procedure
☐	☐	Ex. 16	Liquid condensate trap compliance test procedure
☐	☐	Ex. 17	Veeder-Root, ISD operability test (flow meter test)
☐	☐	Ex. 18	Veeder-Root maintenance tracker security feature
☐	☐	Ex. 19	INCON flow meter operability test procedure

Section 3: Additional information

Comments/notes:

Rule 461 Vapor Recovery System Test Results Summary

Your Gasoline Dispensing Facility (GDF) has **Passed** on or more of the following California Air Resources Board (CARB) Performance Tests on your Gasoline Vapor Recovery System:

☐ **TP-201.3**	**Static Pressure Performance Test (Leak Decay)**	☐ **TP-201.1B**	**Static Torque of Rotatable Phase I Adaptors**
☑ **TP-201.3B**	**Static Pressure Performance Test - Dispensing Facilities with AST's**	☐ **TP-201.1C**	**Leak Rate of Drop Tube/Drain Valve Assembly**
☑ **TP-201.4**	**Dynamic Back Pressure Test**	☑ **TP-201.1E**	**Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves**
☐ **TP-201.5**	**Air to Liquid Ratio Test**	☐ **TP-206.3**	**Static Pressure Performance Test - Dispensing Facilities with AST's**
☑ **TP-201.6C**	**Liquid Removal Rate Test**	☐ **Other:**	

Your Gasoline Dispensing Facility (GDF) has **Failed** on or more of the following California Air Resources Board (CARB) Performance Tests on your Gasoline Vapor Recovery System:

☐ **TP-201.3**	**Static Pressure Performance Test (Leak Decay)**	☐ **TP-201.1B**	**Static Torque of Rotatable Phase I Adaptors**
☐ **TP-201.3B**	**Static Pressure Performance Test - Dispensing Facilities with AST's**	☐ **TP-201.1C**	**Leak Rate of Drop Tube/Drain Valve Assembly**
☐ **TP-201.4**	**Dynamic Back Pressure Test**	☐ **TP-201.1E**	**Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves**
☐ **TP-201.5**	**Air to Liquid Ratio Test**	☐ **TP-206.3**	**Static Pressure Performance Test - Dispensing Facilities with AST's**
☐ **TP-201.6C**	**Liquid Removal Rate Test**	☐ **Other:**	

Rule 461 (e)(5) states that the Owner/Operator shall not operate or resume operation of a Gasoline Transfer and Dispensing Facility, unless the facility has successfully passed the applicable Performance and Reverification Tests.

Continued operation of your Gasoline Dispensing Facility (GDF) without passing tests is a violation of AQMD and APCD Regulations and California Health and Safety Code. You may be subject to substantial financial and other legal penalties.

Notwithstanding the above, when a dispenser associated with any equipment that fails a reverification test, it must be isolated and shut down. The Owner/Operator may continue operation of the remaining equipment if the test results demonstrate that the remaining equipment is functioning in good operating comdition. All test results and the method of isolating the defective equipment shall be documented in the test reports to be submitted to the Executive Officer pursuant to subparagraph (e)(7)(C), and also maintained/logged in the O & M Manual on site.

In South Coast AQMD; You may seek administrative relief from the regulations by filing a petition with the Hearing Board. **Be aware that filing a petition for relief does not authorize you to dispense gasoline**; you must wait until the Hearing Board reviews your case. Information concerning the Hearing Board can be obtained by calling the Clerk of the Board at 909 396-2500 from 7:30 AM to 5:30 PM, Tuesday through Friday.

GDF Contact: Mahnaz Ghamati / 760 498-0549 Signature:

Testing Person: Marco Camargo Signature:

Testing Company: Orange Coast Petroleum Equipment Testing Person ID No.: 175734

Facility Name: Mojave Solar, LLC AQMD Facility ID No.: 3130

Facility Address: 42134 Harper Lake Rd Hinkley, CA 92347 Date: 4/23/2024

2 Inch
Static Pressure Performance Test
TP-201.3B

Ref. No.: Notified
AQMD Id: 3130
Site Name: Mojave Solar, LLC
Address: 42134 Harper Lake Rd
Hinkley, CA 92347
Phone: 760 498-0549

Phase I System? 402-D
Phase II System? G-70-52-AM

Total # of Nozzles 1
Products per Nozzle 1

Testing Company

Name: Orange Coast Petroleum Equipment
Address: 1015 N Parker St
Orange, CA 92867
Phone: 714 744-4049

Tanks Manifolded? No
Vapor Pot Present? No

Total # of Tanks 1

Tank Information	1	2	3	4	All
1. Product Grade	87/UNLD				87/UNLD
2. Actual Tank Capacity, gallons	2044				2044
3. Gasoline Volume, gallons	1283				1283
4. Ullage, **(V)** gallons (line #2 minus line#3)	761				761
Test Information	**1**	**2**	**3**	**4**	**5**
5. Start time	8:30am	8:55am			
6. Initial Test Pressure, inches H_2O	2.00	2.00			
7. Pressure after 1 minute, inches H_2O	0.00	2.03			
8. Pressure after 2 minutes, inches H_2O	0.00	2.02			
9. Pressure after 3 minutes, inches H_2O	0.00	1.99			
10. Pressure after 4 minutes, inches H_2O	0.00	1.96			
11. Pressure after 5 minutes, inches H_2O	0.00	1.92			
12. Allowable Final Pressure	0.74	0.74			
13. Pass / Fail (Enter "GF" for Gross failure)	GF	Pass			

4/23/2024	Requested Test Date.
8:30am	Requested Test Time.
Digital Manometer	What type of pressure device used?
2/16/2024	Calibration date for pressure device (90 days).
0	Enter initial tank ullage pressure (Vent if over 0.5 in. w.c., then start the 30 min no dispensing period)
1	Enter flowmeter rate, **F**(Must be 1 to 5 CFM).
1 min 0 sec	Calculate ullage fill time, t_2. $t_2 = \frac{V}{[1522]F}$
2 min 0 sec	Calculate gross failure time (Twice t_2).
0	Enter ending value of drift test (Must be 0.01 in. w.c. or less).
2.11"	Record Vapor Coupler Integrity Test Assembly pressure after 1 minute and location.
Phase I	Nitrogen introduction point. Phase I vapor coupler or Phase II vapor riser?

Tester: Marco Camargo
Tester Id: 175734

Signature:
Test Date: 4/23/2024

Liquid Removal
TP 201.6 C

Ref. No.: Notified
AQMD Id.: 3130
Site Name: Mojave Solar, LLC
Address: 42134 Harper Lake Rd
Hinkley, CA 92347
Phone: 760 498-0549

Testing Company

Note: If using short version, disregard adhesion/evaporation column.

Name: Orange Coast Petroleum Equipment
Address: 1015 N Parker St
Orange, CA 92867
Phone: 714 744-4049

Dispenser Number	Product Grade	Gasoline Added (VI), ml.	Gasoline Dispensed (G), gal.	Dispense Time (T), sec.	Dispensing Rate (GPM) 60(G) / (T)	Gasoline Remaining (VF), ml.	Adhesion/ Evaporation (VW), ml.	Removal Rate ml/gal (VI-VW-VF)/G	Comments (Liquid Drained - No Test required if less than 25mL)
1	87/UNLD	0	0	--	--	--	--	--	0 Liquid Drained, No Test..

Tester Name: Marco Camargo
Signature:

Tester Id.: 175734
Test Date: 4/23/2024

Dynamic Pressure
TP 201.4

Ref. No.: Notified
AQMD Id: 3130
Site Name: Mojave Solar, LLC
Address: 42134 Harper Lake Rd
Hinkley, CA 92347
Phone: 760 498-0549

Testing Company

Name: Orange Coast Petroleum Equipment
Address: 1015 N Parker St
Orange, CA 92867
Phone: 714 744-4049

Dispenser Number	Product Grade	Nozzle Mfg. & Model Num.	60 CFH	80 CFH	Comments
1	87	VST-EVR-NBBK-2	.30	.56	Passed, SN: GS 47214

11/6/2023	Rotameter calibration date (Annual)
11/6/2023	Pressure measuring device calibration date (Annual)
8:15am	Time of back pressure unit leak check (Prior to each sites' tests)
+.50	Final pressure decay of back pressure unit in 5 minute.

Tester: Marco Camargo
Tester Id: 175734
Signature:
Test Date: 4/23/2024

Leak Rate and Cracking Pressure of P/V Vent Valves

Ref. No.:	Notified	**Testing Company**	
AQMD Id:	3130		
Site Name:	Mojave Solar, LLC	Name:	Orange Coast Petroleum Equipment
Address:	42134 Harper Lake Rd	Address:	1015 N Parker St
	Hinkley, CA 92347		Orange, CA 92867
Phone:	760 498-0549	Phone:	714 744-4049

Calibration Date of Flow Meter: 11/6/2023 Calibration Date of Pressure Gauge: 2/16/2024

P/V Valve Manufacturer:	Husky	Model Number:	5885	Pass/Fail:	Pass
Manufacturer Specified Positive Leak Rate (CFH):	.05	Manufacturer Specified Negative Leak Rate (CFH):	.21		
Measured Positive Leak Rate(CFH)	.03	Measured Negative Leak Rate (CFH)	.04		
Positive Cracking Pressure (in. H2O)	3.12"	Negative Cracking Pressure (in. H2O)	-8.06"		
Serial No.: 0080647461	Remove After Date:	2-2027	Next Test Due:	4-2025	

P/V Valve Manufacturer:		Model Number:		Pass/Fail:	
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):			
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)			
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)			
Serial No.:	Remove After Date:		Next Test Due:		

P/V Valve Manufacturer:		Model Number:		Pass/Fail:	
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):			
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)			
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)			
Serial No.:	Remove After Date:		Next Test Due:		

P/V Valve Manufacturer:		Model Number:		Pass/Fail:	
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):			
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)			
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)			
Serial No.:	Remove After Date:		Next Test Due:		

P/V Valve Manufacturer:		Model Number:		Pass/Fail:	
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):			
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)			
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)			
Serial No.:	Remove After Date:		Next Test Due:		

Tester: Marco Camargo Tester Id: 175734

Signature: Test Date: 4/23/2024

Mojave Desert Air Quality Management District

Ref. Number: Notified

Repair Log:

Leaky 4" Street 90 Elbow (Mor Bros 4" Vapor Adaptor) - Leaking Fuel Vapors

Removed, Redoped & Re-installed 4" Street 90 & Mor Bros 4" Vapor Adaptor

Comments:

TP-201.3B: Initital Test Failed = Gross Fail

Repaired Leaky 4" Street 90 Elbow

Re-test after Repair: Passed

Outlook

Air Quality Testing Notification- Mojave Solar, LLC.- Hinkley

From VaporRecoveryTesting@mdaqmd.ca.gov <VaporRecoveryTesting@mdaqmd.ca.gov>
Date Wed 3/20/2024 2:06 PM
To mdiaz@ocpetroleum.com <mdiaz@ocpetroleum.com>

Thank you for your submission. Your email has been received and will be reviewed by MDAQMD staff. We will be in contact with you should we have questions or require additional information.

For Test Notifications: 24 hours' notice is required for test cancellations.

Please see our test policy at:
https://www.mdaqmd.ca.gov/home/showpublisheddocument/9020/637684345665770000

Phase II EVR Console Replacements/Upgrades: https://www.mdaqmd.ca.gov/home/showpublisheddocument/9905

From: mdiaz@ocpetroleum.com
Sent: 3/20/2024 2:06:21 PM -07:00
To: VaporRecoveryTesting@mdaqmd.ca.gov
Subject: Air Quality Testing Notification- Mojave Solar, LLC.- Hinkley
Good afternoon,

Please see attachment for Mojave Solar, LLC in Hinkley.

Feel free to contact us with any questions.

Thank you,

Mary Diaz
Orange Coast Petroleum Equipment, Inc.
1015 N. Parker St.
Orange, CA 92867
Phone: (714) 744-4049
Fax: (714) 744-0638
www.ocpetroleum.com

Mojave Solar LLC
42134 Harper Lake Road
Hinkley, California 92347
Phone: 760 308 0400

Appendix J

Air Quality 58

Gasoline Tank Usage

Mojave Solar LLC

42134 Harper Lake Road Phone: 760 308 0400
Hinkley, California 92347

Submitted Electronically

Subject: **09-AFC-5C**
Condition Number: **AQ-58**
Description: **Annual Fuel Throughput 2024**
Submittal Number: **AQ58-08-00**

January 13, 2025

Ashley Gutierrez, CPM
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
Ashley.Gutierrez@energy.ca.gov

May Mamari, Air Quality Engineer MDAQMD
Mojave Desert Air Quality Management District
14306 Park Avenue
Victorville, CA 92392
mmamari@mdaqmd.ca.gov

Ms. Gutierrez and Ms. Mamari,

The attached documentation is submitted for your records as stated on the Permit to Operate for the gasoline dispensing facility.
For your convenience, the compliance language is included below. Please note that the current permitted gasoline throughput is 450,000 gallons per year.

AQ-58. The annual throughput of gasoline shall not exceed 600,000 gallons per year. Throughput Records shall be kept on site and available to District personnel upon request. Before this annual throughput can be increased the facility may be required to submit to the District a site-specific Health Risk Assessment in accord with a District approved plan. In addition, public notice and/or comment period may be required. [Regulation XIII; Rule 204]

Verification: The project owner shall submit to the CPM gasoline throughput records demonstrating compliance with this condition as part of the Annual Compliance Report. The project owner shall maintain on site the annual gasoline throughput records and shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

Mojave Solar LLC

42134 Harper Lake Road Phone: 760 308 0400
Hinkley, California 92347

Should you have any questions or comments, please do not t hesitate to contact me.

Sincerely,

Mahnaz Ghamati
Quality, Environmental & Compliance Manager
Mojave Solar Project
42134 Harper Lake Rd
Hinkley, CA 92347
Cell: (760) 498-0549
mahnaz.ghamati@atlantica.com

Attachments: MDAQMD Throughput Fuel Dispensing Equipment form 2024 annual report.

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • www.MDAQMD.ca.gov • @MDAQMD

Throughput Fuel Dispensing Equipment

Failure to respond no later than **Feb. 28** will result in enforcement action.

Emission year: 2024

Fill out sections in gray and return to Mojave Desert Air Quality Management District at the address listed at the top of this document, *or* email completed form to VaporRecoveryTesting@mdaqmd.ca.gov.

STATION NAME:	COMPANY NUMBER:	FACILITY NUMBER:	DISTRICT PERMIT NUMBER:
Mojave Solar LLC	1876	3130	N011039

STATION ADDRESS:	CITY:	STATE:	ZIP:
42134 Harper Lake Rd	Hinkley	CA	92347

TELEPHONE NUMBER:	EMAIL ADDRESS:
760-308-0418	**mahnaz.ghamati@atlantica.com**

TYPE OF FUEL DISPENSED:	TOTAL GALLONS DISPENSED IN EMISSION YEAR:
☑ Gasoline	19,743
☑ Diesel fuel	29,365
☐ Propane	
☐ Aviation gas	
☐ Ethanol	
☐ Racing fuel	

CERTIFICATION

I, Mahnaz Ghamati (NAME OF OFFICIAL), a responsible official of Mojave Solar LLC (NAME OF FACILITY), hereby certify, based upon information and belief formed after reasonable inquiry, that the above information is true, accurate and complete. Executed this 13 (DAY) day of January (MONTH), 2025 (YEAR) at San Bernardino County, California (COUNTY AND STATE).

[signature] (SIGNATURE) — Mahnaz Ghamati, Quality, En (NAME AND TITLE)

For questions or assistance, call 760.245.1661.

Atlantica
Sustainable Infrastructure

GDF Throughput Record
Calendar Year 2024

Month	Gallons of Diesel
January	16,761
February	0
March	1,800
April	800
May	700
June	1,001
July	1,486
August	2,631
September	1,048
October	1,017
November	1,002
December	1,118
Total for the Year	**29,365**

Atlantica
Sustainable Infrastructure

GDF Throughput Record
Calendar Year 2024

Month	Gallons of Gasoline
January	2,469
February	1,764
March	1,445
April	1,409
May	1,400
June	1,252
July	2,062
August	2,196
September	1,458
October	1,487
November	1,457
December	1,344
Total for the Year	**19,743**

Mojave Solar LLC
42134 Harper Lake Road
Hinkley, California 92347
Phone: 760 308 0400

Appendix K

Air Quality 63,65,66,72

Carbon Adsorption System – Annual Test, Control Efficiency

Mojave Solar LLC

42134 Harper Lake Road Phone: 760 308 0400
Hinkley, California 92347

Submitted Electronically

Subject:	**09-AFC-5C**
Condition Number:	**AQ-72**
Description:	**Annual Compliance Test for VOC & Benzene Emissions, Carbon System (09-AFC-5C) 2024**
Submittal Number:	**AQ72-16-00**

July 24, 2024

Ashley Gutierrez, CPM
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
Ashley.Gutierrez@energy.ca.gov

Mrs. Gutierrez,

Pursuant to Condition of Certification AQ-72, we are submitting the Protocol for VOC & Benzene Emissions Testing on Carbon Adsorption systems of the Mojave Solar Project for your review and records.

Please accept this letter as a formal invitation to witness the test. The confirmed schedule for the test is August 14th, 2024. The test protocol and the tentative test date were submited to the Mojave Desert Air Quality Management District (MDAQMD) on June 10th, 2024.

For your convenience, we are including the Compliance verification language below:

The project owner shall provide a compliance test protocol to the District for approval and CPM for review at least thirty (30) days prior to the compliance tests. The project owner shall notify the District and the CPM within ten (10) working days before the execution of the compliance tests required in AQ-73 and AQ-74, and the test results shall be submitted to the District and to the CPM within forty-five (45) days after the tests are conducted.

Should you have any questions or comments, please don't hesitate to contact me.

Sincerely,

Mojave Solar LLC

42134 Harper Lake Road
Hinkley, California 92347

Phone: 760 308 0400

Mahnaz Ghamati

Quality, Environmental & Compliance Manager
ASI Operations LLC
42134 Harper Lake Rd
Hinkley, CA 92347
Cell: (760) 498-0549
mahnaz.ghamati@atlantica.com

Attachments: Test protocol and MDAQMD's submittal communication.

MONTROSE
AIR QUALITY SERVICES

June 10, 2024

Chris Anderson
Mojave Desert Air Quality Management District
14306 Park Avenue
Victorville, California 92392

Subject: **Test Protocol for Emissions Testing of Two Carbon Adsorption Units**
Document Number: W002AS-042458-PP-1051

Dear Chris:

Enclosed you will find two copies of the source test protocol for the proposed compliance testing on two (2) carbon adsorption units at the Mojave Solar facility in Hinkley, California. The test is tentatively scheduled to be conducted on August 14, 2024, pending protocol approval. We are submitting it on behalf of Mahnaz Ghamati of Mojave Solar, LLC.

Please call me at (714) 332-8486 if you have any questions.

Sincerely,

Joe Rubio
Project Manager
Montrose Air Quality Services, LLC

cc: Mahnaz Ghamati – Mojave Solar, LLC

SOURCE TEST PROTOCOL FOR 2024 COMPLIANCE TESTING OF TWO CARBON ADSORPTION UNITS AT MOJAVE SOLAR, LLC HINKLEY, CALIFORNIA

Prepared For:

Mojave Solar, LLC
42134 Harper Lake Road
Hinkley, California 92347

For Submittal to:

Mojave Desert Air Quality Management District
14306 Park Ave
Victorville, California 92392

Prepared By:

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, California 92705
(714) 279-6777

Joe Rubio

Production Date: **June 10, 2024**
Document Number: **W002AS-042458-PP-1051**

CONFIDENTIALITY STATEMENT

Except as otherwise required by law or regulation, this information contained in this communication is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it.

REVIEW AND CERTIFICATION

I certify that, to the best of my knowledge, the information contained in this document is complete and accurate and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: 6/10/2024

Name: Joe Rubio Title: Client Project Manager

I have reviewed, technically and editorially, details and other appropriate written materials contained herein. I hereby certify that to the best of my knowledge the presented material is authentic and accurate and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: 6/10/2024

Name: S. Hugh Brown Title: Client Project Manager

GENERAL INFORMATION

Source:	Carbon Adsorption System (CAS) – Alpha Carbon Adsorption System (CAS) – Beta
Source Location:	Mojave Solar, LLC 42134 Harper Lake Road Hinkley, California 92347
Contact:	Mahnaz Ghamati Telephone: (760) 308-0418 Email: Mahnaz.ghamati@atlantica.com
Permit Number:	C012015 – CAS Alpha C012016 – CAS Beta
Agency:	Mojave Desert Air Quality Management District 14306 Park Avenue Victorville, California 92392-4178
Contact:	Chris Anderson Telephone: (760) 245-1661 Email: canderson@mdaqmd.ca.gov
Source Test Contractor:	Montrose Air Quality Services, LLC 1631 E. St. Andrew Pl. Santa Ana, California 92705
Project Manager:	Joe Rubio Telephone: (714) 332-8486 Email: jrubio@montrose-env.com
Proposed Test Date:	August 14, 2024

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1.0 INTRODUCTION

Montrose Air Quality Services, LLC (MAQS) was hired by Mojave Solar, LLC to conduct source emissions tests on two (2) Carbon Adsorption Systems (CAS) located in Hinkley, California. The purpose of the test will be to satisfy the compliance test requirements of the Mojave Desert Air Quality Management District (MDAQMD) Authority to Construct No. C012015 for the Alpha System and Authority to Construct No. C012016 for the Beta System.

Testing will be performed to meet the requirements of Mojave Solar, the MDAQMD, and the United States Environmental Protection Agency (U.S. EPA), as applicable. Appendix A contains MAQS' SCAQMD, CARB, and STAC certifications, and a Statement of No Conflict of Interest. MAQS qualifies as an independent testing laboratory under SCAQMD Rule 304 (no conflicts of interest). MAQS will have a qualified individual on-site as required by ASTM-D7036-04.

2.0 EQUIPMENT AND PROCESS DESCRIPTION

2.1 UNIT DESCRIPTION

This is a carbon adsorption HTF Ullage/Expansion System (Alpha and Beta) consisting of Authority to Construct Modification dated March 2020 to update the carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions and having a high and low-pressure side. The expansion vessel vents on the high-pressure side and the overflow tank vents on the low-pressure side. The high-pressure and low-pressure sides of each vent to three vertical carbon cylindrical vessels (carbon beds) are described below. Flow through each vessel is vertical and each side (three vessels), will be interconnected using a pipe rack system that allows the vessels to operate in series (lead/lag), parallel, or single vessel. Sample ports are located at the inlet and outlet of each carbon bed. Optimally the system will operate in lead/lag flow, with a third canister on standby, with other operating configurations for maintenance and high flow events. Both high-pressure and low-pressure vent to the atmosphere through one common stack.

<u>High-Pressure Side</u>
Dimensions: 54" OD bed x 114" side shell
Bed Area: (53.25" ID) = 15.466 square feet
Nominal Flow Rate (cfm): 1,546.60 CFM
Carbon Capacity: 3,000 pounds
Fittings: 8"

<u>Low-Pressure Side</u>
Dimensions: 36" OD bed x 108" side shell

2.2 PROCESS DESCRIPTION

The HTF expansion tank adsorbs any thermal dilation (both increase and reduction in volume) occurring in the HTF as a result of temperature variations. The expansion tank must be free of atmospheric air to avoid degrading the HTF by oxygen and it must be pressurized to prevent the HTF from reaching its evaporation temperature. In order to achieve this, nitrogen is fed in when in the pressure in the tank drops, while nitrogen is expelled when the pressure in the tank increases as a result of an expansion in the HTF's volume. Nitrogen is expelled through the Ullage system to avoid releasing pollutant oil vapor into the atmosphere. This system is composed of an HTF Overflow Tank Vent Scrubber (MV-208), HTF Expansion Tank Vent Scrubber (MV-209); Carbon Filters (MF-206), and HTF Condensate Receiver Vessel (MV-207).

The Ullage system operates when the pressure in the HTF expansion header connected with the ullage system reach the remote set point in the vent control. This control (PIC-20626B) has a remote set point according with the pressure and the time, and the maximum value is 165 psi. Above this pressure, the vent valves will be fully open to avoid overpressure in the system.

HTF vapors from the HTF Condensate Receiver Vessel (MV-207) or the HTF Overflow Tanks (MT-204A/B) are scrubbed in one of two scrubbers with cool HTF to condense as much HTF and low boilers (LB) as possible. The HTF used in these scrubbers comes from the HTF Tank Cooler (MX-205), normally at ±70°F. After the scrubbers, these remaining HTF vapor streams are combined and routed through a series of three carbon filters to remove as many organics (VOCDs/HAPS) as possible before the vapors are release into the atmosphere. There is a

nitrogen blanket system set at 8 bara providing nitrogen to the HTF vapor system (all the way back to the Expansion Vessels). The vent line to the carbon filters is designed to vent at 12 bara from the pressurized system but, the overflow system (that works at atmosphere pressure) starts to vent at 14.40 psi, pressure set according to the pressure safety valve (PSV) in the overflow system.

There are two types of venting from the HTF system:

1. The venting of nitrogen due to HTF overflow tank breathing;
2. The daily venting of vapor space due to HTF expansion into the expansion vessels.

2.2.1 Overflow Tank Venting

As indicated above, during normal operation, there will be no exchange of HTF or nitrogen between the expansion vessels and the overflow tanks. However, during the winter months when the HTF temperature drops below the normal daily range, some of the HTF in the overflow tanks may need to be transferred into the expansion vessels to maintain the minimum expansion tank's level. During these conditions, the overflow tank levels may fall and rise, thus requiring nitrogen space venting. The worst case would be if the HTF system became very cold (limited to 120°F) after a few days of sun, in which case all the HTF from the overflow tanks would be pumped back into the system. The next time the system is brought back to normal operation, all of the HTF that was pumped out of the overflow tanks would return to the overflow tanks. Under that condition, the total amount of nitrogen vented is calculated to be 24,731 ft^3 total for both plants. The overflow tanks have vent scrubbers on their stacks before feeding into the carbon filters. Nitrogen and HTF mixture to be released passes through these scrubbers where it is cooled to 117°F by the cooled liquid HTF stream flowing countercurrent. This overflow tank vent scrubber will condense most of the HTF vapor vented from the overflow tanks before reaching the carbon filters. The overflow tanks have a design temperature of 350°F, but the worst-case vapor space temperature has been calculated to be around 250°F. The overflow tanks are designed to be maintained at 150°F to minimize HTF venting but at the same time be sufficiently higher than the high heat tracing (electric heating) initiation temperature of 120°F. The overflow tank has a liquid HTF cooler to maintain this tank's temperature at 150°F.

2.2.2 Expansion Vessel Venting

As the HTF expands and contracts daily into and out of the expansion vessels, the low boilers LB's along with some vaporous HTF will be released into the vapor space. To help this separation of LB's into the vapor space, a side stream of HTF will be also be sprayed to the top of the expansion vessels continuously. As the expansion vessels fill up with HTF, the nitrogen space is compressed until the pressure reaches 12 bara, upon which the vent valve opens and allows any further expansion to force the vapor space through the ullage system. The nitrogen and vapors will be pushed through the nitrogen ullage condenser, where most of the HTF and low boiler degradation products will be condensed and collected in the low boiler condensate receiver vessel. The nitrogen and other non-condensable constituents will pass through the expansion vessel vent scrubber where the 117°F, countercurrent liquid HTF flow will bring even more HTF and low boilers into the liquid phase. The nitrogen, degradation products, and vaporous HTF remaining in the vapor phase at the exit of the scrubber will enter the carbon filters for further cleaning before venting into the atmosphere.

3.0 TEST DESCRIPTION

3.1 OPERATING CONDITIONS DURING THE TEST

Both CAS units will be tested early in the morning during the peak venting time at their normal operating load condition. If the temperature does not allow the system to vent then the CAS will be operated manually to simulate the normal operating condition.

During the testing time, the scrubber's quench line (spray system) will be closed to allow most of the gases to be detected at the inlet of the carbon beds, allowing the carbon beds to prove the minimum required 95% efficiency. Opening the quench line will result in a high percentage reduction of VOC going through the ullage system downstream, which will result in a less amount of VOC detection at the carbon beds inlet. Since the calculations are based on the amount of VOCs reduction between the inlet and the outlet of the canisters, this action will allow to better prove the beds' efficiency. Also, to be able to vent for the duration of the test, some HTF will be transferred from the expansion vessel to the overflow tanks in order to build enough pressure to carry out the test.

3.2 DIMENSIONS OF DUCT, STACKS, AND SAMPLING PORT LOCATIONS

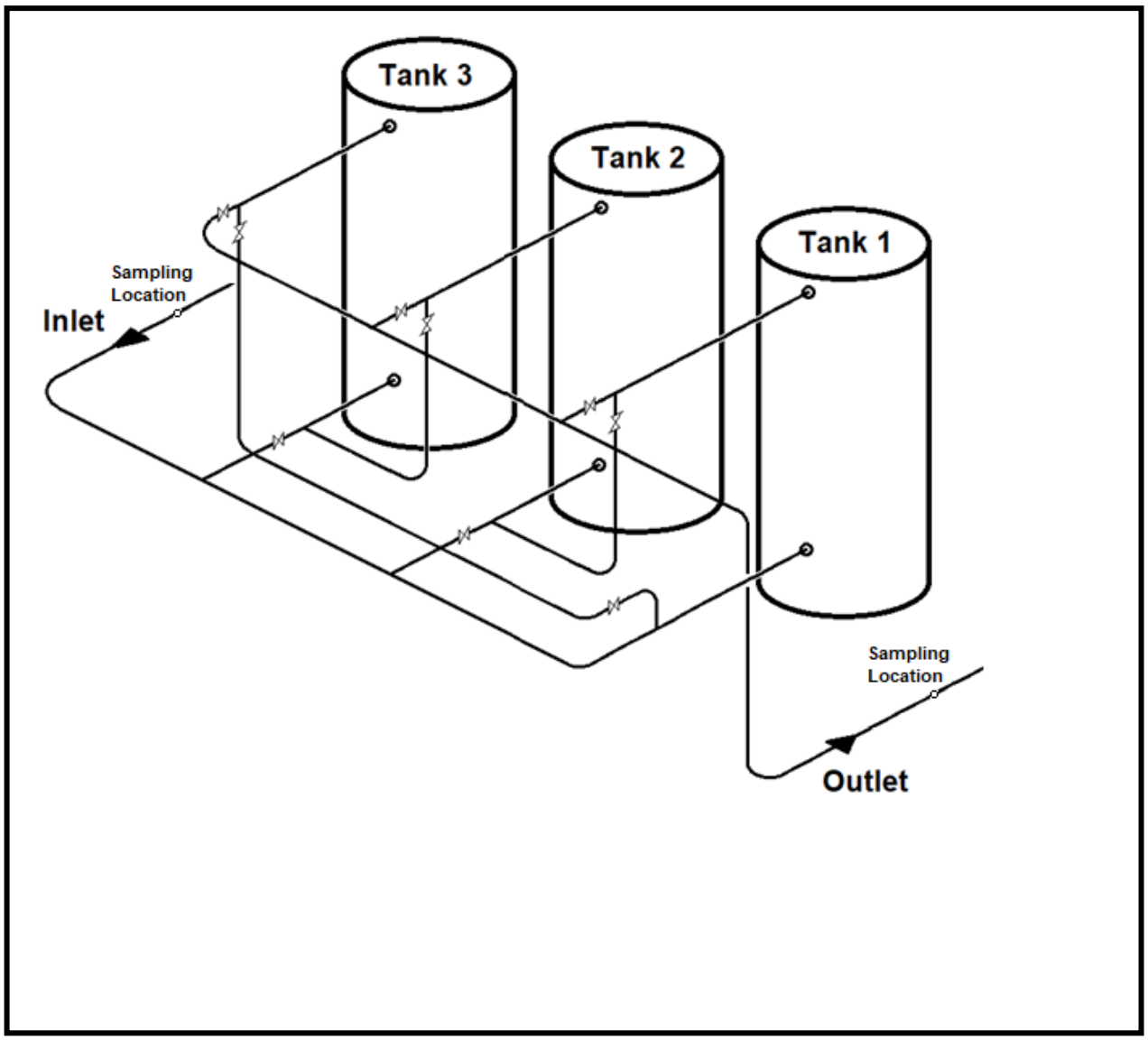
Table 3-1 presents the dimensions of the sampling port locations. All the dimensions will be verified on the day of the test.

TABLE 3-1
SAMPLING PORT LOCATIONS
MOJAVE SOLAR, LLC

From Scrubber	High Pressure	Low Pressure
Inlet Sample Port Diameter	8 Inches	4 Inches
Outlet Sample Port Diameter	8 Inches	4 Inches
From Expansion Tank		
Inlet Sample Port Diameter	8 Inches	4 Inches
Outlet Sample Port Diameter	8 Inches	4 Inches

Figure 3-1 presents a line diagram of the CAS.

FIGURE 3-1
CAS DIAGRAM
MOJAVE SOLAR, LLC



3.3 SAMPLING AND ANALYTICAL PROCEDURES

The procedures that will be used to collect the data are summarized in Table 3-2.

TABLE 3-2
TEST PROCEDURES
MOJAVE SOLAR, LLC

Parameters	Location	Method	Number of Tests	Duration
Hexane	Inlet and Outlet	EPA 18	2*	5 Minutes
Benzene	Inlet and Outlet	CARB 410A	2*	5 Minutes
Flow Rate	Inlet and Outlet	Anemometer	1	5 Minutes
Moisture Content	Inlet and Outlet	Dry Wet Bulb	1	5 Minutes

3.3.1 Velocity and Volumetric Flow Rate

A calibrated anemometer will be used to determine the exhaust gas velocity and volumetric flow rate in feet per minute.

3.3.2 Moisture Content

The moisture content at the exhaust will be determined by using dry and wet bulb temperature measurements.

3.3.3 Hexane and Benzene Emissions Testing

To minimize any chance of air intrusion into the sample, a 1-inch sample port was recently installed to collect all sampling. Before collecting each sample, MAQS will measure the oxygen level tin the inlet location using a Testo portable analyzer, Model 350XL. If no oxygen is measured with the Testo, then MAQS will proceed with the sampling for benzene and hexane concentrations.

The concentrations of benzene and hexane will be sampled into SUMMA (specially prepared stainless steel) canisters. The sampling system includes a stainless-steel probe and components that regulate the rate and duration of sampling into the pre-evacuated and passivated canisters. Each of the three samples will be collected for approximately five minutes. The samples will then be delivered within 24 hours to a state-certified lab, Quantum Laboratories in Carson California. The samples will be analyzed by packed column gas chromatography-mass spectrophotometry (GC/MS).

4.0 RESULTS

A table similar to Table 4-1 will show the analytical results of the Hexane and Benzene sampling and the field measurements taken during the source test. Additional information such as field data, calibrations, and permits will be located in the Appendices of the final report.

TABLE 4-1
ALPHA/BETA PLANT EMISSIONS SUMMARY
LOW PRESSURE/HIGH PRESSURE
DATE TESTED: TBD

Parameter/Units	Inlet Stack		Exhaust Stack	Compliance Limit
Hexane Data				
ppm (v/v)	X		X	--
lb/hr	X		X	--
lb/year	X		X	**792.1**
Destruction Efficiency (%)		X		**95**
Benzene Data				
ppm (v/v)	X		X	**--**
lb/hr	X		X	--
lb/year	X		X	**507.4**
Destruction Efficiency (%)		X		**95**
O_2, %	X		X	--
CO_2, %	X		X	--
Exhaust Gas Flow, dscfm	X		X	--

APPENDIX A
QUALITY ASSURANCE

Appendix A.1
Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (Montrose) ASTM D7036-04 certification, Montrose is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. Montrose quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements of each test method for each of these items. The quality assurance program consists of the following items:

- Assignment of an Internal QA Officer
- Development and use of an internal QA Manual
- Personnel training
- Equipment maintenance and calibration
- Knowledge of current test methods
- Chain-of-custody
- QA reviews of test programs

Assignment of an Internal QA Officer: Montrose has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: Montrose has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of Montrose's QA efforts. The manual is revised upon periodic review and as Montrose adds capabilities. The QA manual provides details on the items provided in this summary.

Personnel Testing and Training: Personnel testing and training is essential to the production of high quality test results. Montrose training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the Montrose QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of Montrose's emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. In addition to routine maintenance, calibrations are performed on all sampling equipment according to the procedures outlined in the applicable test method. The calibration intervals and techniques for major equipment components is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

Knowledge of Current Test Methods: Montrose maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: Montrose maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to Montrose source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to Montrose office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

ASTM D7036-04 Required Information

Uncertainty Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

Performance Data

Performance data are available for review.

Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, is present on each test event.

Plant Entry and Safety Requirements

Plant Entry

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.

Safety Requirements

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)
- Flame Resistant Clothing (if required)

The following safety measures are followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.

TABLE 1
EQUIPMENT MAINTENANCE SCHEDULE

Equipment	Acceptance Limits	Frequency of Service	Methods of Service
Pumps	1. Absence of leaks 2. Ability to draw manufacturers required vacuum and flow	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	1. Absence of malfunction 2. Proper response to zero span gas	As recommended by manufacturer	As recommended by manufacturer
Integrated Sampling Tanks	1. Absence of leaks	Depends on nature of use	1. Steam clean 2. Leak check
Mobile Van Sampling System	1. Absence of leaks	Depends on nature of use	1. Change filters 2. Change gas dryer 3. Leak check 4. Check for system contamination
Sampling Lines	1. Sample degradation less than 2%	After each test series	1. Blow dry, inert gas through line until dry

TABLE 2
MAJOR SAMPLING EQUIPMENT CALIBRATION REQUIREMENTS

Sampling Equipment	Calibration Frequency	Calibration Procedure	Acceptable Calibration Criteria
Continuous Analyzers	Before and After Each Test Day	3-point calibration error test	< 2% of analyzer range
Continuous Analyzers	Before and After Each Test Run	2-point sample system bias check	< 5% of analyzer range
Continuous Analyzers	After Each Test Run	2-point analyzer drift determination	< 3% of analyzer range
CEMS System	Beginning of Each Day	leak check	< 1 in. Hg decrease in 5 min. at > 20 in. Hg
Continuous Analyzers	Semi-Annually	3-point linearity	< 1% of analyzer range
NO_x Analyzer	Daily	NO_2 -> NO converter efficiency	> 90%
Differential Pressure Gauges (except for manometers)	Semi-Annually	Correction factor based on 5-point comparison to standard	± 5%
Differential Pressure Gauges (except for manometers)	Bi-Monthly	3-point comparison to standard, no correction factor	± 5%
Barometer	Semi-Annually	Adjusted to mercury-in-glass or National Weather Service Station	± 0.1 inches Hg
Dry Gas Meter	Semi-Annually	Calibration check at 4 flow rates using a NIST traceable standard	± 2%
Dry Gas Meter	Bi-Monthly	Calibration check at 2 flow rates using a NIST traceable standard	± 2% of semi-annual factor
Dry Gas Meter Orifice	Annually	4-point calibration for ΔH@	--
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	± 1.5%

Note: Calibration requirements that meet applicable regulatory agency requirements are used.

Appendix A.2
SCAQMD, CARB, and STAC Certifications

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

September 14, 2023

Mr. John Peterson
Montrose Air Quality Services, LLC
1631 E. Saint Andrew Place
Santa Ana, CA 92705

Subject: LAP Approval Notice
Reference # 96LA1220

Dear Mr. Peterson:

We have completed our review of Montrose Air Quality Services' revised renewal application, which was submitted as notification of Montrose's recent acquisition of AirKinetics, Inc. under the South Coast AQMD Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning September 30, 2023, and ending September 30, 2024, for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

South Coast AQMD Methods 1-4
South Coast AQMD Methods 10.1 and 100.1
South Coast AQMD Methods 5.1, 5.2, 5.3, 6.1 (Sampling and Analysis)
South Coast AQMD Methods 25.1 and 25.3 (Sampling)
Rule 1121/ 1146.2 Protocol
Rule 1420/1420.1/1420.2 – (Lead) Source and Ambient Sampling
USEPA CTM-030 and ASTM D6522-00

Your LAP approval to perform nitrogen oxide emissions compliance testing for Rule 1121/ 1146.2 Protocols includes satellite facilities located at:

McKenna Boiler
1510 North Spring Street
Los Angeles, CA 90012

Noritz America Corp.
11160 Grace Avenue
Fountain Valley, CA 92708

Ajax Boiler, Inc.
2701 S. Harbor Blvd.
Santa Ana, CA 92704

VA Laundry Bldg., Greater LA Healthcare Sys.
508 Constitution Avenue
Los Angeles, CA 90049

So Cal Gas – Engr Analysis Ctr, Bldg H
8101 Rosemead Blvd
Pico Rivera, CA 90660

Thank you for participating in the LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions. You may direct any questions or information to LAP Coordinator, Colin Eckerle. He may be reached by telephone at (909) 396-2476, or via e-mail at ceckerle@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar
Program Supervisor
Source Test Engineering

DS:CE
Attachment

230914 LapRenewal.doc

CALIFORNIA
AIR RESOURCES BOARD

Gavin Newsom, Governor
Jared Blumenfeld, CalEPA Secretary
Liane M. Randolph, Chair

June 30, 2022

Mr. Matt McCune
Montrose Air Quality Services , LLC
1631 East Saint Andrew Place
Santa Ana, California 92705
mmccune@montrose-env.com

Dear Mr. McCune:

I am pleased to inform you that the California Air Resources Board (CARB) has renewed Montrose Air Quality Services , LLC as an Independent Contractor, by means of the enclosed Executive Order I-22-003. This approval will allow Montrose Air Quality Services , LLC to perform CARB Test Methods 1, 2, 3, 4, 5, 6, 8, 17, 20, and 100 (CO, CO_2, NO_x, O_2, SO_2, THC), Visible Emission Evaluation (VEE), and U.S. Environmental Protection Agency (U.S. EPA) Test Methods 201A, 202, and 205. The approval is valid through June 30, 2024, during which time additional audits of Montrose Air Quality Services , LLC's testing ability may be performed.

If you have questions or need further assistance, please contact Kathryn Gugeler at *kathryn.gugeler@arb.ca.gov* or Daniel Moore at *Daniel.Moore@arb.ca.gov*.

Sincerely,

Catherine Dunwoody

Digitally signed by Catherine Dunwoody
Date: 2022.06.30 14:05:25 -07'00'

Catherine Dunwoody, Chief, Monitoring and Laboratory Division

Enclosure

cc: (via email)

Kathryn M. Gugeler, Monitoring and Laboratory Division

Daniel Moore, Monitoring and Laboratory Division

STAC STACK TESTING ACCREDITATION COUNCIL

A2LA American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 27th day of February 2024.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 28, 2026

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

Appendix A.3
Statement of No Conflict of Interest

STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Date(s) Tested:	**Test Plan**
Facility Name:	**Mojave Solar, LLC**
Equipment Address:	**42134 Harper Lake Road**
	Hinkley, California 92347
Equipment Tested:	**Two Carbon Adsorption Units**
Device ID, A/N, P/N:	**C012015, C012016**

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm:	Montrose Air Quality Services, LLC
Business Address:	1631 E. St. Andrew Pl.
	Santa Ana, California 92705

is an "Independent Testing Laboratory" as defined in ***District Rule 304(k):***

For the purposes of this Rule, when an independent testing laboratory is used for the purposes of establishing compliance with District rules or to obtain a District permit to operate, it must meet all of the following criteria:

(1) The testing laboratory shall have no financial interest in the company or facility being tested, or in the parent company, or any subsidiary thereof -

(2) The company or facility being tested, or parent company or any subsidiary thereof, shall have no financial interest in the testing laboratory;

(3) Any company or facility responsible for the emission of significant quantities of pollutants to the atmosphere, or parent company or any subsidiary thereof shall have no financial interest in the testing laboratory; and

(4) The testing laboratory shall not be in partnership with, own or be owned by, in part or in full, the contractor who has provided or installed equipment (basic or control), or monitoring systems, or is providing maintenance for installed equipment or monitoring systems, for the company being tested.

Furthermore, I state that any contracts or agreements entered into by my source testing firm and the facility referenced above, or its designated contractor(s), either verbal or written, are not contingent upon the outcome of the source testing, or the source testing information provided to the SCAQMD.

Signature: Joe Rubio **Date:** **6/10/2024**

Joe Rubio	**Client Project Manager**	**(714) 279-6777**	**6/10/2024**
(Name)	(Title)	(Phone)	(Date)

FORM ST-110 :stevforl.doc (Revised 11/18/98

APPENDIX B
GENERAL EMISSIONS CALCULATIONS

GENERAL EMISSIONS CALCULATIONS

I. Stack Gas Velocity

A. Stack gas molecular weight, lb/lb-mole

$MW_{dry} = 0.44 * \%\ CO_2 + 0.32 * \%\ O_2 + 0.28 * \%\ N_2$

$MW_{wet} = MW_{dry} * (1 - B_{wo}) + 18 * B_{wo}$

B. Absolute stack pressure, iwg

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

C. Stack gas velocity, ft/sec

$$V_s = 2.9 * C_p * \sqrt{\Delta P} * \sqrt{T_s} * \sqrt{\frac{29.92 * 28.95}{P_s * MW_{wet}}}$$

II. Moisture

A. Sample gas volume, dscf

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6}\right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{ic} * \frac{T_{ref}}{528°R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack Gas Volumetric Flow Rate

A. Actual stack gas volumetric flow rate, wacfm

$Q = V_s * A_s * 60$

B. Standard stack gas flow rate, dscfm

$$Q_{sd} = Q * (1 - B_{wo}) * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$

IV. Gaseous Mass Emission Rates, lb/hr

$$M = \frac{ppm * MW_i * Q_{sd} * 60}{SV * 10^6}$$

V. Emission Rates, lb/MMBtu

$$\frac{lb}{MMBtu} = \frac{ppm * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \%\ O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s\ (V_{mstd})}{(1 - B_{wo})\ 0 * V_s * P_s * Dn^2} * \frac{520°R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf
$C = 0.01543\ (M_n/V_{m\ std})$

(b) Grain loading at 12% CO_2, gr/dscf
$C_{12\%}\ CO_2 = C\ (12/\%\ CO_2)$

(c) Mass emissions, lb/hr
$M = C * Q_{sd} * (60\ min/hr) / (7000\ gr/lb)$

(d) Particulate emission factor

$$lb/10^6\ Btu = Cx\ \frac{1\ lb}{7000\ gr} * F * \frac{20.9}{20.9 - \%\ O_2}$$

Nomenclature:

A_s	=	stack area, ft^2
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO2}$	=	particulate grain loading, gr/dscf corrected to 12% CO_2
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
Dn	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O_2
H	=	orifice differential pressure, iwg
I	=	% isokinetics
M_n	=	mass of collected particulate, mg
M_i	=	mass emission rate of specie i, lb/hr
MW	=	molecular weight of flue gas, lb/lb-mole
M_{wi}	=	molecular weight of specie i:
	SO_2:	64
	NO_x:	46
	CO:	28
	HC:	16
0	=	sample time, minutes
ΔP	=	average velocity head, iwg = $(\sqrt{\Delta P})^2$
P_{bar}	=	barometric pressure, inches Hg
P_s	=	stack absolute pressure, inches Hg
P_{sg}	=	stack static pressure, iwb
Q	=	wet stack flow rate at actual conditions, wacfm
Q_{sd}	=	dry standard stack flow rate, dscfm
SV	=	specific molar volume of an ideal gas at standard conditions, ft^3/lb-mole
T_m	=	meter temperature, °R
T_{ref}	=	reference temperature, °R
T_s	=	stack temperature, °R
V_s	=	stack gas velocity, ft/sec
V_{lc}	=	volume of liquid collected in impingers, ml
V_m	=	uncorrected dry meter volume, dcf
V_{mstd}	=	dry meter volume at standard conditions, dscf
V_{wstd}	=	volume of water vapor at standard conditions, scf
Y_d	=	meter calibration coefficient

APPENDIX C
COPY OF PERMIT TO OPERATE

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT

C012015

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: SEPTEMBER 2021

OWNER OR OPERATOR (Co.#1876)

Mojave Solar LLC
42134 Harper Lake Road
Hinkley, CA 92347

EQUIPMENT LOCATION (Fac.#3130)

Mojave Solar - Harper Lake
Harper Lake Road, adjacent to SEGS VIII & IX
Hinkley, CA 92347

Description:
CARBON ADSORPTION SYSTEM, HTF ULLAGE/EXPANSION SYSTEM (ALPHA) consisting of: ATC modification March 2020 to update carbon adsorption system as follows:

Carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions and having a high and low pressure side. The expansion vessel vents on the high pressure side and the overflow tank vents on the low pressure side. The high pressure and low pressure side each vent to three vertical carbon cylindrical vessels (carbon beds) described below. Flow through each vessel is vertical and each side (three vessels), will be interconnected using a pipe rack system that allows the vessels to operate in series (lead/lag), parallel, or single vessel. Sample ports are located at inlet and outlet of each carbon bed. Optimally the system will operate in lead/lag flow, with a third canister in standby, with other operating configurations for maintenance and high flow events. Both high pressure and low pressure vent to atmosphere through one common stack.

High Pressure Side
Dimensions: 54" OD bed x 114" side shell
Bed Area: (53.25" ID) = 15.466 square feet
Nominal Flow Rate (cfm): 1,546.60 CFM
Carbon Capacity: 3,000 pounds
Fittings: 8"

Low Pressure Side
Dimensions: 36" OD bed x 108" side shell

Fee Schedule: 7 (h)	Rating: 1 device	SIC: 4911	SCC: 30688801	Location/Coordinates: +35.00390, -117.30370

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Mojave Solar LLC
42134 Harper Lake Road
Hinkley, CA 92347

By:
Brad Poiriez
Air Pollution Control Officer

Bed Area: (35.25" ID) = 6.73 square feet
Nominal Flow Rate (cfm): 673 CFM
Carbon Capacity: 1,500 pounds
Fittings: 4"

CONDITIONS:

1. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

2. This equipment must be in use and operating properly at all times the HTF ullage/expansion system with valid District Permit B011046 is venting.

3. This carbon adsorption system shall provide at a minimum 95% control efficiency of VOC emissions vented from the HTF ullage/expansion system under valid District Permit B011046. Control efficiency shall be demonstrated by sampling VOC emissions per US EPA Method 25 at the inlet and outlet of the carbon beds during initial and annual compliance tests.

4. The owner/operator shall prepare and submit a monitoring and change-out plan for the carbon adsorption system which ensures that the system is operating at optimal control efficiency at all times for District approval 60 days prior to commercial operation date (COD). Once approved, any subsequent changes to the monitoring and change-out plan must be submitted in writing to the District for approval prior to implementation.

5. Total emissions of VOC to the atmosphere shall not exceed 792.1 lbs/year, calculated based on the most recent test results.

6. Total emissions of benzene to the atmosphere shall not exceed 507.4 lbs/year, calculated based on the most recent test results.

7. During operation, o/o shall monitor VOC (as hexane) measured at outlet from the carbon beds. Sampling is to be performed at a minimum on a weekly basis. Samples shall be analyzed using a District approved photo ionization detector (PID).

8. PID shall be considered invalid if not calibrated in accordance with the manufactures recommended calibration procedures.

9. The o/o shall maintain an operations log (in electronic or hardcopy format) current and on-site for a period of five (5) years. The log shall contain at a minimum the following information and shall be provided to District personnel upon request.
a. Date and time of VOC monitoring;
b. Results of VOC monitoring; and
c. Date and description of all maintenance, malfunctions, repairs, and carbon change out(s).

10. The o/o shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

11. Prior to January 31 of each new year, the o/o of this unit shall submit to the District a summary report of all VOC emissions (based on annual source test results).

12. The o/o shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District

within forty-five (45) days after testing is completed.All compliance/certification test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov

13. The o/o shall perform the following initial compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District within 180 days of COD. The following compliance tests are required:
a. VOC as hexane in ppmvd and lb/hr (measured per USEPA Reference Methods 25 and 18 or equivalent).
b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).

14. The o/o shall perform the following compliance tests on this equipment at least once every twelve (12) months in accordance with the MDAQMD Compliance Test Procedural Manual. The following compliance tests are required:
a. VOC as hexane in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent).
b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).

Additionally, records of all compliance tests shall be maintained on site for a period of five (5) years and presented to District personnel upon request.

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT

C012016

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EXPIRES LAST DAY OF: SEPTEMBER 2021

OWNER OR OPERATOR (Co.#1876)

Mojave Solar LLC
42134 Harper Lake Road
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EQUIPMENT LOCATION (Fac.#3130)

Mojave Solar - Harper Lake
Harper Lake Road, adjacent to SEGS VIII & IX
Hinkley, CA 92347

Description:
CARBON ADSORPTION SYSTEM, HTF ULLAGE/EXPANSION SYSTEM (BETA) consisting of: ATC modification March 2020 to update carbon adsorption system as follows:

Carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions and having a high and low pressure side. The expansion vessel vents on the high pressure side and the overflow tank vents on the low pressure side. The high pressure and low pressure side each vent to three vertical carbon cylindrical vessels (carbon beds) described below. Flow through each vessel is vertical and each side (three vessels), will be interconnected using a pipe rack system that allows the vessels to operate in series (lead/lag), parallel, or single vessel. Sample ports are located at inlet and outlet of each carbon bed. Optimally the system will operate in lead/lag flow, with a third canister in standby, with other operating configurations for maintenance and high flow events. Both high pressure and low pressure vent to atmosphere through one common stack.

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Bed Area: (53.25" ID) = 15.466 square feet
Nominal Flow Rate (cfm): 1,546.60 CFM
Carbon Capacity: 3,000 pounds
Fittings: 8"

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Fee Schedule: 7 (h)	Rating: 1 device	SIC: 4911	SCC: 30688801	Location/Coordinates: +35.01460, -117.32880

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Mojave Solar LLC
42134 Harper Lake Road
Hinkley, CA 92347

By:
Brad Poiriez
Air Pollution Control Officer

Bed Area: (35.25" ID) = 6.73 square feet
Nominal Flow Rate (cfm): 673 CFM
Carbon Capacity: 1,500 pounds
Fittings: 4"

CONDITIONS:

1. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

2. This equipment must be in use and operating properly at all times the HTF ullage/expansion system with valid District Permit B011047 is venting.

3. This carbon adsorption system shall provide at a minimum 95% control efficiency of VOC emissions vented from the HTF ullage/expansion system under valid District Permit B011047. Control efficiency shall be demonstrated by sampling VOC emissions per US EPA Method 25 at the inlet and outlet of the carbon beds during initial and annual compliance tests.

4. The owner/operator shall prepare and submit a monitoring and change-out plan for the carbon adsorption system which ensures that the system is operating at optimal control efficiency at all times for District approval 60 days prior to commercial operation date (COD). Once approved, any subsequent changes to the monitoring and change-out plan must be submitted in writing to the District for approval prior to implementation.

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8. PID shall be considered invalid if not calibrated in accordance with the manufactures recommended calibration procedures.

9. The o/o shall maintain an operations log (in electronic or hardcopy format) current and on-site for a period of five (5) years. The log shall contain at a minimum the following information and shall be provided to District personnel upon request.
a. Date and time of VOC monitoring;
b. Results of VOC monitoring; and
c. Date and description of all maintenance, malfunctions, repairs, and carbon change out(s).

10. The o/o shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

11. Prior to January 31 of each new year, the o/o of this unit shall submit to the District a summary report of all VOC emissions (based on annual source test results).

12. The o/o shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District

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All compliance/certification test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov

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a. VOC as hexane in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent).
b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).

Additionally, records of all compliance tests shall be maintained on site for a period of five (5) years and presented to District personnel upon request.

APPENDIX D
SITE SAFETY PLAN

SITE SAFETY PLAN BOOKLET

Project: PROJ-042458

Customer: Mojave Solar

Location: Hinkley, CA

Units: CAS Units

Client Project Manager: Joe Rubio

Revision Date: December 2, 2019

Site Safety Plan and JHA Purpose and Instructions

Purpose

Employee safety is the top priority of Montrose Environmental Group. All employees must be trained to assess and mitigate hazards. The District Manager and Project Manager are responsible to ensure all hazards have been properly identified and managed. All employees have Stop Work Authority in all situations where an employee feels they or their co-worker cannot perform a job safely or if there is a task for which they have not been adequately trained.

The Site Safety Plan (SSP) has been developed to help assist Montrose test crews with identifying physical and health hazards and determining how the hazards will be managed. Additionally, the SSP will help each crew manage the safety of the employees by providing emergency procedures and information. The booklet contains a several safety forms that may be required in the field.

Instructions

The SSP consists of the following:

1. A Pre-Mobilization Test Plan – To be completed in it's entirety by the client project Manager prior to the test.

2. A Job Hazard Analysis is a standardized, two-page, fillable form that is used to evaluated the task/site's particular hazards and controls. The form also includes a daily toolbox topic and daily hazard review with sign off by the team. The client Project Manager is responsible to complete the JHA form through section 8. Upon arrival at the test site, the team will review the form for accuracy, making any corrections required and complete the remainder of the JHA. Section 9 will require at least three tasks, hazards and controls be identified for the project. Each team member has the option to discuss making changes or adding to the JHA and must sign on the Job Hazard Analysis form in agreement and sign in Section 10. The JHA is to be modified when conditions change. A toolbox meeting with a daily topic in addition to a review of the hazard analysis is required daily for the duration of the test. An additional sheet of paper with the toolbox topic and signatures can be added to the SSP packet.

3. Hazard Control Matrix - contains useful information on both engineering and administrative controls that a crew can use to reduce or eliminate the hazards they have observed plus applicable PPE that may be required.

4. Additional Forms, as applicable

   a. Aerial Lift Inspection Form

   b. Heat Stress Prevention Form Based on Heat Index

   c. Extended Hours Form

The SSP is a living document. The Project Manager should continually update their SSPs as new information and conditions change or if new hazards are presented.

Each completed SSP should be maintained with the Test Plan in the office for a period of 3 years. There will be an audit process developed for the Site Safety Plans.

PRE-MOBILIZATION TEST INFORMATION

PROJECT NAME/LOCATION: Mojave Solar PROJECT #: PROJ-042458

TEST DATE: 8/14/2024 PROJECT MANAGER: Joe Rubio

TEST SCOPE: Compliance Test

SITE CONTACT: Name: Mahnaz Ghamati Contact Phone: 760-308-0418

Source Type: New Source: ____ Revisit: X Prj#/Date/Tech: _____

Coal Fired Electric Utility: ____ Ethanol Plant: ____ Chemical Mfg. of _____

Cement/Lime Kiln Plant: ____ Specialty Mfg. of: _____ Other: RTO

Anticipated Effluent Composition – check all that apply and fill in expected concentration in ppm/%

☐	☐	☐	☑	☐
CO	NO_X	SO_2	VOC	other

If other, explain: _____

Flammable: _____ **Toxic:** X _____ **Corrosive:** _____ **Dust:** _____

Engineering Controls to be Implemented:
None

Additional Safety Equipment Required:

Personal gas monitors: ____

Respiratory Protection:

Half Face____ Full Face____ HEPA Filters____ Supplied Air: _____ (Safety Dept. Approval)

Approximate Flue Gas Temperatures, (F)

☑	☐	☐	☐	☐
below 210	210 to 450	450 to 950	above 950	other

If other, explain: _____

Approximate Duct Pressure, (iwg):

☐	☑	☐	☐	☐
below -3	-3 to +3	+3 to +7	above +7	other

If other, explain: _____

PRE-MOBILIZATION TEST INFORMATION

Sampling Location: **Stack Port** ____ **Duct Port** x___

Approximate Sampling Platform Height, (ft)

☑	☐	☐	☐	☐
below 6	6 to 50	50 to 100	above 100	other

If other, explain: _____

Access and Protection:

Elevators: ____ Ladders: ____ Aerial Lift: ____ Scaffold: ____ Equipment Hoist: ____

Guardrails: ____ Toe plate: ____ Engineered Tie Off Points: ____ Heat Shield: ____

Other:_____

Describe how equipment will be mobilized to the sampling location:

Ladder

_____

_____

Additional Information:

_____

_____

Effluent Chemical Regulatory Limits

Gas Name	Chemical Formula	Cal OSHA PEL[1] (ppm)	Cal OSHA STEL[2] (ppm)	NIOSH REL TWA[3] (ppm)	Cal OSHA Ceiling (ppm)	IDLH[4] (ppm)
Carbon Monoxide	CO	25	200	35	200	1,200
Nitric Oxide	NO_x	25	ND[5]	25	ND	100
Sulfur Dioxide	SO_2	2	5	2	ND	100
Hydrogen Chloride	HCl	0.3	2	ND	2	50
Hydrogen Sulfide	H_2S	10	15	10 (10 min.)[C]	50	100

California Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) based on an 8-hour shift;
2: Cal OSHA Short-term Exposure Limit (STEL) based on a 15-minute period;
3: National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL) Time-weighted Average (TWA) based on an 8-hour shift;
4: Immediately Dangerous to Life or Health (IDLH);
5: Not Defined (ND);
C: Ceiling Limit - Maximum allowable human exposure limit for an airborne or gaseous substance, which is not to be exceeded, even momentarily.

Prepared by: Joe Rubio Date: _____

Reviewed by: _____ Date: _____

1.

Client	Mojave Solar	Contact Name		Date	
Facility	Hinkley	SSP Writer	Joe Rubio	PM	Joe Rubio
Client Rep	Mahnaz Ghamati				

Job Preparation

☑ Job Site Walk Through Completed ☐ Site Specific Training Complete
☐ Safe Work Permit Received from Client

All hazards and mitigation steps must be documented. If this JHA does not cover all the hazards identified, use Section 9 to document that information.

If the heat index is expected to be above 91°, fill out the Heat Stress Prevention Form.

2. Facility Information/Emergency Preparedness

If non-emergency medical attention is needed, call: AXIOM #: 877-502-9466.

Plant Emergency # _____ Certified First Aid Person: _____

EMS Location | Evacuation Routes | Rally Point

Severe Weather Shelter Location | Eye Wash & Safety Shower Location

Operational: ☑ Yes ☐ No

Source Information: (list type): Anodizing Tank

Stack Gas Temp. (°F) AMB Stack Gas Press. ("H_2O) -2 Stack Gas Components: _____

Stack Gas Inhalation Potential? ☐ Yes ☑ No If yes, see List of Hazard Chemicals.

3. Error Risk

☐ Time Pressure ☐ Remote Work Location ☐ > 12 hr shift ☐ Working > 8 consecutive days
☐ Lack of procedures ☐ Extreme temps, wind >30mph ☐ Personal illness/fatigue ☐ Vague work guidance
☐ Monotonous Activity ☐ First day back after time off ☐ Multiple job locations ☐ Other:

4.

Physical Hazards	Hazard Controls
Dust Hazards	☐ Dust Mask ☐ Goggles ☐ Other:
Thermal Burn	☐ Hot Gloves ☐ Heat Shields ☐ Other Protective Clothing:
Electrical Hazards	☐ Connections Protected from Elements ☑ External GFCI ☐ Other: ☐ XP Rating Requirement ☐ Intrinsically Safe Requirement
Inadequate Lighting	☐ Install Temporary Lighting ☐ Headlamps
Slip and Trip	☑ Housekeeping ☐ Barricade Area ☐ Other:
Hand Protection	☑ Cut Resistant Gloves ☐ Pinch Pts. ☐ General ☐ Electrical ☐ Impact Resistant ☐ Other:

Potential Hazards for Consideration

Secondary Permits	☐ Hot Work ☐ Confined Space ☐ Excavation
Working from Heights **See also Sect. 7**	☑ Falling objects ☐ Fall protection ☐ Drop zone protection ☐ Platform load ratings ☐ Scaffold inspection ☑ Ladder inspection ☐ Barricades for equipment
Electrical	☑ Exposed wire/connector ☑ Verify equipment grounding ☐ Arc Flash
Lifting	☐ Crane lift plan ☐ Rigging inspection ☐ Tag lines used ☐ Hoists in place
Respiratory **See also Sect. 8**	☐ Unexpected exposure ☐ Chemical ☐ Dust (combustible) ☐ PEL provided ☐ Cartridges or supplied air available ☐ Gas detection equipment

5. Required PPE ☑ Hard Hats ☑ Safety Glasses ☑ Safety Toe Shoe/Boot ☑ Hearing Protection ☐ Safety Spotter

☑ Hi-Vis Vests ☐ Harness/Lanyard* ☐ Goggles ☐ Personal Monitor Type: _____
☐ Metatarsal Guards ☐ Hot Gloves ☐ Face Shield ☐ Respirator Type: _____
☐ Nomex/FRC ☐ Other PPE:

Additional Work Place Hazards

6. **Critical Procedures** – check all that apply – *indicates additional form must be completed or collected from client

☐ Heat Stress Prevention* ☐ Confined Space* ☐ Aerial Work Platform* ☑ Roof Work ☐ Scaffold

☐ Cold Weather Work ☐ Hazardous Energy Control* ☐ Exposure Monitoring ☐ Other: _____

7. **Working From Heights**

Fall Protection	☐ Fixed Guardrails/Toe boards	☐ Fall Prevention PPE	Warning Line System		
Falling Objects Protection	☐ Barricading	☐ Netting	☑ House Keeping	☐ Tethered Tools	☐ Catch Blanket or Tarp
Fall Hazard Communication	☑ Adjacent/Overhead Workers	☐ Contractor Contact	☐ Client Contact		

8. **Other Considerations**

Environmental Hazards - Weather Forecast

☑ Heat/Cold ☐ Lightning ☐ Rain ☐ Snow ☐ Ice ☐ Tornado ☐ Wind Speed

Steps for Mitigation:

Electrical Safety Planning

Plant Hook up: ☑ 110V ☐ 220/240V ☐ 480V ☐ Generator ☐ Hard wired into panel

Electrical Classified Area: ☐ Yes ☑ No Trailer Grounded: ☐ Yes ☐ No Plug Type _____

Electrical Hook Up Responsibility: _____

List of Hazardous Chemicals

				Other Chemicals:
☐ Acetone	☐ Nitric Acid	☐ Hydrogen Peroxide	☐ Compressed Gases	
☐ Hexane	☐ Sulfuric Acid	☐ Isopropyl Alcohol	☐ Flammable Gas	
☐ Toluene	☐ Hydrochloric Acid	☐ Liquid Nitrogen	☐ Non-Flammable Gas	
☐ H2S	☐ Carbon Monoxide			

Steps for Mitigation:
Gloves during sample recovery

Wildlife/Fauna in Area

☐ Poison Ivy ☐ Poison Oak ☐ Insects: _____ ☐ Wildlife: _____

Personnel w/ known allergies to bees stings or other allergens? ☐ Yes _____ ☐ No

9. **Observed Hazards and Mitigation Steps**

Task		Potential Hazard(s)	Steps for Mitigation
• Testing	1	Falling metal objects	1 Communication
	2		2
	3		3
•	1		1
	2		2
	3		3
•	1		1
	2		2
	3		3
•	1		1
	2		2
	3		3

10. JHA REVIEW: Crew Names & Signatures

Printed Name	Signature	Date	Printed Name	Signature	Date

11. Daily JHA Meeting & Review

Items to review:

- Change in conditions
- Extended work hours
- Daily Safety Topic
- New workers or contractors
- Occurrence of near misses or injuries

Initialing demonstrates that site conditions and hazards have not changed from the original SSP. If changes did occur, make the necessary updates to this JHA and add notes as applicable in Section 9.

Day	Discussion Topic	Initials
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		

Daily Aerial Lift Inspection Form

All checks must be completed prior to each work shift, before operation of the aerial lift. This checklist must be used at the beginning of each shift or following 6 to 8 hours of use.

Aerial Lift Model #:	**Serial Number:**
Make:	**Rented or Owned:**

- Check “Yes” if an item is adequate, operational, and safe.
- Check “No” to indicate that a repair or other corrective action is required prior to use.
- Check “N/A” to indicate “Not Applicable.”

Items to be Inspected	Yes	No	N/A
1. All aerial lift components are in working condition (i.e. no loose or missing parts, torn or loose hoses, etc.) – if something can be easily loosened by hand then it is not sufficient.	☐	☐	☐
2. Hydraulic fluid level is sufficient, with the platform fully lowered	☐	☐	☐
3. Hydraulic system pressure (see manufacturer specs) is acceptable. If the pressure is low, determine cause and repair in accordance with accepted procedures as outlined in service manual.	☐	☐	☐
4. Tires and wheel lug nuts (for tightness)	☐	☐	☐
5. Hoses and cables (i.e. worn areas or chafing)	☐	☐	☐
6. Platform rails and safety gate (no damage present)	☐	☐	☐
7. Pivot pins secure	☐	☐	☐
8. Welds are not cracked and structural members are not bent or broken	☐	☐	☐
9. Warning and instructional labels are legible and secure, and load capacity is clearly marked.	☐	☐	☐
10. Manufacturer’s Instruction Manual is present inside the bucket	☐	☐	☐
11. Base controls (switches and push buttons) can be properly operated	☐	☐	☐
12. Platform conditions are safe (i.e. not slippery)	☐	☐	☐
13. Fire extinguisher is present, mounted and fully charged, located inside the bucket	☐	☐	☐
14. Headlights, safety strobe light and back-up alarm are functional	☐	☐	☐
15. Workplace is free of hazards (overhead powerlines, obstructions, level surface, high winds, etc.) ***Do not operate if winds are 20 mph, unless otherwise specified by manufacturer recommendations.**	☐	☐	☐

Operator Name & Signature | Location | Date

Ground Control Name & Signature | Location | Date

Harness Inspections:

Printed Name | Signature | Date

Printed Name | Signature | Date

Printed Name | Signature | Date

Extended Hours Safety Audit

Project Number: _____ Date: _____ Time: _____

When a project is expected to extend past a 14-hour work day, this form must be completed to evaluate the condition of the crew, and the safety of the work environment.

Permission to proceed into extended work hours must come from a District Manager (DM) or Regional Vice President (RVP). Technical RVPs can authorize moving forward, if they are in the field or if they are managing the project.

1. Hold test crew meeting **Test crew initials:** _____

The test leader should look for signs of the following in their crews:

- Irritability
- Lack of motivation
- Headaches
- Giddiness
- Fatigue
- Depression
- Reduced alertness, lack of concentration and memory

The test leader should assess the environmental and hazardous concerns:

- Temperature and weather
- Lighting
- Working from Heights
- Hoisting
- PPE (i.e. respirators, etc.)
- Pollutant concentration in ambient air (SO_2, H_2S, ect.)

2. Notify DM or RVP

The PM must contact either the DM or RVP to discuss the safety issues that may arise due to the extended work period. During this time, they can come to an agreement on how to proceed. Items to discuss include:

- Reason for extended hours
- Reason for delay
- Production limitations
- Impending Weather

3. Contact the client

The PM, DM or RVP must discuss with client any identified safety concerns, the client's needs and mutually agree on how to proceed. Discussion should also include the appropriate rest period needed before the next day's work shift can begin. The DM and/or a RVP must be informed on the final decision.

Final Outcome:	
Approver:	

Heat Stress Prevention Form

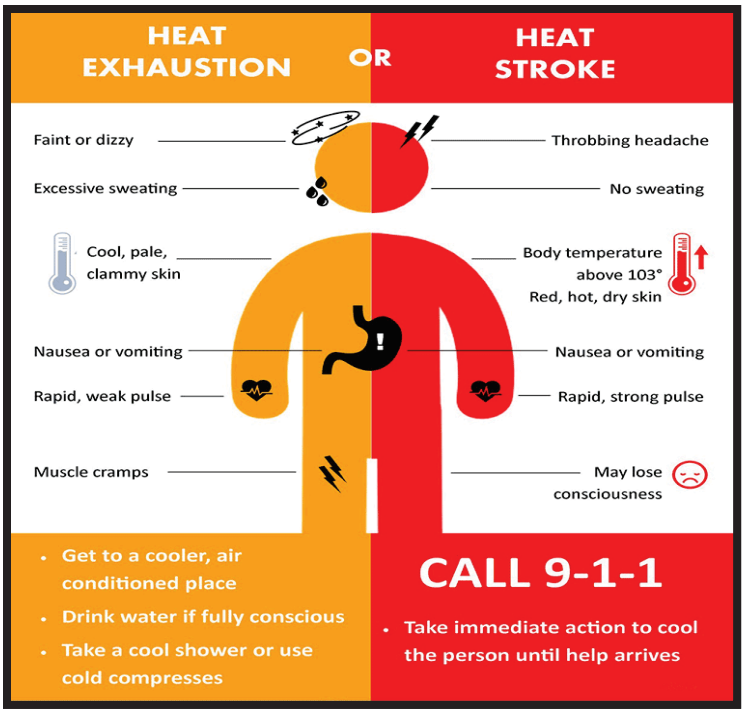
This form is to be used when the Expected Heat Index is above 91° F, and is to be kept with project documentation.

Project Manager (PM):	**Expected High Temp:**
Date(s):	**Expected Heat Index:**

1. Review the signs of Heat Exhaustion and Heat Stroke

2. <u>If Heat Index is above 91° F:</u>
   - Provide cold water and/or sports drinks to all field staff (avoid caffeinated drinks and energy drinks which can increase core temperature).
     - Bring no less than one gallon of water per employee
   - If employee(s) are dehydrated, on blood pressure medication or not acclimated to heat, ensure they are aware of the heightened risk for heat illness
   - Provide cool head bands/vests/etc.
   - Have ice available to employees
   - Implement work shift rotations and breaks, particularly for employees working in direct sunlight.
   - Provide as much shade at the jobsite as possible, including tarps, tents or other acceptable temporary structures.
   - PM should interview each field staff periodically to evaluate for signs of heat illness

3. <u>If Heat Index is above 103° F:</u>
   - Employees must stop for drinks and breaks every hour (about 4 cups/hour)
   - Employees are not permitted to work alone for more than one hour at a time without a break offering shade and drinks
   - Employees should wear cool bands and vests if working outside more than one hour at a time
   - PM should interview each field staff every 2 hours to evaluate for signs of heat illness



THIS IS THE LAST PAGE OF THIS DOCUMENT

If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. Joe Rubio
Title: Client Project Manager
Region: West
Email: JRubio@montrose-env.com
Phone: (714) 279-6777

Name: Mr. Matt McCune
Title: Regional Vice President
Region: West
Email: MMccune@montrose-env.com
Phone: (714) 279-6777

Mahnaz Ghamati

From: Mahnaz Ghamati
Sent: Monday, June 10, 2024 7:31 AM
To: Roddy Rauls; May Mamari
Cc: Joseph Rubio; canderson@mdaqmd.ca.gov; Mojave Desert Air Quality Management District
Subject: RE: Mojave Solar 2024 Two Carbon Adsorption Units Compliance Test Plan
Attachments: W002AS-042458-PP-1051_CL.pdf; W002AS-042458-PP-1051.pdf

Hello May,

Please find attached the Source Test Protocol for 2024 Annual Compliance Test of Mojave Solar Carbon Adsorption Units.

@Roddy Rauls Chris Anderson no longer oversees Mojave Solar Project.

Kind regards,

Mahnaz Ghamati
Quality, Environmental & Compliance Manager

Mahnaz.ghamati@atlantica.com
Mojave Solar LLC
42134 Harper Lake Road
Hinkley, CA 92347
Office: 760-308-0418
Cell: 760-498-0549

www.atlantica.com

From: Roddy Rauls <rrauls@montrose-env.com>
Sent: Monday, June 10, 2024 6:32 AM
To: canderson@mdaqmd.ca.gov
Cc: Mahnaz Ghamati <mahnaz.ghamati@atlantica.com>; Joseph Rubio <jrubio@montrose-env.com>
Subject: Mojave Solar 2024 Two Carbon Adsorption Units Compliance Test Plan

Chris,
Attached are the subject test plan and Cover Letter.
We have sent you two hard copies.

Roddy Rauls
Administrative Manager
Montrose Air Quality Services, LLC

5120 Northshore Dr.
North Little Rock, Arkansas 72118 | US Central Time
M: 714.936.3839 | Direct 714.332.8622
rrauls@montrose-env.com | www.montrose-env.com

Mojave Solar LLC

42134 Harper Lake Road Phone: 760 308 0400
Hinkley, California 92347

Submitted Electronically

Subject:	**09-AFC-5C**
Condition Number:	**AQ-72**
Description:	**Annual Compliance Test for VOC & Benzene Emissions, Carbon System (09-AFC-5C) 2024**
Submittal Number:	**AQ72-16-01**

September 13, 2024

Ashley Gutierrez, CPM
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
Ashley.Gutierrez@energy.ca.gov

Mrs. Gutierrez,

In accordance with Condition of Certification AQ-72, we are submitting the source test report for compliance testing on the two carbon adsorption units at the Mojave Solar Project for your review and records. The test was conducted on August 14, 2024, and the Carbon Adsorption Systems at both facilities achieved a passing efficiency rate of 99.9%.

For your convenience, we are including the Compliance verification language below:

The project owner shall provide a compliance test protocol to the District for approval and CPM for review at least thirty (30) days prior to the compliance tests. The project owner shall notify the District and the CPM within ten (10) working days before the execution of the compliance tests required in AQ-73 and AQ-74, and the test results shall be submitted to the District and to the CPM within forty-five (45) days after the tests are conducted.

Should you have any questions or comments, please don't hesitate to contact me.

Sincerely,

Mahnaz Ghamati

Quality, Environmental & Compliance Manager

Mojave Solar LLC

42134 Harper Lake Road
Hinkley, California 92347
Phone: 760 308 0400

Mojave Solar LLC
42134 Harper Lake Rd
Hinkley, CA 92347
Cell: (760) 498-0549
mahnaz.ghamati@atlantica.com

Attachments: Mojave Solar Project Annual VOC & Benzene Emissions, Carbon System Test report.

MONTROSE
AIR QUALITY SERVICES

September 12, 2024

May Mamari
Mojave Desert Air Quality Management District
14306 Park Avenue
Victorville, California 92392

Subject: **Compliance Report of Two Carbon Adsorption Systems**
Report Number: W002AS-042458-RT-6501

Dear May:

Enclosed you will find a PDF copy of the source test report for the compliance testing on the two carbon adsorption units at the Mojave Solar facility in Hinkley, California. The test program was conducted on August 14, 2024. We are submitting it on behalf of Ms. Mahnaz Ghamati of Mojave Solar, LLC. We have sent you two hard copies.

Please call me at (714) 332-8486 if you have any questions.

Sincerely,

Joe Rubio
Project Manager
Montrose Air Quality Services, LLC

cc Ms. Mahnaz Ghamati – Mojave Solar, LLC

SOURCE TEST REPORT FOR
2024 CARBON ADSORPTION SYSTEMS COMPLIANCE
MOJAVE SOLAR, LLC
HINKLEY, CALIFORNIA

Prepared For:

Mojave Solar, LLC
42134 Harper Lake Road
Hinkley, California 92347

For Submittal to:

Mojave Desert Air Quality Management District
14306 Park Avenue
Victorville, California 92392

Prepared By:

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, California 92705
(714) 279-6777

Joe Rubio

Test Date: **August 14, 2024**
Production Date: **September 12, 2024**
Report Number: **W002AS-042458-RT-6501**

MONTROSE AIR QUALITY SERVICES

CONFIDENTIALITY STATEMENT

Except as otherwise required by law or regulation, this information contained in this communication is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it.

REVIEW AND CERTIFICATION

All work, calculations, and other activities and tasks performed and presented in this document were carried out by me or under my direction and supervision. I hereby certify that, to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Management System and ASTM D7036-04 during this test project.

Signature:  Date: 9/12/2024

Name: Joe Rubio Title: Client Project Manager

I have reviewed, technically and editorially, details, calculations, results, conclusions, and other appropriate written materials contained herein. I hereby certify that, to the best of my knowledge, the presented material is authentic, accurate, and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: 9/12/2024

Name: S. Hugh Brown Title: Client Project Manager

GENERAL INFORMATION

Source:	Carbon Adsorption System (CAS) – Alpha Carbon Adsorption System (CAS) – Beta
Source Location:	Mojave Solar, LLC 42134 Harper Lake Road Hinkley, California 92347
Contact:	Ms. Mahnaz Ghamati Telephone: (626) 233-1943 Email: Mahnaz.ghamati@atlantica.com
Permit Number:	C012015 – CAS Alpha C012016 – CAS Beta
Agency:	Mojave Desert Air Quality Management District 14306 Park Avenue Victorville, California 92392-4178
Contact:	May Mamari Telephone: (760) 245-1661, ext. 5020 Email: mmamari@mdaqmd.ca.gov
Source Test Contractor:	Montrose Air Quality Services, LLC 1631 E. St. Andrew Pl. Santa Ana, California 92705
Project Manager:	Joe Rubio Telephone: (714) 332-8486 Email: jrubio@montrose-env.com
Test Date:	August 14, 2024

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1.0 INTRODUCTION

Montrose Air Quality Services, LLC (MAQS) was hired by Mojave Solar, LLC to conduct source emissions tests on two (2) Carbon Adsorption Systems (CAS) located in Hinkley, California. The purpose of the test was to satisfy the compliance test requirements of the Mojave Desert Air Quality Management District (MDAQMD) Authority to Construct No. C012015 for the Alpha System and Authority to Construct No. C012016 for the Beta System.

A test plan (document W002AS-042458-PP-1051 dated June 10, 2024) was submitted before the testing. Joe Rubio, Project Manager, and Dominic Heredero, Field Technician, performed the testing. Dominic Heredero was the on-site Qualified Individual for MAQS. Mahnaz Ghamati of Mojave Solar coordinated the test. The District was notified but was not present during the test.

2.0 EQUIPMENT AND PROCESS DESCRIPTION

2.1 UNIT DESCRIPTION

Carbon adsorption system, HTF (Heat Transfer Fluid) Ullage/Expansion System Alpha and Beta consisting of Authority to Construct Modification March 2020 to update carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions and having a high and low-pressure side. The expansion vessel vents on the high-pressure side and the overflow tank vents on the low-pressure side. The high-pressure and low-pressure sides each vent to three vertical carbon cylindrical vessels (carbon beds) are described below. Flow through each vessel is vertical and each side (three vessels), will be interconnected using a pipe rack system that allows the vessels to operate in series (lead/lag), parallel, or single vessel. Sample ports are located at the inlet and outlet of each carbon bed. Optimally the system will operate in lead/lag flow, with a third canister on standby, with other operating configurations for maintenance and high flow events. Both high-pressure and low-pressure vent to the atmosphere through one common stack.

<u>High-Pressure Side</u>
Dimensions: 54" OD bed x 114" side shell
Bed Area: (53.25" ID) = 15.466 square feet
Nominal Flow Rate (cfm): 1,546.60 CFM
Carbon Capacity: 3,000 pounds
Fittings: 8"

<u>Low-Pressure Side</u>
Dimensions: 36" OD bed x 108" side shell

2.2 PROCESS DESCRIPTION

The HTF expansion tank adsorbs any thermal dilation (both increase and reduction in volume) occurring in the HTF as a result of temperature variations. The expansion tank must be free of atmospheric air to avoid degrading the HTF by oxygen and it must be pressurized to prevent the HTF from reaching its evaporation temperature. To achieve this, nitrogen is fed in when in the pressure in the tank drops, while nitrogen is expelled when the pressure in the tank increases as a result of an expansion in the HTF's volume. Nitrogen is expelled through the Ullage system to avoid releasing pollutant oil vapor into the atmosphere. This system is composed of an HTF Overflow Tank Vent Scrubber (MV-208), HTF Expansion Tank Vent Scrubber (MV-209); Carbon Filters (MF-206), and HTF Condensate Receiver Vessel (MV-207).

The Ullage system operates when the pressure in the HTF expansion header connected with the ullage system reach the remote set point in the vent control. This control (PIC-20626B) has a remote set point according to the pressure and the time, and the maximum value is 165 psia (pounds per square inch absolute). Above this pressure, the vent valves will open fully to avoid overpressure in the system.

HTF vapors from the HTF Condensate Receiver Vessel (MV-207) or the HTF Overflow Tanks (MT-204A/B) are scrubbed in one of two scrubbers with cool HTF to condense as much HTF and low boilers (LB) as possible. The HTF used in these scrubbers comes from the HTF Tank Cooler (MX-205), normally at ±70°F. After the scrubbers, these remaining HTF vapor streams are combined and routed through a series of three carbon filters to remove as many organics

(VOCDs/HAPS) as possible before the vapors are release into the atmosphere. There is a nitrogen blanket system set at 8 bara providing nitrogen to the HTF vapor system (all the way back to the Expansion Vessels). The vent line to the carbon filters is designed to vent at 12 bara from the pressurized system but, the overflow system (that works at atmosphere pressure) start to vent at 14.40 psia, pressure set according to the pressure safety valve (PSV) in the overflow system.

There are two types of venting from the HTF system:

1. The venting of nitrogen due to HTF overflow tank breathing;
2. The daily venting of vapor space due to HTF expansion into the expansion vessels.

2.2.1 Overflow Tank Venting

As indicated above, during normal operation, there is no exchange of HTF or nitrogen between the expansion vessels and the overflow tanks. However, during the winter months when the HTF temperature drops below the normal daily range, some HTF in the overflow tanks may need to be transferred into the expansion vessels to maintain the minimum expansion tank level. During these conditions, the overflow tank levels may fall and rise, thus requiring nitrogen space venting. The worst case would be if the HTF system became very cold (limited to 120°F) after a few days of sun, in which case all the HTF from the overflow tanks would be pumped back into the system. The next time the system is brought back to normal operation, all of the HTF that was pumped out of the overflow tanks would return to the overflow tanks. Under that condition, the total amount of nitrogen vented is calculated to be 24,731 ft^3 total for both plants. The overflow tanks have vent scrubbers on their stacks before feeding into the carbon filters. Nitrogen and HTF mixture to be released passes through these scrubbers where it is cooled to 117°F by the cooled liquid HTF stream flowing countercurrent. This overflow tank vent scrubber will condense most of the HTF vapor vented from the overflow tanks before reaching the carbon filters. The overflow tanks have a design temperature of 350°F, but the worst-case vapor space temperature has been calculated to be around 250°F. The overflow tanks are designed to be maintained at 150°F to minimize HTF venting but at the same time be sufficiently higher than the high heat tracing (electric heating) initiation temperature of 120°F. The overflow tank has a liquid HTF cooler to maintain this tank's temperature at 150°F.

2.2.2 Expansion Vessel Venting

As the HTF expands and contracts daily into and out of the expansion vessels, the low boilers LB's along with some vaporous HTF is released into the vapor space. To help this separation of LB's into the vapor space, a side stream of HTF is also be sprayed to the top of the expansion vessels continuously. As the expansion vessels fill up with HTF, the nitrogen space is compressed until the pressure reaches 12 bara, upon which the vent valve opens and allows any further expansion to force the vapor space through the ullage system. The nitrogen and vapors are pushed through the nitrogen ullage condenser, where most of the HTF and low boiler degradation products are condensed and collected in the low boiler condensate receiver vessel. The nitrogen and other non-condensable constituents will pass through the expansion vessel vent scrubber where the 117°F, countercurrent liquid HTF flow will bring even more HTF and low boilers into the liquid phase. The nitrogen, degradation products, and vaporous HTF remaining in the vapor phase at the exit of the scrubber will enter the carbon filters for further cleaning before venting into the atmosphere.

3.0 TEST DESCRIPTION

3.1 OPERATING CONDITIONS DURING THE TEST

Both CAS units were tested early in the morning during the peak venting time. The CAS was operated manually to simulate the normal operating condition since the low temperature did not allow the system to vent.

During the testing time, the scrubber's quench line (spray system) was closed to allow most of the gases to be detected at the inlet of the carbon beds, allowing the carbon beds to prove the minimum required 95% efficiency. Opening the quench line resulted on a high percentage reduction of VOC going through the ullage system downstream, which also resulted on a less amount of VOC detection at the carbon beds inlet. Since the calculations are based on the amount of VOC reduction between the inlet and the outlet of the canisters, this action allowed to better prove the beds' efficiency. Also, to be able to vent for the duration of the test, some HTF was transferred from the expansion vessel to the overflow tanks in order to build enough pressure to carry out the test.

3.2 DIMENSIONS OF DUCT, STACKS, AND SAMPLING PORT LOCATIONS

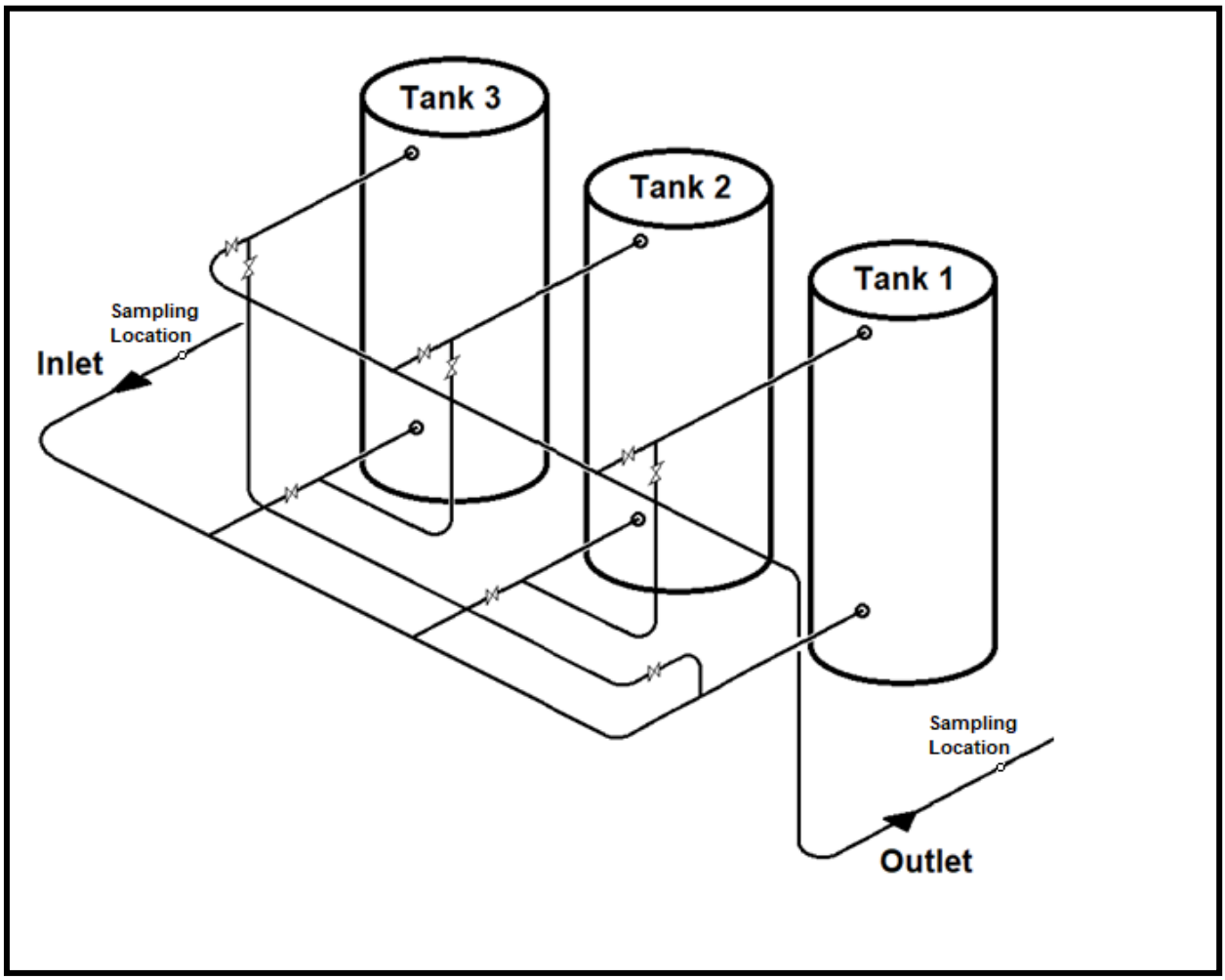
Table 3-1 presents the dimensions of the sampling port locations.

TABLE 3-1
SAMPLING PORT LOCATIONS
MOJAVE SOLAR, LLC

From Scrubber	High Pressure	Low Pressure
Inlet Sample Port Diameter	8 Inches	4 Inches
Outlet Sample Port Diameter	8 Inches	4 Inches
From Expansion Tank		
Inlet Sample Port Diameter	8 Inches	4 Inches
Outlet Sample Port Diameter	8 Inches	4 Inches

A line diagram of the CAS is presented as Figure 3-1.

FIGURE 3-1
CAS DIAGRAM
MOJAVE SOLAR, LLC
CARBON ADSORPTION SYSTEM



3.3 SAMPLING AND ANALYTICAL PROCEDURES

The procedures used to collect the data are summarized in Table 3-2.

TABLE 3-2
TEST PROCEDURES
MOJAVE SOLAR, LLC

Parameters	Location	Method	Number of Tests	Duration
Flow Rate	Inlet and Outlet	CARB Method 2	2	5 Minutes
Hexane	Inlet and Outlet	EPA Method 18	2	5 Minutes
Benzene	Inlet and Outlet	CARB Method 410A	2	5 Minutes
Moisture Content	Inlet and Outlet	Dry Wet Bulb	2	5 Minutes

3.3.1 Velocity and Volumetric Flow Rate

The exhaust gas velocity and volumetric flow rate were determined according to the guidelines specified in CARB Methods 1 and 2.

3.3.2 Moisture Content

The moisture content at the exhaust was determined by using dry and wet bulb temperature measurements.

3.3.3 Hexane and Benzene Emissions Testing

To minimize any chance of air intrusion into the sample, a 1” sample port was installed to collect all sampling. Before collecting each sample, MAQS measured the oxygen level in the inlet location using a Testo portable analyzer, Model 350XL. When no or little oxygen was measured with the Testo, MAQS proceeded with the sampling for benzene and hexane concentrations.

The concentrations of benzene and hexane were collected into SUMMA (specially prepared stainless steel) canisters. The sampling system includes a stainless-steel probe and components that regulate the rate and duration of sampling into the pre-evacuated and passivated canisters. Each of the three samples were collected over a period of approximately five minutes. The samples were then delivered within 24 hours to a state-certified lab, Quantum Laboratories in Carson, California. The samples were analyzed by packed column gas chromatography-mass spectrophotometry (GC/MS).

4.0 TEST RESULTS

Test results indicate that both the Alpha and Beta CAS serving the HTF ullage/expansion system were found to be operating in compliance with the required 95% control efficiency of VOC emissions. Table 4-1 shows the analytical results of VOC as Hexane and Benzene sampling at the Alpha Plant along with the field measurements taken during the source test. Table 4-2 shows the results at the Beta Plant.

Additional information such as field data, calibrations, and permits are located in the Appendices of this report.

TABLE 4-1
HEXANE AND BENZENE RESULTS
ALPHA PLANT
MOJAVE SOLAR, LLC
CARBON ADSORPTION SYSTEM
AUGUST 14, 2024

	Run No.	Location	Flow Rate DSCFM	Hexane ppm	Hexane lb/hr	Destruction Efficiency, %	Benzene ppm	Benzene lb/hr	Destruction Efficiency, %
Low Pressure	1	Inlet	166	16,077	35.86	>99.9	9,522	19.3	>99.9
(Lead = NB16)		Exhaust	166	1.8	0.0039		1.42	0.0029	
(Lag = NB15)									
(Spare = NB17)	2	Inlet	169	14,318	32.5	>99.9	10,123	20.8	>99.9
		Exhaust	169	1.63	0.0037		1.08	0.0022	
High Pressure	1	Inlet	340	343	1.57	99.9	208	0.86	99.9
(Lead = NB7)		Exhaust	340	0.34	0.00		0.15	0.0006	
(Spare = NB5)									
(Spare = NB6)	2	Inlet	376	860	4.34	>99.9	656	3.00	>99.9
		Exhaust	376	0.18	0.00		0.15	0.0007	
				Average		**>99.9%**			**>99.9%**

TABLE 4-2
HEXANE AND BENZENE RESULTS
BETA PLANT
MOJAVE SOLAR, LLC
CARBON ADSORPTION SYSTEM
AUGUST 14, 2024

	Run No.	Location	Flow Rate DSCFM	Hexane ppm	Hexane lb/hr	Destruction Efficiency, %	Benzene ppm	Benzene lb/hr	Destruction Efficiency, %
Low Pressure (Lead = NB19) (Lag = NB18) (Spare = NB20)	1	Inlet	129	24,517	42.47	>99.9	21,640	34.0	>99.9
		Exhaust	129	0.72	0.001		0.25	0.00039	
	2	Inlet	120	17,086	27.60	>99.9	15,133	22.2	>99.9
		Exhaust	120	1.45	0.002		0.22	0.00032	
High Pressure (Lead = NB10) (Spare = NB8) (Spare = NB9)	1	Inlet	364	4,583	22.41	>99.9	935	4.15	>99.9
		Exhaust	364	0.18	0.001		0.006	0.000	
	2	Inlet	358	3,750	18.02	>99.9	1,131	4.93	>99.9
		Exhaust	358	0.15	0.001		0.005	0.000	
				Average		**>99.9%**			**>99.9%**

APPENDIX A
TEST DATA

Appendix A.1
Field Data

Facility: Mojave Solar
Date Tested: 8/14/2024

ALPHA PLANT

	Run No.	Location	Flow Rate DSCFM	VOC as Hexane ppm	Hexane lb/hr	Control Efficiency	Benzene ppm	Benzene lb/hr	Control Efficiency
Alpha	1	Inlet	166	16,077	35.86	100.0	9,522	19.3	100.0
Low Pressure		Exhaust	166	1.8	0.0039		1.42	0.0029	
Alpha	2	Inlet	169	14,318	32.5	100.0	10,123	20.8	100.0
Low Pressure		Exhaust	169	1.63	0.0037		1.08	0.0022	
Alpha	1	Inlet	340	343	1.57	99.9	208	0.86	99.9
High Pressure		Exhaust	340	0.34	0.00		0.15	0.0006	
Alpha	2	Inlet	376	860	4.34	100.0	656	3.00	100.0
High Pressure		Exhaust	376	0.18	0.00		0.15	0.0007	
						100.0			**100.0**

BETA PLANT

	Run No.	Location	Flow Rate DSCFM	VOC as Hexane ppm	Hexane lb/hr	Control Efficiency	Benzene ppm	Benzene lb/hr	Control Efficiency
Beta	1	Inlet	129	24,517	42.47	100.0	21,640	34.0	100.0
Low Pressure		Exhaust	129	0.72	0.001		0.25	0.00039	
Beta	2	Inlet	120	17,086	27.60	100.0	15,133	22.2	100.0
Low Pressure		Exhaust	120	1.45	0.002		0.22	0.00032	
Beta	1	Inlet	364	4,583	22.41	100.0	935	4.15	100.0
High Pressure		Exhaust	364	0.18	0.001		0.006	0.000	
Beta	2	Inlet	358	3,750	18.02	100.0	1,131	4.93	100.0
High Pressure		Exhaust	358	0.15	0.001		0.005	0.000	
						100.0			**100.0**

FACILITY:	Mojave Solar	
SOURCE:	Alpha - Low Pressure	
DATE:	8/14/2024	
STANDARD TEMP (EPA = 68 DEG.)		68

Lead Canister:	No. 16
Lag Canister: 15	No. 15
Standby Canister:	No. 17

RUN NUMBER	**1**	**2**
FIELD DATA INPUTS:		
BAROMETRIC PRESSURE (Pb)	27.91	27.91
STACK DIAMETER (inches)	4.00	4.00
RELATIVE HUMIDITY (%)	31.0	31.0
STACK TEMP (DEG. F)	73	74
VAPOR PRESSURE of H2O (" Hg)	0.7912	0.8183
STACK VELOCITY (FT/MIN)	2,080	2,120
FLOW RESULTS:		
MOISTURE (%)	0.88	0.91
ACTUAL CFM	182	185
STANDARD CFM	168	171
DRY STANDARD CFM	166	169

FACILITY:	Mojave Solar	
SOURCE:	Alpha - High Pressure	
DATE:	8/14/2024	
STANDARD TEMP (EPA = 68 DEG.)		68

Lead Canister:	No. 7
Standby Canister:	No. 5
Standby Canister:	No. 6

RUN NUMBER	**1**	**2**
FIELD DATA INPUTS:		
BAROMETRIC PRESSURE (Pb)	27.91	27.91
STACK DIAMETER (inches)	8.00	8.00
RELATIVE HUMIDITY (%)	31.0	31.0
STACK TEMP (DEG. F)	67	67
VAPOR PRESSURE of H2O (" Hg)	0.6903	0.6903
STACK VELOCITY (FT/MIN)	1,050	1,162
FLOW RESULTS:		
MOISTURE (%)	0.77	0.77
ACTUAL CFM	367	406
STANDARD CFM	343	379
DRY STANDARD CFM	340	376

FACILITY:	Mojave Solar	
SOURCE:	Beta - Low Pressure	
DATE:	8/14/2024	
STANDARD TEMP (EPA = 68 DEG.)		68

Lead Canister:	NB19
Lag Canister:	NB18
Standby Canister:	NB20

RUN NUMBER	**1**	**2**
FIELD DATA INPUTS:		
BAROMETRIC PRESSURE (Pb)	27.91	27.91
STACK DIAMETER (inches)	4.00	4.00
RELATIVE HUMIDITY (%)	27.0	42.0
STACK TEMP (DEG. F)	78	78
VAPOR PRESSURE of H2O (" Hg)	0.9989	0.9989
STACK VELOCITY (FT/MIN)	1,632	1,530
FLOW RESULTS:		
MOISTURE (%)	0.97	1.50
ACTUAL CFM	142	134
STANDARD CFM	130	122
DRY STANDARD CFM	129	120

FACILITY:	Mojave Solar	
SOURCE:	Beta - High Pressure	
DATE:	8/14/2024	
STANDARD TEMP (EPA = 68 DEG.)		68

Lead Canister:	NB10
Standby Canister:	NB8
Standby Canister:	NB9

RUN NUMBER	**1**	**2**
FIELD DATA INPUTS:		
BAROMETRIC PRESSURE (Pb)	27.91	27.91
STACK DIAMETER (inches)	8.00	8.00
RELATIVE HUMIDITY (%)	42.0	42.0
STACK TEMP (DEG. F)	79	79
VAPOR PRESSURE of H2O (" Hg)	0.9989	0.9989
STACK VELOCITY (FT/MIN)	1,160	1,140
FLOW RESULTS:		
MOISTURE (%)	1.50	1.50
ACTUAL CFM	405	398
STANDARD CFM	370	364
DRY STANDARD CFM	364	358

Appendix A.2
Laboratory Data

CLIENT: Montrose
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 24-865
SAMPLING DATE: 08/14/24
RECEIVING DATE: 08/15/24
ANALYSIS DATE: 08/15/24
REPORT DATE: 08/23/24

Laboratory Analysis Report (1 of 4)

Analysis Method	EPA 18			
Detection Limits	0.1 PPMV			
Sample ID	Alpha Inlet High R1 Tk #35	Alpha Inlet High R2 Tk #25	Alpha Exh High R1 Tk #23	Alpha Exh High R2 Tk #24
Sample Date	8/14/2024	8/14/2024	8/14/2024	8/14/2024
Sample Time	0720	0730	0720	0730
Lab ID	22824-9	22824-10	22824-1	22824-2
Units	PPMV	PPMV	PPMV	PPMV
C1 - Methane	12.97	86.46	15.54	6.00
C2 - Ethane, Ethylene	3.74	58.52	<0.1	<0.1
C3 - Propane, Propylene	2.87	31.53	<0.1	<0.1
C4 - Butanes	<0.1	4.77	<0.1	<0.1
C5 - Pentanes	<0.1	1.59	<0.1	<0.1
C6 - Hexanes	<0.1	1.08	<0.1	<0.1
C6+ (including Benzene)	340.5	817.4	0.34	0.18
Total VOC as Hexane including Ethane	343.3	859.6	0.34	0.18

Dr. Andrew Kitto
President

CLIENT: **Montrose**
CLIENT PROJ NO: **Mojave Solar**
LABORATORY NO: **24-865**
SAMPLING DATE: 08/14/24
RECEIVING DATE: 08/15/24
ANALYSIS DATE: 08/15/24
REPORT DATE: 08/23/24

Laboratory Analysis Report (2 of 4)

Analysis Method	**EPA 18**			
Detection Limits	**0.1 PPMV**			
	Sample ID	**Alpha Inlet Low R1 Tk #27**	**Alpha Inlet Low R2 Tk #28**	**Alpha Exh Low R1 Tk #29**	**Alpha Exh Low R2 Tk #30**
	Sample Date	**08/14/24**	**08/14/24**	**08/14/24**	**08/14/24**
	Sample Time	**0740**	**0750**	**0740**	**0740**
	Lab ID	**22824-13**	**22824-14**	**22824-5**	**22824-6**
	Units	**PPMV**	**PPMV**	**PPMV**	**PPMV**
C1 - Methane		127.7	171.4	90.14	93.32
C2 - Ethane, Ethylene		132.6	135.3	<0.1	<0.1
C3 - Propane, Propylene		124.1	126.6	<0.1	<0.1
C4 - Butanes		60.79	63.71	<0.1	<0.1
C5 - Pentanes		22.19	37.75	<0.1	<0.1
C6 - Hexanes		17.33	18.49	<0.1	<0.1
C6+ (including Benzene)		15,890	14,113	1.77	1.63
Total VOC as Hexane including Ethane		16,077	14,318	1.77	1.63

Dr. Andrew Kitto
President

CLIENT: **Montrose**
CLIENT PROJ NO: **Mojave Solar**
LABORATORY NO: **24-865**
SAMPLING DATE: 08/14/24
RECEIVING DATE: 08/15/24
ANALYSIS DATE: 08/15/24
REPORT DATE: 08/23/24

Laboratory Analysis Report (3 of 4)

Analysis Method	**EPA 18**			
Detection Limits	**0.1 PPMV**			
	Sample ID	**Beta Inlet Low R1 Tk #19**	**Beta Inlet Low R2 Tk #20**	**Beta Exh Low R1 Tk #21**	**Beta Exh Low R2 Tk #22**
	Sample Date	**08/14/24**	**08/14/24**	**08/14/24**	**08/14/24**
	Sample Time	**0803**	**0813**	**0803**	**0813**
	Lab ID	**22824-15**	**22824-16**	**22824-7**	**22824-8**
	Units	**PPMV**	**PPMV**	**PPMV**	**PPMV**
C1 - Methane	160.6	107.0	74.86	73.82
C2 - Ethane, Ethylene	146.9	106.5	<0.1	<0.1
C3 - Propane, Propylene	121.3	81.53	<0.1	<0.1
C4 - Butanes	53.56	36.00	<0.1	<0.1
C5 - Pentanes	13.00	21.50	<0.1	<0.1
C6 - Hexanes	23.63	15.62	<0.1	<0.1
C6+ (including Benzene)	24,334	16,949	0.72	1.45
Total VOC as Hexane including Ethane	24,517	17,086	0.72	1.45

Dr. Andrew Kitto
President

CLIENT: **Montrose**
CLIENT PROJ NO: **Mojave Solar**
LABORATORY NO: **24-865**
SAMPLING DATE: 08/14/24
RECEIVING DATE: 08/15/24
ANALYSIS DATE: 08/15/24
REPORT DATE: 08/23/24

Laboratory Analysis Report (4 of 4)

Analysis Method	**EPA 18**			
Detection Limits	**0.1 PPMV**			
	Sample ID	**Beta Inlet High R1 Tk #31**	**Beta Inlet High R2 Tk #28**	**Beta Exh High R1 Tk #32**	**Beta Exh High R2 Tk #34**
	Sample Date	**08/14/24**	**08/14/24**	**08/14/24**	**08/14/24**
	Sample Time	**0823**	**0833**	**0823**	**0833**
	Lab ID	**22824-11**	**22824-12**	**22824-3**	**22824-4**
	Units	**PPMV**	**PPMV**	**PPMV**	**PPMV**
C1 - Methane		66.58	68.29	25.74	43.81
C2 - Ethane, Ethylene		50.63	49.42	<0.1	<0.1
C3 - Propane, Propylene		24.22	22.30	<0.1	<0.1
C4 - Butanes		3.79	3.87	<0.1	<0.1
C5 - Pentanes		<0.1	<0.1	<0.1	<0.1
C6 - Hexanes		<0.1	<0.1	<0.1	<0.1
C6+ (including Benzene)		4,550	3,719	0.18	0.15
Total VOC as Hexane including Ethane		4,583	3,750	0.18	0.15

Dr. Andrew Kitto
President

CLIENT: **Montrose**
CLIENT PROJ NO: **Mojave Solar**
LABORATORY NO: **24-865**
SAMPLING DATE: 08/14/24
RECEIVING DATE: 08/15/24
ANALYSIS DATE: 08/15/24
REPORT DATE: 08/23/24

Laboratory Analysis Report (QA/QC)

Sample ID: Beta Exh Low R2 Tk #22 **Lab ID: 22824-8**

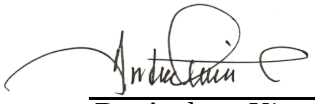
Analyte	Analysis #1 PPMV	Analysis #2 PPMV	Mean PPMV	% Difference from the Mean*
C1 - Methane	73.82	73.03	73.43	0.5
C2 - Ethane, Ethylene	<0.1	<0.1	<0.1	N/A
C3 - Propane, Propylene	<0.1	<0.1	<0.1	N/A
C4 - Butanes	<0.1	<0.1	<0.1	N/A
C5 - Pentanes	<0.1	<0.1	<0.1	N/A
C6 - Hexanes	<0.1	<0.1	<0.1	N/A
C6+ (including Benzene)	1.45	1.30	1.37	5.5

N/A: Not Applicable *Must be ≤10%

Sample ID: Beta Inlet Low R2 Tk #20 **Lab ID: 22824-16**

Analyte	Analysis #1 PPMV	Analysis #2 PPMV	Mean PPMV	% Difference from the Mean*
C1 - Methane	107.0	110.0	108.5	1.4
C2 - Ethane, Ethylene	106.5	105.5	106.0	0.5
C3 - Propane, Propylene	81.53	85.15	83.34	2.2
C4 - Butanes	36.00	38.63	37.32	3.5
C5 - Pentanes	21.50	22.24	21.87	1.7
C6 - Hexanes	15.62	15.88	15.75	0.8
C6+ (including Benzene)	16,949	16,500	16,725	1.3

N/A: Not Applicable *Must be ≤10%



Dr. Andrew Kitto
President

CLIENT:	**Montrose**
CLIENT PROJ NO:	**Mojave Solar**
LABORATORY NO:	**24-865**
SAMPLING DATE:	08/14/24
RECEIVING DATE:	08/15/24
ANALYSIS DATE:	08/15/24
REPORT DATE:	08/23/24

Quality Control/Quality Assurance Report

I - Blank

Lab ID	Results PPMV
C1 - Methane	<0.1
C2 - Ethane	<0.1
C3 - Propane	<0.1
C4 - Butane	<0.1
C5 - Pentane	<0.1
C6 - Hexane	<0.1

II - Initial Calibration Verification Standard - C1-C6

Lab ID	Theoretical Value PPMV	Tested Value PPMV	% Recovery*
C1 - Methane	100.0	97.85	98%
C2 - Ethane	100.0	98.29	98%
C3 - Propane	100.0	98.22	98%
C4 - Butane	100.0	98.10	98%
C5 - Pentane	100.0	97.28	97%
C6 - Hexane	100.0	99.31	99%

*Must be ±10%

Dr. Andrew Kitto
President

CLIENT:	**Montrose**
CLIENT PROJ NO:	**Mojave Solar**
LABORATORY NO:	**24-865**
SAMPLING DATE:	08/14/24
RECEIVING DATE:	08/15/24
ANALYSIS DATE:	08/15/24
REPORT DATE:	08/23/24

Laboratory Analysis Report (1 of 2)

Analysis Method	**CARB 410A**	
Detection Limits	**5.0 PPBV**	
Sample ID	**Lab ID**	**Benzene PPBV**
Alpha Inlet High R1 Tk #35	22824-9	207,987
Alpha Inlet High R2 Tk #25	22824-10	655,757
Alpha Exh High R1 Tk #23	22824-1	150
Alpha Exh High R2 Tk #24	22824-2	145
Alpha Inlet Low R1 Tk #27	22824-13	9,522,283
Alpha Inlet Low R2 Tk #28	22824-14	10,123,469
Alpha Exh Low R1 Tk #29	22824-5	1,418
Alpha Exh Low R2 Tk #30	22824-6	1,079
Beta Inlet Low R1 Tk #19	22824-15	21,639,524
Beta Inlet Low R2 Tk #20	22824-16	15,133,443
Beta Exh Low R1 Tk #21	22824-7	251
Beta Exh Low R2 Tk #22	22824-8	218
Beta Inlet High R1 Tk #31	22824-11	934,821
Beta Inlet High R2 Tk #28	22824-12	1,130,722
Beta Exh High R1 Tk #32	22824-3	6.1
Beta Exh High R2 Tk #34	22824-4	5.3

Dr. Andrew Kitto
President

CLIENT:	**Montrose**
CLIENT PROJ NO:	**Mojave Solar**
LABORATORY NO:	**24-865**
SAMPLING DATE:	08/14/24
RECEIVING DATE:	08/15/24
ANALYSIS DATE:	08/15/24
REPORT DATE:	08/23/24

Laboratory Analysis Report (2 of 2)

Analysis Method	**CARB 410A**	
Detection Limits	**0.05 PPMV**	
Sample ID	**Lab ID**	**Benzene PPMV**
Alpha Inlet High R1 Tk #35	22824-9	208.0
Alpha Inlet High R2 Tk #25	22824-10	655.8
Alpha Exh High R1 Tk #23	22824-1	0.15
Alpha Exh High R2 Tk #24	22824-2	0.15
Alpha Inlet Low R1 Tk #27	22824-13	9,522
Alpha Inlet Low R2 Tk #28	22824-14	10,123
Alpha Exh Low R1 Tk #29	22824-5	1.42
Alpha Exh Low R2 Tk #30	22824-6	1.08
Beta Inlet Low R1 Tk #19	22824-15	21,640
Beta Inlet Low R2 Tk #20	22824-16	15,133
Beta Exh Low R1 Tk #21	22824-7	0.25
Beta Exh Low R2 Tk #22	22824-8	0.22
Beta Inlet High R1 Tk #31	22824-11	934.8
Beta Inlet High R2 Tk #28	22824-12	1,131
Beta Exh High R1 Tk #32	22824-3	<0.05
Beta Exh High R2 Tk #34	22824-4	<0.05

*Samples were diluted for analysis

Dr. Andrew Kitto
President

CLIENT:	**Montrose**
CLIENT PROJ NO:	**Mojave Solar**
LABORATORY NO:	**24-865**
SAMPLING DATE:	08/14/24
RECEIVING DATE:	08/15/24
ANALYSIS DATE:	08/15/24
REPORT DATE:	08/23/24

Laboratory Analysis Report (QA/QC)

Sample ID: Beta Exh Low R2 Tk #22 **Lab ID: 22824-8**

Analyte	Analysis #1 PPBV	Analysis #2 PPBV	Mean PPBV	% Difference from the Mean*
Benzene	218.4	231.1	224.7	2.8

N/A: Not Applicable *Must be ≤10%

Sample ID: Beta Inlet Low R2 Tk #20 **Lab ID: 22824-16**

Analyte	Analysis #1 PPMV	Analysis #2 PPMV	Mean PPMV	% Difference from the Mean*
Benzene	15,133	15,156	15,145	0.1

N/A: Not Applicable *Must be ≤10%

Dr. Andrew Kitto
President

CLIENT:	**Montrose**
CLIENT PROJ NO:	**Mojave Solar**
LABORATORY NO:	**24-865**
SAMPLING DATE:	08/14/24
RECEIVING DATE:	08/15/24
ANALYSIS DATE:	08/15/24
REPORT DATE:	08/23/24

Quality Control/Quality Assurance Report

I- Blank

Lab ID	Results PPMV
Benzene	<0.1

II - Initial Calibration Verification Standard - Benzene (PPBV)

Lab ID	Theoretical Value PPBV	Tested Value PPBV	% Recovery*
Benzene	1000	1067	107%

*Must be ±10%

Dr. Andrew Kitto
President

CLIENT: **Montrose**
CLIENT PROJ NO: **Mojave Solar**
LABORATORY NO: **24-865**
SAMPLING DATE: 08/14/24
RECEIVING DATE: 08/15/24
ANALYSIS DATE: 08/15/24
REPORT DATE: 08/23/24

Laboratory Analysis Report

Analysis Method		**EPA 3C**		
Detection Limits		**0.01%**		
Sample ID	**Lab ID**	**CH4 %**	**CO2 %**	**O2 %**
Alpha Inlet High R1 Tk #35	22824-9	<0.01	<0.01	<0.01
Alpha Inlet High R2 Tk #25	22824-10	<0.01	0.02	<0.01
Alpha Exh High R1 Tk #23	22824-1	<0.01	0.20	<0.01
Alpha Exh High R2 Tk #24	22824-2	<0.01	0.13	<0.01
Alpha Inlet Low R1 Tk #27	22824-13	<0.01	0.04	0.80
Alpha Inlet Low R2 Tk #28	22824-14	<0.01	0.04	0.87
Alpha Exh Low R1 Tk #29	22824-5	<0.01	0.04	0.98
Alpha Exh Low R2 Tk #30	22824-6	<0.01	0.04	0.85
Beta Inlet Low R1 Tk #19	22824-15	<0.01	0.04	0.09
Beta Inlet Low R2 Tk #20	22824-16	<0.01	0.03	0.07
Beta Exh Low R1 Tk #21	22824-7	<0.01	0.03	0.16
Beta Exh Low R2 Tk #22	22824-8	<0.01	0.03	0.11
Beta Inlet High R1 Tk #31	22824-11	<0.01	0.02	<0.01
Beta Inlet High R2 Tk #28	22824-12	<0.01	0.03	<0.01
Beta Exh High R1 Tk #32	22824-3	<0.01	0.06	<0.01
Beta Exh High R2 Tk #34	22824-4	<0.01	0.05	<0.01

***Oxygen + Argon are not separated by GC**
Argon constitutes 0.93% of the atmosphere (Handbook of Chemistry and Physics)
0.9% was substracted from O2 concentrations

Dr. Andrew Kitto
President

CLIENT: **Montrose**
CLIENT PROJ NO: **Mojave Solar**
LABORATORY NO: **24-865**
SAMPLING DATE: 08/14/24
RECEIVING DATE: 08/15/24
ANALYSIS DATE: 08/15/24
REPORT DATE: 08/23/24

Standard Verification

EPA 3C - Fixed Gases

Lab ID	Analyte	Theoretical Value Mole %	Tested Value Mole %	% Recovery*
SCOTT STD	CO2	15.00	15.23	102%
SCOTT STD	O2	4.00	4.33	108%
SCOTT STD	N2	69.50	71.27	103%
SCOTT STD	CH4	4.50	4.68	104%
SCOTT STD	CO	7.00	6.92	99%

*Must be ±10%

Dr. Andrew Kitto
President

Summa Canister Pressure Log

Client:	Montrose
Laboratory Project No:	**24-865**
Sampling Date:	8/14/2024
Receiving Date:	8/15/2024

Item#	Sample ID	Lab ID	P_r (mmHg)	P_f (mmHg)	Dilution Factor
1	Alpha Inlet High R1 Tk #35	22824-9	708.9	827.5	1.1673
2	Alpha Inlet High R2 Tk #25	22824-10	733.5	826.2	1.1264
3	Alpha Exh High R1 Tk #23	22824-1	688.7	821.0	1.1921
4	Alpha Exh High R2 Tk #24	22824-2	719.4	826.8	1.1493
5	Alpha Inlet Low R1 Tk #27	22824-13	724.3	829.8	1.1457
6	Alpha Inlet Low R2 Tk #28	22824-14	726.3	828.9	1.1413
7	Alpha Exh Low R1 Tk #29	22824-5	696.3	825.0	1.1848
8	Alpha Exh Low R2 Tk #30	22824-6	673.6	822.3	1.2208
9	Beta Inlet Low R1 Tk #19	22824-15	726.3	823.8	1.1342
10	Beta Inlet Low R2 Tk #20	22824-16	719.9	826.1	1.1475
11	Beta Exh Low R1 Tk #21	22824-7	641.8	826.3	1.2875
12	Beta Exh Low R2 Tk #22	22824-8	711.7	826.2	1.1609
13	Beta Inlet High R1 Tk #31	22824-11	713.6	826.5	1.1582
14	Beta Inlet High R2 Tk #28	22824-12	720.4	823.1	1.1426
15	Beta Exh High R1 Tk #32	22824-3	710.3	822.6	1.1581
16	Beta Exh High R2 Tk #34	22824-4	711.4	828.3	1.1643

A. K.

Initial

24-865

№ 6428

Quantum Analytical Services Inc.
310/830-2226 • Fax 310/830-2227 • www.quantumairlab.com
1210 E. 223rd Street, Suite #314 • Carson, California 90745

CHAIN OF CUSTODY

Page: 1 of: 2

Client: MONTROSE

Contact Person: JOE Rubio
tel: 626-831-7707
fax:

Project No.: proj-042458
Project Name: Mojave Solar
Project Manager: JOE Rubio
P.O. Number:

Analysis: EPA 18 (VOC) | C1-C6 Hydrocarbons | EPA 3C | Dry CO2, CH4, N2 | Benzene | CARB 410A

Turnaround Time:
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Normal

	Client Sample ID	Tag #	Date	Time	Lab ID Number							Remarks
9	Alpha Inlet High 35	Run 1	8/14/24	0720	22824-9	+	+	+				
10	" " 25	Run 2		0730	-10	+	+	+				
1	Alpha EXH High 23	Run 1		0720	-1	+	+	+				
2	" " 24	Run 2		0730	-2	+	+	+				
13	Alpha Inlet Low 27 ~~27~~ DUP	Run 1	13	0740	-13	+	+	+				
14	" " 28	Run 2	14	0750	-14	+	+	+				
5	Alpha ~~EXH~~ EXH Low DUP 29	Run 1		0740	-5	+	+	+				
6	" " 30	Run 2		0750	-6	+	+	+				

Relinquished by: (signature)	Date/Time 8/14/24 1700	Received by: (signature)	Date/time 8/15/24 14:09
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/time

24-865

№ 6428

Quantum Analytical Services Inc.
310/830-2226 • Fax 310/830-2227 • www.quantumairlab.com
1210 E. 223rd Street, Suite #314 • Carson, California 90745

CHAIN OF CUSTODY

Page: 2 of: 2

Client: Montrose

Contact Person: Joe Rubio
tel: 626-831-7707
fax:

Project No.: proj-042458
Project Name: Mojave Solar
Project Manager: Joe Rubio
P.O. Number:

Analysis: EPA 18 (VOC), C1-C6 Hydrocarbons, EPA 3C, O2, CO2, CH4, N2, Benzene, Combustibles

Turnaround Time:
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Normal

Client Sample ID	Tag #	Date	Time	Lab ID Number	Remarks
Beta Inlet Low 19	Run 1 15	8/14/24	0803	22824-15	
" " 20	Run 2 16		0813	-16	
BETA EXH LOW 21	Run 1		0803	-7	
" " 22	Run 2		0813	-8	
BETA Inlet High 31	Run 1		0823	-11	
" 33	Run 2		0833	-12	
BETA EXH High 32	Run 1		0823	22824-3	
" " 34	Run 2		0833	-4	

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/time
	8/14/24 1700		8/15/24 14:09
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/time

APPENDIX B
GENERAL EMISSIONS CALCULATIONS

GENERAL EMISSIONS CALCULATIONS

I. Stack Gas Velocity

A. Stack gas molecular weight, lb/lb-mole

$MW_{dry} = 0.44 * \%\ CO_2 + 0.32 * \%\ O_2 + 0.28 * \%\ N_2$

$MW_{wet} = MW_{dry} * (1 - B_{wo}) + 18 * B_{wo}$

B. Absolute stack pressure, iwg

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

C. Stack gas velocity, ft/sec

$$V_s = 2.9 * C_p * \sqrt{\Delta P} * \sqrt{T_s} * \sqrt{\frac{29.92 * 28.95}{P_s * MW_{wet}}}$$

II. Moisture

A. Sample gas volume, dscf

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6}\right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{ic} * \frac{T_{ref}}{528°R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack Gas Volumetric Flow Rate

A. Actual stack gas volumetric flow rate, wacfm

$Q = V_s * A_s * 60$

B. Standard stack gas flow rate, dscfm

$$Q_{sd} = Q * (1 - B_{wo}) * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$

IV. Gaseous Mass Emission Rates, lb/hr

$$M = \frac{ppm * MW_i * Q_{sd} * 60}{SV * 10^6}$$

V. Emission Rates, lb/MMBtu

$$\frac{lb}{MMBtu} = \frac{ppm * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \%\ O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s\ (V_{mstd})}{(1 - B_{wo})\ 0 * V_s * P_s * Dn^2} * \frac{520°R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf
$C = 0.01543\ (M_n/V_{m\ std})$

(b) Grain loading at 12% CO_2, gr/dscf
$C_{12\%}\ CO_2 = C\ (12/\%\ CO_2)$

(c) Mass emissions, lb/hr
$M = C * Q_{sd} * (60\ min/hr) / (7000\ gr/lb)$

(d) Particulate emission factor

$$lb/10^6\ Btu = Cx\ \frac{1\ lb}{7000\ gr} * F * \frac{20.9}{20.9 - \%\ O_2}$$

Nomenclature:

A_s	=	stack area, ft^2
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO2}$	=	particulate grain loading, gr/dscf corrected to 12% CO_2
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
Dn	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O_2
H	=	orifice differential pressure, iwg
I	=	% isokinetics
M_n	=	mass of collected particulate, mg
M_i	=	mass emission rate of specie i, lb/hr
MW	=	molecular weight of flue gas, lb/lb-mole
M_{wi}	=	molecular weight of specie i:
	SO_2:	64
	NO_x:	46
	CO:	28
	HC:	16
0	=	sample time, minutes
ΔP	=	average velocity head, iwg = $(\sqrt{\Delta P})^2$
P_{bar}	=	barometric pressure, inches Hg
P_s	=	stack absolute pressure, inches Hg
P_{sg}	=	stack static pressure, iwb
Q	=	wet stack flow rate at actual conditions, wacfm
Q_{sd}	=	dry standard stack flow rate, dscfm
SV	=	specific molar volume of an ideal gas at standard conditions, ft^3/lb-mole
T_m	=	meter temperature, °R
T_{ref}	=	reference temperature, °R
T_s	=	stack temperature, °R
V_s	=	stack gas velocity, ft/sec
V_{lc}	=	volume of liquid collected in impingers, ml
V_m	=	uncorrected dry meter volume, dcf
V_{mstd}	=	dry meter volume at standard conditions, dscf
V_{wstd}	=	volume of water vapor at standard conditions, scf
Y_d	=	meter calibration coefficient

APPENDIX C
QUALITY ASSURANCE

Appendix C.1
Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (Montrose) ASTM D7036-04 certification, Montrose is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. Montrose quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements of each test method for each of these items. The quality assurance program consists of the following items:

- Assignment of an Internal QA Officer
- Development and use of an internal QA Manual
- Personnel training
- Equipment maintenance and calibration
- Knowledge of current test methods
- Chain-of-custody
- QA reviews of test programs

Assignment of an Internal QA Officer: Montrose has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: Montrose has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of Montrose's QA efforts. The manual is revised upon periodic review and as Montrose adds capabilities. The QA manual provides details on the items provided in this summary.

Personnel Testing and Training: Personnel testing and training is essential to the production of high quality test results. Montrose training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the Montrose QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of Montrose's emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. In addition to routine maintenance, calibrations are performed on all sampling equipment according to the procedures outlined in the applicable test method. The calibration intervals and techniques for major equipment components is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

Knowledge of Current Test Methods: Montrose maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: Montrose maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to Montrose source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to Montrose office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

ASTM D7036-04 Required Information

Uncertainty Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

Performance Data

Performance data are available for review.

Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, is present on each test event.

Plant Entry and Safety Requirements

Plant Entry

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.

Safety Requirements

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)
- Flame Resistant Clothing (if required)

The following safety measures are followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.

TABLE 1
EQUIPMENT MAINTENANCE SCHEDULE

Equipment	Acceptance Limits	Frequency of Service	Methods of Service
Pumps	1. Absence of leaks 2. Ability to draw manufacturers required vacuum and flow	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	1. Absence of malfunction 2. Proper response to zero span gas	As recommended by manufacturer	As recommended by manufacturer
Integrated Sampling Tanks	1. Absence of leaks	Depends on nature of use	1. Steam clean 2. Leak check
Mobile Van Sampling System	1. Absence of leaks	Depends on nature of use	1. Change filters 2. Change gas dryer 3. Leak check 4. Check for system contamination
Sampling Lines	1. Sample degradation less than 2%	After each test series	1. Blow dry, inert gas through line until dry

TABLE 2
MAJOR SAMPLING EQUIPMENT CALIBRATION REQUIREMENTS

Sampling Equipment	Calibration Frequency	Calibration Procedure	Acceptable Calibration Criteria
Continuous Analyzers	Before and After Each Test Day	3-point calibration error test	< 2% of analyzer range
Continuous Analyzers	Before and After Each Test Run	2-point sample system bias check	< 5% of analyzer range
Continuous Analyzers	After Each Test Run	2-point analyzer drift determination	< 3% of analyzer range
CEMS System	Beginning of Each Day	leak check	< 1 in. Hg decrease in 5 min. at > 20 in. Hg
Continuous Analyzers	Semi-Annually	3-point linearity	< 1% of analyzer range
NO_x Analyzer	Daily	NO_2 -> NO converter efficiency	> 90%
Differential Pressure Gauges (except for manometers)	Semi-Annually	Correction factor based on 5-point comparison to standard	± 5%
Differential Pressure Gauges (except for manometers)	Bi-Monthly	3-point comparison to standard, no correction factor	± 5%
Barometer	Semi-Annually	Adjusted to mercury-in-glass or National Weather Service Station	± 0.1 inches Hg
Dry Gas Meter	Semi-Annually	Calibration check at 4 flow rates using a NIST traceable standard	± 2%
Dry Gas Meter	Bi-Monthly	Calibration check at 2 flow rates using a NIST traceable standard	± 2% of semi-annual factor
Dry Gas Meter Orifice	Annually	4-point calibration for ΔH@	--
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	± 1.5%

Note: Calibration requirements that meet applicable regulatory agency requirements are used.

Appendix C.2
SCAQMD, CARB, and STAC Certificates

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

September 14, 2023

Mr. John Peterson
Montrose Air Quality Services, LLC
1631 E. Saint Andrew Place
Santa Ana, CA 92705

Subject: LAP Approval Notice
Reference # 96LA1220

Dear Mr. Peterson:

We have completed our review of Montrose Air Quality Services' revised renewal application, which was submitted as notification of Montrose's recent acquisition of AirKinetics, Inc. under the South Coast AQMD Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning September 30, 2023, and ending September 30, 2024, for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

South Coast AQMD Methods 1-4
South Coast AQMD Methods 10.1 and 100.1
South Coast AQMD Methods 5.1, 5.2, 5.3, 6.1 (Sampling and Analysis)
South Coast AQMD Methods 25.1 and 25.3 (Sampling)
Rule 1121/ 1146.2 Protocol
Rule 1420/1420.1/1420.2 – (Lead) Source and Ambient Sampling
USEPA CTM-030 and ASTM D6522-00

Your LAP approval to perform nitrogen oxide emissions compliance testing for Rule 1121/ 1146.2 Protocols includes satellite facilities located at:

McKenna Boiler
1510 North Spring Street
Los Angeles, CA 90012

Noritz America Corp.
11160 Grace Avenue
Fountain Valley, CA 92708

Ajax Boiler, Inc.
2701 S. Harbor Blvd.
Santa Ana, CA 92704

VA Laundry Bldg., Greater LA Healthcare Sys.
508 Constitution Avenue
Los Angeles, CA 90049

So Cal Gas – Engr Analysis Ctr, Bldg H
8101 Rosemead Blvd
Pico Rivera, CA 90660

Thank you for participating in the LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions. You may direct any questions or information to LAP Coordinator, Colin Eckerle. He may be reached by telephone at (909) 396-2476, or via e-mail at ceckerle@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar
Program Supervisor
Source Test Engineering

DS:CE
Attachment

230914 LapRenewal.doc

CALIFORNIA AIR RESOURCES BOARD

Gavin Newsom, Governor
Yana Garcia, CalEPA Secretary
Liane M. Randolph, Chair

June 13, 2024

Matt McCune
Regional Vice President - West
Montrose Air Quality Services, LLC
1631 East Saint Andrew Place
Santa Ana, California 92705
mmccune@montrose-env.com

Dear Matt McCune:

I am pleased to inform you that the California Air Resources Board (CARB) has renewed Montrose Air Quality Services, LLC as an Independent Contractor, by means of the enclosed Executive Order I-24-008. This approval will allow Montrose Air Quality Services, LLC. to perform CARB Methods 1, 2, 3, 4, 5, 6, 8, 17, 20, and 100 (CO, CO_2, NO_x, O_2, SO_2, THC), Visible Emission Evaluation, and U.S. Environmental Protection Agency Test Methods 201A, 202, and 205. The approval is valid through June 30, 2026, during which time additional audits of Montrose Air Quality Services, LLC's testing ability may be performed.

If you have questions or need further assistance, please contact the *Independent Contractor Program*[1].

Sincerely,

Walter Ham Digitally signed by Walter Ham Date: 2024.06.14 09:06:28 -07'00'

Walter Ham, Ph.D., Chief, Monitoring and Laboratory Division

Enclosure

[1] *icp@arb.ca.gov*

STAC STACK TESTING ACCREDITATION COUNCIL

A2LA American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 27th day of February 2024.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 28, 2026

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

Appendix C.3
Individual QI Certificates

Certificate of Completion

Dominic J Heredero

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

EPA Method 18

Certificate Number: 002-2022-44

Tate Strickler, VP – Quality Systems

Date of issue: 02/17/2022

Date of expiration: 02/16/2027

MONTROSE ENVIRONMENTAL

CERTIFICATE OF COMPLETION

Dominic Heredero

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

CARB Methods 1, 2, 3 & 4

Certificate Number: 002-2022-56

DATE OF ISSUE: 03/07/2022

Tate Strickler, VP – Quality Systems

DATE OF EXPIRATION: 03/06/2027

MONTROSE ENVIRONMENTAL

CERTIFICATE OF COMPLETION

Joseph Rubio

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

CARB Methods 410A, 428, 429 & 430

Certificate Number: 002-2024-71

Tate Strickler, VP – Quality Systems

EFFECTIVE DATE: 9/12/2024

EXPIRATION DATE: 9/11/2029

MONTROSE ENVIRONMENTAL

Appendix C.4
Statement of No Conflict of Interest

STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Date(s) Tested:	**August 14, 2024**
Facility Name:	**Mojave Solar, LLC**
Equipment Address:	**42134 Harper Lake Road**
	Hinkley, California 92347
Equipment Tested:	**Alpha and Beta Carbon Adsorption Unit**
Device ID, A/N, P/N:	**C012015, C012016**

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm:	Montrose Air Quality Services, LLC
Business Address:	1631 E. St. Andrew Pl.
	Santa Ana, California 92705

is an "Independent Testing Laboratory" as defined in ***District Rule 304(k):***

For the purposes of this Rule, when an independent testing laboratory is used for the purposes of establishing compliance with District rules or to obtain a District permit to operate, it must meet all of the following criteria:

(1) The testing laboratory shall have no financial interest in the company or facility being tested, or in the parent company, or any subsidiary thereof -

(2) The company or facility being tested, or parent company or any subsidiary thereof, shall have no financial interest in the testing laboratory;

(3) Any company or facility responsible for the emission of significant quantities of pollutants to the atmosphere, or parent company or any subsidiary thereof shall have no financial interest in the testing laboratory; and

(4) The testing laboratory shall not be in partnership with, own or be owned by, in part or in full, the contractor who has provided or installed equipment (basic or control), or monitoring systems, or is providing maintenance for installed equipment or monitoring systems, for the company being tested.

Furthermore, I state that any contracts or agreements entered into by my source testing firm and the facility referenced above, or its designated contractor(s), either verbal or written, are not contingent upon the outcome of the source testing, or the source testing information provided to the SCAQMD.

Signature: Joe Rubio **Date:** **9/12/2024**

Joe Rubio	**Client Project Manager**	**(714) 279-6777**	**9/12/2024**
(Name)	(Title)	(Phone)	(Date)

FORM ST-110 :stevforl.doc (Revised 11/18/98

APPENDIX D
FACILITY PERMITS

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT

C012015

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: SEPTEMBER 2021

OWNER OR OPERATOR (Co.#1876)

Mojave Solar LLC
42134 Harper Lake Road
Hinkley, CA 92347

EQUIPMENT LOCATION (Fac.#3130)

Mojave Solar - Harper Lake
Harper Lake Road, adjacent to SEGS VIII & IX
Hinkley, CA 92347

Description:
CARBON ADSORPTION SYSTEM, HTF ULLAGE/EXPANSION SYSTEM (ALPHA) consisting of: ATC modification March 2020 to update carbon adsorption system as follows:

Carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions and having a high and low pressure side. The expansion vessel vents on the high pressure side and the overflow tank vents on the low pressure side. The high pressure and low pressure side each vent to three vertical carbon cylindrical vessels (carbon beds) described below. Flow through each vessel is vertical and each side (three vessels), will be interconnected using a pipe rack system that allows the vessels to operate in series (lead/lag), parallel, or single vessel. Sample ports are located at inlet and outlet of each carbon bed. Optimally the system will operate in lead/lag flow, with a third canister in standby, with other operating configurations for maintenance and high flow events. Both high pressure and low pressure vent to atmosphere through one common stack.

High Pressure Side
Dimensions: 54" OD bed x 114" side shell
Bed Area: (53.25" ID) = 15.466 square feet
Nominal Flow Rate (cfm): 1,546.60 CFM
Carbon Capacity: 3,000 pounds
Fittings: 8"

Low Pressure Side
Dimensions: 36" OD bed x 108" side shell

Fee Schedule: 7 (h)	Rating: 1 device	SIC: 4911	SCC: 30688801	Location/Coordinates: +35.00390, -117.30370

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Mojave Solar LLC
42134 Harper Lake Road
Hinkley, CA 92347

By:
Brad Poiriez
Air Pollution Control Officer

Bed Area: (35.25" ID) = 6.73 square feet
Nominal Flow Rate (cfm): 673 CFM
Carbon Capacity: 1,500 pounds
Fittings: 4"

CONDITIONS:

1. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

2. This equipment must be in use and operating properly at all times the HTF ullage/expansion system with valid District Permit B011046 is venting.

3. This carbon adsorption system shall provide at a minimum 95% control efficiency of VOC emissions vented from the HTF ullage/expansion system under valid District Permit B011046. Control efficiency shall be demonstrated by sampling VOC emissions per US EPA Method 25 at the inlet and outlet of the carbon beds during initial and annual compliance tests.

4. The owner/operator shall prepare and submit a monitoring and change-out plan for the carbon adsorption system which ensures that the system is operating at optimal control efficiency at all times for District approval 60 days prior to commercial operation date (COD). Once approved, any subsequent changes to the monitoring and change-out plan must be submitted in writing to the District for approval prior to implementation.

5. Total emissions of VOC to the atmosphere shall not exceed 792.1 lbs/year, calculated based on the most recent test results.

6. Total emissions of benzene to the atmosphere shall not exceed 507.4 lbs/year, calculated based on the most recent test results.

7. During operation, o/o shall monitor VOC (as hexane) measured at outlet from the carbon beds. Sampling is to be performed at a minimum on a weekly basis. Samples shall be analyzed using a District approved photo ionization detector (PID).

8. PID shall be considered invalid if not calibrated in accordance with the manufactures recommended calibration procedures.

9. The o/o shall maintain an operations log (in electronic or hardcopy format) current and on-site for a period of five (5) years. The log shall contain at a minimum the following information and shall be provided to District personnel upon request.
a. Date and time of VOC monitoring;
b. Results of VOC monitoring; and
c. Date and description of all maintenance, malfunctions, repairs, and carbon change out(s).

10. The o/o shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

11. Prior to January 31 of each new year, the o/o of this unit shall submit to the District a summary report of all VOC emissions (based on annual source test results).

12. The o/o shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District

within forty-five (45) days after testing is completed.All compliance/certification test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov

13. The o/o shall perform the following initial compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District within 180 days of COD. The following compliance tests are required:
a. VOC as hexane in ppmvd and lb/hr (measured per USEPA Reference Methods 25 and 18 or equivalent).
b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).

14. The o/o shall perform the following compliance tests on this equipment at least once every twelve (12) months in accordance with the MDAQMD Compliance Test Procedural Manual. The following compliance tests are required:
a. VOC as hexane in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent).
b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).

Additionally, records of all compliance tests shall be maintained on site for a period of five (5) years and presented to District personnel upon request.

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT

C012016

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: SEPTEMBER 2021

OWNER OR OPERATOR (Co.#1876)

Mojave Solar LLC
42134 Harper Lake Road
Hinkley, CA 92347

EQUIPMENT LOCATION (Fac.#3130)

Mojave Solar - Harper Lake
Harper Lake Road, adjacent to SEGS VIII & IX
Hinkley, CA 92347

Description:
CARBON ADSORPTION SYSTEM, HTF ULLAGE/EXPANSION SYSTEM (BETA) consisting of: ATC modification March 2020 to update carbon adsorption system as follows:

Carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions and having a high and low pressure side. The expansion vessel vents on the high pressure side and the overflow tank vents on the low pressure side. The high pressure and low pressure side each vent to three vertical carbon cylindrical vessels (carbon beds) described below. Flow through each vessel is vertical and each side (three vessels), will be interconnected using a pipe rack system that allows the vessels to operate in series (lead/lag), parallel, or single vessel. Sample ports are located at inlet and outlet of each carbon bed. Optimally the system will operate in lead/lag flow, with a third canister in standby, with other operating configurations for maintenance and high flow events. Both high pressure and low pressure vent to atmosphere through one common stack.

High Pressure Side
Dimensions: 54" OD bed x 114" side shell
Bed Area: (53.25" ID) = 15.466 square feet
Nominal Flow Rate (cfm): 1,546.60 CFM
Carbon Capacity: 3,000 pounds
Fittings: 8"

Low Pressure Side
Dimensions: 36" OD bed x 108" side shell

Fee Schedule: 7 (h)	Rating: 1 device	SIC: 4911	SCC: 30688801	Location/Coordinates: +35.01460, -117.32880

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Mojave Solar LLC
42134 Harper Lake Road
Hinkley, CA 92347

By:
Brad Poiriez
Air Pollution Control Officer

Bed Area: (35.25" ID) = 6.73 square feet
Nominal Flow Rate (cfm): 673 CFM
Carbon Capacity: 1,500 pounds
Fittings: 4"

CONDITIONS:

1. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

2. This equipment must be in use and operating properly at all times the HTF ullage/expansion system with valid District Permit B011047 is venting.

3. This carbon adsorption system shall provide at a minimum 95% control efficiency of VOC emissions vented from the HTF ullage/expansion system under valid District Permit B011047. Control efficiency shall be demonstrated by sampling VOC emissions per US EPA Method 25 at the inlet and outlet of the carbon beds during initial and annual compliance tests.

4. The owner/operator shall prepare and submit a monitoring and change-out plan for the carbon adsorption system which ensures that the system is operating at optimal control efficiency at all times for District approval 60 days prior to commercial operation date (COD). Once approved, any subsequent changes to the monitoring and change-out plan must be submitted in writing to the District for approval prior to implementation.

5. Total emissions of VOC to the atmosphere shall not exceed 792.1 lbs/year, calculated based on the most recent test results.

6. Total emissions of benzene to the atmosphere shall not exceed 507.4 lbs/year, calculated based on the most recent test results.

7. During operation, o/o shall monitor VOC (as hexane) measured at outlet from the carbon beds. Sampling is to be performed at a minimum on a weekly basis. Samples shall be analyzed using a District approved photo ionization detector (PID).

8. PID shall be considered invalid if not calibrated in accordance with the manufactures recommended calibration procedures.

9. The o/o shall maintain an operations log (in electronic or hardcopy format) current and on-site for a period of five (5) years. The log shall contain at a minimum the following information and shall be provided to District personnel upon request.
a. Date and time of VOC monitoring;
b. Results of VOC monitoring; and
c. Date and description of all maintenance, malfunctions, repairs, and carbon change out(s).

10. The o/o shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

11. Prior to January 31 of each new year, the o/o of this unit shall submit to the District a summary report of all VOC emissions (based on annual source test results).

12. The o/o shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District

within forty-five (45) days after testing is completed.

13. The o/o shall perform the following initial compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District within 180 days of COD. The following compliance tests are required:
a. VOC as hexane in ppmvd and lb/hr (measured per USEPA Reference Methods 25 and 18 or equivalent).
b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).

All compliance/certification test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov

14. The o/o shall perform the following compliance tests on this equipment at least once every twelve (12) months in accordance with the MDAQMD Compliance Test Procedural Manual. The following compliance tests are required:
a. VOC as hexane in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent).
b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).

Additionally, records of all compliance tests shall be maintained on site for a period of five (5) years and presented to District personnel upon request.

THIS IS THE LAST PAGE OF THIS DOCUMENT

If you have any questions, please contact one of the following individuals by email or phone.

Name:	Mr. Joe Rubio
Title:	Client Project Manager
Region:	West
Email:	JRubio@montrose-env.com
Phone:	(714) 279-6777

Name:	Mr. Matt McCune
Title:	Regional Vice President
Region:	West
Email:	MMccune@montrose-env.com
Phone:	(714) 279-6777

Mahnaz Ghamati

From: Roddy Rauls <rrauls@montrose-env.com>
Sent: Thursday, September 12, 2024 11:46 AM
To: May Mamari
Cc: Mahnaz Ghamati; Joseph Rubio
Subject: Mojave Solar 2024 Carbon Adsorption Systems Annual Compliance Report
Attachments: W002AS-042458-RT-6501_CL.pdf; W002AS-042458-RT-6501.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

May,
Please find attached the subject report and Cover Letter.
We have sent you two hard copies.

Roddy Rauls
Administrative Manager
Montrose Air Quality Services, LLC
5120 Northshore Dr.
North Little Rock, Arkansas 72118 | US Central Time
M: 714.936.3839 | Direct 714.332.8622
rrauls@montrose-env.com | www.montrose-env.com

Mojave Solar LLC
42134 Harper Lake Road
Hinkley, California 92347
Phone: 760 308 0400

Appendix L

AQ-66, 70

Benzene Emission Limit
Carbon Adsorption System – Annual VOC Emissions Summary

Mojave Solar LLC

42134 Harper Lake Road Phone: 760 308 0400
Hinkley, California 92347

Submitted Electronically

January 14, 2025

May Mamari, Air Quality Engineer
14306 Park Avenue
Victorville, California 92392
mmamari@mdaqmd.ca.gov

Dear Ms. Mamari,
Attached to this letter, please find the Mojave Solar Project's Comprehensive Emission Inventory Report for the emission year 2024. The digital format of the emission calculation is also attached to this email.
Should you have any questions, please do not hesitate to contact me.

Sincerely,

Mahnaz Ghamati

Quality, Environmental & Compliance Manager
Mojave Solar Project
42134 Harper Lake Rd
Hinkley, CA 92347
Cell: (760) 498 0549

Mahnaz.ghamati@atlantica.com

EMISSION YEAR	CEIDARS 2.5 CERTIFICATION	FORM
2024.	COMPANY NO. 1876 FACILITY NO. 3130	**CER**

COMPANY NAME: Mojave Solar Project	FACILITY NAME: Mojave Solar Project
MAILING ADDRESS: 43134 Harper Lake Road	ADDRESS - PHYSICAL LOCATION: 43134 Harper Lake Road
CITY: Hinkley ST: CA ZIP CODE: 92347	CITY: Hinkley ST: CA ZIP CODE: 92347
NAME OF COMPANY CONTACT: Mahnaz Ghamati	NAME OF FACILITY CONTACT: Mahnaz Ghamati
TELEPHONE: 760-498-0549 FAX:	TELEPHONE: 760-498-0549 FAX:
EMAIL ADDRESS: mahnaz.ghamati@atlantica.com	EMAIL ADDRESS: mahnaz.ghamati@atlantica.com

SMALL BUSINESS EXEMPTION for STATE AIR TOXIC FEES (AB2588

This section must be completed to claim small business status.

Criteria for small business exemption: A small business is a facility with 10 or les employees and gross receipts of $1,000,000 or less and companies California total gross receipts of $5,000,000 or less.

Small Business Criteria	This Facility	State of California	National
Number of Employees	92		
Annual Gross Receipts			
Less than $ 1,000,000			
$ 1,000,000 to $ 5,000,000			
More than $ 5,000,000			

CERTIFICATION

(Please print or type)

I, Mahnaz Ghamati (Name of Official), a responsible official of Mojave Solar Project (Name of Facility), hereby certify that, based upon information and belief formed after reasonable inquiry, the attached information, consisting of the emission inventory data is true, accurate and complete. Executed this 14 (Day) day of January (Month), 2025 (Year) at San Bernardino, California (County and State).

(Signature)

Mahnaz Ghamati (Name - print or type)

Quality, Environmental & Compliance Manager (Title - print or type)

DATE RECEIVED BY DISTRICT

INITIALS _____ DATE: _____

CER - 2010-05

EMISSION YEAR 2024	CEIDARS II CEIP & CEIR UPDATE SURVEY **COMPANY** 1876 **FACILITY** 3130	FORM **UDS** SIDE 1

A. FACILITY DATA

Facility Name

Mojave Solar LLC

Address of Location

42134 Harper Lake Road

City

Hinkley

Zip Code

92347-9305

Facility SIC:

4911

Number of Employees

92

Web Site Address

WWW.atlantica.com

B. CONTACT PERSON

Name of Contact Person

Mahnaz Ghamati (Mrs.)

Title

Quality Environmental & Compliance Manager

Telephone Number

760-498-0549

FAX Number

- -

E-Mail Address

mahnaz.ghamati@atlantica.com

C. MAILING ADDRESS DATA

Company Name

Mojave Solar LLC

Mailing Address

42134 Harper Lake Road

City

Hinkley

State

CA

ZIP Code

92347-9305

Attention

Mahnaz Ghamati

EMISSION YEAR	CEIDARS II CEIP & CEIR UPDATE SURVEY	FORM
2024	**COMPANY** 1 8 7 6 **FACILITY** 3 1 3 0	**UDS** SIDE 2

D. *The following section must be answered if this facility does not want to complete and submit a new Comprehensive Emission Inventory Plan and Report (CEIP & CEIR):*

	QUESTIONS	ANSWERS	
1	What is the last emission year this facility submitted a CEIP?	2017	
2	What is the last emission year this facility submitted a CEIR?	2023	
		YES	NO
3	Did this facility operate during the past emission (calendar) year?	X	
4	Based upon the SIC for this facility, is this facility required to updates its CEIP & CEIR?	X	
5	Did the facility add or modify any processe(s) or equipment in the past emission (calendar) year?		X
6	If yes to 5, above, did the new or modified processe(s)/equipment begin operating during the past emission (calendar) year?		X
7	Have the facility's total emissions increased and/or decreased so as to cause a 10 percent or greater change (increase and/or decrease) in any emissions? (This may result due to change in process feed rates, equipment shutdowns, addition of equipment/processe(s)/control devices, changes in material or fuel, temperature, pressure, rentention time, etc.)		X
8	Has the distance to any receptor decreased since the previous update/submittal or are there any new receptors since the previous update/submittal?		X

If the facility answered "NO" to questions 5, 6, 7, and 8 AND would like to rollover previously submitted CEIP and CEIR, please check the box below and indicate which emission year data should be used.

YES, rollover data* ☐ Emission year of data to rollover: ☐

E. *This section must be completed to claim small business status for the purpose of the Air Toxics "Hot Spots" Fees:*

A small business is defined as:
1) a facility who has 10 or fewer full-time equivalent employees;
2) a facility whose total annual gross receipts are less than $1,000,000; and
3) a company whose total annual California gross receipts are less than $5,000,000

	This Facility	State of California
Number of employees		
Annual Gross Receipts **		
Less than $ 1,000,000		
$ 1,000,000 to $ 5,000,000		
More than $ 5,000,000		

** Check the appropriate box for total annual gross receipts.

F. CERTIFICATION
(Please print or type)

I, Mahnaz Ghamati (Name of Official), a responsible official of

Mojave Solar LLC (Name of Facility), hereby certify that, based upon information and belief formed after reasonable inquiry, the above and attached information is true, accurate and complete. Executed th 14 (Day) day of January (Month) of 2025 (Year)

at San Bernardino County, California (County and State).

Mahnaz Ghamati
(Signature)

Mahnaz Ghamati/ Environmental & Compliance Manager
(Name and Title)

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

MDAQMD CALENDAR YEAR 2024 COMPREHENSIVE EMISSIONS INVENTORY (CEI): INTERNAL COMBUSTION ENGINE REPORTING FORM

Instructions:

1. This form is ONLY for Internal Combustion Engines. If you have other types of permitted equipment, you will need to use other equipment specific forms for those.
2. This report is for the period starting January 1st, 2024 and ending December 31st, 2024.
3. Please fill in your Company's Name as written on your permits.
4. For EACH Engine, please fill in the information requested below. The Company Number, Facility Number, and Permit Number can be found on each permit as shown on the Sample Permit (Click on the "Sample Permit" Tab below).
5. If your engine is used for emergencies only (the permit number will start with an 'E'), the Prime Use Hours will be zero.
6. If your engine is used for Primary Power (the permit number will start with a 'B' or an 'M'), the Emergency Use Hours will be zero
7. If you know the approximate load on the engine during emergencies (for 'E' permits) or during normal operations (for 'B' and 'M' permits), please include that data. Otherwise, leave that column blank.
8. When you have finished filling out the engine data, please read the Certification Statement and then enter the Certifying Responsible Official's name in the shaded box.
9. Please download and read the District's revised CEI Guidelines document to determine what you need to report, when reports are due, who needs to sign the Certification Forms, etc. It can be found at: https://www.mdaqmd.ca.gov/home/showpublisheddocument?id=8575
10. If you have any questions, please call the District at (760) 245-1661 and ask to speak with your assigned Permit Engineer or contact us via email at engineering@mdaqmd.ca.gov

SUBMIT THIS COMPLETED FORM TO: engineering@mdaqmd.ca.gov

Company Name: **Mojave Solar LLC** Date Submitted: **1/14/2024**

Company Number	Facility Number	Permit Number	Maintenance and Testing Hours	Emergency Use Hours	Prime Use Hours	Fuel Used (gallons)
1876	3130	E011042	9.9	96.2	Maintenance: 50Hrs Emergency: No limit	720
1876	3130	E011043	6.9	68.2	Maintenance: 50Hrs Emergency: No limit	700
1876	3130	E011044	2.5	0	10	300
1876	3130	E011045	2.7	0	10	300

Electronic Submittal Certification: By submitting this form electronically to the Mojave Desert Air Quality Management District (the District), the information contained above is certified to be true, accurate, and complete by a designated Responsible Official of the Company identified above.

Responsible Official's Name: Mahnaz Ghamati

EMISSION YEAR	HARP / CEIDARS	FORM
20 24	DISTANCE TO RECEPTORS	
	COMPANY NO. 1876 FACILITY NO. 3130	**DIS**

Prioritization Score and Health Risk Assessment calculations require the distance from the emission source to each type of receptor.

The distance for each type of receptor is the shortest distance from the emission source to the receptor.

For facilities with more than one emission source report the shortest distance to each type of receptor.

Types of receptors are residential, off-site work place (commercial or industrial), schools (K - 12), medical facility (hospital, doctors office, lab), and residential care facility (nursing home, eldercare).

Only report distance for receptors within 6,500 feet of the emission source. When the closest receptor is more than 6,500 feet from the emission source enter "+++++".

Use the following table to convert compass bearing to degrees:

Bearing	Degrees
N	0
NNE	22.5
NE	45
ENE	67.5
E	90

Bearing	Degrees
ESE	112.5
SE	135
SSE	157.5
S	180

Bearing	Degrees
SSW	202.5
SW	225
WSW	247.5
W	270

Bearing	Degrees
WNW	292.5
NW	315
NNW	337.5
N	360

Receptor Type	Emission release point to	Distance (feet)	Direction (bearing or degrees)
Residential	Property line of residence	460	225
Off-site Work Place	Building or outside work	None	-
School (K-12)	Property line of school	None	-
Medical Facility	Building	None	-
Residential Care	Building	None	-
Other	Contact District	None	-

EMISSION YEAR	HARP / CEIDARS LOCATION OF EMISSION SOURCES	FORM
2024	COMPANY NO. 1876 FACILITY NO. 3130	**LOC-ES**

The grid coordinates can be expressed in either the Universal Transverse Mercator (UTM) Coordinates (see reverse side) to within at least 25 meters or Longitude and Latitude to within at least 0.00025 degrees (1 second). Grid coordinates can obtained from a topographic map or by using one of methods shown in Appendix "G".

FACILITY NAME: Mojave Solar LLC

PERMIT NO.	NAME OF DEVICE/PROCESS	COORDINATES *				
		SYS*	METH *	ZONE	EAST	NORTH
N011039	Gasoline Dispensing Facility	L/L	PER	11	-117.30420	35°00'44.7"N
B011046	HTF Ullage/Expansion System (Alpha)	L/L	PER	11	-117.30420	+35.00240
B011047	HTF Ullage/Expansion System (BETA)	L/L	PER	11	-117.32950	+35.01360
E011042	Diesel IC Engine, Emergency Generator (Alpha)	UTM	PER	11	470E	3877N
E011043	Diesel IC Engine, Emergency Generator (Beta)	UTM	PER	11	470E	3877N
E011044	Diesel IC Engine, Fire Pump (Alpha)	UTM	PER	11	470E	3877N
E011045	Diesel IC Engine, Fire Pump (Beta)	UTM	PEr	11	470E	3877N
B011037	Cooling Tower (Alpha)	UTM	PER	11	470E	3877N
B011038	Cooling Tower (Beta)	UTM	PER	11	470E	3877N

* SYS = System used to report coordinates
- UTM83 = Universal Transverse Metcator NAD 83
- UTM27 = Universal Transverse Metcator NAD 27
- TA = Teale Albers NAD 83
- L/L = Longitude and Latitude
- OTH = Other, specify system

* METH = Method used to determine coordinates
- GPS = Global Positioning System
- TOPO = Interpolation from topographic map
- PHO = Interpolation from aerial photograph
- PER = District Permits
- OTH = Other, specify method

Mojave Solar Project

Comprehensive Emission Inventory Report for Emission Year 2023-Mojave Solar									
Permit Number	Emission Source	Total Run Time	CO2	NOx	CO	SOx	PM 10	VOC as C6	VOC as Benzene
		Hrs.	Ton	Ton	Ton	Ton	Ton	Ton	Ton
N011039	Gasoline Dispensing Facility	NA	176	0.5331	0.3554	0.3554	N/A	N/A	N/A
B011046	HTF Ullage/Expansion System (Alpha)	205	N/A	N/A	N/A	N/A	N/A	0.0003	0.0000
B011047	HTF Ullage/Expansion System (BETA)	447	N/A	N/A	N/A	N/A	N/A	0.0003	0.0001
E011042	Diesel IC Engine, Emergency Generator (Alpha)	106	N/A	0.0727	0.0419	0.0004	0.0024	0.0024	0.0038
E011043	Diesel IC Engine, Emergency Generator (Beta)	75	N/A	0.0707	0.0408	0.0004	0.0023	0.0023	0.0037
E011044	Diesel IC Engine, Fire Pump (Alpha)	2.5	N/A	0.0184	0.0042	0.0000	0.0006	0.0006	0.0010
E011045	Diesel IC Engine, Fire Pump (Beta)	2.7	N/A	0.0184	0.0042	0.0000	0.0006	0.0006	0.0010
B011037	Cooling Tower (Alpha)	3,171	N/A	N/A	N/A	N/A	1.1314	N/A	N/A
B011038	Cooling Tower (Beta)	3,120	N/A	N/A	N/A	N/A	1.1918	N/A	N/A

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2024
Gasoline Consumption (Gallon)	2,469	1,764	1,445	1,409	1,400	1,252	2,062	2,196	1,458	1,487	1,457	1,344	19,743
CO2 Emission (Ton)	21.94	15.68	12.84	12.53	12.45	11.13	18.33	19.52	12.96	13.22	12.95	11.95	175.51
CO Emission (Ton)	0.0444	0.0318	0.0260	0.0254	0.0252	0.0225	0.0371	0.0395	0.0262	0.0268	0.0262	0.0242	0.3554
NOx Emission (Ton)	0.0666	0.0476	0.0390	0.0380	0.0378	0.0338	0.0557	0.0593	0.0394	0.0401	0.0393	0.0363	0.5331
SOx Emission (Ton)	0.0444	0.0318	0.0260	0.0254	0.0252	0.0225	0.0371	0.0395	0.0262	0.0268	0.0262	0.0242	0.3554

Calculation with using the Emission Factor

Fuel	Emission Factor CO2, Kg/gallon	Emission Factor CO, Kg/gallon	Emission Factor NOx, Kg/gallon	Emission Factor SOx, Kg/gallon
Gasoline	8.89	0.02	0.03	0.02

Atlantica
Sustainable Infrastructure

Mojave Solar LLC

2024 Ullage Emission

Venting Hours				
2024	Alpha		Beta	
	Expansion	Overflow	Expansion	Overflow
Jan	4.2	3.1	2.5	44.8
Feb	5.7	1.0	4.7	16.4
Mar	8.1	0.9	7.3	26.6
Apr	8.0	4.9	5.6	40.9
May	7.8	13.2	3.5	46.9
Jun	5.8	15.8	2.8	37.2
Jul	5.4	18.4	5.6	48.8
Aug	4.6	14.1	4.2	38.1
Sep	2.6	11.0	2.6	45.6
Oct	2.7	11.8	4.0	27.9
Nov	3.1	25.4	4.3	14.3
Dec	1.1	26.9	4.1	8.8
Total	59.1	146.3	51.2	396.2
	205.3		447.4	

VOCs as C6, lb				
2024	Alpha		Beta	
	Expansion	Overflow	Expansion	Overflow
Jan	0	0.01159	0.00248	0.06717
Feb	0	0.003724869	0.004693749	0.024528497
Mar	0	0.003287	0.00729	0.039825
Apr	0	0.018481777	0.005604626	0.06141681
May	0	0.05016	0.0035	0.07035
Jun	0	0.06004	0.0028	0.0558
Jul	0	0.06992	0.0056	0.0732
Aug	0	0.053694	0.004206	0.057075
Sep	0	0.041838	0.002602	0.068445
Oct	0	0.044688	0.00403	0.041775
Nov	0	0.096368	0.00429	0.021495
Dec	0	0.102068	0.0041	0.01326
Total	0	0.555859646	0.051196376	0.594340308

benzene, lb				
2024	Alpha		Beta	
	Expansion	Overflow	Expansion	Overflow
Jan	0.00273	0.0077775	0	0.0158969
Feb	0.001758869	5.39126E-05	0	0.005805078
Mar	0.0025234	0.000047575	0	0.00942525
Apr	0.002467419	0.000267499	0	0.014535312
May	0.002418	0.000726	0	0.0166495
Jun	0.001798	0.000869	0	0.013206
Jul	0.001674	0.001012	0	0.017324
Aug	0.0014167	0.00077715	0	0.01350775
Sep	0.0007905	0.00060555	0	0.01619865
Oct	0.000837	0.0006468	0	0.00988675
Nov	0.0009734	0.0013948	0	0.00508715
Dec	0.0003472	0.0014773	0	0.0031382
Total	0.019734488	0.015655087	0	0.140660539

Calculation Notes:
2024 Ullage emission - based on 08/14/2024 test data
Vent valves are considered close if it is <2% open.
15 min average valve positions are used to determine whether each vent valve is open or close.
In case of bad PI data, the valve position In the previous period is automatically used.

Alpha expansion vessel vent VOCs emission rate is deteremined by performance test as	0	lb/yr
Alpha overflow vent VOCs emission rate is deteremined by performance test as	0.0038	lb/yr
Beta expansion vessel vent VOCs emission rate is deteremined by performance test as	0.001	lb/yr
Beta overflow vessel vent VOCs emission rate is deteremined by performance test as	0.0015	lb/yr
Alpha expansion vessel vent benzene emission rate is deteremined by performance test as	0.00065	lb/yr
Alpha overflow vent benzene emission rate is deteremined by performance test as	0.00255	lb/yr
Beta expansion vessel vent benzene emission rate is deteremined by performance test as	0	lb/yr
Beta overflow vessel vent benzene emission rate is deteremined by performance test as	0.000355	lb/yr

Annual Totals			
Last compliance test	8/14/2024	lb/yr	Ton/yr
Alpha projected annual VOC		0.56	0.00028
Beta projected annual VOC		0.65	0.00032
Alpha projected annual Benzene		0.04	0.00002
Beta projected annual Benzene		0.14	0.00007
Annual VOC limit per plant		792.1	lb/yr
Annual benzene limit per plant		507.4	lb/yr

0.18

2024 Source Test results W002AS-042458-RT-6501.pdf

		Run 1	Run 2	Average		Run 1	Run 2	Average
Alpha	Exp Ves VOC as C6, lb/hr	0	0	0	Exp Ves Benzene, lb/hr	0.0006	0.0007	0.00065
Alpha	Overflow VOC as C6, lb/hr	0.0039	0.0037	0.0038	Overflow Benzene, lb/hr	0.0029	0.0022	0.00255
Beta	Exp Ves VOC as C6, lb/hr	0.001	0.001	0.001	Exp Ves Benzene, lb/hr	0	0	0
Beta	Overflow VOC as C6, lb/hr	0.001	0.002	0.0015	Overflow Benzene, lb/hr	0.00039	0.00032	0.000355

Emission Factor Conversion From gram/bhp-hr. to lb./1000 gal Diesel IC Engine, Emergency Generator

Calculation with using the equipment data

bhp	3058	
Density of CARB diese	6.92	lb./gal

Pollutant	g/bhp-hr.
NOx	4.56
CO	2.63
SOx	0.024
PM10	0.15
VOC	0.24

2024 Fuel Consumption	gal	mgal	NOx (Ton)	CO (Ton)	SOx (Ton)	PM10 (Ton)	VOC (Ton)
Emergency Generator Alpha	720	0.72	0.0727	0.0419	0.0004	0.0024	0.0038
Emergency Generator Beta	700	0.7	0.0707	0.0408	0.0004	0.0023	0.0037

Diesel Fuel Rate (@ peak hp) 1053.224 lb./hr.

fuel conversion, gal >>>lb. per hour
152.2 gal/hr.
1053.224 lb./hr.

Calculation

NOx	4.56	gram / bhp-hr.	X	1 / 453.6	lb. / gram	X	1 / 1053.224	hr. / lb.	6.92 / 1	lb. / gal	X	1000 / 1	gal / mgal	3058	bhp	201.9829	lb. / mgal
CO	2.63	gram / bhp-hr.	X	1 / 453.6	lb. / gram	X	1 / 1053.224	hr. / lb.	6.92 / 1	lb. / gal	X	1000 / 1	gal / mgal	3058	bhp	116.4945	lb. / mgal
SOx	0.024	gram / bhp-hr.	X	1 / 453.6	lb. / gram	X	1 / 1053.224	hr. / lb.	6.92 / 1	lb. / gal	X	1000 / 1	gal / mgal	3058	bhp	1.063068	lb. / mgal
PM10	0.15	gram / bhp-hr.	X	1 / 453.6	lb. / gram	X	1 / 1053.224	hr. / lb.	6.92 / 1	lb. / gal	X	1000 / 1	gal / mgal	3058	bhp	6.644175	lb. / mgal
VOC	0.24	gram / bhp-hr.	X	1 / 453.6	lb. / gram	X	1 / 1053.224	hr. / lb.	6.92 / 1	lb. / gal	X	1000 / 1	gal / mgal	3058	bhp	10.63068	lb. / mgal

Emission Factor Conversion From gram/bhp-hr. to lb./1000 gal Diesel IC Engine, Fire Pump

Calculation with using the equipment data

bhp	617	
Density of CARB diese	6.92	lb./gal

Pollutant	g/bhp-hr.
NOx	2.64
CO	0.6
SOx	0.005
PM10	0.09
VOC	0.15

2023 Fuel Consumption- Estin	gal	mgal	Nox (Ton)	CO (Ton)	Sox (Ton)	PM10 (Ton)	VOC (Ton)
Fire Pump Alpha	300	0.30	0.0184	0.0042	0.0000	0.0006	0.0010
Fire Pump Beta	300	0.3	0.0184	0.0042	0.0000	0.0006	0.0010

Diesel Fuel Rate (@ peak hp 202.064 lb./hr.

fuel conversion, gal >>>lb. per hour
29.2 gal/hr.
202.064 lb./hr.

Calculation

NOx	2.64	gram / bhp-hr.	X	1 / 453.6	lb. / gram	X	1 / 202.064	hr. / lb.	6.92 / 1	lb. / gal	X	1000 / 1	gal / mgal	617	bhp	122.9796	lb. / mgal
CO	0.6	gram / bhp-hr.	X	1 / 453.6	lb. / gram	X	1 / 202.064	hr. / lb.	6.92 / 1	lb. / gal	X	1000 / 1	gal / mgal	617	bhp	27.94992	lb. / mgal
SOx	0.005	gram / bhp-hr.	X	1 / 453.6	lb. / gram	X	1 / 202.064	hr. / lb.	6.92 / 1	lb. / gal	X	1000 / 1	gal / mgal	617	bhp	0.232916	lb. / mgal
PM10	0.09	gram / bhp-hr.	X	1 / 453.6	lb. / gram	X	1 / 202.064	hr. / lb.	6.92 / 1	lb. / gal	X	1000 / 1	gal / mgal	617	bhp	4.192487	lb. / mgal
VOC	0.15	gram / bhp-hr.	X	1 / 453.6	lb. / gram	X	1 / 202.064	hr. / lb.	6.92 / 1	lb. / gal	X	1000 / 1	gal / mgal	617	bhp	6.987479	lb. / mgal

Table C.1-6

Calculation of Hazardous and Toxic Pollutant Emissions from Cooling Towers

					Op Hrs/Day:	16			ppm
								Makeup Water TDS:	150
								Blowdown TDS	3,585.84
Cells per Tower:	6	Max Tower Drift Rate:	224.9	lbs/hr	Op Hrs/Yr:	6,290.66		Avg Tower Flow TDS:	1868
# of Identical Towers	2							C of C:	23.91

Constituent	Concentration in Cooling Tower Water		Total Single Tower Emissions, lb/hr	Total Single Tower Emissions, lb/day	Total Single Tower Emissions, ton/yr	Single Cell Emissions, lb/hr	Single Cell Emissions, lb/day	Single Cell Emissions, ton/yr	Total All Towers Emissions, lb/hr	Total All Towers Emissions, lb/day	Total All Towers Emissions, ton/yr
Manganese	2.5	ppm	1.34E-02	2.15E-01	4.23E-02	2.24E-03	3.58E-02	7.05E-03	2.69E-02	4.30E-01	8.46E-02
Magnesium	59	ppm	3.17E-01	5.08E+00	9.98E-01	5.29E-02	8.46E-01	1.66E-01	6.34E-01	1.02E+01	2.00E+00
Lead	0.0034	ppm	1.83E-05	2.92E-04	5.75E-05	3.05E-06	4.87E-05	9.58E-06	3.66E-05	5.85E-04	1.15E-04
Arsenic	0.0097	ppm	5.22E-05	8.34E-04	1.64E-04	8.69E-06	1.39E-04	2.73E-05	1.04E-04	1.67E-03	3.28E-04
Aluminum	0.02	ppm	1.08E-04	1.72E-03	3.38E-04	1.79E-05	2.87E-04	5.64E-05	2.15E-04	3.44E-03	6.76E-04
Chromium	0.0048	ppm	2.58E-05	4.13E-04	8.12E-05	4.30E-06	6.88E-05	1.35E-05	5.16E-05	8.26E-04	1.62E-04
Cadmium	0.002	ppm	1.08E-05	1.72E-04	3.38E-05	1.79E-06	2.87E-05	5.64E-06	2.15E-05	3.44E-04	6.76E-05
Selenium	0.013	ppm	6.99E-05	1.12E-03	2.20E-04	1.16E-05	1.86E-04	3.66E-05	1.40E-04	2.24E-03	4.40E-04
Zinc	0.04	ppm	2.15E-04	3.44E-03	6.76E-04	3.58E-05	5.73E-04	1.13E-04	4.30E-04	6.88E-03	1.35E-03
Mercury	0.0000002	ppm	1.08E-09	1.72E-08	3.38E-09	1.79E-10	2.87E-09	5.64E-10	2.15E-09	3.44E-08	6.76E-09
Copper	0.0071	ppm	3.82E-05	6.11E-04	1.20E-04	6.36E-06	1.02E-04	2.00E-05	7.63E-05	1.22E-03	2.40E-04
Silver	0.002	ppm	1.08E-05	1.72E-04	3.38E-05	1.79E-06	2.87E-05	5.64E-06	2.15E-05	3.44E-04	6.76E-05
Nickel	0.004	ppm	2.15E-05	3.44E-04	6.76E-05	3.58E-06	5.73E-05	1.13E-05	4.30E-05	6.88E-04	1.35E-04
*	0	ppm	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
*	0	ppm	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
*	0	ppm	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
*	0	ppm	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
*	0	ppm	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
*	0	ppm	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
*	0	ppm	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Notes: (1) Water analysis data water balance data.

	CT Running time (hr.)		Average PM10 (lb./Hr.)		Total PM10 Lb.	
	Alpha	Beta	Alpha	Beta	Alpha	Beta
Jan	117.83	133.65	0.48	0.87	56.83	116.52
Feb	175.33	120.70	0.52	1.03	91.36	123.89
Mar	208.72	206.73	0.57	1.04	119.55	214.72
Apr	312.53	314.67	0.73	0.94	227.64	295.08
May	340.31	339.35	0.80	0.71	271.22	241.35
Jun	352.23	350.22	0.79	0.76	277.45	264.75
Jul	347.54	349.82	0.75	0.94	259.24	327.11
Aug	346.72	337.77	0.99	0.95	344.80	321.75
Sep	321.82	315.30	0.96	0.89	309.44	281.82
Oct	286.30	281.60	0.93	0.75	265.63	210.10
Nov	209.78	212.83	0.79	0.65	165.05	137.46
Dec	151.98	156.95	0.68	0.58	103.93	90.52
Total (Lb.)					2492.14	2625.08
Total (Ton)					1.13	1.19
Total Hr.	3,171.08	3,119.58				
Ave TDS (ppı	3,405.95	3,765.73				

	Total hour	Permit limit (	Total PM10 Lb. per year
Permit Limits	5840	2.24	13081.60

Calculation based on the TDS measurement and using the approved calculation method.

$$PM_{10} = Circ \times Drift \times \rho \times TDS \times \frac{60}{10^6}$$

Where:

PM_{10}	=	Calculated PM_{10} emissions (lb/hr).
Circ	=	Circulation Rate (gallons per minute [gpm]). The default value is the permitted maximum of 90,000 gpm.
Drift	=	Drift rate (%). The default value is the permitted maximum of 0.0005%.
ρ	=	Density of water (lbs/gal). The default value is 8.3 pounds per gallon.
TDS	=	Total Dissolved Solids (ppm). This value is derived from the quarterly testing results.
60	=	Conversion factor for minutes per hour.
10^6	=	Conversion factor for ppm.

Using already known parameters, the equation above reduces to:

$$PM_{10}\ (lb/hr) = \frac{90{,}000\ gpm \times 0.0005\% \times 8.3\frac{lb}{gal} \times 60\frac{min}{hr} \times TDS}{10^6\ ppm}$$

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Appendix M

BIO-1 to BIO-21

Designated Biologist Summaries

Mojave Solar Project
California Energy Commission (09-AFC-5C)
Biological Resources Conditions of Certification
Biological Resources Section of the Annual Compliance Report

January 1 – December 31, 2024
Reporting Period

Submitted
February 2025

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1. Introduction

This Biological Resources Section of the Annual Compliance Report (ACR) is provided to the California Energy Commission (CEC) pursuant to the Biological Resources Conditions of Certification (COCs) and Compliance-7 as required by the Mojave Solar Project (MSP) Commission Decision (09-AFC-5; CEC, 2010).

On December 23, 2014, the facility commenced commercial operations. Also on this date, Abeinsa (AEPC) turned the site over to the owner, Mojave Solar LLC, to manage facility operations. From January 2015 through May 29, 2016, monthly compliance reports were submitted to comply with the CEC COCs, while the Chief Building Official's punch list activities were completed. The CEC issued the Final Certificate of Occupancy on May 29, 2016, when installation of all permanent equipment and structures was completed. MSP has been in the Operations and Maintenance (O&M) phase of the project as of May 30, 2016. This report covers O&M from January 1 to December 31, 2024.

2. Annual Report Requirements

Annual reporting requirements during O&M are only referenced in BIO-2, BIO-6, BIO-16, and BIO-17; however, this ACR addresses all Biological Resource COCs (BIO-1 to BIO-21) because BIO-6, the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), covers all Biological Resource COCs.

3. Mitigation Measures

Table 1 provides a list of the Biological Resource COCs covered in the BRMIMP.

Table 1: BRMIMP Mitigation Measures

COC	Brief Description of Condition
BIO-1	Designated Biologist Selection
BIO-2	Designated Biologist Duties
BIO-3	Biological Monitor Selection, Qualifications, and Duties
BIO-4	Designated Biologist and Biological Monitor Authority
BIO-5	Worker Environmental Awareness Program

Table 1: BRMIMP Mitigation Measures	
COC	Brief Description of Condition
BIO-6	Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) Development and Compliance
BIO-7	Impact Avoidance and Minimization Measures
BIO-8	Pre-Construction Nest Surveys and Impact Avoidance and Minimization Measures for Migratory Birds
BIO-9	Golden Eagle Territory-Specific Management Plan
BIO-10	Documentation of Bald and Golden Eagle Act Compliance
BIO-11	Desert Tortoise Exclusion Fencing, Clearance Surveys, and Translocation Plan
BIO-12	Mohave Ground Squirrel Clearance Surveys
BIO-13	Burrowing Owl Impact Avoidance, Minimization and Mitigation Measures
BIO-14	American Badger and Desert Kit Fox Impact Avoidance and Minimization Measures
BIO-15	Compensatory Mitigation
BIO-16	Tamarisk Eradication, Monitoring, and Reporting Program
BIO-17	Monitoring Impacts of Solar Collection Technology on Birds
BIO-18	Common Raven Monitoring, Management, and Control
BIO-19	Evaporation Pond Monitoring and Adaptive Management Plan
BIO-20	Harper Dry Lake Marsh Water Delivery
BIO-21	USFWS Biological Opinion

3.1. BIO-1: Designated Biologist Selection

BIO-1 requires the project to select a Designated Biologist (DB) to effectively implement the duties in BIO-2 and other relevant COCs. Approved DB, Sean Rowe performed the duties of DB on the project site during the reporting period. The qualifications for Sean Rowe and request for DB approval was submitted (under BIO1-19-00 submittal) (CEC, USFWS and CDFW) to the permitting agencies on March 14, 2018, and Mr. Rowe was subsequently approved March 21 (USFWS and CDFW) and March 27 (CEC), 2018 as a BM, Authorized Avian Specialist, and desert tortoise Authorized Biologist under the project specific Biological Opinion 8-8-11-F-3 (USFWS, 2011B). Mr. Rowe was subsequently approved as DB on October 12, 2018.

3.2. BIO-2: Designated Biologist Duties

An approved DB was onsite or otherwise available during all O&M activities. The DB advised on compliance with Biological Resource COCs, supervised and conducted biological resource compliance inspections, surveyed sensitive biological resource areas, notified the project owner and the CPM of noncompliance events, responded to CPM inquiries, and maintained compliance records.

3.3. BIO-3: Biological Monitor Selection, Qualifications, and Duties

BIO-3 allows the project to utilize approved Biological Monitors to assist the DB. No biological monitors were employed during the reporting period.

3.4. BIO-4: Designated Biologist and Biological Monitor Authority

BIO-4 provides the DB and BM authority to halt construction activity in areas specified by the DB if that activity were to potentially harm biological resources or is in violation of any state or federal laws, conditions, permits, or other such agreements made to applicable agencies.

No construction activities took place during the reporting period.

3.5. BIO-5: Worker Environmental Awareness Program

BIO-5 requires that the project owner develop and implement a Worker Environmental Awareness Program (WEAP). On October 22, 2015, the project owner submitted a revised BIO-5 WEAP training for use during operations (MSP, 2015a). The CPM approved the training program for operations on November 17, 2015. On December 9, 2015, the CPM approved immediate use of the operations WEAP for annual refresher training for operations personnel, while still in the construction period. On June 15, 2018, MSP submitted a new version of the BIO5 WEAP training for review and approval. The CEC CPM approved it on June 15, 2018. In 2021, additional slides were added to the training to address roadkill handling and disposal, and the spills. The plan (BIO5-04-03) was approved by CPM on August 18, 2022.

The WEAP was provided to all new employees, contractors, and subcontractors within a week of hiring new workers and annually for ongoing workers.

3.6. BIO-6: Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) Development and Compliance

BIO-6 requires the project owner to develop and implement a BRMIMP, which covers all Biological Resource COCs as reported herein. BIO-17 (Bird Monitoring Study) was subsequently approved by the CPM on January 27, 2017. BIO-19 (Evaporation Pond Monitoring and Adaptive Management Plan) was resubmitted to the CPM and USFWS in December 2016. Final BIO19 Evaporation Pond Plan, BIO19-00-08 Evaporation Pond Monitoring and Adaptive Management Plan, Rev. 6. (Mojave Solar Project 09-AFC-5C) submittal approved on March 8, 2017, in consultation with the USFWS, CDFW, and Regional Water Quality Control Board (RWQCB), it will be incorporated into the BRMIMP as Appendix I. See Sections 3.17 and 3.19 for more details.

3.7. BIO-7: Impact Avoidance and Minimization Measures

BIO-7 requires the project owner to implement seventeen measures to avoid or minimize impacts to local biological resources, several of which overlap with other COCs and are thus addressed separately. Most measures addressed in BIO-7 are construction related and were largely not relevant during this reporting period. No construction activities took place during the reporting period.

Item 11 of BIO-7 requires the project owner to report all inadvertent deaths of sensitive species. There were no deaths of sensitive species during the reporting period.

3.8. BIO-8: Nest Surveys and Impact Avoidance and Minimization Measures for Migratory Birds

BIO-8 requires impact avoidance and minimization measures for birds protected under the Migratory Bird Treaty Act (MBTA). Nest surveys were conducted by the DB onsite for any activities with the potential to effect MBTA-protected bird nests. Nesting surveys were performed in accordance with the procedures set forth in BIO-8. Netting of the evaporation ponds was completed in 2024 effectively removing nesting and nesting habitat for shorebirds that previously nested at the ponds. No bird nesting was observed at the ponds during this reporting period.

Six active Common Raven nests were discovered and monitored during 2024. No entry buffers were established around active nests and the nests were monitored until nestlings fledged or the nests were otherwise determined inactive. Of the six raven nests only one successfully

fledged young. Details of the nest monitoring results are found in the BIO-18 Annual Report for 2024. Table 2 summarizes the outcomes of all nesting attempts monitored during 2024.

Table 2. Avian Nesting Summary 2024				
Species	Nest ID	Discovery Date	Location	Outcome
Common Raven	01-B-CORA	3/5/24	Beta Power Block	Fledged Young
Common Raven	02-A-CORA	3/15/24	Alpha Power Block	Failed – Abandoned
Common Raven	03-A-CORA	4/10/24	Alpha West SCA	Failed - Abandoned
Common Raven	04-A-CORA	4/3/24	Alpha West SCA	Failed - Unknown
Common Raven	05-B-CORA	4/17/24	Beta West SCA	Failed – Abandoned
Common Raven	06-A-CORA	5/6/24	Alpha Power Block	Failed – Abandoned

3.9. **BIO-9: Golden Eagle Territory-Specific Management Plan**

BIO-9 requires that the project owner conduct Golden Eagle surveys and prepare a plan if an occupied territory is found within 10 miles of the project site.

On January 28, 2011, USFWS approved the project owner's findings that no Golden Eagles were located within 10 miles of the project site, and therefore, the project owner did not need to prepare a BIO-9 Golden Eagle Plan. On March 14, 2011, the project owner submitted USFWS's findings to CEC (MSP, 2011a). On March 17, 2011, CEC approved USFWS' letter satisfying the BIO-9 requirement.

3.10. BIO-10: Documentation of Bald and Golden Eagle Act Compliance

BIO-10 requires the project owner document compliance with the Bald and Golden Eagle Protection Act, if required by the BIO-9 survey results.

On March 17, 2011, the CEC via email stated that since a BIO-9 Golden Eagle Plan was not required that the project owner had also met BIO-10 compliance requirements.

3.11. BIO-11: Desert Tortoise Exclusion Fencing, Clearance Surveys, and Translocation Plan

All permanent desert tortoise exclusion fencing was inspected monthly and immediately after major rainfall events. Tortoise exclusion fencing received periodic maintenance as conditions warranted to remove sand buildup.

No desert tortoises were located onsite, and no tortoises were translocated or transmittered during this reporting period.

3.12. BIO-12: Mohave ground Squirrel Clearance Surveys

BIO-12 requires the project to avoid or minimize impacts to Mojave ground squirrel by conducting a clearance survey once the desert tortoise exclusion fence is completed (BIO12-02-0, November 18, 2011).

No Mohave ground squirrels were observed on the site, therefore no handling, capturing, or relocation was necessary for the duration of this reporting period.

3.13. BIO-13: Burrowing Owl Impact Avoidance, Minimization and Mitigation Measures

BIO-13 requires preparation of Burrowing Owl (*Athene cunicularia*) Monitoring and Mitigation Plan to avoid and minimize impacts to burrowing owls in and near construction areas (if identified during the surveys). Last survey performed and approved on January 26, 2011, BIO13-02-01. No Burrowing Owl specific surveys were conducted during the reporting period.

In July 2021, the DB discovered a family of Burrowing Owls using a burrow near the southwest corner of Beta west along the perimeter fence. In October 2021, the DB observed a single Burrowing Owl flush from a Kit Fox burrow in the kit fox den site #9 east of the Alpha east solar collector field. This area is within an existing no-entry buffer established for kit fox. At least one owl and evidence of active burrow use was seen in both locations periodically throughout the remainder of the 2021 and 2022. The DB monitored the sites during routine compliance visits. No owls were observed using the beta site during 2023 or 2024. A pair of owls were observed using the alpha east site throughout 2023 and in 2024 through July after which the burrows appeared abandoned and no further owl activity was observed. Shortly thereafter fresh kit fox activity was observed at the burrows.

On April 30, 2024, the DB observed an owl using a burrow just inside the western fence line of Alpha west SCA. A pair was observed using the site until September 21 when two adults and two recently fledged young were seen at the burrow entrance.

Mojave Solar staff were notified of owls and burrow sites and instructed to avoid the areas and notify the DB if it was necessary to conduct work in the vicinity.

3.14. BIO-14: American Badger and Desert Kit Fox Impact Avoidance and Minimization Measures

BIO-14 requires pre-construction surveys and provides guidance on pre-construction encounters with American badgers and desert kit fox. The MSP site is currently monitored for the presence of desert kit fox and American badger by the DB via observation of tracks, scat, and examination of burrows on or around the site. No signs of American badger were observed during the reporting period. Kit foxes are ubiquitous in the area and often traverse or reside on site in undisturbed areas.

Desert kit fox den site #9, located in east of the solar collector field in Alpha East, was inactive during 2023 and through 2024 until fresh Kit Fox activity was observed in September. A single kit fox was observed using the burrows periodically through the end of the year.

An exclusion buffer was established and continues to be maintained around the den site to prevent disturbance. This den site will continue to be monitored by the DB. No other den sites have been observed on the premises.

3.15. BIO-15 Compensatory Mitigation

To fully mitigate for habitat loss and incidental take of desert tortoise and Mohave ground squirrel as well as burrowing owl, BIO-15 requires the project owner, in fee or in easement, to acquire 118.2 acres of land suitable for desert tortoise, Mohave ground squirrel, and burrowing owl and fund the enhancement and long-term management of these compensation lands.

Compensatory mitigation was satisfied and approved by CEC between 2011 and 2014. On July 19, 2016, to address the final requirement of COC BIO-15, the project owner submitted BIO15-06-00, confirming that project construction was limited to the area described in the Commission Decision, therefore, disturbance to desert tortoise and MGS habitat did not exceed 430 acres, and construction activities did not impact desert tortoise, MGS, and burrowing owl habitat adjacent to work areas. The CPM approved the submittal for Verification of Habitat Disturbance Area on September 15, 2016, which was the final requirement related to this COC.

The Transition Habitat Conservancy (THC) acquired 234 acres of land near MSP in 2014 to satisfy the compensatory mitigation requirements of BIO-15. THC manages and monitors these lands in perpetuity to ensure habitat for desert tortoise, burrowing owl and Mojave ground squirrel is not degraded. THC also works in partnership with the Bureau of Land Management to manage BLM lands that impact THC mitigation properties.

Refer to the Transition Habitat Conservancy's annual reports for further status of the mitigation properties.

3.16. BIO-16: Tamarisk Eradication, Monitoring, and Reporting Program

Condition of Certification (COC) BIO-16, Tamarisk Eradication, Monitoring, and Reporting Program, issued by the California Energy Commission (CEC) as a condition of licensing of the Abengoa Mojave Solar Project (MSP) requires the project owner to prepare and implement a Tamarisk Eradication, Monitoring, and Reporting Plan with the objective of preventing the re-invasion of undesirable weeds and/or invasive wildlife for a minimum of five years. The revised Mojave Solar Project Tamarisk Eradication, Monitoring, and Reporting Plan (Tamarisk Plan) was submitted on August 03, 2016.

The BIO-16 Tamarisk Plan Annual Report for 2020 was submitted to the CEC on February 2, 2021. The revised report was submitted on May 27, 2021, with revisions that addressed CEC comments. The CEC via email (dated 7/14/21), stated: "CEC staff and CDFW have determined that MSP has met the success criteria for BIO-16 and satisfied the requirement for annual reporting as part of BIO-16…MSP will continue to control weeds on site but will not prepare the full stand-alone report. Please continue to report on the status of weed control in the ACR."

MSP has contracted with a California-licensed herbicide applicator and has been applying herbicide to exotic and invasive species within the project. Herbicide application has shown to be effective in controlling weeds onsite.

The DB surveyed for weed species throughout the year as conditions warranted and seasonal germination developed and coordinated with MSP for treatment. No weed species meeting the definition of invasive were observed onsite in 2024. Three species of exotic weeds, Mediterranean grass (*Schismus arabicus*), Russian thistle (*Salsola tragus*), and redstem filaree (*Erodium cicutarium*) were documented onsite during the reporting period. Russian Thistle was removed sitewide periodically as it germinated. MSP contracted with a licensed herbicide applicator to treat provide sitewide treatment with a pre-emergent herbicide in January 2024 and will continue to treat the site with herbicide annually as conditions warrant.

3.17. BIO-17: Monitoring Impacts of Solar Collection Technology on Birds

BIO-17 requires the project owner to develop and implement a Bird Monitoring Study. Revision 2 of the Bird Monitoring Study was submitted to the CPM on April 15, 2016, to address comments on Revision 1 provided by the CEC staff during a January 27, 2016, meeting. A meeting was held on December 14, 2016, between MSP and CEC to discuss, in part, consistency between the BIO-17 Bird Monitoring Study and BIO-19 Evaporation Pond Monitoring and Adaptive Management Plan. The Bird Monitoring Study was subsequently approved by the CEC on January 27, 2017.

The issuance of the permanent Special Purpose Utility Permit by the USFWS was received on March 3, 2017, and the Scientific Collection Permit from the CDFW was received on August 10, 2017.

The BIO-17 Bird Monitoring Study was initiated on September 1, 2017, and fieldwork was completed on August 30, 2019. The combined second annual and final project summary report was submitted on December 06, 2019. In response to comments received from the agencies, revisions were submitted on December 14, 2020 (2nd revision) and September 13, 2021 (3rd revision). The final BIO17-11-04 Bird Monitoring Study Annual Report Second Year 2018-2109 (09-AFC-5C) – Final Revision was submitted for review and approval on October 29, 2021. The CEC stated via email (dated 10/13/21) "once the report is finalized the requirements of BIO-17 will be satisfied." The CEC granted final approval via email dated November 1, 2021.

3.18. BIO-18: Common Raven Monitoring, Management, and Control Plan

BIO-18 requires the project owner to implement measures to manage its construction site in a manner to control Common Raven (Corvus corax) populations. In addition, the project owner must develop and implement a Common Raven Monitoring, Management, and Control Plan. BIO18-01-03 reviewed and approved by the CEC on March 26, 2012.

The Common Raven Monitoring, Management, and Control Plan specifies that the project owner will report annually to the California Energy Commission (CEC), United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) during the operation phase of the project. The raven plan requires the Designated Biologist (DB) and/or Biological Monitor (BM) to perform monthly reconnaissance-level surveys for the first five years of the project, unless it is determined that fewer surveys are necessary. In addition, annual breeding season monitoring will be conducted for the life of the project.

In an email dated July 14, 2021, CEC stated "…CEC staff, CDFW and USFWS have determined that the project owner has satisfied the requirement for monthly surveys as part of the BIO-18 Raven Plan." Hence, no point counts were conducted in 2022.

The DB conducted breeding season nesting surveys during 2024. Details of the nest monitoring results are found in the Sec. 3.9 as well as the BIO-18 Annual Report for 2024.

3.19. BIO-19: Evaporation Pond Monitoring and Adaptive Management Plan

BIO-19 requires the project owner to develop and implement an Evaporation Pond Monitoring and Adaptive Management Plan to define the monitoring and reporting procedures as well as triggers for adaptive management strategies that will be implemented to prevent wildlife fatalities at the evaporation ponds. The final BIO-19 Evaporation Pond Plan Monitoring and Adaptive Management Plan was approved in March 2017. The Evaporation Pond Plan defines

the monitoring and reporting procedures as well as triggers for adaptive management strategies that shall be implemented to prevent wildlife mortality at the evaporation ponds.

Prior to and after the approval of the Evaporation Pond Plan, various hazing techniques were employed to try to deter birds from using the evaporation ponds, however, avian fatalities in September 2017 resulted in adaptive management triggers being met. Additional avian fatalities on October 16 and 17 2017 resulted in the final adaptive management trigger being met. On, January 23, 2018, the CEC issued a formal letter notifying the MSP that the ponds must be netted. USFWS concluded that the installation of the netting should be delayed for a period of one year to do a comparative study with the netting system at the Genesis solar site. In an email dated January 24, 2020, the CEC directed MSP to begin netting installation, stating "Staff has discussed this with the USFWS and they are in agreement that the ponds should be netted. MSP is advised that to remain in compliance with BIO-19 the project owner shall begin installation of netting at the evaporation ponds, per the requirements of BIO-19." CEC also advised that avian monitoring at the ponds may be reduced from bi-weekly to monthly until netting is installed.

In March 2020, MSP requested, and CEC granted permission to postpone netting installation due to the COVID-19 pandemic. The postponement was again approved on December 17, 2020. On May 21, 2021, CEC notified MSP that the San Bernardino "Stay at Home" order had been lifted and requested that MSP initiate installation of the pond netting as well as provide additional information on the scope of work, schedule, and status of nesting birds.

The CEC, via email dated August 5, 2021, requested that MSP modify the BIO-19 Evaporation Pond Plan to address monitoring of netted ponds and rescue of live and injured birds from the netting. MSP submitted BIO19-98-00 Evaporation Pond and Adaptive Management Plan Rev. 8 on October 19, which was subsequently approved by the CEC on October 27, 2021.

Installation of netting at the Beta west pond on began on September 30 and was completed at the end of October 2021. Due to issues with the initial netting contractor, MSP contracted with a new contractor in 2023 and installation of the remaining ponds began in October 2023. Netting over the Beta East Pond was completed in December 2023. Installation at the Alpha ponds was completed in April 2024.

Refer to BIO-19 monthly & quarterly Evaporation Pond Plan reports for additional details.

3.20. BIO-20: Harper Dry Lake Marsh Water Delivery

BIO-20 requires the project owner to provide a well with the ability to convey a minimum of 75 acre-feet of water to Harper Dry Lake marsh, prior to decommissioning the on-site well that was serving the marsh.

On August 16, 2012, the project owner completed construction of a new well that meets BIO-20 criteria of providing 75 acre-feet of water to the Harper Dry Lake marsh. In letter to the project owner, the Bureau of Land Management took responsibility for well ownership, including maintenance and electricity. In compliance with the BIO-20 Verification, the project owner submitted all applicable information regarding decommissioning the original well and specifications of the new well to the CPM on September 24, 2012 (MSLLC, 2012).

As noted in the BIO-6 Construction Closure Report, this item was completed in 2012 and no further compliance activities are required related to this COC.

3.21. BIO-21: USFWS Biological Opinion

BIO-21 requires the project owner to incorporate the USFWS's Biological Opinion terms and conditions into the BRMIMP. The USFWS issued the Biological Opinion (8-8-11-F-3) on March 17, 2011 (USFWS, 2011b).

No desert tortoises were encountered onsite in 2024. BIO21-12-00 Biological Opinion Annual Compliance Report 2024 (09-AFC-5C) submitted on December 3, 2024.

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Abengoa Mojave Solar Project
California Energy Commission (09-AFC-5C)
Condition of Certification BIO-18

Common Raven Monitoring, Management, and Control Plan for Mojave Solar Project San Bernardino County, California

Annual Compliance Report
2024

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Appendix A: Raven Nest Monitoring Data Sheets

1. Introduction

The California Energy Commission (CEC), in Condition of Certification BIO-18, requires the project owner to implement measures to manage its construction site in a manner to control Common Raven (*Corvus corax*) populations. In addition, the project owner must develop and implement a Common Raven Monitoring, Management, and Control Plan. The CEC approved the Common Raven Monitoring, Management, and Control Plan (Raven Plan) on March 26, 2012. The raven plan specifies that the project owner will report annually to the CEC, United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) during the operations phase of the project.

The final BIO-18 raven plan specifies that the Designated Biologist (DB) and/or Biological Monitor (BM) will perform monthly reconnaissance-level surveys for the first five years of the project, unless it is determined that fewer surveys are necessary. In addition, annual breeding season monitoring will be conducted for the life of the project.

This report summarizes BIO-18 raven monitoring and control efforts conducted during 2024

2. Monitoring Activities

The raven plan specifies that MSP will incorporate project design features (PDFs), project-specific control measures and management practices to ensure that project activities do not create new subsidies that increase the presence or attraction of ravens to the project area. The raven plan specifically calls out the following PDFs and management practices that will be monitored to assess impacts on raven use of the site.

- Evaporation Ponds
- Raven Perching, Roosting, and Nesting Sites
- Ponding Water
- Raven Food Sources from Soil Disturbance and Roadkill
- Human Food and Waste Management

Mojave Solar Project personnel, the DB, and the BM are responsible for monitoring. The DB/BM routinely monitor MSP site conditions to ensure that the PDFs and management practices specified in the raven plan are implemented and carried out and to determine their effectiveness. In addition, MSP personnel are educated on raven control efforts

and are requested to notify the DB/BM if they encounter raven nesting activity, roadkill, and human food or waste management issues.

3. Methods

3.1 Point Counts

The raven plan specifies that up to 12 permanent sampling points will be surveyed monthly. Point count locations (7) for the operation phase were submitted to the CEC, USFWS, and CDFW on June 17, 2016, and approved on June 24, 2016. Point counts were conducted monthly by the DB. Data collected include date, time, and weather conditions of survey, as well as time, location, number, age, sex, behavior, distance from the point location and any other pertinent details for each observation.

In an email dated July 14, 2021, CEC indicated that MSP had satisfied the monthly survey conditions of BIO-18.

"*As part of the approval of the 2020 ACR, CEC staff, CDFW and USFWS have determined that the project owner has satisfied the requirement for monthly surveys as part of the BIO-18 Raven Plan. Annual breeding season monitoring will be conducted at the MSP for the life of the project and a stand-alone report should still be provided in the ACR. In addition, control measures including any adaptive management measures determined to be necessary by the agencies shall be implemented per the approved plan, as needed.*"

Point count surveys were discontinued after July 2021 per CEC's communication.

3.2 Breeding Season Monitoring

The raven plan specifies that nest search surveys will be conducted twice a month during the raven breeding season (March through June) for the life of the project. The plan also specifies that if nest building is observed, the DB/BM will actively remove inactive nests. Any existing inactive raven nests will be removed prior to the breeding season.

During March through June the DB systematically surveyed all project structures suitable for raven nesting at least twice monthly. Incidental observations of raven nesting behavior by the DB and BM were also used to focus nest search efforts. MSP personnel were requested to notify the DB if they observed any evidence of raven nesting.

4. Results

4.1 Point Counts

Point counts were discontinued in 2021.

4.2 Nest Monitoring

Nest surveys were conducted by the DB during the breeding season (March-June). Six nesting attempts representing four or five nesting pairs of ravens were located in 2024 (Table 1). The alpha & beta power block nests were in the same locations as active nests in prior years. The alpha west solar field nest was in a new location on the solar collector framework and the alpha east and beta west nests were on HTF pipe supports. The DB set up a non-disturbance buffer, flagged off access to the locations, and advised MSP staff to notify the DB if any work needed be done in the area. The DB monitored the nests periodically through July. Scanned nest monitoring datasheets are included as Appendix A.

In 2019, MSP and the DB began coordinating with Mr. Tim Shields of Hardshell Labs, the CEC and USFWS to obtain permission to apply an oiling technique to raven nests on MSP. Mr. Shields has been working throughout the region using oiling techniques to prevent raven eggs from hatching in an effort to reduce raven predation on desert tortoises in tortoise critical habitat units. This technique involves applying a thin layer of vegetable or silicone-based oil to the surfaces of the eggs to prevent gas exchange across the eggshell and starving the embryo of oxygen. MSP has requested and been granted permission from the CEC to conduct oiling on nests located at MSP under Mr. Shields Scientific Collecting Permit.

On 3/5/24, a nest was discovered in Beta power block located near the top of an expansion vessel in the same location as prior years. Due to the inaccessibility of the nest site, it is not possible to determine the contents from the ground until nestlings are large enough to be seen however adult behavior can be used to surmise the nesting stage. Adults were observed regularly at the nest until 5/5 when at least three fledglings were seen in and near the nest.

On 3/15/24, the DB located a nest on a cable tray in the Alpha power block in the same location as nests in 2020 and 2021 and 2023. On 3/21, the DB and Mr. Shields oiled a complete clutch of seven eggs. The adults continued to incubate until at least April 17 when the nest only contained four eggs. On May 6, the nest was found empty and appeared abandoned. The nest showed no evidence of nestlings nor were any fledglings observed.

On 5/6 the DB discovered a new incomplete nest in the Alpha power block near the earlier nest. On 6/6 an adult was seen brining food to the nest, however, due to the location of the nest its contents were not visible. On July 3 a dead nestling was found below the nest too young to have fledged. No additional activity was seen near the nest and no sign of successful fledging was observed.

On April 10, the DB located a nest with an adult raven present and incubating located on an out of service solar array in the Alpha West solar field. A clutch of five eggs was oiled on April 16. The adults continued incubating until at least May 6 and on May 30 the nest was found empty with no sign of successful fledging.

On April 3 the DB discovered an incomplete nest located on an HTF overpass in the Alpha East solar field. The nest appeared incomplete until 5/5 when an adult was observed sitting. On 5/30 the nest contained at least one small nestling. On 6/6 no activity was observed at the nest and no further activity was observed through the remainder of the season.

On 4/17 the DB discovered a nest in the beginning of construction on an HTF overpass in the Beta West solar field. On 4/30 there appeared to be no additional progress on the nest, and it was never completed.

Of the six raven nests located in 2024, only one was determined to have successfully fledge young. The DB continued to observe the nest areas and nesting pairs during routine site visits both prior to and after the expected fledging dates. No additional evidence of successful nesting by Common Ravens was observed in 2024.

Table 1. Summary of Common Raven Nesting 2024

Nest ID	Date Discovered	Location	Outcome
01-B-CORA	3/5/24	Beta Power Block	Fledged young
02-A-CORA	3/15/24	Alpha Power Block	Failed - Abandoned
03-A-CORA	4/10/24	Alpha West SCA	Failed - Abandoned
04-A-CORA	4/3/24	Alpha West SCA	Failed - Unknown
05-B-CORA	4/17/24	Beta West SCA	Failed - Abandoned
06-A-CORA	5/6/24	Alpha Power Block	Failed - Abandoned

5. Conclusions & Recommendations

BIO-19 point counts, BIO-18 raven point counts and anecdotal observations suggest that the evaporation ponds are not an attractant for ravens. Ravens are rarely noted at the ponds during point counts and when they are observed, they are typically flying through the area or offsite. Additionally, the ponds were completely netted in early 2024 which effectively removed them as a water source for ravens. The Harper Lake wetlands to the east of MSP offer a nearly permanent fresh water source for ravens and ravens are often seen flying in the direction of or away from the wetlands. On-site application of water is minimal as is ponding of water, which is typically associated with winter rain events.

Project associated food sources for ravens include roadkill, primarily along Lockhart Road. MSP personnel routinely contact the DB when roadkill is observed in the vicinity of the project. Roadkill is either disposed of or buried so that it is not available to ravens. BIO-17 avian mortality study carcasses previously provided ample food supply for ravens. Placement of study carcasses ceased in August 2019 and is no longer a food source.

The power block structures offer a nearly unlimited number of perching and nesting sites for ravens and ravens routinely use these structures for perching and nesting. Efforts to dissuade ravens from nesting in previously used nest sites by covering the nest substructure with wire mesh have proven ineffective as the ravens simply nest elsewhere on the structure. Ravens are persistent in their nesting efforts and can rebuild a nest and lay eggs within a few days if necessary. Continued diligent efforts to ensure prior season's nest are removed and to locate nesting attempts and remove nesting material before commencement of egg laying each season are recommended. Additionally, MSP is coordinating with researchers to apply egg-oiling techniques on nests that are accessible. In 2020, this technique resulted in only one raven pair successfully fledging young however, in 2021, nesting timing and inaccessibility precluded using this technique. In 2022 and 2023 the oiling technique resulted in no successful nesting on Mojave Solar Project and in 2024 only one nest was successful. The technique is being used on MSP as part of a larger regional effort to reduce raven nesting success and predation on desert tortoise and appears to be effective in reducing but not entirely eliminating successful nesting on Mojave Solar Project.

Appendix A
Raven Nest Monitoring Data Sheets

NEST MONITORING DATA SHEET - MOJAVE SOLAR PROJECT

Species: Common Raven

Nest ID*: 2024-01-B-CORA

Project Location*: BETA POWER BLOCK

Coordinates (UTM): 35.003673, 117.303592

Discovery Date (mo/day/yr): 3.5.24

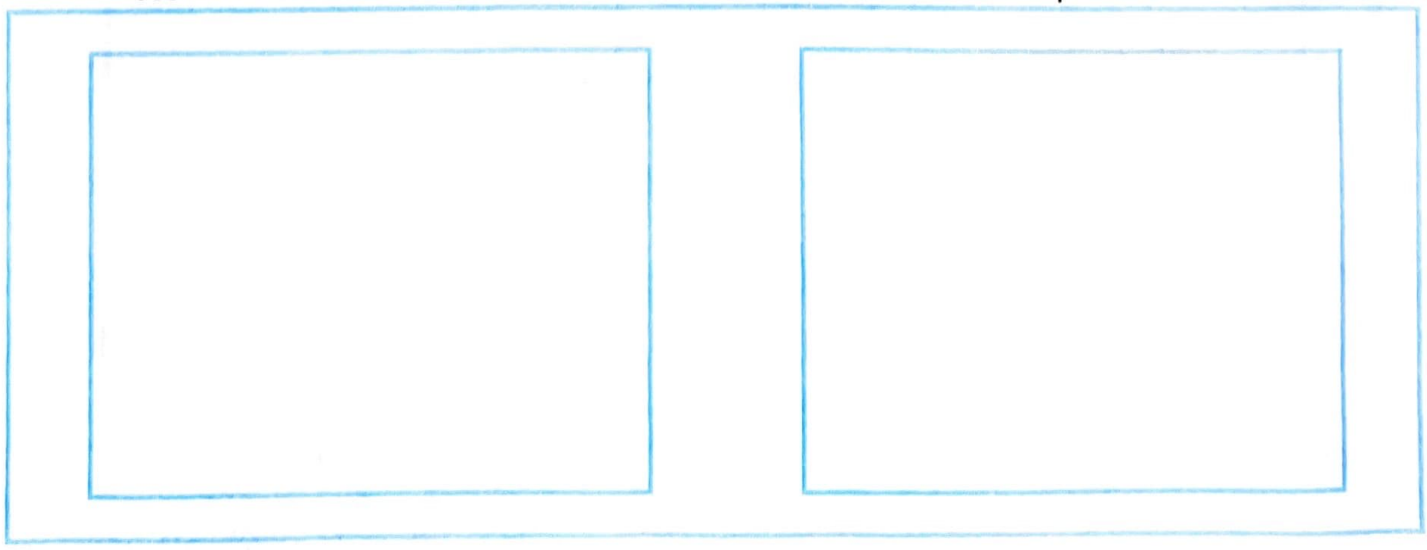
Date	Observer	Initial Discovery	Follow-up	Nest Location: Ground	Nest Location: Structure	Nest Location: Vegetation	Active: # Eggs	Active: # Fledglings	Active: # Adults	Active: Adult Incubating	Inactive/Outcome: Abandoned	Inactive/Outcome: Depredated	Inactive/Outcome: Fledged	Inactive/Outcome: Unknown
3.5.24	S. ROWE	X			X		?		2	X				
3.15.24	"		X		X		?		?					
4.3.24	"		X		X		?		?	X				
4.17.24	"		X		X		?		1		AD NEAR NEST			
4.30	"		X		X		?		2		2 AD NEAR NEST			
5.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
5.6.24	"		X		X		?	3					X	

*Nest ID: "Unique Sequential Number - A or B - Species Code" eg. 01-A-AMAV

*Project Location: Alpha Ponds, Beta Ponds, Alpha Power Block, Beta Power Block, Alpha West SCA, Alpha East SCA, Beta West SCA, Beta East SCA

Comments EXPANSION VESSEL SAME LOCATION AS PAST YEARS
5.5 AT LEAST 3 LARGE YNG IN AND NEAR NEST

Use First 2 Numbers From Nest ID to Denote Location in Relation to Evaporation Pond Pair



NEST MONITORING DATA SHEET - MOJAVE SOLAR PROJECT

Species: Common Raven Nest ID*: 2024-02-A-02

Project Location*: Alpha Power Block Coordinates (UTM): _____

Discovery Date (mo/day/yr): 3.15.24

Date	Observer	Nest Location			Active					Inactive/Outcome			
		Ground	Structure	Vegetation	# Eggs	# Nestlings	# Fledglings	# Adults	Adult Incubating	Abandoned	Depredated	Fledged	Unknown
3.15.24	S. R		X		7			?	?				
3.21	S. R		X		5	0	0	1	1				
3.26	T. Shields		†		7				✓	OILED.			
4.17	S. R		X		4	Ø	Ø	2	✓				
5.6	SR		X		Ø	0	0	Ø	Ø	EMPTY NEW NEST NEARBY			

*Nest ID: "Unique Sequential Number - A or B - Species Code" eg. 01-A-AMAV

*Project Location: Alpha Ponds, Beta Ponds, Alpha Power Block, Beta Power Block, Alpha West SCA, Alpha East SCA, Beta West SCA, Beta East SCA

Comments SAME LOCATION AS PRIOR YEARS BOP FOR LEVEL CABLE TRAY

Use First 2 Numbers From Nest ID to Denote Location in Relation to Evaporation Pond Pair

NEST MONITORING DATA SHEET - MOJAVE SOLAR PROJECT

Species: Common Raven

Nest ID*: 2024-03-A-CORA

Project Location*: Alpha West

Coordinates (UTM): 35.014264
-117.347837

Discovery Date (mo/day/yr): 4.10.24

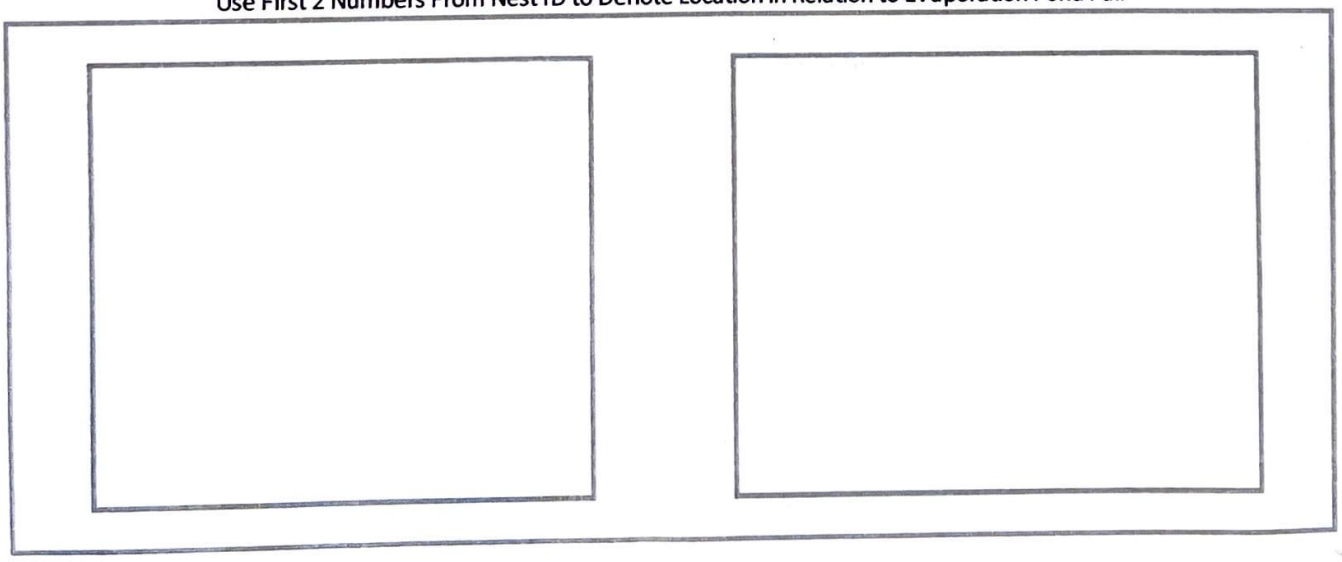
Date	Observer	Nest Location			Active					Inactive/Outcome				
		Ground	Structure	Vegetation	# Eggs	# Nestlings	# Fledglings	# Adults	Adult Incubating	Abandoned	Depredated	Fledged	Unknown	
4.10.24	S. Rowe		X		?			2	✓					
4.13.24	"		X		?			2	✓					
4.16.24	T. Shields				5	OICED		2	✓					
4.17.24	S.R.				~~3~~			2	✓					
4.30.24	SR				?	?		2	✓					
5.6.24	SR				?	?		1	✓					
5.30	SR		X		?	Ø	Ø	Ø	Ø	✓	NO SIGN OF SUCCESS NO AD-LGJ AROUND			

*Nest ID: "Unique Sequential Number - A or B - Species Code" eg. 01-A-AMAV

*Project Location: Alpha Ponds, Beta Ponds, Alpha Power Block, Beta Power Block, Alpha West SCA, Alpha East SCA, Beta West SCA, Beta East SCA

Comments AW 2F ON SOLAR COLLECTOR FRAMEWORK. ADULT SEEN W/NM ON 4.1.24

Use First 2 Numbers From Nest ID to Denote Location in Relation to Evaporation Pond Pair



NEST MONITORING DATA SHEET - MOJAVE SOLAR PROJECT

Species: Common Raven

Nest ID*: 2024-04-A-CORA

Project Location*: Alpha East SCA 184EF

Coordinates (UTM): 35.013952 -117.312669

Discovery Date (mo/day/yr): 4.3.24

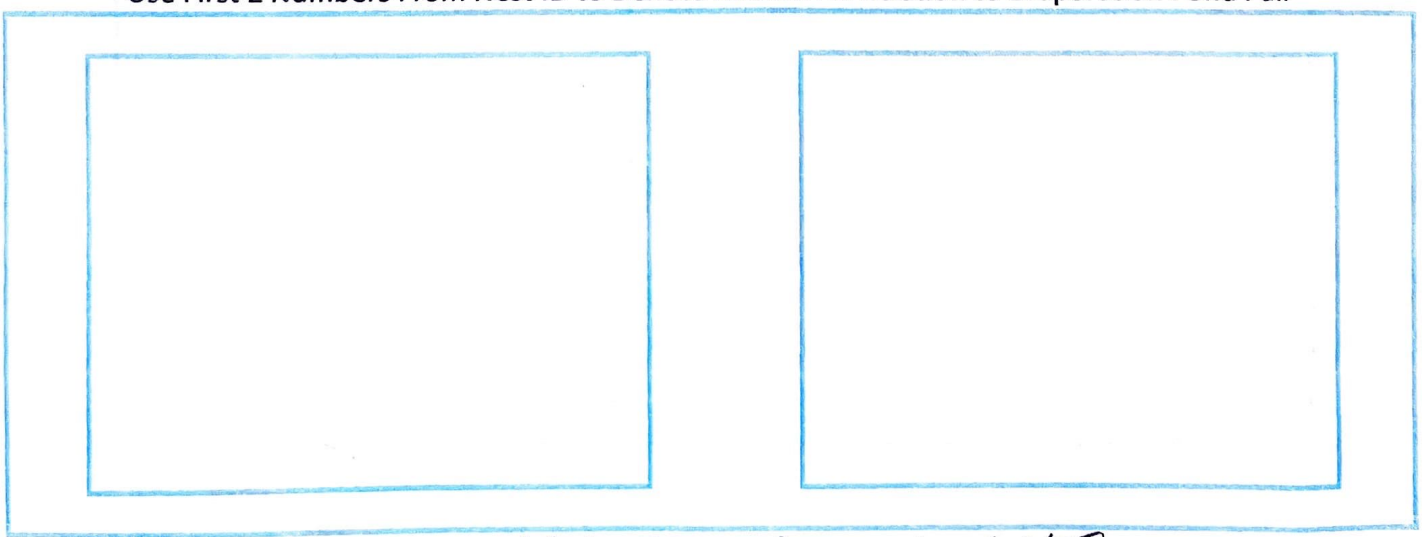
Date	Observer	Initial Discovery	Follow-up	Nest Location: Ground	Nest Location: Structure	Nest Location: Vegetation	Active: # Eggs	Active: # Fledglings	Active: # Adults	Active: Adult Incubating	Inactive/Outcome: Abandoned	Inactive/Outcome: Depredated	Inactive/Outcome: Fledged	Inactive/Outcome: Unknown
4.3.24	S. Rowe	X			X		Ø	Ø	1	X				
4.10.24	SR		X		X		Ø	Ø	Ø	Ø	X			
4.17.24	SR		X				✓	✓	2	✓	NOT	YET	COMPLETE	
4.30.24	SR		X		X		Ø	Ø	Ø	✓	APPEARS	INCOMPLETE		
5.6.24	SR		X		X		?	✓	1	✓	NEST	COMPLETE	ADULT	ON
5.30	SR		X		X		?	Ø	2	✓	AT	LEAST	1 NESTLING	LARGE
6.6	SR		X		X		?	Ø	Ø	Ø	DID	NOT	SEE ADULTS	OR YOUNG
6.27	SR		X		X		?	Ø	Ø	Ø	NO	SIGN	OF ACTIVITY	

*Nest ID: "Unique Sequential Number - A or B - Species Code" eg. 01-A-AMAV

*Project Location: Alpha Ponds, Beta Ponds, Alpha Power Block, Beta Power Block, Alpha West SCA, Alpha East SCA, Beta West SCA, Beta East SCA

Comments ON OVERPASS PIPE 4.3 INITIAL NEST BUILDING, JUST A FEW STICKS, ADULT BUILDING OBSERVED

Use First 2 Numbers From Nest ID to Denote Location in Relation to Evaporation Pond Pair



4.10.24 - NO ADULTS IN AREA NO PROGRESS ON NEST.

NEST MONITORING DATA SHEET - MOJAVE SOLAR PROJECT

Species: Common Raven

Nest ID*: 2024-5-B-CORA

Project Location*: 20 BW 23F HTF OVERPASS

Coordinates (UTM): 35.06176 -117.316986

Discovery Date (mo/day/yr): _____

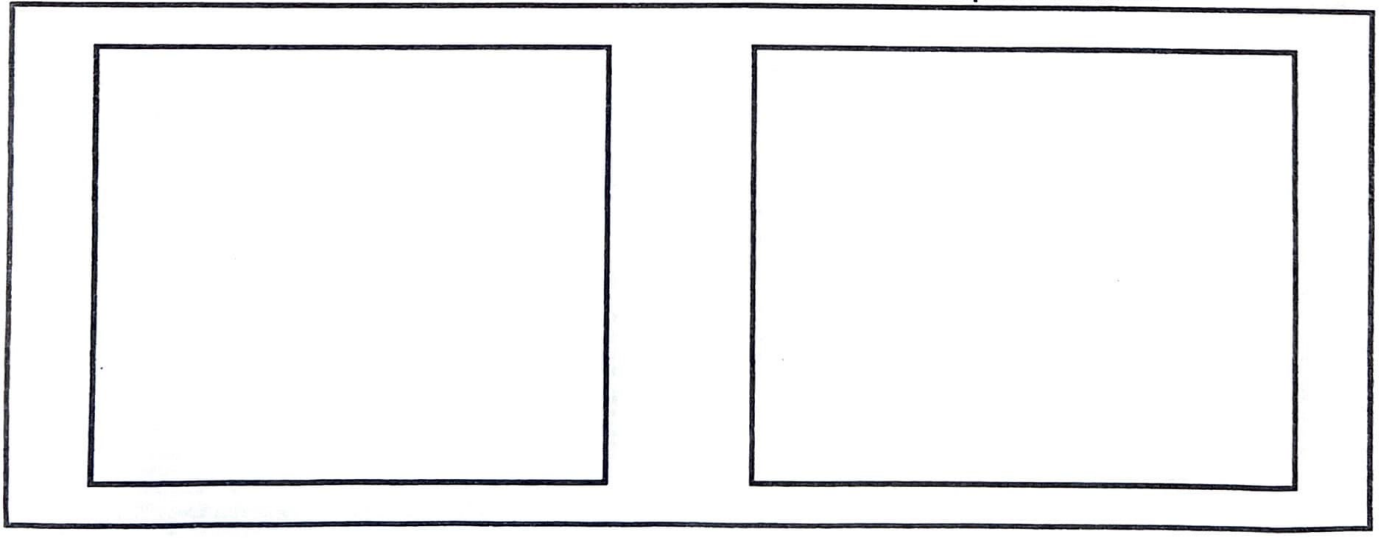
Date	Observer	Nest Location			Active					Inactive/Outcome			
		Ground	Structure	Vegetation	# Eggs	# Nestlings	# Fledglings	# Adults	Adult Incubating	Abandoned	Depredated	Fledged	Unknown
4.17.24	S. ROWE		X		Ø	Ø	Ø	Ø	Ø				
4.30.	SR		X		✓	✓	✓	✓	✓	✓	NEST NEVER COMPLETED STICK ON GROUND. NO SIGN OF RAVENS.		

*Nest ID: "Unique Sequential Number - A or B - Species Code" eg. 01-A-AMAV

*Project Location: Alpha Ponds, Beta Ponds, Alpha Power Block, Beta Power Block, Alpha West SCA, Alpha East SCA, Beta West SCA, Beta East SCA

Comments FEW STICKS ON HTF SUPPORT ON 4.17.

Use First 2 Numbers From Nest ID to Denote Location in Relation to Evaporation Pond Pair



NEST MONITORING DATA SHEET - MOJAVE SOLAR PROJECT

Species: Common Raven Nest ID*: 2024-06-A-CORA

Project Location*: ALPHA POWER BLOCK Coordinates (UTM): 35.014052
117.329407

Discovery Date (mo/day/yr): _____

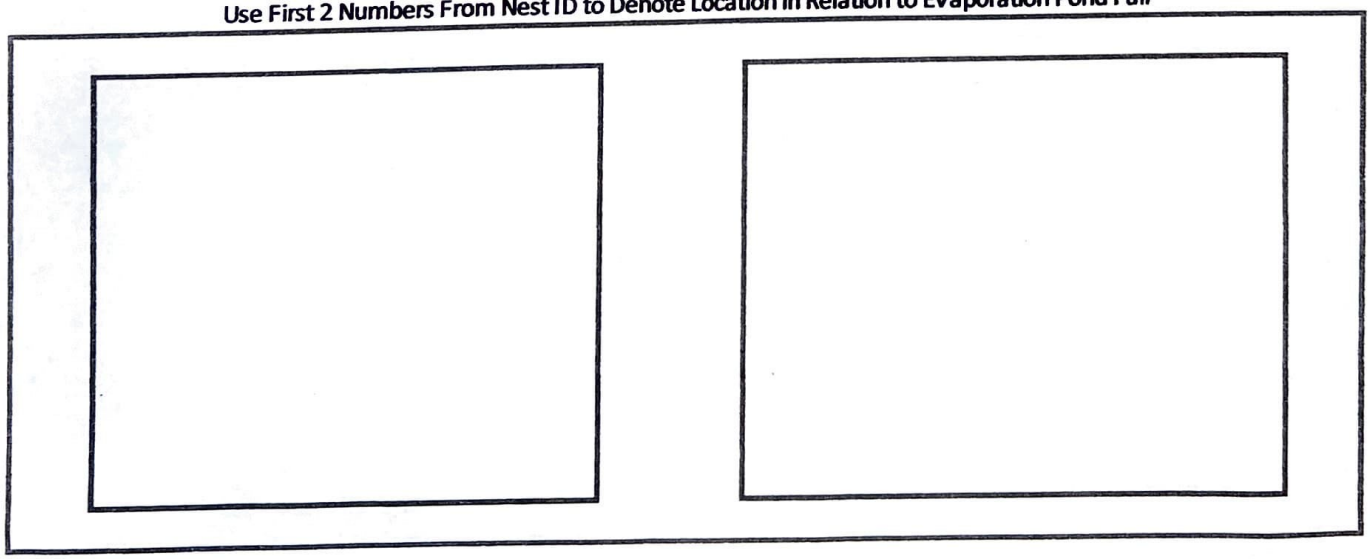
Date	Observer	Nest Location			Active					Inactive/Outcome			
		Ground	Structure	Vegetation	# Eggs	# Nestlings	# Fledglings	# Adults	Adult Incubating	Abandoned	Depredated	Fledged	Unknown
5-6-24	S. Rowe		X		?			Ø	Ø	INCOMPLETE?			
5-30	SR		X		?			Ø	Ø	LOTS of SIGN - DID NOT SEE ADULTS			
6-6	SR		X		?	✓		1	Ø	AD W/FOOD TO NEST			
7-3	SR				Ø	6	Ø	Ø	Ø				X

*Nest ID: "Unique Sequential Number - A or B - Species Code" eg. 01-A-AMAV

*Project Location: Alpha Ponds, Beta Ponds, Alpha Power Block, Beta Power Block, Alpha West SCA, Alpha East SCA, Beta West SCA, Beta East SCA

Comments FIRST DISCOVERED 5-3 BY BLOCK OPERATOR - 5-6 APPEARS INCOMPLETE NOT LINED. EMPTY ON 7-3, DEAD NESTLINGS BELOW. NO SIGN OF FLEDGING

Use First 2 Numbers From Nest ID to Denote Location in Relation to Evaporation Pond Pair



CNDDB Online Field Survey Form Report

California Natural Diversity Database
Department of Fish and Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: 916.324.0475
cnddb@wildlife.ca.gov
www.dfg.ca.gov/biogeodata/cnddb/

This data has been reported to the CNDDB, but may not have been evaluated by the CNDDB staff

Source code ROW24F0001
Quad code 3511713
Occ. no. _____
EO index no. _____
Map index no. _____

Scientific name: *Athene cunicularia*

Common name: burrowing owl

Date of field work (mm-dd-yyyy): 01-12-2024

Comment about field work date(s): First observed on 1/12/24 the periodically through 4/3/24 during routine site visits.

OBSERVER INFORMATION

Observer: Sean Rowe

Affiliation: Rowe Ecological Consulting, LLC

Address: PO Box 1018 , Weldon, CA 93283

Email: roweecological@gmail.com

Phone: (321) 863-5709

Other observers:

DETERMINATION

Keyed in:

Compared w/ specimen at:

Compared w/ image in:

By another person:

Other: Expert opinion

Identification explanation: Pair of small owls using former kit fox den complex.

Identification confidence: Very confident

Species found: Yes **If not found, why not?**

Level of survey effort: Checked for presence of owls monthly through the year.

Total number of individuals: 2

Collection? No **Collection number:**

Museum/Herbarium:

ANIMAL INFORMATION

How was the detection made? Seen

Number detected in each age class:

adults	juveniles	larvae	egg mass	other
2	0	0	0	0

Age class comment:

Bird site use:

☐ Nesting ☐ Rookery ☑ Nesting colony ☑ Burrow site ☐ Lek

☐ Non-breeding (over-wintering) ☐ Communal roost ☐ Other (foraging, fly-over, etc.)

Site use description: Pair seen at active burrows though April 2024.

What was the observed behavior? Pair using burrows.

Describe any evidence of reproduction:

SITE INFORMATION

Habitat description: Site is within solar site. Habitat immediately adjacent to site is saltbush scrub.

Slope: Flat Landowner/manager: Mojave Solar Project

Aspect:

Site condition + population viability: Fair

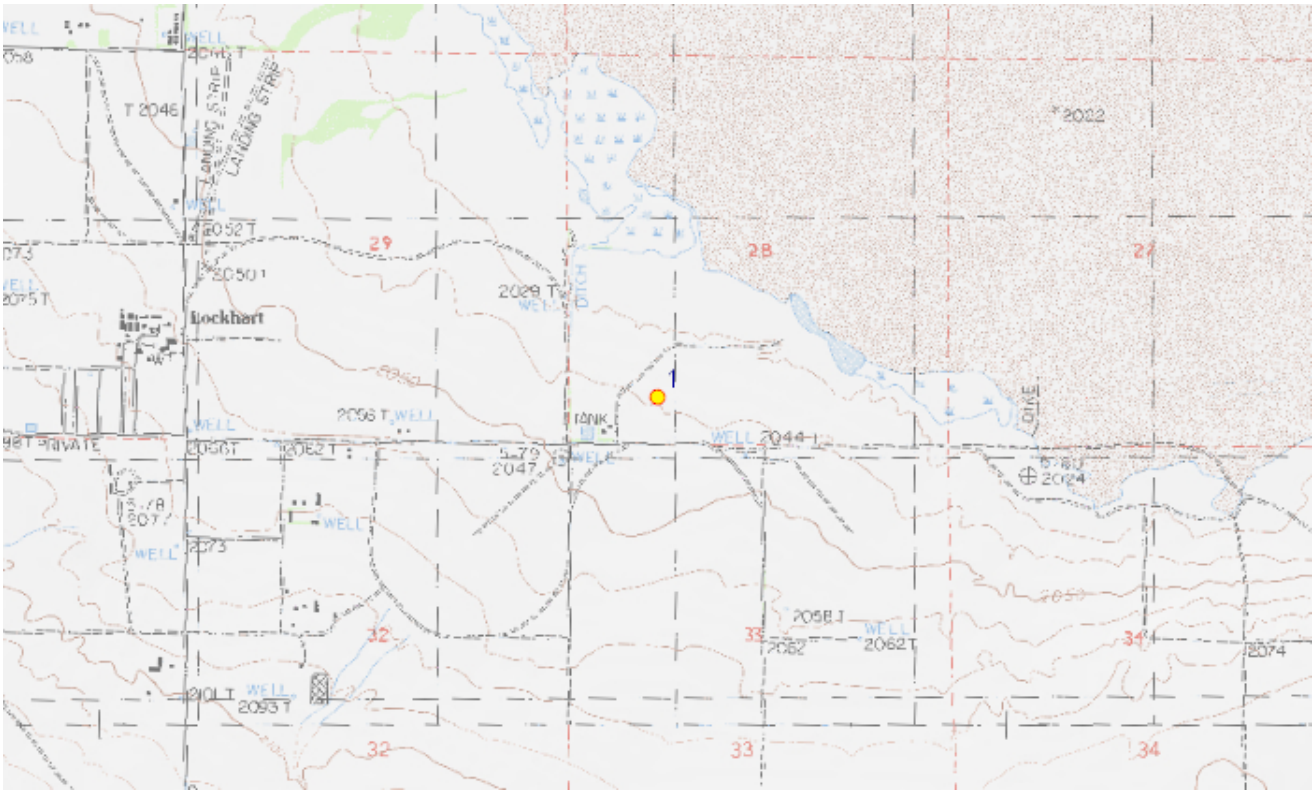
Immediate & surrounding land use: Mix of BLM & private undeveloped with a few residential parcels.

Visible disturbances: Dirt roads, trash, dogs.

Threats: Site is currently protected within the fenced boundaries of Mojave Solar Project. No immediate threats.

General comments:

MAP INFORMATION



ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
1	San Bernardino	Lockhart	2039	35.01233	-117.30862	471842	3874454	11
	Public Land Survey	**Feature Comment**						
	S T11N R04W 28	Pair of owls using former kit fox burrows.						

The mapped feature is accurate within: 20 m

Source of mapped feature: GPS

Mapping notes: Internet map application.

Location/directions comments: Located inside Mojave Solar Project east of the alpha east solar field. North of Lockhart Road near the SE corner of the project.

Attachment(s):

CNDDB Online Field Survey Form Report

California Natural Diversity Database
Department of Fish and Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: 916.324.0475
cnddb@wildlife.ca.gov
www.dfg.ca.gov/biogeodata/cnddb/

This data has been reported to the CNDDB, but may not have been evaluated by the CNDDB staff

Source code ROW24F0002
Quad code 3511713
Occ. no. _____
EO index no. _____
Map index no. _____

Scientific name: *Athene cunicularia*

Common name: burrowing owl

Date of field work (mm-dd-yyyy): 04-30-2024

Comment about field work date(s): First observed owls at this site on 4/30/24 then periodically through the year.

OBSERVER INFORMATION

Observer: Sean Rowe

Affiliation: Rowe Ecological Consulting, LLC

Address: PO Box 1018 , Weldon, CA 93283

Email: roweecological@gmail.com

Phone: (321) 863-5709

Other observers:

DETERMINATION

Keyed in:

Compared w/ specimen at:

Compared w/ image in:

By another person:

Other: Expert opinion

Identification explanation: Pair of owls with fledged young using burrows.

Identification confidence: Very confident

Species found: Yes **If not found, why not?**

Level of survey effort: Checked for presence of owls monthly throughout the year.

Total number of individuals: 4

Collection? No **Collection number:**

Museum/Herbarium:

ANIMAL INFORMATION

How was the detection made? Seen

Number detected in each age class:

adults	juveniles	larvae	egg mass	other
2	2			

Age class comment:

Bird site use:

☑ **Nesting** ☐ **Rookery** ☐ **Nesting colony** ☑ **Burrow site** ☐ **Lek**

☐ **Non-breeding (over-wintering)** ☐ **Communal roost** ☐ **Other (foraging, fly-over, etc.)**

Site use description: Pair seen at burrow through the year with 2 fledged young seen in on 9/21/24.

What was the observed behavior? Pair & young using burrows.

Describe any evidence of reproduction: 2 fledged young seen.

SITE INFORMATION

Habitat description: Burrow site is within solar site. Habitat immediately adjacent to the site is saltbush scrub.

Slope: Flat Landowner/manager: Mojave Solar Project

Aspect:

Site condition + population viability: Fair

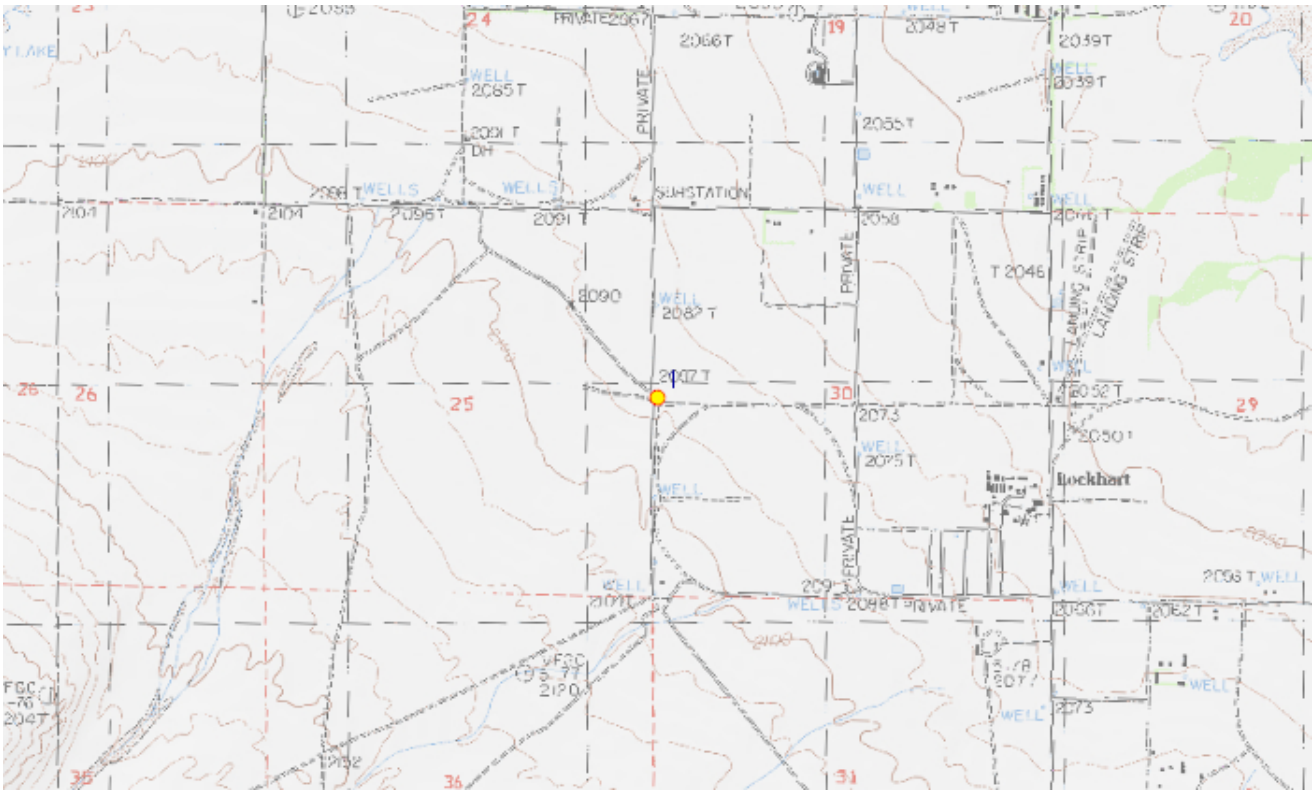
Immediate & surrounding land use: Mix of BLM, industrial solar, and private undeveloped with scattered residential parcels.

Visible disturbances: Dirt roads, trash, dogs.

Threats: Currently protected within the fenced boundary of the Mojave Solar Project. No immediate threats.

General comments:

MAP INFORMATION



ID	County	24K Quadrangle	Elev. (ft)	Latitude NAD83	Longitude NAD83	UTM E NAD83	UTM N NAD83	UTM Zone
1	San Bernardino	Lockhart	2092	35.01838	-117.34838	468216	3875137	11
	Public Land Survey	**Feature Comment**						
	S T11N R04W 30	Owls using abandoned buried irrigation pipes.						

The mapped feature is accurate within: 5 m

Source of mapped feature: GPS

Mapping notes:

Location/directions comments: Located inside the Mojave Solar Project just inside the western boundary fence on the alpha west solar field. East of Lockhart Ranch Road and south of Hoffman Road.

Attachment(s):