

DOCKETED

Docket Number:	09-AFC-05C
Project Title:	Abengoa Mojave Compliance
TN #:	268956
Document Title:	Segment 004 of COMPLIANCE7-09-00 Mojave Solar Project 2025 Annual Compliance Report (09-AFC-05C)
Description:	N/A
Filer:	Mahnaz Ghamati
Organization:	Abengoa Solar
Submitter Role:	Applicant
Submission Date:	3/5/2026 1:59:41 PM
Docketed Date:	3/5/2026



May Mamari

Air Quality Engineer I

760.245.1661, ext. 5020 Office

760.245.2022 Fax

MDAQMD.ca.gov

From: Mahnaz Ghamati <mahnaz.ghamati@atlantica.com>

Sent: Wednesday, June 4, 2025 8:19 AM

To: Roddy Rauls <rraul@montrose-env.com>; May Mamari <mmamari@mdaqmd.ca.gov>; Engineering Email <Engineering@mdaqmd.ca.gov>

Cc: Joseph Rubio <jrubio@montrose-env.com>

Subject: Re: Mojave Solar 2025 2 Carbon Adsorption Units Compliance Test Plan

Including Engineering Email.

Kind regards,

Mahnaz Ghamati

Quality, Environmental & Compliance Manager



mahnaz.ghamati@atlantica.com

Office: 760-308-0418

Cell: 760-498-0549

www.atlantica.com

From: Roddy Rauls <rraul@montrose-env.com>

Sent: Wednesday, June 4, 2025 8:12 AM

To: May Mamari <mmamari@mdaqmd.ca.gov>

Cc: Mahnaz Ghamati <mahnaz.ghamati@atlantica.com>; Joseph Rubio <jrubio@montrose-env.com>

Subject: Mojave Solar 2025 2 Carbon Adsorption Units Compliance Test Plan

WARNING: EXTERNAL EMAIL. Exercise caution when opening links or attachments.

May,

Please find attached 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

CONFIDENTIALITY NOTICE: The contents of this email message and any attachments are intended solely for the addressee(s) and may contain confidential, proprietary and/or privileged information and may be legally protected from disclosure. If you are not the intended recipient of this message or their agent, or if this message has been addressed to you in error, please immediately alert the sender by reply email and then delete this message and any attachments and the reply from your system. If you are not the intended recipient, you are hereby notified that any disclosure, use, dissemination, copying, or storage of this message or its attachments is strictly prohibited.



June 4, 2025

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

Subject: 2025 Test Protocol for Compliance Testing of Two Carbon Adsorption Units at Mojave Solar
Document Number: W002AS-055523-PP-1324

Dear May:

Enclosed is a PDF copy 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 for August 5, 2025, pending protocol approval. We are submitting it on behalf of 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,

A handwritten signature in blue ink that reads "Joe Rubio".

Joe Rubio
Project Manager
Montrose Air Quality Services, LLC

cc: Mahnaz Ghamati – Mojave Solar, LLC

SOURCE TEST PROTOCOL FOR 2025 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 4, 2024**
Document Number: **W002AS-055523-PP-1324**

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: Joe Rubio Date: 6/4/2025
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: S. Hugh Brown Date: 6/4/2025
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: May Mamari
Telephone: (760) 245-1661
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

Proposed Test Date: August 5, 2025

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION.....	6
2.0 EQUIPMENT AND PROCESS DESCRIPTION	7
2.1 UNIT DESCRIPTION	7
2.2 PROCESS DESCRIPTION	7
2.2.1 Overflow Tank Venting	8
2.2.2 Expansion Vessel Venting.....	8
3.0 TEST DESCRIPTION	9
3.1 OPERATING CONDITIONS DURING THE TEST	9
3.2 DIMENSIONS OF DUCT, STACKS, AND SAMPLING PORT LOCATIONS	9
3.3 SAMPLING AND ANALYTICAL PROCEDURES.....	11
3.3.1 Velocity and Volumetric Flow Rate.....	11
3.3.2 Moisture Content	11
3.3.3 Hexane and Benzene Emissions Testing.....	11
4.0 RESULTS.....	12

LIST OF APPENDICES

A QUALITY ASSURANCE	13
A.1 Quality Assurance Program Summary	14
A.2 SCAQMD, CARB, and STAC Certifications	20
A.3 Statement of No Conflict of Interest	24
B GENERAL EMISSIONS CALCULATIONS	26
C COPY OF PERMIT TO OPERATE	30
D SITE SAFETY PLAN.....	37

LIST OF TABLES

3-1 SAMPLING PORT LOCATIONS	9
3-2 TEST PROCEDURES.....	11
4-1 ALPHA/BETA PLANT EMISSIONS SUMMARY	12

LIST OF FIGURES

3-1 CAS DIAGRAM	10
-----------------------	----

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 test's purpose 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, 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 vents to the 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

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 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), an HTF Expansion Tank Vent Scrubber (MV-209), Carbon Filters (MF-206), and an HTF Condensate Receiver Vessel (MV-207).

The Ullage system operates when the pressure in the HTF expansion header connected with the ullage system reaches the remote set point in the vent control. This control (PIC-20626B) has a remote set point according to the pressure and 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), generally at $\pm 70^{\circ}\text{F}$. After the scrubbers, these remaining HTF vapor streams are combined and routed through a series of three carbon filters to remove as many organics (VOCs/HAPS) as possible before the vapors are released into the atmosphere. A nitrogen

blanket system set at 8 bara provides 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 atmospheric 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, there will be no exchange of HTF or nitrogen between the expansion vessels and the overflow tanks during normal operation. 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'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 will return to the overflow tanks. Under that condition, the total amount of nitrogen vented is calculated to be 24,731 ft³ total for both plants. The overflow tanks have vent scrubbers on their stacks before feeding into the carbon filters. The nitrogen and HTF mixture to be released passes through these scrubbers, 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 and 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 and 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 sprayed continuously to the top of the expansion vessels. 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. 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 lower 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 test, some HTF will be transferred from the expansion vessel to the overflow tanks to build enough pressure to carry out the test.

3.2 DIMENSIONS OF DUCT, STACKS, AND SAMPLING PORT LOCATIONS

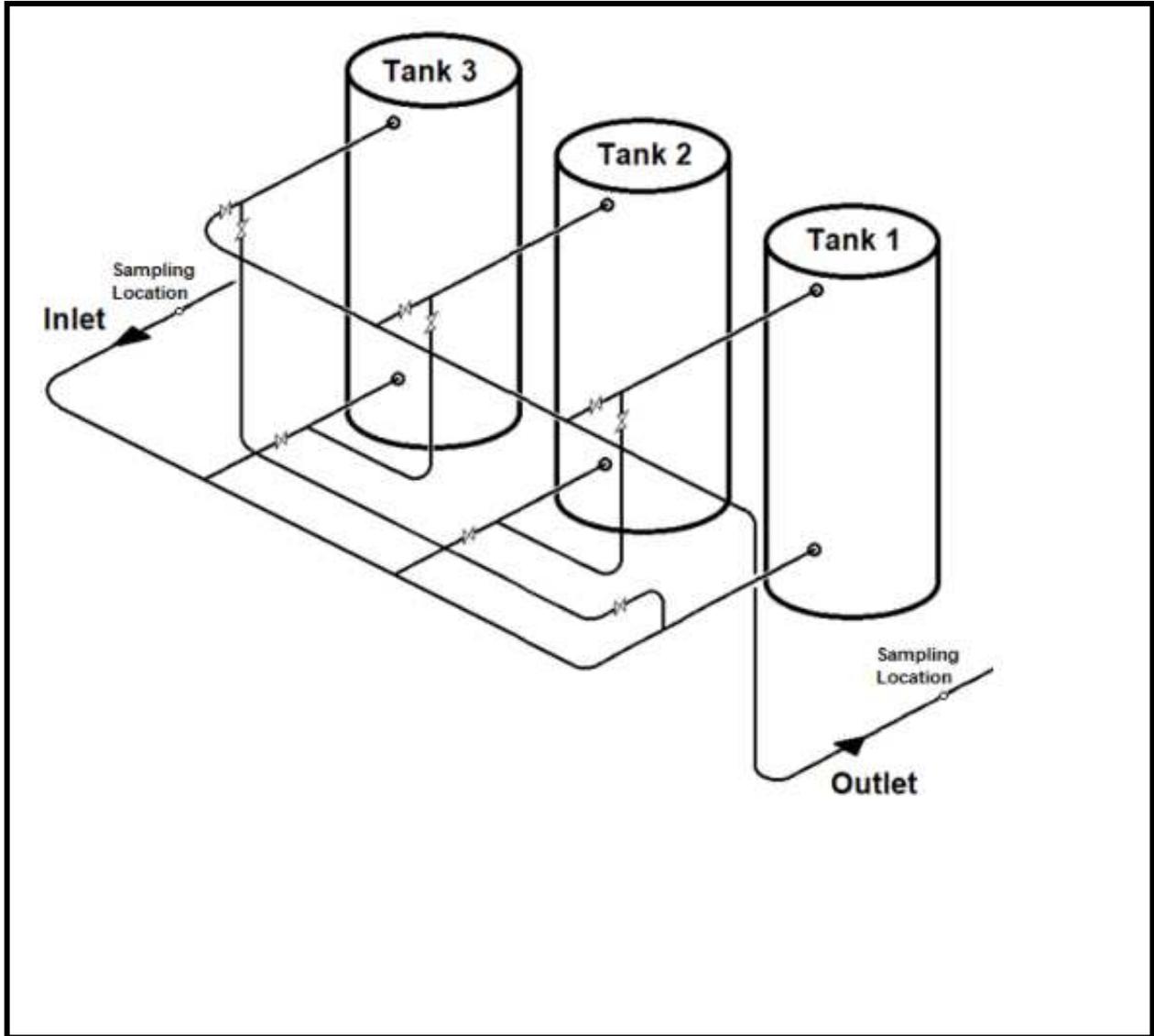
Table 3-1 presents the dimensions of the sampling port locations. All the dimensions will be verified on the day of the test.

**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

A 1-inch sample port was recently installed to collect all sampling to minimize any chance of air intrusion into the sample. Before collecting each sample, MAQS will measure the oxygen level in the inlet location using a Testo portable analyzer, Model 350XL. If no oxygen is measured with the Testo, then MAQS will proceed with sampling 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 spectrometry (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. The final report's appendices will contain additional information, such as field data, calibrations, and permits.

**TABLE 4-1
 ALPHA/BETA PLANT EMISSIONS SUMMARY
 LOW PRESSURE/HIGH PRESSURE
 MOJAVE SOLAR
 (TEST DATE)**

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
O₂, %	X	X	--
CO₂, %	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	<ol style="list-style-type: none"> 1. Absence of leaks 2. Ability to draw manufacturers required vacuum and flow 	As recommended by manufacturer	<ol style="list-style-type: none"> 1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	<ol style="list-style-type: none"> 1. Free mechanical movement 	As recommended by manufacturer	<ol style="list-style-type: none"> 1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	<ol style="list-style-type: none"> 1. Absence of malfunction 2. Proper response to zero span gas 	As recommended by manufacturer	As recommended by manufacturer
Integrated Sampling Tanks	<ol style="list-style-type: none"> 1. Absence of leaks 	Depends on nature of use	<ol style="list-style-type: none"> 1. Steam clean 2. Leak check
Mobile Van Sampling System	<ol style="list-style-type: none"> 1. Absence of leaks 	Depends on nature of use	<ol style="list-style-type: none"> 1. Change filters 2. Change gas dryer 3. Leak check 4. Check for system contamination
Sampling Lines	<ol style="list-style-type: none"> 1. Sample degradation less than 2% 	After each test series	<ol style="list-style-type: none"> 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

Mojave Solar, LLC
2025 Two Carbon Adsorption Units Compliance Test Plan



September 26, 2024

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, 2024, and ending September 30, 2025, 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

240926 LapRenewal.doc

Mojave Solar, LLC
2025 Two Carbon Adsorption Units Compliance Test Plan



Gov. 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, CO₂, NO_x, O₂, SO₂, 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 09:09:29
+07'00'

Walter Ham, Ph.D., Chief, Monitoring and Laboratory Division

Enclosure

¹ icp@arb.ca.gov



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: 6/4/2025

Joe Rubio
(Name)

Client Project Manager
(Title)

(714) 279-6777
(Phone)

6/4/2025
(Date)

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

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

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

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

V. Emission Rates, lb/MMBtu

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

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s (V_{mstd})}{(1 - B_{wo}) * V_s * P_s * Dn^2} * \frac{528^\circ R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf

$$C = 0.01543 (M_n / V_{m \text{ std}})$$

(b) Grain loading at 12% CO₂, gr/dscf

$$C_{12\% \text{ CO}_2} = C (12\% \text{ CO}_2)$$

(c) Mass emissions, lb/hr

$$M = C * Q_{sd} * (60 \text{ min/hr}) / (7000 \text{ gr/lb})$$

(d) Particulate emission factor

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

Mojave Solar, LLC
 2025 Two Carbon Adsorption Units Compliance Test Plan

Nomenclature:

A_s	=	stack area, ft ²
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO_2}$	=	particulate grain loading, gr/dscf corrected to 12% CO ₂
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
D_n	=	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
t	=	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, iwg
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

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.

APPENDIX D SITE SAFETY PLAN



SITE SAFETY PLAN BOOKLET

Project: PROJ-055523

Customer: Mojave Solar

Location: Hinkley, CA

Units: CAS Units

Client Project Manager: Joe Rubio

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-055523
 TEST DATE: _____ 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/%

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
below 210	210 to 450	450 to 950	above 950	other

If other, explain: _____

Approximate Duct Pressure, (iwg):

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 ₂ S	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

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

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.

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. ("H₂O) -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	<input type="checkbox"/> Dust Mask <input type="checkbox"/> Goggles <input type="checkbox"/> Other: _____
Thermal Burn	<input type="checkbox"/> Hot Gloves <input type="checkbox"/> Heat Shields <input type="checkbox"/> Other Protective Clothing: _____
Electrical Hazards	<input type="checkbox"/> Connections Protected from Elements <input checked="" type="checkbox"/> External GFCI <input type="checkbox"/> Other: _____ <input type="checkbox"/> XP Rating Requirement <input type="checkbox"/> Intrinsically Safe Requirement
Inadequate Lighting	<input type="checkbox"/> Install Temporary Lighting <input type="checkbox"/> Headlamps
Slip and Trip	<input checked="" type="checkbox"/> Housekeeping <input type="checkbox"/> Barricade Area <input type="checkbox"/> Other: _____
Hand Protection	<input checked="" type="checkbox"/> Cut Resistant Gloves <input type="checkbox"/> Pinch Pts. <input type="checkbox"/> General <input type="checkbox"/> Electrical <input type="checkbox"/> Impact Resistant <input type="checkbox"/> Other: _____

Potential Hazards for Consideration

Secondary Permits Hot Work Confined Space Excavation
 Working from Heights Falling objects Fall protection Drop zone protection Platform load ratings
See also Sect. 7 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 Unexpected exposure Chemical Dust (combustible) PEL provided
See also Sect. 8 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

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

Other Chemicals:

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

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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Hydraulic fluid level is sufficient, with the platform fully lowered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Tires and wheel lug nuts (for tightness)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Hoses and cables (i.e. worn areas or chafing)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Platform rails and safety gate (no damage present)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Pivot pins secure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Welds are not cracked and structural members are not bent or broken	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Warning and instructional labels are legible and secure, and load capacity is clearly marked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Manufacturer's Instruction Manual is present inside the bucket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Base controls (switches and push buttons) can be properly operated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Platform conditions are safe (i.e. not slippery)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Fire extinguisher is present, mounted and fully charged, located inside the bucket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Headlights, safety strobe light and back-up alarm are functional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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:

- | | |
|--|--|
| <ul style="list-style-type: none"> • Irritability • Lack of motivation • Headaches • Giddiness | <ul style="list-style-type: none"> • Fatigue • Depression • Reduced alertness, lack of concentration and memory |
|--|--|

The test leader should assess the environmental and hazardous concerns:

- | | |
|---|---|
| <ul style="list-style-type: none"> • Temperature and weather • Lighting • Working from Heights | <ul style="list-style-type: none"> • Hoisting • PPE (i.e. respirators, etc.) • Pollutant concentration in ambient air (SO₂, H₂S, 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:

- | |
|--|
| <ul style="list-style-type: none"> • Reason for extended hours • Reason for delay <ul style="list-style-type: none"> ▪ 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.

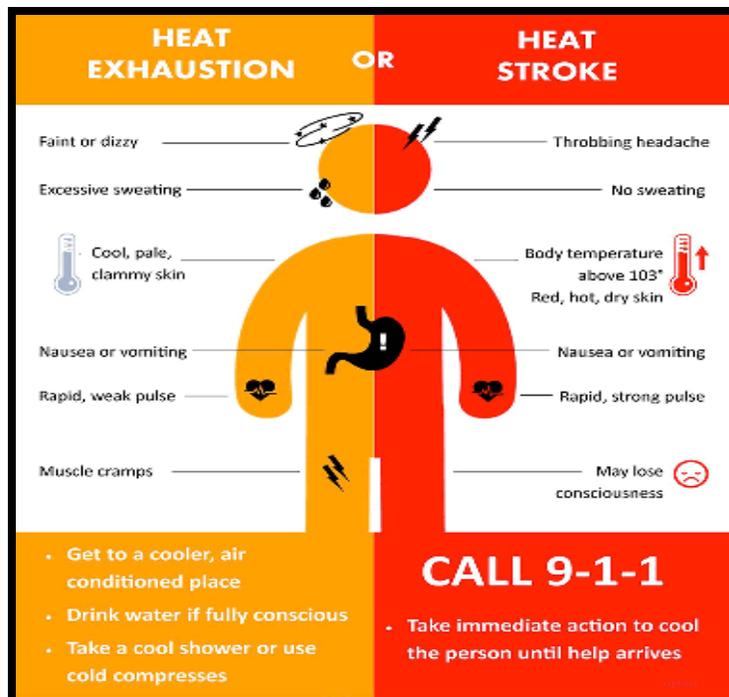
Final Outcome:	
Approver:	

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. If Heat Index is above 91° F:
 - 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. If Heat Index is above 103° F:
 - 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: Ms. Kristina Hysler, PE
Title: Regional Vice President
Region: West
Email: KristinaHysler@montrose-env.com
Phone: (714) 279-6777

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) 2025
Submittal Number: AQ72-17-01

September 9, 2025

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

Mrs. Gutierrez,

In compliance with Condition of Certification AQ-72, we are submitting the source test report for the carbon adsorption units at the Mojave Solar Project for your review and records. The compliance test was conducted on August 5, 2025, and both Carbon Adsorption Systems demonstrated a passing efficiency rate of 99.1%. The test results were officially submitted to the Mojave Desert Air Quality Management District on September 9, 2025.

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 Rd

Mojave Solar LLC

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

Hinkley, CA 92347
Cell: (760) 498-0549
mahnaz.ghamati@atlantica.com

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

**SOURCE TEST REPORT FOR
2025 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 5, 2025**
Production Date: **September 4, 2025**
Report Number: **W002AS-055523-RT-7683**

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: Joe Rubio Date: 9/4/2025
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: S. Hugh Brown Date: 9/4/2025
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: 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

Test Date: August 5, 2025

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION.....	6
2.0 EQUIPMENT AND PROCESS DESCRIPTION	7
2.1 UNIT DESCRIPTION	7
2.2 PROCESS DESCRIPTION	7
2.2.1 Overflow Tank Venting	8
2.2.2 Expansion Vessel Venting.....	8
3.0 TEST DESCRIPTION	9
3.1 OPERATING CONDITIONS DURING THE TEST	9
3.2 DIMENSIONS OF DUCT, STACKS, AND SAMPLING PORT LOCATIONS	9
3.3 SAMPLING AND ANALYTICAL PROCEDURES.....	11
3.3.1 Velocity and Volumetric Flow Rate.....	11
3.3.2 Moisture Content	11
3.3.3 Hexane and Benzene Emissions Testing.....	11
4.0 TEST RESULTS	12

LIST OF APPENDICES

A TEST DATA	15
A.1 Field Data	16
A.2 Laboratory Data.....	23
B GENERAL EMISSIONS CALCULATIONS	39
C QUALITY ASSURANCE	43
C.1 Quality Assurance Program Summary	44
C.2 SCAQMD, CARB, and STAC Certificates	50
C.3 Individual QI Certificates	54
C.4 Statement of No Conflict of Interest	58
D FACILITY PERMITS	60

LIST OF TABLES

3-1 SAMPLING PORT LOCATIONS.....	9
3-2 TEST PROCEDURES.....	11
4-1 HEXANE AND BENZENE RESULTS – ALPHA PLANT	13
4-2 HEXANE AND BENZENE RESULTS – BETA PLANT	14

LIST OF FIGURES

3-1 CAS DIAGRAM.....	10
----------------------	----

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-055523-PP-1324, dated June 4, 2025) 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 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 each vent to three vertical carbon cylindrical vessels (carbon beds), which 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), in parallel, or as a single vessel. Sample ports are located at the inlet and outlet of each carbon bed. Optimally, the system will operate in a lead/lag flow configuration, with a third canister on standby, and other operating configurations will be available for maintenance and high-flow events. Both high-pressure and low-pressure vents to the 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

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 prevent degradation of 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 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), an HTF Expansion Tank Vent Scrubber (MV-209), Carbon Filters (MF-206), and an 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 that varies according to pressure and time, with a maximum value of 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 $\pm 70^{\circ}\text{F}$. After the scrubbers, these remaining HTF vapor streams are combined and routed through a series of three carbon filters to remove as many organics

(VOCs/HAPS) as possible before the vapors are released 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 (which works at atmospheric pressure) starts 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 the 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. Under these conditions, the overflow tank levels may fluctuate, 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 returns to normal operation, all the HTF that was pumped out of the overflow tanks will return to the overflow tanks. Under that condition, the total amount of nitrogen vented is calculated to be 24,731 ft³ total for both plants. The overflow tanks have vent scrubbers on their stacks before feeding into the carbon filters. The nitrogen and HTF mixture to be released passes through these scrubbers, where it is cooled to 117°F by the countercurrent flow of cooled liquid HTF. 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 approximately 250°F. The overflow tanks are designed to be maintained at 150°F to minimize HTF venting, while also being 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, along with some vaporous HTF, are released into the vapor space. To facilitate the separation of LBs into the vapor space, a continuous side stream of HTF is also sprayed onto the top of the expansion vessels. As the expansion vessels fill with HTF, the nitrogen space is compressed until the pressure reaches 12 bara. Upon reaching this pressure, the vent valve opens, allowing 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 normal operating conditions, as the low temperature prevented the system from venting.

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 in a significant reduction in VOCs passing through the ullage system downstream, which also led to a lower amount of VOC detection at the carbon bed inlet. Since the calculations are based on the amount of VOC reduction between the inlet and the outlet of the canisters, this action allowed us to prove the beds’ efficiency better. Additionally, to allow for venting during the test, some HTF was transferred from the expansion vessel to the overflow tanks to build sufficient pressure for the test.

3.2 DIMENSIONS OF DUCT, STACKS, AND SAMPLING PORT LOCATIONS

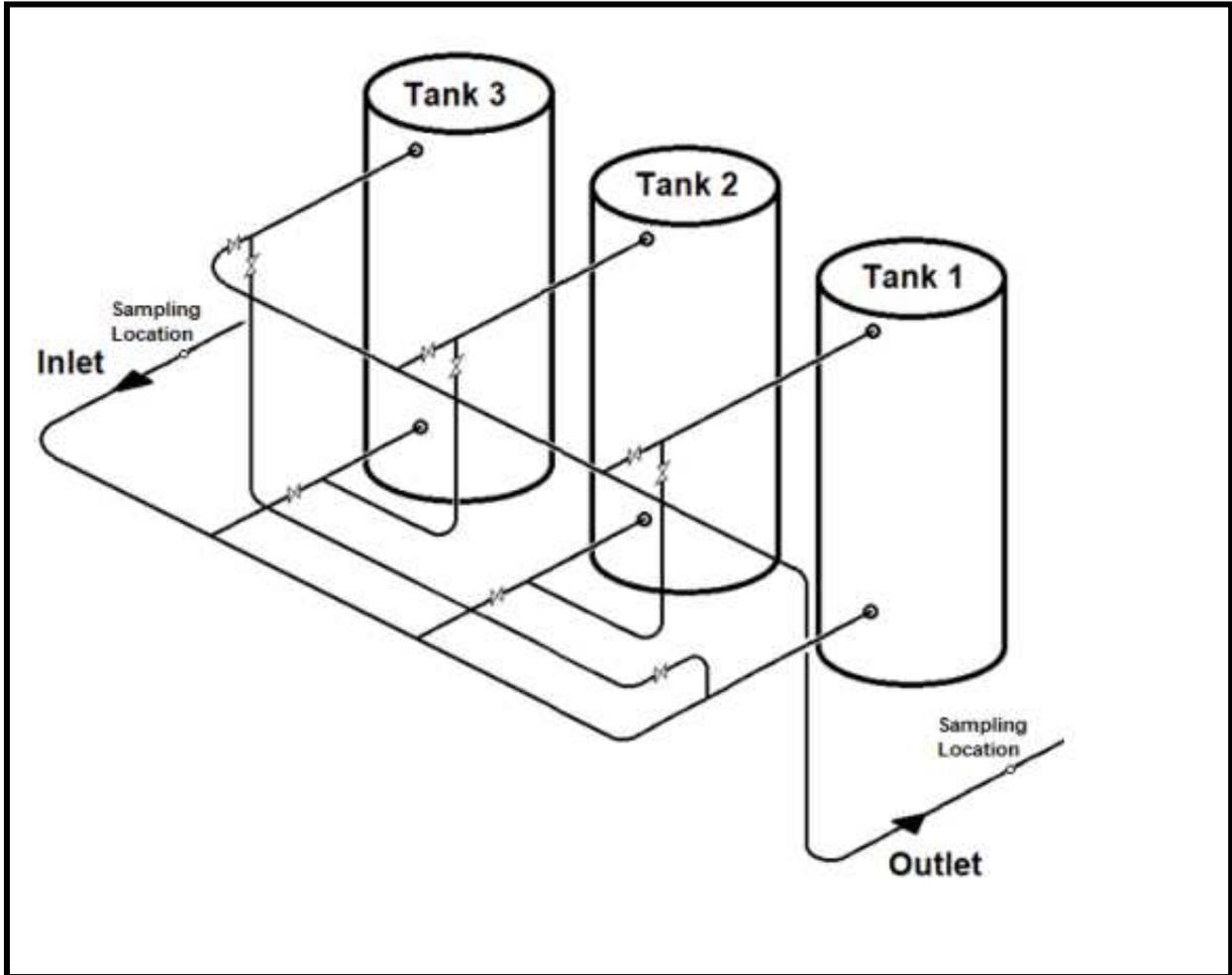
Table 3-1 presents the dimensions of the sampling port locations.

**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 was 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 spectrometry (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 presents the analytical results of VOCs, specifically hexane and Benzene, from 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, is located in the Appendices of this report.

**TABLE 4-1
 HEXANE AND BENZENE RESULTS
 ALPHA PLANT
 MOJAVE SOLAR, LLC
 CARBON ADSORPTION SYSTEM
 AUGUST 5, 2025**

	Run No.	Location	Flow Rate DSCFM	Hexane ppm	Hexane lb/hr	Destruction Efficiency, %	Benzene ppm	Benzene lb/hr	Destruction Efficiency, %
Low Pressure (Lead = NB15)	1	Inlet	41	8,261	4.56	>99.5	6,035	3.02	>100.0
		Exhaust	41	38.8	0.0214				
(Spare = NB16) (Spare = NB17)	2	Inlet	46	8,431	5.21	>99.5	5,436	3.05	>100.0
		Exhaust	46	42.0	0.0260				
High Pressure (Lead = NB5)	1	Inlet	551	35.4	0.26	>96.0	14.3	0.10	>99.0
		Exhaust	551	1.42	0.01				
(Spare = NB5) (Spare = NB6)	2	Inlet	563	180	1.36	>99.1	59.5	0.41	>99.8
		Exhaust	563	1.54	0.012				
Average						>98.5%	>99.7%		

**TABLE 4-2
 HEXANE AND BENZENE RESULTS
 BETA PLANT
 MOJAVE SOLAR, LLC
 CARBON ADSORPTION SYSTEM
 AUGUST 5, 2025**

	Run No.	Location	Flow Rate DSCFM	Hexane ppm	Hexane lb/hr	Destruction Efficiency, %	Benzene ppm	Benzene lb/hr	Destruction Efficiency, %
Low Pressure (Lead = NB20)	1	Inlet	112	11,311	17.06	>99.3	7,179	9.82	>100.0
		Exhaust	112	76.67	0.116		0.89	0.00121	
	2	Inlet	111	10,258	15.33	>99.3	7,108	9.64	>100.0
		Exhaust	111	74.69	0.112		0.85	0.00115	
High Pressure (Lead = NB10)	1	Inlet	546	1,721	12.60	>97.8	189	1.25	>99.5
		Exhaust	546	38.67	0.283		0.861	0.006	
	2	Inlet	534	1,344	9.64	>97.2	257	1.67	>99.6
		Exhaust	534	37.76	0.271		0.946	0.006	
Average						>98.4%			>99.8%

APPENDIX A TEST DATA

Appendix A.1 Field Data

FACILITY: Mojave Solar
 SOURCE: Alpha - Low Pressure
 DATE: 8/5/2025
 STANDARD TEMP (EPA = 68 DEG.) 68

Lead Canister: No. 15
 Standby Canister: No. 16
 Standby Canister: No. 17

RUN NUMBER	1	2
FIELD DATA INPUTS:		
BAROMETRIC PRESSURE (Pb)	27.92	27.92
STACK DIAMETER (inches)	4.00	4.00
RELATIVE HUMIDITY (%)	40.0	40.0
STACK TEMP (DEG. F)	68	69
VAPOR PRESSURE of H2O (" Hg)	0.6908	0.7144
STACK VELOCITY (FT/MIN)	510	573
FLOW RESULTS:		
MOISTURE (%)	0.99	1.02
ACTUAL CFM	45	50
STANDARD CFM	42	47
DRY STANDARD CFM	41	46

FACILITY: Mojave Solar
 SOURCE: Alpha - High Pressure
 DATE: 8/5/2025
 STANDARD TEMP (EPA = 68 DEG.) 68

Lead Canister: No. 5
 Standby Canister: No. 6
 Standby Canister: No. 7

RUN NUMBER	1	2
FIELD DATA INPUTS:		
BAROMETRIC PRESSURE (Pb)	27.92	27.92
STACK DIAMETER (inches)	8.00	8.00
RELATIVE HUMIDITY (%)	38.0	38.0
STACK TEMP (DEG. F)	66	67
VAPOR PRESSURE of H2O (" Hg)	0.6442	0.6469
STACK VELOCITY (FT/MIN)	1,700	1,740
FLOW RESULTS:		
MOISTURE (%)	0.88	0.88
ACTUAL CFM	593	607
STANDARD CFM	556	568
DRY STANDARD CFM	551	563

FACILITY: Mojave Solar
 SOURCE: Beta - Low Pressure
 DATE: 8/5/2025
 STANDARD TEMP (EPA = 68 DEG.) 68

Lead Canister: NB20
 Standby Canister: NB18
 Standby Canister: NB19

RUN NUMBER	1	2
FIELD DATA INPUTS:		
BAROMETRIC PRESSURE (Pb)	27.92	27.92
STACK DIAMETER (inches)	4.00	4.00
RELATIVE HUMIDITY (%)	30.0	29.0
STACK TEMP (DEG. F)	71	72
VAPOR PRESSURE of H2O (" Hg)	0.7648	0.7912
STACK VELOCITY (FT/MIN)	1,400	1,390
FLOW RESULTS:		
MOISTURE (%)	0.82	0.82
ACTUAL CFM	122	121
STANDARD CFM	113	112
DRY STANDARD CFM	112	111

FACILITY: Mojave Solar
 SOURCE: Beta - High Pressure
 DATE: 8/5/2025
 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)	27.92	27.92
STACK DIAMETER (inches)	8.00	8.00
RELATIVE HUMIDITY (%)	33.0	32.0
STACK TEMP (DEG. F)	67	67
VAPOR PRESSURE of H2O (" Hg)	0.6669	0.6669
STACK VELOCITY (FT/MIN)	1,685	1,650
FLOW RESULTS:		
MOISTURE (%)	0.79	0.76
ACTUAL CFM	588	576
STANDARD CFM	550	538
DRY STANDARD CFM	546	534

Facility: Mojave Solar
 Date Tested: 8/5/2025

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 Low Pressure	1	Inlet	41	8,261	4.56	99.5	6,035	3.02	100.0
		Exhaust	41	38.8	0.0214		0.18	0.000089	
Alpha Low Pressure	2	Inlet	46	8,431	5.21	99.5	5,436	3.05	100.0
		Exhaust	46	42.0	0.0260		0.19	0.00011	

Alpha High Pressure	1	Inlet	551	35.4	0.26	96.0	14.3	0.10	99.0
		Exhaust	551	1.42	0.01		0.14	0.0010	
Alpha High Pressure	2	Inlet	563	180	1.36	99.1	59.5	0.41	99.8
		Exhaust	563	1.54	0.012		0.14	0.0010	

98.5

99.7

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 Low Pressure	1	Inlet	112	11,311	17.06	99.3	7,179	9.82	100.0
		Exhaust	112	76.7	0.116		0.89	0.00121	
Beta Low Pressure	2	Inlet	111	10,258	15.33	99.3	7,108	9.64	100.0
		Exhaust	111	74.7	0.112		0.85	0.00115	

Beta High Pressure	1	Inlet	546	1,721	12.60	97.8	189	1.25	99.5
		Exhaust	546	38.7	0.283		0.861	0.006	
Beta High Pressure	2	Inlet	534	1,344	9.64	97.2	257	1.67	99.6
		Exhaust	534	37.8	0.271		0.95	0.006	

98.4

99.8

MOJAVE SOLAR FIELD DATA

AMS-LEAD
 - spare
 - spare

DATE: 8/5/25 27.92

ALPHA PLANT HIGH	TIME	VELOCITY	TEMP (°F)	RH %	AMB TEMP (°F)	AH %
INLET RUN 1	0705	1700	66	38	71	
EXHAUST RUN 1		-	-	-	-	
INLET RUN 2	0715	1740	67	38	71	
EXHAUST RUN 2		-	-	-	-	

ALPHA PLANT LOW	TIME	VELOCITY	TEMP (°F)	RH %	AMB TEMP (°F)	AH %
INLET RUN 1	0724	510	68	40	70	
EXHAUST RUN 1		-	-	-	-	
INLET RUN 2	0730	573	69	40	70	
EXHAUST RUN 2		-	-	-	-	

IS LEAD

BETA PLANT HIGH	TIME	VELOCITY	TEMP (°F)	RH %	AMB TEMP (°F)	AH %
INLET RUN 1	0800	1685	67	33	72	
EXHAUST RUN 1		-	-	-	-	
INLET RUN 2	0810	1650	67	32	73	
EXHAUST RUN 2		-	-	-	-	

BMF8 LEAD

BETA PLANT LOW	TIME	VELOCITY	TEMP (°F)	RH %	AMB TEMP (°F)	AH %
INLET RUN 1	0820	1400	71	30	73	
EXHAUST RUN 1		-	-	-	-	
INLET RUN 2	0830	1390	72	29	74	
EXHAUST RUN 2		-	-	-	-	

20 LEAD

Appendix A.2 Laboratory Data

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/06-07/25
REPORT DATE: 08/14/25

Laboratory Analysis Report (1 of 4)

Analysis Method	EPA 18				
Detection Limits	0.1 PPMV				
	Sample ID	Alpha Inlet High R1 Tk #24	Alpha Inlet High R2 Tk #25	Alpha Exh High R1 Tk #26	Alpha Exh High R2 Tk #27
	Sample Date	08/05/25	08/05/25	08/05/25	08/05/25
	Sample Time	-	-	-	-
	Lab ID	21825-14	21825-15	21825-16	21825-17
	Units	PPMV	PPMV	PPMV	PPMV
	C1 - Methane	3.06	133.3	28.09	66.44
C2 - Ethane, Ethylene	1.97	99.82	<0.1	<0.1	
C3 - Propane, Propylene	1.25	65.29	0.53	0.58	
C4 - Butanes	0.43	23.73	<0.1	<0.1	
C5 - Pentanes	0.11	12.66	<0.1	<0.1	
C6 - Hexanes	<0.1	4.28	<0.1	<0.1	
C6+ (including Benzene)	33.65	81.31	1.15	1.24	
Total VOC as Hexane including Ethane	35.43	180.4	1.42	1.54	



Dr. Andrew Kitto
President

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/06-07/25
REPORT DATE: 08/14/25

Laboratory Analysis Report (2 of 4)

Analysis Method	EPA 18				
Detection Limits	0.1 PPMV				
	Sample ID	Alpha Inlet Low R1 Tk #20	Alpha Inlet Low R2 Tk #21	Alpha Exh Low R1 Tk #22	Alpha Exh Low R2 Tk #23
	Sample Date	08/05/25	08/05/25	08/05/25	08/05/25
	Sample Time	-	-	-	-
	Lab ID	21825-18	21825-19	21825-20	21825-21
	Units	PPMV	PPMV	PPMV	PPMV
C1 - Methane	293.1	283.1	55.45	99.94	
C2 - Ethane, Ethylene	155.1	139.9	109.4	117.5	
C3 - Propane, Propylene	152.8	137.5	0.25	0.30	
C4 - Butanes	95.56	84.63	<0.1	<0.1	
C5 - Pentanes	80.21	64.49	<0.1	<0.1	
C6 - Hexanes	29.63	21.04	<0.1	<0.1	
C6+ (including Benzene)	7,968	8,180	0.47	0.84	
Total VOC as Hexane including Ethane	8,261	8,431	38.77	41.99	



Dr. Andrew Kitto
President

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/06-07/25
REPORT DATE: 08/14/25

Laboratory Analysis Report (3 of 4)

Analysis Method	EPA 18				
Detection Limits	0.1 PPMV				
	Sample ID	Beta Inlet Low R1 Tk #28	Beta Inlet Low R2 Tk #29	Beta Exh Low R1 Tk #30	Beta Exh Low R2 Tk #31
	Sample Date	08/05/25	08/05/25	08/05/25	08/05/25
	Sample Time	-	-	-	-
	Lab ID	21825-28	21825-29	21825-26	21825-27
	Units	PPMV	PPMV	PPMV	PPMV
	C1 - Methane	206.1	190.5	161.9	160.6
C2 - Ethane, Ethylene	204.7	191.5	217.1	211.4	
C3 - Propane, Propylene	222.4	208.2	<0.1	<0.1	
C4 - Butanes	134.1	125.1	<0.1	<0.1	
C5 - Pentanes	81.37	87.60	<0.1	<0.1	
C6 - Hexanes	64.88	50.37	<0.1	<0.1	
C6+ (including Benzene)	10,902	9,877	0.91	0.94	
Total VOC as Hexane including Ethane	11,311	10,258	76.67	74.69	



Dr. Andrew Kitto
President

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/06-07/25
REPORT DATE: 08/14/25

Laboratory Analysis Report (4 of 4)

Analysis Method	EPA 18				
Detection Limits	0.1 PPMV				
	Sample ID	Beta Inlet High R1 Tk #32	Beta Inlet High R2 Tk #33	Beta Exh High R1 Tk #34	Beta Exh High R2 Tk #35
	Sample Date	08/05/25	08/05/25	08/05/25	08/05/25
	Sample Time	-	-	-	-
	Lab ID	21825-24	21825-25	21825-22	21825-23
	Units	PPMV	PPMV	PPMV	PPMV
C1 - Methane	164.6	181.7	76.11	140.6	
C2 - Ethane, Ethylene	112.2	125.1	108.3	104.5	
C3 - Propane, Propylene	80.82	92.49	<0.1	<0.1	
C4 - Butanes	32.19	44.45	<0.1	<0.1	
C5 - Pentanes	13.13	24.52	<0.1	<0.1	
C6 - Hexanes	2.30	4.44	<0.1	<0.1	
C6+ (including Benzene)	1,606	1,198	0.88	1.28	
Total VOC as Hexane including Ethane	1,721	1,344	38.67	37.76	



Dr. Andrew Kitto
President

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/06-07/25
REPORT DATE: 08/14/25

Laboratory Analysis Report (QA/QC)

Sample ID: Beta Exh Low R2 Tk #31

Lab ID: 21825-27

Analyte	Analysis #1 PPMV	Analysis #2 PPMV	Mean PPMV	% Difference from the Mean*
C1 - Methane	160.6	161.0	160.8	0.1%
C2 - Ethane, Ethylene	211.4	211.4	211.4	0.0%
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)	0.94	0.88	0.91	3.7%

N/A: Not Applicable

*Must be ≤10%

Sample ID: Beta Inlet Low R2 Tk #29

Lab ID: 21825-29

Analyte	Analysis #1 PPMV	Analysis #2 PPMV	Mean PPMV	% Difference from the Mean*
C1 - Methane	190.5	194.3	192.4	1.0%
C2 - Ethane, Ethylene	191.5	193.9	192.7	0.6%
C3 - Propane, Propylene	208.2	210.2	209.2	0.5%
C4 - Butanes	125.1	126.5	125.8	0.6%
C5 - Pentanes	87.60	90.10	88.85	1.4%
C6 - Hexanes	50.37	51.54	50.96	1.2%
C6+ (including Benzene)	9,877	9,528	9,703	1.8%

N/A: Not Applicable

*Must be ≤10%



Dr. Andrew Kitto
President

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/06-07/25
REPORT DATE: 08/14/25

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	101.3	101%
C2 - Ethane	100.0	101.5	101%
C3 - Propane	100.0	101.3	101%
C4 - Butane	100.0	100.9	101%
C5 - Pentane	100.0	99.23	99%
C6 - Hexane	100.0	98.87	99%

*Must be ±10%



Dr. Andrew Kitto
 President

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/06-07/25
REPORT DATE: 08/14/25

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 #24	21825-14	14,305
Alpha Inlet High R2 Tk #25	21825-15	59,456
Alpha Exh High R1 Tk #26	21825-16	143.8
Alpha Exh High R2 Tk #27	21825-17	141.6
Alpha Inlet Low R1 Tk #20	21825-18	6,034,743
Alpha Inlet Low R2 Tk #21	21825-19	5,435,724
Alpha Exh Low R1 Tk #22	21825-20	178.6
Alpha Exh Low R2 Tk #23	21825-21	189.6
Beta Inlet Low R1 Tk #28	21825-28	7,179,186
Beta Inlet Low R2 Tk #29	21825-29	7,107,739
Beta Exh Low R1 Tk #30	21825-26	885.5
Beta Exh Low R2 Tk #31	21825-27	848.9
Beta Inlet High R1 Tk #32	21825-24	189,008
Beta Inlet High R2 Tk #33	21825-25	256,679
Beta Exh High R1 Tk #34	21825-22	860.8
Beta Exh High R2 Tk #35	21825-23	946.1



Dr. Andrew Kitto

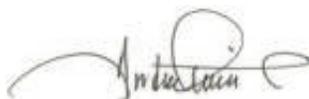
 President
 Page 622 of 1176

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/06-07/25
REPORT DATE: 08/14/25

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 #24	21825-14	14.30
Alpha Inlet High R2 Tk #25	21825-15	59.46
Alpha Exh High R1 Tk #26	21825-16	0.14
Alpha Exh High R2 Tk #27	21825-17	0.14
Alpha Inlet Low R1 Tk #20	21825-18	6,035
Alpha Inlet Low R2 Tk #21	21825-19	5,436
Alpha Exh Low R1 Tk #22	21825-20	0.18
Alpha Exh Low R2 Tk #23	21825-21	0.19
Beta Inlet Low R1 Tk #28	21825-28	7,179
Beta Inlet Low R2 Tk #29	21825-29	7,108
Beta Exh Low R1 Tk #30	21825-26	0.89
Beta Exh Low R2 Tk #31	21825-27	0.85
Beta Inlet High R1 Tk #32	21825-24	189.0
Beta Inlet High R2 Tk #33	21825-25	256.7
Beta Exh High R1 Tk #34	21825-22	0.86
Beta Exh High R2 Tk #35	21825-23	0.95

*Samples were diluted for analysis



Dr. Andrew Kitto

Page 26 of 176

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/06-07/25
REPORT DATE: 08/14/25

Laboratory Analysis Report (QA/QC)

Sample ID: Beta Exh Low R2 Tk #31

Lab ID: 21825-27

Analyte	Analysis #1 PPBV	Analysis #2 PPBV	Mean PPBV	% Difference from the Mean*
Benzene	848.9	852.5	850.7	0.2%

N/A: Not Applicable

*Must be ≤10%

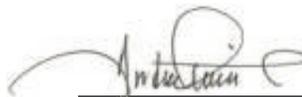
Sample ID: Beta Inlet Low R2 Tk #29

Lab ID: 21825-29

Analyte	Analysis #1 PPMV	Analysis #2 PPMV	Mean PPMV	% Difference from the Mean*
Benzene	7,108	7,161	7,135	0.4%

N/A: Not Applicable

*Must be ≤10%



Dr. Andrew Kitto
 President

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/06-07/25
REPORT DATE: 08/14/25

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 PPMV	Tested Value PPMV	% Recovery*
Benzene	10.00	10.34	103%
Benzene	50.00	54.01	108%
Benzene	200.0	191.6	96%

*Must be ±10%



Dr. Andrew Kitto
President

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/07/25
REPORT DATE: 08/14/25

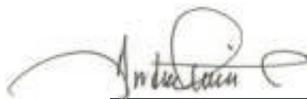
Laboratory Analysis Report

Analysis Method		EPA 3C		
Detection Limits		0.01%		
Sample ID	Lab ID	CH4 %	CO2 %	O2 %
Alpha Inlet High R1 Tk #24	21825-14	<0.01	<0.01	<0.01
Alpha Inlet High R2 Tk #25	21825-15	<0.01	<0.01	<0.01
Alpha Exh High R1 Tk #26	21825-16	<0.01	<0.01	<0.01
Alpha Exh High R2 Tk #27	21825-17	<0.01	<0.01	<0.01
Alpha Inlet Low R1 Tk #20	21825-18	<0.01	<0.01	0.01
Alpha Inlet Low R2 Tk #21	21825-19	<0.01	<0.01	0.01
Alpha Exh Low R1 Tk #22	21825-20	<0.01	<0.01	0.02
Alpha Exh Low R2 Tk #23	21825-21	<0.01	<0.01	0.01
Beta Inlet Low R1 Tk #28	21825-28	<0.01	<0.01	<0.01
Beta Inlet Low R2 Tk #29	21825-29	<0.01	<0.01	<0.01
Beta Exh Low R1 Tk #30	21825-26	<0.01	<0.01	<0.01
Beta Exh Low R2 Tk #31	21825-27	<0.01	<0.01	<0.01
Beta Inlet High R1 Tk #32	21825-24	<0.01	<0.01	<0.01
Beta Inlet High R2 Tk #33	21825-25	<0.01	<0.01	<0.01
Beta Exh High R1 Tk #34	21825-22	<0.01	<0.01	<0.01
Beta Exh High R2 Tk #35	21825-23	<0.01	<0.01	<0.01

*Oxygen + Argon are not separated by GC

Argon constitutes 0.93% of the atmosphere (Handbook of Chemistry and Physics)

0.9% was subtracted from O2 concentrations



Dr. Andrew Kitto
President

CLIENT: Montrose Air Quality
CLIENT PROJ NO: Mojave Solar
LABORATORY NO: 25-954
SAMPLING DATE: 08/05/25
RECEIVING DATE: 08/06/25
ANALYSIS DATE: 08/07/25
REPORT DATE: 08/14/25

Standard Verification

EPA 3C - Fixed Gases

Lab ID	Analyte	Theoretical Value Mole %	Tested Value Mole %	% Recovery*
SCOTT STD	CO ₂	15.00	15.13	101%
SCOTT STD	O ₂	4.00	3.99	100%
SCOTT STD	N ₂	69.50	69.55	100%
SCOTT STD	CH ₄	4.50	4.62	103%
SCOTT STD	CO	7.00	7.05	101%

*Must be ±10%



Dr. Andrew Kitto
President

Summa Canister Pressure Log

Client: Montrose Air Quality

Laboratory Project No: 25-954

Sampling Date: 08/05/25

Receiving Date: 08/06/25

Item#	Sample ID	Lab ID	P _r (mmHg)	P _f (mmHg)	Dilution Factor
1	Alpha Inlet High R1 Tk #24	21825-14	737.4	813.1	1.1027
2	Alpha Inlet High R2 Tk #25	21825-15	737.1	813.3	1.1034
3	Alpha Exh High R1 Tk #26	21825-16	727.6	811.1	1.1148
4	Alpha Exh High R2 Tk #27	21825-17	721.1	810.3	1.1237
5	Alpha Inlet Low R1 Tk #20	21825-18	718.4	815.6	1.1353
6	Alpha Inlet Low R2 Tk #21	21825-19	716.7	811.9	1.1328
7	Alpha Exh Low R1 Tk #22	21825-20	725.2	809.5	1.1162
8	Alpha Exh Low R2 Tk #23	21825-21	718.7	811.1	1.1286
9	Beta Inlet Low R1 Tk #28	21825-28	719.9	814.1	1.1309
10	Beta Inlet Low R2 Tk #29	21825-29	712.5	813.4	1.1416
11	Beta Exh Low R1 Tk #30	21825-26	666.7	808.7	1.2130
12	Beta Exh Low R2 Tk #31	21825-27	672.5	810.9	1.2058
13	Beta Inlet High R1 Tk #32	21825-24	735.8	814.1	1.1064
14	Beta Inlet High R2 Tk #33	21825-25	728.5	813.3	1.1164
15	Beta Exh High R1 Tk #34	21825-22	720.5	809.7	1.1238
16	Beta Exh High R2 Tk #35	21825-23	689.3	810.1	1.1753





No 6428

25-954

310/830-2226 • Fax 310/850-2227 • www.quantumairlab.com
 1210 E. 223rd Street, Suite #314 • Carson, California 90745

CHAIN OF CUSTODY

Page: 1 of: 2

Client: <u>Mantra</u>		Project No.: <u>Prod 055523</u>		Turnaround Time:	
Contact Person: <u>Joe Lubin</u>		Project Name: <u>Mojave Selav</u>		<input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> Normal	
tel: _____		Project Manager: <u>Joe Lubin</u>		Analysis	
fax: _____		P.O. Number: _____		Genium Lab 1104 GM 3C Dyeing Chem. Lab 614 17 007 11-cv-114-cc-0001	
Client Sample ID	Tag #	Date	Time	Lab ID Number	Remarks
Alpha High can 24 Inlet Run 1		8-5-25		<u>21025-14</u>	X
Alpha High can 25 Inlet Run 2		8-5-25		<u>-15</u>	X
Alpha High can 26 Exhaust Run 1		8-5-25		<u>-16</u>	X
Alpha High can 27 Exhaust Run 2		8-5-25		<u>-17</u>	X
Alpha Low can 20 Inlet Run 1		8-5-25		<u>-18</u>	X
Alpha Low can 21 Inlet Run 2		8-5-25		<u>-19</u>	X
Alpha Low can 22 EXHAUST Run 1		8-5-25		<u>-20</u>	X
Alpha Low can 23 EXHAUST Run 2		8-5-25		<u>-21</u>	X
Relinquished by: (signature)		Date/Time		Received by: (signature)	
Relinquished by: (signature)		Date/Time		Received by: (signature)	
Relinquished by: (signature)		Date/Time		Received by: (signature)	



No 6428

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

25-954

Client: <u>Mentrose</u>		Project No.: <u>1109-055523</u>		Analysis EPA 19 VOC PAHs PCBs CHL MHC CAS 410 CAS 410 EPA 19 VOC PAHs PCBs CHL MHC CAS 410 CAS 410		Turnaround Time: <input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> Normal	
Contact Person: <u>Joe Rubio</u> tel: <u>1026-831-7707</u> fax: _____		Project Name: <u>Physive Solar</u> Project Manager: <u>Joe Rubio</u> P.O. Number: _____		Lab ID Number <u>21825-22</u> <u>-23</u> <u>-24</u> <u>-25</u> <u>-26</u> <u>-27</u> <u>-28</u> <u>-29</u>		Remarks	
Client Sample ID	Tag #	Date	Time	Lab ID Number	Analysis	Turnaround Time	Remarks
BETA High EXHAUST ^{low} 34	Rn1	8/5/25		21825-22	X		
BETA High EXHAUST ^{low} 35	Rn2			-23	X		
BETA High Inlet ^{low} 34	Rn1			-24	X		
BETA High Inlet ^{low} 35	Rn2			-25	X		
BETA Low EXHAUST ^{low} 34	Rn1			-26	X		
BETA Low EXHAUST ^{low} 35	Rn2			-27	X		
BETA Low Inlet ^{low} 34	Rn1			-28	X		
BETA Low Inlet ^{low} 35	Rn2			-29	X		
Relinquished by: (signature) <u>[Signature]</u>				Received by: (signature) <u>[Signature]</u>		Date/time <u>8/6/25 1:30 PM</u>	
Relinquished by: (signature) _____				Received by: (signature) _____		Date/time _____	
Relinquished by: (signature) _____				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

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

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

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

V. Emission Rates, lb/MMBtu

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

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s (V_{mstd})}{(1 - B_{wo}) * V_s * P_s * Dn^2} * \frac{528^\circ R}{T_{ref}}$$

VII. Particulate Emissions

- (a) Grain loading, gr/dscf
 $C = 0.01543 (M_n / V_{m \text{ std}})$
- (b) Grain loading at 12% CO₂, gr/dscf
 $C_{12\% \text{ CO}_2} = C (12\% \text{ CO}_2)$
- (c) Mass emissions, lb/hr
 $M = C * Q_{sd} * (60 \text{ min/hr}) / (7000 \text{ gr/lb})$
- (d) Particulate emission factor

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

Nomenclature:

A_s	=	stack area, ft ²
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO_2}$	=	particulate grain loading, gr/dscf corrected to 12% CO ₂
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
D_n	=	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
θ	=	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, iwg
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



September 26, 2024

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, 2024, and ending September 30, 2025, 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
340926 LapRenewal.doc

Mojave Solar, LLC
2025 Two Carbon Adsorption Systems Compliance



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, CO₂, NO_x, O₂, SO₂, 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 09:09:29
+07'00'

Walter Ham, Ph.D., Chief, Monitoring and Laboratory Division

Enclosure

¹ icp@arb.ca.gov



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
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

Tate Strickler
Tate Strickler, VP – Quality Systems

DATE OF ISSUE: 03/07/2022

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 5, 2025
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: 9/4/2025

Joe Rubio
(Name)

Client Project Manager
(Title)

(714) 279-6777
(Phone)

9/4/2025
(Date)

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: Principal
Region: West
Email: MMccune@montrose-env.com
Phone: (714) 279-6777

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

EMISSION
YEAR
2025.

**CEIDARS 2.5
CERTIFICATION**

FORM
CER

COMPANY NO. 1 8 / 6 FACILITY NO. 3 1 3 0

COMPANY NAME
Mojave Solar LLC

FACILITY NAME
Mojave Solar LLC

MAILING ADDRESS
43134 Harper Lake Road

ADDRESS - PHYSICAL LOCATION
43134 Harper Lake Road

CITY ST ZIP CODE
Hinkley CA 92347

CITY ST ZIP CODE
Hinkley CA 92347

NAME OF COMPANY CONTACT
Mahnaz Ghamati

NAME OF FACILITY CONTACT
Mahnaz Ghamati

TELEPHONE FAX
760-498-0549

TELEPHONE FAX
760-498-0549

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 less 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, a responsible official
(Name of Official)

of Mojave Solar Project, hereby certify that,
(Name of Facility)

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 11 day of
(Day)

February, 2026 at San Bernardino, California.
(Month) (Year) (County and State)

(Signature) Mahnaz Ghamati

Mahnaz Ghamati Environmental Compliance Manager
(Name - print or type) (Title - print or type)

DATE RECEIVED BY DISTRICT

INITIALS _____ DATE: _____

HARP Facility Emission Summary

HARP EIM Version: 2.1.6

Project Path: R:\SCEC\1-SCEC Projects\Atlantica\PROJ-062108 Mojave Solar LLC - MDAQMD CEIR DY2025\2025 CEIR Files
 Project Database: R:\SCEC\1-SCEC Projects\Atlantica\PROJ-062108 Mojave Solar LLC - MDAQMD CEIR DY2025\2025 CEIR Files\Mojave Solar.mdb
 CEIDARS Utility Database: C:\Users\ekrisnadi\Documents\Montrose\HARP\harp2eim20210921\Tables\CEIDARSTables022021.mdb
 Facility List: N/A
 Pollutant List: N/A
 Sorting Order: FACID, CO, AB, DIS, YEAR, TOXAPPEN, POLABBREV
 Date Created: 2/12/2026 10:49:51 AM
 Operator:

(Note: Emissions in LBS/YR for toxics, TONS/YR for criteria pollutants, CURRIES/YR for radio nuclides. * User defined pollutants are marked by an asterisk with the pollutant ID.)

FACILITY	NAME	FSIC										

ADDRESS												

CITY	ZIP	CO	AB	DIS	CATEGORY	HAP	POLLUTANT	POLLUTANT ID	EMISSIONS	YEAR		

3130	MOJAVE SOLAR - HARPER LAKE	4911										
	HARPER LAKE ROAD, ADJACENT TO											
	HINKLEY	92347	36	MD	MOJ	A-I	Aluminum	7429905	8.764E-10	2025		
						A-I	Copper	7440508	3.104E-10	2025		
						A-I	DieselexhPM	9901	51.606	2025		
						A-I	Propylene	115071	6.314E-04	2025		
						A-I	Silver	7440224	8.764E-11	2025		
						A-I	Zinc	7440666	1.753E-09	2025		
						A-I	Y Arsenic	7440382	4.246E-10	2025		
						A-I	Y Benzene	71432	1.324	2025		
						A-I	Y Cadmium	7440439	8.764E-11	2025		
						A-I	Y Chromium	7440473	2.102E-10	2025		
						A-I	Y Ethyl Benzene	100414	0.122	2025		
						A-I	Y Hexane	110543	0.464	2025		
						A-I	Y Lead	7439921	1.488E-10	2025		
						A-I	Y Manganese	7439965	1.096E-07	2025		
						A-I	Y Mercury	7439976	8.764E-15	2025		
						A-I	Y Naphthalene	91203	1.411E-02	2025		
						A-I	Y Nickel	7440020	1.753E-10	2025		
						A-I	Y Selenium	7782492	5.684E-10	2025		
						A-I	Y Toluene	108883	0.647	2025		
						A-I	Y Xylenes	1330207	0.603	2025		
						CRIT	CO	42101	0.451	2025		
						CRIT	NOX	42603	0.784	2025		
						CRIT	PM10	85101	2.582E-02	2025		
						CRIT	PM2.5	88101	2.580E-02	2025		
						CRIT	SOX	42401	4.112E-03	2025		
						CRIT	VOC	43104	9.798E-02	2025		

EMISSION
YEAR
2025

HARP / CEIDARS
LOCATION OF EMISSION SOURCES
COMPANY NO.

1	8	7	6
---	---	---	---

 FACILITY NO.

3	1	3	0
---	---	---	---

FORM
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 be 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
B011037	Cooling Tower (Alpha)	UTM	PER	11	470E	3877N
B011038	Cooling Tower (Beta)	UTM	PER	11	470E	3877N
B011046	Heat Transfer Fluid Ullage/Expansion System (Alpha)	L/L	PER	11	-117.30420	+35.00240
B011047	Heat Transfer Fluid 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
N011039	Gasoline Dispensing Facility	L/L	PER	11	-117.32954	+35.01240
N/A	Diesel Dispensing Facility	L/L		11	-117.32954	+35.01240

* 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

Universal Transverse Mercator (UTM)

The National Imagery and Mapping Agency (NIMA) (formerly the Defense Mapping Agency) adopted a special grid for military use throughout the world called the Universal Transverse Mercator (UTM) grid. In this grid, the world is divided into 60 north-south zones, each covering a strip 6° wide in longitude. These zones are numbered consecutively beginning with Zone 1, between 180° and 174° west longitude, and progressing eastward to Zone 60, between 174° and 180° east longitude. Thus, the contiguous 48 States are covered by 10 zones, from Zone 10 on the west coast through Zone 19 in New England. In each zone, coordinates are measured north and east in meters. (One meter equals 39.37 inches, or slightly more than 1 yard.) The northing values are measured continuously from zero at the Equator, in a northerly direction. Southerly values are similarly measured from the Equator, south. A central meridian through the middle of each 6° zone is assigned an easting value of 500,000 meters. Grid values to the west of this central meridian are less than 500,000 and to the east, are more than 500,000.

Virtually all NIMA-produced topographic maps and many aeronautical charts show the UTM grid lines.

For more detail go to the following websites:

<http://maps.google.com/>
[http://earth.google.com \(free Version\)](http://earth.google.com (free Version))

Mojave Solar - Harper Lake (Facility # 3130)

Comprehensive Emission Inventory Report for Emission Year 2025-Mojave Solar

Permit Number	Emission Source	Total Run Time	NOx	CO	SOx	PM 10	PM 2.5	VOC
		Hrs.	Ton	Ton	Ton	Ton	Ton	Ton
N011039	Gasoline Dispensing Facility	NA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0127
N/A	Diesel Dispensing Facility	NA	0.0000	0.0000	0.0000	0.0000	0.0000	1.10E-05
B011046	HTF Ullage/Expansion System (Alpha)	666	0.0000	0.0000	0.0000	0.0000	0.0000	0.0073
B011047	HTF Ullage/Expansion System (BETA)	517	0.0000	0.0000	0.0000	0.0000	0.0000	0.0367
E011042	Diesel IC Engine, Emergency Generator (Alpha)	106	0.6122	0.3531	0.0032	0.0201	0.0201	0.0201
E011043	Diesel IC Engine, Emergency Generator (Beta)	75	0.1669	0.0962	0.0009	0.0055	0.0055	0.0055
E011044	Diesel IC Engine, Fire Pump (Alpha)	2.5	0.0018	0.0004	0.0000	0.0001	0.0001	0.0001
E011045	Diesel IC Engine, Fire Pump (Beta)	2.7	0.0028	0.0006	0.0000	0.0001	0.0001	0.0001
B011037	Cooling Tower (Alpha)	2,988	0.0000	0.0000	0.0000	1.4953	0.0000	0.0000
B011038	Cooling Tower (Beta)	2,980	0.0000	0.0000	0.0000	1.2040	0.0000	0.0000
	Facility Wide		0.7837	0.4504	0.0041	2.7251	0.0258	0.0825

Diesel IC Engine, Emergency Generator

**Emission Factor Conversion From gram/bhp-hr. to lb./1000 gal
Calculation with using the equipment data**

bhp	3058
Density of ULSD diesel	7.08 lb./gal

Pollutant	g/bhp-hr.
NOx	4.56
CO	2.63
SOx	0.024
PM10	0.15
VOC	0.24

2025 Fuel Consumption	gal	mgal	NOx (Ton)	CO (Ton)	SOx (Ton)	PM10 (Ton)	PM2.5 (Ton)	VOC (Ton)
Emergency Generator Alpha	5,925	5.93	0.6122	0.3531	0.0032	0.0201	0.0201	0.0322
Emergency Generator Beta	1,615	1.615	0.1669	0.0962	0.0009	0.0055	0.0055	0.0088

Toxic Air Contaminants

2025 Fuel Consumption	Disel PM (lbs)
Emergency Generator Alpha	40.2769
Emergency Generator Beta	10.9784

*Note: Diesel PM emissions is the surrogate for other toxic emissions from diesel combustion.

Diesel Fuel Rate (@ peak hp) 1053.224 lb./hr.

fuel conversion, gal >>>lb. per hour
 152.2 gal/hr.
 1077.576 lb./hr.

		Calculation								
NOx	$\frac{4.56 \text{ gram}}{\text{bhp-hr.}}$	X	$\frac{1 \text{ lb.}}{453.6 \text{ gram}}$	X	$\frac{1 \text{ hr.}}{1053.224 \text{ lb.}}$	$\frac{7.08 \text{ lb.}}{1 \text{ gal}}$	X	$\frac{1000 \text{ gal}}{1 \text{ mgal}}$	$\frac{3058 \text{ bhp}}{1}$	206.65304 lb. mgal
CO	$\frac{2.63 \text{ gram}}{\text{bhp-hr.}}$	X	$\frac{1 \text{ lb.}}{453.6 \text{ gram}}$	X	$\frac{1 \text{ hr.}}{1053.224 \text{ lb.}}$	$\frac{7.08 \text{ lb.}}{1 \text{ gal}}$	X	$\frac{1000 \text{ gal}}{1 \text{ mgal}}$	$\frac{3058 \text{ bhp}}{1}$	119.18804 lb. mgal
SOx	$\frac{0.024 \text{ gram}}{\text{bhp-hr.}}$	X	$\frac{1 \text{ lb.}}{453.6 \text{ gram}}$	X	$\frac{1 \text{ hr.}}{1053.224 \text{ lb.}}$	$\frac{7.08 \text{ lb.}}{1 \text{ gal}}$	X	$\frac{1000 \text{ gal}}{1 \text{ mgal}}$	$\frac{3058 \text{ bhp}}{1}$	1.0876476 lb. mgal
PM10 and PM2.5	$\frac{0.15 \text{ gram}}{\text{bhp-hr.}}$	X	$\frac{1 \text{ lb.}}{453.6 \text{ gram}}$	X	$\frac{1 \text{ hr.}}{1053.224 \text{ lb.}}$	$\frac{7.08 \text{ lb.}}{1 \text{ gal}}$	X	$\frac{1000 \text{ gal}}{1 \text{ mgal}}$	$\frac{3058 \text{ bhp}}{1}$	6.7977972 lb. mgal
VOC	$\frac{0.24 \text{ gram}}{\text{bhp-hr.}}$	X	$\frac{1 \text{ lb.}}{453.6 \text{ gram}}$	X	$\frac{1 \text{ hr.}}{1053.224 \text{ lb.}}$	$\frac{7.08 \text{ lb.}}{1 \text{ gal}}$	X	$\frac{1000 \text{ gal}}{1 \text{ mgal}}$	$\frac{3058 \text{ bhp}}{1}$	10.876476 lb. mgal

Diesel IC Engine, Fire Pump

Emission Factor Conversion From gram/bhp-hr. to lb./1000 gal
Calculation with using the equipment data

bhp	617
Density of ULSD diesel	7.08 lb./gal
Pollutant	g/bhp-hr.
NOx	2.64
CO	0.6
SOx	0.005
PM10	0.09
VOC	0.15

2025 Fuel Consumption- Estir	gal	mgal	Nox (Ton)	CO (Ton)	Sox (Ton)	PM10 (Ton)	PM2.5 (Ton)	VOC (Ton)
Fire Pump Alpha	29	0.03	1.84E-03	4.18E-04	3.48E-06	6.26E-05	6.26E-05	1.04E-04
Fire Pump Beta	44	0.0438	2.76E-03	6.26E-04	5.22E-06	9.39E-05	9.39E-05	1.57E-04

Toxic Air Contaminants

2025 Fuel Consumption	Diesal PM (lbs)
Emergency Generator Alpha	0.1253
Emergency Generator Beta	0.1879

*Note: Diesel PM emissions is the surrogate for other toxic emissions from diesel combustion.

Diesel Fuel Rate (@ peak hp) 202.064 lb./hr.

fuel conversion, gal >>>lb. per hour
 29.2 gal/hr.
 206.736 lb./hr.

Calculation											
NOx	$\frac{2.64 \text{ gram}}{\text{bhp-hr.}}$	X	$\frac{1 \text{ lb.}}{453.6 \text{ gram}}$	X	$\frac{1}{202.064}$	hr. lb.	$\frac{7.08 \text{ lb.}}{1 \text{ gal}}$	X	$\frac{1000 \text{ gal}}{1 \text{ mgal}}$	$\frac{617 \text{ bhp}}{1}$	125.8231 lb. mgal
CO	$\frac{0.6 \text{ gram}}{\text{bhp-hr.}}$	X	$\frac{1 \text{ lb.}}{453.6 \text{ gram}}$	X	$\frac{1}{202.064}$	hr. lb.	$\frac{7.08 \text{ lb.}}{1 \text{ gal}}$	X	$\frac{1000 \text{ gal}}{1 \text{ mgal}}$	$\frac{617 \text{ bhp}}{1}$	28.59616 lb. mgal
SOx	$\frac{0.005 \text{ gram}}{\text{bhp-hr.}}$	X	$\frac{1 \text{ lb.}}{453.6 \text{ gram}}$	X	$\frac{1}{202.064}$	hr. lb.	$\frac{7.08 \text{ lb.}}{1 \text{ gal}}$	X	$\frac{1000 \text{ gal}}{1 \text{ mgal}}$	$\frac{617 \text{ bhp}}{1}$	0.238301 lb. mgal
PM10 and PM2.5	$\frac{0.09 \text{ gram}}{\text{bhp-hr.}}$	X	$\frac{1 \text{ lb.}}{453.6 \text{ gram}}$	X	$\frac{1}{202.064}$	hr. lb.	$\frac{7.08 \text{ lb.}}{1 \text{ gal}}$	X	$\frac{1000 \text{ gal}}{1 \text{ mgal}}$	$\frac{617 \text{ bhp}}{1}$	4.289424 lb. mgal
VOC	$\frac{0.15 \text{ gram}}{\text{bhp-hr.}}$	X	$\frac{1 \text{ lb.}}{453.6 \text{ gram}}$	X	$\frac{1}{202.064}$	hr. lb.	$\frac{7.08 \text{ lb.}}{1 \text{ gal}}$	X	$\frac{1000 \text{ gal}}{1 \text{ mgal}}$	$\frac{617 \text{ bhp}}{1}$	7.149039 lb. mgal



Mojave Solar LLC

2025 Ullage Emission

2025	Venting Hours			
	Alpha		Beta	
	Expansion	Overflow	Expansion	Overflow
Jan	3.6	75.8	4.8	71.6
Feb	4.3	35.3	7.9	63.1
Mar	5.8	44.4	6.3	32.1
Apr	10.9	35.3	8.7	33.9
May	11.7	56.2	8.9	42.2
Jun	9.6	52.5	8.0	38.0
Jul	9.7	55.7	9.5	31.3
Aug	10.1	51.3	7.3	23.0
Sep	8.5	50.2	7.0	23.7
Oct	8.4	47.3	8.4	24.9
Nov	7.4	25.0	5.5	29.3
Dec	7.1	40.6	6.5	15.2
Total	97.0	569.5	88.7	428.4

517.1

2025	VOCs as Hexane, lb			
	Alpha		Beta	
	Expansion	Overflow	Expansion	Overflow
Jan	0.039	1.796	1.327	8.167
Feb	0.047	0.835	2.188	7.193
Mar	0.063	1.052	1.737	3.654
Apr	0.119	0.836	2.410	3.868
May	0.128	1.333	2.454	4.813
Jun	0.106	1.244	2.213	4.334
Jul	0.107	1.319	2.632	3.572
Aug	0.111	1.216	2.025	2.627
Sep	0.094	1.190	1.931	2.705
Oct	0.092	1.121	2.316	2.833
Nov	0.081	0.593	1.535	3.344
Dec	0.079	0.962	1.798	1.728
Total	1.067	13.497	24.564	48.837

2025	Benzene, lb			
	Alpha		Beta	
	Expansion	Overflow	Expansion	Overflow
Jan	0.004	0.008	0.029	0.085
Feb	0.004	0.004	0.047	0.074
Mar	0.006	0.004	0.038	0.038
Apr	0.011	0.004	0.052	0.040
May	0.012	0.006	0.053	0.050
Jun	0.010	0.005	0.048	0.045
Jul	0.010	0.006	0.057	0.037
Aug	0.010	0.005	0.044	0.027
Sep	0.009	0.005	0.042	0.028
Oct	0.008	0.005	0.050	0.029
Nov	0.007	0.003	0.033	0.035
Dec	0.007	0.004	0.039	0.018
Total	0.097	0.057	0.532	0.506

Calculation Notes:

2025 Ullage emission - based on 08/05/2025 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 determined by performance test as

0.011 lb/hr

Alpha overflow vent VOCs emission rate is determined by performance test as

0.0237 lb/hr

Beta expansion vessel vent VOCs emission rate is determined by performance test as

0.277 lb/hr

Beta overflow vessel vent VOCs emission rate is determined by performance test as

0.114 lb/hr

Alpha expansion vessel vent benzene emission rate is determined by performance test as

0.001 lb/hr

Alpha overflow vent benzene emission rate is determined by performance test as

0.0001 lb/hr

Beta expansion vessel vent benzene emission rate is determined by performance test as

0.006 lb/hr

Beta overflow vessel vent benzene emission rate is determined by performance test as

0.00118 lb/hr

Annual Totals			
	8/5/2025	lb/yr	Ton/yr
Last compliance test			
Alpha projected annual VOC		14.56	0.00728
Beta projected annual VOC		73.40	0.03670
Alpha projected annual Benzene		0.15	0.00008
Beta projected annual Benzene		1.04	0.00052
Annual VOC limit per plant	792.1	lb/yr	
Annual benzene limit per plant	507.4	lb/yr	

2025 Source Test results

			Run 1	Run 2	Average
Alpha	HP	Exp Ves VOC as C6, lb/hr	0.01	0.012	0.011
Alpha	LP	Overflow VOC as C6, lb/hr	0.0214	0.026	0.0237
Beta	HP	Exp Ves VOC as C6, lb/hr	0.283	0.271	0.277
Beta	LP	Overflow VOC as C6, lb/hr	0.116	0.112	0.114

	Run 1	Run 2	Average
Exp Ves Benzene, lb/hr	0.001	0.001	0.001
Overflow Benzene, lb/hr	0.0001	0.0001	0.0001
Exp Ves Benzene, lb/hr	0.006	0.006	0.006
Overflow Benzene, lb/hr	0.00121	0.00115	0.00118

Cooling Towers - Toxic Air Contaminants

Calculation of Hazardous and Toxic Pollutant Emissions from Cooling Towers

Alpha Cooling Tower PM Emissions, lbs/yr			4.24E-02	
Beta Cooling Tower PM Emissions, lbs/yr			1.39E-03	
Constituent	Concentration in Cooling Tower Water		Alpha Emissions, lb/yr	Beta Emissions, lb/yr
Manganese	2.5	ppm	1.06E-07	3.49E-09
Magnesium	59	ppm	2.50E-06	8.23E-08
Lead	0.0034	ppm	1.44E-10	4.74E-12
Arsenic	0.0097	ppm	4.11E-10	1.35E-11
Aluminum	0.02	ppm	8.48E-10	2.79E-11
Chromium	0.0048	ppm	2.04E-10	6.69E-12
Cadmium	0.002	ppm	8.48E-11	2.79E-12
Selenium	0.013	ppm	5.51E-10	1.81E-11
Zinc	0.04	ppm	1.70E-09	5.58E-11
Mercury	0.0000002	ppm	8.48E-15	2.79E-16
Copper	0.0071	ppm	3.01E-10	9.90E-12
Silver	0.002	ppm	8.48E-11	2.79E-12
Nickel	0.004	ppm	1.70E-10	5.58E-12

Notes: (1) Water analysis data water balance data.

Gasoline Dispensing Facility, Above Ground Storage Tank

Permit No. N011039

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2025	Unit
Gasoline Throughput:	1810.4	725.5	2380	1221.3	2143.6	1065.8	1493.4	1690.2	1445.5	1389	2100	1726.6	19191.3	Gallons

Controlled VOC Emission Factors: 1.322 lbs/Mgal
 VOC Emissions, lbs/year: 25.3709
 VOC Emissions, tons/year: 0.012685

Note: The data source of VOC emission factors for gasoline dispensing with above ground storage tanks is SCAQMD guidelins for fuel dispensing operations (December 2024). The SCAQMD guidelines is used because MDAQMD does not have emission factor for dispensing with enhanced vapor recovery system (EVR).

Toxic Air Contaminants	EF, lbs/Mgal	lbs/year
Benzene	7.09E-03	1.36E-01
Ethylbenzene	6.38E-03	1.22E-01
Naphthalene	7.35E-04	1.41E-02
Hexane, n-	2.42E-02	4.64E-01
Propylene	3.29E-05	6.31E-04
Toluene	3.37E-02	6.47E-01
Xylenes	3.14E-02	6.03E-01

Note: The data source of Toxic emission factors for gasoline dispensing with above ground storage tanks is SCAQMD guidelins for fuel dispensing operations (December 2024).

Diesel Dispensing Facility, Above Ground Storage Tank

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2025	Unit
Diesel Throughput:	923.9	0	1144.3	269.8	950.2	684.6	339.8	204	905.3	796.2	1065	591	7874.1	Gallons

Controlled VOC Emission Factors: 0.0028 lbs/Mgal
 VOC Emissions, lbs/year: 0.022047
 VOC Emissions, tons/year: 1.1E-05

Note: The data source of VOC emission factors for diesel dispensing with above ground storage tanks is SCAQMD guidelins for fuel dispensing operations (December 2024). No TAC emissions from diesel dispensing activity.

RE: [External] - RE: CEI for Mojave Solar LLC (Fac #3130)

From Agustinus Krisnadi <ekrisnadi@montrose-env.com>

Date Thu 2/12/2026 2:20 PM

To Justin Hoover <jhoover@mdaqmd.ca.gov>

Cc May Mamari <mmamari@mdaqmd.ca.gov>; Mahnaz Ghamati <mahnaz.ghamati@atlantica.com>; Marcos Padilla <MarcosPadilla@montrose-env.com>

 5 attachments (416 KB)

Mojave Solar - 2025 CEIR Supporting Calculations.pdf; 3130 - Mojave Solar 2025 CEIR Report.rtf; 3130 - Mojave Solar 2025 HARP Transaction File.tra; CER-Signed.pdf; Form LOC ES.pdf;

WARNING: EXTERNAL EMAIL. Exercise caution when opening links or attachments.

Hi Justin, on behalf of Mojave Solar – Harper Lake (Facility No 3130), I'm submitting the following documents for 2025 CEIR:

- 2025 CEIR Report
- 2025 HARP Transaction Files.
- 2025 CEIR Supporting Calculations
- 2025 CEIR Forms

Regards,

A. Edward Krisnadi

Principal Engineer/ Operations Manager

Montrose Environmental Solutions, Inc.

Santa Ana, CA | US Pacific Time

T: 1-714-919-6557 | M: 1-909-261-2927

Montrose Stormwater Guide:

[What You Need to Know about the California Industrial General Permit Enforcement](#)

[How QISPs Can Help You Navigate Industrial General Permit Compliance](#)

From: Justin Hoover <jhoover@mdaqmd.ca.gov>

Sent: Wednesday, January 14, 2026 2:58 PM

To: Agustinus Krisnadi <ekrisnadi@montrose-env.com>

Cc: Sheri Haggard <shaggard@mdaqmd.ca.gov>; May Mamari <mmamari@mdaqmd.ca.gov>

Subject: [External] - RE: CEI for Mojave Solar LLC (Fac #3130)

EXTERNAL EMAIL - This email was sent by a person from outside your organization. Exercise caution when clicking links, opening attachments or taking further action, before validating its authenticity.

You don't often get email from jhoover@mdaqmd.ca.gov. [Learn why this is important](#)

Hello Agustinus,

Mojave Solar LLC

**42134 Harper Lake Road
Hinkley, California 92347**

Phone: 760 308 0400

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, 2025
Reporting Period

Submitted
February 2026

Prepared for:
Mojave Solar LLC
42134 Harper Lake Road
Hinkley, California 92347

Prepared by:
Abengoa Solar Industrial Operations LLC
42134 Harper Lake Road
Hinkley, California 92347

Rowe Ecological Consulting, LLC
P.O. Box 1018
Weldon, CA 93283
roweecological@gmail.com

Table of Contents

1.	Introduction.....	3
2.	Annual Report Requirements.....	3
3.	Mitigation Measures.....	3
3.1.	BIO-1: Designated Biologist Selection	5
3.2.	BIO-2: Designated Biologist Duties.....	5
3.3.	BIO-3: Biological Monitor Selection, Qualifications, and Duties.....	5
3.4.	BIO-4: Designated Biologist and Biological Monitor Authority.....	5
3.5.	BIO-5: Worker Environmental Awareness Program	5
3.6.	BIO-6: Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) Development and Compliance.....	6
3.7.	BIO-7: Impact Avoidance and Minimization Measures.....	6
3.8.	BIO-8: Nest Surveys and Impact Avoidance and Minimization Measures for Migratory Birds.....	6
3.9.	BIO-9: Golden Eagle Territory-Specific Management Plan.....	7
3.10.	BIO-10: Documentation of Bald and Golden Eagle Act Compliance	7
3.11.	BIO-11: Desert Tortoise Exclusion Fencing, Clearance Surveys, and Translocation Plan.....	7
3.12.	BIO-12: Mohave ground Squirrel Clearance Surveys.....	8
3.13.	BIO-13: Burrowing Owl Impact Avoidance, Minimization and Mitigation Measures	8
3.14.	BIO-14: American Badger and Desert Kit Fox Impact Avoidance and Minimization Measures	9
3.15.	BIO-15 Compensatory Mitigation.....	9
3.16.	BIO-16: Tamarisk Eradication, Monitoring, and Reporting Program	10
3.17.	BIO-17: Monitoring Impacts of Solar Collection Technology on Birds	10
3.18.	BIO-18: Common Raven Monitoring, Management, and Control Plan	11
3.19.	BIO-19: Evaporation Pond Monitoring and Adaptive Management Plan.....	11
3.20.	BIO-20: Harper Dry Lake Marsh Water Delivery	13
3.21.	BIO-21: USFWS Biological Opinion	13
4.	References.....	13

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, 2025.

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.

Three active Common Raven nests were discovered and monitored during 2025. 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 three raven nests only one successfully fledged young. Details of the nest monitoring results are found in the BIO-18

Annual Report for 2025. Table 2 summarizes the outcomes of all nesting attempts monitored during 2025.

Table 2. Avian Nesting Summary 2025				
Species	Nest ID	Discovery Date	Location	Outcome
Common Raven	01-B-CORA	2/28/25	Beta Power Block	Fledged Young
Common Raven	02-A-CORA	4/2/25	Alpha Power Block	Failed – Abandoned
Common Raven	03-B-CORA	5/9/25	Beta West SCA	Failed - Unknown

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 transmitters 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, 2024 or 2025. 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. No owl activity was observed at this site during 2025.

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 9/21/24 when two adults and two recently fledged young were seen at the burrow entrance. During 2025 a pair of owls was observed at this site through 5/15 after which no owls or fresh owl sign was observed. No sign of successful nesting was observed. No owl activity was observed at this site in 2025.

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. A pair of kit fox continued to use this site throughout 2025.

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 during the reporting period. 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 February 2025 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 2025. Details of the nest monitoring results are found in the Sec. 3.9 as well as the BIO-18 Annual Report for 2025.

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 2025. BIO21-12-00 Biological Opinion Annual Compliance Report 2024 (09-AFC-5C) submitted on December 15, 2025.

4. References

Abengoa Solar, Inc. (Abengoa). 2009. Application for Certification – Mojave Solar Project. August.

AECOM. 2009. Evaporation Pond Monitoring/Remedial Action Plan, Mojave Solar Project, Attachment DR-69 - Evaporation Pond. Prepared for Mojave Solar LLC as part of Response to Data Response 69. December.

AECOM. 2011a. Addendum to the Burrowing Owl Mitigation and Monitoring Plan. Prepared for Mojave Solar LLC. March 18.

AECOM. 2011b. Amendment 1 – Desert Tortoise Translocation Plan. [01/25/2011] (CPM approved this on 4/19/11).

AECOM. 2011c. Amendment 2 – Desert Tortoise Translocation Plan. November 28.

AECOM. 2011d. Biological Resources Mitigation and Monitoring Plan (BRMIMP). Prepared for Mojave Solar LLC. March 21.

AECOM. 2011e. Burrowing Owl Monitoring and Mitigation Plan. Prepared for Mojave Solar LLC. March 18.

AECOM. 2011f. Desert Tortoise Clearance Survey Report. Prepared for Mojave Solar LLC. July 1.

AECOM. 2011g. Monthly Compliance Report March and April 2011. Prepared for Mojave Solar LLC. June 3.

AECOM. 2011h. Pre-construction Kit Fox, American Badger, and Burrowing Owl Clearance Survey Report. Prepared for Mojave Solar LLC. September 7.

AECOM. 2011i. Revised Addendum for the Burrowing Owl Mitigation and Monitoring Plan. Prepared for Mojave Solar LLC. March 23.

AECOM. 2011j. Tamarisk Eradication, Monitoring, and Reporting Plan. Prepared for Mojave Solar LLC. October 5.

AECOM. 2011k. Worker Environmental Awareness Program (BIO, CUL, and PAL). Prepared for Mojave Solar LLC. March 9.

AECOM. 2012a. Annual Compliance Report for Biological Resources. December.

AECOM. 2012b. Common Raven Monitoring and Control Plan Mojave Solar Project. Prepared for Mojave Solar LLC. March 26.

AECOM. 2012c. Desert Tortoise Clearance Survey Addendum. Prepared for Mojave Solar LLC. April 17.

AECOM. 2012d. BIO-17, Preliminary Draft Bird Monitoring Study. Prepared for Mojave Solar LLC. December 20.

AECOM. 2012e. Request for Approval of Reduced Biological Resource Monitoring at the Mojave Solar Project (MSP). November 21.

AECOM. 2012f. Second Addendum to the Burrowing Owl Monitoring and Mitigation Plan. Prepared for Mojave Solar LLC. January 13.

AECOM. 2013b. Monthly Raven Point Count Surveys. Prepared for Mojave Solar LLC. March 7.

AECOM and Mojave Solar Project (MSP). 2015a. Biological Resources Mitigation and Monitoring Plan (BRMIMP). March 27.

AECOM and MSP. 2015b. Tamarisk Eradication, Monitoring, and Reporting Program. Prepared for Mojave Solar LLC. October 30.

Bloom Biological Inc. 2011. Results of Winter Surveys for Golden Eagles (*Aquila chrysaetos*). March 16.

California Energy Commission (CEC). 2010. Abengoa Mojave Solar Project Commission Decision CEC-800-2010-008-CMF. September.

CEC. 2011. Abengoa Mojave Solar Project (09-AFC-5C) Authorization to Construct Tortoise Fence at the Project Site. March 21.

CEC. 2012. Notice of Decision by California Energy Commission. August 9, docketed August 17.

CEC. 2014a. Staff Comments on Abengoa's BIO-19 Evaporation Pond Monitoring and Adaptive Management Plan. June 19.

CEC. 2014b. Staff Comments on Mojave Solar Project Bird Monitoring Study (BIO-17). May 12.

CEC. 2014c. Draft EPP CEC comments. November 24.

CH2M HILL. 2013. Mojave Solar Project Biological Opinion Annual Compliance Report December 2012 through November 2013 Reporting Period. Prepared for Mojave Solar LLC. December.

CH2M HILL. 2014. Mojave Solar Project Biological Opinion Annual Compliance Report December 2013 through November 2014 Reporting Period. Prepared for Mojave Solar LLC. December.

CH2M HILL. 2015. Extrapolated Guidance for BIO-14 Desert Kit Fox and American Badger Impact Avoidance and Minimization Measures during MSP Operations. July.

CH2M and Mojave Solar Project (MSP). 2016a. BIO-7 Post-construction Impact Avoidance and Minimization Measures Report. [5/29/2016].

CH2M and MSP. 2016b. BIO-16 Post-construction Tamarisk, Eradication, Monitoring, and Reporting Program Report. [8/25/2016].

CH2M and MSP. 2016c. BIO-18 Post-construction Common Raven Monitoring, Management, and Control Plan Report. [6/29/2016].

CH2M and MSP. 2016d. United States Fish and Wildlife Service's Biological Opinion (8-8-11-F-3) Post-Construction Report. [7/28/2016].

Egan, Thomas B. 2011. Lockhart Ecological Reserve San Bernardino County, California Final Management Plan. June.

Ellison, Schneider, and Harris L.L.P. 2012. Petition to Modify BIO-7's Speed Limitation on Harper Lake Road. March 30.

Ironwood or MSP. 2016. Biological Opinion Annual Report (reporting period, December 2015 through November 2016).

Karl, Alice. 2011. BIO-11 Desert Tortoise Exclusion Fencing, Clearance Surveys, and Translocation Plan. Prepared for Mojave Solar, LLC.

Leitner, Philip. 2011. Mojave Ground Squirrel Clearance Survey Results. Prepared for Mojave Solar LLC. July.

Mojave Solar Project (MSP). 2011a. BIO-9, USFWS Determination on Golden Eagle Territory-Specific Management Plan. March 14.

MSP. 2011b. BIO-15-03-00, Habitat Mitigation Security Deposit. August 19.

MSLLC. 2012. BIO-20, Decommissioning the BLM Wetlands Well, BIO20-01-00. September 24.

MSP. 2013a. BIO-5, Mojave Solar Project, Proposed Site Escort Policy, 9-AFC-5. January 4.

MSP. 2013b. BIO-17, Draft Bird Monitoring Study. December 16.

MSP. 2014a. Evaporation Pond Monitoring and Adaptive Management Plan. February 3.

MSP. 2014b. BIO-15 Compensatory Mitigation Letter of Credit Return/Release and Completion of COC. November 18.

MSP. 2014c. BIO-19 Evaporation Pond Monitoring and Adaptive Management Plan. October 24.

MSP. 2014c. Evaporation Pond Monitoring Protocols. July 21.

MSP. 2015a. BIO-5, Worker Environmental Awareness Program, Revised. October 22.

MSP. 2015b. BIO-19 Evaporation Pond Monitoring and Adaptive Management Plan. February 13.

MSP. 2015c. BIO-19 Evaporation Pond Monitoring and Adaptive Management Plan. Revision 4.1. March 24.

MSP. 2015d. BIO-19, Evaporation Pond Monitoring and Adaptive Management Plan (revision 4.3). June 26.

MSP, CH2MHILL, and Western Ecosystems Technology, Inc. (West). 2015. BIO-17 Bird Monitoring Study. Prepared for Mojave Solar LLC. August 12.

Transition Habitat Conservancy. 2018. Abengoa Mojave Solar Project Mitigation Property and Edison Sandlot Transmission Upgrade Mitigation Property 2018 Annual Report.

United States Fish and Wildlife Service (USFWS). 2011a. Allowable Interim Actions, Mojave Solar Project, San Bernardino County, California (8-8-11-F-3). Dated March 11, 2011. Letter to Matthew C. McMillen, Director of Environmental Compliance, Loan Guarantee Program Office, Department of Energy, Washington, D.C.

USFWS. 2011b. Biological Opinion on Mojave Solar, LLC's Mojave Solar Project, San Bernardino County, California (8-8-11-F-3). Dated March 17, 2011. Letter to Matthew C. McMillen, Director of Environmental Compliance, Loan Guarantee Program Office, Department of Energy, Washington, D.C.

USFWS. 2013. Special Purpose Utility Salvage Permit – Solar (MB89555A-0). August 15, 2013 through February 15, 2014.

USFWS. 2014a. Special Purpose Utility Salvage Permit – Solar (MB89555A-1). March 3, 2014 through July 3, 2014.

USFWS. 2014b. Special Purpose Utility Salvage Permit – Solar (MB89555A-1 Amendment). July 3, 2014 through January 3, 2015.

USFWS. 2015a. Special Purpose Utility Salvage Permit – Solar (MB89555A-2 Amendment). February 9, 2015 through July 15, 2015.

USFWS. 2015b. Special Purpose Utility Salvage Permit – Solar (MB89555A-3 Amendment). July 15, 2015 through January 15, 2016.

USFWS. 2016. Special Purpose Utility Salvage Permit – Solar (MB89555A-4 Amendment). January 15, 2016 through December 2017.

Young, Ryan and Ron Walker. 2011. Addendum 1 to Mohave Ground Squirrel Survey Report. Prepared for Mojave Solar LLC. November 18.

Abengoa Solar Industrial Operations LLC. 2016-2022. Mojave Solar Project's Annual Compliance Reports 2016-2024.

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
2025

ASI Operations
Mojave Solar LLC
42134 Harper Lake Rd.
Hinkley California 92347

Rowe Ecological Consulting, LLC
PO Box 1018
Weldon, California 93283
Roweecological@gmail.com

January 2026

Table of Contents

1. Introduction.....	3
2. Monitoring Activities.....	3
3. Methods.....	4
3.1 Point Counts	4
3.2 Breeding Season Monitoring.....	4
4. Results	5
4.1 Point Counts	5
4.2 Nest Monitoring	5
5. Conclusions & Recommendations.....	6

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 2025

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). Three nesting attempts representing two or three nesting pairs of ravens were located in 2025 (Table 1). The alpha & beta power block nests were in the same locations as active nests in prior years. The beta west solar field nest was in a new location on HTF pipe supports. The DB set up a non-disturbance buffer and advised MSP staff to notify the DB if any work needed be done in the area. The DB monitored the nests periodically through June.

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 2/28/25, 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 5/15 when at least one fledgling were seen near the nest.

On 4/2/25, the DB located a nest on a cable tray in the Alpha power block in the same location as nests in prior years. On 4/21, the DB and Mr. Shields oiled a clutch of four eggs. The adults continued to incubate until at least 4/24 when the nest still contained four eggs. On 5/9, the nest was found empty and appeared abandoned. The nest showed no evidence of nestlings nor were any fledglings observed.

On 5/9 the DB discovered a nest with an adult raven present on an HTF pipe support structure in the beta west solar field. On 5/16 an adult raven and at least two newly

hatched nestlings were observed. No activity was seen at the nest on 6/24. The nest snowed no sign of successful fledging.

Of the three raven nests located in 2025, 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 2025.

Nest ID	Date Discovered	Location	Outcome
01-B-CORA	2/28/25	Beta Power Block	Fledged young
02-A-CORA	4/2/25	Alpha Power Block	Failed - Abandoned
03-B-CORA	5/9/25	Beta West SCA	Failed - Unknown

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 and 2025 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.

CNDDDB 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
<https://wildlife.ca.gov/>



Source code ROW25F0003
Quad code 3511713
Occ. no. _____
EO index no. _____
Map index no. _____

This data has been reported to the CNDDDB, but may not have been evaluated by the CNDDDB staff

Scientific name: *Atheneunicularia*

Common name: burrowing owl

Date of field work (mm-dd-yyyy): 05-15-2025

Comment about field work date(s): First observed owls at this site on 2/6/2025 then periodically through 5/15/2025

OBSERVER INFORMATION

Observer: Sean Rowe

Affiliation:

Address: PO Box 1018 , Weldon, CA 93283

Email: roweecological@gmail.com

Phone: (321) 863-5709

Other observers:

DETERMINATION

Personal expertise: Yes

Keyed in:

Compared w/ specimen at:

Compared w/ image in:

By another person:

Other: Expert opinion

Identification explanation: 2 small owls occupying burrow.

Identification confidence: Very confident

Species found: Yes If not found, why not?

Level of survey effort: Checked for activity monthly throughout 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:

2

0

adults

juveniles

larvae

egg mass

other

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: Single or pair of owls using known nesting burrow site.

What was the observed behavior? Pair of owls occupying known nesting burrow site. Perched within and at mouth of burrows.

Describe any evidence of reproduction: No sign of successful nesting.

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
	San Bernardino	Lockhart	2092	35.01838	-117.34838	468217	3875137	11
1	Public Land Survey	Feature Comment						
	S T11N R04W 30	Inside Mojave Solar Project perimeter fence.						

The mapped feature is accurate within: 5 m

Source of mapped feature: [GPS](#)

Mapping notes:

Location/directions comments:

Attachment(s):

Mojave Solar LLC

**42134 Harper Lake Road
Hinkley, California 92347**

Phone: 760 308 0400

Appendix N

HAZ-1

Hazardous Materials List

Notification Details

Event Type Details

Type
Facility Submittal Notification
Priority
Normal
Event Occurred On
02/18/2026 10:44 AM

Message

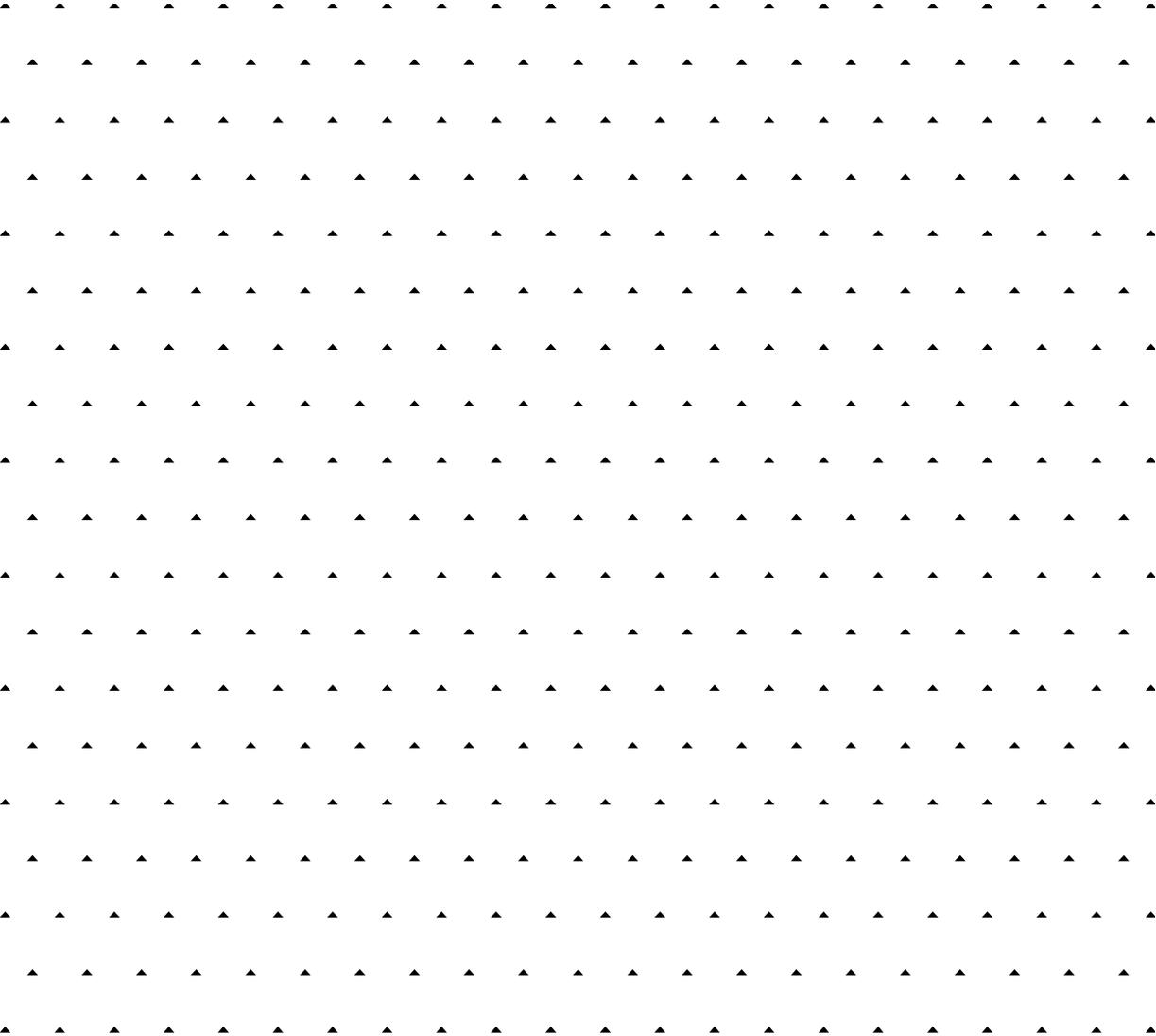
Facility Submittal for *Mojave Solar LLC* (#10453255) Submitted on February 18, 2026.

Related Information

Regulator
San Bernardino County Fire Department
Business
[Mojave Solar LLC \(Hinkley, CA\)](#)
Facility
[Mojave Solar LLC](#) [CERS ID: 10453255]
42134 Harper Lake Rd
Hinkley, CA 92347
Submittal Submitted On
02/18/2026 10:44 AM
Submitted Submittal Elements
Facility Information, Hazardous Materials Inventory, Emergency Response and Training Plans, Aboveground Petroleum Storage Act

Emergency Plan. Hazardous Material Business Plan (HMBP) HAZ-2

Operation and Maintenance Plan
PP-O&M-MJV-030



Revision	Date	Reason for Revision
01	06/17/2016	Initial Release (from AEPC document) Update Contact Information for Operations, Update SDS information and material list, other updates applicable to operations
02	06/16/2017	Contact information updated. New facility phone numbers. Plan name changed on the header. (JMBR)
03	11/06/2018	Chemical list updated. Contact information updated. New facility phone numbers (JMBR). Document's internal code changed.
04	02/03/2020	Update to ASI Corporate fonts and Logos. MEL
04	02/19/2020	General review. Spill section (5.4 and 5.5) updated.
05	08/19/2021	Contact information and template update.
06	01/23/2023	Chemical inventory updated
07	01/17/2024	Chemical inventory updated
08	02/10/2026	General Review and Update

Produced by:	Department	Date
Jose Manuel Bravo Romero	Q&E Compliance	06/17/2016
Mahnaz Ghamati	Q&E Compliance	02/10/2026

Approved by:	Department	Date
David Rosas	Plant Manager	02/10/2026

Contents

1 Objective 4

 1.1 Project Location 4

 1.2 Key Contacts 5

2 Definitions 5

3 Development 6 3.1

 General Facility Information 6 3.2

 General Requirements 7 3.3

 Transportation, Storage and Handling 9 Ac

4 tions in response to spills 10 4.1

 Spills of HTF 10 4.1.1

 In Containment areas (retention basins and secondary containments): 10

 4.1.2 In Impermeable Areas (Concrete, Asphalt) Without Containment..... 10

 4.1.3 Permeable Areas (Soil and Gravel) 11

 4.2 Spills of Hazardous Substances: Scenario Involving Acids or Alkalis 12

 4.3 Spills of hazardous substances. Scenario with other chemical products..... 13

 4.3.1 Spills of hazardous substances. Scenario with diesel or mineral..... 13

 4.3.2 Action in response to emission into the atmosphere 14

 4.4 Prevention and Containment Measures..... 14

 4.4.1 Preventing measures 14

 4.4.2 Containment measures..... 14

 4.5 Disposal of Hazardous Waste 15

 4.6 Notice of Hazardous Materials..... 15

 4.6.1 Local Emergency Contacts..... 16

5 Scope of Application 17

6 Health, Safety and Environmental 17

7 Tools and Records 17

8 Applicable Documentation 17

9 Appendix 18

 9.1 Annex 1 19

 9.2 Annex 2 19

1 Objective

The primary purpose of this plan is to provide readily available information regarding the location, type, and health risks associated with hazardous materials at the Mojave Solar Project. Each business in San Bernardino County that handles, uses, generates or stores hazardous materials is required to comply with State and Federal community right to know laws, and to submit a Hazardous Materials Business Plan (HMBP). The requirement for a HMBP is also contained in Condition of Certification HAZ-2 of the California Energy Commission Permit issued to the Mojave Solar Project (09-AFC-5C):

- **HAZ2** the project owner shall provide a Hazardous Materials Business Plan (HMBP), a Spill Prevention, Control, and Countermeasure Plan (SPCC), and a Process Safety Management Plan (PSMP) to the San Bernardino County Fire Department and the CPM for review. After receiving comments from the San Bernardino County Fire Department and the CPM, the project owner shall reflect all final recommendations in the final documents. Copies of the final HMBP, SPCC, and PSMP shall then be provided to the San Bernardino County Fire Department for information and to the CPM for approval.
- **Verification:** At least 60 days prior to receiving any hazardous material on site for commissioning or operations, the project owner shall provide a copy of a final Hazardous Materials Business Plan, Spill Prevention, Control, Counter measure Plan and a Process Safety Management Plan to the CPM for approval

The Hazardous Materials Division of the San Bernardino County Fire Department is the Administering Agency and the Certified Unified Program Agency (CUPA) for San Bernardino County with responsibility for regulating hazardous materials handlers, hazardous waste generators, underground storage tank facilities, above ground storage tanks, and stationary sources handling regulated substances

1.1 Project Location

Project Name: Mojave Solar Project
Project Address: 42134 Harper Lake Road
City, State: Hinkley, CA
County: San Bernardino

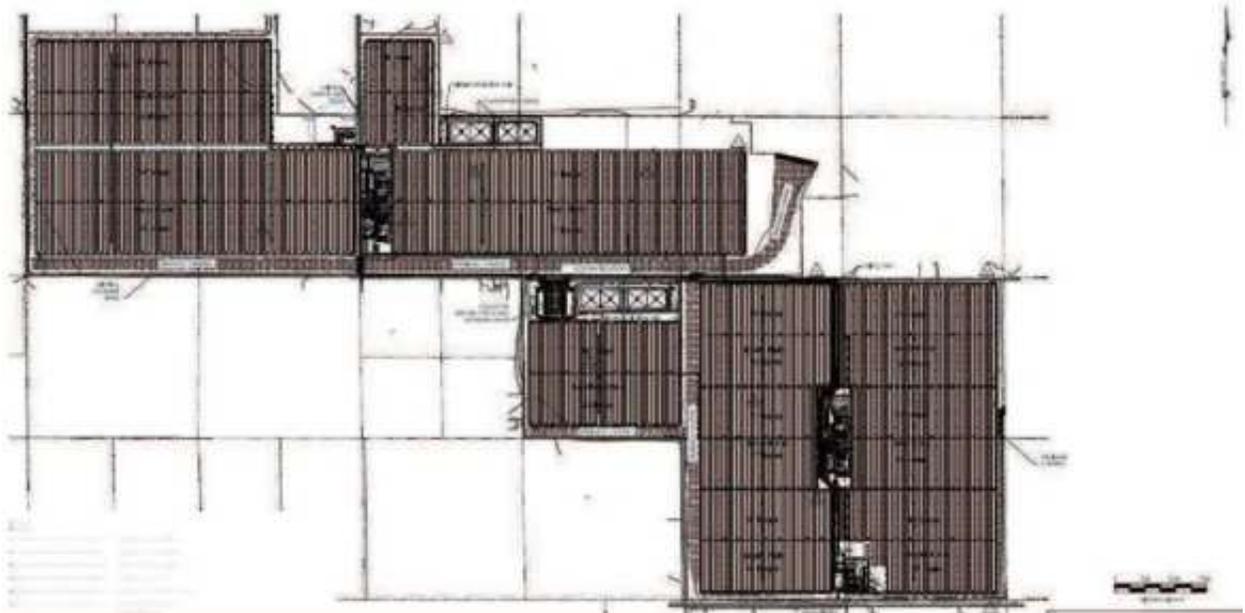


Figure 1: Site Layout Map

1.2 Key Contacts

Primary Site Contact: David Rosas, Plant Manager, (480) 286-6070

EHS Responsible Parties:

Mahnaz Ghamati, Quality and Environmental Compliance Manager, (760) 498-0549

Alpha Control Room, 760-308-0400

2 Definitions

Hazardous Materials - means any chemical, substance or material regulated or governed by any Applicable Permit or Applicable Law, or any substance, emission or material now or hereafter deemed by any Governmental Authority to be a "regulated substance," "hazardous material," "hazardous waste," "hazardous constituent," "hazardous substance," "toxic substance," "radioactive substance" or "pesticide."

MSP – Mojave Solar Project

MSLLC – Mojave Solar LLC

ASIO – ASI Operations, the operations and maintenance organization for MSP

SDS Safety Data Sheet

CEC – California Energy Commission

3 Development

3.1 General Facility Information

Mojave Solar LLC is a wholly owned subsidiary of Atlantica Sustainable Infrastructure, formerly Atlantica Yield. The project uses established parabolic trough solar thermal technology to produce electrical power using a steam turbine generator fed from a solar steam generator. The solar steam generator receives heated heat transfer fluid (HTF) from solar thermal equipment comprised of arrays of parabolic mirrors that collect energy from the sun. The California Energy Commission (CEC) has exclusive jurisdiction to license this project. The Mojave Solar site occupies a 1,765-acre site in an unincorporated area of San Bernardino County near the community of Hinkley, California. The project site is accessed by Harper Lake Road, which is located approximately 20 miles west of Barstow along the Highway 58 corridor. The project site is approximately six miles north of where Harper Lake Road intersects with Highway 58.

The project has a combined gross electric output of 280 MW from twin, independently operable solar fields. Each field feeds a 140 MW power island. One site, known as the Alpha site, is in the northwest portion of the project site and occupies approximately 884 acres. The Beta site is in the southwest portion of the project site and occupies approximately 800 acres. The Alpha and Beta sites will share the remaining area of the project site for activities that include drainage improvements. The collector fields are comprised of single-axis-tracking parabolic through solar collectors. These collectors are arranged to form many parallel rows aligned on a north-south axis. Each solar collector has a linear, parabolic-shaped reflector that focuses the sun's radiation on a specially designed linear receiver known as a heat collection element (HCE). The collectors track the sun from east to west to ensure that the maximum amount of the sun's radiation is continuously focused on the HCE. The HTF is heated to approximately 740°F as it circulates through the HCEs and returns to a series of heat exchangers where the fluid is used to generate steam in the solar steam generator system at the power island, thereby providing steam to the steam turbine generator.

The project will use a wet cooling tower for power plant cooling. Water for cooling and other plant purposes will come from groundwater obtained from onsite wells, using adjudicated water rights owned by MSLLC. A single treatment facility for each pair of wells treats the groundwater to meet potable standards for employee use. A septic system and onsite leach field is used to dispose of sanitary wastewater. The sun will provide 100 percent. of the power supplied to the project through solar thermal collectors. No supplementary fossil-based energy source such as natural gas is proposed for electrical power production.

Electric freeze-protection heaters supply steam to HTF heat exchangers as needed during offline hours to keep the HTF in a liquid state when ambient temperatures fall below its freezing point of 54° F. Each power island has a diesel engine-driven firewater pump for fire protection and a diesel engine-driven backup generator for power plant essentials. The Mojave Solar electrical transmission lines interconnect with the Southern California Edison (SCE) 220-kV Kramer-Coolwater #1 transmission line, which is located adjacent to the southern border of the site. SCE constructed the new Sandlot Substation and associated facilities (including fiber optic cable routes located outside the site), to interconnect the project to the Kramer-Coolwater 220-kV line.

3.2 General Requirements

- O&M personnel must immediately report any spill to the control room, supervisors, and the Environmental Department. A spill report must be submitted within 24 hours using Form FO-O&M-MJV-117, and all Q&E Department instructions must be followed. All staff are responsible for identifying hazardous materials and wastes associated with their activities and must be properly trained and familiar with the relevant project procedures and requirements.
- Subcontractors must identify all hazardous materials and wastes used or generated during their work and are responsible for all cleanup and disposal of any waste they produce. Subcontractors who may generate, or could accidentally generate, hazardous waste must provide MSP with a copy of their EPA Disposal Number (or equivalent).
- Each subcontractor is responsible for developing a hazard-control plan that complies with applicable state and federal OSHA Hazard Communication standards. The plan must be prepared by a competent employee and periodically reviewed to incorporate necessary updates. For additional guidance, refer to the Operations Waste Management Plan and the Emergency Response Plan.
- Safety Data Sheets (SDS) provided by manufacturers, suppliers, contractors, subcontractors, or the property owner serve as the primary source of health hazard information and must be supplied by all contractors and suppliers.
- Safety Data Sheets (SDSs) must be readily accessible to all employees, and workers should review the SDS before using any new or unfamiliar product. All SDSs are located in the Mojave Solar Data Room-Dossier and Procedure folder, and are accessible to all employees.

- Workers must not handle or work near harmful, toxic, or flammable materials until they have received proper instruction on their safe handling and use.

- When working with chemicals, personnel must understand:
 - How to detect and identify chemicals, including through odor, visual indicators, or other observable methods.
 - The potential health and environmental hazards associated with the chemicals they handle.
 - Where the applicable SDSs are located and how they are organized.
 - The proper methods for protecting themselves against chemical exposure.

- All containers must be appropriately labeled, identifying the material(s), their potential hazard(s), and any personal protective equipment requirements.
- Hazardous materials—or any other materials—must not be discharged into sewer systems. For guidance on proper storage and drainage procedures, contact the MSP Environmental representative. Water discharge requirements are specified in the project’s local permit. In the event of a spill, subcontractors must follow all spill-response procedures and notify the project Health & Safety and Environmental representatives. Afterward, MSP’s site Environmental personnel will determine the required spill-response level and complete any necessary regulatory reporting (see the Emergency Plan, Emergency Response Plan, Incident Investigation procedures, and the SPCC Plan). MSP will ensure subcontractors are properly trained and aware of project procedures and requirements.
- Outside Storage Lockers built as a separate building set apart from the main facility are acceptable. These lockers must be constructed of material that will be separated from any ignition source and include signage with conspicuous lettering, “FLAMMABLE – Keep Fire Away”.
- All hazardous waste, or any waste that may be classified as hazardous under applicable regulatory definitions and testing methods, must be stored and collected in the designated hazardous waste containment areas at the Alpha and Beta Plants. The Environmental and Compliance Department is responsible for

ensuring proper disposal, and MSP will oversee all hazardous waste storage and disposal activities.

- MSP will conduct inspections to ensure all materials are stored in compliance with Applicable Laws.
- MSP will conduct inspections and require subcontractors who generate or dispose of hazardous waste to provide all relevant information regarding waste storage, transportation, and the designated disposal facility.
- No waste haulers, disposers, recyclers, or scavengers are permitted on-site without MSP's authorization.
- No waste may be removed from the site without MSP's authorization, and no waste may be brought onto the site for disposal.

3.3 Transportation, Storage and Handling

All materials contained on-site will be stored in appropriate containers protected from environmental conditions, including rain, wind, and direct heat and physical hazards such as vehicle traffic and sources of heat and impact. Hazardous material storage and management will be in accordance with requirements set forth by the San Bernardino County Fire department (SBCFD), California Energy Commission (CEC), Department of Toxic Substances Control (DTSC), and the Certified Unified Program Agency (CUPA).

Site operations will be conducted in accordance with all Cal/OSHA regulations; therefore, it is not anticipated that the operation of this project will release hazardous emissions generally, it was not foreseen that operation of the project would result in the handling of hazardous or acutely hazardous materials, substances or waste in large quantities. However, if in Large Quantity Generator status, as defined by the U.S. EPA, the requirements that apply to this status will be followed.

The Emergency Planning and Community Right-to-Know Act (EPCRA) provides public access to information regarding the storage, use, and potential environmental release of toxic chemicals. Compliance with EPCRA ensures transparency and enhances community awareness regarding chemical-related hazards.

MSP will not permit subcontractors to directly or indirectly manufacture, store, transport, or maintain hazardous materials on-site, nor will it permit the release, discharge, or disposal of hazardous materials on-site, except as allowed under Applicable Laws and only when required to perform project-related work.

Transportation of hazardous materials shall comply with the Hazardous Materials Transportation Act (HMTA), which aims to protect life and property by strengthening federal regulatory and enforcement authority over hazardous material transport. The Safety

Management Plan, prepared and approved pursuant to CEC Condition of Certification HAZ-3, governs the delivery and handling of liquid hazardous materials. In accordance with TRANS-5, the project owner shall ensure that hazardous material deliveries do not occur during non-daylight hours to enhance safety at the rail crossing.

4 Actions in response to spills

4.1 Spills of HTF

4.1.1 In Containment areas (retention basins and secondary containments):

If feasible, the HTF spill shall be collected using a pump or similar recovery system and transferred into appropriate containers for liquid materials (such as metal drums or totes).

If recovery by pumping is not possible, the spill shall be cleaned using absorbent materials, including absorbent pads, absorbent blankets, granular mineral absorbents, or other suitable absorption systems.

If the collected HTF is suitable for reuse and can be returned to the system, all containers used for temporary storage will be properly labeled and identified as HTF for Reuse. If it cannot be returned to the storage tank immediately, it will be kept in the designated storage area for reusable materials in sealed containers.

All HTF-contaminated absorbents and solid waste shall be placed in trash bags, stored inside 55-gallon metal drums, clearly labeled, and transported to the plant's designated waste storage area for proper disposal.

After removal of the absorbent, the impacted area shall be cleaned and decontaminated, using concentrated cleaning solution if necessary.

4.1.2 In Impermeable Areas (Concrete, Asphalt) Without Containment

In the event of a spill in an uncontained impermeable area, the highest priority is to stop and contain the HTF release by using retention dikes, temporary tanks, and/or absorbent barriers. These measures are intended to prevent, as much as possible, the migration of HTF into permeable surfaces or its entry into rainwater or process-water systems.

Once the spill is contained, absorbent material shall be applied across the affected area, allowed sufficient time to act, and then collected.

All HTF-contaminated absorbents and solid waste shall be placed in trash bags, stored inside 55-gallon metal drums, clearly labeled, and transported to the plant's designated waste storage area for proper disposal.

After removal of the absorbent, the impacted area shall be cleaned and decontaminated, using concentrated cleaning solution if necessary.

4.1.3 Permeable Areas (Soil and Gravel)

In the event of a spill in an uncontained area that is permeable to HTF, the spill must be addressed immediately. Barriers made of soil or absorbent materials shall be deployed to contain the release and prevent it from reaching rainwater retention ponds, evaporation ponds, gutters, or from spreading across a larger area.

Spills Affecting a Small Area

Small spills may be cleaned using manual methods such as shovels or other hand tools. All contaminated soil shall be placed into 55-gallon metal drums, clearly labeled with "HTF Contaminated Soil," the spill location, and the spill date, and then transported to the designated waste storage area.

Spills Affecting a Large Area

For large spills, the primary objective is to prevent contamination of rainwater systems. All necessary physical barriers shall be used, such as absorbent berms (soil, sepiolite, etc.), temporary dikes, pipe shut-off devices, or the isolation of the solar field collectors. Depending on the extent of the affected area, mechanical or manual methods may be used to collect contaminated materials.

If pools of HTF or contaminated water are present, they shall be removed using bilge pumps whenever possible and/or absorbent materials until all liquid has been extracted from the soil prior to placing the contaminated soil into containers.

The spill can be treated using appropriate manual means and spades. The containers used (bulk bags, drums) will be adequate to contain the waste, they will be perfectly identified by means of the corresponding waste label, and they will be removed to the corresponding waste store.

The Environmental and Compliance Department will determine whether the HTF-contaminated soil should be treated in the on-site bio-remediation system or shipped off-site for disposal, in accordance with all applicable regulatory requirements.

4.2 Spills of Hazardous Substances: Scenario Involving Acids or Alkalis

Whenever a spill of acids (such as sulfuric acid, hydrochloric acid, or others) or alkalis (such as caustic soda or similar alkaline substances) occurs, it must be addressed quickly, effectively, and using the appropriate neutralization and waste-management procedures. Spills of strong acids or alkalis require immediate attention, as both direct contact and the vapors they release can pose significant hazards to personnel, equipment, and facility infrastructure.

All neutralization and cleanup activities must be performed using the proper personal protective equipment (PPE), including a face mask with organic vapor respiratory protection, chemical-resistant coveralls, chemical protection boots, and gloves.

To properly coordinate and manage an acid or alkali spill, the following sequence of actions shall be followed:

- Eliminate all existing sources of ignition, and ensure personnel are prepared to intervene in the event of a fire. Sulfuric acid reacts violently with alcohol and water, releasing heat. It also reacts violently or explosively with organic matter, fuels, strong alkalis (such as sodium hydroxide and potassium hydroxide), aluminum, peroxides, permanganates, nitrates, chlorine, bromine, and fluoride. Further, it reacts with many metals, producing gaseous hydrogen, which is flammable and explosive.
- Neutralize the spill using sodium bicarbonate, soda ash, or another authority-approved neutralizing agent.
- Add the neutralizer slowly. Never use water or any wet product.
- If bicarbonate is used, continue adding it until all fizzing stops.
- Prevent the spill from reaching the drain system. If necessary, contain the spill with sand or another inert material.
- Once the acid has been neutralized, and if possible, channel the spill to the plant's effluent treatment plant or wastewater treatment system. This must only be done after receiving approval from the plant's chemical expert and may be accomplished using bilge pumps or by opening valves. The spill parameters (such as pH, conductivity, or other criteria specified in the applicable legal permit) will be monitored to ensure compliance and confirm that no deviations occur.

If the spill cannot be contained, diverted, or treated using the plant's effluent treatment system or wastewater management infrastructure, the collected material shall be stored and managed in accordance with the most current applicable regulatory requirements.

4.3 Spills of hazardous substances. Scenario with other chemical products.

In the case of a spill of a chemical product other than an acid or an alkali, the sequence of actions will be as follows:

1. The designated personnel will do everything possible to detain or contain the leak, using the available environmental protection means. Before going into the area of the accident, you must put on adequate protective equipment (gas-tight safety goggles, mask with breathing protection for organic vapors, safety boots, coverall and chemical protection gloves).
2. If necessary, the safety data sheet of the spilt product must be consulted; that data sheet must be in a place which is accessible for all personnel.
3. Once the spill has been halted and contained, the affected area must be cordoned off and access by unauthorized personnel restricted.
4. The spill must be contained as quickly as possible to avoid its dispersion and so it affects the smallest possible surface area. The spill will be treated by means of the application of absorbents (chemical absorbent blankets, sepiolite or similar). In the case of a risk of the spill getting into the rainwater system, it must be contained with absorbent material, and the necessary maneuvers must be carried out (closing sinks, construction of dikes, placement of pipe shut-off devices) to avoid contamination of those waters.
5. Upon receiving authorization from the Environmental Department and the Water Treatment Supervisor, and where feasible, the spill will be diluted with water and directed to the plant's water treatment or wastewater system. The relevant chemical parameters of the spill will be monitored prior to final disposal. In instances where the volume is substantial, the spill will be removed by aspiration, followed by cleaning of the area using sepiolite, chemical absorbents, or water. Communication with the appropriate authorities will subsequently be carried out.
6. If waste is generated, it will be put into adequate containers, correctly identified, and subsequently transferred to the plant's waste staging area for transportation and disposal.

4.3.1 Spills of hazardous substances. Scenario with diesel or mineral

In the case of a spill of diesel or mineral oil, the procedure will be as follows:

- The designated personnel will do everything possible to halt or contain the leak, using the available environmental protection means. Before going into the area of the accident, you must assess the potential risk and put on adequate protective equipment (gas-tight safety goggles, safety boots, coverall and protective gloves).

- Remove any source of ignition from the area.
- The spill must be contained as quickly as possible to avoid its dispersion and so it affects the smallest possible surface area. In the case of a risk of the spill getting into the drainage system, it must be contained with absorbent material, and the necessary maneuvers must be carried out (closing sink valves) to avoid contamination of those systems.
- If possible, the spill will be removed through aspiration, and the area will be cleaned with chemical absorbents (absorbents for oils will be used only in the case of a spill of oils or hydrocarbons). If this is not possible, the spill will be treated by means of the application of absorbents and mechanically. The waste generated will be put into adequate containers, correctly identified, and transferred to the hazardous waste staging area.

4.3.2 Action in response to emission into the atmosphere

If there is a fire and/or explosion with any gas or HTF, the emergency plan or equivalent will be activated, and its directions will be followed.

4.4 Prevention and Containment Measures

4.4.1 Preventing measures

Environmental training: All employees will receive environmental training and awareness instruction related to their work activities. The Environmental Department will conduct this training as needed to support the proper implementation and monitoring of the Environmental Management System.

Drills: An annual drill program covering health, safety, and environmental scenarios will be developed. These drills will be used to evaluate the site's response capability in the event of an environmental incident. During each exercise, strengths and weaknesses in decision-making and in the actions taken during the simulated emergency will be identified to support continuous improvement.

4.4.2 Containment measures

Portable spill kits are available throughout the plant and are used to contain spills involving chemical products, oils, or HTF. In addition, environmental emergency points are positioned around the facility for use in the event of any environmental incident.

Spill kits are placed around the plant in locations that allow quick access for personnel who may be the first to respond to a spill. These kits are positioned near areas with the highest risk of leaks or accidental releases. At a minimum, spill kits must be located near:

- The HTF area
- The chemical storage area

- The hazardous waste storage area
- Chemical dosing systems
- The turbine system

All spill kit containers must be clearly identified, and each kit must contain, at minimum, the following materials:

- Absorbent blankets
- Granular industrial absorbent
- Bicarbonate or another pH-neutralizing agent for locations near chemical dosing systems or areas where acids or alkalis are stored

4.5 Disposal of Hazardous Waste

Any generator or handler of hazardous materials classified under California regulations must obtain an EPA Disposal Identification (ID) Number.

The disposal of hazardous waste such as used oil, gasoline spills, motor oil spills, and similar materials must be carried out in accordance with California Department of Toxic Substances Control (DTSC) requirements, which govern the use of hazardous materials and the proper management of hazardous waste.

Applicable state and local regulations include, but are not limited to:

- Public Safety, Fire Regulations, and Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act

4.6 Notice of Hazardous Materials

If any spill or release of Hazardous Materials is discovered, encountered, or reported at the Site, the following actions must be taken:

- The Quality and Environmental Compliance Manager and the Health & Safety (H&S) Manager must be notified immediately.
- Required external notifications must be made, including to the California Emergency Management Agency and the California Energy Commission (CEC).
- The Site Owner (Mojave Solar LLC) must be informed as soon as the release becomes known.
- The Quality and Environmental Compliance Manager and/or H&S Manager shall secure and restrict access to the affected area as required by applicable laws and permits.

- If the spill involves hazardous materials brought onto the Site or generated by a Subcontractor, that Subcontractor is responsible for remediation. The Subcontractor must immediately notify the Quality and Environmental Compliance Manager (or designee) and the H&S Manager (or designee) and must promptly contain and remediate the spill in full compliance with all applicable laws and applicable permit requirements related to the Work.

4.6.1 Local Emergency Contacts

In the event of a release or threatened release of hazardous material the following site personnel and agencies shall be notified:

Name / Emergency Response	Phone Number(s)
Project Q&E Manager	760-498-0549
Project H&S Manager	442-285-5581
Plant Manager	480-286-6070
Alpha Control Room	760-308-0400
Local Emergency Response Agencies	9-1-1
Hazardous Materials Division	1-800-33-TOXIC (909) 386-8425
California State Warning Center (CSWC) / CAL OES	(800) 852-7550 (916) 262-1621
National Response Center	(800) 424-8802
Poison Control Center	(800) 222-1222
Local Unified Program Agency (UPA)	(909) 386-8425

5 Scope of Application

This plan applies to all areas of the Mojave Solar Project site during plant operations. It is applicable to all direct-hire personnel of ASI Operations LLC, Mojave Solar Project LLC the Owner, and all Contractors and Subcontractors performing work on the site. It also applies when personnel are working within subsidiary facilities or supplier locations while conducting activities related to deliveries or services for the project.

The plan outlines the responsibilities of all parties involved in the activities covered by this document, ensuring clarity in roles, expectations, and compliance requirements.

6 Health, Safety and Environmental

All tasks described in this procedure must be implemented according with the specific safety directives and procedures existing in Atlantica and Mojave Solar Project and following safety standards established on site where it performs works.

Likewise, hazards and preventive measures established in actual Workplace Hazard Assessment for the staff involved will be considered.

7 Tools and Records

Employee training records. These records are required to be retained for the life of the project and as specified by Cal-OSHA:

- **SDS.** All SDSs are located in the Mojave Solar Data Room-Dossier and Procedure folder and are accessible to all employees.
- **EPA Identification (ID) Number:** CAR000242040

8 Applicable Documentation

- California Energy Commission (CEC) Commission Decision for the Abengoa Mojave Solar Project (09-AFC-5)
- Spill Prevention, Countermeasure and Control Plan (SPCC) for MSP (part of CEC Condition of Certification HAZ-2).
- Operations Waste Management Plan for MSP (CEC Conditions of Certification WASTE-9, WASTE-11, Soil&Water-8)
- CEC Condition of Certification Worker Safety-2, including the Hazardous Materials Management Program and Emergency Response Plan for MSP
- Safety Management Plan for MSP (COC HAZ-3)

- Spill Report Form Number G78-16-1600-EN-FOR-000006
- OSHA 29 CFR 1926 and 1910
- California Department of Toxic Substances Control Regulations, DTSC: California Health and Safety Code (HSC), Division 20, Chapter 6.5, Hazardous Waste Control Law
- California Code of Regulations List of Hazardous Wastes and Materials Division 4.5 Title 22 CCR
- EPA 40 CFR 260-299 Managing Hazardous Waste
- EPA CERCLA
- OSHA 29 CFR Part 110.119
- Emergency Planning Community Right-to-Know Act of 1986 (42 USC 11001 et seq.)
- EPA 40 CFR 355 List of Extremely Hazardous Substances
- SARA Title III California Accidental Release Prevention (CalARP)
- Hazardous Materials Transportation Act (HMTA)
- SWRCB – State Water Resources Control Board
- Cal-EPA
- Cal-OSHA
- California Department of Toxic Substances Control (DTSC)
- Resource Conservation and Recovery Act passed by Congress in 1976
- ISO 9001:2008, Quality Management Systems-requirements
- ISO 14001: 2004, Environmental Management System-requirements
- OHSAS 18001:2007, Occupational Health and Safety and Assessment System
- California Health & Safety Code (CHSC), Division 20, Chapter 6.95
- California Code of Regulations (CCR), Title 19, Division 2
- Title 40, Code of Federal Regulations (CFR)
- California Energy Commission Decision – Hazardous Materials (HAZ 2)
- EPA (SARA, Title III)
- San Bernardino County CUPA

9 Appendix

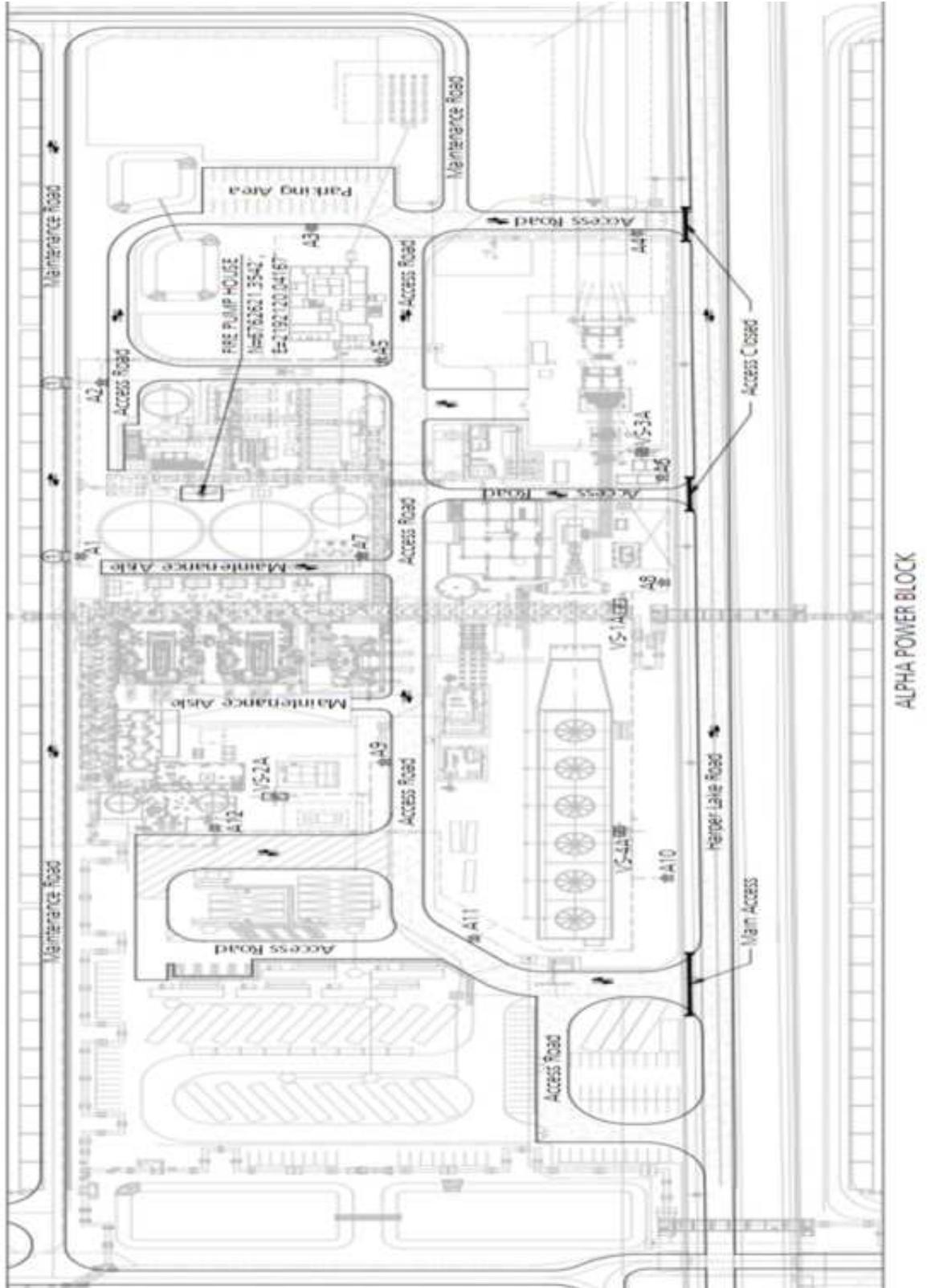
9.1 Annex 1

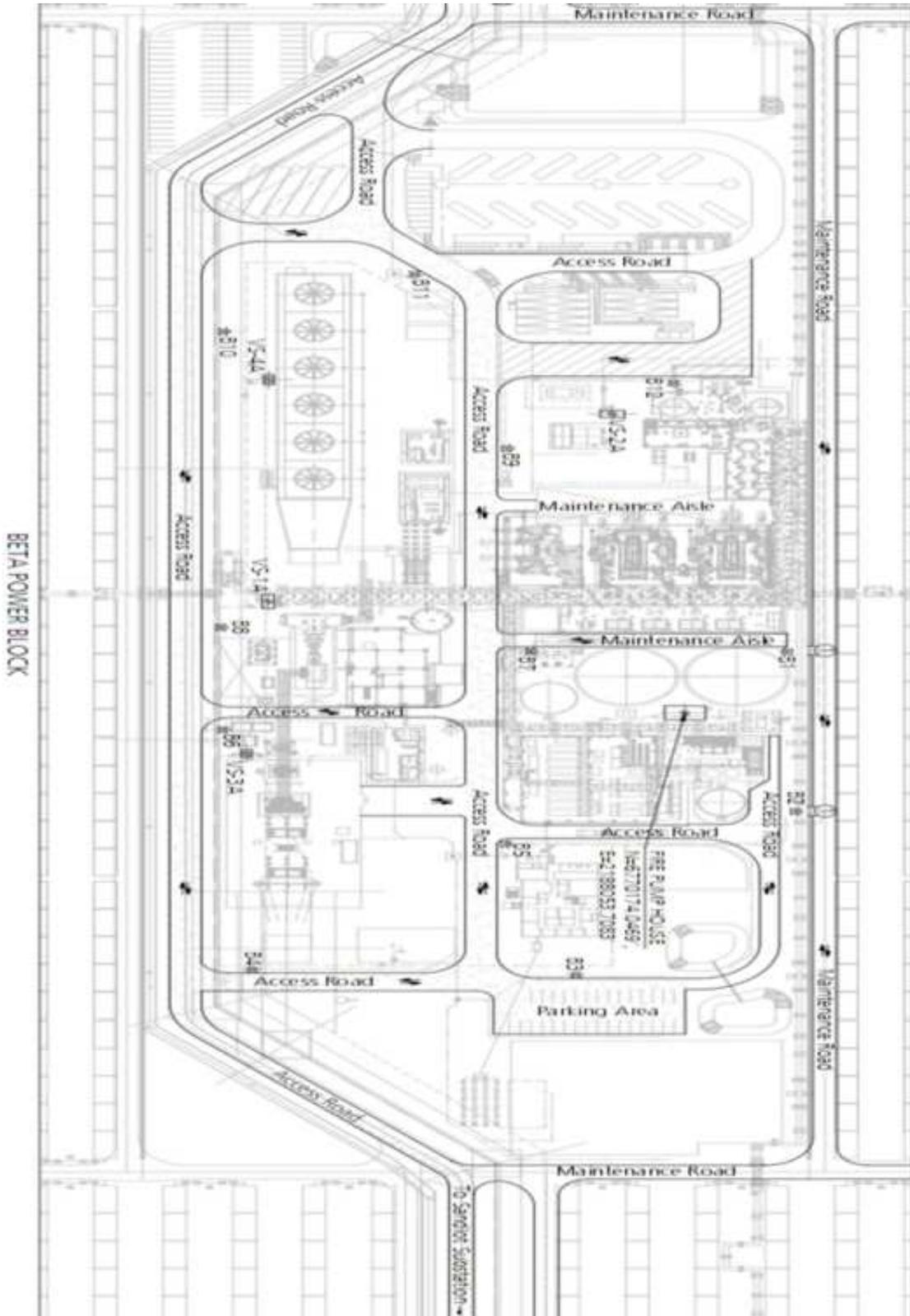
**General Layout Map for the site and for the Power Blocks and
Evacuation Routes and Assembly Areas Map.**

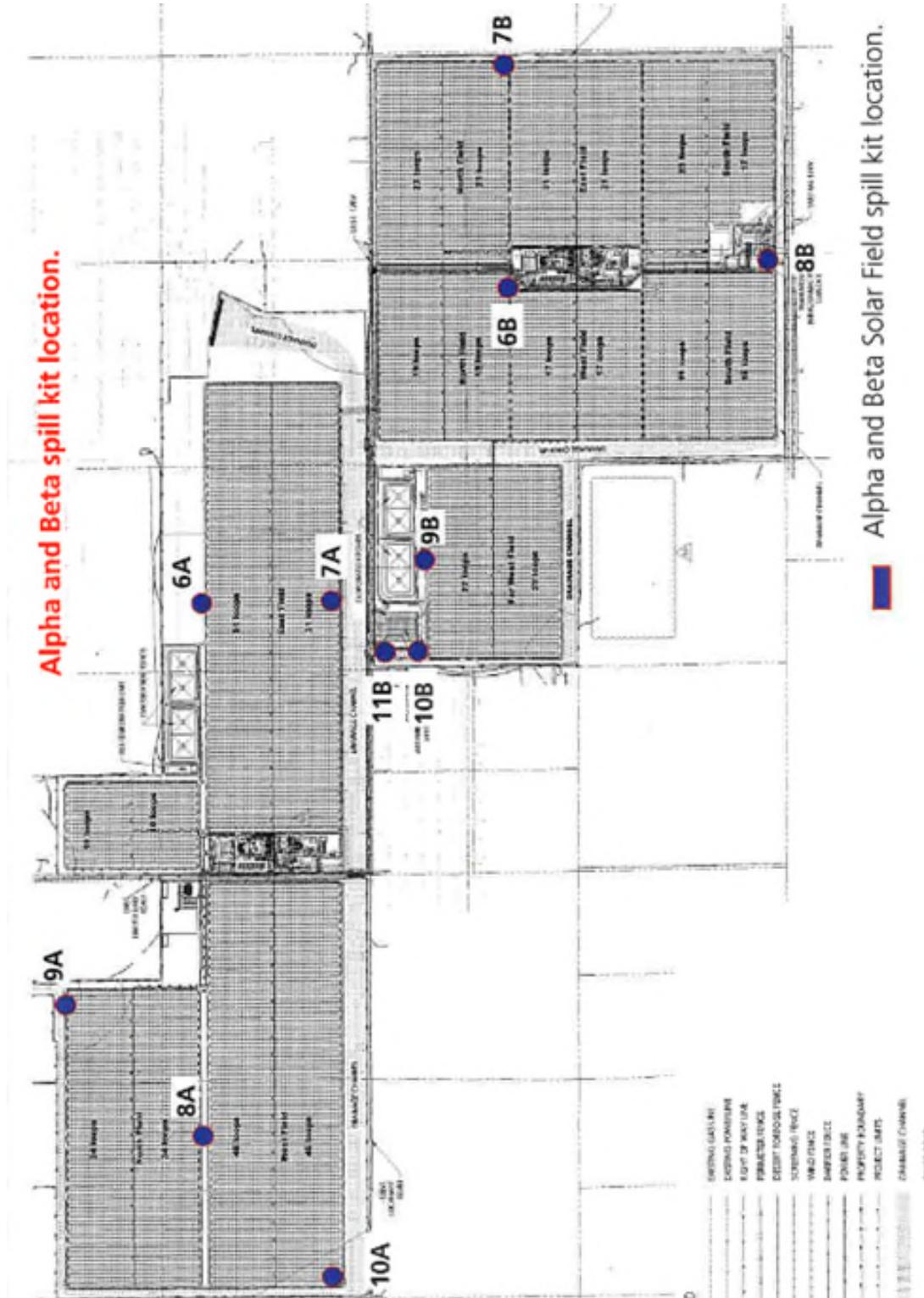
Extinguisher location Map.

Spill kit locations Map.

Safety Shower Location Map.





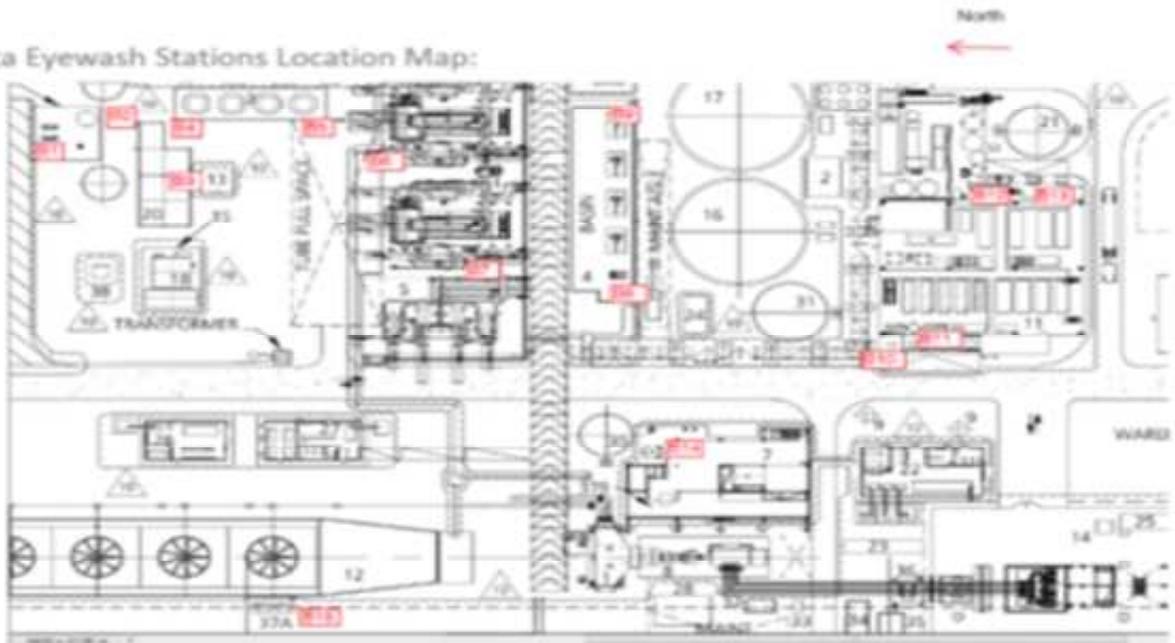


Alpha and Beta Solar Field spill kit location.

Alpha Eyewash Stations Location Map:



Beta Eyewash Stations Location Map:



9.1 Annex 2

Hazardous Material Inventory List

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name	Mojave Solar LLC	Alpha and Beta	Facility ID FA0014607
	42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 3 - Flammable and Combustible Liquids	Diesel Fuel	Gallons	12000	4000	7000		- Physical Flammable	Petroleum Hydrocarbons	100%	
Combustible Liquid, Class II	CAS No 68476-34-6 Map: L003 and L004 Grid: Item 2 and 23	State Liquid	Storage Container Aboveground Tank, Steel Drum	Type Mixture	Pressue Ambient	Waste Code				
			Days on Site: 365		Temperature Ambient					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location Alpha and Beta	CERS ID 10453255
Facility Name Mojave Solar LLC		Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	Liquid hazardous waste	Gallons	110	55		2000				
	<u>CAS No</u> -	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>					
	<u>Map: L010 Grid: Item 27-28E</u>	<u>Liquid</u>	Steel Drum, Can, Fiber Drum,		<u>Ambient</u>					
		<u>Type</u>	Plastic Bottle or Jug, Tote Bin, Tank		<u>Temperature</u>					
		<u>Waste</u>	Wagon		<u>Ambient</u>	<u>Waste Code</u>				
			Days on Site: 365			223				
							Spent chemicals, used hydraulic fluid, oil, and grease, effluent from oil water separator, used glycerin, oily water from the cooling tower	1%		

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta Cooling tower Chemical dosing	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS
	BD 1500	Gallons	500	200	180					
	<u>CAS No</u> -	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004 Grid: Item 37A	<u>Liquid</u>	Tank Inside Building		<u>Temperature</u>					
		<u>Type</u>								
		<u>Mixture</u>	Days on Site: 365							
DOT: 9 - Misc. Hazardous Materials	DCL 30	Gallons	500	50	50			Sodium bisulfite	40%	
	<u>CAS No</u> 7631-90-5	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004 Grid: Item 37A	<u>Liquid</u>	Tank Inside Building		<u>Temperature</u>					
		<u>Type</u>								
		<u>Mixture</u>	Days on Site: 365							
	GN8004	Gallons	500	200	180					
	<u>CAS No</u> -	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004 Grid: Item 37A	<u>Liquid</u>	Tank Inside Building		<u>Temperature</u>					
		<u>Type</u>								
		<u>Mixture</u>	Days on Site: 365							
	MS6209	Gallons	500	200	180			Zinc bis (dihydrogen phosphate) and Phosphoric acid	60%	
	<u>CAS No</u> 13598-37-3	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004 Grid: Item 37A	<u>Liquid</u>	Tank Inside Building		<u>Temperature</u>					
		<u>Type</u>								
		<u>Mixture</u>	Days on Site: 365							
DOT: 9 - Misc. Hazardous Materials	Sodium Hypochlorite	Gallons	2200	1100	600			Sodium Hypochlorite	13%	
	<u>CAS No</u> 7681-52-9	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004 Grid: F5, H9	<u>Liquid</u>	Tank Inside Building		<u>Ambient</u>					
		<u>Type</u>			<u>Temperature</u>					
		<u>Mixture</u>	Days on Site: 365		<u>Ambient</u>					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location Alpha and Beta liquid waste	CERS ID 10453255
Facility Name Mojave Solar LLC		Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	Liquid hazardous waste	Pounds	1200	528		8000		Spent chemicals, used hydraulic fluid, oil, and grease, effluent from oil water separator, used glycerin, oily water from the cooling tower	1%	
	<u>CAS No</u> -	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>					
	Map: L003 and L004 Grid: North of item#6	<u>Liquid</u>	Steel Drum, Can, Fiber Drum,		<u>Ambient</u>					
		<u>Type</u>	Plastic Bottle or Jug, Tote Bin, Tank		<u>Temperature</u>					
		<u>Waste</u>	Wagon		<u>Ambient</u>	<u>Waste Code</u>				
			Days on Site: 365			221				
	Liquid hazardous waste	Gallons	600	275		3600		Spent chemicals, used hydraulic fluid, oil, and grease, effluent from oil water separator, used glycerin, oily water from the cooling tower	1%	
	<u>CAS No</u> -	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>					
	Map: L003 and L004 Grid: Item#19	<u>Liquid</u>	Steel Drum, Can, Fiber Drum,		<u>Ambient</u>					
		<u>Type</u>	Plastic Bottle or Jug, Tote Bin, Tank		<u>Temperature</u>					
		<u>Waste</u>	Wagon		<u>Ambient</u>	<u>Waste Code</u>				
			Days on Site: 365			223				
	Used Oil	Gallons	1200	275		8000		Spent chemicals, used hydraulic fluid, oil, and grease, effluent from oil water separator, used glycerin, oily water from the cooling tower	1%	
	<u>CAS No</u> -	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>					
	Map: L003 and L004 Grid: North of item#6	<u>Liquid</u>	Steel Drum, Can, Fiber Drum,		<u>Ambient</u>					
		<u>Type</u>	Plastic Bottle or Jug, Tote Bin, Tank		<u>Temperature</u>					
		<u>Waste</u>	Wagon		<u>Ambient</u>	<u>Waste Code</u>				
			Days on Site: 365			221				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta Plant	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
Combustible Liquid, Class III-B	AFFF 3%	Gallons	1500	350	1000	0	- Physical	Water	90%	7732-18-5
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Flammable	Propylene Glycol t-butyl ether	4%	57018-52-7
		Liquid	Tank Inside Building, Plastic/Non-			341	- Health Skin	magnesium sulfate	2%	7487-88-9
		<u>Type</u>	metallic Drum		<u>Temperature</u>		Corrosion	proprietary hydrocarbon surfactant		proprietary
	Mixture	Days on Site: 365				Irritation	proprietary fluorosurfactant		proprietary	
DOT: 2.2 - Nonflammable Gases	Argon Gas	Cu. Feet	10000	336	8000		- Health Hazard			
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Not Otherwise Classified			
	7440-37-1	Gas	Cylinder							
		<u>Type</u>			<u>Temperature</u>					
		Pure								
	Coolant, Antifreeze	Gallons	15000	55	8000		- Health Acute	Ethanediol	60%	107-21-1
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Toxicity	Diethylene Glycol	3%	111-46-6
	107-21-1	Liquid	Plastic/Non-metalic Drum		Ambient		- Health			
		<u>Type</u>			<u>Temperature</u>		Respiratory Skin			
		Mixture			Ambient		Sensitization			
DOT: 6.1 - Toxic Substances	Duraclear	Gallons	550	55	165		- Physical	Hydrocarbon polymer		
Toxic	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Flammable	Alkanes	50%	151006-58-5
		Liquid	Steel Drum		Ambient					
		<u>Type</u>			<u>Temperature</u>					
		Mixture	Days on Site: 365		Ambient					
DOT: 2.2 - Nonflammable Gases	Sulfur Hexafluoride	Pounds	500	129	260		- Health Hazard			
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Not Otherwise Classified			
	2551-62-4	Gas	Cylinder		Ambient					
		<u>Type</u>			<u>Temperature</u>					
		Pure	Days on Site: 365		Ambient					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location Alpha and Beta plants	CERS ID 10453255
Facility Name Mojave Solar LLC		Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 2.1 - Flammable Gases	Acetylene welding gas	Cu. Feet	350	70	300			Acetylene Gas	100%	
Combustible Liquid, Class II	CAS No 74-86-2 Map: L003 and L004	State Gas Type Mixture	Storage Container Cylinder		Pressue > Ambient Temperature Ambient	Waste Code				
DOT: 2.2 - Nonflammable Gases	Argon, Liquid	Cu. Feet	336		336					
Cryogen	CAS No 7440-37-1 Map: L003 and L004	State Gas Type Pure	Storage Container Cylinder		Pressue Ambient Temperature Ambient	Waste Code				
	Carbohydrazide	Gallons	1200		300					
	CAS No 497-18-7 Map: L003 and L004	State Liquid Type Pure	Storage Container Tote Bin		Pressue Ambient Temperature Ambient	Waste Code				
DOT: 2.2 - Nonflammable Gases	Carbon Dioxide	Cu. Feet	52000	50	480					
Cryogen	CAS No 124-38-9 Map: L003 and L004 Grid: SW of item#7	State Gas Type Pure	Storage Container Cylinder		Pressue Ambient Temperature Ambient	Waste Code				
DOT: 3 - Flammable and Combustible Liquids	Galvanizing Compound	Pounds	15		5			Zinc	100%	7440-66-6
	CAS No Map: L003 and L004	State Solid Type Mixture	Storage Container Steel Drum		Pressue Ambient Temperature Ambient	Waste Code		hydrotreated light distillate Zinc Oxide Stoddaard Solvent Zeolite	10% 10% 3% 1%	64742-47-8 1314-13-2 8052-41-3 1318-02-1
DOT: 2.2 - Nonflammable Gases	Oxygen gas	Cu. Feet	560	140	300			Oxygen Gas	100%	
Oxidizing Gas, Gaseous	CAS No 7782-44-7 Map: L003 and L004	State Gas Type Pure	Storage Container Cylinder		Pressue Ambient Temperature Ambient	Waste Code				
	Propylene Glycol	Cu. Feet	440	55	440			Propylene Glycol	100%	57-55-6
	CAS No 57-55-6 Map: L003 and L004	State Liquid Type Mixture	Storage Container Plastic/Non-metallic Drum		Pressue Ambient Temperature Ambient	Waste Code				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location Alpha and Beta plants	CERS ID 10453255
Facility Name Mojave Solar LLC		Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 4.1 - Flammable Solids	Silicon	Gallons	36.7		36.7		- Physical	Silicon	99%	7440-21-3
	<u>CAS No</u> 7440-21-3 Map: L003 and L004	<u>State</u> Liquid	<u>Storage Container</u> Box		<u>Pressue</u> Ambient	<u>Waste Code</u>	Flammable			
		<u>Type</u> Pure	Days on Site: 365		<u>Temperature</u> Ambient		- Physical Corrosive To Metal - Health Acute Toxicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Aspiration Hazard			
DOT: 8 - Corrosives (Liquids and Solids)	Sodium carbonate	Pounds	15320		10000					
Combustible Liquid, Class II	<u>CAS No</u> 497-19-8 Map: L003 and L004	<u>State</u> Solid	<u>Storage Container</u> Silo		<u>Pressue</u> Ambient	<u>Waste Code</u>				
		<u>Type</u> Pure	Days on Site: 365		<u>Temperature</u> Ambient					
DOT: 8 - Corrosives (Liquids and Solids)	Titration Cartridge EDTA	Pounds	20	0.001	0.3			EDTA, TETRASODIUM	100%	8013-51-2
Toxic	<u>CAS No</u> 64-02-8 Map: L003 and L004 Grid: F5, H9	<u>State</u> Solid	<u>Storage Container</u> Bag		<u>Pressue</u> Ambient	<u>Waste Code</u>				
		<u>Type</u> Mixture	Days on Site: 365		<u>Temperature</u> Ambient					
DOT: 9 - Misc. Hazardous Materials	VP1 Heat Transfer Fluid (HTF)	Gallons	2292000	57000	2292000			Biphenyl		
Combustible Liquid, Class II	<u>CAS No</u> 92-52-4 Map: L003 and L004 Grid: Item# 3and 6	<u>State</u> Liquid	<u>Storage Container</u> Aboveground Tank, Other		<u>Pressue</u> > Ambient	<u>Waste Code</u>				
		<u>Type</u> Mixture	Days on Site: 365		<u>Temperature</u> > Ambient					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta power blocks	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 8 - Corrosives (Liquids and Solids)	Amine - Ammonia	Pounds	500	200	100			Cyclohexylamine	40%	108-91-8
	CAS No. <input checked="" type="checkbox"/> EHS	State	Storage Container		Pressue	Waste Code		MORPHOLINE	13%	110-91-8
	108-91-8	Liquid	Tank Inside Building		Ambient			MONOETHANOLAMINE	13%	141-43-5
	Map: L003 and L004 Grid: D29 a and B	Type			Temperature			N-9 OCTADECENYL	13%	7173-62-8
		Mixture	Days on Site: 365		Ambient			9-OCTADECEN 1-AMINE	5%	112-90-3
DOT: 3 - Flammable and Combustible Liquids	Diesel exhaust fluid - DEF	Gallons	1000	55	440		- Physical Flammable	Urea	40%	57-13-6
	CAS No.	State	Storage Container		Pressue	Waste Code				
	57-13-6	Liquid	Aboveground Tank		Ambient					
	Map: L003 and L004	Type			Temperature					
		Mixture	Days on Site: 365		> Ambient					
Toxic, Combustible Liquid, Class II	Fyrquel EHC Plus	Gallons	1000	55	55			t-butylphenyl diphenyl phosphate	78%	56803-37-3
	CAS No.	State	Storage Container		Pressue	Waste Code		BIS-BUTYLPHENYL Phosphate	40%	65652-41-7
	68937-40-6	Liquid	Fiber Drum		Ambient			tri-butylphenyl Phosphate	10%	78-33-1
	Map: L003 and L004	Type			Temperature			triphenyl phosphate	4%	115-86-6
		Mixture	Days on Site: 365							
Toxic	Glycerin	Gallons	220	55	220			Glycerin	100%	56-81-5
	CAS No.	State	Storage Container		Pressue	Waste Code				
	56-81-5	Liquid	Fiber Drum		Ambient					
	Map: L003 and L004	Type			Temperature					
		Pure	Days on Site: 365		Ambient					
DOT: 2.1 - Flammable Gases	Hydrogen	Cu. Feet	60000	4698	1800		- Physical Flammable	Hydrogen Gas	100%	133-74-0
	CAS No.	State	Storage Container		Pressue	Waste Code				
	1333-74-0	Gas	Cylinder		Ambient		- Physical Gas			
	Map: L003 and L004 Grid: SW of item#7	Type			Temperature		Under Pressure			
		Pure	Days on Site: 365		Ambient		- Physical Explosive			
							- Physical Combustible Dust			
	Industrial oil (gear lubricant)	Gallons	20000	55	550			dimethylsulfoxide	3%	
	CAS No.	State	Storage Container		Pressue	Waste Code				
	91745-46-9	Liquid	Steel Drum		Ambient					
	Map: L003 and L004	Type			Temperature					
		Mixture	Days on Site: 365							
Combustible Liquid, Class II	Motor, engine, hydraulic oil	Gallons	10000	55	80		- Physical Flammable	Petroleum Hydrocarbons	100%	86290-81-5
	CAS No.	State	Storage Container		Pressue	Waste Code				
	-	Liquid	Steel Drum, Can, Plastic Bottle or Jug		Ambient					
	Map: L003 and L004	Type			Temperature					
		Mixture	Days on Site: 365		Ambient			Benzene	4%	71-432
DOT: 2.2 - Nonflammable Gases	Nitrogen	Cu. Feet	52000	26000	13000			Nitrogen Refrigetaed liquid	100%	7727.37-9
	CAS No.	State	Storage Container		Pressue	Waste Code				
	7727-37-9	Gas	Aboveground Tank		Ambient					
	Map: L003 and L004 Grid: Item#18	Type			Temperature					
		Pure	Days on Site: 365		Ambient					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name	Mojave Solar LLC	Alpha and Beta power blocks	Facility ID FA0014607
	42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	O2 Scavenger	Gallons	500	200	180			Carbohydrazide	10%	
	CAS No 497-18-7 Map: L003 and L004 Grid: Item 37A	State Liquid Type Mixture	Storage Container Tank Inside Building Days on Site: 365		Pressue Temperature	Waste Code				
	Paints	Gallons	50	50	50			General Paints	100%	
	CAS No - Map: L003 and L004	State Liquid Type Mixture	Storage Container Steel Drum, Can Days on Site: 365		Pressue Ambient Temperature Ambient	Waste Code				
	Phosphate	Gallons	500	200	180			Polyphosporic acids, sodium salts and Sodium hydroxide	10%	
	CAS No 68915-31-1 Map: L003 and L004 Grid: D29 a and B	State Liquid Type Mixture	Storage Container Steel Drum Days on Site: 365		Pressue Temperature	Waste Code				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta power blocks, solar fields	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
Flammable Gas	Propane	Pounds	200	17	5		- Health Hazard	Propane	100%	
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Not Otherwise			
	74-98-6	Gas	Cylinder		> Ambient		Classified			
	Map: L003 and L004 Grid: E5, H9, E3, E7,	<u>Type</u>			<u>Temperature</u>					
		Pure	Days on Site: 365		Ambient					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta solid waste	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	Solid hazardous waste	Pounds	120	20	120	5000		Discarded batteries, contaminated 1% chemical containers, scrap metal, oily rags, used oil absorbent material, oil filters, contaminated soil with oil or diesel, used activated carbon, used fluorescent bulbs, broken glass or mirrors, filter-press solids		
	<u>CAS No</u> -	<u>State</u> Solid	<u>Storage Container</u> Steel Drum, Can, Fiber Drum,		<u>Pressue</u> Ambient					
	Map: L003 and L004 Grid: North of item#6	<u>Type</u> Waste	Plastic Bottle or Jug, Tote Bin, Tank Wagon		<u>Temperature</u> Ambient					
			Days on Site: 365							
							<u>Waste Code</u> 252			
	Solid hazardous waste	Pounds	500	20	120	5000		Discarded batteries, contaminated 1% chemical containers, scrap metal, oily rags, used oil absorbent material, oil filters, contaminated soil with oil or diesel, used activated carbon, used fluorescent bulbs, broken glass or mirrors, filter-press solids		
	<u>CAS No</u> -	<u>State</u> Solid	<u>Storage Container</u> Steel Drum, Can, Fiber Drum,		<u>Pressue</u> Ambient					
	Map: L003 and L004 Grid: North of item#6	<u>Type</u> Waste	Plastic Bottle or Jug, Tote Bin, Tank Wagon		<u>Temperature</u> Ambient					
			Days on Site: 365							
							<u>Waste Code</u> 181			
	Solid hazardous waste	Tons	10	10	5	120		Discarded batteries, contaminated 1% chemical containers, scrap metal, oily rags, used oil absorbent material, oil filters, contaminated soil with oil or diesel, used activated carbon, used fluorescent bulbs, broken glass or mirrors, filter-press solids		
	<u>CAS No</u> -	<u>State</u> Solid	<u>Storage Container</u> Steel Drum, Can, Fiber Drum,		<u>Pressue</u> Ambient					
	Map: L003 and L004 Grid: North of item#6	<u>Type</u> Waste	Plastic Bottle or Jug, Tote Bin, Tank Wagon		<u>Temperature</u> Ambient					
			Days on Site: 365							
							<u>Waste Code</u> 181			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta solid waste- Beta Tab, Alpha West	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	Solid hazardous waste	Tons	5	10	2.5	120		Broken Mirrors	1%	
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	-	<u>Solid</u>	Steel Drum, Can, Fiber Drum,		Ambient	181				
	Map: L010 Grid: Item 27-28E	<u>Type</u>	Plastic Bottle or Jug, Tote Bin, Tank		<u>Temperature</u>					
		<u>Waste</u>	Wagon		Ambient					
			Days on Site: 365							

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta solid waste. Located in Beta plant.	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	Solid hazardous waste	Tons	10	10	5	60		Spent chemicals, used hydraulic fluid, oil, and grease, effluent from oil water separator, used glycerin, oily water from the cooling tower	1%	
	<u>CAS No</u> -	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>					
	<u>Map: L010 Grid: Item 27-28E</u>	<u>Solid</u>	Steel Drum, Can, Fiber Drum,		<u>Ambient</u>					
		<u>Type</u>	Plastic Bottle or Jug, Tote Bin, Tank		<u>Temperature</u>					
		<u>Waste</u>	Wagon		<u>Ambient</u>	<u>Waste Code</u>				
			Days on Site: 365			352				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta Transformers	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	Mineral oil	Gallons	69000	20	34068					
	<u>CAS No</u> 8042-47-5 Map: L010	<u>State</u> Liquid	<u>Storage Container</u> Steel Drum		<u>Pressue</u>	<u>Waste Code</u>				
		<u>Type</u> Mixture	<u>Days on Site</u> : 365		<u>Temperature</u>					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta water treatment plants	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	Anionic Flocculant	Pounds	20	5	5			Destillates	30%	64742-47-8
	<u>CAS No</u> 64742-47-8 Map: L003 and L004 Grid: C37 a , D37 B	<u>State</u> Liquid <u>Type</u> Pure	<u>Storage Container</u> Tote Bin Days on Site: 365		<u>Pressue</u> Ambient <u>Temperature</u> Ambient	<u>Waste Code</u>				
DOT: 9 - Misc. Hazardous Materials	Bleach	Gallons	3460	2640	1000			Sodium Hypochlorite	13%	
	<u>CAS No</u> 7681-52-9 Map: L003 and L004 Grid: C32 a , D32 B	<u>State</u> Liquid <u>Type</u> Mixture	<u>Storage Container</u> Tank Inside Building Days on Site: 365		<u>Pressue</u> Ambient <u>Temperature</u> Ambient	<u>Waste Code</u>				
DOT: 9 - Misc. Hazardous Materials	Sodium Bisulfite	Gallons	1200	528	50		- Health Skin Corrosion	Sodium Bisulfite	38%	
	<u>CAS No</u> 007631-90-5 Map: L003 and L004 Grid: C32 a , D32 B	<u>State</u> Liquid <u>Type</u> Mixture	<u>Storage Container</u> Tote Bin Days on Site: 365		<u>Pressue</u> Ambient <u>Temperature</u> Ambient	<u>Waste Code</u>	Irritation - Health Aspiration Hazard			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location Alpha and Beta Water Treatment Plants	CERS ID 10453255
Facility Name Mojave Solar LLC		Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
Combustible Liquid, Class II	Amino Acid F Reagent	Pounds	2	0.03	1					
	<u>CAS No</u> 7681-57-4	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004	Liquid	Bag							
		<u>Type</u> Mixture		Days on Site: 365		<u>Temperature</u>				
Combustible Liquid, Class II	Amino Acid Reagent	Pounds	0.9	0.03	0.3					
	<u>CAS No</u> 7681-57-4	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004	Liquid	Bag							
		<u>Type</u> Mixture		Days on Site: 365		<u>Temperature</u>				
	Antifouling	Gallons	1100	528	120					
	<u>CAS No</u> -	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004	Liquid	Plastic/Non-metallic Drum, Tote		<u>Ambient</u>					- Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization
		<u>Type</u> Mixture		Days on Site: 365		<u>Temperature</u> Ambient				
	CalVer 2 Calcium Indicator	Pounds	0.9	0.03	0.3					
	<u>CAS No</u> -	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004	Liquid	Plastic Bottle or Jug							
		<u>Type</u> Mixture		Days on Site: 365		<u>Temperature</u>				
DOT: 2.2 - Nonflammable Gases Cryogen	Carbon Dioxide, Liquid	Gallons	68000	34000	20000					
	<u>CAS No</u> 124-38-9	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004 Grid: D39 a and ß	Liquid	Aboveground Tank		<u>Ambient</u>					
		<u>Type</u> Pure		Days on Site: 365		<u>Temperature</u> Ambient				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	Caustic Soda	Gallons	1500	528	420			Sodium Hydroxide	25%	
	<u>CAS No</u> 1310-73-2	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004 Grid: C32 a , D32 ß	Liquid	Tote Bin		<u>Ambient</u>					
		<u>Type</u> Mixture		Days on Site: 365		<u>Temperature</u> Ambient				
	Chemets Dissolved Oxygen Refill	Pounds	0.03	0.001	0.01					
	<u>CAS No</u> 7732-18-5	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004	Liquid	Glass Bottle or Jug							
		<u>Type</u> Mixture		Days on Site: 365		<u>Temperature</u>				
Flammable Liquid, Class I-A	Citric Acid	Gallons	110	55	80					
	<u>CAS No</u> 77-92-9	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	Map: L003 and L004	Liquid	Fiber Drum							
		<u>Type</u> Mixture		Days on Site: 365		<u>Temperature</u>				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta Water Treatment Plants	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
Flammable Liquid, Class I-A	Citric Acid Reagent Solution	Gallons	110	0.03	80					
	CAS No	State	Storage Container		Pressue	Waste Code				
	77-92-9	Solid	Plastic Bottle or Jug		Ambient					
	Map: L003 and L004	Type			Temperature					
		Mixture	Days on Site: 365		Ambient					
DOT: 8 - Corrosives (Liquids and Solids)	Conductivity Standard Solution	Gallons	1.5	0.05	0.5					
	CAS No	State	Storage Container		Pressue	Waste Code				
		Liquid	Plastic Bottle or Jug							
	Map: L003 and L004	Type			Temperature					
		Mixture	Days on Site: 365							
DOT: 8 - Corrosives (Liquids and Solids)	DEHA 1 Reagent (Diethylhydroxylamine)	Gallons	6.6	0.22	2.2					
	CAS No	State	Storage Container		Pressue	Waste Code				
	56-40-6	Solid	Bag							
	Map: L003 and L004	Type			Temperature					
		Mixture	Days on Site: 365							
DOT: 8 - Corrosives (Liquids and Solids)	DEHA 2 Reagent	Gallons	0.9	0.03	0.3					
	CAS No	State	Storage Container		Pressue	Waste Code				
	7697-37-2	Liquid	Glass Bottle or Jug							
	Map: L003 and L004	Type			Temperature					
		Pure	Days on Site: 365							
	DPD Free Chlorine Reagent for 5 mL sample pk/100	Pounds	6.6	0.22	2.2					
	CAS No	State	Storage Container		Pressue	Waste Code				
	7558-79-4	Solid	Bag							
	Map: L003 and L004	Type			Temperature					
		Mixture	Days on Site: 365							
DOT: 8 - Corrosives (Liquids and Solids)	Ferric Chloride	Gallons	1600	792	500			Ferric Chloride	40%	
	CAS No	State	Storage Container		Pressue	Waste Code				
	7705-08-0	Liquid	Tote Bin		Ambient					
	Map: L003 and L004 Grid: C37 a , D37 B	Type			Temperature					
		Mixture	Days on Site: 365		Ambient					
DOT: 8 - Corrosives (Liquids and Solids)	FerroZine® Iron Reagent	Gallons	3.9	0.13	1.3			Acetic Acid	40%	5421-46-5
	CAS No	State	Storage Container		Pressue	Waste Code		thioglycolic Acid	20%	68-11-1
	5421-46-5	Liquid	Plastic Bottle or Jug		Ambient			Benzenesulfonic Acid	1%	69898-45-9
	Map: L003 and L004	Type			Temperature					
		Pure	Days on Site: 365		Ambient					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	Mojave Solar LLC	Chemical Location	CERS ID	10453255
Facility Name	Mojave Solar LLC	Alpha and Beta Water Treatment Plants	Facility ID	FA0014607
	42134 Harper Lake Rd, Hinkley 92347		Status	Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	Hardness Buffer	Gallons	0.9	0.03	0.3					
	CAS No 50-00-0 Map: L003 and L004	State Liquid Type Mixture	Storage Container Plastic Bottle or Jug		Pressue Temperature	Waste Code				
	High Calcium Hydrated Lime	Pounds	43400	21664	15000			Calcium Hydroxide Magnezium Oxide Crystalline Silica	90% 3% 2%	1305-62-0 1309-48-4 14808-60-7
Toxic, Corrosive, Toxic, Combustible Liquid, Class III-A, 5	CAS No 1305-62-0 Map: L003 and L004 Grid: C37 a , D37 B	State Solid Type Pure	Storage Container Silo		Pressue Ambient Temperature Ambient	Waste Code				
	Magnesium Sulfate	Pounds	170000	50000	170000			Magnesium Sulfate	99%	
	CAS No 14168-73-1 Map: L003 and L004 Grid: C37 a , D37 B	State Solid Type Mixture	Storage Container Silo		Pressue Ambient Temperature Ambient	Waste Code				
	Molybdate 3 Reagent Solution	Gallons	0.9	0.03	0.3					
Corrosive, Corrosive, Corrosive, Toxic	CAS No 7664-93-9 Map: L003 and L004	State Solid Type Mixture	Storage Container Plastic Bottle or Jug		Pressue Temperature	Waste Code				
	Molybdate Reagent	Gallons	0.9	0.03	0.3					
Corrosive	CAS No 7631-95-00 Map: L003 and L004	State Liquid Type Mixture	Storage Container Plastic Bottle or Jug		Pressue Temperature	Waste Code				
DOT: 8 - Corrosives (Liquids and Solids)	Muriatic acid	Gallons	2500	1	100			water	80%	7732-18-5
Corrosive	CAS No 7647-01-0 Map: L003 and L004	State Liquid Type Pure	Storage Container Tank Inside Building		Pressue Ambient Temperature Ambient	Waste Code 791		Hydrogen Chloride	38%	7647-01-0
DOT: 8 - Corrosives (Liquids and Solids)	ORP Solution	Gallons	1.5	0.05	0.5					
	CAS No 13746-66-2 Map: L003 and L004	State Liquid Type Mixture	Storage Container Plastic Bottle or Jug		Pressue Temperature	Waste Code				
DOT: 8 - Corrosives (Liquids and Solids)	pH Buffer Solution 10.01	Gallons	3.9	0.13	1.3					
	CAS No 50-00-0 Map: L003 and L004	State Liquid Type Mixture	Storage Container Plastic Bottle or Jug		Pressue Temperature	Waste Code				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta Water Treatment Plants	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 8 - Corrosives (Liquids and Solids)	pH Buffer Solution 4.01 CAS No 50-00-0 Map: L003 and L004	Gallons State Liquid Type Mixture	3.9 Storage Container Plastic Bottle or Jug Days on Site: 365	0.13	1.3 Pressue Temperature					
DOT: 8 - Corrosives (Liquids and Solids)	pH Buffer Solution 7.00 CAS No 7558-79-4 Map: L003 and L004	Gallons State Liquid Type Mixture	3.9 Storage Container Plastic Bottle or Jug Days on Site: 365	0.13	1.3 Pressue Temperature					
DOT: 8 - Corrosives (Liquids and Solids)	pH Storage Solution CAS No 7558-79-4 Map: L003 and L004	Gallons State Liquid Type Mixture	3.9 Storage Container Plastic Bottle or Jug Days on Site: 365	0.13	1.3 Pressue Temperature					
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	RO, NF Scale Inhibitor. containing Organophosphonic Acids CAS No - Map: L003 and L004	Pounds State Liquid Type Mixture	1056 Storage Container Aboveground Tank Days on Site: 365	528	200 Pressue Ambient Temperature Ambient				Organophosphonic Acids	
DOT: 8 - Corrosives (Liquids and Solids) Combustible Liquid, Class II	Soda Ash CAS No 497-19-8 Map: L003 and L004 Grid: C37 a , D37 B	Pounds State Solid Type Pure	7660 Storage Container Silo Days on Site: 365	7660	7660 Pressue Ambient Temperature Ambient				Sodium Carbonate	100%

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha and Beta Water Treatment Plants	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 8 - Corrosives (Liquids and Solids)	Sulfuric Acid 50-91%	Gallons	528	528	400		- Physical	Sulfuric Acid	50%	✓ 7644-93-9
Toxic	CAS No 7664-93-9 Map: L003 and L004 Grid: C32 a and B	State Liquid Type Mixture	Storage Container Tote Bin Days on Site: 365	Pressue Ambient Temperature Ambient	Waste Code		- Flammable - Physical Corrosive To Metal - Health Acute Toxicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Aspiration Hazard			
DOT: 9 - Misc. Hazardous Materials	Versene 100	Gallons	1100	55	550			Sodium EDTA		
Corrosive	CAS No 64-02-8 Map: L003 and L004 Grid: F5, H9	State Solid Type Mixture	Storage Container Bag Days on Site: 365	Pressue Ambient Temperature Ambient	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha Chemical Storage Area	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 9 - Misc. Hazardous Materials	Fyrquel	Gallons	550	55	250	0	- Physical Hazard Not Otherwise	t-Butylphenyl diphenyl phosphate	30%	56803-37-3
	<u>CAS No</u> 56803-37-3	<u>State</u>	<u>Storage Container</u>		<u>Pressure</u>		Classified	Bis(t-butylphenyl)phenyl phosphate	30%	65652-41-7
		<u>Liquid</u>	Steel Drum		<u>Ambient</u>		- Health Hazard	Tri(t-butylphenyl) phosphate	15%	78-33-1
		<u>Type</u>	Mixture	Days on Site: 365	<u>Temperature</u>		Not Otherwise Classified	Triphenyl phosphate	25%	115-86-6

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha plant only	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 3 - Flammable and Combustible Liquids	Gasoline	Gallons	2000	2000	250		- Health	Unleaded Gasoline	100%	8006-61-9
Flammable Liquid, Class I-A	CAS No 8006-61-9 Map: L003 Grid: B29	State Liquid Type Mixture	Storage Container Aboveground Tank		Pressue Ambient Temperature Ambient	Waste Code	Carcinogenicity - Health Acute Toxicity - Health Reproductive Toxicity			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location Alpha Warehouse	CERS ID 10453255
Facility Name Mojave Solar LLC		Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	Roundup Herbicide	Gallons	5000	265	100	100	- Physical Hazard	Formaldehyde		50-00-0
	<u>CAS No</u> 38641-94-0	<u>State</u> Liquid	<u>Storage Container</u> Tote Bin		<u>Pressue</u> Ambient	<u>Waste Code</u> 801	Not Otherwise Classified	1,4-Dioxane		123-91-1
		<u>Type</u> Mixture	Days on Site: 365		<u>Temperature</u> Ambient		- Health Skin Corrosion Irritation	Water		
	Spray Indicator	Gallons	100	4	20	0				
	<u>CAS No</u>	<u>State</u> Liquid	<u>Storage Container</u> Can		<u>Pressue</u>	<u>Waste Code</u> 131				
		<u>Type</u> Mixture	Days on Site: 365		<u>Temperature</u>					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location Alpha&Beta Cooling Tower	CERS ID 10453255
Facility Name Mojave Solar LLC		Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	CL5428	Gallons	1000	500	500	0		Components not listed are either non hazardous or in concentration of less than 1%		
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>					
		<u>Liquid</u>	Plastic/Non-metalic Drum							
		<u>Type</u>			<u>Temperature</u>	<u>Waste Code</u>				
		<u>Mixture</u>	Days on Site: 365							
DOT: 7 - Radioactive Material	CT790	Gallons	1000	500	500	0	- Health Acute Toxicity	Phosphoric Acid	40%	766-38-2
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>		ZINC OXIDE	20%	1314-13-2
		<u>Liquid</u>	Plastic/Non-metalic Drum			132	- Health Skin Corrosion	Other components below reportable levels	40%	
		<u>Type</u>			<u>Temperature</u>		Irritation			
		<u>Mixture</u>	Days on Site: 365				- Health Serious Eye Damage Eye Irritation			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location Alpha&Beta Power Block	CERS ID 10453255
Facility Name Mojave Solar LLC		Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	BL1260	Gallons	500	500	500	0	- Health Skin	Carbohydrazide	20%	497-18-7
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Corrosion	Other components below reportable levels	80%	
		<u>Liquid</u>	Plastic/Non-metalic Drum				Irritation			
		<u>Type</u>			<u>Temperature</u>	341	- Health			
		<u>Mixture</u>	Days on Site: 365				Respiratory Skin Sensitization			
DOT: 8 - Corrosives (Liquids and Solids)	BL1794	Gallons	500	500	500	0	- Health Skin	Trisodium phosphate	5%	7601-54-9
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Corrosion	Other components below reportable levels	95%	
		<u>Liquid</u>	Plastic/Non-metalic Drum		<u>Ambient</u>		Irritation			
		<u>Type</u>			<u>Temperature</u>		- Health Serious			
		<u>Mixture</u>	Days on Site: 365		<u>Ambient</u>	123	Eye Damage Eye Irritation			
	BL8411	Pounds	9000	9000	9000	0	- Physical	cyclohexanamine	30%	✓ 108-91-8
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Flammable	Ethanolamine	20%	✓ 141-43-5
	✓ EHS	<u>Liquid</u>	Plastic/Non-metalic Drum		<u>Ambient</u>	341	- Health Acute	Amines, tallow alkyl, ethoxylated	3%	61791-26-2
		<u>Type</u>			<u>Temperature</u>		Toxicity	N'-[(Z)-octadec-9-enyl]propane-	3%	7173-62-8
		<u>Mixture</u>	Days on Site: 365		<u>Ambient</u>		- Health Skin	1,3-diamine		
							Corrosion	Other components below reportable levels	60%	
							Irritation			
							- Health Serious			
							Eye Damage Eye Irritation			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location Alpha&Beta Water Treatment Plant	CERS ID 10453255
Facility Name Mojave Solar LLC		Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 9 - Misc. Hazardous Materials	Flocculant	Pounds	800	50	400	- Health Acute Toxicity	Amide	100%	254504001-5518	
	CAS No. 254504001-5518	State	Storage Container	Pressue	Waste Code					
		Solid	Bag	Ambient	352					
		Type		Temperature						
		Mixture	Days on Site: 365	Ambient						
DOT: 9 - Misc. Hazardous Materials Toxic	Flocculant	Pounds	400	50	10	- Health Acute Toxicity	Amide	✓ 254504001-5518		
	CAS No. 254504001-5518 <input checked="" type="checkbox"/> EHS	State	Storage Container	Pressue	Waste Code					
		Solid	Bag	Ambient						
		Type		Temperature						
		Pure	Days on Site: 365	Ambient						
	P813E	Gallons	100	5	5	- Health Acute Toxicity - Health Serious Eye Damage Eye Irritation	Distillates (petroleum),Hydrotreated Light Alcohols, C10-16, Ethoxylated Alcohols, C12-14, Ethoxylated Alcohols, C12-16-ethoxylated Other components below reportable levels	30% 3% 3% 70%	64742-47-8 68002-97-1 68439-50-9 68551-12-2	
	CAS No.	State	Storage Container	Pressue	Waste Code					
		Liquid	Plastic Bottle or Jug	Ambient						
		Type		Temperature						
		Pure	Days on Site: 365	Ambient						
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	RL100	Gallons	2000	55	500	- Health Acute Toxicity - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Aspiration Hazard				
	CAS No.	State	Storage Container	Pressue	Waste Code					
		Liquid	Plastic/Non-metalic Drum	Ambient						
		Type		Temperature						
		Mixture	Days on Site: 365	Ambient						
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	RL100	Gallons	2000	55	500	- Health Acute Toxicity - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Aspiration Hazard	Ethylene diamine tetraacetic acid, tetrasodium salt Sodium hydroxide Nitrilotriacetic acid, trisodium salt	60% 2% 1%	64-02-8 1310-73-2 5064-31-3	
	CAS No.	State	Storage Container	Pressue	Waste Code					
		Liquid	Plastic/Non-metalic Drum	Ambient	122					
		Type		Temperature						
		Mixture	Days on Site: 365	Ambient						
	RL2000	Gallons	2000	55	500	- Health Acute Toxicity	Citric Acid Sodium Citrate	30% 7%	77-92-9 68-04-2	
	CAS No.	State	Storage Container	Pressue	Waste Code					
		Liquid	Plastic/Non-metalic Drum	Ambient	343					
		Type		Temperature						
		Mixture	Days on Site: 365	Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Alpha&Beta Water Treatment Plant	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	RL2032	Gallons	1000	55	500	0	- Health Skin Corrosion	Phosphoric Acid	10%	7664-38-2
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressure</u>	<u>Waste Code</u>				
		<u>Liquid</u>	Plastic/Non-metalic Drum							
		<u>Type</u>			<u>Temperature</u>					
		<u>Mixture</u>	Days on Site: 365							
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	RL3400	Gallons	1056	528	500	0	- Physical Corrosive To	Sodium hydroxide	3%	1310-73-2
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressure</u>	<u>Waste Code</u>				
		<u>Liquid</u>	Tote Bin							
		<u>Type</u>			<u>Temperature</u>					
		<u>Mixture</u>	Days on Site: 365			122				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	RL9009	Gallons	1000	500	500	0	- Physical Oxidizer Corrosive To Metal - Health Skin Corrosion Irritation	2-Butenedioic acid (Z) -,homopolymer 2-phosphonobutane-1,2,4- tricarboxylic Acid Diethylenetriaminepenta (methylenePhosphonic Acid), Sodium Salt Other components below reportable levels	10% 10% 10% 80%	26099-09-2 37971-36-1 22042-96-2
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressure</u>	<u>Waste Code</u>				
		<u>Liquid</u>	Plastic/Non-metalic Drum							
		<u>Type</u>			<u>Temperature</u>	343				
		<u>Mixture</u>								

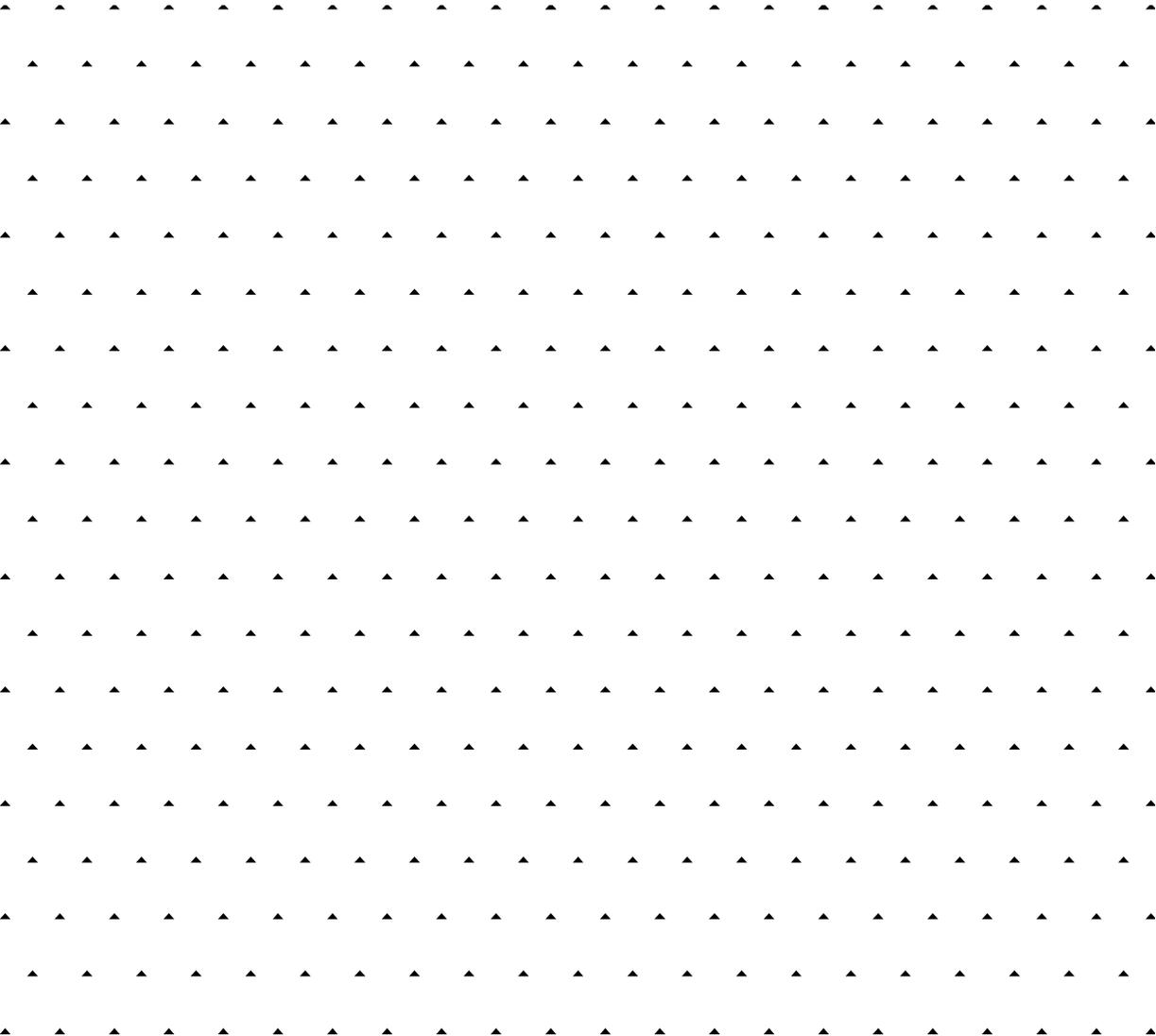
Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Mojave Solar LLC	Chemical Location	CERS ID 10453255
Facility Name Mojave Solar LLC	Water Treatment Plant	Facility ID FA0014607
42134 Harper Lake Rd, Hinkley 92347		Status Draft

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 9 - Misc. Hazardous Materials Corrosive	AWC C-209 RO NF Membrane cleaner CAS No 5329-14-6 Map: L003 and L006	Pounds	1200	5	100	5	- Health Respiratory Skin	Amido Sulfonic Acid	10%	5329-14-6
		State	Storage Container		Pressure	Waste Code 214	Sensitization	Fluoride Salts	10%	7681-49-4
		Solid	Plastic/Non-metalic Drum		Ambient					
		Type	Mixture		Temperature	Days on Site: 365		Ambient		
DOT: 9 - Misc. Hazardous Materials Toxic	AWC C-227 RO NF Membrane cleaner CAS No 15630-89-4 Map: L003 and L005	Pounds	1200	5	100	5	- Health Respiratory Skin	Sodium Carbonate Peroxyhydrate	30%	15630-4
		State	Storage Container		Pressure	Waste Code 214	Sensitization	Sodium Carbonate	30%	497-19-8
		Liquid	Plastic/Non-metalic Drum		Ambient					
		Type	Mixture		Temperature	Days on Site: 365		Ambient	40%	N/A

Spill Prevention, Control, And Countermeasures (SPCC) Plan, Rev 07

PP-O&M-MJV-006



Revision	Date	Reason for Revision
00	09/16/2013	Initial Release
01	10/07/2013	Agency Comments
02	02/27/2014	To address San Bernardino Fire Department concerns
03	06/17/2021	Updated Formatting, Font Header and ASI Logo
04	05/19/2022	Updated certification page signed by current Plant Manager
05	01/20/2023	Updated the signatures and appendixes.
06	01/17/2024	Chemical inventory updated
07	02/18/2026	Chemical inventory updated

Produced by:	Department	Date
Nicholas Diercks	Environmental Technician	Electronic Signature
Fred Hrenchir	Safety Services Lead	Electronic Signature
Steven Pochmara	Q&E Compliance Manager	Electronic Signature

Reviewed by:	Department	Date
Mahnaz Ghamati	Q&E Compliance Manager	02/18/2026

Approved by:	Department	Date
David Rosas	Plant Manager	02/18/2026

Contents

1 INTRODUCTION..... 10

 1.1 Facility Description..... 10

 1.2 Plan Purpose/Objectives..... 12

 1.3 Plan Distribution Procedures..... 13

2 SPCC PLAN REGULATION OVERVIEW..... 13

 2.1 APPLICABILITY (§112.1)..... 13

 2.2 DEFINITIONS (§112.2) 14

 2.3 REQUIREMENT TO PREPARE AND IMPLEMENT (§112.3)..... 15

 2.4 AMENDMENT OF SPCC BY REGIONAL ADMINISTRATOR (§112.4)..... 16

 2.5 AMENDMENT OF SPCC BY OWNERS AND OPERATORS (§112.5)..... 17

 2.6 QUALIFIED FACILITY PLAN REQUIREMENTS (§112.6) 19

3 §112.7 GENERAL REQUIREMENTS FOR SPCC PLANS..... 19

 3.1 GENERAL REQUIREMENTS (§112.7(a)) 19

 3.2 Rate, Quantity and Direction of RELEASE (§112.7(b)) 27

 3.3 Secondary Containment / Diversionary Structures (§112.7(c)) 28

 3.4 Contingency Planning (§112.7(d)) 29

 3.5 Inspections, Testing, and Records (§112.7(e)) 30

 3.6 Personnel, Training, and Discharge Prevention (§112.7(f))..... 31

 3.7 Security (§112.7(g)) 31

 3.8 TANK CAR AND TANK TRUCK LOADING/UNLOADING RACK (§112.7(h)) 32

 3.9 Brittle Fracture Evaluation (§112.7(i))..... 32

 3.10 Conformance with Other Applicable Regulations (§112.7(j)) 32

 3.11 Qualified Oil-filled Operational Equipment (§112.7(k)) 32

4 §112.8 SPCC Plan Requirements for Onshore Facilities..... 33

 4.1 General Requirements (§112.8(a)) 33

 4.2 Facility Drainage (§112.8(b)) 33

 4.3 Bulk Storage Containers (§112.8(c))..... 33

 4.4 Facility Transfer Operations (§112.8(d)) (§112.12(d)) (Aboveground Valves,
 Piping Association with Transfer Operations)..... 36

5 Appendix 37

CERTIFICATION PAGE

Facility Information

Name of Facility: Mojave Solar Project

Type of Facility: Solar Power Plant

Location of Facility: 42134 Harper Lake Road; Hinkley, California

Owner/Operator: Mojave Solar LLC

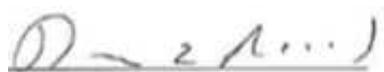
Designated Person Accountable for Spill Prevention at this Facility: Mahnaz Ghamati

Date of Initial Oil Storage: December 1, 2013

This Facility has not had a reportable oil spill event that has resulted in the Submission of this plan to the EPA (refer to Section 1.5 for Submission requirements).

Management Approval

- The spill prevention, control, and countermeasures for the referenced facilities will be implemented and maintained as described in this SPCC Plan.
- Management agrees to provide the manpower, equipment, and materials required to expeditiously control and remove any quantity of unauthorized discharge.

Signature:  Date: 01/20/2023

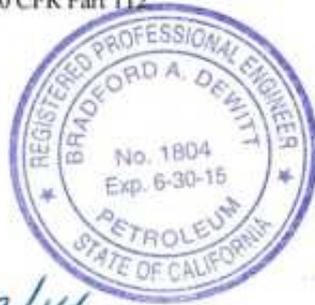
Title of Manager: David Rosas Galindo, Plant Manager

Certification

Pursuant to 40 CFR § 112.3(d), I hereby certify and attest that:

1. I am familiar with the provisions of 40 CFR Part 112;
2. I, or my agent, have visited and examined the facility;
3. This SPCC Plan has been prepared in accordance with good engineering practices, with consideration of applicable industry standards and the requirements of Part 112;
4. Procedures for required inspections and testing have been established; and
5. This plan is adequate for the facility.

This certification shall in no way relieve the owner/operator of the duty to prepare and fully implement this Plan in accordance with the provisions of 40 CFR Part 112.



Date:

2/27/14


Bradford A. DeWitt
State of California Registration No: P1804

<p>MOJAVE SOLAR PROJECT EPA APPLICABILITY OF SUBSTANTIAL HARM CRITERIA 40 CFR Part 112 SUBPART D 112.20 (a)(2) and 112.20 (f)(1)</p>	
<p>Does the Facility transfer oil over-water to or from vessels <u>and</u> does the Facility have a total storage capacity greater or equal to 42,000 gallons? Yes [] No [X]</p>	
<p>Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> within any aboveground storage tank area, does the Facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tanks plus sufficient freeboard to allow for precipitation? Yes [] No [X]</p>	
<p>Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> is the Facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? Yes [] No [X]</p>	
<p>Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> is the Facility located at a distance such that a discharge from the facility would shut down a public drinking water intake? Yes [] No [X]</p>	
<p>Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> has the Facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years? Yes [] No [X]</p>	
<p>CERTIFICATION</p>	
<p>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.</p>	
Signature	
Printed Name	Steven Pochmara
Title	Permit Manager
Date	02/27/2014

<p>MOJAVE SOLAR PROJECT EPA APPLICABILITY OF SUBSTANTIAL HARM CRITERIA 40 CFR Part 112 SUBPART D 112.20 (a)(2) and 112.20 (f)(1)</p>	
<p>Does the Facility transfer oil over-water to or from vessels <u>and</u> does the Facility have a total storage capacity greater or equal to 42,000 gallons? Yes [] No [X]</p>	
<p>Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> within any aboveground storage tank area, does the Facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tanks plus sufficient freeboard to allow for precipitation? Yes [] No [X]</p>	
<p>Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> is the Facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? Yes [] No [X]</p>	
<p>Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> is the Facility located at a distance such that a discharge from the facility would shut down a public drinking water intake? Yes [] No [X]</p>	
<p>Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> has the Facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years? Yes [] No [X]</p>	
<p>CERTIFICATION</p>	
<p>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.</p>	
Signature	
Printed Name	David Rosas Galindo
Title	Plant Manager
Date	01/20/2023

DISTRIBUTION LIST

Note: The Distribution of this Plan is tracked by the Copy Number located on the Title Page. Plan Distribution and Plan Review and Update Procedures are provided in Sections 1.4 & 1.5.

COPY NUMBER	• <u>PLAN</u> HOLDER	LOCATION
1	Mojave Solar Project 42134 Harper Lake Road; Hinkley, California 92347	Main Office (ALPHA site)
1	Mojave Solar Project 42134 Harper Lake Road; Hinkley, California 92347	Main Office (BETA site)
2	EnviroTech Consultants, Inc. 5400 Rosedale Highway Bakersfield, CA 93308	Main Office
1	Processes Unlimited International Inc. 5500 Ming Ave. Bakersfield, Ca. 93309	Main Office

REVISION RECORD

Note: It is the responsibility of the holder of this plan to ensure that all changes and updates are made. The holder should:

- Remove and discard obsolete pages.
- Replace obsolete pages with the updated pages.
- Record each change on this form.

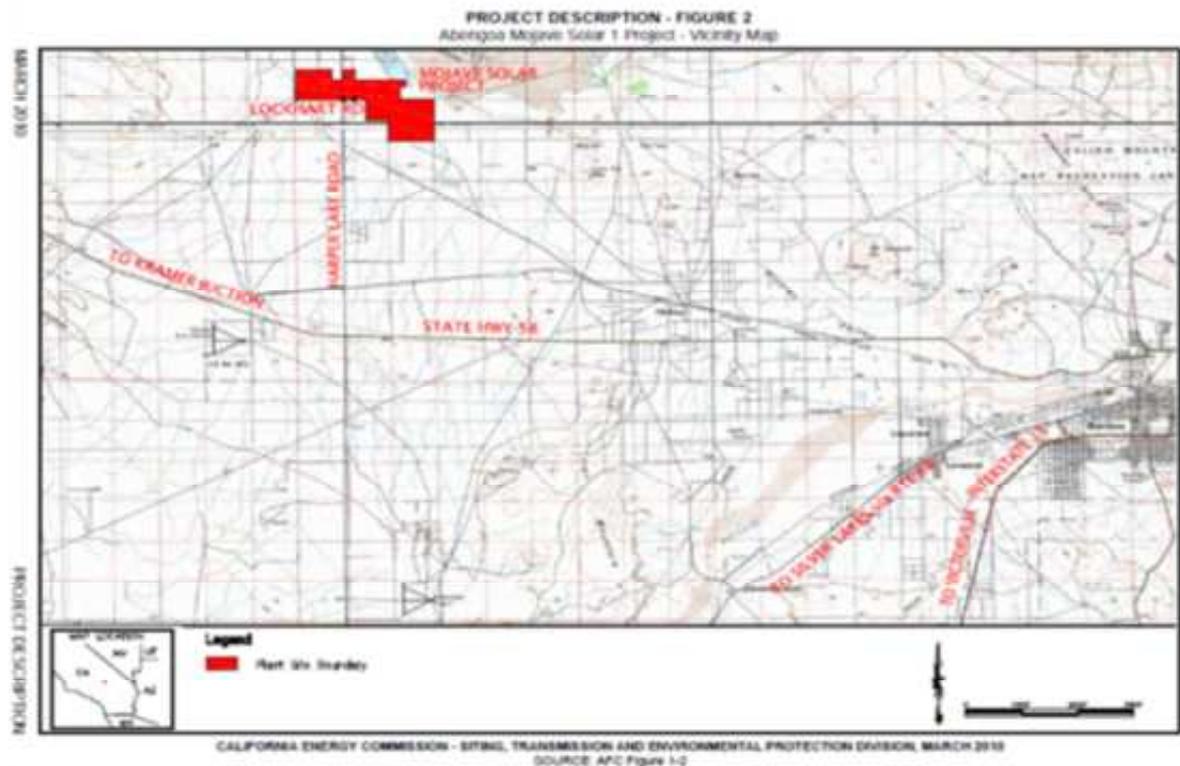
Change Date	Affected Page Number(s)	Description of Change(s)	Name
EXAMPLE			
01/01/01	1-1 thru 1-4; 5-2	HES Staff Update	M. Doyle

1 INTRODUCTION

1.1 Facility Description

The Mojave Solar Project facility ("Facility") consists of 1,765 acres and is located in unincorporated San Bernardino County approximately nine miles northwest of the community of Hinkley, California along the Highway 58 corridor (See Figure 1-1). The Facility is accessed via Harper Lake Road, approximately six miles north of the intersection of Harper Lake Road and Highway 58. The existing Solar Electric Generating Stations (SEGS) VIII and IX facilities owned by Next Era Energy Resources are immediately northwest of the Facility. The topography is flat (about 2,070 feet above sea level) consisting of open desert and agricultural land adjacent to the Harper Dry Lake Depression. Elevated land surrounds the Facility site from all directions and can be found 1-3 miles from the Facility. The Facility is owned and operated by Mojave Solar LLC. The California Energy Commission (CEC) has exclusive jurisdiction to license this Facility.

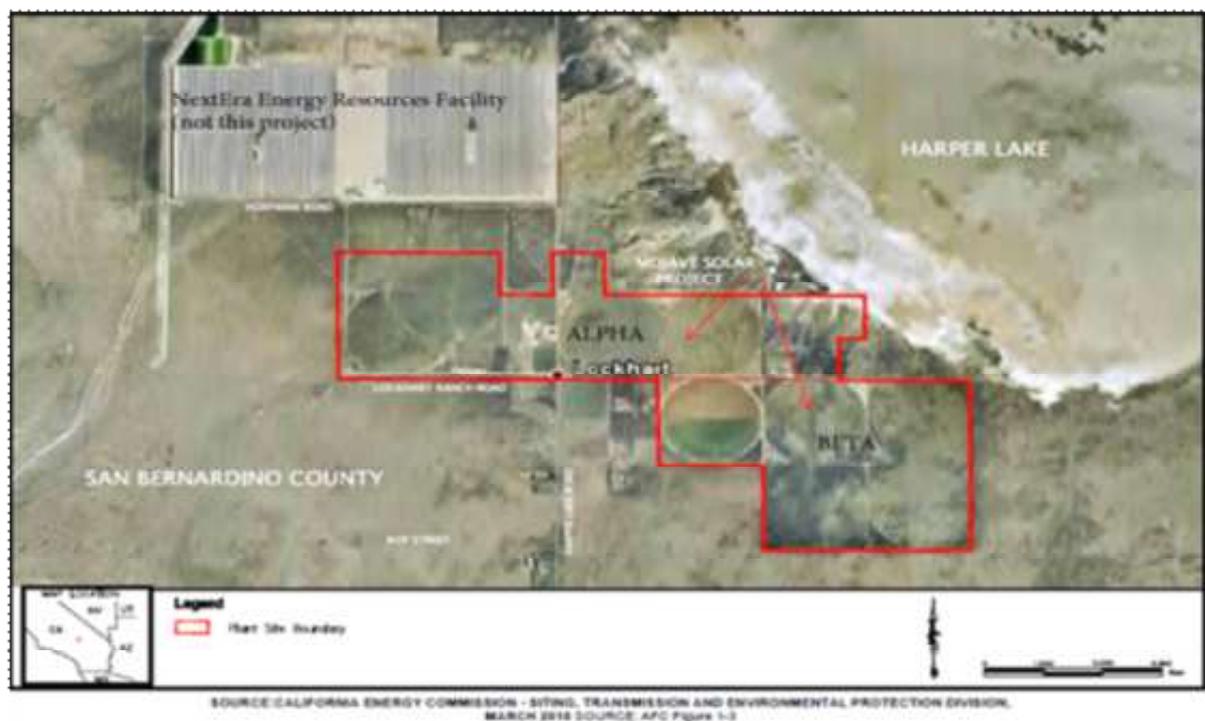
Figure 1-1 Facility Vicinity Map



The Facility consists of two sites, Alpha and Beta, which have a combined nominal electric output of 250 MW from twin, independently operable solar fields. The Alpha site,

situated in the northwest portion of the Facility area, occupies 884 acres and is bisected by Harper Lake Road. The Beta site is located east of Harper Lake Road in the southeast portion of the Facility site and occupies 800 acres (See Figure 1-2). The Alpha and Beta sites share the remaining 81 acres of the Facility for activities that include receiving and discharging offsite drainage improvements. Each field (Alpha and Beta) will feed a 125 MW Power Island.

Figure 1-2 Facility Site Map



The Facility uses parabolic trough, solar thermal technology to produce electrical power using a steam turbine generator fed from a solar steam generator. The solar steam generator receives heated heat transfer fluid (HTF) from solar thermal equipment comprised of arrays of parabolic mirrors that collect energy from the sun. The "Mirror Fields" are comprised of single-axis-tracking parabolic trough solar collectors arranged to form many parallel rows aligned on a north-south axis. Each solar collector has a linear, parabolic-shaped reflector that focuses the sun's radiation on a specially designed linear receiver known as a heat collection element (HCE). The collectors track the sun from east to west to ensure that the maximum amount of the sun's radiation is continuously focused on the HCE. The Heat Transfer Fluid, Therminol™ VP-1, is heated to approximately 740° F as it circulates through the HCE and returns to a series of heat exchangers where the fluid is used to generate steam in the solar steam generator

system at the Power Island, thereby providing steam to the steam turbine generator to produce electricity. The Facility's electrical transmission lines will interconnect with the Southern California Edison (SCE) 230-kV Kramer-Coolwater #1 transmission, which is located adjacent to the southern border of the Facility.

The Facility uses a wet cooling tower for power plant cooling. The electric re-heaters will supply HTF to HTF heat exchangers as needed during offline hours to keep the HTF in a liquid state when ambient temperatures fall below its freezing point of 54° F. Each Power Island will also have a diesel engine-driven firewater pump for fire protection and a diesel engine-driven backup generator for power plant essentials.

Water for plant cooling and other purposes is supplied via on-site wells, and both the Alpha and Beta sites have newly constructed wells that draw groundwater based on adjudicated water rights from Harper Valley Ground Basin.

A single treatment Facility has been installed for each pair of wells to treat the groundwater to meet potable standards for employee use. A septic system disposes of sanitary wastewater.

1.2 Plan Purpose/Objectives

The purpose of this Spill Prevention, Control, and Countermeasure (SPCC) Plan is to describe measures to be implemented by the Facility to prevent oil discharges from occurring, and to prepare to respond in a safe, effective, and timely manner to mitigate the impacts in the event of a discharge. This Plan is required by the California Energy Commission (CEC). This Plan follows the format specific in 40 CFR Section 112. In addition, this Plan will be used as a reference for oil storage information and testing records, as a tool to communicate practices on preventing and responding to discharges with employees, as a guide to Facility inspections, and as a resource during emergency response.

The specific objectives of this Plan are to define the spill prevention, control, and countermeasures for the Facility and to assist Facility personnel in establishing and maintaining an efficient and effective program. This is accomplished in the Plan by addressing:

- Personnel Training and Spill Prevention Procedures.
- Inspections and Records; Facility Drainage.
- Bulk Storage Tanks.
- Transfer Operations, Pumping, and In-Plant Process, Security

The Hazardous Materials Division of the San Bernardino County Fire Department is the Administering Agency and the Certified Unified Program Agency (CUPA) for San Bernardino County with responsibility for regulating hazardous materials handlers, hazardous waste generators, underground storage tank facilities, above ground storage tanks, and stationary sources handling regulated substances. Contact information for this Administering Agency is provided in the Emergency Contact List.

1.3 Plan Distribution Procedures

The person accountable for spill prevention at this Facility shall have the responsibility for administering the Plan. The Distribution Number listed on the Title Page designates plan copies. Distribution will be handled in the following manner:

- Distribution of the Plan is tracked by the number on the Title Page. A Distribution List is included (page 6) to facilitate control and to identify the current holders of the Plan.

2 SPCC PLAN REGULATION OVERVIEW

2.1 APPLICABILITY (§112.1)

This requirement applies to owners or operators of non-transportation-related onshore and offshore facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing or consuming oil and oil products, and that meet the following criteria:

- Due to the location, could reasonably be expected to discharge oil in harmful quantities into or upon the navigable waters of the United States or adjoining shorelines; and
- Has an aggregate aboveground storage capacity, in containers of 55 gallons or greater capacity, in excess of 1,320 gallons; **or**
- Has a completely buried storage capacity, excepting tanks subject to 40 CFR Part 280 or 281, in excess of 42,000 gallons.

Additionally, in California, if a facility has an aggregate aboveground oil storage capacity in excess of 1,320 gallons, regardless of proximity to navigable waters, then the facility is subject to the California Aboveground Petroleum Storage Act and is required to prepare an SPCC plan in accordance with the Federal Regulations.

This facility has an aggregate aboveground oil storage capacity greater than 1,320 gallons; therefore, is subject to the requirements of the SPCC regulation.

2.2 DEFINITIONS (§112.2)

Facility: "Any mobile or fixed, onshore or offshore building, property, parcel, lease, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and oil waste treatment, or in which oil is used, as described in appendix A to this part. The boundaries of a facility depend on several site-specific factors, including but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and types of activity at the site. Contiguous or non-contiguous buildings, properties, parcels, leases, structures, installations, pipes, or pipelines under the ownership or operation of the same person may be considered separate facilities."

Production Facility: "All structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or intra-facility gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil (including condensate), or associated storage or measurement, and is located in an oil or gas field, at a facility."

Bulk storage container: "Any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container."

Tank: All tanks are containers. Regulations further define specific types of tanks, such as "underground" (USTs regulated by Federal UST regulations under 40 CFR 280 and 281), "bunkered", "completely buried" or "partially buried". USTs regulated by UST regulations are not subject to SPCC Regulations. "Breakout" tanks regulated by DOT are also not subject to SPCC Regulations. Bunkered, Completely Buried (such as vaulted tanks other than USTs) and Partially Buried Tanks are considered aboveground storage containers and are subject to SPCC Regulations.

Loading/Unloading Rack: "A fixed structure (such as a platform, gangway) necessary for loading or unloading a tank truck or tank car, which is located at a facility subject to the requirements of this part. A loading/unloading rack includes a loading or unloading arm and may include any combination of the following: piping assemblages, valves, pumps, shut-off devices, overfill sensors, or personnel safety devices."

Oil-filled operational equipment: "Equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device. Oil-filled operational equipment is not considered a bulk storage container and does not include oil-filled manufacturing equipment (flow-through process). Examples of oil-filled operational equipment include, but are not limited to, hydraulic systems, lubricating systems (e.g. , those for pumps, compressors and other rotating equipment, including pump jack lubrication systems), gear boxes, machining coolant systems, heat transfer systems, transformers, circuit breakers, electrical switches, and other systems containing oil solely to enable the operation of the device."

2.3 REQUIREMENT TO PREPARE AND IMPLEMENT (§112.3)

The owner or operator or an onshore or offshore facility subject to this regulation must prepare in writing and implement a Spill Prevention Control and Countermeasure Plan in accordance with §112.7.

A licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part.

By means of this certification the Professional Engineer attests:

- That he is familiar with the requirements of this regulation
- That he or his agent has visited and examined the facility
- That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part
- That procedures for required inspections and testing have been established
- That the Plan is adequate for the facility
- That, if applicable, for a produced water container subject to §112.9(c)(6), any procedure to minimize the amount of free-phase oil is designed to reduce the accumulation of free-phase oil and the procedures and frequency for required inspections, maintenance and testing have been established and are described in the Plan.

The owner or operator of a facility for which a Plan is required must:

- Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or at the nearest field office if the facility is not so attended, and
- Have the Plan available to the Regional Administrator for on-site review during normal working hours.

2.4 AMENDMENT OF SPCC BY REGIONAL ADMINISTRATOR (§112.4)

Submission of Plan (§112.4(a))

The facility shall submit this Plan to the EPA Regional Administrator within sixty (60) days whenever the Facility has a discharge event(s) from potential spill sources that meets one of the following conditions:

- Discharge more than 1,000 gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in a single spill event; or
- Discharges oil in harmful quantities into or upon the navigable waters of the United States or adjoining shoreline in two spill events greater than 42 gallons within any twelve-month period.

Documentation to be included with this Plan submission includes the following:

- Name and location of the facility
- Name(s) of the owner or operator of the facility
- Date and year of initial facility operation
- Maximum storage or handling capacity of the facility and normal daily throughput
- Description of the facility, including plot plans, flow diagrams and topographical maps
- The cause(s) of such discharge, including a failure analysis of system or sub-system in which the failure occurred
- The corrective actions and/or countermeasures taken, including an adequate description of equipment repairs and/or replacements
- Additional preventive measures taken or contemplated to minimize the possibility of recurrence

If, after submission of the Plan to the Regional Administrator, revisions to the Plan are required, the Plan will be amended in accordance with 40 CFR 112.4 (d)(e)(f).

2.5 AMENDMENT OF SPCC BY OWNERS AND OPERATORS (§112.5)

The "Designated Person Accountable for Oil Spill Prevention" (identified on the Certification Page) will coordinate the following plan review and update procedures.

Facility Changes Requiring Plan Revision

This Plan will be revised when there are changes in the Facility's design, construction, operation, or maintenance that materially affects the Facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. Such amendments shall be incorporated into the Plan within six months of the change and fully implemented as soon as possible but no later than six months following the preparation of the amendment.

Changes that may require revision include, but are not limited to:

- Commission or decommission of containers.
- Replacement, reconstruction, or movement of containers.
- Reconstruction, replacement, or installation of piping systems.
- Construction or demolition that might alter secondary containment structures and/or drainage systems.

Five-Year Review

At least once every five years the Facility will complete a review and evaluation of this Plan and make amendments within six (6) months of the review in accordance with 40 CFR Section 112.5. This evaluation will include, at a minimum, the following:

- Applicability of new prevention and control technology which may significantly reduce the likelihood of a spill event from the facility if such technology has been field-proven at the time of the review.
- Accuracy of the SPCC Plan as compared to the current facility operation and SPCC Regulations.
- Capacity and structural integrity of secondary containment structures.
- SPCC inspections and records files to ensure continuity for a minimum period of five (5) years.

Certification of Revisions by a Professional Engineer

- Technical amendments to the Plan require certification by a Registered Professional Engineer.
- Administrative changes such as updates to contact information or other changes that do not increase the likelihood of a spill or discharge will not require certification by a Registered Professional Engineer.
- Plan amendments or submittals to the EPA Regional Administrator due to the occurrence of reportable spills or other Plan Amendments by the Regional Administrator will not require

recertification by a Registered Professional Engineer unless a technical amendment is required.

These procedures are in accordance with 40 CFR Sections 112.5.

Inclusion of Amendments into the Plan

- The facility will coordinate the word processing, publication, and distribution efforts of completing the revisions and maintaining the Plan.
- The plan holder, immediately upon receipt of any revisions, shall review and insert the revised pages into the Plan and discard the obsolete pages. This action should then be recorded on the "Revision Record" page in the Foreword.

2.6 QUALIFIED FACILITY PLAN REQUIREMENTS (§112.6)

The facilities included in this SPCC plan do not meet the criteria of a "Qualified Facility" as defined below:

- A Tier I qualified facility meets the qualification criteria of a Tier II qualified facility and has no individual aboveground oil storage container with a capacity greater than 5,000 U.S. gallons.
- A Tier II qualified facility is one that has had no single discharge exceeding 1,000 U.S. gallons or no two discharges each exceeding 42 U.S. gallons within any twelve-month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to this part if the facility has been in operation for less than three years and has an aggregate aboveground oil storage capacity of 10,000 U.S. gallons or less.

3 §112.7 GENERAL REQUIREMENTS FOR SPCC PLANS

3.1 GENERAL REQUIREMENTS (§112.7(a))

Facility Conformance with Part 112 Requirements (§112.7(a)(1))

The facility is in conformance with the following regulatory requirements:

- Federal Oil Spill Prevention regulations – US EPA Final Rule for Oil Pollution Prevention; Non-Transportation Related Onshore and Offshore Facilities (40 CFR Part 112).

Facility Description and Diagrams (§112.7(a)(3)(i))

The Mojave Solar Project will produce solar electricity by means of an integrated process using solar energy to heat a synthetic petroleum-based fluid in a closed-loop system that, in turn, heats water to create steam to drive a conventional steam turbine. The Facility is comprised of two separate but similar sections- the Alpha and Beta solar fields and Power Islands. An overall facility diagram showing the entire site is located in Appendix A-1. Appendix A-2-Central Plant Layout provides details of the Power Islands (Alpha Power Island is represented; however, the Beta Power Island is identical with the exception of gasoline storage), and Appendix A-3 shows the detailed locations of the pertinent HTF, HF and lube oil storage facilities noted.

Oil Storage and Oil-Filled Equipment

Oils stored at the facility required to have secondary containment include hydraulic fluid and lube oil. Oils used in operational equipment include Heat Transfer Fluid (HTF), mineral oil, and hydraulic fluid.

CFR 40, Part 112 Oil Pollution Prevention; Spill Prevention, Control, and Plan Requirements-Amendments (Section 112.2) excludes oil-filled operational equipment from the definition of bulk storage provided the oil storage container in which the oil is present solely supports the apparatus or the device. Examples of oil-filled operational equipment include hydraulic and lubricating systems and heat transfer systems. The regulations provide for the option of SPCC compliance by providing for secondary containment for each piece of operational equipment in accordance with 112.7(c); or by preparing a contingency plan which includes active containment measures (countermeasures or spill response capability) which prevent discharge into navigable waters.

Specific locations of oil storage areas and oil-filled operational equipment are indicated on the diagrams in Appendix A-3. A table listing oils stored and their secondary containment and oil-filled operational equipment is included in Appendix B.

Heat Transfer Fluid (HTF)

Therminol VP1 is the heat transfer fluid (HTF) that will be used in the solar panels to collect solar heat and transfer it in order to generate steam to run the steam turbines. Therminol is a mixture of 73.5% diphenyl ether and 26.5% biphenyl and is a solid at temperatures below ~54 °F. Therminol can therefore be expected to remain liquid if a spill occurs. While the risk of off-site migration is minimal, Therminol is highly flammable, and fires have occurred at other solar generating stations that use it. Approximately 2,292,000 gallons of HTF will be contained in the pipes and heat exchanger. Isolation valves are placed throughout the HTF piping system designed to automatically block off sections of the piping in which a loss of pressure is detected.

To accommodate the volumetric change that occurs when heating the HTF to the operating temperature, expansion vessels and overflow tanks are required. Nitrogen will be used to provide a blanket on the headspace of the expansion vessels and tanks to prevent oxidation and contamination of the HTF by reducing its exposure to atmospheric air in the expansion vessels.

- Expansion Vessels: For each Power Island, there are four (4) HTF expansion vessels. Each HTF expansion vessel is designed to operate at 32% level with a total of 81728.74 lbs. of HTF. Based on the specific gravity of the HTF, each vessel will operate at approximately 9,245 gallons of HTF.
- HTF Overflow Tanks: For each Power Island, there are two (2) HFT overflow tanks, each having a capacity of 57,000 gallons.

The “close-loop” heat transfer process circulates HTF through the facility’s pumps, expansion tanks, piping, and other associated components and does not require the transfer of oil. The HTF expansion and overflow tanks are present solely to support the HTF heat transfer/circulation process, and therefore meet the definition of “oil filled operational equipment”.

Although the HTF is not defined as bulk storage, The Facility has constructed secondary containment for HTF expansion vessels and overflow tanks and has a prepared an emergency response plan including countermeasures and spill response procedures. Secondary containment drawings are included in Appendix C and the facility's emergency response plan is included in the Facility HMBP.

Hydraulic Fluid

Hydraulic Fluid (HF) is brought to the Facility by flatbed truck in 330-gallon totes and used in the hydraulic pumps to rotate the mirrors in the Mirror Fields. The hydraulic pumps and related distribution equipment are considered "oil filled operational equipment" and are not considered bulk storage containers. Hydraulic fluid is stored within the chemical products storage area (No. 38 on Central Plant Layout Map) of each Power Island. The chemical products storage areas have been constructed with secondary containment to meet the requirements of 110% of volume of the largest container.

Lube Oil

Storage areas for lube oil (exceeding 55 gallons) are located within the Lube Oil Skid (No. 28 on Central Plant Layout Map) of each Power Island. The lube oil skids have been constructed with secondary containment to meet the requirements of 110% of volume of the largest container.

Mineral Oil

Mineral oil is used in the facility's power transformers. The power transformers are defined as "oil filled operational equipment" (per §112.2) and are not considered bulk storage.

Transportation and Distribution of Oils

Heat Transfer Fluid (HTF)

Various containerized and bulk hazardous materials will be transported to the Facility via truck. Approximately 2.3 million gallons of HTF will be transported to the Facility prior to start-up of operations resulting in an estimated 374 deliveries total or 10 trucks per week. Each truck will deliver approximately

6,130 gallons of HTF. The risk of an accidental release during HTF transport in the Facility area has been assessed based on criteria such as previous accident data, established accident modeling, and existing regulatory requirements regarding transport of hazardous materials (e.g., standards for vehicle safety and driver qualifications/competence). The evidence shows that, with applicable regulatory conformance, the risk of exposure to significant concentrations of HTF during transportation to the Mojave Solar, LLC facility is extremely low.

The HTF tank truck unloading area will be surrounded with a rollover berm that provides secondary containment in the event of a discharge during transfer operations. The rollover berm is designed to address the more stringent containment requirements of 40 CFR 112.7(h), which requires that the berm be sufficient to contain the capacity of the largest compartment, plus freeboard for precipitation. The curbed area has been designed accordingly.

HTF is transported through the Mirror Fields using a supply-and-return header system, which assists in balancing flow through the pipe system. Pumps include seal cooling and high temperature materials to preserve component function under extreme conditions. The Mirror Fields are divided into sections with automatic or semiautomatic isolation valves. The isolation valves will be located to minimize the volume of HTF leakage during a pipe failure and may either be triggered automatically or by the operator inside the facility control room. Piping expansion loops are located throughout the Facility as required to maintain the composite pipe stress within the allowable limits.

Hydraulic Fluid (HF)

Hydraulic Fluid (HF) is brought in by flatbed truck in 330-gallon totes. The totes are unloaded at the containment areas. Secondary containment for unloading areas is provided with oil booms and pads to contain any spills or leaks. HF remains in the totes until it is downloaded into smaller containers for use in filling the hydraulic pumps that operate the mirrors. Small containers consist of less than 50-gallon steel or plastic containers. Minor amounts of HF pass through short length, small diameter hoses or pipes that transfer HF fluid from containers to motors.

Lube Oil/Mineral Oil

Lube Oil is brought in by truck in containers. Mineral oil is preloaded into the transformers prior to arriving on site.

Discharge Prevention Measures (§112.7(a)(3)(ii))

Off-Site Drainage

The Facility is located on relatively level terrain. The area originally drained towards the Harper Lake Wash, which is located northeast of the Facility. The off-site storm water runoff from the mountains east, west and the north of the Facility is managed by an interceptor and conveyance channels as well as detention basins to ensure that pre-development flows are not exceeded, and historic flow patterns are maintained. Off-site flows are eventually released into the Harper Lake Wash Area north of the Facility. (See Figure 1-2 Facility Site Map).

The Facility's storm water will be retained on-site in drainage basins. Runoff in the Mirror Fields will be collected in a series of shallow basins between the mirror rows. These basins will be designed to provide natural percolation/infiltration of the rainfall. The shallow retention areas are designed with a five percent slope to minimize the effects of erosion and soil carry-over and deposition into the retention basins. The drainage from the Power Islands will be contained within the Power Islands.

Discharge or Drainage Controls (§112.7(a)(3)(iii))

The Facility has developed measures for operating personnel that cover the activities to be conducted during the routine handling, loading, unloading, and transfer of products. Such measures include routine startup and shutdown, emergency shutdown, routine operating practices, and emergency response procedures. (See the Facility HMBP)

All oil storage containers (greater than 55 gallons) are provided with sufficient secondary containment to contain the volume of the largest container within

the containment area plus freeboard (110%). Facilities or equipment without secondary containment are addressed in Section 2.4.

The steel HTF overflow tanks are equipped with direct-reading level gauges and with high level alarms set at 90 percent of the rated capacity. Liquid level sensing devices will be tested on a monthly basis during the monthly inspection of the facility, following manufacturer recommendations. Venting capacity will be suitable for the fill and withdrawal rates. Overfill prevention systems for the HF and lube oil will be developed based on the operation of those systems. Totes will be not refilled, and therefore overfill prevention systems do not apply. Facility personnel will be present throughout the filling operations to monitor the product level in the tanks.

On-Site Drainage/Discharge

Drainage from the curbed and diked/containment areas including storm water, overflow from the adjacent tanks, and spillage will be contained and must be manually pumped out. The contents of the secondary containment areas will be inspected by facility personnel prior to pumping. Any water containing oil will be taken to the oil/water separator for treatment.

- Discharges occurring during truck loading/unloading operations will be restrained by the rollover berm. Operation and maintenance trucks may transport HTF or HF within the facility. When they are parked at the facility for an extended period of time (such as parking overnight with a load of product), they will be positioned in an area which will either provide secondary containment capacity (i.e., sufficient for the capacity of the delivery truck and additional freeboard for 4 inches of precipitation) or will be positioned such that any leakage will be able to be contained by booms or pads prior to entering a drainage basin.
- Discharge from above-ground storage tanks, totes or pipelines without direct containment will be identified and efforts made to contain the discharge by booms, pads or other material prior to reaching drainage basins.

- Totes and portable containers will have secondary containment. Any discharged material will be quickly contained and cleaned up using sorbent pads and appropriate cleaning products.

Countermeasures for Discharge Discovery, Response, and Cleanup (§112.7(a)(3)(iv))

The Facility uses in-house personnel to respond to small releases and contracts with a spill response contractor to provide immediate response to larger. All employees are trained in spill response and the SPCC plan is reviewed annually. The training provides specific response information including notification guidelines and available resources.

Leak detection will be accomplished in a combination of ways. A Facility employee performs a complete walk-through of the facility each day. This daily visual inspection involves: (1) looking for storage /piping damage or leakage, stained or discolored soils, or excessive accumulation of water in diked and bermed areas. Small leaks, which could occur at ball joints or other connections, will be detected based on these daily inspections. Small leaks could then be corrected via repacking of joints or valves or by minor repairs if needed. The ability to isolate loops and sections of the field will allow for quick repairs. In the event of larger sudden leaks, these are handled through a combination of remote pressure sensing equipment and remote operating valves that will allow for isolation of large areas of the field, or possibly the entire field.

Methods of Disposal of Recovered Materials (§112.7(a)(3)(v))

Visible discharges from any container or appurtenance – including seams, gaskets, piping, pumps, valves, rivets, and bolts – will be quickly corrected upon discovery. Oil will be promptly removed from the containment areas and disposed of according to the waste disposal method.

Spilled materials will be recovered via pump and vacuum lines. The material will be treated as waste and will be removed by a contracted third-party in accordance with the Hazardous Materials-Contingency Plan included in the Facility Emergency Response program.

Contact List and Phone Numbers for Response (§112.7(a)(3)(vi))

A current contact list that includes the facility response coordinator, National Response Center, response contractors, and appropriate Federal, State and Local agencies can be found in the Facility's Emergency Response program. Copies are kept in the main office.

Spill Notification Requirements (§112.7(a)(4))

Spill notification requirements are summarized in the Spill Notification Guidelines located in the Facility's Emergency Response program.

Response Plan (§112.7(a)(5))

The facility has developed an Emergency Contact List that will be used in the event of an oil spill. The list includes contact information for facility personnel, spill contractors, emergency numbers, and government agencies that must be notified in case of a spill. The list can be located in the Facility's Emergency Response program.

The responsibilities of the response personnel include identifying the size, position, and content of the spill, and also the direction and speed and the chances of entering a vulnerable area.

No member of the response party shall do anything that would put himself or herself or anyone else at any sort of risk. Knowing this, it is also important that the flow of oil be blocked off as soon as possible as to prevent the general public from being affected.

The facility's Hazardous Materials Contingency Plan is located in Facility Emergency Response program.

3.2 Rate, Quantity and Direction of RELEASE (§112.7(b))

The predicted rate and quantity of a release from the bulk storage containers are noted in Appendix B. Any changes to this information will be amended in accordance with Section 2.5 of this Plan and 40 CFR Part 112 Subpart A Section

112.5. Direction of flow is shown directly on the overall Facility Plan in Appendix A-1. Other facilities are addressed below:

There is potential for oil spills to occur as a result of equipment failure.				
Spill Source	Type of Failure	Estimated Volume (max. rate of flow)	Direction of Flow	Secondary Containment
TRANSFER LINES	Leak	Will vary depending on flow rate, pipe diameter, location, and spill duration	Varies	None (1)
MANIFOLDS	Leak	Will vary depending on flow rate and spill duration	Varies	None (1)
STORAGE TANKS	Leak or Rupture	5,000 Gallons	Varies	Concrete walls and curbing
OIL-FILLED EQUIPMENT	Leak	Will vary depending on flow rate and spill duration	Varies	None (1)
TRUCK LOADING	Leak while loading	Will vary depending on flow rate and spill duration	Varies	See note (2)
<p>(1) Permanent containment structures are not practical for these types of equipment, as potential spill volumes cannot be adequately predicted. Regular inspections, diligent monitoring and an Oil Spill Contingency Plan will be utilized to prevent and control spills at these sites.</p> <p>(2) Loading racks are not present at these facilities. Truck loading is accomplished through flex lines and pumps. When such operations are performed, they are continuously monitored.</p>				

3.3 Secondary Containment / Diversionary Structures (§112.7(c))

Secondary containment is provided for each tank storage area as shown in Appendix B. Containment structures are of sufficient size and impermeability to retain any release until cleanup occurs.

3.4 Contingency Planning (§112.7(d))

Exceptions from Secondary Containment

In section 3.2, the facility identified equipment for which it is not practical to install secondary containment or containment structures, as described in section 112.7(c).

It is not practical to construct containment outside the proximity of the listed major facilities for equipment, such as transfer lines, pumps, manifolds, truck loading areas, and oil-filled equipment.

Buried ferrous piping at this facility will be either cathodically protected against corrosion or will be provided with a protective wrapping and coating. When a section of buried line will be exposed, it will be carefully examined for deterioration. If corrosion damage will be found, additional examination and corrective action will be taken as deemed appropriate considering the magnitude of the damage. Additionally, integrity and leak testing of buried piping will be conducted at the time of installation, modification, construction, relocation, or replacement. Records of all tests will be kept at the facility for at least three years. Lines that will not be in service or are on standby for an extended period of time will be capped or blank-flanged and marked as to their origin. All pipe supports will be designed to minimize abrasion and corrosion and to allow for expansion and contraction. Pipe supports will be visually inspected during the monthly inspection of the facility. All aboveground piping and valves will be examined monthly to assess their condition. Inspection includes aboveground valves, piping, appurtenances, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. Observations will be noted on the SPCC Inspection Checklist provided in this Plan (Appendix D-1). Warning signs will be posted at appropriate locations throughout the facility to prevent vehicles from damaging aboveground piping and appurtenances. Most of the aboveground piping will be located within process areas that will not be accessible to vehicular traffic. Brightly painted bollards will be placed where needed to prevent vehicular collisions with equipment.

Oil Spill Contingency Plan (§112.7(d)(1))

An Emergency Contingency Plan is included in the Hazardous Materials Business Plan (HMBP) prepared in accordance with state regulations. An Emergency Contact List is included in the Facility's Emergency program which addresses oil spills for equipment listed as having no secondary containment in section 3.2.

Written Commitment (§112.7(d)(2))

For the equipment listed as having no secondary containment in section 3.2, the facility has provided a written commitment of manpower, equipment, and materials necessary to remove any quantity of oil discharged that may be harmful. Refer to the "Certification Page".

3.5 Inspections, Testing, and Records (§112.7(e))

Facility personnel perform SPCC Inspections quarterly. A copy of the "SPCC Inspection Checklist" is located in Appendix D-1 and a copy of the "Mojave Solar Project Inspection Checklist" is located in Appendix D-2. In addition to the quarterly inspection, surveillance is a routine function of the facility personnel.

Operators inspect their facilities daily for signs of leaks. If a spill is detected, its source would be shut-in and supervisory personnel notified and appropriate actions taken to:

1. Contain and clean up spill
2. Repair the equipment that was the source of the leak
3. Make any required notifications

The facility also conducts periodic audits and facility reviews, that include spill prevention, containment, and control procedures.

Records of the quarterly inspections, signed by the appropriate supervisor or inspector, are maintained with the SPCC Plan for a minimum period of three (3) years.

3.6 Personnel, Training, and Discharge Prevention (§112.7(f))

Training (§112.7(f)(1))

Employees are given annual training on the SPCC plan, as applicable. The major emphasis of the training is in spill prevention and response, good housekeeping, and material management practices and an understanding of the SPCC Plan including applicable pollution control laws and discharge procedure protocols

Person Accountable for Discharge Prevention (§112.7(f)(2))

The Plant Manager is responsible for discharge prevention.

Discharge Prevention Briefings (§112.7(f)(3))

Discharge prevention briefings are conducted annually for oil handling personnel. The briefings highlight and describe known discharges or failures, malfunctioning components, and any recently developed precautionary measures. All training will be documented and maintained with this plan.

3.7 Security (§112.7(g))

The facility has implemented the following security practices at the facility:

- Each facility is surrounded by an 8 – foot tall chain link fence.
- Entrance to each site is controlled by a manned gate. Personnel entering the facility must provide identification to gain access to the facility. A visitor log is maintained at the facility to record access granted to non-employee personnel.
- Contracted security officers actively monitor the property to detect suspicious persons or activities.
- Security lighting is used to deter trespassing and ensure safety for those monitoring the premise. This lighting is also sufficient to assist with the detection of oil discharges.

3.8 TANK CAR AND TANK TRUCK LOADING/UNLOADING RACK (§112.7(h))

This facility does not utilize tank car and tank truck loading and unloading racks as defined in 40 CFR Part 112 Section 112.2.

3.9 Brittle Fracture Evaluation (§112.7(i))

The facility will inspect any aboveground storage containers that undergo repair, alteration or change in service. The inspection evaluates the potential for discharge due to brittle fracture or other catastrophe that might have been affected by the repair, alteration or change in service.

The facility will also investigate equipment failures. The inspection considers the condition of the equipment, including the potential for brittle fracture, and recommends changes to prevent a recurrence of the failure.

3.10 Conformance with Other Applicable Regulations (§112.7(j))

In 1989, California adopted the Aboveground Petroleum Storage Act under California Health and Safety Code, Chapter 6.67. This regulation requires all facilities with aboveground oil storage tank aggregate capacity of 1,320 gallons or more, regardless of surface water proximity, to develop SPCC Plans in accordance with the guidelines set forth in the SPCC Regulations under 40 CFR Part 112.7, and be under the jurisdiction of the State through the Regional Water Quality Control Board and the Certified Unified Program Administrator (CUPA). This facility is subject to the regulation.

This facility does store hazardous materials and as such falls under Hazardous Materials Business Plan regulations under California jurisdiction (see Appendix E-Hazardous Materials Contingency Plan).

3.11 Qualified Oil-filled Operational Equipment (§112.7(k))

All oil-filled operational equipment at this facility meets the criteria as "Qualified".

A Consolidated Contingency Plan is included in the Hazardous Materials Business Plan (HMBP) prepared in accordance with state regulations. An Emergency Contact List is included in the Facility's Emergency Response program which addresses oil spills for all oil-filled operational equipment.

For all oil-filled operational equipment, the facility has provided a written commitment of manpower, equipment, and materials necessary to remove any quantity of oil discharged that may be harmful. Refer to the "Certification Page".

4 §112.8 SPCC Plan Requirements for Onshore Facilities

4.1 General Requirements (§112.8(a))

This Plan satisfies the requirements of Section 112.7 in addition to the specific discharge prevention and containment procedures that follow.

4.2 Facility Drainage (§112.8(b))

Drainage from Secondary Containment Berms (§112.8(b)(1))

The Facility does not drain any containment areas to any pond, watercourse, storm water drains, etc. Pumps and vacuum lines will be used to remove accumulated materials as necessary.

4.3 Bulk Storage Containers (§112.8(c))

Materials of Construction (§112.8(c)(1))

The Facility's bulk storage containers have the following design characteristics, materials of construction, and fail-safe engineering features:

- Storage tanks are constructed of either welded or bolted steel. This material is determined to be compatible with the products stored and the conditions of storage (including pressure and temperature).

- Chemical storage containers are constructed of steel or plastic and are designed to be compatible with the contents.
- Tanks are operated within "Safe Fill" levels below the capacity limits of the tank.

Secondary Containment (§112.8(c)(2))

All bulk oil storage facilities have secondary containment designed to contain at least 110 percent of the maximum volume of the single largest tank in the containment area.

The secondary containment system provided for the bulk product storage tanks has the following design and construction characteristics:

- The calculated secondary containment volumes are detailed in Appendix B.
- The secondary containment is sufficiently impervious to contain a release until released material can be removed.

Drainage of Uncontaminated Rainwater (§112.8(c)(3))

Rainwater within containments will be removed with pumps and vacuum lines as necessary.

Completely Buried Metallic Tanks (§112.8(c)(4))

The Facility does not contain any buried, partially buried or bunkered metallic tanks

Buried/Partially Buried Metallic Tanks (§112.8(c)(5))

The Facility does not contain any buried, partially buried or bunkered metallic tanks.

Testing of Aboveground Containers (§112.8(c)(6))

Integrity testing of aboveground containers is performed as required, and when repairs are made, in accordance with the facility PSM program. This program

details and records required inspections and personnel qualifications. The program and associated records are maintained at the facility. Plus, operations personnel will conduct periodic visual inspections of aboveground containers to determine if they have become compromised and/or leaking.

Internal Heating Coils (§112.8(c)(7))

There are internal heating coils within the HTF expansion vessels which are located within each Power Island. Each Power Island has four expansion vessels equipped with internal heating coils. Steam return and exhaust lines are monitored for contamination from leaking heating coils to ensure oils are not transferred into systems outside of spill containment areas.

Engineering to Prevent Releases (§112.8(c)(8))

The following engineering designs and practices are employed at the facility:

- Fail-safe engineering considerations include proper sizing of piping and gauging equipment.
- Audible communication between operators to prevent discharges due to overfilling or transfer equipment leaks.

Effluent Treatment Facilities (§112.8(c)(9))

The Mojave Solar LLC includes facilities for the treatment of water used during plant operations. An oil/water separator is used to treat water contaminated with oil. All wastewater from plant operations is treated and recycled back into the facility.

Visible Discharges (§112.8(c)(10))

Visible discharges of oil from a container are promptly remedied. Any accumulation of oil from these discharges is promptly removed.

Mobile or Portable Oil Storage Containers (§112.8(c)(11))

All mobile or portable oil storage containers have secondary containment designed to contain 110 percent of the maximum volume of the single largest container.

4.4 Facility Transfer Operations (§112.8(d)) (§112.12(d)) (Aboveground Valves, Piping Association with Transfer Operations)

Inspection of Buried Piping (§112.8(d)(1))

The facility does not operate any oil-containing buried piping.

Out-of-Service Piping (§112.8(d)(2))

Piping that is not in service or is in standby service for an extended period is capped or blind-flanged at the terminal connection of the transfer point. The origin of the piping is also marked.

Pipe Supports (§112.8(d)(3))

Pipe supports are designed to minimize any abrasion or corrosion of pipes and allows for expansion and contraction of the pipelines that are being supported.

Inspection of Aboveground Valves, Piping, and Appurtenances (§112.8(d)(4))

The following table lists equipment that is routinely inspected for spill and pollution prevention and control purposes:

- Flange joints
- Expansion joints
- Valve glands and bodies
- Catch pans
- Valves locks and/or seals
- Pipeline supports
- Metal surfaces

Problems identified during any inspection are documented and addressed as soon as possible, so as to prevent environmental and operating hazards. When required, follow-up inspections are performed and documented to ensure that appropriate corrective measures have been taken to ensure compliance.

All aboveground valves and pipelines are regularly examined during operating personnel rounds. During these examinations, operating personnel assess the general condition and necessity for corrective actions of the items.

Vehicles Entering Areas with Aboveground Pipelines (§112.8(d) (5))

All vehicle operators driving within the Facility are verbally notified of aboveground piping and oil transfer operations vulnerable to damage from vehicles

5 Appendix

Appendix A1- Overall Facility Maps

Appendix A2- Central Plant Layouts

Appendix A3- Location of Storage Facilities And Oil Filled Equipment

Appendix B- List of Containers With Secondary Containment Calculations

Appendix C- Containment Diagrams

Appendix D1- SPCC Inspection form

Appendix D2- Inspection Checklists

Appendix E- References

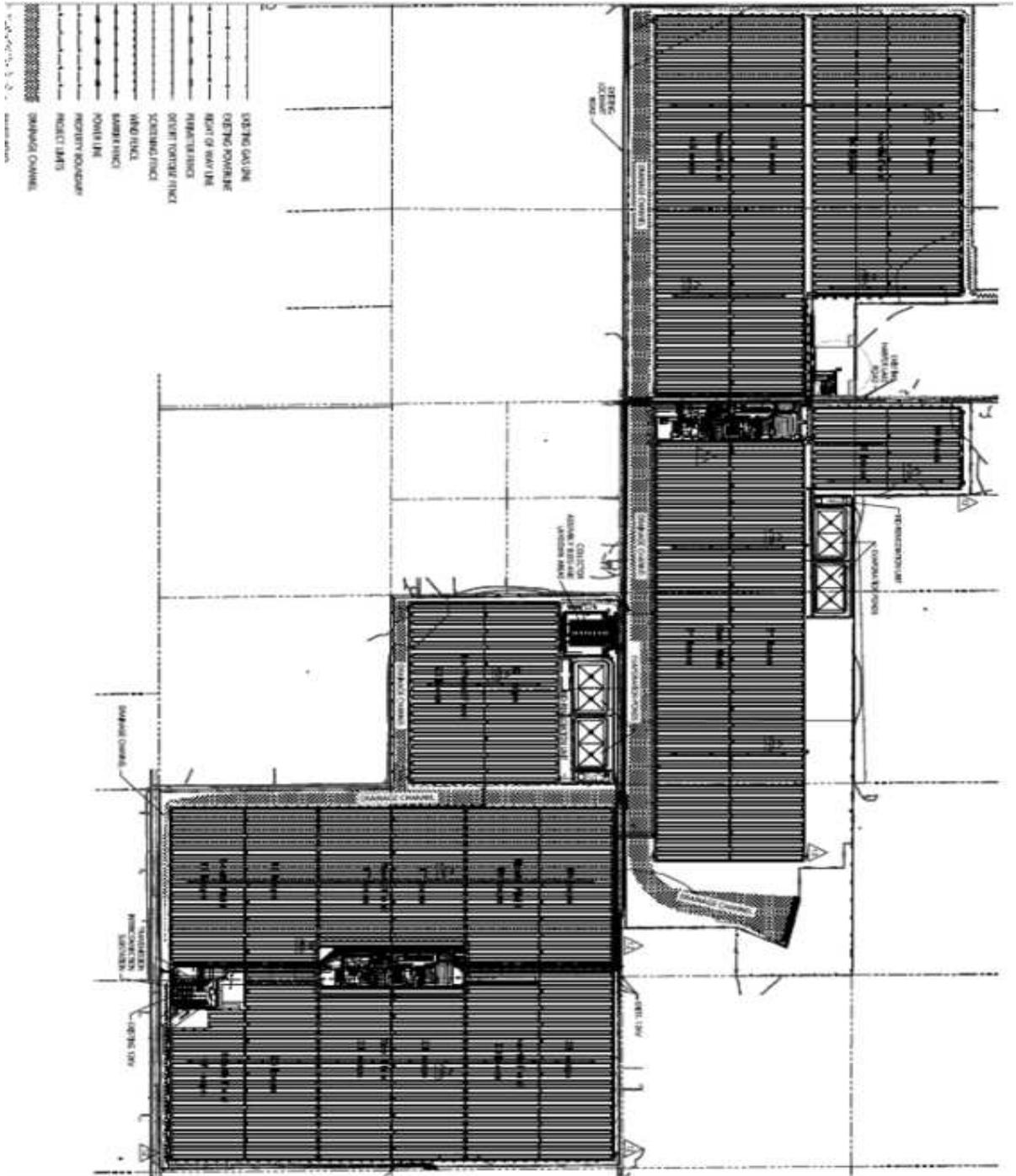
APPENDIX A-1

MOJAVE SOLAR PROJECT OVERALL FACILITY MAPS

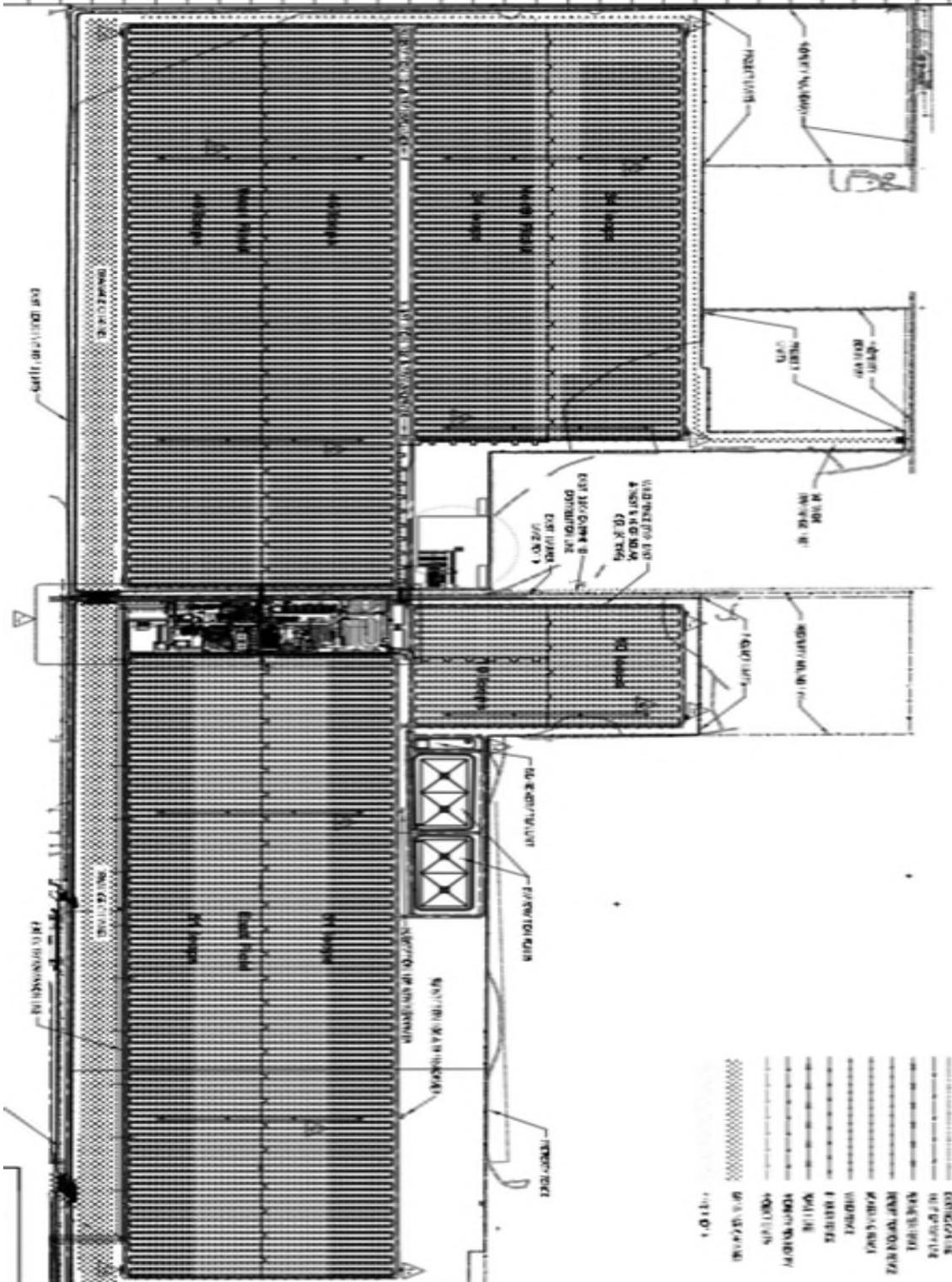
Spill Prevention, Control, And Countermeasures (SPCC) Plan

Date: 01/17/2024

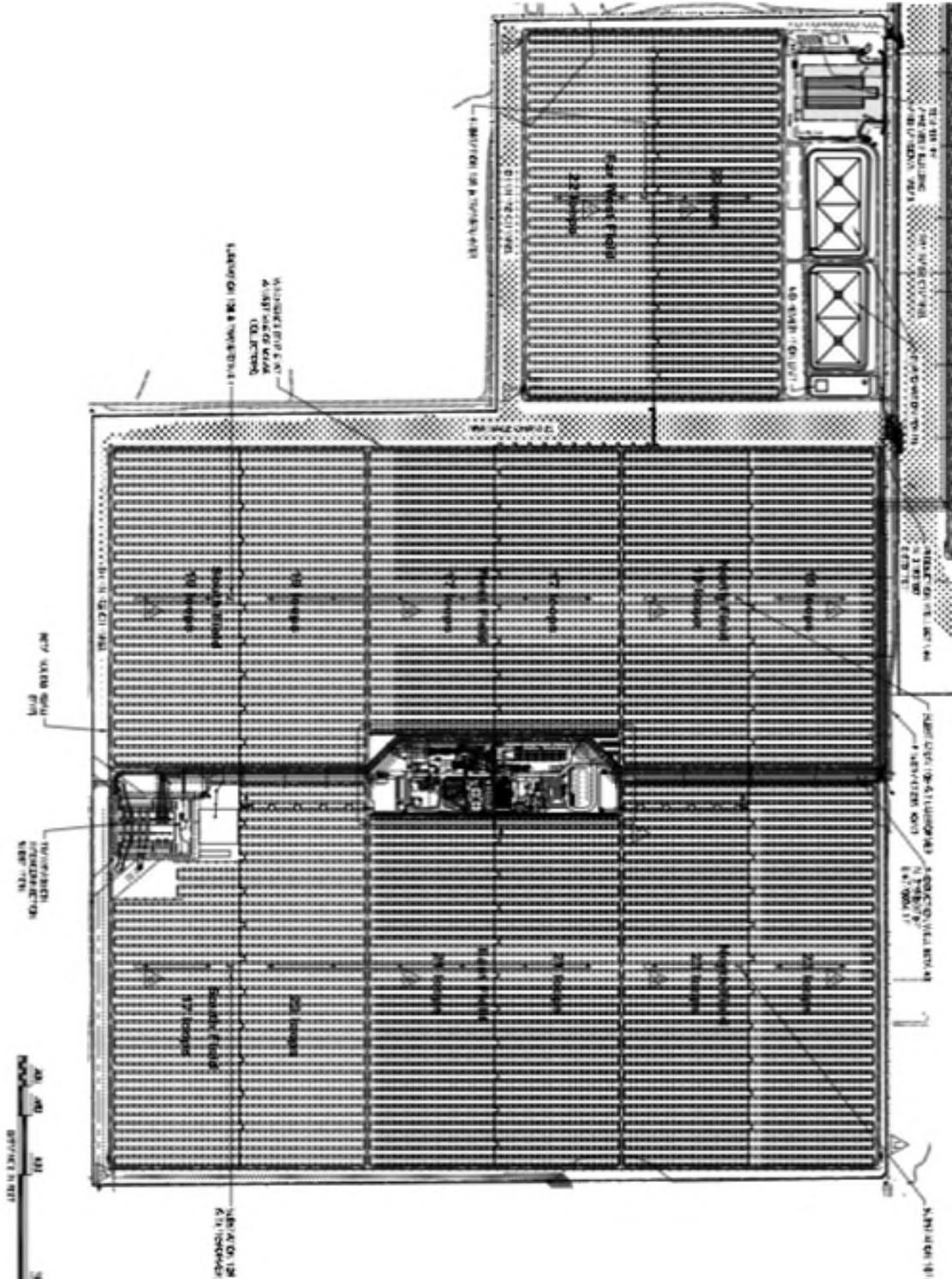
Version: 06



Alpha Plant Overall Map



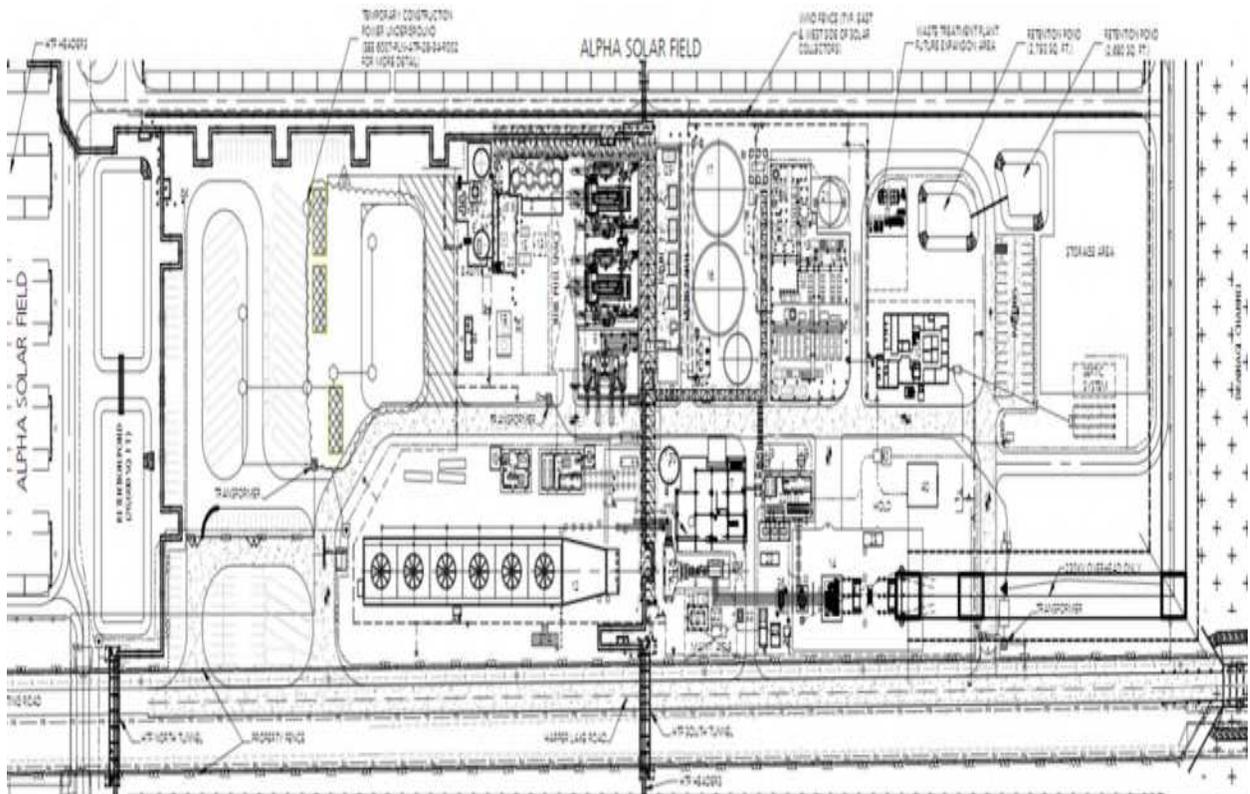
Beta Plant Overall Map



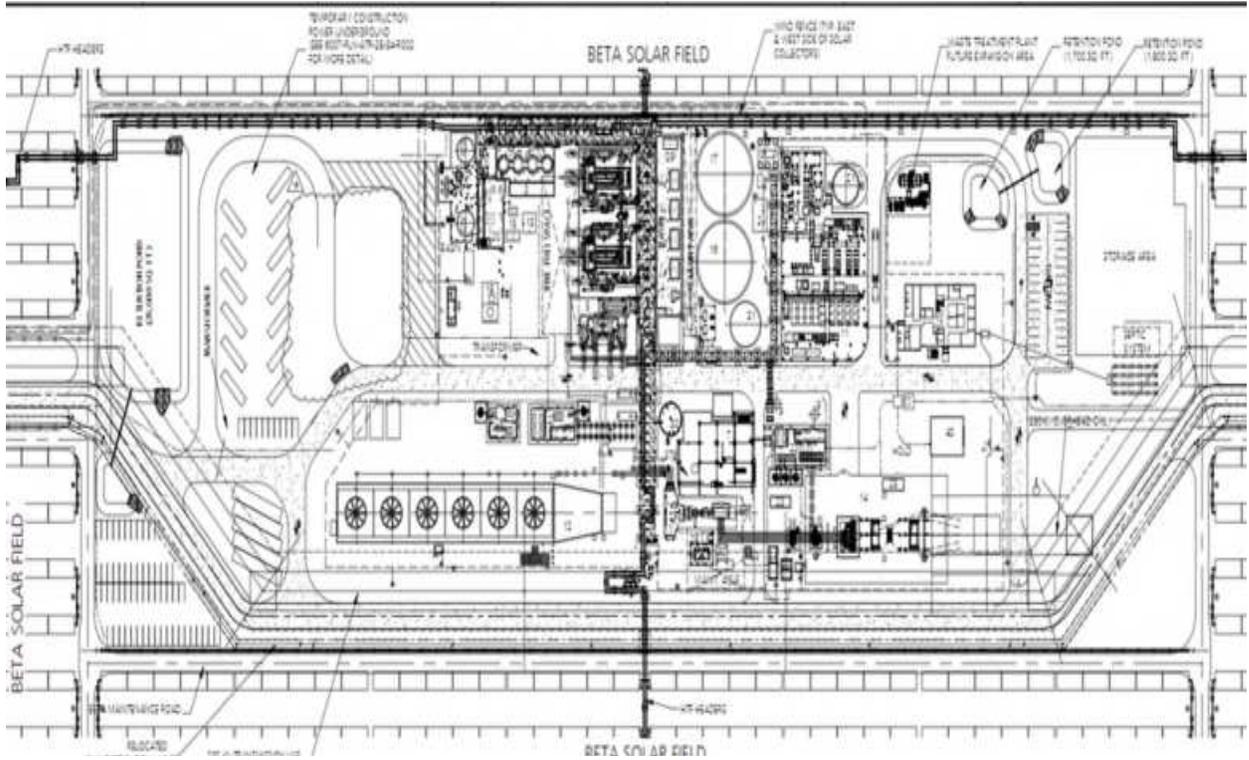
APPENDIX A-2

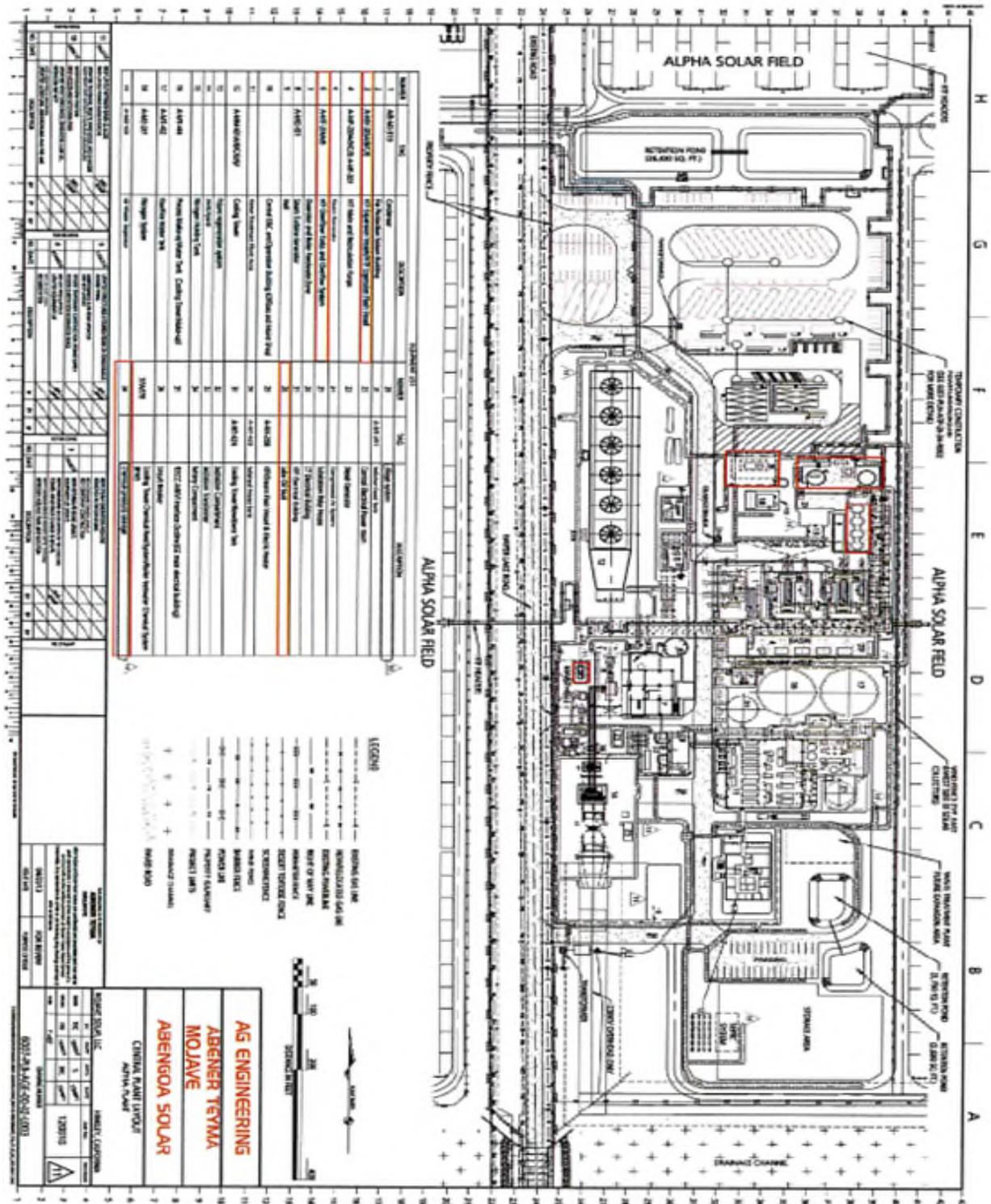
**MOJAVE SOLAR PROJECT
CENTRAL PLANT LAYOUT**

Alpha Plant



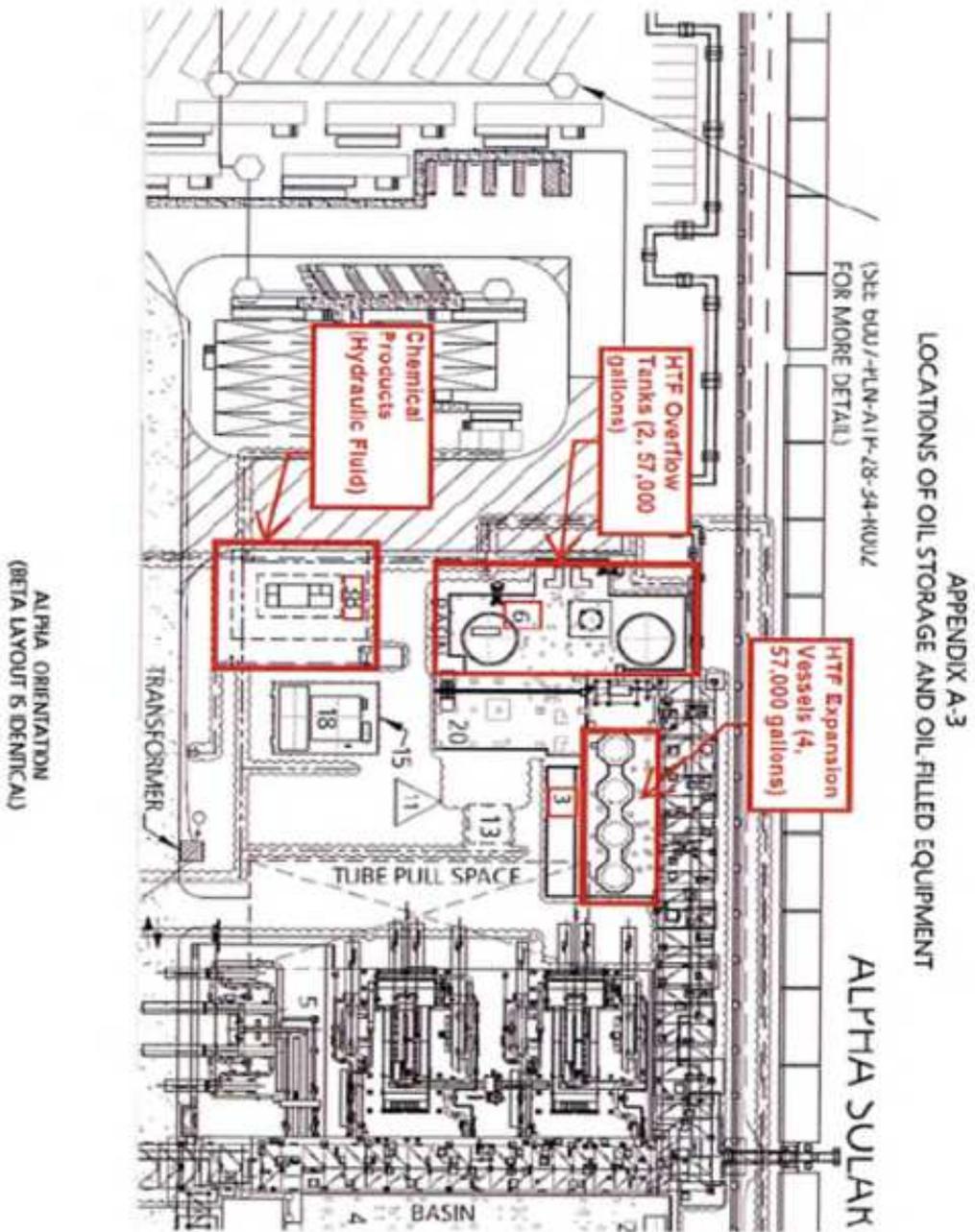
Beta Plant





APPENDIX A-3

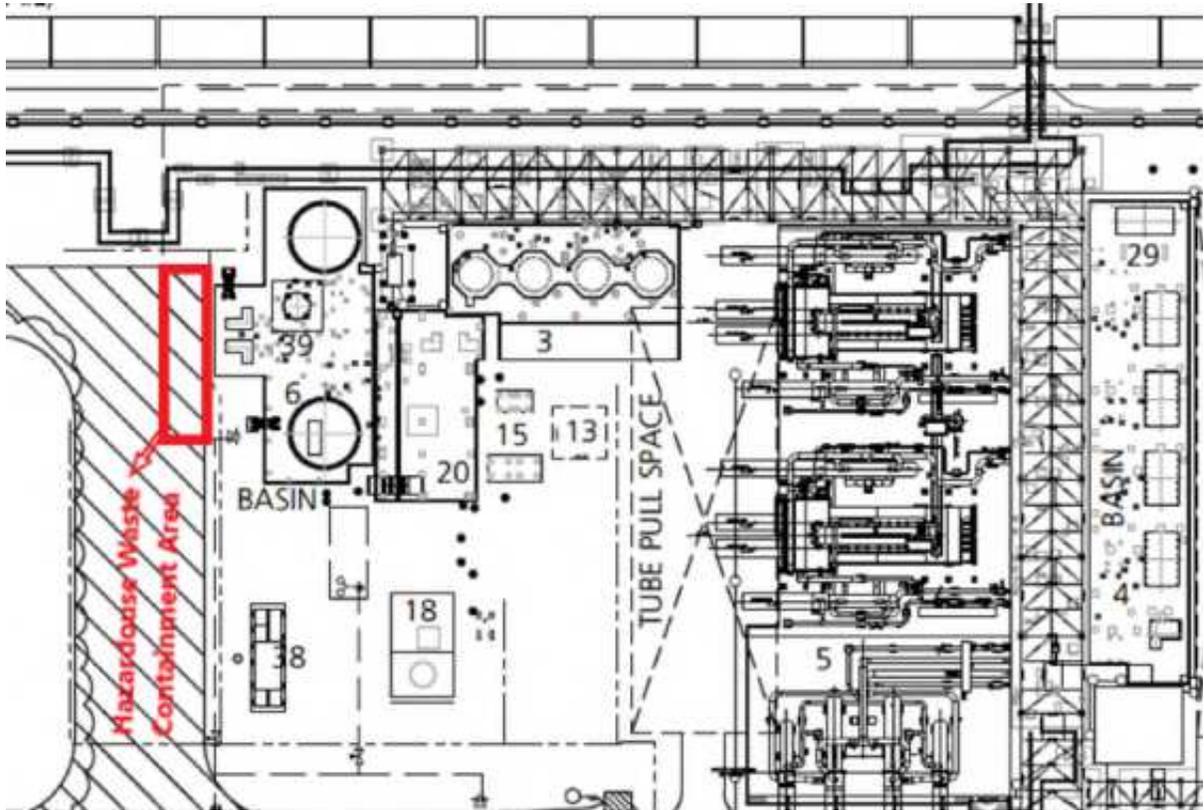
MOJAVE SOLAR Project LOCATIONS OF OIL STORAGE FACILITIES AND OIL-FILLED EQUIPMENT

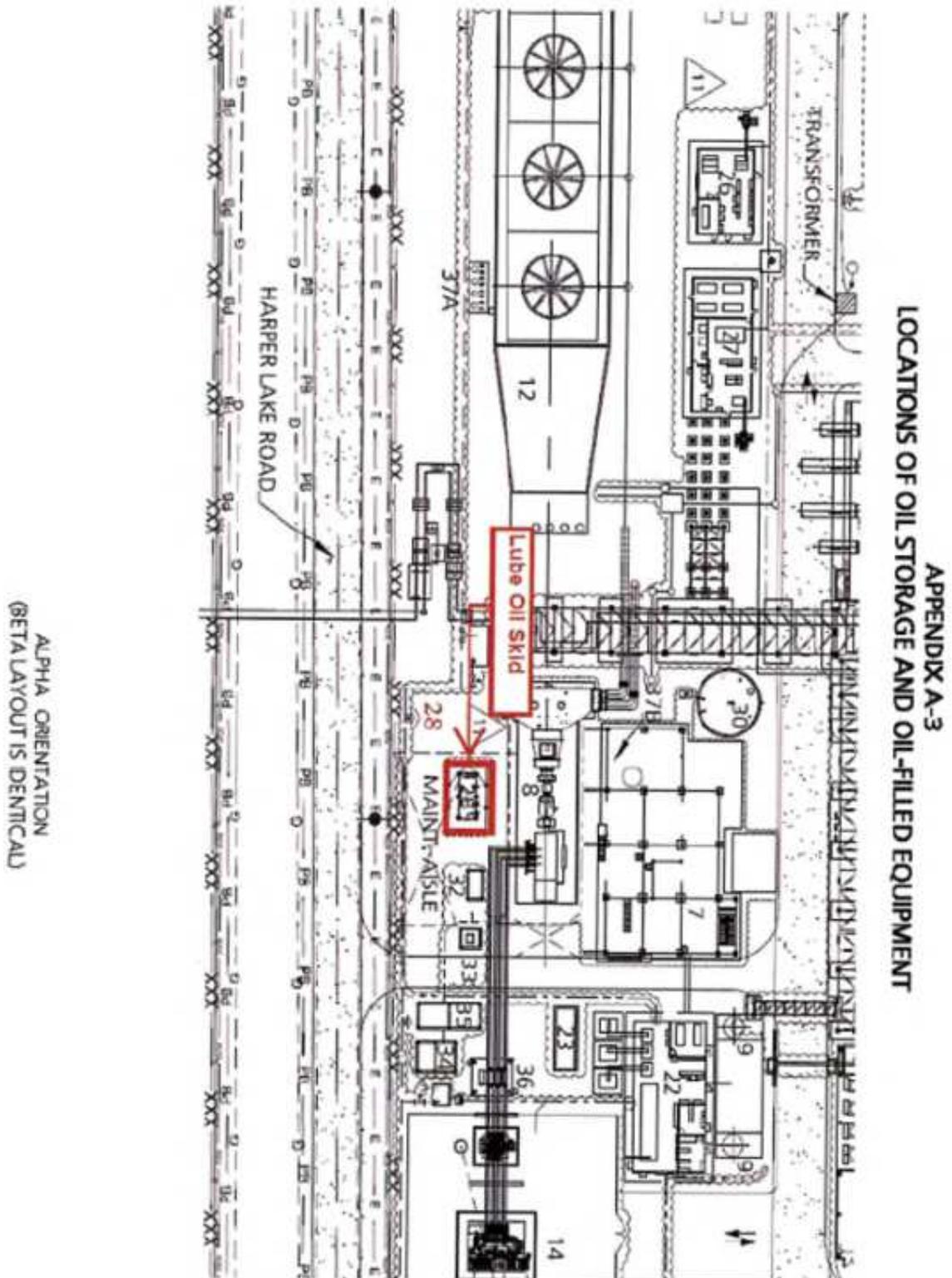


Spill Prevention, Control, And Countermeasures
(SPCC) Plan

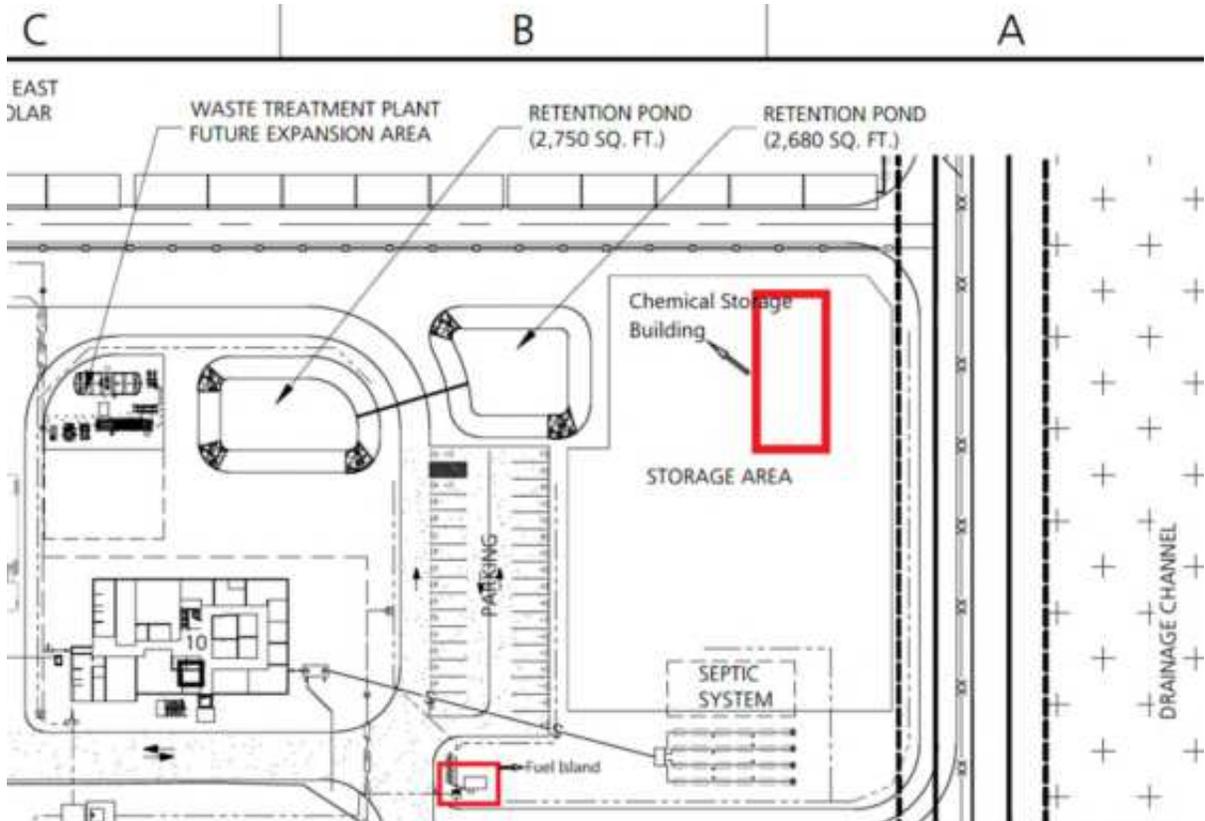
Date: 01/17/2024

Version: 06





Alpha Plant Fuel Island and Chemical Storage Building



APPENDIX B

MOJAVE SOLAR Project LIST OF CONTAINERS WITH SECONDARY CONTAINMENT CALCULATIONS

MOJAVE SOLAR LLC-Spill Potential List						
Alpha Power Island						
Equipment (Area or Tank Number Per Power Island Facility Plan)	Description Commodity	Alpha Power Island	Capacity (Gal)	Rate (Bbl/Hr)	Direction Of Flow	Secondary Containment Volume
Oil Storage (Subject To Secondary Containment Requirement)						
Gasoline Tank	Gasoline	Leak, Rupture	2000	Varies	Varies	>2000 Gal
Diesel Tank	Diesel	Leak, Rupture	2000	Varies	Varies	>2000 Gal
Diesel Tank	Diesel	Leak, Rupture	4,000	Varies	Varies	>3000 Gal
Diesel Tank	Diesel	Leak, Rupture	850	Varies	Varies	>850 Gal
Chemical Products Storage	Motor Oil	Leak, Rupture	110	Varies	Varies	>110 Gal
Chemical Products Storage	Hydraulic Oil	Leak, Rupture	5,280	Varies	Varies	>5,280 Gal
Oil -Filled Operational Equipment (Not Subject To Secondary Containment Requirement)						
6-1	Heat Transfer Fluid (Therminol) VP-1 Overflow Tank	Leak, Rupture	57,000	Varies	Varies	Secondary Containment Not Required
6-2	Heat Transfer Fluid (Therminol) VP-1 Overflow Tank	Leak, Rupture	57,000	Varies	Varies	
3-1	Heat Transfer Fluid Expansion Vessel	Leak, Rupture	9,245	Varies	Varies	
3-2	Heat Transfer Fluid Expansion Vessel	Leak, Rupture	9,245	Varies	Varies	
3-3	Heat Transfer Fluid Expansion Vessel	Leak, Rupture	9,245	Varies	Varies	
3-4	Heat Transfer Fluid Expansion Vessel	Leak, Rupture	9,245	Varies	Varies	
Transformer Facility	Mineral Oil	Leak	9,800	Varies	Varies	
Hydraulic System	Hydraulic Oil	Leak	660	Varies	Varies	
Total Aggregate (Per Power Island)			161,440			

**Spill Prevention, Control, And Countermeasures
(SPCC) Plan**

Date: **01/17/2024**

Version: **06**



MOJAVE SOLAR LLC-Spill Potential List						
Beta Power Island						
Equipment (Area or Tank Number Per Power Island Facility Plan)	Description Commodity	Major Type Of Failure	Capacity (Gal)	Rate (Bbl/Hr)	Direction Of Flow	Secondary Containment Volume
Oil Storage (Subject To Secondary Containment Requirement)						
Gasoline Tank	Gasoline	Leak, Rupture	2000	Varies	Varies	>2000 Gal
Diesel Tank	Diesel	Leak, Rupture	4,000	Varies	Varies	>3000 Gal
Diesel Tank	Diesel	Leak, Rupture	850	Varies	Varies	>850 Gal
Chemical Products Storage	Motor Oil	Leak, Rupture	110	Varies	Varies	>110 Gal
Chemical Products Storage	Hydraulic Oil	Leak, Rupture	5,280	Varies	Varies	>5,280 Gal
Oil -Filled Operational Equipment (Not Subject To Secondary Containment Requirement)						
6-1	Heat Transfer Fluid (Therminol) VP-1 Overflow Tank	Leak, Rupture	57,000	Varies	Varies	Secondary Containment Not Required
6-2	Heat Transfer Fluid (Therminol) VP-1 Overflow Tank	Leak, Rupture	57,000	Varies	Varies	
3-1	Heat Transfer Fluid Expansion Vessel	Leak, Rupture	9,245	Varies	Varies	
3-2	Heat Transfer Fluid Expansion Vessel	Leak, Rupture	9,245	Varies	Varies	
3-3	Heat Transfer Fluid Expansion Vessel	Leak, Rupture	9,245	Varies	Varies	
3-4	Heat Transfer Fluid Expansion Vessel	Leak, Rupture	9,245	Varies	Varies	
Transformer Facility	Mineral Oil	Leak	9,800	Varies	Varies	
Hydraulic System	Hydraulic Oil	Leak	660	Varies	Varies	
Total Aggregate (Per Power Island)			161,440			

**Spill Prevention, Control, And Countermeasures
(SPCC) Plan**

Date: **01/17/2024**

Version: **06**



Location Information			Chemical Identification	
1a*	201	203	205	215
CERSID	ChemicalLocation	MapNumber	ChemicalName	Largest
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Dihydroxy aluminum Sodium Carbonate	7660
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	DPD Free Chlorine Reagent	0.22
10453255	Alpha and Beta plants	L003 and L004	EDTA, TETRASODIUM	0.001
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Ferric Chloride	792
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	FerroZine® Iron Reagent	0.13
10453255	Alpha and Beta Cooling tower Chem	L003 and L004	Flogard MS6209	200
10453255	Alpha and Beta Transformers	L010	FR 3 Mineral oil	20
10453255	Alpha and Beta plants	L003 and L004	Galvanizing Compound	
10453255	Alpha plant only	L003	Gasoline	2000
10453255	Alpha and Beta Cooling tower Chem	L003 and L004	Gengard GN 8004	200
10453255	Alpha and Beta power blocks	L003 and L004	Glycerin	55
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Hydrated Lime, Calcitic Hydrated Lime, Lime, Slaked Lime	21664
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Hydrochloric Acid	1
10453255	Alpha and Beta power blocks	L003 and L004	Hydrogen Cylinders	4698
10453255	Alpha and Beta	L010	Liquid Hazardous waste	55
10453255	Alpha and Beta solid waste. Located	L010	Solid Hazardous waste- Oily Rags	10
10453255	Alpha and Beta solid waste- Beta Tal	L010	Solid Hazardous waste- HTF Contaminated Soil	10
10453255	Alpha and Beta liquid waste	L003 and L004	Liquid Hazardous waste stage area as per applicable rul	275
10453255	Alpha and Beta liquid waste	L003 and L004	Liquid Hazardous waste- Oily Water	528
10453255	Alpha and Beta liquid waste	L003 and L004	Liquid Hazardous waste- Used Oil	275
10453255	Alpha and Beta power blocks	L003 and L004	Liquid Nitrogen	26000
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Magnesium Sulfate	50000
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Molybdate 3 Reagent Solution	0.03
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Molybdate Reagent	0.03
10453255	Alpha and Beta power blocks	L003 and L004	Optisperse HP3100	200
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	ORP Solution	0.05
10453255	Alpha and Beta plants	L003 and L004	Oxygen	140
10453255	Alpha and Beta power blocks	L003 and L004	Paints	50
10453255	Alpha and Beta power blocks	L003 and L004	Petroleum Hydrocarbon	55
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	pH Buffer Solution 10.01	0.13
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	pH Buffer Solution 4.01	0.13
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	pH Buffer Solution 7.00	0.13
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	pH Storage Solution	0.13
10453255	Alpha and Beta power blocks	L003 and L004	Phenol isobutylenated phosphate (3:1)	55
10453255	Alpha and Beta power blocks, solar f	L003 and L004	Propane	17
10453255	Alpha and Beta plants	L003 and L004	Propylene Glycol - HTF	55
10453255	Alpha and Beta power blocks	L003 and L004	Lubricant Oil- Shell Omala S2 G 320	55
10453255	Alpha and Beta plants	L003 and L004	Silicon Powder	
10453255	Alpha and Beta water treatment pla	L003 and L004	Sodium Bisulfite	528
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Sodium EDTA	55
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Sodium Hydroxide	528
10453255	Alpha and Beta water treatment pla	L003 and L004	Sodium Hypochlorite	2640
10453255	Alpha and Beta Cooling tower Chem	L003 and L004	Sodium Hypochlorite	1100
10453255	Alpha and Beta solid waste	L003 and L004	Solid hazardous waste- batteries	20
10453255	Alpha and Beta solid waste	L003 and L004	Solid hazardous waste stage area as per applicable rule	20
10453255	Alpha and Beta solid waste	L003 and L004	Solid hazardous waste- Broken Mirrors	10
10453255	Alpha and Beta Cooling tower Chem	L003 and L004	Spectrus BD 1500	200
10453255	Alpha and Beta power blocks	L003 and L004	Steamate PAS6074	200
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Sulfuric Acid	528
10453255	Alpha and Beta plants	L003 and L004	Therminol Biphenyl	57000
10453255	Water Treatment Plant	L003 and L005	AWC C-227	5
10453255	Water Treatment Plant	L003 and L006	AWC C-209	5

**Spill Prevention, Control, And Countermeasures
(SPCC) Plan**

Date: **01/17/2024**

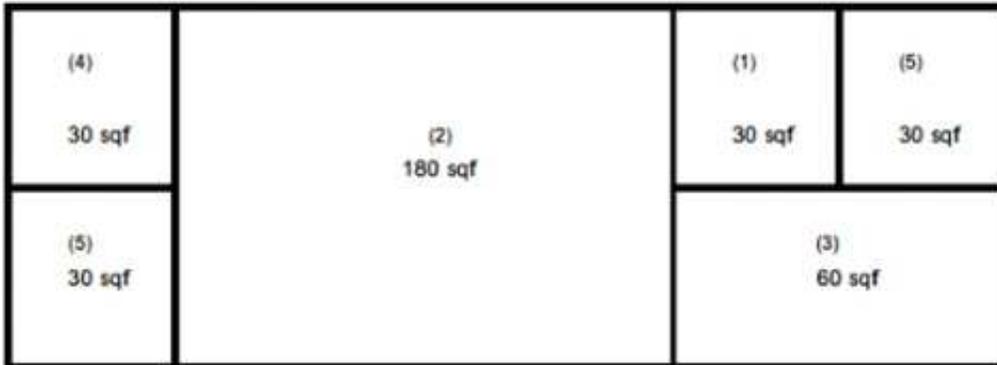
Version: **06**



10453255	Alpha and Beta Plant		Sulfur Hexafluoride	129
10453255	Alpha and Beta Plant		Coolant, Antifreeze	55
10453255	Alpha and Beta Plant		Duraclear DC-5-F	55
10453255	Alpha and Beta Plant		Aqueous Film-Forming Foam 3%	350
10453255	Alpha&Beta Water Treatment Plant		RL9009	500
10453255	Alpha&Beta Water Treatment Plant		RL3400	528
10453255	Alpha&Beta Water Treatment Plant		RL2032	55
10453255	Alpha&Beta Water Treatment Plant		RL2000	55
10453255	Alpha&Beta Water Treatment Plant		RL100	55
10453255	Alpha&Beta Water Treatment Plant		RL100	55
10453255	Alpha&Beta Water Treatment Plant		P813E	5
10453255	Alpha&Beta Cooling Tower		CT790	500
10453255	Alpha&Beta Cooling Tower		CL5428	500
10453255	Alpha&Beta Power Block		BL8411	9000
10453255	Alpha&Beta Power Block		BL1794	500
10453255	Alpha&Beta Power Block		BL1260	500
10453255	Alpha and Beta plants	L003 and L004	Acetylene	70
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Amino Acid F Reagent	0.03
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Amino Acid Reagent	0.03
10453255	Alpha and Beta water treatment pla	L003 and L004	Anionic Flocculant DWT 672E	5
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Antiscalant Vitec 4000	528
10453255	Alpha and Beta plants	L003 and L004	Argon, Liquid	
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	AWC- A110	528
10453255	Alpha and Beta Cooling tower Chem	L003 and L004	Betz Dearborn DCL30	50
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Buffer Solution Hardness	0.03
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	CalVer 2 Calcium Indicator	0.03
10453255	Alpha and Beta plants	L003 and L004	Carbon Dioxide	50
10453255	Alpha and Beta	L003 and L004	Diesel Fuel	4000
10453255	Alpha and Beta power blocks	L003 and L004	Diesel Exhaust Fluid - AdBlue	55
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	DEHA 2 Reagent	0.03
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	DEHA 1 Reagent (Diethylhydroxylamine)	0.22
10453255	Alpha and Beta power blocks	L003 and L004	Cortrol OS5607	200
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Conductivity Standard Solution	0.05
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Citric Acid Reagent Solution	0.03
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Citric Acid	55
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Chemets Dissolved Oxygen Refill	0.001
10453255	Alpha and Beta plants	L003 and L004	Carbonic dihydrazide	
10453255	Alpha and Beta plants	L003 and L004	Carbonic acid sodium salt (1:2)	
10453255	Alpha and Beta Water Treatment Pla	L003 and L004	Carbon Dioxide, Liquid	34000
10453255	Alpha and Beta Plant		Argon Gas	336
10453255	Alpha Chemical Storage Area		Fyrquel	55
10453255	Alpha&Beta Water Treatment Plant		Paraestol 2540 Flocculant	50
10453255	Alpha Warehouse		Roundup Herbicide	265
10453255	Alpha Warehouse		Spray Indicator	4
10453255	Alpha&Beta Water Treatment Plant		Paraestol 2540 Flocculant	50

APPENDIX C

**MOJAVE SOLAR LLC
 CONTAINMENT DIAGRAMS**



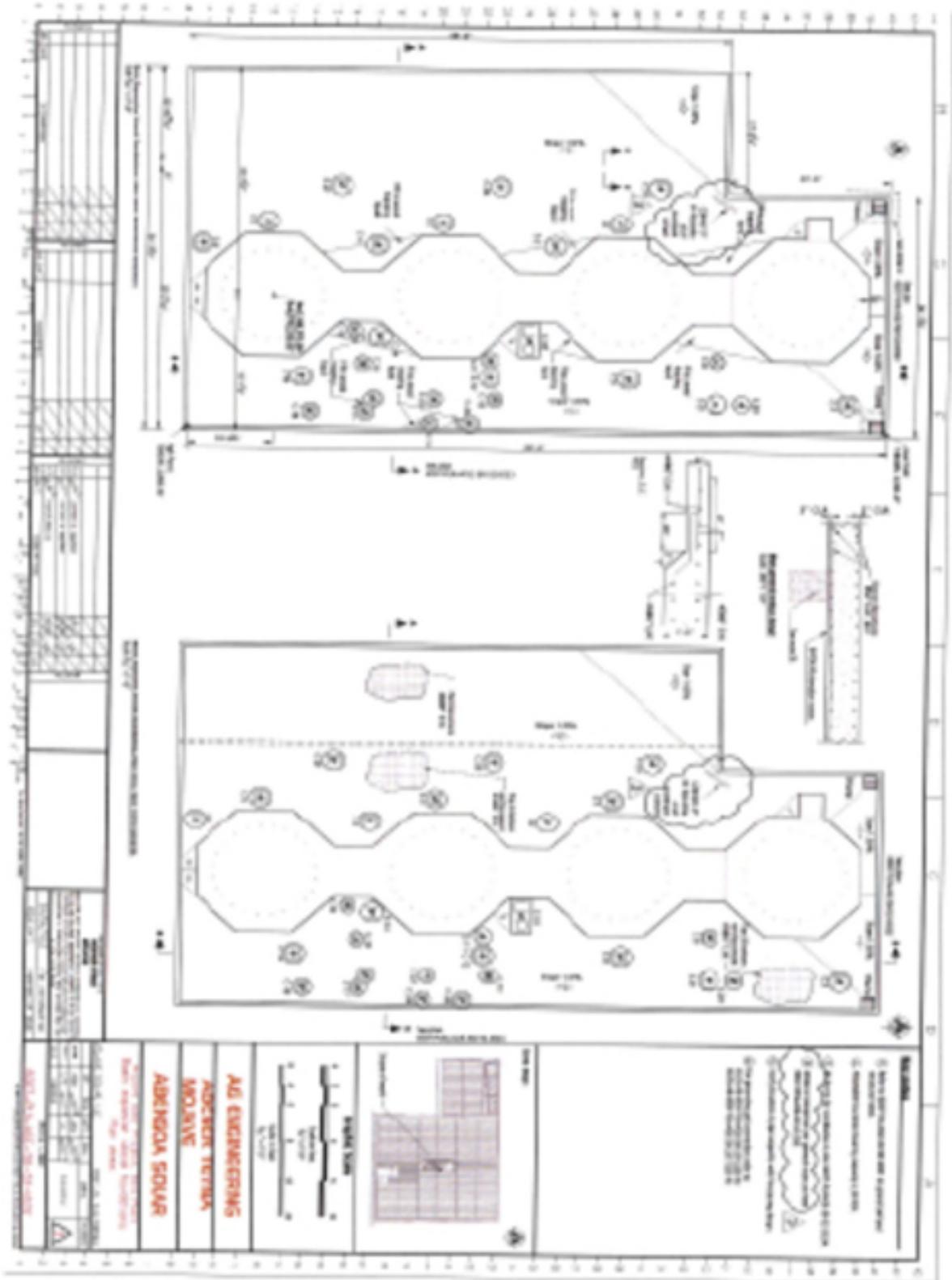
- 1- Ammonia; Carbohydrazide and Tri-phosphate
- 2- Inhibitor; Dispersant; Biodispersant; Bisulfite; Antiscalant RO; Coagulant and Flocculant
- 3- Sodium Hydroxide
- 4- Sulfuric Acid
- 5- Open

Total 360 sqf

Spill Prevention, Control, And Countermeasures (SPCC) Plan

Date: 01/17/2024

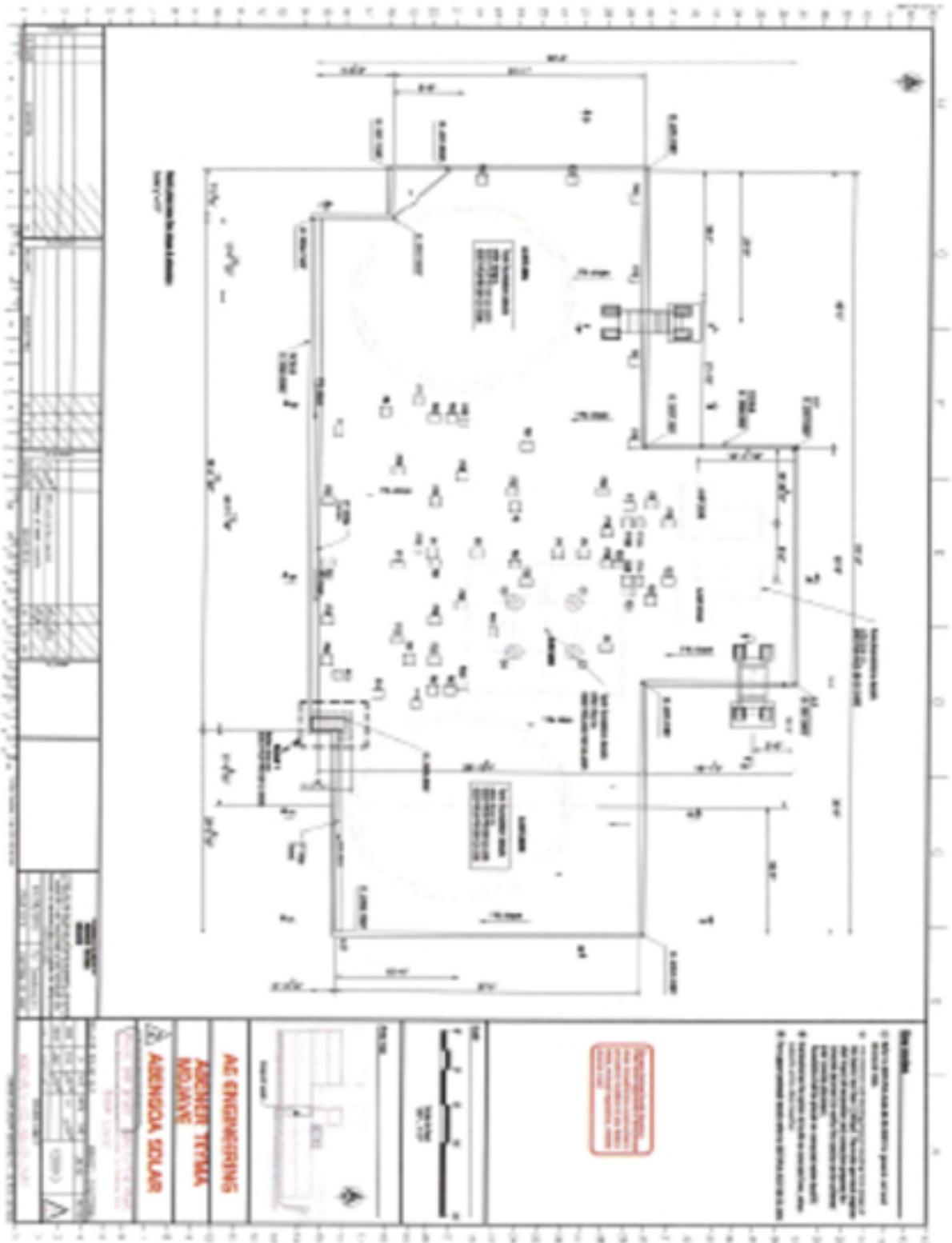
Version: 06



Spill Prevention, Control, And Countermeasures (SPCC) Plan

Date: 01/17/2024

Version: 06



APPENDIX D-1

**MOJAVE SOLAR PROJECT
 SPCC INSPECTION FORM**

Mojave Solar LLC

SPCC INSPECTION CHECKLIST

Date of Inspection _____ FACILITY _____

Inspection Item/Area	What to Look For	Check if no problems or N/A if Not Applicable	Problems (be specific)
Drainage ditches	oil or oil-contaminated soil		
Road ditches	oil or oil-contaminated soil		
Material handling areas (loading/unloading areas)	pollutants/spills/leaks		
Hazardous Waste storage areas	pollutants/spills, deterioration of containers		
Tanks/gauge settings	deterioration and maintenance needs, leaks Drip marks Discoloration of tanks Puddles containing stored material Corrosion Cracks Localized dead vegetation		
Tank Foundations	Cracks Discolorations Puddles containing stored material Settling Gaps between tank and foundation Damage caused by vegetation roots		
Tank piping	Droplets of stored material Discoloration Corrosion Bowing of pipe between supports Evidence of stored material see page on valves or seals Localized dead vegetation		
Above ground valves & pipelines	oil or oil-contaminated soil maintenance needs, leaks		
Berms and secondary containment	wall integrity/erosion, accumulated liquids Level or precipitation in dikes/available capacity Operational status of drainage valves Dike or berm permeability Debris Erosion Permeability of the earthen floor of diked area Location/status of pipes, inlets, drainage beneath tanks, etc. Cracks Location/status of pipes, inlets, drainage beneath Cracks Discoloration Presence of stored material (standing liquid) Corrosion Stressed vegetation		
COMMENTS:			
Inspector Signature _____ Supervisor _____ Date: _____			

APPENDIX D-2

MOJAVE SOLAR PROJECT INSPECTION CHECKLIST



STI SP001 Monthly Inspection Checklist

General Inspection Information:

Inspection Date: _____	Alpha/Beta Plant	Prior Inspection Date: _____	Retain until date: _____
Inspector Name (print): _____			Title: _____
Inspector's Signature _____			
Tank(s) inspected ID _____			
Regulatory facility name and ID number (if applicable) _____			

Inspection Guidance:

- This checklist is intended as a model. Locally developed checklists are acceptable as long as they are substantially equivalent (as applicable). Inspections of multiple tanks may be captured on one form as long as the tanks are substantially the same.
- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector per paragraph 4.1.2 of the standard.
- Upon discovery of water in the primary tank, secondary containment area, interstice, or spill container, remove promptly or take other corrective action. Inspect the liquid for regulated products or other contaminants and dispose of properly.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for at least 36 months.
- **After severe weather (snow, ice, wind storms) or maintenance (such as coating) that could affect the operation of critical components (normal and emergency vents, valves), an inspection of these components is required as soon as the equipment is safely accessible after the event.**

Spill Prevention, Control, And Countermeasures (SPCC) Plan

Date: **01/17/2024**

Version: **06**



ITEM		STATUS	COMMENTS / DATE CORRECTED
Tank and Piping			
1	Is tank exterior (roof, shell, heads, bottom, connections, fittings, valves, etc.) free of visible leaks? Note: If "No", identify tank and describe leak and actions taken.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Is the tank liquid level gauge legible and in good working condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
3	Is the area around the tank (concrete surfaces, ground, containment, etc.) free of visible signs of leakage?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

4	Is the primary tank free of water or has another preventative measure been taken? NOTE: Refer to paragraphs 6.10 and 6.11 of the standard for alternatives for Category 1 tanks. N/A is only appropriate for these alternatives.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
5	For double-wall or double bottom tanks or CE-ASTs, is interstitial monitoring equipment (where applicable) in good working condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
6	For double-wall tanks or double bottom tanks or CE-ASTs, is interstice free of liquid? Remove the liquid if it is found. If tank product is found, investigate possible leak.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

Equipment on tank			
7	If overfill equipment has a "test" button, does it activate the audible horn or light to confirm operation? If battery operated, replace battery if needed.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
8	Is overfill prevention equipment in good working condition? If it is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
9	Is the spill container (spill bucket) empty, free of visible leaks and in good working condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

Spill Prevention, Control, And Countermeasures (SPCC) Plan

Date: **01/17/2024**

Version: **06**



10	Are piping connections to the tank (valves, fittings, pumps, etc.) free of visible leaks? <i>Note: If "No", identify location and describe leak.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	Do the ladders/platforms/walkways appear to be secure with no sign of severe corrosion or damage?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containment (Diking/Impounding)			
12	Is the containment free of excess liquid, debris, cracks, corrosion, erosion, fire hazards and other integrity issues?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
13	Are dike drain valves closed and in good working condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
14	Are containment egress pathways clear and any gates/doors operable?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Concrete Exterior AST (CE-AST)			
15	Inspect all sides for cracks in concrete. Are there any cracks in the concrete exterior larger than 1/16"?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
16	Inspect concrete exterior body of the tank for cleanliness, need of coating, or rusting where applicable. Tank exterior in acceptable condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
17	Visual inspect all tank top openings including nipples, manways, tank top overfill containers, and leak detection tubes. Is the sealant between all tank top openings and concrete intact and in good condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Other Conditions			
18	Is the system free of any other conditions that need to be addressed for continued safe operation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Additional Comments:



APPENDIX E

REFERENCES

¹ Abeinsa EPC Mojave, Mojave Solar Project- Draft Spill Prevention, Control and Countermeasure Plan

¹ California Energy Commission, Environmental Assessment- Abengoa Mojave Solar Application For Certification (09-AFC-5) San Bernardino County, March 2010 pg. 3-9; (www.energy.ca.gov/2010publications/CEC; website accessed on 8/27/13)

¹ IBID pgs. 3-10 (Section 3-Project Description).

¹ AG Engineering-Abengoa Solar Central Plant Layout Alpha Plant (Facility Diagram dated 4/22/13).

Mojave Solar LLC

**42134 Harper Lake Road
Hinkley, California 92347**

Phone: 760 308 0400

Appendix O

HAZ-6

Site Security

UNIVAR SOLUTIONS SECURITY PROGRAM

As an international distributor of industrial chemicals, a participant in the National Association of Chemical Distributors Responsible Distributor program, and an active member of the communities we serve, Univar Solutions USA LLC (Univar) has long had policies and procedures in place to ensure the security of our products, facilities, employees and communities. The following summary outlines the major provisions of Univar's Security Program which reflects not only prudent measures to maximize the secure and safe handling of chemicals, but also the security requirements of various federal programs related to management of hazardous materials including DOT hazardous material transportation requirements, DHSCFAT program and Department of Commerce import rules among others. Note that this description is necessarily a broad overview of Univar's security program as various agencies limit the security related information that can be disclosed.

For our business partners that are C-TPAT certified please consider the following outline a demonstration of the degree to which Univar complies with C-TPAT security criteria.

BUSINESS PARTNER REQUIREMENT

Univar has a written and verifiable process for the selection of business partners including manufacturers, product suppliers and vendors. Other internal requirements such as; capability of meeting contractual security requirements and financial soundness are included in the verification process.

POINT OF ORIGIN

Univar ensures its foreign business partners have security criteria in place that enhances the integrity of the shipment at point of origin. Periodic reviews of foreign business partners' processes and facilities are conducted based on risk.

CONTAINER SECURITY

Container integrity is maintained as mandated by international cargo transport laws and regulations.

EN ROUTE SECURITY

Hazardous cargo is secured while in transit. Additionally, products and routes are annually evaluated to assess potential security risks.

COMMON CARRIER EVALUATION

In addition to the above security measures, Univar has taken steps to verify our common carriers' compliance with DOT's HM-232 rules. Each common carrier has been asked to certify their security compliance with regards to HM-232.

PERSONNEL SECURITY

Personnel security begins with hiring qualified employees. Univar has established policies and procedures to ensure we hire and maintain qualified employees. These policies and procedures include, but are not limited to:

- Pre-employment background checks
- Pre-employment and random drug tests for drivers and warehouse staff
- Policy on "Standards of Conduct" (included in the Employee Handbook)
- Policy on "Confidential Information" (included in the Employee Handbook)
- Checkout procedures for terminating employees
- Referral of illegal or criminal activities to law enforcement

PHYSICAL ACCESS CONTROLS & SECURITY, PROCEDURAL & IT SECURITY

SECURITY & VULNERABILITY ASSESSMENT

Due to the hazardous nature of the chemicals we manage and distribute, Univar constantly assesses its security and vulnerability concerning internal or external threats that could potentially disrupt operations or harm our employees, communities or the environment.

Univar's security program addresses the following potential sources of loss or disruption:

- Theft, vandalism, and break-ins
- Theft of confidential business information
- Sabotage of equipment, utilities, and records
- Product contamination and tampering
- Bomb threats
- Civil unrest disrupting plant access and operations
- Workplace violence and assaults

Additionally, Univar has developed a risk-based matrix to identify areas of concern and has taken steps to address those areas of concern.

The initial security evaluations periodically reviewed by the site security official to evaluate the integrity and effectiveness of security policies, procedures and systems.

UNAUTHORIZED ACCESS

Univar has established minimum facility security guidelines that must be implemented and adhered to by each facility. Those minimum guidelines include but are not limited to:

- Perimeter and warehouse security
- Equipment security
- Access controls for production areas, warehouses, utility facilities, and offices
- Signs to direct visitors and vehicles to the appropriate entry points
- Visitor control

Univar employees have been trained to question unescorted person(s) within the operating areas, and to be watchful for unusual activity on company property or in the immediate surrounding areas.

SITE SECURITY COORDINATOR

Each Univar facility has designated an employee, and an alternate, as the site security coordinator. This person(s) is responsible for performing the following security management functions:

- Prepare and implement a site specific security program consistent with the requirements herein
- Establish relationships with law enforcement and emergency response agencies
- Manage incident reporting procedures, conduct incident investigations, and if necessary, conduct investigations into breaches of company security policy
- Train employees about security awareness
- Address security issues in an emergency, participate in crisis management planning and ensure appropriate execution in emergency
- Periodically reassess the facility's site security program

TRAINING

The Security Coordinator or his/her designee will train site personnel upon hire and every three years thereafter on the site security program. At a minimum, training includes:

- Company security objectives
- Specific site security procedures:
 - Product integrity
 - Personnel security
 - Facility security
 - En-route security
- Employee responsibilities

Should you have any general questions regarding Univar site and transit security program, please contact Jack Spicuzza, Vice President, North America Environmental, Health, Safety and Quality at (614)309-8728 or Jeff Dixon, Director, International Trade Services at (281)543-8771.

Respectfully,

A handwritten signature in black ink that reads "Jack Spicuzza".

Jack Spicuzza
Vice President, North America Environmental, Health, Safety and Quality

SAMPLE CERTIFICATION (Attachment C)

Affidavit of Compliance for Hazardous Materials Transport Vendors

I, Krista Harsono, Compliance Director

(Name of person signing affidavit)(Title)

do hereby certify that the below-named company has prepared and implemented security plans in conformity with 49 CFR 172.802 and has conducted employee background investigations in conformity with 49 CFR 172, subparts A and B,

Advanced Chemical Transport LLC DBA ACTenviro

(Company name)

for hazardous materials delivery to

(Project name and location)

as required by the California Energy Commission Decision for the above-named project.

Krista W. Harsono

(Signature of officer or agent)

Dated this 10th day of January, 20 25.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

SAMPLE CERTIFICATION (Attachment C)

Affidavit of Compliance for Hazardous Materials Transport Vendors

I, Mark Lehner, Area Vice President

(Name of person signing affidavit)(Title)

do hereby certify that the below-named company has prepared and implemented security plans in conformity with 49 CFR 172.802 and has conducted employee background investigations in conformity with 49 CFR 172, subparts A and B,

Aigas USA LLC

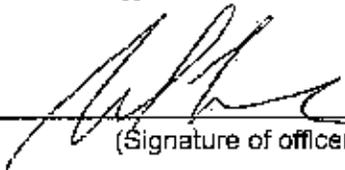
(Company name)

for hazardous materials delivery to

Compressed Gases and Carbon Dioxide to Mojave Solar LLC Hinkley CA.

(Project name and location)

as required by the California Energy Commission Decision for the above-named project.


(Signature of officer or agent)

Dated this 14 day of January, 2025.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

January 25, 2024

Submitted Electronically

ATTN: California Energy Commission
RE: Affidavit of Compliance for Project Owners

To Whom it May Concern:

I, Ryan Carkhuff, People & Culture Manger, do hereby certify that background investigations to ascertain the accuracy of the identity of all employees of:

Mojave Solar LLC, ASI Operations LLC

for employment at:

**Mojave Solar Project
42134 Harper Lake RD
Hinkley, CA**

have been conducted as required by the California Energy Commission for the above-named project.

Dated this 25 day of January 2024.



Signature

25 ene.. 2024

Date

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

SAMPLE CERTIFICATION (Attachment C)

Affidavit of Compliance for Hazardous Materials Transport Vendors

I, MARY DESCARO

(Name of person signing affidavit)(Title)

do hereby certify that the below-named company has prepared and implemented security plans in conformity with 49 CFR 172.802 and has conducted employee background investigations in conformity with 49 CFR 172, subparts A and B,

BECK OIL, INC.

(Company name)

for hazardous materials delivery to

MOJAVE SOLAR LLC. HINKLEY, CA.

(Project name and location)

as required by the California Energy Commission Decision for the above-named project.



(Signature of officer or agent)

Dated this TWENTY-FIFTH day of JANUARY, 20 24.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.



January 28, 2025

To Whom It May Concern:

This letter serves to confirm that all ChemTreat associates must successfully complete a preemployment background check as a condition of employment offer.

For additional questions, please do not hesitate to reach out to me.

A handwritten signature in black ink that reads "Natalie Ferguson". The signature is written in a cursive, flowing style.

Natalie Ferguson

HR Manager, North America Commercial
5640 Cox Road | Glen Allen, VA 23060
(m) 804-774-1899

MAXIMIZING THE POWER OF WATER.



Jan 10, 2025

I, Erica Timmons, Office Manager hereby certify that a background investigation to insure the accuracy of the identity and employment of all Employees of:

Desert Environmental Services, Inc.

For employment at:

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

Has been concluded as required by the California Energy Commission for the above referenced project.

A handwritten signature in black ink, appearing to read "Erica Timmons", with a long horizontal flourish extending to the right.

Erica Timmons

This affidavit of compliance shall be appended to this Project Security Plant and shall be retained at all times at the project site for review by the California Energy Commission Compliance Project Manager.

Mojave Solar LLC

**42134 Harper Lake Road
Hinkley, California 92347**

Phone: 760 308 0400

Appendix P

LAND-1

Farmland Mitigation



Transition Habitat
Conservancy



Abengoa Mojave Solar Project Mitigation Property and Edison Sandlot Transmission Upgrade Mitigation Property 2025 Annual Report

Transition Habitat Conservancy
PO Box 721300, Pinon Hills, CA 92372
(661) 603-2247
Prepared by Sam Easley
Sam@TransitionHabitat.org



Table of Contents

	00 Abengoa MSP Sandlot 2025 annual report Authors: Brendan-SDC
	01 CDFW Approval to Hold CE 240227
	02 Abengoa Survey Report 2025
	03 DTCI 2025 Progress Report
	04 2024 THC 990
	05 2024 THC Audit Report
	06 2025 Endowment Performance Abengoa

Background

Transition Habitat Conservancy (THC) is a Land Trust Alliance-accredited organization committed to the conservation of protected species and their habitat. THC owns and manages lands within the Bureau of Land Management (BLM) designated Limited Use area of the Fremont-Kramer (FK) and Superior-Cronese (SC) which overlaps with the U.S. Fish and Wildlife Service (USFWS) designated Critical Tortoise Habitat Units (CHU).

The **Limited Use** designation permits off-highway vehicle (OHV) access on designated BLM routes, presenting unique challenges for land management. Due to the region's historically complex checkerboard landownership—including properties managed by BLM, Fort Irwin Military Base, China Lake Naval Weapons Center, California Department of Fish and Wildlife (CDFW), THC, Wildlands Inc., and others—effective habitat management has required a multi-faceted approach.

Through years of experience, THC has identified a strategic combination of actions that have significantly improved habitat conditions in this sensitive area. These actions include:

1. **Regular presence** of conservation staff and stewards
2. **Route signage** to guide responsible recreation
3. **Public education** on responsible desert use
4. **Collaboration with law enforcement** to deter illegal activities
5. **Habitat restoration efforts**, including the disguise and closure of unauthorized routes

This comprehensive, adaptive management approach has yielded measurable improvements in habitat quality within the Limited Use region. To support these efforts, THC regularly monitors the region regularly from September through May, aligning with peak recreational use periods.

In 2025, a combination of funding from the **SB 34 Endowment** and grants from the **Wildlife Conservation Board** and the **National Fish & Wildlife Foundation RASP (Recovery And Sustainability Partnership)** program enabled THC to sustain staffing and deploy restoration crews on its lands. These crews conducted targeted habitat restoration, enhancing ecosystem resilience both on THC-owned properties and within the broader landscape. We have also begun conducting more research on our land to learn more about the preferred habitat of the Desert Tortoise and how we can support their recovery across the landscape.

THC remains committed to the long-term conservation of these critical habitat areas and continues to refine its management strategies to balance ecological preservation with responsible public access.

Exhibit 01 CDFW Approval to hold CE 240227

Transition Habitat Conservancy (THC) acquired fee title to 234 acres owned by Solucar Inc., a subsidiary of Abengoa, in August of 2014. This acquisition serves to mitigate for the loss of desert tortoise habitat from the construction of the Abengoa Mojave Solar Project and the transmission upgrades for Edison known as Sandlot. THC manages and monitors the land use of the property in perpetuity in order to detect changes harmful to the habitat values of the property, and to take action when necessary to correct these issues. This mitigation satisfies the following permits:

- **For Mojave Solar: The Abengoa Mojave Solar Project (“AMSP”)** in San Bernardino County, California, pursuant to California Energy Commission (“CEC”) License Decision CEC-800-2010-008-CMF, dated September 2010 (the “CEC License Decision”) (hereinafter “AMSP Requirements”)
- **For SCE: Incidental Take Permit No. 2081-2011-055-06 (the “ITP”)** issued by the California Department of Fish and Wildlife (“CDFW”) for the Special Protection System for the Abengoa Mojave Solar Project (“SPS Project”) and Lockhart Substation Project CPUC A.11-05-006, State Clearinghouse Number 2011051041, July 2011 (hereinafter “SPS Upgrade Requirements”)

THC continues to acquire conserved land in this region, which now requires CDFW approval for each mitigation project. In 2024, THC received approval to hold the CE on a new conservation bank for DT/MGS. We are actively working on HMLA mitigation projects to expand our landholdings in this area, and we are also in discussions with other conservation groups, to act as the CE holder for their mitigation land.

Annual Monitoring

Monitoring of all parcels occurred in 2025. Most of our monitoring was accomplished using satellite imagery provided through the LENS program. This was done for a variety of reasons from cost-effectiveness to safety of our staff. However, we also monitored hundreds of restoration sites along the legal route system in this area and oversaw restoration crews in the field. Our staff spent dozens of days patrolling our lands and adjacent public land. To view a full report, open the file:

Exhibit 02 Abengoa Survey Report 2025

Tortoise Surveys and Plans

For many years, Edison International provided a \$20,000 grant to Transition Habitat Conservancy (THC) for a multi-faceted research project on a tortoise “hotspot” on these mitigation parcels, as well as adjacent conservation land. Prior research by Hardshell Labs, administered by THC, had identified this approximately one square mile area as having an exceptionally dense tortoise population and one with very good demographic characteristics. Multiple years of grant received from Edison has also led

to a scaled-up proposal that we presented to the Wildlife Conservation Board at their November 2023 meeting. We were awarded \$1.9 million to continue studying these “hotspots” and testing innovative conservation technologies for use in desert tortoise habitat protection. Please see the attached update for more detail on the great work that we’ve been up to in 2024 & 2025 since receiving that WCB grant.

Exhibit 03 DTCTI 2025 Progress Report

New (and continuing) threats in 2025

The Desert Tortoise Conservation Implications of Widespread Marijuana Cultivation in the West Mojave Desert

Many of these operations have been raided, shut down, or abandoned since they were first observed a few years ago. Most of the illegal activity has ceased or slowed down. Impacts remain, such as cleared vegetation from the footprint of the operation and heavy vehicular travel from access. Left behind are many abandoned structures, chemicals, and other potentially hazardous waste. The following points should be considered when examining continued threats from these grow operations.

- **Conservation Investment**

There has been a huge investment in desert tortoise conservation in the Fremont-Kramer Critical Tortoise Habitat Unit by federal, state, and conservation organizations; this area should be a top priority for enforcement efforts. Conservation investment allows for military base expansion and renewable energy and power transmission development in the west Mojave desert. Failure to protect this habitat will degrade lands already purchased for mitigation and prevent future mitigation efforts. These vital mitigation lands allow for development.

- **Habitat destruction**

Clearance of the footprint of the greenhouses and their support structures along with the establishment of many new roads providing access to remote grow ops result in direct habitat destruction, further reducing the habitat available to tortoises. Even though operations have been mostly shut down, there has not been guidance about how to move forward with restoring their massive impacts. Trash is spreading from these abandoned structures and (possibly toxic) dust is blowing across the desert where families are camping and riding.

- **Habitat degradation**

The damage to tortoise habitat has already occurred and restoration will take decades, if not longer, without some kind of intervention. We need funding for cleanups on private land or some kind of mechanism to acquire those parcels with management funding. This will be a major project, but it is a blight on our landscape to not clean up this mess.

Solar Facility Expansion

During Summer of 2024, ground was broken for an expansion within the Mojave Solar Project adjacent to one of the most dense tortoise populations in the area. This project expanded from the existing solar facility to the West, over Hoffman road towards our Abengoa “hotspot.” Multiple tortoises (approximately 6) were translocated to a different area and a few acres of mixed creosote and alkali bush habitat was lost during this expansion. Since last year’s update, we have learned that the majority of these tortoise survived the relocation, although two appeared to make the multi-mile trip back to their original home. We are still trying to get more data related to these tortoises movements because we believe it could reveal important information that would benefit future relocation efforts. The expansion of this facility

has also resulted in some changes to OHV traffic patterns in the area because the best route was blocked off. This has resulted in some additional traffic through our DT lands and we have installed cameras to learn more about the intensity and impacts of that traffic.

Annual Land Monitoring

Annual Monitoring of all parcels occurred in 2025. Most of our monitoring was accomplished using satellite imagery provided through the LENS program. This was done for a variety of reasons, from cost-effectiveness to the safety of our staff. We have maintained our contract with the military for drone use within the restricted airspace for as needed follow up visits. We also visited approximately 20% of our properties on the ground, as we are required by the LTA to complete in-person visits of every fee-title owned parcel every five years.

Annual Restoration Completed

We've been taking a systematic approach to tackling incursions in the Critical Habitat Unit by mapping out every restoration site that we have ever worked on and revisiting them twice a year to note the status of our restoration. We have learned that most sites require multiple touch-ups or revisits to secure them against future incursions. This means that we are constantly aware of which regions need the most attention and we can send our contracted crews and staff directly to where their labor is needed. In 2024, an ACE crew installed a fence at Husky's Monument and just south of Bird Springs canyon with assistance from the BLM in efforts to protect the precious water source and cultural resources within the area and enforce the recent route closure. With the route passing directly through the spring, the water source was stressed with altered erosion, overall destruction, and potential contamination from vehicles. This water source was also a source of water for indigenous peoples, where cultural resources remain in and around the spring. A 300-foot hard barrier was placed at the North end near Husky's Monument, and a 200-foot hard barrier was placed just south of the spring allowing people to still access it on foot. Unfortunately, we observed some continued trespass in 2025, so this fence will be expanded in the future to improve compliance in the area. The ACE crews also returned in 2025 to touch up additional sites with funding from our NFWF RASP grant.

Tortoise Surveys and Plans

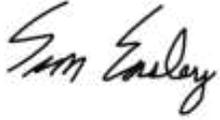
Transition Habitat Conservancy applied for another \$9,000 grant from the Desert Tortoise Council for tortoise and vegetation surveys to reveal new tortoise "hot spot" characterization and identification on THC land – we are still waiting to hear back on our most recent proposal. THC has also been awarded \$1.9 million to expand studies within known "hotspots" and test innovative conservation technologies for use in desert tortoise habitat protection. Please see the attached workplans for more detail on our planned grant activities on these lands. THC staff has also begun attending the annual DTC symposium to connect with other conservation groups and present on the work we're doing in this region.

Financials

THC had Audited Financial Statements produced by an independent CPA and those are attached. In 2024, our Authorization to Hold Mitigation Lands from CDFW was renewed in order to hold the Conservation Easement on the West Harper Lake Conservation Bank, authorization is attached. This process is now required on a per-project basis. THC's financial position is strong thanks to rebounding endowment performance, successful grant proposals, charitable contributions, ongoing mitigation work, and shrewd investments elsewhere. Tax returns and endowment performance are also attached as exhibits below.

- Exhibits**
04. 2024 THC 990
05. 2024 THC Audit Report
06. 2025 Endowment Performance Abengoa

Sincerely Yours,

A handwritten signature in black ink that reads "Sam Easley". The signature is written in a cursive, slightly slanted style.

Sam Easley, Executive Director
Transition Habitat Conservancy
(661) 603-2247
Sam@transitionhabitat.org
PO Box 721300
Pinon Hills, CA 92372



February 27, 2024

Jill Bays
President
Transition Habitat Conservancy
1681 Hillview Rd.
Pinion Hills, CA 92372
Jill@TransitionHabitat.org

**APPROVAL FOR TRANSITION HABITAT CONSERVANCY TO HOLD
CONSERVATION EASEMENT FOR WEST HARPER CONSERVATION BANK 1798-
2022-01-R6**

Dear Jill Bays:

The Inland Deserts Region of California Department of Fish and Wildlife (CDFW) received a proposal for Transition Habitat Conservancy (THC) to hold the Conservation Easement for the West Harper Conservation Bank 1798-2022-01-R6 (Project). Pursuant to Government Code § 65967(c) and its regulatory authority under the Fish and Game Code, CDFW has exercised the required due diligence process in reviewing the qualifications and supporting documentation for THC. We are pleased to inform you that THC is approved to hold the Conservation Easement for this Project.

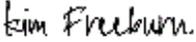
This approval is contingent on accuracy of the information provided. THC must notify CDFW (at mitland@wildlife.ca.gov) of any substantial changes, including but not limited to, staff/consultant oversight or management of the project, business status, and financial status. At such point, CDFW will provide information on the documentation needed to reevaluate THC's qualifications.

CDFW's regional staff reviews a proposed entity's qualifications for specific projects on a project-by-project basis. If THC is proposed to hold a conservation easement or manage and steward mitigation land for another project, CDFW regional staff will conduct a separate project specific review. CDFW may request additional documentation or updates to the information previously submitted for their review.

If you have questions, please contact Marina Barton at marina.barton@wildlife.ca.gov.

Transition Habitat Conservancy
February 27, 2024
Page 2

Sincerely,

DocuSigned by:

9d-f3cf-f66f-c24c0...

Kim Freeburn
Environmental Program Manager
Inland Deserts Region

cc: Wildlands
Shiree Rezendes, Asst. Conservation Planner
srezendes@heronpacific.com

ec: California Department of Fish and Wildlife

Habitat Conservation Planning Branch
mitland@wildlife.ca.gov

Crystal Leininger
Senior Land Agent
Crystal.Leininger@wildlife.ca.gov

Marina Barton
Senior Environmental Scientist (Specialist)
Marina.Barton@wildlife.ca.gov



Abengoa Annual Monitoring Survey

Contents

Contents	1
Executive Summary	2
Property Description Sandlot.....	3
Property Description MSP	3
Legal Description of Property and Conservation Values	4
Location Maps	6
Location Maps	7
Summary of Site Inspection.....	8
Summary Land Use Changes Observed	8
Signature Page	9
Detailed Monitoring Report.....	10



Executive Summary

The Transition Habitat Conservancy (THC) acquired fee title to 234 acres owned by Solucar Inc., a subsidiary of Abengoa, in August of 2014. This acquisition serves to mitigate for the loss of desert tortoise habitat from the construction of the Abengoa Mojave Solar Project and the transmission upgrades for Edison known as Sandlot. THC manages and monitors the land use of the property in perpetuity in order to detect changes harmful to the habitat values of the property, and to take action when necessary to correct these issues. This mitigation satisfies the following permits:

- **For Mojave Solar: The Abengoa Mojave Solar Project (“AMSP”)** in San Bernardino County, California, pursuant to California Energy Commission (“CEC”) License Decision CEC-800-2010-008-CMF, dated September 2010 (the “CEC License Decision”) (hereinafter “AMSP Requirements”)
- **For SCE: Incidental Take Permit No. 2081-2011-055-06 (the “ITP”)** issued by the California Department of Fish and Wildlife (“CDFW”) for the Special Protection System for the Abengoa Mojave Solar Project (“SPS Project”) and Lockhart Substation Project CPUC A.11-05-006, State Clearinghouse Number 2011051041, July 2011 (hereinafter “SPS Upgrade Requirements”)

The parcels subject to this monitoring parcel are owned by the Transition Habitat Conservancy and are subject to a Conservation Easement with specific conservation values described in the section “Legal Description of Property and Conservation Values.” In order to ensure these specific conservation values are upheld, yearly monitoring is prescribed.

Monitoring Plan: Annual Monitoring of all parcels occurred in 2025. Most of our monitoring was accomplished using satellite imagery provided through the LENS program. This was done for a variety of reasons from cost-effectiveness to the safety of our staff.

The parcels were also visited several times throughout the year due to its accessible location and various tortoise surveys that occurred on the property. The large number of informal visits throughout the year ensures that we have a very good understanding about what is happening on this property. Other than three designated routes that traverse the parcels, there were no new observed land uses on the property.



Property Description Sandlot

Conservation Area Name: Fremont-Kramer Desert Wildlife Management Area

Assessor Parcel No: 0490-222-39 (previously 0490-184-48)

Acres: ± 102 acres

Landowner: Transition Habitat Conservancy

Conservation Easement Grantee: California Department of Fish and Wildlife

Summarized Legal Description: The property is a portion of the W¹/₂ of the E¹/₂ of Sections 23 and 26, Township 11 North, Range 5 West, San Bernardino Base and Meridian, County of San Bernardino, State of California.

Property Description MSP

Assessor Parcel No(s): 0490-222-39 (previously 0490-223-35 & 0490-223-37)

Acres: 73 ± acres (0490-223-35) and 58 ± acres (0490-223-37)

Total acreage: 132.78 ± acres

Landowner: Transition Habitat Conservancy

Conservation Easement Grantee: California Department of Fish and Wildlife

Summarized Legal Description: The property is a portion of the W¹/₂ of the E¹/₂ of Sections 23 and 26, Township 11 North, Range 5 West, San Bernardino Base and Meridian, County of San Bernardino, State of California. USGS Quadrangle: 1986, 7.5-minute series, Lockhart, California Quadrangle, provisional edition.

Directions to Property: From Kramer Junction, CA, travel east on CA Highway 58 for approximately 13 miles. Turn north and travel on Harper Lake Road for approximately seven miles. Turn west on Hoffman Road and travel for approximately 2.4 miles to reach the east boundary of the property.

Monitor(s): Allie Anderson, Sarah Berryman, and Tim Shields

Date of inspection: June 9, 2025 (image from 5/4/25) and informally throughout the year

Season of Inspection: Spring 2025



Legal Description of Property and Conservation Values

Parcel APN 0490-184-48 is located in the valley surrounding Harper Dry Lake, three miles west of Harper Dry Lake and 19 miles northwest of Barstow, California. The Easement Area rests on the relatively flat bajada draining into Harper Dry Lake. The Easement Area consists of one assessor parcel located within Township 11 North, Range 5 West, San Bernardino Base and Meridian, County of San Bernardino, State of California, and is described as the southeast quarter of Section 23 excepting therefrom the north half of the north half of said southeast quarter, also excepting therefrom the easterly 1,700 feet of the southeast quarter of said Section 23, together with the northeast quarter of Section 26 excepting therefrom the easterly 1,700 feet of said northeast quarter.

The Easement Area is within the Fremont-Kramer Desert Wildlife Management Area and forms a portion of THC's Lockhart Ecological Reserve. The Easement Area conserves critical habitat for the federally threatened desert tortoise and the state-listed Mohave ground squirrel, and also provides protection for special vegetation communities, including shadscale and spinescale scrub. The terrain on the parcel is relatively level with a slight downward gradient to the northeast. The elevation ranges between 2,090 and 2,130 feet above mean sea level.

The specific Conservation Values as described in the Conservation Easement are: land being in an unimproved natural condition, with high quality habitat for desert tortoise, Mohave ground squirrel, and containing shadscale scrub intergrading with spinescale scrub.

Parcels APN 0490-223-35 and APN 0490-223-37, These parcels are located in the valley surrounding Harper Dry Lake, three miles west of Harper Dry Lake and 19 miles northwest of Barstow, California. The parcels rest on the relatively flat bajada draining into Harper Dry Lake but contain low hills in its northernmost one-quarter. The two parcels are located within Township 11 North, Range 5 West, San Bernardino Base and Meridian, County of San Bernardino, State of California, and are described as the north half of the north half of the east half of Section 23, excepting therefrom the easterly 1,700 feet, together with the south half of the north half of the east half of Section 23, excepting therefrom the easterly 1,700 feet, together with the north half of the north half of the south half of the east half of Section 23, excepting therefrom the easterly 1,700 feet (APN 0490-223-35) and the east half of the south half of Section 14, excepting therefrom the easterly 1,700 feet (APN 0490-223-37).



The Easement Area is within the Fremont-Kramer Desert Wildlife Management Area and forms a portion of THC's Lockhart Ecological Reserve. The properties conserve critical habitat for the federally threatened desert tortoise and the state-listed Mohave ground squirrel and provide protection for the burrowing owl and other special-status plant and animal species. The terrain of the Easement Area is relatively level in the southern three-quarters and contains low, rocky hills in the northern one-quarter, with an overall downward gradient to the northeast. The elevation ranges between 2,080 and 2,250 feet above mean sea level.

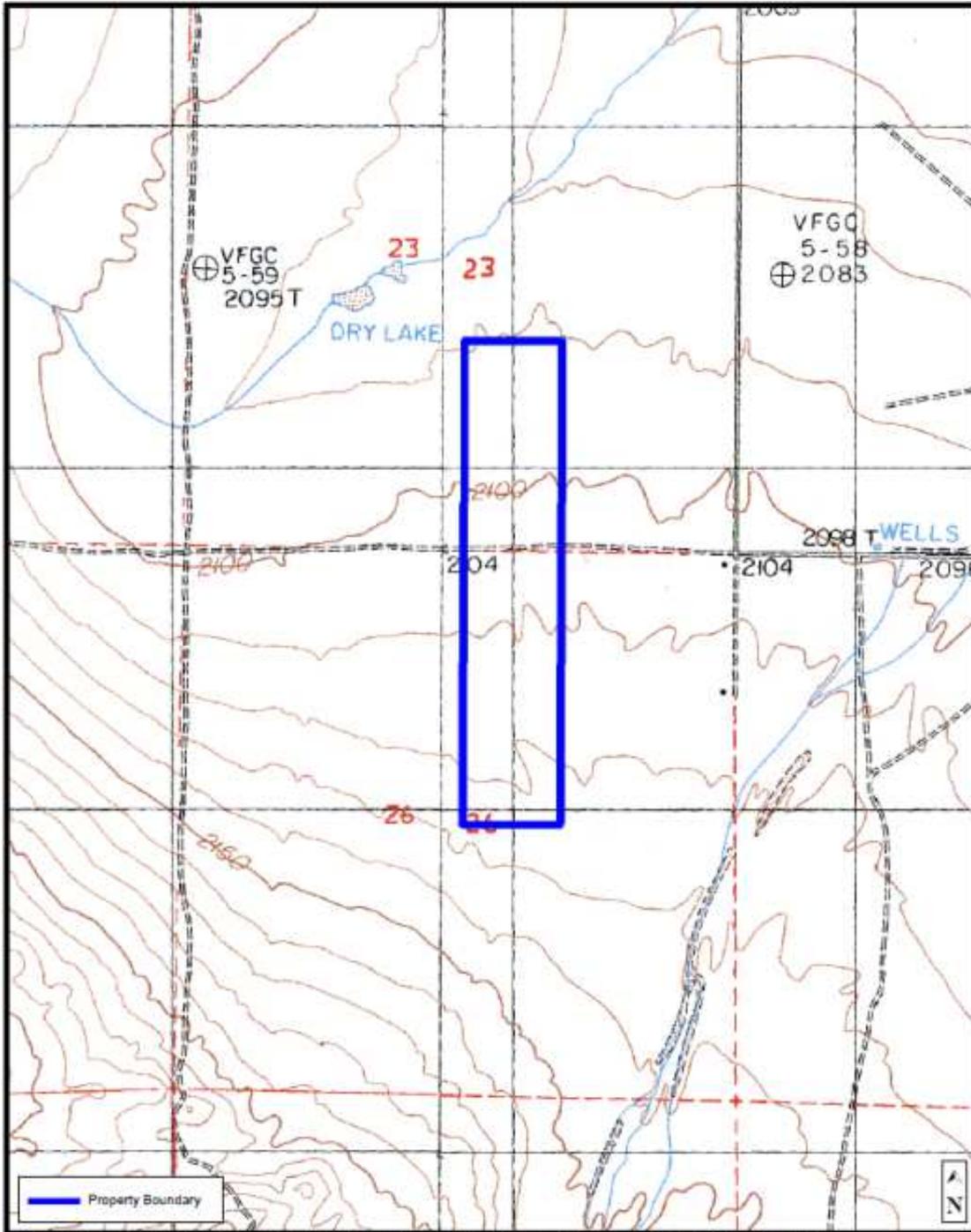
The specific Conservation Values as described in the Conservation Easement are: land being in a natural condition, with high quality habitat for desert tortoise, Mohave ground squirrel, burrowing owl, and other special-status plant and animal species.



Transition Habitat
CONSERVANCY

Monitoring Survey
Transition Habitat Conservancy
Property: Abengoa
Location: Fremont-Kramer Desert Wildlife Management Area
Date: December 2025

Location Maps



Source: USGS, 1986, 7.5-minute Series, The Buttes (left) and Lockhart (right), California Quadrangles, provisional editions.

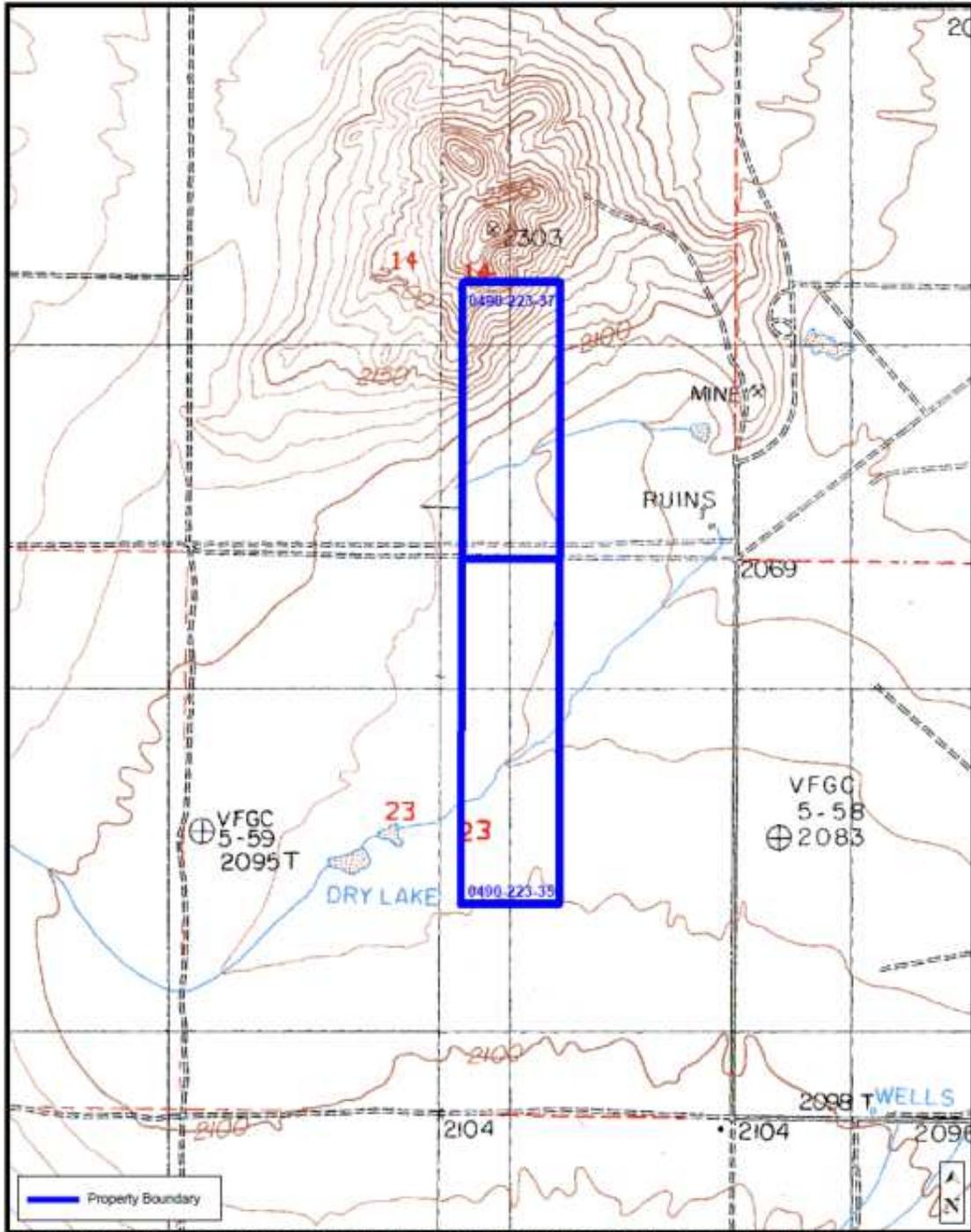
FIGURE 1. Aerial view of parcel 0490-184-48



Transition Habitat
CONSERVANCY

Monitoring Survey
Transition Habitat Conservancy
Property: Abengoa
Location: Fremont-Kramer Desert Wildlife Management Area
Date: December 2025

Location Maps



Source: USGS, 1986, 7.5-minute Series, The Buttes (left) and Lockhart (right), California Quadrangles, provisional editions.
Scale: 1 inch = 1/4 mile

FIGURE 2. Aerial view of parcel 0490-223-35 and 0490-223-37



Summary of Site Inspection

Inspection Items	None	Onsite	Nearby
Landscape Alterations	X		
Roads, paved	X		
Dump areas of any kind	X		
Utility lines outside existing locations	X		
Wells and/or other water developments outside existing locations	X		
Structures of any type except fencing	X		
Mines, shafts, pits	X		
Pipelines (water or otherwise) outside existing locations	X		
Billboards	X		
Off-Road Vehicle Use		X	X
Physical Improvements of Any Kind	X		
Grading or excavation	X		
Commercial uses	X		

Summary Land Use Changes Observed

Persistent tracks on an old roadbed along the western boundary of parcel 0490-223-37 but no recent trespass is observed heading onto the property. The main vehicle route in the area that passed through this tortoise hotspot was decommissioned and disguised by THC in 2021 and touched up by more volunteers in 2023 & 2024. No other land uses of note.



Signature Page

Prepared by:		
Name: Sarah Berryman	Signature:	Date:
Title: Director of Conservation	<i>Sarah Berryman</i>	01/26/2026
Approved by:		
Name: Sam Easley	Signature:	Date:
Title: Executive Director	<i>Sam Easley</i>	01/27/2026

Detailed Monitoring Report

See following pages.

AbengoaA - Fremont-Kramer

Remote Monitoring Report

Transition Habitat Conservancy

January 19, 2026



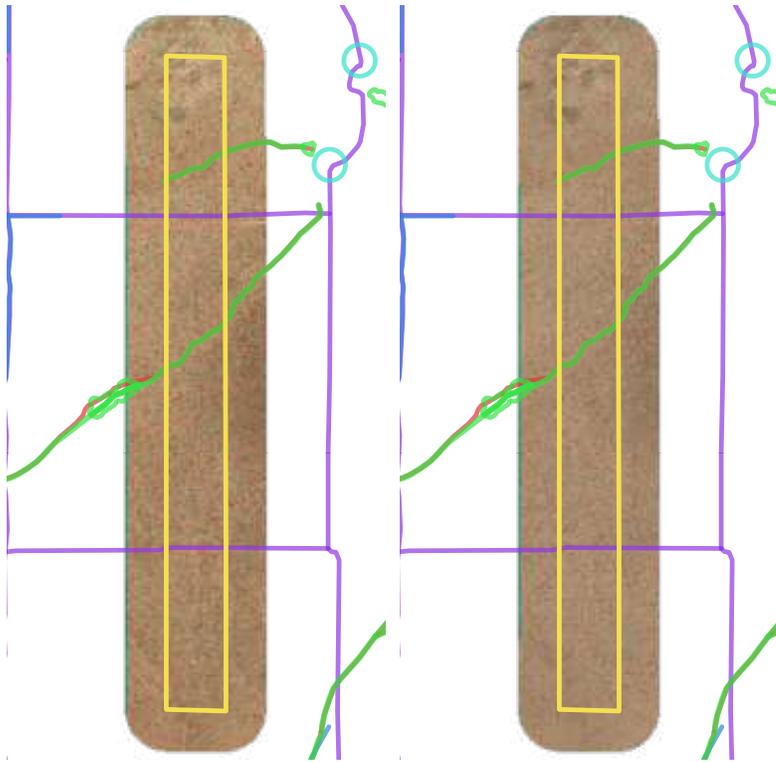
Report created in Upstream Tech Lens



1000 ft

Image: May 4, 2025. Source: high-res-truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

Note 1



Image, left: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

Image, right: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

Center: 35.03132, -117.37392

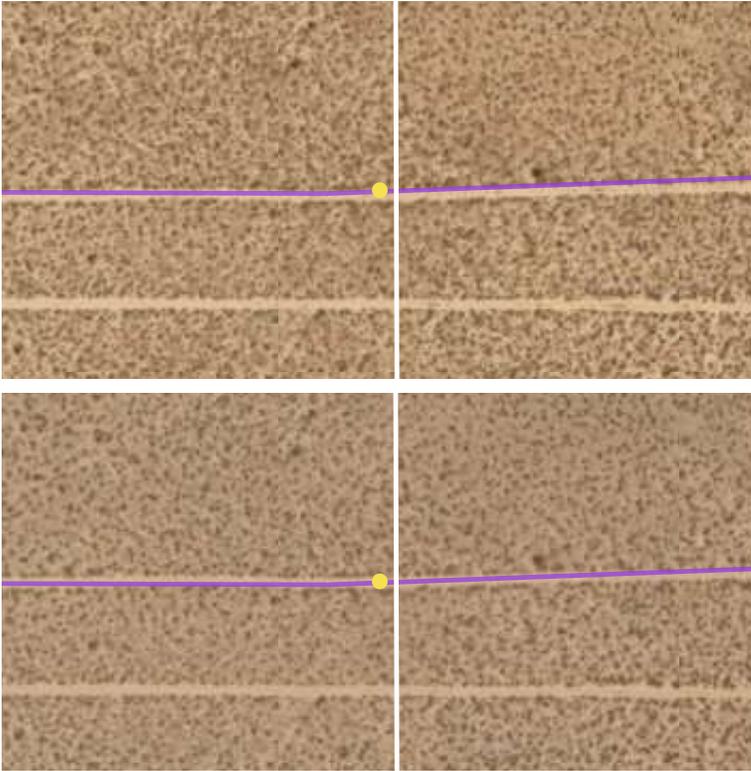
Area: 232.97 acres

Interpretation: Allie Anderson on June 9, 2025

- Flowlines
- Mines
- National Wetlands Inventory (CONUS)
- Restoration Sites
- WEMO ROD
- WEMO Safety

Note: No significant changes in land usage between 2024 and 2025.

Note 2



Image, top: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

Image, bottom: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

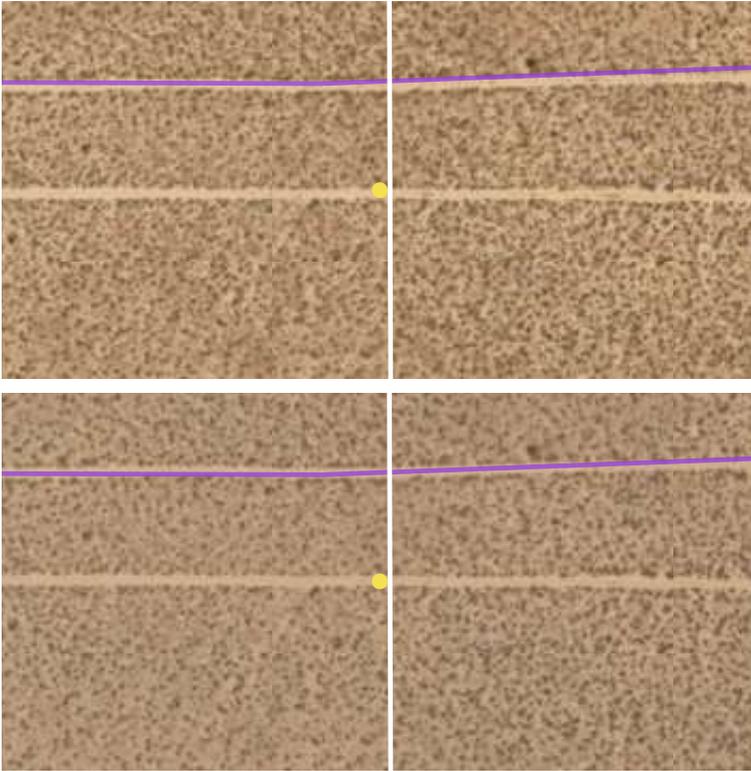
Location: 35.04063, -117.37209

Interpretation: Allie Anderson on June 9, 2025

- Flowlines
- Mines
- National Wetlands Inventory (CONUS)
- Restoration Sites
- WEMO ROD
- WEMO Safety

Note: FP5342 runs E/W through property.

Note 3



Image, top: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

Image, bottom: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

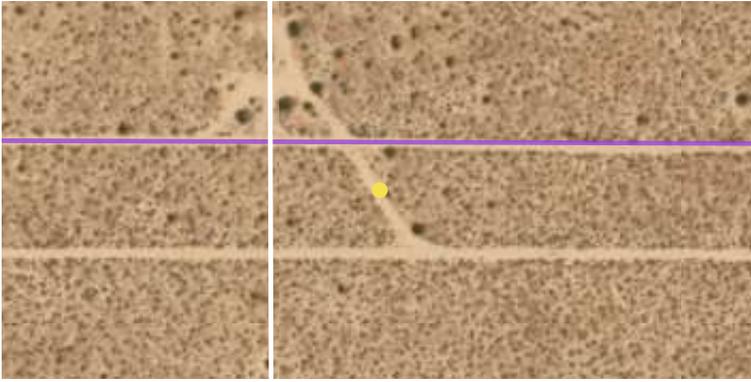
Location: 35.04032, -117.37207

Interpretation: Allie Anderson on June 9, 2025

- Flowlines
- Mines
- National Wetlands Inventory (CONUS)
- Restoration Sites
- WEMO ROD
- WEMO Safety

Note: Decommissioned BLM route runs E/W to property. Parallel to legal route.

Note 4



Image, top: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved



Image, bottom: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

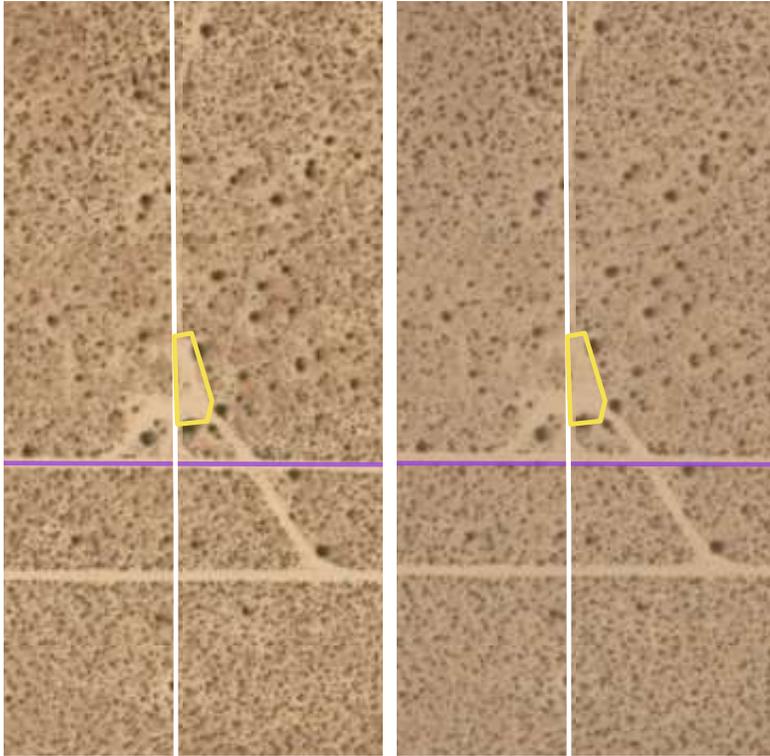
Location: 35.04049, -117.37484

Interpretation: Allie Anderson on June 9, 2025

- Flowlines
- Mines
- National Wetlands Inventory (CONUS)
- Restoration Sites
- WEMO ROD
- WEMO Safety

Note: Incursion connected legal and decommissioned route.

Note 5



Image, left: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

Image, right: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

Center: 35.04085, -117.37515

Area: 0.06 acres

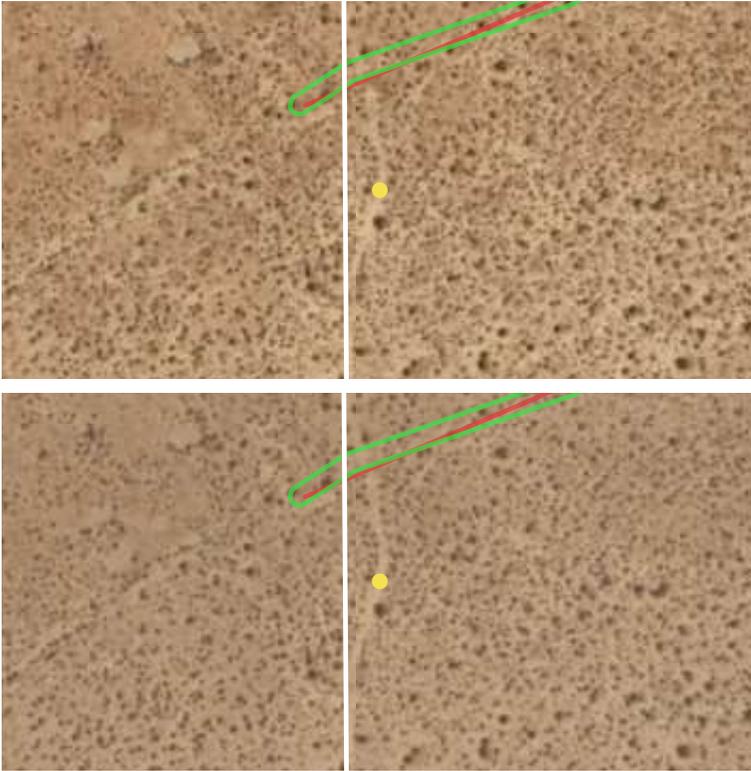
Interpretation: Allie Anderson on June 9, 2025

Flowlines Mines National Wetlands Inventory (CONUS)

Restoration Sites WEMO ROD WEMO Safety

Note: Denuded area used for parking for THC events.

Note 6



Image, top: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

Image, bottom: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

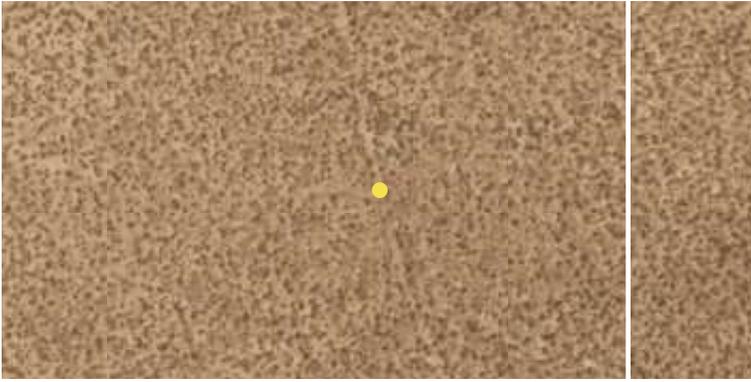
Location: 35.04193, -117.37510

Interpretation: Allie Anderson on June 9, 2025

- Flowlines
- Mines
- National Wetlands Inventory (CONUS)
- Restoration Sites
- WEMO ROD
- WEMO Safety

Note: Old incursion heading up hill still visible, but no recent usage.

Note 7



Image, top: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

Image, bottom: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

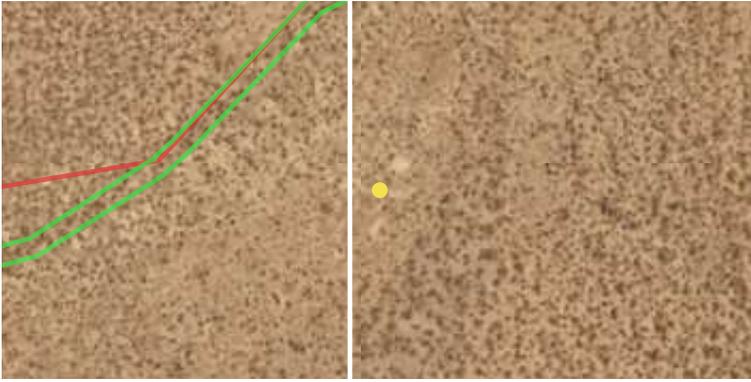
Location: 35.03793, -117.37287

Interpretation: Allie Anderson on June 9, 2025

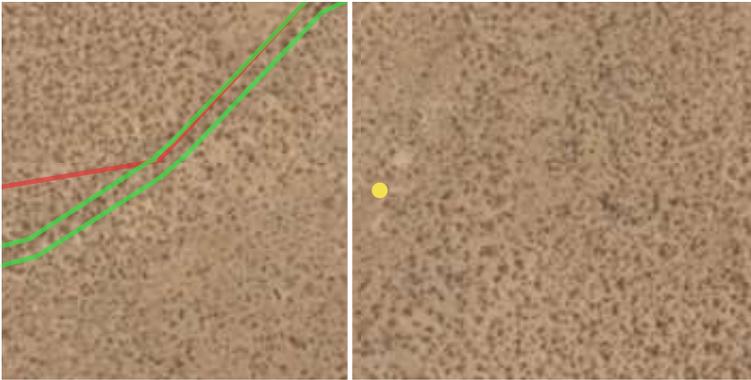
- Flowlines
- Mines
- National Wetlands Inventory (CONUS)
- Restoration Sites
- WEMO ROD
- WEMO Safety

Note: Old route. Previous years' notes state that entry points are not visible on the ground.

Note 8



Image, top: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved



Image, bottom: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

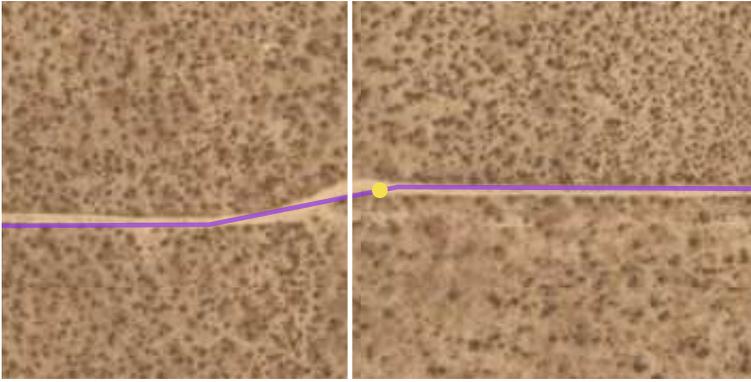
Location: 35.03330, -117.37512

Interpretation: Allie Anderson on June 9, 2025

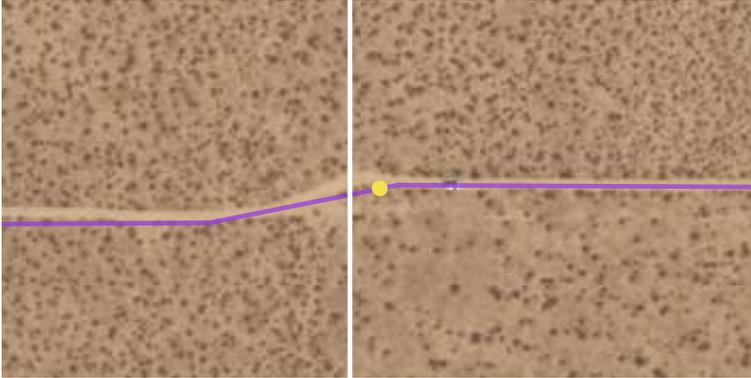
- Flowlines
- Mines
- National Wetlands Inventory (CONUS)
- Restoration Sites
- WEMO ROD
- WEMO Safety

Note: Old scarring crosses property. Appears to connect Hoffman road and wash.

Note 9



Image, top: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved



Image, bottom: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

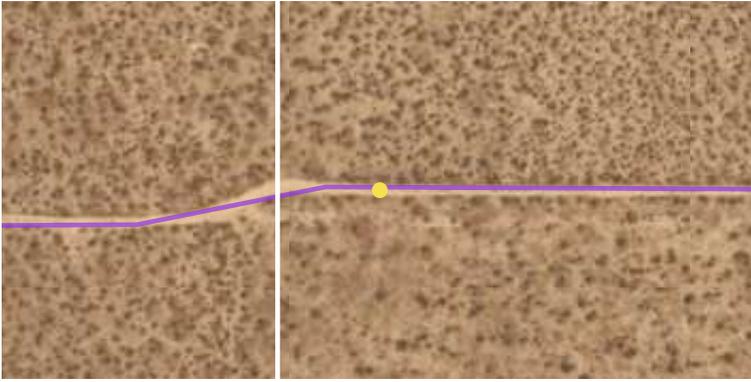
Location: 35.02577, -117.37512

Interpretation: Allie Anderson on June 9, 2025

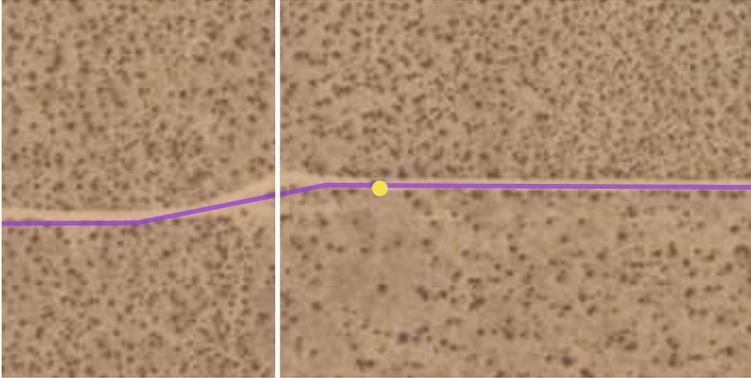
- Flowlines
- Mines
- National Wetlands Inventory (CONUS)
- Restoration Sites
- WEMO ROD
- WEMO Safety

Note: FP5344 crosses property (runs E/W)

Note 10



Image, top: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved



Image, bottom: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

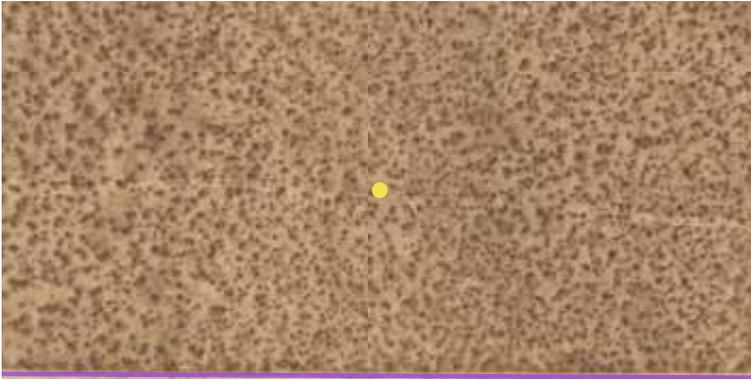
Location: 35.02577, -117.37487

Interpretation: Allie Anderson on June 9, 2025

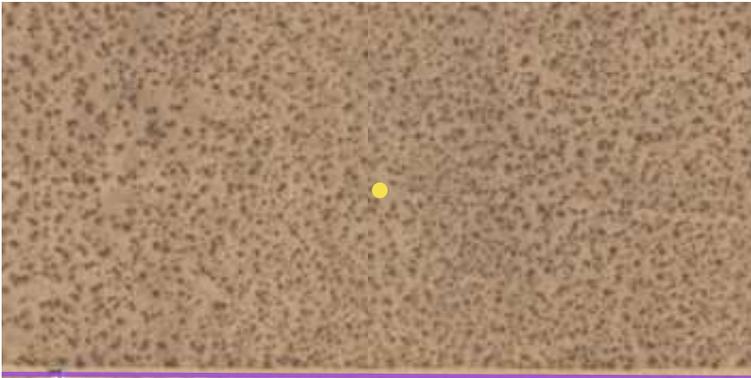
- Flowlines
- Mines
- National Wetlands Inventory (CONUS)
- Restoration Sites
- WEMO ROD
- WEMO Safety

Note: White vehicle. Tim? Is that you?

Note 11



Image, top: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved



Image, bottom: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

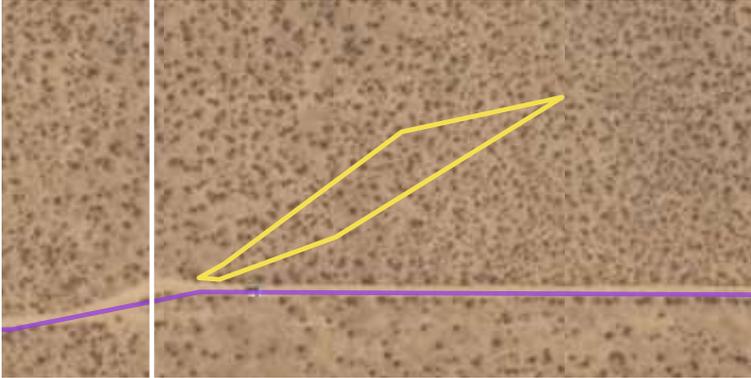
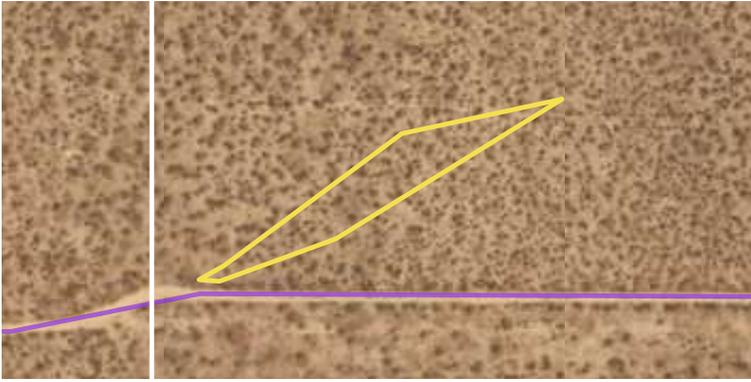
Location: 35.02629, -117.37377

Interpretation: Allie Anderson on June 9, 2025

- Flowlines
- Mines
- National Wetlands Inventory (CONUS)
- Restoration Sites
- WEMO ROD
- WEMO Safety

Note: Old route or fence line runs E/W

Note 12



Image, top: May 5, 2024. Source: Truecolor, Airbus Pléiades Neo (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

Image, bottom: May 4, 2025. Source: Truecolor, Airbus Pléiades Neo, Extended Archive (0.3m). COPYRIGHT AIRBUS DS, France, all rights reserved

Center: 35.02600, -117.37464

Area: 0.31 acres

Interpretation: Allie Anderson on June 9, 2025

- Flowlines
- Mines
- National Wetlands Inventory (CONUS)
- Restoration Sites
- WEMO ROD
- WEMO Safety

Note: Scarring between FP5344 and old route.

Transition Habitat Conservancy



Phone: 760 868-1400

Mailing: P.O. Box 721300 Pinon Hills, CA 92372

EIN: 74-3146328

Wildlife Conservation Board
1700 9th Street, 4th floor
Sacramento, CA 95811

March 28, 2025

DTCI Project

Project ID: 2023178

Agreement # WC-2400AH

Progress Report, Invoice #8

During the past two quarters, Transition Habitat Conservancy (THC) incurred grant related expenses in the form of project management and coordination. We also planned for the upcoming field season and reviewed data from project activities in the field, with THC staff managing spreadsheets. Please see below for a summary of activities conducted by our main contractor, Hardshell Labs. Note that Hardshell Labs changed names going into 2025 and is now doing business as OrniLogic.

We have been preparing for our spring field season activities for the Desert Tortoise Conservation Innovations project. We worked on refining our strategies and made progress in predator management, particularly through monitoring raven nests and reducing their population via remote egg oiling, which will help decrease predation pressure on tortoises in key areas.

We have been testing and modifying tracking technologies like the LoRa system to monitor tortoise movements. These preparations will ensure we are ready to implement new innovations and expand our conservation efforts when the next field season begins. We're even exploring potential extensions of this project.

Additionally, we continued our engagement with local communities by hiring workers from disadvantaged areas, supporting both our project and regional economic development.

Sincerely,

Sam Easley, Executive Director

Sam@TransitionHabitat.org

(661) 603-2247



- Sound Finances
- Ethical Conduct
- Responsible Governance
- Lasting Stewardship

Transition Habitat Conservancy



Phone: 760 868-1400

Mailing: P.O. Box 721300 Pinon Hills, CA 92372

EIN: 74-3146328

July 28, 2025

DTCI Project

Project ID: 2023178

Agreement # WC-2400AH

Progress Report, Invoice #10

During the past quarter, Transition Habitat Conservancy (THC) and our primary contractor OrniLogic (formerly Hardshell Labs) made significant progress on all components of the Desert Tortoise Conservation Innovations project. Key updates include:

- **Tortoise Tracking and Monitoring:** LoRa-based tracking systems were tested on carcasses at Plot 2 due to drought conditions limiting safe deployment on live tortoises. These trials informed adjustments to antenna placement and transmission range. Collaboration with Cal Poly students is underway to design improved device housings for future deployments on captive tortoises and wild individuals in 2026.
- **Forage Enhancement and Invasive Control:** Six rainfall concentrators were installed and performed well even under low rainfall. A Schismus test plot was established for evaluating invasive control methods and pelletized native seed delivery, shifting emphasis away from resource-intensive seedling transplants.
- **Hydration Augmentation:** Clay plate water catchments were deployed and monitored by motion-activated cameras. One plate showed evidence of complete drainage post-rainfall, suggesting likely use by wildlife, potentially tortoises.
- **Raven Management:** Remote egg oiling successfully prevented raven fledging at all monitored nests near the project plots. Monthly raven counts continued, and laser deterrent trials began at a cooperating dairy in Hinkley to test a mix of handheld, motion-sensing, and internet-connected units for subsidy denial.
- **Habitat Characterization:** Vegetation surveys and invertebrate sampling were conducted across nine DTCI plots. Drone imagery and bioacoustic sensors were introduced to refine habitat models moving forward, particularly for predicting Schismus dominance and evaluating ecological soundscapes.
- **Community Benefits:** We continued employing individuals from disadvantaged communities to support data collection and restoration activities, contributing to local workforce development while advancing our conservation goals.

We are on track for expanded implementation in the fall and remain optimistic about the potential for regional scale-up of these integrated conservation tools.

Sincerely,

Sam Easley, Executive Director

Sam@TransitionHabitat.org

(661) 603-2247



• Sound Finances
• Ethical Conduct
• Responsible Governance
• Lasting Stewardship



October 17, 2025

DTCI Project

Project ID: 2023178

Agreement # WC-2400AH

Progress Report, Invoice #12

During the past quarter, Transition Habitat Conservancy (THC) and our primary contractor OrniLogic (formerly Hardshell Labs) made significant progress on all components of the Desert Tortoise Conservation Innovations project. Key updates are detailed below:

Predator Management

- **Raven Blitz Project:**

A large-scale predator subsidy denial project, dubbed *Raven Blitz*, is being planned for late fall to early winter 2025. The project design is based on extensive counts conducted under the DTCI project and includes all major subsidies in an arc from the Victorville Landfill (north of Victorville) up the Mojave River. Sites include: a waste transfer facility operated by Burrtec; Athens Services' American Organics composting facility; the Victor Valley Wastewater Recovery Authority's treatment plant; Dutch Dairy (north of Helendale); Desert Oasis Dairy (in Hinkley); and possibly a pistachio orchard and dairy in Newberry Springs.

- **SMART Laser Development:**

Extensive testing and development of the SMART laser—a connected, internet-based unit—continues. This device will serve as the principal aversive tool to drive ravens away from subsidy sites.

- **Raven Counts:**

We recently modified our raven count protocol to align with the U.S. Fish and Wildlife Service's (USFWS) regional methods. The protocol, designed by Kerry Holcomb (USFWS), consists of establishing a set number of fixed points where 360° ten-minute sweep counts are performed. This method complements, rather than replaces, our existing driving count protocol. We continue to conduct monthly counts and will increase frequency during the *Raven Blitz* project, likely occurring in November and December 2025.

- **Movement Data Analysis:**

In collaboration with Kerry Holcomb and raven researcher Adam Duerr, we are analyzing movement data generated by our 32 geo-tagged ravens. This work will provide an analytical framework for interpreting movement data—especially important for assessing the effects of aversive treatments across numerous sites during *Raven Blitz*.



· Sound Finances
· Ethical Conduct
· Responsible Governance
· Lasting Stewardship



Tortoise Monitoring

We are working with Africa Wildlife Tracking to refine the design of LoRa transmitters. Orders have been placed for transmitters and related hardware to support an anticipated tagging effort of up to 40 tortoises in spring 2026. Concurrently, a team of Cal Poly San Luis Obispo engineering students is designing custom LoRa transmitter housings to minimize physical impact on tortoises and simplify battery replacement.

An October live-tortoise test is planned using captive tortoises supplied by the California Turtle and Tortoise Club. LoRa transmitters will be temporarily attached to shells, and movements will be tracked in real time and compared against simultaneous human tracking.

Additionally, we are coordinating with **Terragen**, whose Desert Breeze solar project abuts the DTCI area, to place an additional LoRa gateway on their property. This installation should address coverage gaps associated with using a single gateway mounted on the hill in Plot 2.

Habitat Characterization

- **Acoustic Monitoring:**
We are experimenting with AudioMoth sonic monitors, which allow detailed analysis of soundscape data. Devices have been deployed on several DTCI parcels for one-week test periods as we refine our data collection and processing methods. Our goal is to use sonic recordings as an indicator of ecological vitality.
- **Invertebrate Analysis:**
In partnership with Dr. Roger Anderson, an expert in desert habitat characterization, we are developing methods to analyze results from our invertebrate pitfall trapping. All samples have been processed, and we are designing a data-recording system to capture ecological differences between sample plots. Key questions include the appropriate level of taxonomic detail—where fine-scale identification is needed (e.g., ants and darkling beetles) versus where broader groupings are acceptable (e.g., collembolans and other minute invertebrates). This analysis will yield insights into overall ecological quality.
- **Drone Habitat Assessment:**
Our drone pilot, Michael Darter, conducted aerial surveys over selected *relevés* and Schismus-dominated areas of DTCI plots. The goal was to identify variables influencing habitat assessment via drone imagery—such as flight height, lens characteristics, and photo frequency to ensure complete coverage. We are now processing and analyzing imagery with Ryan Boarman to refine methods for habitat characterization using drone photography.



- Sound Finances
- Ethical Conduct
- Responsible Governance
- Lasting Stewardship



Habitat Enhancement

We have established a Schismus experimental control plot southeast of the DTCI project area to compare control methods. Working with engineers contracted to Edwards Air Force Base, we are exploring **directed energy devices**—high-intensity portions of the natural light spectrum used to interrupt plant physiological processes—as a tool for controlling Schismus and other invasive plants.

Initial tests on woody species, funded by the Electric Power Research Institute, were highly successful. Recent rains have produced Schismus growth across the central Mojave, allowing our first field test of a directed energy device in early October. This proof-of-concept test will assess the effectiveness of the prototype. As field consultants, we will help design and co-develop suitable light-delivery systems for varying conditions. We anticipate using these devices as one of the treatments on the Schismus control plot in late winter 2025–2026.

Supplemental Water Sites

We will deploy additional clay-plate drinking devices in November 2025, some with rainfall concentrators. Tests of the latest concentrator design showed that less than 0.1 inch of rain is sufficient to fill the plates. Using LoRa tracking, we will evaluate tortoise visitation frequency and timing at these sites.

We are also considering placing clay plates adjacent to natural drinking sites to provide supplemental water during low-rainfall events, ensuring tortoises have access to additional hydration sources during dry periods.

Sincerely,

Sam Easley, Executive Director
Sam@TransitionHabitat.org
(661) 603-2247



· Sound Finances
· Ethical Conduct
· Responsible Governance
· Lasting Stewardship



January 27, 2026

DTCI Project

Project ID: 2023178

Agreement # WC-2400AH

Progress Report, Invoice #13

During the past quarter, Transition Habitat Conservancy (THC) and our primary contractor OrniLogic (formerly Hardshell Labs) made significant progress on implementation of the Raven Blitz predator management effort while continuing coordination, planning, and readiness work across other Desert Tortoise Conservation Innovations tasks. Key updates are detailed below:

Predator Management - Raven Blitz Implementation

In the final quarter of 2025, our main focus was on setting up and initiating the Raven Blitz project to deny ravens access to subsidy sites and to haze them at large roosts in the central Mojave Desert. This work built on the knowledge gained from surveys of sites, visits with managers and the ongoing raven counts conducted for the last year as part of the DTCI-Predator Management task. We began firing the array of internet connected SMART lasers and conducting disruption at three large roosts on 22 December 2025. The response from ravens was instantaneous with sharp numbers reductions at treated subsidy sites as well as at the three roosts. In addition to using count data, we monitored the movement of 20 radio-tagged ravens and learned about the response of individuals to their changed circumstances. In essence, they largely abandoned their usual feeding and sleeping spots. Monitored roosts outside the treatment area swelled and new roosts sprang up while the three treated roosts collapsed. The largest of the three, Ravenville, dwindled to zero within about 2 weeks. We are preparing a brief preliminary presentation of select data to give a feel for some of the details we have observed.

Data Products and Communication

We are preparing a brief preliminary presentation highlighting select early results (counts + individual movement response patterns) to provide the grantor and partners with an initial, concrete view of what the project is demonstrating.

Tortoise Monitoring - LoRa Transmitters

We acquired core components for LoRa transmitters intended for deployment on up to 40 tortoises and made continued progress on transmitter engineering and assembly planning. This advances the monitoring effort that was previously in design/procurement and testing preparation.



- Sound Finances
- Ethical Conduct
- Responsible Governance
- Lasting Stewardship



Habitat Characterization

THC and OrniLogic coordinated planning for relevé plant transects on DTIC plots to support habitat characterization and provide context for tortoise-related outcomes. We continued internal planning and coordination around monitoring systems (including ongoing data management considerations and seasonal timing), aligning field windows with biological activity and other DTIC commitments.

Habitat Enhancement - Schismus Control Plot and Directed Energy Coordination

We continued to advance planning for Schismus control experiments at the dedicated research plot, including coordination on experimental approach and spring scheduling. (Prior quarter work established the experimental plot concept and the directed-energy approach as a prospective control tool.)

Passive Hydration / Site Planning

We advanced planning and readiness work for passive hydration efforts (including coordinating mapped tortoise drinking site locations for authorization and scheduling). (Prior quarter work established the approach for deploying clay-plate devices and concentrators.)

Compliance, Authorizations, and Partner Coordination (BLM)

THC continued close coordination with Chris Otahal (BLM) on the authorization pathway needed to support DTIC field implementation. We are working toward a Letter of Authorization (LOA) to conduct planned tests and field work while meeting DTIC requirements and applicable BLM thresholds and documentation expectations. This coordination is intended to ensure spring field activities proceed efficiently and within the required compliance framework.

Sincerely,

Sam Easley, Executive Director

Sam@TransitionHabitat.org

(661) 603-2247



- Sound Finances
- Ethical Conduct
- Responsible Governance
- Lasting Stewardship