

## DOCKETED

<b>Docket Number:</b>	09-AFC-05C
<b>Project Title:</b>	Abengoa Mojave Compliance
<b>TN #:</b>	203697
<b>Document Title:</b>	Part 1 Monthly Compliance Report January 2015
<b>Description:</b>	Monthly Compliance Report
<b>Filer:</b>	Dale Rundquist
<b>Organization:</b>	Abengoa Solar
<b>Submitter Role:</b>	Applicant
<b>Submission Date:</b>	2/17/2015 2:22:41 PM
<b>Docketed Date:</b>	2/17/2015

# ABENGOA SOLAR

## Mojave Solar LLC

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 636.519.3680 Ext. 80710

### SUBMITTED ELECTRONICALLY

**Subject:** 09-AFC-5C  
**Condition:** COMPLIANCE - 6  
**Description:** Monthly Compliance Report for December 2014  
**Date:** February 13, 2014  
**Distribution:** Dale Rundquist, CEC; Carol Hammel-Smith, US DOE; Wendy Campbell, DFW; Ray Bransfield, FWS

Dale Rundquist, CPM  
California Energy Commission  
1516 Ninth Street  
Sacramento, California 95814

Dear Mr. Rundquist,

The attached Monthly Compliance Report for January 2015 is submitted for your review as part of ongoing reporting required by the California Energy Commission's Conditions of Certification for the Mojave Solar Project. This monthly report will be added to the archival site on Box.com.

Sincerely,  
William "Bill" Grisolia  
Compliance Management  
(303) 885-2036 Cell

Attachment: Monthly Compliance Report

# **Mojave Solar Project Monthly Compliance Report**



## **January 2015 Reporting Period**

Prepared for:

Mojave Solar LLC  
42134 Harper Lake Road  
Hinkley, California 92347

# Introduction

During construction of the Mojave Solar Project, monthly compliance reports are provided to the California Energy Commission (CEC) as required by Condition of Certification COMPLIANCE-6 of the Commission Decision, docket number 09-AFC-5C. This is the Monthly Compliance Report (MCR) for January 2015.

In January, construction activities occurred in all project sectors, with the highest concentration in the Alpha and Beta power block areas. Construction within the power blocks included insulation installation. Construction activities included work on Steam Turbine Generator (STG) and Condenser installation, HTF System insulation, and balance of plant (BOP) piping assembly. In both Alpha and Beta, ground disturbance activities included various foundations, trenching and grounding. Work continues on the Beta 3 Well by subcontractor Layne Christensen. STG enclosure assembly continued in both Alpha and Beta.

The following table provides a summary of all areas covered in this report.

Mojave Solar Project Monthly Compliance Reporting	
Condition of Certification (COC) Topics	Appendix
Air Quality	See Appendix A
Biological Resources	See Appendix B
Cultural Resources	See Appendix C
Paleontological Resources	See Appendix D
Waste Management	See Appendix F
Worker Safety	See Appendix E
Soil and Water	See Appendix F
General Conditions	See Appendix F
Civil	See Appendix F
Structural	See Appendix F
Mechanical	See Appendix F
Electrical	See Appendix F
Transmission System Engineering	See Appendix F
Compliance Matrix	See Appendix G



# MOJAVE SOLAR LLC

42134 Harper Lake Rd  
Hinkley, CA 92347

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**Subject:** 09-AFC-5C  
**Condition Number:** COMPLIANCE-6  
**Description:** Monthly Compliance Report – January, 2015  
**Submittal Number:** COMPLIANCE6-02-00

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**2/9/2015**

Dale Rundquist, CPM  
(09-AFC-5C)  
California Energy Commission  
1516 Ninth Street (MS-2000)  
Sacramento, CA 95814  
drundqui@energy.state.ca.us

Dear Mr. Rundquist,

As you know, commercial operation of the Mojave Solar Project began on December 4, 2014. Until the Certificate of Occupancy is issued by Bureau Veritas, the California Energy Commission ("CEC") has asked that monthly compliance reporting continue as originally required by the CEC Condition of Certification COMPLIANCE-6. The following is an update including Mojave Solar LLC ("MSLLC") submittals to and approvals by the CEC as well as a listing of any MSLLC filings submitted to, or permits issued by, other governmental agencies during the month of January, 2015.

## **Submittals\Approvals**

### **AQ-72**

On 1/7/15, AQ-72-00-00, the Protocol for VOC & Benzene Emissions Testing on Carbon Adsorptions systems for the Mojave Solar project; approved by MDAQMD on 1/6/15 was submitted to the CEC for review.

### **BIO-3**

On 1/26/15, the Resume of Caroline Poli, Biological Monitor was submitted to the CEC as BIO3-08-01.

### **BIO-15**

On 1/7/15, the CEC approved BIO15-05-03 for the Compensation Mitigation LOC Release Request and BIO-15 Completion.

## **SOIL AND WATER-6 and SOIL AND WATER -7**

On 01/30/15, SWAT6-11-00, the 4<sup>th</sup> QTR Groundwater Elevation and Quality Monitoring Report, was submitted to the CEC for both monitoring water levels and water quality.

### **Other Permits\Filings**

On 01/21/15, the 2014 annual Special Purpose Utility Report for MSLLC was filed with the United States Fish & Wildlife Service.

On 01/23/15, the Semi-Annual Environmental Report for 2014 was submitted to the Department of Energy (DOE) in accord with the Loan Guarantee Agreement between the DOE and MSLLC.

On 01/30/15, the Quarterly Environmental Report for the 4<sup>th</sup> Quarter of 2014 was submitted to the Department of Energy (DOE) in accord with the Loan Guarantee Agreement between the DOE and MSLLC.

There were no other permits issued to or filings made by MSLLC during the month of January.

Please contact me with any question.

Sincerely,

William F. Grisolia

**ABENGOA SOLAR LLC**

42134 Harper Lake Rd

Hinkley, CA 92347

(303) 885-2036

**Appendix A  
Air Quality Resources**

**Mojave Solar Project  
Monthly Compliance Report  
San Bernardino County, California**

**January 2015 Reporting Period**



CH2M HILL  
2485 Natomas Park Drive  
Suite 600  
Sacramento, CA  
95833-2937  
Tel: 916.920.0300  
Fax: 916.920.8463

February 4, 2015

Dale Rundquist, CPM  
California Energy Commission  
Siting, Transmission & Environment Protection (STEP) Division  
1516 Ninth Street (MS-2000)  
Sacramento, CA 95814  
drundqui@energy.state.ca.us

RE: AQ-SC3, AQ-SC4, AQ-SC5, and WORKER SAFETY-8 Monitoring and Mitigation  
Activities at Mojave Solar Project (09-AFC-5C) for January 1 through January 31, 2015

Dear Mr. Rundquist:

This letter is to update you on the air quality construction monitoring occurring at the Mojave Solar Project (MSP) site during January 2015. Compliance with the WORKER SAFETY-8 condition was also monitored. Construction activities occurred January 2 through 31, 2015. Compliance monitoring was performed by Jose Manuel Bravo Romero of Abengoa, who is the full-time onsite Air Quality Construction Mitigation Manager (AQCMM). I, Christopher Waller of CH2M HILL, am the designated AQCMM delegate and visited the site on January 29, 2015, to ensure compliance with record keeping and conditional requirements.

## **Overview**

Construction activities in January included fire protection system installation, street sweeping, heat trace installation, power block grounding, trenching for work on production wells, and miscellaneous foundation construction. In addition, commissioning activities and electricity production occurred in January 2015. Construction activities were monitored for compliance with Conditions of Certification (COCs) AQ-SC3, AQ-SC4, AQ-SC5, and WORKER SAFETY-8. New equipment brought onsite during January was issued a tag in accordance with AQ-SC5a, and evaluated for compliance with AQ-SC5b through AQ-SC5d. A summary of the compliance with the Air Quality Construction Mitigation Plan (AQCMP) is provided in the following sections. Daily, weekly, and monthly observation logs and other site inspection forms are maintained onsite and available upon request.

## **Compliance Assessment**

### **AQ-SC3 – Fugitive Dust Control**

All of the AQ-SC3 COCs were in effect during January 2015. The following section summarizes each COC and describes the level of compliance.

- **AQ-SC3a: Soil stabilizers on main access roads and delivery areas**  
Soil stabilizers have been applied to finished access roads and delivery areas. Main roads in Beta have been paved.
- **AQ-SC3b: Watering of disturbed areas**  
Watering of actively disturbed areas was performed for all construction activities with the potential to create airborne dust plumes. When necessary, watering was intensified as directed by the onsite AQ-CMM and construction managers.
- **AQ-SC3c: Speed limits**  
The required speed limits have been enforced onsite.
- **AQ-SC3d: Speed limit signage**  
Speed limit signage has been posted and is clearly visible at all site entrances.
- **AQ-SC3e: Tire inspection and washing prior to exiting to paved roadway**  
Although tire washing stations have not been installed, all construction vehicles are inspected for dirt and other debris prior to exiting to paved public roadways.
- **AQ-SC3f: Tire washing station**  
As stated above, no tire washing stations have been installed. However, tires of construction vehicles are inspected for dirt and other debris prior to exiting to paved public roadways.
- **AQ-SC3g: Unpaved exit treatment**  
Rumble plates are installed at all site exits.
- **AQ-SC3h: Construction vehicles use approved entrances only**  
When traveling between sites, construction vehicles use approved entrances only.
- **AQ-SC3i: Run-off onto public roadways**  
Earthmoving activities have resulted in run-off being directed away from paved public roadways. In addition, fiber rolls have been placed where the potential for run-off onto public roadways exists. Watering has not resulted in run-off onto public roadways.
- **AQ-SC3j: Sweeping of paved roads within construction site**  
Sweeping of paved roads within the site is performed as necessary.
- **AQ-SC3k: Sweeping of public paved roadways with access to the MSP site**  
Sweeping of Harper Lake Road and Lockhart Road is performed as necessary.

- **AQ-SC3l: Stabilization of storage piles**

Earthmoving activities performed during January 2015 included trenching for work on a production well in Beta and minor excavation activities in the power blocks. Areas disturbed during trenching or excavation were sufficiently watered during all construction activities. Storage piles generated as a result of excavation activities will be used as backfill. Additional storage piles exist to the east of the Alpha evaporation pond. These storage piles are watered frequently, and will be re-distributed at a later date. All other soil piles are temporary excavation spoils or grading excesses that are re-distributed prior to exceeding the 10-day limit for cover or treatment.

- **AQ-SC3m: Stabilization of transported solid bulk material**

Transported solid bulk materials are sufficiently watered, and at least one foot of freeboard is provided during transportation.

- **AQ-SC3n: Wind control techniques**

Wind fencing has been installed in Alpha East, Alpha West, and Beta along the eastern and western borders of each area.

#### **AQ-SC4 – Dust Plumes & WORKER SAFETY-8 – Site Worker Fugitive Dust Protection**

The following construction activities were performed during the January 1 to January 31, 2015, reporting period:

- Instrument and controls installation
- Miscellaneous foundation construction
- Power block insulation installation
- Power block grounding
- Miscellaneous foundation construction
- Cable tray and cable tray insulation installation
- Heat trace installation
- Fire protection system installation

No high wind events (wind gusts of at least 25 mph) occurred during January 2015, and there were no work stoppages due to inclement weather during January 2015.

Soil stabilization has been implemented on finished haul roads and delivery areas. In addition, main roads in Beta and Harper Lake Road south of Lockhart Road have been paved. Unfinished areas and haul roads without soil stabilizers are watered daily to mitigate against the formation of fugitive dust. A truck washing station has not been installed. However, rumble plates are installed at all site entrances/exits, and the tires of construction vehicles are inspected for dirt and other debris and swept clean as needed prior to exiting the site onto paved roadways.

#### **AQ-SC5 – Diesel-Fueled Engine Control**

Attachment 1 to this letter contains a list of equipment operated onsite during January 2015. The list contains equipment information including manufacturer, model, California Air Resources Board (CARB) Equipment Identification Number (EIN), engine model year, engine horsepower, and U.S. Environmental Protection Agency (USEPA) certified tier level.

The following list summarizes each COC for AQ-SC5 and describes the level of compliance.

- **AQ-SC5a: Equipment Tags**  
A visible air quality tag with a unique number (AQ #) was issued and adhered to all equipment that arrived onsite between January 1 and January 31, 2015.
- **AQ-SC5b: USEPA Engine Tier Requirement**  
All construction equipment that arrived onsite between January 1 and January 31, 2015, had Tier 3 engines.
- **AQ-SC5c: Retrofit Control Termination**  
No equipment with retrofit control technology was brought onsite.
- **AQ-SC5d: Maintenance Records**  
Maintenance records for all vehicles are available upon request.
- **AQ-SC5e: "All diesel heavy construction equipment shall not idle for more than five minutes."**  
Idle time was monitored by the activity managers and AQCMM. This condition was met during this reporting period.
- **AQ-SC5f: Electric Motors**  
The use of construction equipment with electric motors was not feasible for current construction activities.

Please feel free to call (714) 435-6268 for questions, clarifications, or additional information.

Sincerely,  
CH2M HILL



Christopher Waller  
Staff Environmental Engineer  
AQCMM Delegate  
christopher.waller@ch2m.com

c: Jose Manuel Bravo Romero / Abengoa, AQCMM  
Christopher Waller / CH2M HILL, AQCMM Delegate

**Attachment 1**  
**Construction Equipment Mojave Solar Project**



**Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory**

Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments
CATERPILLAR	950G	GH6Y78	2005	183	2	Rubber-Tired Loader	2011		GFE Received
DEERE	200D	KF4B33	2011	159	3	Excavator	2011		
CATERPILLAR	CS683E	TX8P94	2005	173	2	Roller	2011		GFE Received
CATERPILLAR	834B	VF5F83	2010	440	3	Rubber-Tired Dozer	2011		
CATERPILLAR	325DL	JB4V37	2006	168	2	Excavator	1/3/2012		GFE Received
DEERE	410J	BB3T68	2011	97	4	Tractor/Loader/Backhoe	1/5/2012		
SKYTRAK	8042	HY9R57	2008	110	3	Forklift	1/23/2012		
CATERPILLAR	651B	JA9X63	2006	540	3	Scraper	3/9/2012		
CATERPILLAR	651B	TR7R75	2006	540	3	Scraper	3/9/2012		
CASE	580_SM	BJ8N36	2007	95	2	Tractor/Loader/Backhoe	4/23/2012		GFE Received
DEERE	310J	DA4B63	2007	75.1	2	Tractor/Loader/Backhoe	4/23/2012		GFE Received
CATERPILLAR	631C	JW5C94	2010	452	3	Scraper	4/23/2012		
CATERPILLAR	140H	HM5E53	2005	165	2	Grader	6/19/2012		GFE Received
DEERE	328	AA9M73	2007	82	2	Skid Steer Loader	8/10/2012		GFE Received
SKYTRAK	8042	KP9P46	2007	110	3	Forklift	8/17/2012		
P&H	453-130	BY3X34	2008	139	3	Crane	9/5/2012		
CATERPILLAR	414E	WJ4X56	2006	92	2	Tractor/Loader/Backhoe	9/5/2012		GFE Received
A&L	210LJ	HK4M87	2011	84	4	Tractor/Loader/Backhoe	10/5/2012		
DEERE	310J	SS4K74	2011	84	4	Tractor/Loader/Backhoe	10/5/2012		
TEREX	RT230-1	TB3E79	2006	130	2	Crane	10/5/2012		GFE Received
GROVE	RT518	XE8V88	2008	142	3	Crane	10/5/2012		

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
TEREX	RT 780	KT4X64	2005	275	2	Crane	10/05/12		GFE Received	
TEREX	RT665	NB5R93	2007	215	3	Crane	10/25/2012			
DEERE	310SJ	SP4F87	2011	100	4	Tractor/Loader/Backhoe	10/25/2012			
CATERPILLAR	450E	UB3H55	2008	136	3	Tractor/Loader/Backhoe	10/25/2012			
DIECI	45.17 Icarus	EP4W64	2013	195	4	Rough Terrain Forklift	11/1/2012			
DEERE	210LJ	JW3M53	2011	74	4	Tractor/Loader/Backhoe	11/14/2012			
JLG	G10-55A	WR3G83	2011	130	3	Forklift	11/14/2012			
SKY TRACK	10054	HB6Y56	2012	100	4	Rough Terrain Forklift	11/19/2012			
TEREX	RT780	HR3X86	2006	275	3	Crane	11/19/2012			
GROVE	RT650E	YH5P85	2007	165	3	Crane	11/19/2012			
GENIE	GTH-1056	BJ6A33	2012	139	4	Forklift	11/30/2012			
DEERE	410J	LX6M39	2011	99	4	Tractor/Loader/Backhoe	11/30/2012			
HYSTER	H120FT	NM9Y89	2011	74	4	Forklift	11/30/2012			
JLG	G9-43A	PW7E85	2011	99	4	Forklift	11/30/2012			
GENIE	1056	WG4N88	2010	139	3	Forklift	11/30/2012			
GRADALL	534D9	LG6P89	2011	99	3	Forklift	12/10/2012			
SKY TRAK	10054	YW7Y65	2008	110	3	Forklift	12/10/2012			
CATERPILLAR	315D	BX7C54	2011	115	3	Excavator	12/19/2012			
CATERPILLAR	430E	CT9E46	2011	110	3	Backhoe	12/19/2012			
CATERPILLAR	966H	CU4A75	2008	261	3	Loader	12/19/2012			
JLG	10054	AW6L59	2011	110	3	Forklift	12/27/2012			

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory									
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments
NEW HOLLAND	B95	DS7V79	2007	95	3	Backhoe	12/27/2012		
TEREX	GTH1056	PP3H77	2011	116	3	Forklift	12/27/2012		
SKYJACK	8042	CE4F84	2008	110	3	Forklift	1/3/2013		
CATERPILLAR	321D	CK7S75	2011	147	3	Excavator	1/3/2013		
TEREX	RT 780	VA3N64	2005	275	3	Crane	1/3/2013		
CATERPILLAR	140M2	XA6E55	2012	264	3	Graders	1/3/2013		
SKYTRAK	8042	HE9X93	2008	110	3	Forklift	1/7/2013		
CATERPILLAR	420F	AE5W73	2012	99.9	3	Backhoe	1/9/2013		
HAMM	3307	GC6S79	2012	74	3	Roller	1/11/2013		
BOMAG	BW177DH	TJ4G76	2010	110	3	Roller	1/11/2013		
CATERPILLAR	420F	AX9E77	2012	99.9	3	Backhoe	1/15/2013		
BOBCAT	S160	KY3G93	2003	56	3	Skid steer	1/15/2013		
KOBELCO	SK70SR	TK3Y36	2005	55	3	Excavator	1/15/2013		
SKYTRAK	10054	WS4M75	2012	100	3	Forklift	1/16/2013		
INGERSOLL - RAND	SD40	WM7E75	2000	80	3	Roller	1/18/2013		
VOLVO	SD100D	AH4W67	2008	130	3	Roller	1/23/2013		
DEERE	210LJ	UC9P95	2011	99.9	3	Backhoe	1/23/2013		
KOMATSU	WA380-6	US8T79	2006	191	3	Loader	1/23/2013		
DEERE	710J	XF3R63	2008	123	3	Backhoe	1/23/2013		
KOMATSU	Fd100t-8	KP8W75	2009	173	3	Forklift	1/23/2013		

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
HYUNDAI	160D-7E	NG7L33	2011	160	3	Forklift	2/2/2013			
DEERE	410J	TF9M89	2007	98	3	Backhoe	2/2/2013			
SKY_TRAK	6036	WK4S78	2006	75	3	Forklift	2/2/2013			
CASE	850L_LGP	MB4W34	2011	99	3	Dozer	2/2/2013			
JLG	G10-55A	LK4C88	2010	101	3	Forklift	2/2/2013			
CATERPILLAR	430F	TP8K57	2012	115.2	3	Backhoe	2/2/2013			
DEERE	210LE	YW3W53	2006	78	3	Backhoe	2/5/2013			
DEERE	135D	YF8D78	2008	97	3	Excavator	2/5/2013			
SKYJACK	VR-843D	UK9H48	2008	110	3	Forklift	2/5/2013			
TEREX	PT100	TT7L43	2010	99.9	3	Loader	2/8/2013			
DEERE	310J	MU8F49	2011	93	3	Backhoe	2/8/2013			
CATERPILLAR	420F	PJ4S33	2012	99.9	3	Backhoe	2/8/2013			
CATERPILLAR	420F	SH5P56	2012	99.9	3	Backhoe	2/11/2013			
OTHER	TJ-5000	MR6P63	2011	220	3	Trucks	2/11/2013			
JLG	G10-55A	KS9K64	2012	250	3	Forklift	2/11/2013			
JLG	G10-55A	Ty9H64	2012	150	3	Aerial Lift	2/11/2013			
HYSTER	H120FT	NM9Y89	2011	74	3	Forklift	2/11/2013			
JLG	660SJ	PC5J79	2012	49	3	Aerial Lift	2/11/2013			
CATERPILLAR	TL943	VT9L56	2011	99	3	Forklift	2/11/2013			
GENIE	Z45/25J	DK3J49	2012	49	3	Aerial Lift	2/19/2013			
TEREX	RT780	VT7C39	2008	275	3	Cranes	2/19/2013			

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory									
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments
JLG	400S	UV6D76	2006	49	3	Aerial Lift	2/19/2013		
CATERPILLAR	226B3	NS7R98	2011	61	3	Skid-steer-loaders	2/19/2013		
DEERE	135D	YF8D78	2008	97	3	Excavator	2/19/2013		
JLG	G6-42A	TJ4R94	2011	99	3	Forklift	2/19/2013		
GENIE	GTH-5519	JD8F98	2011	67	3	Forklift	3/16/2013		
JLG	10054	CW3C83	2012	85	3	Forklift	3/16/2013		
SKY-TRAK	10054	VA9U73	2008	110	3	Forklift	3/16/2013		
OTHER	XRM1254	EP7D46	2006	122	2	Aerial Lift	3/16/2013		GFE Received
TEREX	RT780	LP9U53	2007	275	3	Cranes	3/16/2013		
HITACHI	ZX300LC	PF9G47	2005	200	2	Excavator	3/16/2013		GFE Received
VOLVO	BL60	BK6U58	2012	83	3	Backhoes	3/18/2013		
JLG	G10-55A	NJ3A43	2013	130	3	Forklift	3/18/2013		
HYSTER	H360HD2	BF6N74	2012	155	3	Forklift	3/18/2013		
GRADALL	544D	MN3Y45	2005	200	2	Forklift	3/19/2013		GFE Received
CASE	580SM/2	SH8S69	2007	95	2	Backhoes	3/22/2013		Onsite but not in use
CARELIFT	ZB20044-44	KV9A38	2011	160	3	Forklift	3/25/2013		
VOLVO	ECR88	RL9G83	2012	57	3	Excavator	3/28/2013		
JLG	G10-55A-CAB	WU9I47	2011	130	3	Forklift	3/28/2013		
CASE	580-SN	RT9H99	2011	97	3	Backhoes	3/29/2013		
JLG	G10-55A	WW6W44	2011	130	3	Forklift	3/29/2013		

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
CATERPILLAR	TL1255	SU4H58	2011	138	3	Forklift	3/29/2013			
HYSTER	H210	KH9A63	2004	195	2	Forklift	3/29/2013		GFE Received	
JLG	G6-42A	JT4R94	2011	99	3	Forklift	3/16/2013			
JLG	G10-55A	UB3R85	2007	140	3	Forklift	3/26/2013			
GENIE	TH1056C	HX5Y45	2005	125	2	Forklift	3/29/2013		GFE Received	
VOLVO	ERC145DL	RB7E53	2012	114	3	Excavator	4/2/2013			
INGERSOLL-RAND	SD45D/F	ES5C78	2006	80	2	Roller	4/2/2013		GFE Received	
VOLVO	SD43D/F	TY8A44	2007	80	2	Paver	4/2/2013		GFE Received	
CATERPILLAR	D8T	WJ8T88	2006	310	3	Tractors/Loaders/Backhoes	4/2/2013			
SKY-TRAK	10054	KB9Y73	2012	110	3	Forklift	4/2/2013			
DEERE	200D	AB7M73	2011	159	3	Excavator	4/2/2013			
LIEBHERR	LTM_1220-5.1	AD6Y38	2008	496	3	Crane	4/3/2013			
CATERPILLAR	345DL	EC8J65	2008	410	3	Excavator	4/3/2013			
VOLVO	L90G	UM9N34	2012	161	3	Tractors/Loaders/Backhoes	4/3/2013			
VOLVO	L90G	KR7W43	2012	161	3	Tractors/Loaders/Backhoes	4/3/2013			
VOLVO	SD-100D	VU9S58	2008	130	3	Roller	4/4/2013			
DEERE	JD450JLT	KM3W94	2010	77	3	Other	4/4/2013			
GRADALL	G6-42P	VH3R63	2005	99	2	Other	4/4/2013		GFE Received	

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
GRADALL	G6-42A	AR6S85	2006	99.9	2	Forklift	4/4/2013		GFE Received	
KOMATSU	PC400LC-7EO	TA7R86	2006	353	3	Backhoe	4/4/2013			
INGERSOLL-RAND	SD116DX	HT4J67	2007	160	3	Roller	4/4/2013			
OTHER	TJ-5000	VG9N57	2012	220	3	Truck	4/5/2013			
TEREX	RT-780	TH9R77	2005	275	2	Other	4/9/2013		GFE Received	
MANITOWOC	16000	WC8X98	2010	500	3	Crane	4/11/2013			
TEREX	RT-230	SP8M78	2012	130	3	Crane	4/11/2013			
CATERPILLAR	328D	ME3U69	2010	204	3	Excavator	4/12/2013			
SANY-HEAVY-IND	SRC840_RT	VE4C37	2012	408	3	Crane	4/12/2013			
GENIE	Z45/25JDSL-4WD	NK9E56	2006	48	2	Aerial Lift	4/17/2013		GFE Received	
GENIE	GTH-1056	BG9E85	2012	139	3	Forklift	4/17/2013			
JLG	10054	JR6U95	2008	110	3	Forklift	4/17/2013			
DEERE	318D	LW3B46	2011	76.1	3	Tractors/Loaders/Backhoes	4/17/2013			
SKY-TRAK	SJ46AJ	MY4T53	2012	49	3	Aerial Lift	4/17/2013			
SKY-TRAK	10K_RCHLFT	KV5C43	2007	110	3	Forklifts	5/1/2013			
VOLVO	ECR305CL	VT9L86	2010	205	3	Excavator	5/2/2013			
DEERE	210LJ	UC3K76	2008	99	3	Backhoes	5/2/2013			
TEREX	RT345	JS3S84	2011	160	3	Cranes	5/6/2013			

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
MASSEY-FERGUSON	6255	GA8S84	2003	93	1	Tractor	5/8/2013	5/16/2013	Offsite	
GRADALL	544D	EU9X67	2000	130	1	Forklifts	5/9/2013	5/10/2013	Offsite	
BOBCAT	T190	WS8X94	2010	66	3	Loaders	5/13/2013			
CATERPILLAR	966H	WM3B35	2007	261	3	Loaders	5/17/2013			
SKY_TRAK	10K_RCHLFT	RA7A36	2007	110	3	Forklifts	5/20/2013			
CATERPILLAR	297C	BT6X94	2007	94	2	Loaders	5/30/2013	6/5/2013	Offsite	
CATERPILLAR	TH460B	EH3K78	2005	100	1	Lifts	6/4/2013	6/6/2013	Offsite	
SKY_TRAK	10054	CS5E84	2012	100	3	Forklifts	6/5/2013			
JCB	527-55	TJ8X64	2012	75	3	Forklifts	6/5/2013			
LJG	G10-55A	BJ5B48	2012	130	3	Forklifts	6/6/2013			
GEHL	DL11L-55	US9P64	2008	115	3	Forklifts	6/6/2013			
JLG	800S	CY3K64	2007	65	2	Lifts	6/7/2013	6/17/2013	Offsite	
DEERE	326D	CX5A73	2011	75	3	Loaders	6/7/2013			
LINK-BELT	RTC 8075	FN9D69	2009	225	3	Cranes	6/7/2013			
JLG	120AJP_125A RT	JE6P64	2011	74	3	Lifts	6/7/2013			
SNORKEL	T65RTCU	EG4G76	2008	65	3	Lifts	6/7/2013			
GENIE	Z-80/60J- W/GEN	AX5A64	2010	73	3	Lifts	6/10/2013			
JLG	800AJ	CY4A37	2011	50	3	Lifts	6/10/2013			
DEERE	310SJ	MC7U99	2010	93	3	Backhoes	6/14/2013			



Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
DEERE	544K	SR5B39	2010	167	3	Backhoes	6/14/2013			
DEERE	310SJ	CE6E43	2007	93	2	Backhoes	6/14/2013	6/18/2013	Offsite	
CASE	821F	PB4E64	2011	169	3	Backhoes	6/14/2013			
GROVE	RT765E-2	LV6V74	2013	240	3	Cranes	6/17/2013			
DEERE	310SG	NA3P73	2006	93	2	Backhoes	6/18/2013	6/19/2013	Offsite	
TEREX	RT_780	UA6T98	2006	275	3	Cranes	6/19/2013			
CATERPILLAR	D8T	JB5X88	2004	310	2	Tractors	7/1/2013	7/8/2013	Offsite	
KOMATSU	PC308USL_3	WG8P59	2005	189	2	Excavators	7/1/2013	7/9/2013	Offsite	
CATERPILLAR	D8T	XF9M63	2006	310	3	Tractors	7/2/2013			
GENIE	Z-13570	YK7C77	2010	74	3	Lifts	7/8/2013			
TEREX	RT555	WS6S45	2005	185	2	Cranes	7/8/2013	7/18/2013	Offsite	
SKY JACK	SJ66T	BP6P88	2012	64	3	Lifts	7/11/2013			
JLG	800AJ	CS9L37	2008	62	3	Lifts	7/16/2013			
DEERE	210KEP	BY5Y84	2012	70	3	Backhoes	8/5/2013			
HITACHI	225	AF8C99	2011	159	3	Excavators	8/5/2013			
CATERPILLAR	325DL	AN8W58	2008	204	3	Excavators	8/5/2013			
SKY-TRAK	10054	MM7D49	2007	110	3	Forklifts	9/4/2013			
TEREX	RT780	LD9M99	2007	275	3	Cranes	9/4/2013			
CATERPILLAR	450E	XH8D54	2007	157	3	Backhoes	9/4/2013			
DEERE	210LE	PA4G55	2006	78	2	Backhoes	9/10/2013	9/17/2013		
DEERE	624K	XP9L79	2008	146	3	Loaders	9/10/2013			

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
SKY-TRAK	10054	XK6T97	2004	110	2	Lifts	9/13/2013	10/11/2013	GFE could not be obtained. Equipment was removed from site.	
SNORKEL	TB-85J	RL5M33	2007	64	2	Lifts	9/13/2013	9/17/2013		
SANY-HEAVY-IND	SRC865-RT	TS5P46	2010	250	3	Cranes	9/13/2013			
JLG	800AJ-80ART-BO	DV7H57	2011	56	3	Lifts	9/17/2013			
JLG	SKYTRK-10K-RCH	SA4S95	2007	110	3	Forklifts	9/17/2013			
LIEBHERR	LR1200SX	AH8E76	2007	362	3	Cranes	9/17/2013			
GENIE	GTH-5519	NA4U95	2012	67	3	Forklifts	9/17/2013			
SKY-TRAK	1054-10,000-RCH	EU8D48	2006	82	2	Forklifts	9/19/2013	10/11/2013	GFE could not be obtained. Equipment was removed from site.	
VOLVO	SD45	HE8X95	2011	99	3	Rollers	9/19/2013			
LIEBHERR	LR1200SX	SY5B57	2006	362	3	Cranes	9/19/2013			
DEERE	310SJ	WX9R94	2011	75	3	Backhoes	9/20/2013			
SKY-TRAK	10054	GL9X33	2010	110	3	Forklifts	9/20/2013			
GEHL	DL1240	DV3U39	2013	115	3	Forklifts	9/20/2013			
GRADALL	534D9	WM5W94	2011	110	3	Forklifts	9/23/2013			
SKY-TRAK	8042	EU5S37	2012	71	3	Forklifts	9/23/2013			
JLG	G12-55A	SW6X98	2011	130	3	Forklifts	9/24/2013			

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
VOLVO	MCT135C	MS7Y68	2011	91	3	Loaders	9/26/2013			
JLG	SKYTRK-10K-RCH	AJ66D98	2007	110	3	Forklifts	9/27/2013			
GENIE	Z-80/60	PJ3W77	2008	74	3	Lifts	9/27/2013			
GENIE	GHT-1056	TR6F45	2013	121	3	Forklifts	9/27/2013			
CASE	580N	SX5S95	2011	84	3	Backhoes	10/2/2013			
GROVE	RT880E	BN6H96	2013	275	3	Cranes	10/2/2013			
JLG	G6-42A	XR9V66	2011	69	3	Forklifts	10/2/2013			
CATERPILLAR	TL1255C	DX9N76	2013	141	3	Forklifts	10/4/2013			
JLG	800AJ	MY6J77	2012	62	3	Lifts	10/4/2013			
JLG	G-1055A	LU4S88	2008	125	3	Forklifts	10/7/2013			
JLG	600S	DA7J87	2012	49	3	Lifts	10/7/2013			
Other	XRM1254	NV8S66	2005	122	2	Lifts	10/7/2013	10/17/2013	Offsite	
TEREX	RT780	CJ4V77	2012	260	3	Cranes	10/7/2013			
LIEBHERR	LR1200	RA6Y75	2006	362	3	Cranes	10/9/2013			
SKY-TRAK	1054-10,000-RCH	MC9W76	2007	110	3	Forklifts	10/10/2013			
LIEBHERR	LR1200SX	NU9L79	2007	362	3	Cranes	10/10/2013			
CATERPILLAR	430E	FE4P69	2008	95	3	Backhoes	10/16/2013			
SKY-TRAK	8042-CAB	SG3T73	2011	110	3	Forklifts	10/16/2013			
DEERE	310K	WG6W88	2013	56	3	Backhoes	10/16/2013			
JLG	6042	FA7K37	2013	85	3	Forklifts	10/18/2013			

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
JLG	G5-19A	AB8T34	2006	100	3	Forklifts	10/18/2013			
GENIE	GTH-1056	PL9W36	2013	121	3	Forklifts	10/22/2013			
TOYOTA	50-4FDK160	WK4X75	2011	168	3	Forklifts	10/22/2013			
CASE	580N	TX5K58	2011	84	3	Backhoes	10/23/2013			
LINK-BELT	225MSR	KG3E74	2011	163	3	Excavators	10/25/2013			
GENIE	S65	TH8R79	2012	49	3	Lifts	11/4/2013			
JLG	10054	KL5S59	2012	100	3	Forklifts	11/7/2013			
BOMAG	BW120AD_4	VU8F45	2006	34	2	Rollers	11/8/2013	11/15/2013	Offsite	
GROVE	TM9120	VC3C38	1993	460	0	Cranes	11/12/2013	11/14/2013	Offsite	
CASE	580N	TX5K58	2011	84	3	Backhoes	11/12/2013			
SKY-TRAK	10054	HL8E83	2012	110	3	Forklifts	11/25/2013			
JCB	3CX14-4EC	TP4C93	2011	68	3	Backhoes	11/25/2013			
HYSTER	H360HD	CU5C99	2007	155	3	Forklifts	11/25/2013			
DEERE	310J_EP	TP5F67	2013	70	3	Backhoes	11/26/2013			
JLG	G6-42A	DL9T78	2011	69	3	Forklifts	11/27/2013			
TREX	RT345XL	JS3S84	2011	160	3	Cranes	11/27/2013			
JLG	G10-55A	TY9H64	2012	130	3	Aerial Lifts	12/12/2013			
JLG	G10-55A	UC3F55	2012	174	3	Forklifts	12/12/2013			
JCB	550-170	PW7E59	2012	99	3	Forklifts	12/16/2013			
JLG	800AJ	VD8B84	2013	61.6	3	Aerial Lifts	12/16/2013			
GEHL	DL1155	XB7G76	2013	115	3	Forklifts	12/16/2013			

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
TEREX	RT450	MT8A46	2011	275	3	Cranes	12/16/2013			
SKY-TRAK	10054	BD7B67	2008	110	3	Forklifts	12/20/2013			
JLG	600AJ	WV7C48	2007	65	3	Aerial Lifts	12/23/2013			
GENIE	Z-80	BE5Y85	2010	74	3	Aerial Lifts	12/23/2013			
OTTOWA	TJ-1000	SH9Y35	2010	220	3	Trucks	1/3/2014			
Other	TJ-5000	PV5L96	2007	280	3	Tractors	1/7/2014			
Other	TJ-5000	BY5E66	2007	280	3	Tractors	1/8/2014			
TRAK	8042	UN8Y65	2012	100	3	Forklifts	1/13/2014			
TRAK	10054	HF8X98	2006	110	2	Forklifts	1/18/2014	1/28/2014	Offsite	
GEHL	DL 1155	UT5Y35	2012	115	3	Forklifts	1/20/2014			
SKY-TRAK	10054L	DV4V97	2012	100	3	Forklifts	2/3/2014			
JLG	800S	CY3K64	2007	65	2	Lifts	2/5/2014	2/12/2014	Offsite	
SKY-TRAK	10054	MX6V88	2013	100	3	Lifts	2/5/2014			
CATERPILLAR	TL 1055C	DT8W55	2012	125	3	Forklifts	2/10/2014			
JLG	10K	PJ9M37	2007	110	3	Forklifts	2/12/2014			
TEREX	RT_780_80TON	MR9U89	2005	275	2	Cranes	2/14/2014	2/19/2014	Offsite	
GENIE	GTH_5519	BD9T36	2012	67	3	Forklifts	2/18/2014			
TEREX	TX5519	TU3D58	2006	62	2	Forklifts	2/18/2014	2/25/2014	Offsite	
DEERE	210K	AE9V73	2013	56	3	Backhoes	3/10/2014			
JLG	10054	RC6M93	2012	75	3	Forklifts	3/12/2014			

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
DEERE	310K	NL6C48	2013	130	3	Backhoes	3/12/2014			
CASE	580N	SX5S95	2011	84	3	Backhoes	3/18/2014			
OTHER	TJ-5000	VT5V79	2007	280	3	Tractors	3/20/2014			
JLG	C6-42A	TX8D67	2012	100	3	Forklifts	3/20/2014			
OTHER	XRM1254	EK9A69	2008	99	3	Lifts	3/21/2014			
SKY-TRAK	10054	GM7C76	2013	100	3	Forklifts	3/25/2014			
JLG	800AJ	JF5J83	2002	64.5	0	Lifts	3/25/2014	3/28/2014	Offsite	
JLG	G6-42A	UH3U65	2011	99	3	Forklifts	3/27/2014			
JCB	930	XN9J99	2011	84	3	Forklifts	3/27/2014			
SKY-TRAK	10054	PY8P48	2012	74	3	Forklifts	5/7/2014			
JLG	6042	JT4H67	2014	85	3	Forklifts	5/7/2014			
SKY-TRAK	10054	XL9A84	2007	110	3	Forklifts	5/8/2014			
GENIE	GTH-1056	YE9N46	2011	114	3	Forklifts	5/9/2014			
JLG	1200SJP	WK5B84	2012	74	3	Boom	5/16/2014			
SKY-TRAK	8042	CH6F45	2013	75	3	Forklifts	6/6/2014			
JCB	930	FR8A79	2012	134	3	Forklifts	7/15/2014			
JLG	1250AJP	KU3R59	2011	82	3	Lifts	7/16/2014			
JLG	Z-135/70	TS4F37	2008	74	3	Lifts	7/16/2014			
Genie	280-60	BE5Y85	2010	74	3	Lifts	7/16/2014			
JCB	510-56	BE8P43	2014	75	3	Forklifts	7/16/2014			
SKY-TRAK	10054	TW6E87	2012	100	3	Forklifts	7/17/2014			

Construction Equipment for Mojave Solar Project – January 2015 Equipment Inventory										
Manufacturer	Model	EIN	Engine Year	Horse Power	Engine Tier	Vehicle Type	Date Arrived	Date Left Site	Comments	
Genie	S45	BP5H59	2012	49	3	Lifts	7/18/2014			
JLG	1250AJP	CJ9K73	2011	75	3	Lifts	8/1/2014			
JLG	800AJ	CW6P85	2007	65	3	Lifts	8/1/2014			
SKY-TRAK	10054	PP9P73	2012	75	4	Forklifts	8/1/2014			
JLG	1250AJP	KU3R59	2011	82	3	Lifts	8/1/2014			
CASE	580N	VG9E35	2011	84	3	Tractors	10/1/2014			
Genie	S-125	MR3T54	2007	74	3	Booms	10/14/2014	10/15/2014	Offsite	
Genie	Z80/60-D-4WD	WT5V59	2008	74	3	Lifts	11/6/2014	11/7/2014	Offsite	
DEERE	310J-WT-D/L-CAB	GE6B68	2010	99	3	Backhoes	11/10/2014			
BROCE MANF	KR-350	KB6F33	2010	84	3	Sweepers/Scrubbers	1/22/2015			

**Appendix B  
Biological Resources**

**Mojave Solar Project  
Monthly Compliance Report  
San Bernardino County, California**

**January 2015 Reporting Period**



Biological Resources  
Monthly Monitoring Report  
Conditions of Certification  
BIO-2, BIO-3, BIO-4, BIO-5, BIO-7,  
BIO-11, BIO-14, BIO-18, BIO-19

January 2015 Reporting Period

Prepared for:  
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February 2015

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- 2 WEAP Attendance Summary and Training Logs
- 3 Monthly Common Raven Monitoring Results
- 4 Observed Wildlife Species List

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## 1 Introduction

Per the California Energy Commission's (CEC) Abengoa Mojave Solar Project Commission Decision, CEC-800-2010-008-CMF, Docket Number 09-AFC-5C, this monthly compliance report (MCR) summarizes compliance with biological resource protection requirements during construction activities from January 1 through January 31, 2015, on the Mojave Solar Project (MSP) in San Bernardino County, California (see Figure 1, figures are at the end of this report).

This report does not repeat information provided in previous MCRs and assumes environmental compliance was met unless otherwise noted.

As provided in the CEC Final Decision, the following biological conditions of certification pertaining to monitoring activity covered by this MCR include, but are not limited to:

- 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 (WEAP)
- BIO-6 Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) Development and Compliance
- BIO-7 Impact Avoidance and Minimization Measures
- BIO-11 Desert Tortoise (*Gopherus agassizii*) Exclusion Fencing, Clearance Surveys, and Translocation Plan
- BIO-14 American Badger (*Taxidea taxus*) and Desert Kit Fox (*Vulpes macrotis*) Impact Avoidance and Minimization Measures
- BIO-18 Common Raven (*Corvus corax*) Monitoring, Management, and Control
- BIO-19 Evaporation Pond Monitoring and Adaptive Management Plan

This MCR is also being provided to California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS).

### 1.1 Status of Biological Staff

Attachment 1 provides a summary table of the biological staff submitted for approval on this project and the status of their agency approvals. On January 30, one new biological monitor, Caroline Poli, was approved by the CEC. One CEC-approved biological monitor, Mark Bratton, is pending USFWS approval as desert tortoise Authorized Biologist. Ed Morgan was retracted on January 15 for approval as desert tortoise Authorized Biologist.

## 2 Ongoing Construction Monitoring

This section summarizes biological monitoring activities conducted by CH2M HILL throughout January 2015.

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Please refer to sections “Desert Tortoise,” “Invasive Weed Species,” “Kit Fox and Other Mammals,” “Nesting Birds,” “Raven Monitoring, Management, and Control,” “Wildlife Injury and Mortalities,” and “Observed Species” for specific information about wildlife and plants found by biological monitors in January. Temporary implementation of avian monitoring at the evaporation ponds continued through January and is discussed briefly in the “Evaporation Pond Monitoring” section. BIO-19 compliance reports are not included in this MCR and will be submitted under separate cover.

The MSP requires that all onsite staff receive WEAP training and a brochure within one week of arrival on the project site and annually for permanent employees. Abengoa is requiring that all onsite staff retake the WEAP training now that the site is under operations. A total of 158 staff went through WEAP training in January 2015. Attachment 2 provides an ongoing summary table of the project’s WEAP attendance and the hard copy sign-in training logs for January 2015.

On a typical construction day, the biological monitor or designated biologist:

- Monitors Harper Dry Lake Road prior to increased traffic levels during morning and evening shift changes;
- Monitors active construction areas, parking lots, laydown yards, and any areas of potential threat to vegetation, soils, or wildlife;
- Monitors the evaporation ponds several times a day;
- Inspects desert tortoise exclusion fences and tortoise guards as required;
- Inspects potential entrapment areas (e.g., trenches, vaults, basins, buildings);
- Monitors for formation of potential standing water;
- Inspects kit fox exclusion buffers and downloads photos from motion-sensor cameras at shelter sites;
- Conducts raven observations and bi-weekly point-count surveys;
- Conducts point counts at evaporation ponds and adjacent wetlands;
- Investigates reports of hazardous waste spills;
- Inspects pipes greater than 3 inches in diameter that are less than 8 inches above the ground surface; and
- Performs other special biological-resources-related activities, as required.

## **2.1 Construction Activities**

On December 23, 2014, Abeinsa (AEPC) turned the site over to Abengoa to manage facility operations, which are now being managed by a sister company called Abengoa Yield. However, AEPC remains onsite and continues to perform construction, repair, and warranty-related activities.

In January, construction activities occurred in all project sectors, with the highest concentration in the Alpha and Beta power block areas. Both Alpha and Beta cooling towers cascaded water during January. MSP discharged water into a single evaporation

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pond in both Alpha and Beta in January. However, water remained in both of the unused basins from earlier testing and rain water.

In both Alpha and Beta, ground disturbance included various foundations, trenching and grounding. Collector (trough) commissioning continued, and heat transfer fluid (HTF) was circulated through the solar fields and power blocks. Construction within the power blocks also included insulation installation, fence installation and repair, and fire protection system installation.

January saw an increase in staffing as more people were brought on staff for operations. Trash generation and removal increased in January. However, food waste and open trash receptacles remain a problem. Maintenance of desert tortoise guards and exclusion fences occurred on an as-needed basis. The construction schedule includes day and night shifts during the regular work week and limited shifts on weekends.

### **2.1.1 Desert Tortoise Exclusion Fence Repairs**

In January, biological staff conducted comprehensive monthly desert tortoise exclusion fence inspections required by BIO-11 and the Biological Opinion and reported no breaches to the fencing. Desert tortoise guards on Lockhart Road required more frequent monitoring and maintenance in January because they filled with soil after wind and rain events.

## **2.2 Rain Events**

Two rain events occurred in January. On January 11, 1.1 cm of rain was collected in the onsite rain gauge and resulted in significant standing water. A second significant rain event occurred the evening of January 26. This event, 0.5 cm, resulted in a large quantity of standing water throughout the site. Gauge numbers are likely an underrepresentation of the actual precipitation due to windy conditions associated with the rain events. After each significant rain event, biological monitors conducted an immediate exclusion fence inspection. Desert tortoise guards filled with soil and water, and were maintained when possible.

## **2.3 Hazardous Material Spills**

Four hazardous material spills (for diesel and HTF) were reported to biological staff in January. Abengoa provided immediate spill reports to the biological staff per BIO-7 requirements. Biological staff checked each spill and confirmed that the cleanup was sufficient to remove or reduce the risk to wildlife.

## **2.4 Non-compliance Notifications and Reports**

Biological staff issued no new non-compliance reports (NCR) in January. Three NCRs (summarized below) are pending formal acceptance by the CEC for the implementation of MSP-proposed resolutions: NCR-5 regarding trash, NCR-7 regarding unauthorized road use, and NCR-9 regarding standing water. The CEC formally rescinded NCR 10, regarding use of toxic substances, by email on January 13, 2015.

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### **2.4.1 NCR-9: Standing Water**

On December 1, 2014, NCR-9 was issued for continued standing water located primarily within Alpha and Beta power blocks. The power block standing water issues were caused by leaking valves, broken tanks, cooling towers, and increased testing of fire suppression systems. One of the primary areas of concern was standing water resulting from the cascading of water in the cooling towers which, during wind events, can blow out of the structure before it reaches the catch basin.

In January, standing water issues from December had not been resolved and worsened because of new sources of water discharging from the power blocks. Water steadily flowed out of manhole covers and other sources within the power blocks. Biological staff observed no noticeable efforts to disperse standing water or fill low spots with gravel in an attempt to restrict wildlife access to standing water. Earthen dams and channels were constructed to divert water buildup into soil basins north of the power block.

Standing water was also present after the rain events. Due to cool weather and decreased water evaporation, these areas persisted through January.

### **2.4.2 NCR-5: Trash Resolution**

Despite improvements to trash disposal, NCR-5 remained unresolved in January. AEPC and Abengoa were still working to achieve trash management objectives specified in the NCR-5 resolution. Food-related trash is still providing subsidies to wildlife and project-related trash has blown onto the BLM-managed Harper Dry Lake Area of Critical Environmental Concern (ACEC). Biological staff has notified MSP personnel of the ongoing trash issues. NCR-5 is pending formal CEC acceptance for the implementation of MSP-proposed resolutions.

After a December 16, 2014, conference call with AEPC, Abengoa, CDFW, and CEC, the Designated Biologist was tasked with providing weekly emails regarding trash management. The CEC stated that trash issues should be resolved within two weeks, or by the end of December.

### **2.4.3 NCR-7: Unauthorized Road Use Resolution**

On May 16, the CEC accepted the resolution requiring MSP to staff additional security guards at locations where unauthorized road use was occurring, provided that they are sent daily and weekly summary notifications of any unauthorized road use. On August 5, during a CEC site visit, Staff Biologist Ann Crisp agreed to decrease reporting for NCR-7 to the MCR (if no violations are observed) and resume daily reporting if any infractions occur.

During the transition between AEPC and Abengoa, there was a lapse of security guard coverage at the Santa Fe and Harper Lake Road intersection. The sign at the entrance to Santa Fe Road stating that it is not an authorized route was removed. During this time, biological staff observed several vehicles using Santa Fe Road but could not verify that the individuals were MSP employees. Abengoa was notified and they responded by posting security guards at the intersection of Harper Lake and Santa Fe roads during high traffic times. Although the sign was not replaced by the end of January, Abengoa has committed to replacing it.

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## **2.5 Desert Tortoise**

In January, no construction activities required desert tortoise clearance surveys. No tortoises were observed within the boundaries of MSP or in the project vicinity.

## **2.6 Invasive Weeds**

In January, three invasive weeds were observed. London rocket (*Sisymbrium irio*) and tamarisk (*Tamarix ramosissima*) are a target invasive weeds observed during preconstruction surveys and identified in the project's *Tamarisk Eradication, Monitoring and Reporting Program* (Tamarisk Plan). An additional species, iceplant (*Carpobrotus edulis*), which was not observed during preconstruction surveys but meets the Tamarisk Plan's definition of an invasive species, was also observed in December. The Tamarisk Plan's definition of an invasive species is that it is included in the California Invasive Plant Council's (Cal-IPC) "high" or "moderate" dispersal or establishment rating.

London rocket is an annual species and new growth was observed across the site in January. One tamarisk tree was observed in December re-sprouting from roots at a known location in Beta power block. This individual was not removed in January.

Iceplant is a succulent perennial and was observed actively growing in the Alpha power block. This species occurs primarily in coastal habitats and is not likely to cause significant establishment risk once removed. Two other weed species, Russian thistle (*Salsola tragus*) and fivehook bassia (*Bassia hyssopifolia*), were also observed onsite. Both of these species have only one of the Cal-IPC dispersal or establishment ratings as "high" or "moderate." According to the BIO-16 Tamarisk Plan, and guidance provided by CEC staff biologist Ann Crisp via email on May 28, 2014, these two species are considered "exotic," and exotic species must infest less than 5 percent of MSP for BIO-16 to meet its success criteria goals. In addition to having exotic species in less than 5 percent of the area at MSP, the overall site expectation from the Tamarisk Plan is that the site will be devoid of vegetation during operations. Therefore, all target noxious weeds and other exotic plant species will ultimately need to be removed.

AEPC or Abengoa did not conduct any weed management activities in January.

## **2.7 Kit Fox and Other Mammals**

As of the end of January, there are two active kit fox shelter sites within two exclusion buffers, DKF Site #8 and #9 (Figure 2). DKF Site #8 is located in a construction laydown area near the north boundary of Alpha West. DKF Site #9 is located near the diversion channel in a relatively unused area on the southeast corner of the Alpha East solar field.

Biological staff inspected the integrity of the two exclusion buffers and downloaded the photos from the motion-sensor cameras. Cameras recorded consistent activity by at least one kit fox in January. Biological staff received numerous reports of kit foxes observed throughout the site by construction personnel, but the locations were not specific enough to be mapped. Biological staff also observed direct and indirection observations of kit fox activity at the shelter sites in January.

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Biological staff monitored all activities within the exclusion buffers throughout January. Prior to working within the buffer areas, construction crews signed a protocol verifying their understanding of correct procedure within an exclusion buffer. Additionally, all construction crews were verbally briefed before entering the buffer.

A pair of coyotes has been observed on MSP on a near-daily basis foraging on garbage and moths that are attracted to generator lights. Despite improvements in garbage containment in January, the coyotes appear to be habituated to human presence and remain a constant presence.

## **2.8 Nesting Birds**

No nesting bird behavior was observed throughout the site in January.

## **2.9 Raven Monitoring, Management, and Control**

Common raven monitoring activities continued on the MSP site per BIO-18 and as outlined in the *Common Raven Monitoring, Management and Control Plan*. The January Monthly Common Raven Monitoring Results report provides information on monitoring activities, survey methods, maps, incidental raven observations, point count survey results, and datasheets (Attachment 3).

## **2.10 Wildlife Injuries and Mortalities**

### **2.10.1 Migratory Bird Treaty Act Protected Species**

Biological staff had three encounters with Migratory Bird Treaty Act (MBTA)-protected species at MSP in January.

On January 2, biological staff found a dead American coot (*Fulica americana*) along the entry road to Beta power block (Figure 2). The coot was found on the east side of the road under a transmission line and was likely killed as the result of a collision with the line. The coot had been scavenged by a raven and both the head and internal organs were missing. The carcass was placed in MSP's onsite freezer for collection by the USFWS's Office of Law Enforcement (OLE).

On January 4, biological staff observed a dead American coot floating in Beta's western-most evaporation pond (Figure 2). The carcass was located in the middle of the pond and was not able to be retrieved until January 9, when it floated close to the shoreline. The carcass showed no external signs of damage and the cause of death is unknown. The carcass was placed in MSP's onsite freezer for collection by the USFWS's OLE.

On January 28, a white-crowned sparrow (*Zonotrichia leucophrys*) was found dead in the middle of Lockhart Road near the entrance to Beta East (Figure 2). The carcass was located near a transmission line and was likely killed as the result of a collision with the line or a vehicle. The carcass showed evidence of trauma to the head that would correspond with a collision. The carcass was placed in MSP's onsite freezer for collection by the USFWS's OLE.

On July 3, 2014, MSP was issued an interim 6-month USFWS Migratory Bird Special Purpose Utility Salvage Permit – Solar (SPUT permit) that authorizes project staff to collect, transport, and possess carcasses of species protected by the MBTA. The SPUT permit



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expired January 3, 2015, but was extended via email from Heather Beeler (USFWS) until January 23, 2015. MSP has requested that USFWS provide another interim SPUT extension due to ongoing construction activities.

### **2.10.2 Special-status Species**

No special-status species were found injured or dead in January. At the time of this MCR, CDFW did not yet have the necropsy results for the three kit foxes killed on June 28, August 18, or December 11, 2014. When the designated biologist receives the results from the necropsy, they will be reported in the MCR.

### **2.10.3 Other Species Mortalities**

On January 21, a black-tailed jack rabbit (*Lepus californicus*) was found dead on Harper Lake Road. The remains were buried offsite by the biological staff.

The dead black-tailed jack rabbit identified on December 30, 2014, in the western-most evaporation pond in Alpha was not recovered in January and is still occasionally observed in the pond (Figure 2).

### **2.11 Observed Species**

A list of wildlife species observed in January is included in Attachment 4. In addition to desert kit fox, several special-status species were observed at MSP:

- Bell's Sparrow (*Artemisiospiza belli*), CDFW Watch List
- Le Conte's Thrasher (*Toxostoma lecontei*), CDFW Species of Concern
- Loggerhead Shrike (*Lanius ludovicianus*), CDFW Species of Concern
- Northern Harrier (*Circus cyaneus*), CDFW Species of Concern
- Prairie Falcon (*Falco mexicanus*), CDFW Watch List

In the December and November 2014 MCRs, California gull (*Larus californicus*) was not identified as a special-status species. The California gull is included on the CDFW Watch List.

Three California invasive wildlife species were also observed at MSP: house sparrow (*Passer domesticus*), Eurasian collared dove (*Streptopelia decaocto*), and European starling (*Sturnus vulgaris*). House sparrows have taken up residence in the power blocks and have been observed foraging in the parking lots and solar fields on trash and weeds, using the cascading water in the cooling tower to bathe, and foraging on moths around the generator lights used for night-time work.

## **3 Operations Monitoring**

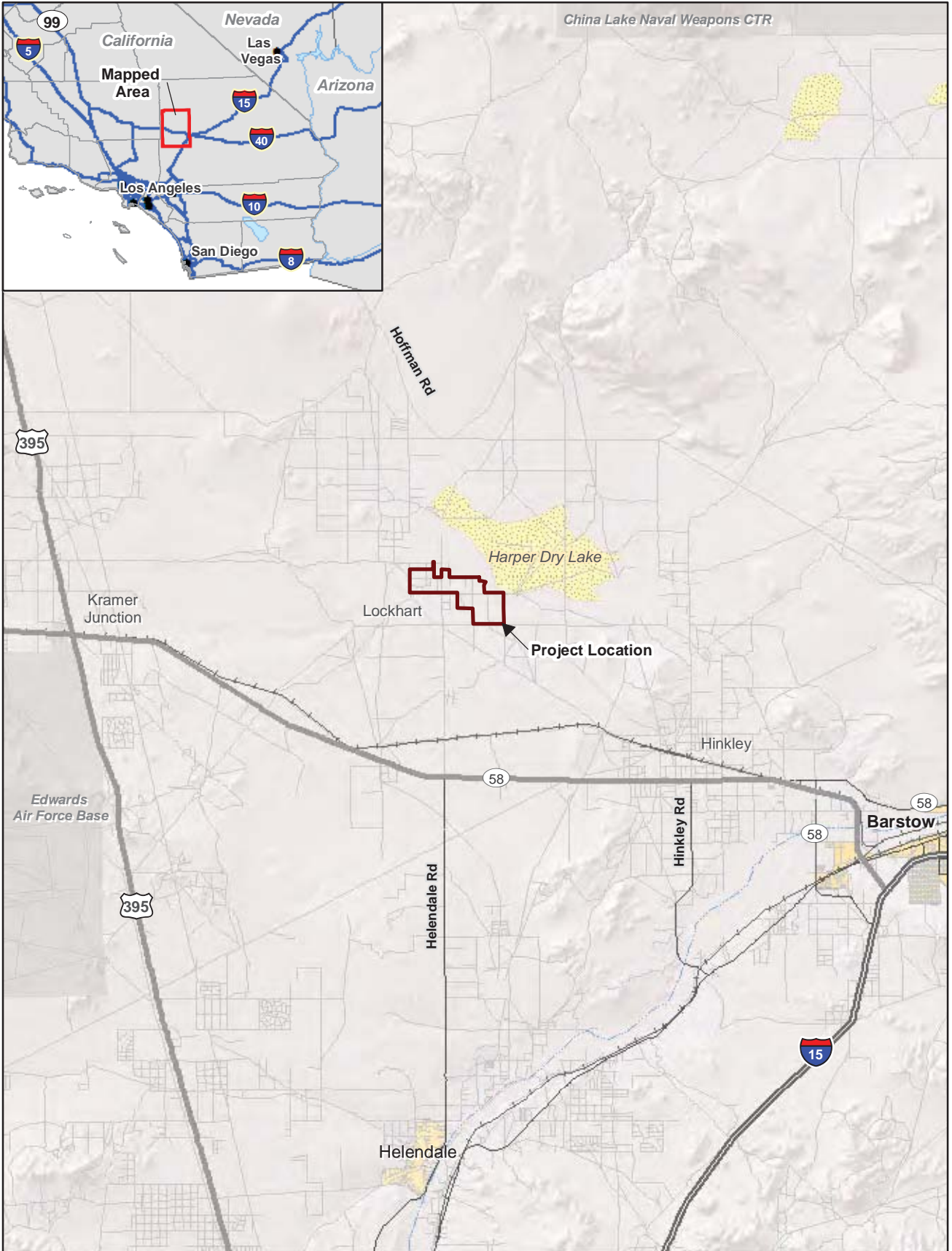
### **3.1 Evaporation Pond Monitoring**

During the transition between construction and operations phases of the project, CEC's Compliance Project Manager (CPM), Dale Rundquist, gave conditional approval for MSP to

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discharge water into the evaporation ponds without an approved Evaporation Pond Management and Monitoring Plan (Evaporation Pond Plan) in place. Conditions of this initial approval were that biological staff must implement draft monitoring protocols provided to CEC on July 21, which include biweekly avian point counts at evaporation ponds. CEC provided additional guidance to install and deploy deterrents in November after two birds were found dead within the evaporation ponds. On December 19, the CEC Staff Biologist Ann Crisp told the Designated Biologist via a phone call that the Evaporation Pond Plan compliance reports should not be incorporated into the MCR but should be submitted under separate cover.

The Evaporation Pond Plan had not been approved by CEC when this MCR was written.



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 Project Boundary



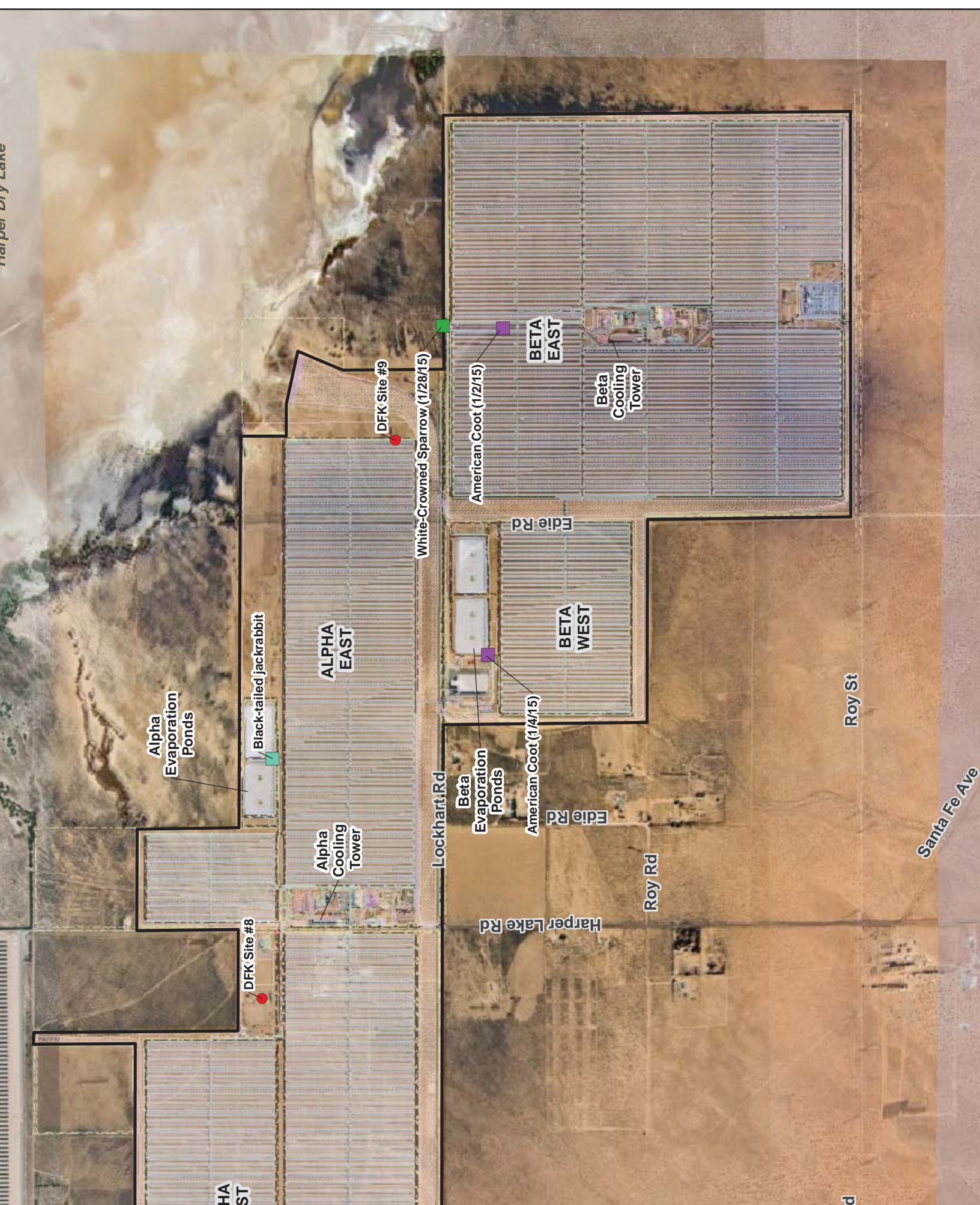
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**FIGURE 1**  
**Regional Map**  
 Abengoa Mojave Solar Project  
 San Bernardino County, California





- LEGEND**
- Desert I
  - Wildlife
  - DFK Site #8
  - DFK Site #9
  - Black-tailed jackrabbit
  - White-Crowned Sparrow (1/28/15)
  - American Coot (1/2/15)
  - American Coot (1/4/15)
  - Beta Cooling Tower
  - Alpha Cooling Tower
  - Alpha Evaporation Ponds
  - Beta Evaporation Ponds
  - ALPHA EAST
  - BETA WEST
  - BETA EAST
  - Roy Rd
  - Harper Lake Rd
  - Lockhart Rd
  - Edie Rd
  - Roy St
  - Santa Fe Ave



**Attachment 1**  
**Agency Approval Status of Biological Staff**

**Agency Approval Status of Biological Monitor and Designated Biologist  
Abengoa Mojave Solar Project**

Biologist	CEC				CDFW				USFWS	
	BM		DB		BM		DB		AB	
	Submitted	Approved	Submitted	Approved	Submitted	Approved	Submitted	Approved	Submitted	Approved
Brent Finley	5/6/2013	5/9/2013	—	—	—	—	—	—	5/14/2013; Retracted 2/7/14	NA
Tim Hamaker	5/9/2013	5/9/2013	—	—	—	—	—	—	—	—
Josh Holloway	—	—	5/10/2013	5/13/13 (Alt-DB)	—	—	—	—	5/14/2013	5/20/13
Morgan King	—	—	5/2/2013	5/9/13 (DB)	—	—	—	—	9/4/2013	9/17/13
Linda Sands	5/9/2013	5/9/2013	5/2/2013	Denied as Alt-DB 5/9/13	—	—	—	—	5/14/2013; Retracted 2/7/14	NA
Bruce Weise	—	—	5/10/2013	5/13/13 (Alt-DB)	—	—	—	—	5/14/2013	5/20/13
Amy Trexler	6/21/2013	7/30/2013	—	—	—	—	—	—	6/26/2013; Retracted 2/7/14	NA
Catherine Wangen	6/21/2013	7/30/2013	—	—	—	—	—	—	6/26/2013; Retracted 2/7/14	NA
Cindy Newman	6/21/2013	7/30/2013	—	—	—	—	—	—	—	—
Susan Carlton	6/21/2013	7/30/2013	—	—	—	—	—	—	6/26/2013; Retracted 2/7/14	NA
Ursula Rogers (Carliss)	6/21/2013	7/8/2013	—	—	—	—	—	—	6/26/2013; Retracted 2/7/14	NA
Eric Somers	7/30/2013	8/6/2013	—	—	—	—	—	—	8/19/2013;; Retracted 2/7/14	NA
Joey Verge	7/30/2013	8/6/2013	—	—	—	—	—	—	3/11/2011	4/4/11

## Agency Approval Status of Biological Monitor and Designated Biologist Abengoa Mojave Solar Project

Biologist	CEC			CDFW			USFWS		
	BM		DB	BM		DB	AB		
	Submitted	Approved	Submitted	Submitted	Approved	Submitted	Approved	Approved	
William Clark	8/29/2013	9/4/2013	—	—	—	—	—	8/29/2013	9/17/2013
Josh Utter	8/29/2013	9/4/2013	—	—	—	—	—	—	—
Michael Garvey	8/29/2013	9/4/2013	—	—	—	—	—	8/29/2013	9/17/2013
Erich Green	3/11/2011	3/11/2011	—	—	—	—	—	3/11/2011	4/4/11
Ed Morgan	2/20/2014	3/7/2014	—	—	—	—	—	2/20/2014; Retracted 1/15/15	NA
Mark Bratton	2/20/2014	3/7/2014	—	—	—	—	—	2/20/2014	Pending
John Brooks Hart	3/11/2011	3/11/2011	3/11/2011 (Alt-DB)	Submitted	—	—	—	3/11/2011	3/11/2011
Jason Brooks	7/31/2014	8/27/2014	—	—	—	—	—	—	—
Robert Hernandez	7/31/2014	8/20/2014	—	—	—	—	—	—	—
Russell Kokx	7/31/2014	8/20/2014	—	—	—	—	—	—	—
Chris McDaniel	7/31/2014	8/20/2014	—	—	—	—	—	—	—
Onkar Singh	7/31/2014	8/20/2014	—	—	—	—	—	—	—
Caroline Poli	1/26/2015	1/30/2015	—	—	—	—	—	—	—

**Legend:**

CEC= California Energy Commission

CDFW=California Department Fish and Wildlife

USFWS= United States Fish & Wildlife Service

BM= Biological Monitor

AB=Authorized Biologist

Alt-DB = Alternate Designated Biologist

DB=Designated Biologist

**Attachment 2**  
**WEAP Attendance Summary and Training Logs**



**WEAP Summary Table through January 30, 2015  
Mojave Solar Project**

<b>Month Training Conducted</b>	<b>Monthly Total of WEAP Attendees*</b>
Mar-11	50
Apr-11	9
May-11	18
Jun-11	2
Jul-11	27
Aug-11	63
Sep-11	82
Oct-11	75
Nov-11	41
Dec-11	68
Jan-12	52
Feb-12	112
Mar-12	116
Apr-12	158
May-12	208
Jun-12	167
Jul-12	156
Aug-12	271
Sep-12	276
Oct-12	268
Nov-12	93
Dec-12	137
Jan-13	183
Feb-13	195
Mar-13	255
Apr-13	295
May-13	408
Jun-13	341
Jul-13	244
Aug-13	187
Sep-13	206

**WEAP Summary Table through January 30, 2015  
Mojave Solar Project**

<b>Month Training Conducted</b>	<b>Monthly Total of WEAP Attendees*</b>
Oct-13	387
Nov-13	213
Dec-13	454
Jan-14	642
Feb-14	866
Mar-14	560
Apr-14	376
May-14	428
Jun-14	230
Jul-14	170
Aug-14	121
Sep-14	142
Oct-14	171
Nov-14	28
Dec-14	50
Jan-14	158
<b>Total</b>	<b>9,759</b>

\* Attendance is based on training sign-in sheets

**WEAP Acknowledgement Sheet**

**Certification of Completion  
Worker Environmental Awareness Program  
Mojave Solar Project (09AFC-5)**

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, crews, and plant operators) working on site. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials.

No.	Employee Name	Title/Company	Signature
1.	ARVORÉ DIAZ	OPERATOR	<i>[Signature]</i>
2.	IRAN C TORRES	IRONWORKER	<i>[Signature]</i>
3.	CHRIS NASH	IRONWORKER	<i>[Signature]</i>
4.	MARCIO VILLANUEVA	IRONWORKER	<i>[Signature]</i>
5.	Adrian Ramirez	Ironworker App	<i>[Signature]</i>
6.	JOSE FRANCISCO DELATORRE	IRONWORKER SIW	<i>[Signature]</i>
7.	WADE HIGHTOWER	IRONWORKER APP	<i>[Signature]</i>
8.	JASON LAYNE	I W	<i>[Signature]</i>
9.	Josh Lichtwald	I W	<i>[Signature]</i>
10.	JAMES MAXSON	I W	<i>[Signature]</i>
11.	ALEX MARTINEZ	Abacus	<i>[Signature]</i>
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Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

# ABENGOA SOLAR LLC

ASI Operations

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No.	Employee Name	Title/Company	Signature
1.	Cesar Madrid	ABENGOA	Cesar Madrid
2.	Eduardo Hernandez	Abengoa	Eduardo Hernandez
3.	Jesús M. Franco	Abengoa	Jesús M. Franco
4.	Brian Rivera	ETA	Brian Rivera
5.	B. MRAVIC	F.T.A.	Brian Mrazic
6.	Luis Corona	ABENGOA	Luis Corona
7.	Timothy Hill	ABENGOA	Timothy Hill
8.	JOSE RODRIGUEZ	ABENGOA	Jose Rodriguez
9.	MATT THOMPSON	ABENGOA/PII	Matt Thompson
10.	Gregory Kempke	Abengoa	Gregory Kempke
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Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

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No.	Employee Name	Title/Company	Signature
1.	Sonia Sifuentes	Archaeologist CH2M Hill	[Signature]
2.	[Crossed out]	Norm CH2M Hill	[Signature]
3.	Bryan K. Soper	ABACUS	[Signature]
4.	ROBERT GONZALEZ	ABACUS	[Signature]
5.	Chad Sobotewski	ABACUS	[Signature]
6.	Daryl King	Abacus -427	[Signature]
7.	David Varnado	Abacus	[Signature]
8.	Michael D. Hernandez	Abacus	[Signature]
9.	Jesus Quijada	Abacus	[Signature]
10.	Fernando Aragon	Abacus	[Signature]
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No.	Employee Name	Title/Company	Signature
1.	Gary Grace	Layne	[Signature]
2.	BRIAN BAUTISTA	LAYNE	[Signature]
3.	Duane Trammell	Layne	[Signature]
4.	Mike Thomas	ABENGOA	[Signature]
5.	Joel Velazquez	Abacus	[Signature]
6.	Vince Bunsyngum	ABACUS	[Signature]
7.	JAMES CANNADAY	ABACUS	[Signature]
8.	Greg Glennie	Abacus	[Signature]
9.	ROBERTO NEVAREZ	ABACUS	[Signature]
10.	Gilbert Garcia J.R.	Abacus	[Signature]
11.	MALVIA BRENER	364 ABACUS	[Signature]
12.	Michael Nornhold	Abacus	[Signature]
13.	Ruben Hernandez	ABACUS	[Signature]
14.	Jason Shetts	Abacus	[Signature]
15.	ROBERT JONAS	ABACUS	[Signature]
16.	WINT PINKINGTON III	ABACUS	[Signature]
17.	Mitch Rugani	Abacus	[Signature]
18.	Jose Arcebarido	Abacus	[Signature]
19.	DAN NICHOLAS	Floussrain	[Signature]
20.	PABLO GARCIA NAVARRO	AMEC FW	[Signature]
21.	VIENTE SANTALLA ALMEIDA	" "	[Signature]
22.	Julius Caesar Alcantar	Jc Alcantar Con	[Signature]
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

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Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

# ABENGOA SOLAR LLC

ASI Operations

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No.	Employee Name	Title/Company	Signature
1.	Cesar Nava	DRIVER	<i>[Signature]</i>
2.	Jesús Martínez		<i>[Signature]</i>
3.	José Martínez MTZ		<i>[Signature]</i>
4.	EDGAR GARCÍAS		EDGAR GARCÍAS
5.	Cesar Martínez P		<i>[Signature]</i>
6.	Jonathan Morales		<i>[Signature]</i>
7.	Andrew Peña		<i>[Signature]</i>
8.	Jose Rodriguez	Supervisor	<i>[Signature]</i>
9.	Luis LEAL	Resident Eng/AEPL	<i>[Signature]</i>
10.	Philip Walker	GIS	<i>[Signature]</i>
11.	Gary Ray	Inspector	<i>[Signature]</i>
12.	Philip Albert	Inspector	<i>[Signature]</i>
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Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_



# ABENGOA SOLAR LLC

ASI Operations

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No.	Employee Name	Title/Company	Signature
1.	Lizeth Marquez	Payroll Coordinator	[Signature]
2.	José Godínez, JR	Solar Fields	[Signature]
3.	MARIA ELENA LOPEZ	DOCUMENT CONTROL	[Signature]
4.	Lorraine Delgado	Admin/Asst	[Signature]
5.	Eduardo Caban	Electrical Advisor	[Signature]
6.	ANTONIO PEÑERA	WTP	[Signature]
7.	Bruce Adams	OHFS PEPC	[Signature]
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_




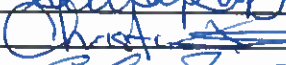

# ABENGOA SOLAR LLC

ASI Operations

## WEAP Acknowledgement Sheet

### Certification of Completion Worker Environmental Awareness Program Mojave Solar Project (09AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, crews, and plant operators) working on site. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials.

No.	Employee Name	Title/Company	Signature
1.	Tania Ramirez	Reporting Engineer	
2.	Christian Borquez	Quality Engineer	
3.	Chen Fang	EE	
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: 07/09/14

Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_


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ASI Operations

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No.	Employee Name	Title/Company	Signature
1.	DAVID PEREZ CHICA	CRZM ASFL NATIVE MONITOR	
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: 01/12/14

Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

# ABENGOA SOLAR LLC

ASI Operations

## WEAP Acknowledgement Sheet

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No.	Employee Name	Title/Company	Signature
1.	Bill Mitchell	Summit	[Signature]
2.	Harold Wallace	Summit	[Signature]
3.	Jeremy Swisher	Summit	[Signature]
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: 01/13/15

Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

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ASI Operations

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No.	Employee Name	Title/Company	Signature
1.	Pedro Sandoval	ALCORN	Pedro Sandoval
2.	NOE VILLA MENDOZA	ALCORN	N/M
3.	Eva Aguado	Abengoa Solar	Eva Aguado
4.	DANIEL TRACAS	ABENGOA SOLAR	D. TRACAS
5.	LUIS G. ELIGIO	ALCORN	Luis G. Eligio P.
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Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

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No.	Employee Name	Title/Company	Signature
1.	Guillermo Velazquez	Abacois	<i>[Signature]</i>
2.	Arturo Cisneros	Abacois	<i>[Signature]</i>
3.	Eric Webb	Alcoa	<i>[Signature]</i>
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Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

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No.	Employee Name	Title/Company	Signature
1.	Marta Zarate	Administrative - AFPP	<i>Marta Zarate</i>
2.	Dominika Nowakowski	MSE Expeditor	<i>D. Nowakowski</i>
3.	Judy Maukai	Admin AFPP	<i>Judy Maukai</i>
4.	Monica Camacho	Abacus <sup>Union</sup> payroll	<i>Monica Camacho</i>
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Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

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No.	Employee Name	Title/Company	Signature
1.	<del>Abdullah</del>		
2.	Brittany Parker	Admin / AEPC	
3.	DAVE LARSEN	Univar	
4.	Luis Rosas	ABACUS	
5.	Ruben Madrid	ABACUS	
6.	MARCUS HANEY	BRAND	
7.	Mihuel Octava	BRAND	
8.	Richard Martinez	BRAND	
9.	JOAQUIN JONES	BRAND	
10.	JORGE HERRERA	BRAND	
11.	FRANK FROST	BRAND	
12.	Benjamin Becker	BRAND	
13.	Juan Carreras	BRAND	
14.	ANTONIO PARRAS	BRAND	
15.	JORGE SAUCHEZ	BRAND	
16.	DEORO LARIOS	BRAND	
17.	TAVIER GEVARA	BRAND	
18.	Guadalupe Bancelos	BRAND	
19.	Morad Abderrahim	BRAND	
20.	STEVE STEWART	BRAND	
21.	Dylan King	BRAND	
22.	Francisco J. Cortes	BRAND	
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: 01/20/15

Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_



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No.	Employee Name	Title/Company	Signature
1.	Raul Rodriguez	SAFC SITE	Raul Rodriguez
2.	DAVID STEIN	PIPEFITTER	<del>David Stein</del>
3.	Greg Glennie	Pipe fitter	<del>Greg Glennie</del>
4.	MIKE HEMMESSET	Oil liquids	<del>Mike Hemmeset</del>
5.	Russell Cook	CH2M	<del>Russell Cook</del>
6.	Juvonal Onofre		Juvonal Onofre
7.	JOSE MANUEL GURMAN MUNDZ	ROVIMATIG S.L.	<del>Jose Manuel Gurman Mundz</del>
8.	ANTONIO GARCIA MARTIN	ABENGOA SOLAR	<del>Antonio Garcia Martin</del>
9.	MANUEL GARCIA	SUP/ABENSA	<del>Manuel Garcia</del>
10.	DEEPINDER MAHAL	QC INSP/AEPC	Deepinder Mahal
11.	MANJUVATI SHIVALINGAPPA	ENV. ENGR/AEPC	Manjuvati Shivalingappa
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: 1/21/14

Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

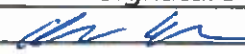
Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_



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No.	Employee Name	Title/Company	Signature
1.	Onkar Singh	Biologist / CBC	
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: 01/23/15

Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

# ABENGOA SOLAR

## ASI Operations

### Site Specific Hazard Awareness Training Checklist, Training Record and Certification

<b>POTENTIAL HAZARDS</b> (Check each box)	<b>PROCEDURES FOR AVOIDING INJURY</b> See instructions for trainers and trainees. Review each item that applies. Ensure understanding - ask questions.
<input type="checkbox"/> Mobile equipment <i>mcs</i>	Equipment has blind spots - stay clear. Don't approach equipment unless authorized, the operator knows you are there and signals that it is okay to approach. Documented training/operator certification is required for operating mobile equipment. Inspect equipment daily for defects and document before use. Water trucks, etc. and all mobile equipment has right of way. Drive at posted speeds. Speeding is not tolerated.
<input type="checkbox"/> Cranes <i>mcs</i>	Current CCO certification required for operators. Qualified Rigger certification required for riggers. Crane annual certification required. Tag lines required. Barricade swing radius. Keep out from under suspended loads.
<input type="checkbox"/> Seat Belts <i>mcs</i>	Seat belt use is mandatory when operating vehicles or mobile equipment on site.
<input type="checkbox"/> Hazard Awareness <i>mcs</i>	Conduct and document a pre-work safety inspection of your work area and equipment to identify and eliminate hazardous conditions. Conduct a JSA and tool box safety meeting and document prior to working.
<input type="checkbox"/> Ground control <i>mcs</i>	Inspect your work area often. Avoid unsafe ground. Keep people and equipment away from dangerous trenches, banks or hazardous material. If you detect a hazard, post warning/barricade and report it.
<input type="checkbox"/> Heat & Pressure <i>mcs</i>	Heat Transfer Fluid (HTF) piping and vessels contain hot fluid and steam lines and vessels are hot and under high pressure. Be alert to the potential hazards and wear protective PPE as required.
<input type="checkbox"/> Fire or Explosion <i>mcs</i>	Hydrogen is used for cooling the GE Generators. Do not smoke or use flame producing devices in areas where flammables or combustibles exist or it is posted. Smoking allowed only in designated areas. Use flammable cabinets for storage of flammables.
<input type="checkbox"/> Secondary Reflection <i>mcs</i>	Stay away from mirror reflection in the solar field. Do not walk, stand or leave anything where mirror module secondary reflection can cause injury or damage or start a fire.
<input type="checkbox"/> Noise <i>mcs</i>	Wear hearing protection when exposed to noise.
<input type="checkbox"/> Respirable dust <i>mcs</i>	Avoid dusty areas. Use water or other control measures if your work generates dust. Wear respirators for excavation work or when needed. Report dusty conditions to your supervisor.
<input type="checkbox"/> Fall Prevention <i>mcs</i>	Use three points of contact when climbing. Use handrails on stairs and walkways. No running or jumping. Use fall protection where there is danger of falling from elevation or equipment. Always secure ladders.
<input type="checkbox"/> Falling objects <i>mcs</i>	Wear hardhat at all times, unless you are in a designated safe zone. Inspect your work area for fall of material hazards. Wear hard toed safety boots to protect your feet. Keep out from under suspended loads.
<input type="checkbox"/> Eye Protection <i>mcs</i>	Wear safety glasses at all times when working, unless you are in a designated safe zone. Goggles or face shields are required when there are special hazards due to dusty conditions, grinding, cutting, handling chemicals, etc. Cutting goggles and welding hoods are required for welding/cutting hot work.
<input type="checkbox"/> Welding and Cutting <i>mcs</i>	Obtain a Hot Work Permit. Use correct respirators. Secure stored gas cylinders upright and away from combustibles. Keep fire extinguisher within 25' and maintain a fire watch until 30 minutes after completion.
<input type="checkbox"/> Welding flash <i>mcs</i>	Protect others from flash when welding. Avoid areas where welding is in progress. Don't look at welding arcs.
<input type="checkbox"/> Electrical hazards <i>mcs</i>	Do not operate equipment near hot overhead wires. Have ground systems tested on temporary or portable devices and cords and use Ground Fault Circuit Interrupters. Only authorized persons can enter switch houses or work on electrical equipment. Follow LOTO/BO Procedures and wear proper Arc Flash protection.
<input type="checkbox"/> Moving Machinery <i>mcs</i>	Equipment may start automatically. Do not work on or close to any machine that has not been stopped and blocked to make it safe from movement. Electrically powered equipment must be shut off, de-energized, locked out and tagged. Address all energy sources to prevent sudden movement or activation to achieve a Zero Energy State (LOTO/BO). Replace guards before operating equipment.
<input type="checkbox"/> Emergency procedures <i>mcs</i>	In the event of an emergency requiring evacuation; A radio all call alert will be sounded, your designated assembly area is (check a box): <input type="checkbox"/> Alpha Entrance Guard Shack <input type="checkbox"/> Beta Entrance Guard Shack <input type="checkbox"/> South Side of TAB Emergency numbers are: Fire <u>911</u> Ambulance <u>911</u> Police <u>911</u> Hospital <u>911</u> H&S-Program-Manager: <u>(661)-754-3079</u> On-Duty-Supervisor: <u>TBD</u>

### Technical Instruction

## Site Specific Safety Orientation Acknowledgement Sheet

I am an employee of: ABENGOA SOLAR

Company Name: Print Legibly

I understand the information provided in the Site Safety Orientation and I agree to fully comply with the minimum safe working practices established for all personnel.

In summary, I will fully understand and will comply with the following (please initial)

<i>mcs.</i>	Health, Safety & Environment Requirements established in this orientation
<i>mcs.</i>	Fall Prevention and Protection Requirements
<i>mcs.</i>	Hazard Communication Requirements
<i>mcs.</i>	Energy Control
<i>mcs.</i>	PPE Rules and Regulations
<i>mcs.</i>	Hazard/Risk Assessment Requirements (daily: Job Safety Analysis (JSA) )
<i>mcs.</i>	Emergency Response Procedure
<i>mcs.</i>	Project Job Rules and Regulations
<i>mcs.</i>	Heat Stress Awareness
<i>mcs.</i>	Respiratory Protection Program

Date: January 26, 2015

Print Name: MICHAEL C SCHUESSLER

Employee's Signature: *Michael C Schuessler*

WEAP Acknowledgement Sheet

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Mojave Solar Project (09AFC-5)**

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No.	Employee Name	Title/Company	Signature
1.	Francisco TERUEL	Superintendent	F-T-R
2.	MICHAEL SCHWESLER	Maintenance	Michael Schwesler
3.	Elisa Gonzalez	Abengoa Solar	E-G
4.	Adolfo Velazquez	Supervisor Crew	Adolfo Velazquez
5.	JOSEPH ALENTE	CH2M HILL	Joseph Alente
6.	HERBERT A. DILGEMAN	ABENGOA	Herbert Dilgeman
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: 01/26/2015

Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

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No.	Employee Name	Title/Company	Signature
1.	VICTO A GRAHM	ABENGOA	Victor A Graham
2.	Raul Lopez	Abengoa	Raul Lopez
3.	Ricardo Perez	Abengoa	Ricardo Perez
4.	CHRISTOPHER SETHUSAN	ABENGOA/ABACUS	Chris Sethusan
5.	NATON VOUSQUEZ	ABACUS	Naton Vousquez
6.	ANTONIO ENRIQUEZ	ABACUS	Antonio Enriquez
7.	Johnen Bryan	ABACUS	Johnen Bryan
8.	Stacey Rouse	ABACUS	Stacey Rouse
9.	L.S. Edwards	ABACUS	L.S. Edwards
10.	JESUS MORALES	ABACUS	Jesus Morales
11.	Carlos Ferreras	ABENGOA	Carlos Ferreras
12.	Michael LOZA	ABENGOA EPC	Michael Loza
13.	HERB DINGMAN	ABENGOA	Herb Dingman
14.	JOSELUIS MELQUIITA TRIGO	ABEINSA EPC	Joseluis Melquita
15.	JOSE MANUEL ROMERO	ABEINSA EPC	Jose Manuel Romero
16.	Jose Perceida	Abensa EPC	Jose Perceida
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: 01/27/2015

Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_



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No.	Employee Name	Title/Company	Signature
1.	DANNY QUEZADA	GE/CONTROL AIR	<i>[Signature]</i>
2.	DON HAUCK	Journeyman/CACS	<i>[Signature]</i>
3.	DERRICK BRASWELL	FOREMAN/CAVAL	<i>[Signature]</i>
4.	MICHAEL BEAMER	INSTALLER/CAVAL	<i>[Signature]</i>
5.	Sowjanya Chintalapati	Env. Mgr / AEP	<i>[Signature]</i>
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: 01/28/2015

Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

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No.	Employee Name	Title/Company	Signature
1.	Greg Gordon	AEPC	<i>Greg Gordon</i>
2.	Terry Baker	AEPC	<i>Terry Baker</i>
3.	MICHAEL CAREY	ABACUS	<i>Michael Carey</i>
4.	John Paul McARDICHIAN	PTI	<i>John Paul McARDICHIAN</i>
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: 01/28/15



Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

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No.	Employee Name	Title/Company	Signature
1.	ARLENE GARCIA	AP MANAGER AEP	
2.	VERONICA DOMESTO GAMAZO	COST CONTROLLER AEP	
3.			
4.			
5.			
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Biological Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: 1/30/15

Cultural Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Paleo Trainer: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_



**Attachment 3**  
**Monthly Common Raven Monitoring Results**

**Monthly Common Raven Monitoring Results for  
Abengoa Mojave Solar Project  
San Bernardino County, California**

**Monthly Compliance Report  
for January 2015**

**Prepared by:**

**CH2MHILL.**

**2485 Natomas Park Drive  
Sacramento, California 95833**

**February 2015**

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## List of Supplements

1 Common Raven Point Count Stations
2 Incidental Common Raven Observations
3 Point Count Data Sheets

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## 1.0 Introduction

The Abengoa Mojave Solar Project (MSP) is required to provide a monthly report on common ravens (*Corvus corax*) to the California Energy Commission (CEC), United States Fish and Wildlife Service (USFWS), and California Department of Fish and Wildlife (CDFW). The CEC Final Decision includes Condition of Certification BIO-18 stating that the project owner shall implement control measures to manage its construction site and related facilities in a manner to control raven populations and to mitigate cumulative and indirect impacts to desert tortoise associated with regional increase in raven numbers. In accordance with BIO-18, the CEC approved the *Common Raven Monitoring, Management, and Control Plan* (Raven Plan) on March 26, 2012. Refer to BIO-18 and the Raven Plan for monitoring and survey protocol description.

## 2.0 Construction Monitoring Activities

The following section summarizes biological monitoring activities conducted by CH2M HILL throughout January 2015.

On a typical weekday, one biological monitor or designated biologist:

- Monitors Harper Dry Lake Road prior to increased traffic levels during morning and evening shift changes. Biological staff monitored the road on a more frequent basis as necessary.
- Monitors active construction areas, parking lots, laydown yards, and any areas of potential threat to vegetation, soils, or wildlife;
- Monitors the evaporation ponds several times a day;
- Inspects desert tortoise exclusion fences and tortoise guards as required;
- Inspects potential entrapment areas (e.g., trenches, vaults, basins);
- Monitors for formation of potential standing water;
- Inspects kit fox exclusion buffers and downloads photos from motion-sensor cameras at shelter sites;
- Conducts raven observations and bi-weekly point-count surveys;
- Conducts point counts at evaporation ponds and adjacent wetlands;
- Investigates reports of hazardous waste spills;
- Inspects pipes greater than 3 inches in diameter that are less than 8 inches above the ground surface; and
- Performs other special biological-resources-related activities, as required.

## 3.0 Methods

The designated biologist ensures that the biological monitors are trained to implement the Raven Plan in both raven monitoring and management measures. Biological staff also conduct 10-minute stationary point count surveys at seven locations around the site

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(Supplement 1). The purpose of the point counts is to record raven observations including date, time, location, number of individuals, age, behavior, distance from the station location, and any other pertinent notes (e.g., nesting behavior). This information is recorded on a hard copy datasheet. Point count surveys are conducted with a minimum of one week in between.

Point count surveys were positioned to monitor project-specific activities and features that have potential to attract or subsidize ravens. The Raven Plan defines six “conditions of concern” as:

1. Availability of water from evaporation ponds;
2. Potential creation of new perching/roosting/nesting sites for ravens;
3. Temporary water ponding potential from dust suppression associated with construction, operation, and maintenance;
4. Raven food sources from soil disturbance (rodents, insects, etc.) and road kill associated with construction activity;
5. Human food and waste management; and
6. Landscaping that could provide foraging, perching, and available water opportunities.

During daily monitoring activities, biological staff records incidental observations of ravens interacting with MSP. This includes any raven observation within site boundaries, flying overhead, or adjacent to the site. These observations are recorded in field notebooks and include date, general site location, global positioning system (GPS) location, number of individuals, and activity. The GPS information is also presented on a map.

The incidental observations are also used to identify potential problem areas. Problem areas are those requiring management actions. If a problem area is identified, the surveys will be increased to a weekly basis until the issue is resolved. Habitual perching sites will be identified and actions taken to discourage use. If hazing techniques are employed to discourage raven use, biologists will record information on date, time, location, habitat, number of individuals, and response to hazing. Potential or active raven nests will be documented and removed according to Raven Plan specifications. Biological staff will report on whether control measures are working and provide further recommendations in the biological monthly compliance report.

## **4.0 Results**

### **Incidental Observations**

In January, ravens were observed foraging on food waste in the power block and solar fields, as well as drinking and bathing in construction-related supplemental water sources. Ravens were observed in January drinking from pooled water that blows off the cascading cooling towers on a regular basis. Construction staff was notified of these issues and biological staff continues to monitor the situation.

During biological monitoring, 55 ravens were incidentally observed during 37 separate observations (Table 1). Because ravens are indistinguishable from one another, multiple sightings of individual birds are likely to occur. Therefore, the number of observations does

not reflect the number of individual birds onsite. Common ravens were observed throughout the site (Supplement 2). The most commonly observed raven behaviors were flying overhead or perching on project structures. Many ravens were observed in Alpha power block, as well as the Alpha and Beta evaporation ponds. Ravens were observed perched on fences and various transmission line poles, but were not using a habitual perch location.

**Table 1  
January 2015 Incidental Raven Observations**

<b>Date</b>	<b>Location</b>	<b>Number Observed</b>	<b>Activity</b>
1/2/15	Beta West	2	Flying
1/3/15	ACEC	2	Perched
1/4/15	ACEC	1	Flying
1/5/15	Beta West	1	Flying
1/6/15	Alpha East	1	Flying
1/7/15	Alpha East	1	Flying
1/8/15	Alpha West	1	Flying
1/9/15	Alpha East	2	Flying
1/9/15	Beta West	1	Flying
1/10/15	Beta West	1	Flying
1/10/15	Alpha East	2	Perched
1/11/15	Beta East	1	Perched
1/11/15	Alpha East	3	Flying
1/12/15	Alpha West	1	Perched
1/12/15	Beta East	1	Flying
1/13/15	Alpha East	1	Flying
1/13/15	Beta East	1	Perched
1/14/15	Alpha West	2	Flying
1/14/15	Beta West	1	Flying
1/15/15	Alpha West	1	Perched
1/15/15	Beta West	2	Perched
1/16/15	Alpha West	2	Flying
1/17/15	Alpha East	1	Perched
1/18/15	Alpha East	2	Flying

**Table 1**  
**January 2015 Incidental Raven Observations**

<b>Date</b>	<b>Location</b>	<b>Number Observed</b>	<b>Activity</b>
1/19/15	Beta West	2	Flying
1/19/15	Alpha East	1	Perched
1/20/15	Alpha East	2	Flying
1/20/15	Alpha East	2	Flying
1/21/15	Alpha East	4	Flying
1/21/15	Alpha East	2	Perched
1/22/15	ACEC	1	Perched
1/23/15	Alpha West	1	Flying
1/23/15	Beta West	1	Flying
1/24/15	Beta East	1	Flying
1/26/15	Beta West	1	Perched
1/29/15	Alpha East	1	Flying
1/30/15	Beta West	2	Flying
<b>Total Observations</b>		<b>55</b>	

### **Point Count Surveys**

In January, two biweekly point count surveys were conducted in accordance with the Raven Plan protocol. They were conducted on January 7 and January 21, 2015 by Erich Green (EG) and Russell Kokx (RK). On January 7, nine ravens were observed: two ravens were observed at station 1, one at station 3, one at station 5, and five at station 7. On January 21, three ravens were observed: one at station 1, and two at station 2. Point count observations did not document any nesting behavior or problem areas. The Common Raven Fixed Point Observation Data Sheets are provided in Supplement 3. Table 2 provides a summary of point count observations.

**Table 2**  
**Summary of Common Raven Point Count Observations**

<b>Date: Time</b>	<b>Station</b>	<b>Number of Ravens Observed</b>	<b>Location Description</b>	<b>Activity Observed</b>
1/07/15: 12:10	1	2	Alpha West	Perched
1/07/15: 12:59	3	1	Alpha East	Flying
1/07/15: 13:44	5	1	Beta West	Perched
1/07/15: 14:31	7	5	Beta East	Flying
<b>Total Observed 1/07/15</b>		<b>9</b>		
1/21/15: 11:55	1	1	Alpha West	Flying
1/21/15: 12:05	2	2	Alpha East	Flying
<b>Total Observed 1/21/15</b>		<b>3</b>		

**Nest Monitoring**

According to the Raven Plan, biweekly breeding raven nest surveys were not required in January. These surveys will commence again in March 2015.



**Monthly Common Raven Monitoring Results  
January 2015**

**Supplement 1—Common Raven Point Count Stations**



STATION 4

STATION 3

STATION 2

ALPHA EAST

STATION 5

BETA EAST

BETA WEST

STATION 6

BETA EAST

STATION 7

BETA PLANT  
FOR REFERENCE ONLY  
THIS DOCUMENT

**Monthly Common Raven Monitoring Results  
January 2015**

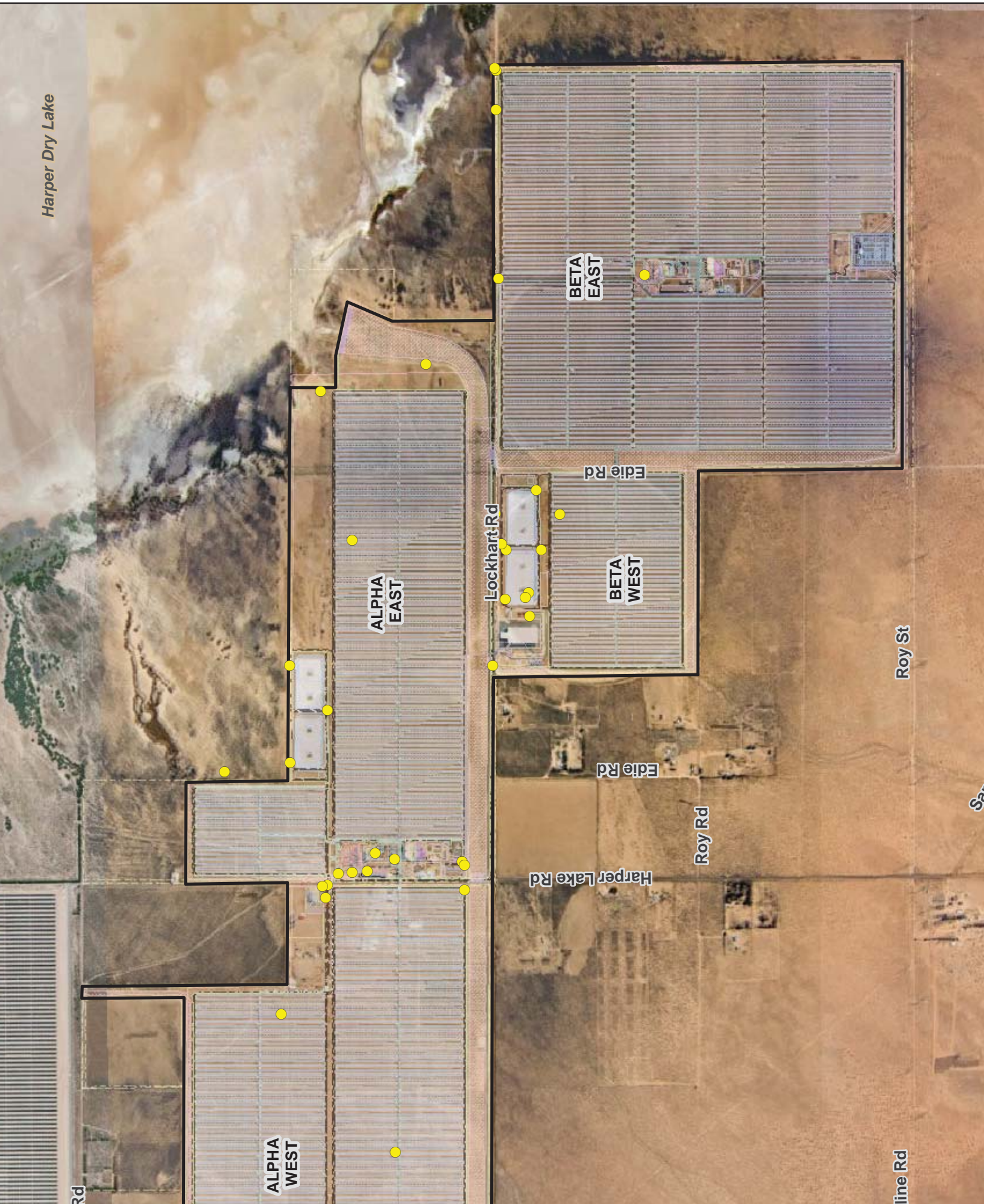
**Supplement 2—Incidental Common Raven Observations**





LEGEND  
 Common  
 Inc  
 Pro

Harper Dry Lake



Rd

ALPHA WEST

ALPHA EAST

BETA EAST

BETA WEST

Lockhart Rd

Edie Rd

Edie Rd

Roy Rd

Harper Lake Rd

line Rd

Roy St

Supple

**Monthly Common Raven Monitoring Results  
January 2015**

**Supplement 3—Point Count Data Sheets**













































**Attachment 4**  
**Observed Wildlife Species List**

**Observed Wildlife Species List January 2015  
Mojave Solar Project**

Common Name	Scientific Name <sup>a</sup>	Special-status State/Federal <sup>b</sup>	Invasive Wildlife
<b>Birds (4-letter code)</b>			
American Coot (AMCO)	<i>Fulica americana</i>	_/_	—
American Pipit (AMPI)	<i>Anthus rubescens</i>	_/_	—
Barn Swallow (BARS)	<i>Hirundo rustica</i>	_/_	—
Bell's Sparrow (BESP)	<i>Artemisiospiza belli</i>	WL/_	—
Bewick's Wren (BEWR)	<i>Thryomanes bewickii</i>	_/_	—
Black Phoebe (BLPH)	<i>Sayornis nigricans</i>	_/_	—
Cinnamon Teal (CITE)	<i>Anas cyanoptera</i>	_/_	—
Common Raven (CORA)	<i>Corvus corax</i>	_/_	—
Domestic Duck	<i>Anas sp.</i>	_/_	—
Eared Grebe (EAGR)	<i>Podiceps nigricollis</i>	_/_	—
Eurasian Collared Dove (EUCD)	<i>Streptopelia decaocto</i>	_/_	Cal Code 14:671
European Starling (EUST)	<i>Sturnus vulgaris</i>	_/_	Cal Code 14:671
Greater Yellowlegs (GRYE)	<i>Tringa melanoleuca</i>	_/_	
Green-Winged Teal (GWTE)	<i>Anas carolinensis</i>	_/_	—
Horned Grebe (HOGR)	<i>Podiceps auritus</i>	_/_	—
Mojave Horned Lark (HOLA)	<i>Eremophila alpestris ammophila</i>	_/_	—
House Finch (HOFI)	<i>Carpodacus mexicanus</i>	_/_	—
House Sparrow (HOSP)	<i>Passer domesticus</i>	_/_	Cal Code 14:671
Killdeer (KILL)	<i>Charadrius vociferus</i>	_/_	—
Le Conte's Thrasher (LCTH)	<i>Toxostoma lecontei</i>	CSC/BCC	—
Least Sandpiper (LESA)	<i>Calidris minutilla</i>	_/_	—
Loggerhead Shrike (LOSH)	<i>Lanius ludovicianus</i>	CSC/BCC	—
Mallard (MALL)	<i>Anas platyrhynchos</i>	_/_	—
Marsh Wren (MAWR)	<i>Cistothorus palustris</i>	_/_	—
Northern Harrier (NOHA)	<i>Circus cyaneus</i>	CSC/_	—
Northern Mockingbird (NOMO)	<i>Mimus polyglottos</i>	_/_	—
Northern Pintail (NOPI)	<i>Anas acuta</i>	_/_	—
Northern Shoveler (NSHO)	<i>Anas clypeata</i>	_/_	—

**Observed Wildlife Species List January 2015  
Mojave Solar Project**

<b>Common Name</b>	<b>Scientific Name<sup>a</sup></b>	<b>Special-status State/Federal<sup>b</sup></b>	<b>Invasive Wildlife</b>
Prairie Falcon (PRFA)	<i>Falco mexicanus</i>	WL/___	—
Red-tailed Hawk (RTHA)	<i>Buteo jamaicensis</i>	___/___	—
Ruby-crowned Kinglet (RCKI)	<i>Regulus calendula</i>	___/___	—
Ruddy Duck (RUDU)	<i>Oxyura jamaicensis</i>	___/___	—
Sagebrush Sparrow (SABS)	<i>Artemisiospiza nevadensis</i>	___/___	—
Savannah Sparrow (SAVS)	<i>Passerculus sandwichensis</i>	___/___	—
Say's Phoebe (SAPH)	<i>Sayornis saya</i>	___/___	—
Western Meadowlark (WEME)	<i>Sturnella neglecta</i>	___/___	—
Western Sandpiper (WESA)	<i>Calidris mauri</i>	___/___	—
White-Crowned Sparrow (WCSP)	<i>Zonotrichia leucophrys</i>	___/___	—
Yellow-rumped Warbler (YRWA)	<i>Setophaga coronata</i>	___/___	—
<b>Mammals</b>			
White-tailed Antelope Squirrel	<i>Ammospermophilus leucurus</i>	___/___	—
Black-tailed Jackrabbit	<i>Lepus californicus</i>	___/___	—
Coyote	<i>Canis latrans</i>	___/___	—
Desert Kit Fox	<i>Vulpes macrotis</i>	CCR/___	—
<b>Reptiles</b>			
Side-blotched Lizard	<i>Uta stansburiana</i>	___/___	—

<sup>a</sup> Source of scientific names is CDFW Natural Diversity Database. September 2014. Special Animals List. Periodic publication. 52 pp

<sup>b</sup> Source of special-status species status is CDFW Natural Diversity Database. September 2014. Special Animals List. Periodic publication. 52 pp

<sup>c</sup> Qualified avian biologist confirmed that the species of horned lark is not the special-status variety California Horned Lark (*Eremophila alpestris actia*), but the more common horned lark (*Eremophila alpestris*).

Status Codes:

Federal:

FE = Federally listed endangered: species in danger of extinction throughout a significant portion of its range

FT = Federally listed, threatened: species likely to become endangered within the foreseeable future

BCC = USFWS Bird of Conservation Concern

State:

SE = State listed as Endangered

ST = State listed as Threatened

CSC = California Species of Special Concern Species of concern to CDFW because of declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

CCR = protected by the California Code of Regulations

FP = Fully Protected

WL = Watch List

**Appendix C  
Cultural Resources**

**Mojave Solar Project  
Monthly Compliance Report  
San Bernardino County, California**

**January 2015 Reporting Period**



ENVIRONMENTAL CONSULTANTS

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www.swca.com

February 3, 2015

Dale Rundquist  
Compliance Project Manager  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814

Subject: Abengoa Mojave Solar Project (09-AFC-5C)  
Monthly Compliance Report CUL-1 and CUL-6

Dear Mr. Rundquist:

CH2M HILL is assisting Abengoa Solar LLC. (Abengoa) in complying with California Energy Commission (CEC) Conditions of Certification, specifically, CUL-1 and CUL-6, for cultural resource monitoring, as set forth in the Commission Decision for the Mojave Solar Project (MSP). This report covers the cultural resources monitoring conducted during the reporting period of January 1, 2015 through January 31, 2015, by CH2M HILL.

### **Personnel Active in Cultural Monitoring This Period**

The Cultural Resources Monitors (CRM) were Sonia Sifuentes and Kurt Lambert and the Native American Monitors (NAM) were David Perezchica, Howie Diaz, and Joseph Lente. The monitoring program was directed by Cultural Resource Specialist (CRS) John Dietler and Alternate CRS Phillip Reid.

### **Monitoring and Associated Activities This Period**

Ground-disturbing activities subject to cultural resource monitoring during this reporting period included perimeter fence posthole augering, augering for standing water control, tortoise fence installation, and pedestrian gateway fencepost installation in Alpha East. In Beta Power Block and Beta East, monitored activities included perimeter fence posthole augering, excavation for sign installation, tortoise fence/road cleanup, excavation for ground pipe, and heat transfer fluid spill cleanups.

### **Cultural Resources Discoveries This Period**

A historic archaeological isolate was discovered on January 27, 2015: a 1951 glass bottle base. Due to it being an isolated find, it is by definition not eligible for the



National Register of Historic Places or California Register of Historical Resources. It was collected and recorded on a Department of Parks and Recreation (DPR) form, and it will be treated according to existing project protocols.

### **Anticipated Changes in the Next Period**

Monitoring will continue for various small excavations such as foundations, electrical trenching, drainages, and other activities. A cultural monitoring crew will remain onsite to continue monitoring and to respond to discoveries if they occur.

### **Comments, Issues or Concerns**

#### Non-Compliance Reports

A contractor was observed to have excavated approximately 300 feet of trench for tortoise fence installation without a monitor within the Green Zone within Alpha Block on January 23, 2015. Although the area may have been trenched previously, the CRS was not asked to clear the activity in advance, and the CRM and NAM were not alerted to the activity before proceeding. NCR 16 was issued as a result.

#### Non-Compliance Resolutions

Abengoa issued a Non-Conformity Report on January 24, 2015 with the following corrective measures:

1. An email will be sent daily to remind all subcontractors still performing activities onsite that "...any ground disturbance has to be monitored by a Cultural Monitor crew (1 archaeologist and 1 Native American), even if the area has been disturbed before..."
2. Continuous verifications with person responsible for the excavation activity prior to the day of excavation to make sure the CRMs are scheduled.
3. Daily meetings will continue between monitors representatives, Construction and H&S department to discuss the scheduled plan of the day.
4. Contractor shall not proceed with digging without verifying with the AM that it is safe to do so. No assumptions to be made, no exceptions (i.e., previously disturbed area, etc.).
5. Alcorn foreman and workers will be suspended for 5 days should another violation occur.

#### Outstanding

NCR No. 11 was issued on August 21, 2014. Per direction of the CEC CPM, the recommended resolutions were revised on August 22, 2014. The CEC requested to



review the modified resolutions prior to re-issuance to the Project Owner. Formal re-submittal of the NCR with revised resolutions is pending CEC CPM and Staff Archaeologist review and concurrence. CEC concurrence is also pending for the noncompliance resolutions for NCR 15 and NCR 16.

Sincerely,

A handwritten signature in black ink, which appears to read "John Dietler". The signature is fluid and cursive, with a long horizontal stroke at the end.

John Dietler, Ph.D., RPA  
SWCA Environmental Consultants  
Cultural Resources Specialist

**Appendix D  
Paleontological Resources**

**Mojave Solar Project  
Monthly Compliance Report  
San Bernardino County, California**

**January 2015 Reporting Period**



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Mr. Dale Rundquist, CPM  
(09-AFC-5C)  
California Energy Commission  
1516 Ninth Street (MS-2000)  
Sacramento, CA 95814

February 5, 2015

RE: PAL-5, Summary of Paleontological Monitoring and Mitigation Activities at the Mojave Solar Project (MSP) for the period of January 2015

Dear Mr. Rundquist:

This letter is to confirm SWCA Environmental Consultants paleontological monitoring and mitigation activities at the MSP site during the period of January 1 through January 31, 2015. As of February 28, 2014, major ground-disturbing activities for the MSP had been completed and SWCA's monitoring services were no longer required onsite. No paleontological monitoring occurred during the above-referenced period.

It has been a pleasure working with you on this project. If you have any questions please do not hesitate to contact me at 626 240 0587 ext 6605 or at ccorsetti@swca.com.

Respectfully,

A handwritten signature in black ink, appearing to read "Cara Corsetti".

Cara Corsetti, M.S.  
Principal  
Paleontological Resources Specialist, MSP

**Appendix E  
Worker Safety**

**Mojave Solar Project  
Monthly Compliance Report  
San Bernardino County, California**

**January 2015 Reporting Period**

## **Monthly Safety Inspection Report**

Larry Davis, Mojave Solar Project Safety Manager  
January, 2015

### **Record of all employees trained for the month**

Worked **6,252,121** hours project to date with **87** recordable incidents. **9,530** new employee orientations completed to date. **7,172** visitor safety orientations completed to date. Abengo Solar conducts orientation as of 12.23.14. **10** AEPC new employee orientations were completed in the month of January. **8** Abacus new employee orientations were completed in January.

### **Summary report of safety management actions and safety-related incidents that occurred:**

- **H&S continues to audit H&S incidents and injuries including follow up corrective actions.**
- **There were no incidents or injuries for January, 2015.**
- **Permanent fire extinguishers were mounted throughout the Alpha and Beta power blocks with H&S supervision.**
- **H&S continues to monitor all sub-contractors for Cal/OSHA compliance.**
- **Weekly Safety Steering Committee meeting with Abengoa Solar.**

### **Report of accidents and injuries that occurred during the month of January:**

**There were 0 incidents and injuries.**

**No report of any continuing or unresolved situations and incidents that may pose danger to life or health.**

Construction has worked **6,252,121** hours PTD with **87** recordable cases.  
Total Recordable Incident Rate, (TRIR), for Project in the month of January is **0%**  
Total Recordable Incident Rate, (TRIR), for year to date is **0%**  
Total Recordable Incident Rate, (TRIR), for Project to date is **2.80%**  
Total Lost Work day cases- **16**, Lost Work days total – **1,098**

# Safety Conditions Check List

Internal by Work Site

<b>Mojave Solar Project</b>	
<b>Activities performed: Walk-thru inspections of Alpha/Beta power-blocks</b>	
<b>Safety Inspection Report</b>	
<b>Record periodically (monthly)</b>	
<b>January 28,2015</b>	

Date:	Time:	Project Name & Number
1.23.2015	10:30am	Mojave Solar Project -4A6007
Inspected by:		Title
Greg Gordon		AEPC OH&S
Accompanied by:		Title
Raivo Neggo		BV Safety

A	Safety & Risk Management Program Administration & Record Keeping	Values				Comments
		1	2	3	N/A	
1	Is there a Safety Manual, 29 CFR Sub Part 1926 and HAZCOM Manuals available on-site?			3		
2	Are there Weekly Safety meetings (Toolbox Talks) conducted and documented?			3		
3	Is the Weekly Job Safety Inspection conducted and documented?			3		
4	Are the Federal & State Labor Notices posted in a conspicuous location?			3		
5	Are the Emergency phone numbers & Doctors list posted conspicuously?			3		
6	Are the Company vehicle operators authorized per company policy?			3		
7	Are the New employee orientations documented for all new subcontractor employees?			3		
8	Are the PM follow up letters to subcontractors re: Serious Violations on file?			3		
9	Is the approved safety plan including the emergency action plan on site?			3		
10	Is the Safety Plan updated to reflect any/all scope changes?			3		

B	Ladders & Stairways - OSHA Subpart X	Values				Comments
1	Are the ladders inspected for defects?			3		
2	Are extension ladders extending 3 ft. above landing?			3		
3	Are extension ladders pitched at 1 ft. out from vertical for every 4 ft. of height?			3		
4	Are straight ladders secured in place?			3		
5	Are the straight ladders equipped with safety feet?			3		

## Safety Conditions Check List

### Internal by Work Site

6	Are the step ladders used only in open position?			3	
7	Are the stepladders tall enough for job without using top step, second step from top step or platform?			3	
8	Is the use on non-conductive (non-metal) ladders only in proximity of electricity?			3	
9	Are the stairways, ramps, and landing equipped with rails and handrails?			3	
10	Are the stairways and/or landings in use poured, filled, finished and free of debris, slip, trip or fall hazards?			3	
11	Are the stairways adequately lighted?			3	
12	Do the permanent ladders meet OSHA 1910 standards?			3	
<b>C</b>	<b>Fall Protection OSHA - Subpart M</b>	<b>Values</b>			<b>Comments</b>
1	Are the floor/roof deck openings protected with properly secured and marked covers or guardrails?			3	
2	Are the wall openings/open-sided floors protected with fall protection/prevention systems?			3	
3	Are the workers exposed to falls of 6' or more provided with and required to use personal fall arrest systems (PFAS) when not protected by guardrails?			3	
4	Are the exposed rebar in work areas properly protected - capped, etc.? Both vertical and horizontal?			3	
5	Are specialty trades, i.e., roofers, ironworkers, etc., working under fall protection plans prepared by them and approved by controlling contractor?			3	
6	Are the PFAS - Harnesses, Lanyards, Anchorage Points, Lifelines and Retractable inspected?			3	
7	Are the anchorage Points 5K per person?			3	
<b>D</b>	<b>Demolition – OSHA Subpart T</b>	<b>Values</b>			<b>Comments</b>
1	Is the Engineering Survey completed and documented?				N/A
2	Is the work area "Identified & Protected", i.e., electricity, gas, water, sprinkler system?				N/A
<b>E</b>	<b>Scaffolds and Aerial Lifts – OSHA Subpart L</b>	<b>Values</b>			<b>Comments</b>
1	Is there a competent Person, designated in writing, assigned to supervise operations and conduct documented daily inspections and on-site full time?			3	
2	Are the working surfaces 6' or higher equipped with guardrails?			3	
3	Are the working surfaces clear of debris, slip, trip and fall hazards?			3	
4	Are the plumbs, tied in as necessary, safe footing, base plates, mudsills assembled and erected properly -? Are they equipped with all pins and bracing? Is a complete platform?			3	



## Safety Conditions Check List

### Internal by Work Site

5	Is there a safe means of access to platform provided?			3		
6	Are the wheels locked on rolling units when platform occupied?			3		
7	Are the scaffolds at least 10 ft. from energized power lines?			3		
8	Are the workers tied off in articulating boom lift?			3		
9	Is the aerial lift on level surface?			3		
10	Has safety been notified in advance of erecting a suspended scaffold?			3		
11	Is there a competent Scaffold Person inspected and signed-off on scaffold prior to each shift daily?			3		
12	Is a Tagging system used?			3		
<b>F</b>	<b>Excavations &amp; Trenches – OSHA Subpart P</b>	<b>Values</b>			<b>Comments</b>	
1	Is there a competent Person, designated in writing, assigned to supervise operations and conduct documented daily inspections and on site full time?			3		
2	Are all excavations and trenches 5 ft. or greater in depth equipped with Protective Systems (shoring/shielding or sloped/benched)?			3		
3	Are the ladders or other means of quick exit within 25 ft. of lateral travel for workers?			3		
4	Is the Spoil pile at least 3 ft. from edge of excavation or trench?			3		
5	Are the Underground utilities located & marked before excavation starts? (Verify ticket/maps/plans)			3		
6	Are the barricades provided around all open excavations?			3		
7	Is the Equipment kept at proper distance from occupied excavations/trenches to minimize risk of cave-in or equipment falling in on workers?			3		
8	IF 20' OR DEEPER Has Safety been notified?			3		
9	IF 20' OR DEEPER, are the protective systems designed by a RPE?			3		
10	Are the Surface and subsurface encumbrances identified?			3		
11	Are the Water, atmospheric conditions, & surcharge loads considered?			3		
<b>G</b>	<b>Motor Vehicles, Mechanized Equipment – OSHA Subpart</b>	<b>Values</b>			<b>Comments</b>	
1	Are the Tractors, backhoes, other vehicles equipped with operable backup alarms?			3		
2	Are the Operators required wearing seat belts when provided on equipment?			3		
3	Is the Forklift/Lull operator certification documented and available on project?			3		
4	Is a High visible vest worn around earth moving equipment?			3		
<b>H</b>	<b>Electrical – OSHA Subpart K</b>	<b>Values</b>			<b>Comments</b>	

## Safety Conditions Check List

### Internal by Work Site

1	Are the Ground fault circuit interrupters (GFCI) used with all temporary wiring, e.g., extension cords and power from welding machines?			3	
2	Is the GFCI in good appearance and in working order?			3	
3	Are All tools and equipment inspected for defects in cords and plugs?			3	
4	Are the Extension cords and ground pins are in good condition?	2			Abacus cords were pulled out of service and removed from mud.
5	Are the Sources of electricity, such as energized panel boxes, overhead lines, etc., properly marked, barricaded and protected? Inspected by a Qualified Person?			3	
6	Is there an adequate lockout/tag out/try out procedures in place to protect employees?			3	
7	Is the Temporary Lighting installed properly? (i.e. parking, construction trailer, & site)			3	
<b>I</b>	<b>Personal Protective Equipment – OSHA Subpart E</b>	<b>Values</b>		<b>Comments</b>	
1	Is an adequate eye protection available and worn when required?			3	
2	Is a Hearing protection available and used when necessary?			3	
3	Are Hard hats available and worn at all times?			3	
4	Are Work boots with protective toes worn by all employees?			3	
5	Are All employees wearing shirts with sleeves?			3	
6	Is a Hand protection available and in use when required?			3	
7	Is there a Written respirator program available?			3	
8	Are they Using N95 respirators for "voluntary use"?			3	
9	Are the PFAS inspected by employees prior to use?			3	
<b>J</b>	<b>Fire Prevention – OSHA Subpart F</b>	<b>Values</b>		<b>Comments</b>	
1	Are the flammable/combustible liquids stored away from ignition sources and identified by warning signs?			3	
2	Are the approved metal safety cans utilized for storing all liquid flammables?			3	
3	Are the fuel tanks surrounded by containment and 20' from building?			3	
4	Are an adequate number of charged fire extinguishers available? With-in 75'?			3	
5	Are the Extinguishers properly located, protected, Inspected?			3	
6	Are the Flammable/combustible debris & storage kept away from welding & cutting?	2			
<b>K</b>	<b>Welding &amp; Cutting - OSHA Subpart J</b>	<b>Values</b>		<b>Comments</b>	
1	Are welding leads in good condition?			3	
2	Is a Portable fire extinguisher located within 20' of all welding operations?			3	

## Safety Conditions Check List

### Internal by Work Site

3	Are Fire blankets available and used to cover combustible material located around welding operations?	3	
4	Are Hot Work Permits used when required?	3	
5	Is an Adequate use of fire curtains to enclose and shield welding operations?	3	
6	Are Hoses, torches, and gauges free from defects, dirt and hydrocarbons such as oil and grease?	3	
7	Are Regulators provided with flash arrestors?	3	
8	Are Welding / cutting helmets, eye protection, gloves, bibs, face shields available and properly used when necessary?	3	
9	Are the Stored oxygen and fuel cylinders separated by a minimum of 20 ft. with valve protection caps in place?	3	
10	Are All cylinders firmly secured in upright position?	3	
11	Are Cylinders secured to welding cart, valve closed and caps on when not in use?	3	
12	Are Empty and full cylinders separated and marked?	3	
13	Are Flammable gas cylinders and oxygen gas cylinders are separated 20' apart?	3	
<b>L</b>	<b>Tools – Hand &amp; Powered – OSHA Subpart I</b>	<b>Values</b>	<b>Comments</b>
1	Are Tools and equipment in good condition?	3	
2	Is the Defective equipment tagged as such and removed from work area?	3	
3	Are Tools and equipment guards and handles in place and in good condition?	3	
4	Are the Powder actuated tool operators properly trained and documented?	3	
<b>M</b>	<b>Confined Space Entry - OSHA 29CFR1910.146</b>	<b>Values</b>	<b>Comments</b>
1	Is a competent Person / Entry Supervisor designated in writing? On site full time?	3	
2	Is an Entry permit properly issued prior to work starting?	3	
3	Is the Air sampling equipment available and properly used? Calibrated?	3	
4	Are the Air samples show acceptable oxygen concentrations of (19.5% to 23.5%)?	3	
5	Are the Air samples show space is free of toxic/flammable/explosive gases?	3	
6	Is there a Trained attendant assigned to maintain constant contact with workers inside space?	3	
7	Is there Trained person assigned to recheck air quality frequently throughout the project?	3	
8	Is there an Emergency rescue plan and equipment in place?	3	
<b>N</b>	<b>Hazard Communication - OSHA 29CFR1910.1200</b>	<b>Values</b>	<b>Comments</b>
1	Is there an Abeinsa EPC, Subcontractor MSDS's available?	3	
2	Is there an Abeinsa EPC List of Hazardous Chemicals current?	3	

## Safety Conditions Check List

### Internal by Work Site

3	Is there an Abeinsa EPC, Subcontractor written programs on site?			3		
4	Are the Containers labelled? Are the Notices posted?			3		
<b>O</b>	<b>Health and Safety - OSHA Subparts C &amp; D</b>	<b>Values</b>			<b>Comments</b>	
1	Is illumination, task lighting adequate?			3		
2	Are sanitary facilities adequate and clean?			3		
3	Is drinking water properly dispensed and community water containers cleaned and secured?			3		
4	Is First Aid kit stocked including latex gloves and Bloodborne clean-up kit?			3		
5	Are Eye wash stations available & accessible?			3		
<b>P</b>	<b>Housekeeping - OSHA Subparts C &amp; D</b>	<b>Values</b>			<b>Comments</b>	
1	Are Suitable containers available for disposal of trash, debris and recyclables?			3		
2	Are Walkways, aisles, hallways and passageways clear of trash, debris, materials?			3		
3	Are Tools not in use stored in job boxes?			3		
4	Is the Equipment not in use stored properly?			3		
5	Are Pipes and other materials stored kept neatly?			3		
6	Are Appropriate sub-contractors dumpsters available?			3		
<b>Q</b>	<b>Cranes and Hoists - OSHA Subpart N</b>	<b>Values</b>			<b>Comments</b>	
1	Are Operator's "daily inspections" available for review?			3		
2	Is there an Annual Inspection and 3 <sup>rd</sup> party crane inspection documented?			3		
3	Are the Swing radius barricaded?			3		
4	Are the Hydraulic crane outriggers padded and on stable ground?			3		
5	Are the Power lines at safe distance? De-energized or protected? (Check clearance heights)			3		
6	Are the Uniform signals properly used?			3		
7	Are Cable and slings regularly inspected and in good condition? Red is dead!			3		
8	Are Operable safety catches provided on load hooks?			3		
9	Is there a Proper rigging used for loads?			3		
10	Are the Operator qualifications on site?			3		
11	Is a competent training person involved with safe rigging practices?			3		
<b>R</b>	<b>Abatement &amp; Remediation - OSHA Subparts D &amp; Z</b>	<b>Values</b>			<b>Comments</b>	
1	Is the Personnel trained & medically qualified including fit tests? Documentation on site?				N/A	
2	Are the three work zones delineated?				N/A	

### Safety Conditions Check List

#### Internal by Work Site

3	Are workers wearing the correct level of protection?				N/A	
4	Is on-going air monitoring documented?				N/A	
5	Are vision panels installed where practical?				N/A	
<b>S</b>	<b>Public Safety &amp; General Liability – ANSI A.10-30-2001</b>	<b>Values</b>			<b>Comments</b>	
1	Is an adequate placement of flashers, barricades, signs around excavations and equipment or materials located in foot/vehicle traffic areas?			3		
2	Is Security in place? Is the Access control plan established?			3		
3	Is the fencing erected around laydown/material storage areas?			3		
4	Is the Site lighting meets 5-foot candles?			3		
5	Have All contractors submitted COI?			3		
6	Are the way (Traffic signs) signs clear?			3		
7	Are the Off-site work hazards identified?			3		
<b>Safety Deficiency Point Reduction</b>						
<b>Inspection Score: 407 /408 = 99%</b>						
<p>Comments:</p> <ul style="list-style-type: none"> <li>➤ PTD worked hours 6,252,121 hours with 87 recordable incidents.</li> <li>➤ 9,530 New employee orientations completed to 12.23.14</li> <li>➤ 7,172 Visitor safety orientations completed to 12.23.14</li> </ul> <p>Weekly Safety Committee Meetings were held every week for the month.</p>						

**Appendix F  
Engineering**

**Soil & Water  
Waste  
General Conditions  
Civil  
Structural  
Mechanical  
Electrical  
Transmission System**

**Mojave Solar Project  
Monthly Compliance Report  
San Bernardino County, California**

**January 2015 Reporting Period**



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**Subject:** Mojave Solar Project (09-AFC-5C)  
**Condition No.:** Compliance5  
**Description:** Monthly Compliance Matrix  
**Submittal No.:** COMPLIANCE5-00-00

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February 11, 2014  
Mr. Dale Rundquist, CPM  
California Energy Commission  
1516 Ninth Street (MS-2000)  
Sacramento, CA 95814  
[drundqui@energy.state.ca.us](mailto:drundqui@energy.state.ca.us)

Dear Mr. Rundquist,

As required by the California Energy Commission and more specifically by Condition of Certification COMPLIANCE5, attached please find an update to the following Compliances:

**COMPLIANCE-2 [ASI + A/T]**

The project owner shall maintain project files on-site or at an alternative site approved by the CPM for the life of the project, unless a lesser period of time is specified by the Conditions of Certification. The files shall contain copies of all "as-built" drawings, documents submitted as verification for Conditions, and other project-related documents. Energy Commission staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files maintained pursuant to this Condition.

**Hardcopy files of all "as-built" drawings and documents are available for review at the Abeinsa EPC Alpha west main site trailer.**

**COMPLIANCE-5 [ASI + A/T]**

A compliance matrix shall be submitted by the project owner to the CPM along with each monthly and annual compliance report. The compliance matrix is intended to provide the CPM with the current status of all Conditions of Certification in a spreadsheet format. The compliance matrix must identify:

1. The technical area;

2. The Condition number;
  3. A brief description of the verification action or submittal required by the Condition;
  4. The date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.);
  5. The expected or actual submittal date;
  6. The date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable; and
  7. The compliance status of each Condition, e.g., "not started," "in progress" or "completed" (include the date).
  8. If the Condition was amended, the date of the amendment.
- Satisfied Conditions shall be placed at the end of the matrix.

**The Compliance Matrix has been included, please see attachment.**

## **COMPLIANCE-6 [ASI + A/T]**

The first Monthly Compliance Report is due one month following the Energy Commission business meeting date upon which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include the AFC number and an initial list of dates for each of the events identified on the Key Events List found at the end of this section of the Decision.

**The Key Events list has been included with current completed activity dates listed, please see attachment. This letter satisfies this compliance as well.**

## **AIR QUALITY PERMIT**

Air Quality permit amendment was submitted to MDAQMD on 10/19/2013. MDAQMD approved on 02/24/2014. MDAQMD submitted this approval to the CPM on 02/24/2014, MDAQMD submitted revised ATC to CPM on 03/14/2014. CPM provided revised conditions of certification on 03/21/2014. CPM staff review and public comment period took place on 04/22/2014, CEC approved air quality permit revision. CEC issued revised air quality permits on 04/28/2014.

### AQ-12

Specifications for the Ullage Venting System were approved by CPM on 06/10/2014 and MDAQMD on 05/28/2014.

### AQ-25

Approval of the TDS Meter specifications and calibration results submitted to MDAQMD and CEC on 10/31/2014, CEC approved on 11/05/2014.

AQ-32

Hour meter for diesel fuel emergency backup generator submitted to CPM and MDAQMD on 05/20/2014.

AQ-43

Hour meter for diesel fuel emergency backup generator for fire pumps submitted to CPM and MDAQMD on 04/20/2014.

AQ-54

The project owner shall notify the District at least 10 days prior to performing the required tests. The test results shall be submitted to the District within 30 days of completion of the tests and shall be made available to the CPM if requested. C

Vapor Recovery system installation and testing occurred on 09/04/2014. AQ-54-00-00 submitted to MDAQMD and CPM on 10/01/2014, please see attachment. MDAQMD added results to their files on 10/02/2014. CEC approved package on 11/13/2014.

**AQ-64**

Carbon Absorption System monitoring and change-out plan submitted to MDAQMD and CPM on 06/25/2014. Plan resubmitted to MDAQMD and CPM on 07/25/2014, MDAQMD approved on 08/06/2014. **CPM approved on 09/05/2014. Submittal to MDAQMD and CPM to request extension to end of February for the carbon bed filter tests was made on 1/12/2015, MDAQMD approved request on 01/12/2015, please see attachments.**

AQ-67

AQ-67-00-00, Carbon Adsorption System VOC Monitoring procedure submitted to MDAQMD and CPM on 10/27/2014. MDAQMD issued non-objection on 10/30/2014, CEC approved on 11/13/2014.

**AQ-72**

**The project owner 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.**

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**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.**

**Test protocol submitted to MDAQMD on 01/06/2015 and to CPM on 01/07/2015, please see attachments. Test protocol was approved by MDAQMD on 01/06/2015, please see attachment.**

## **HAZ-1 [ASI and A/T]**

The project owner shall not use any hazardous materials not listed in Appendix A (Hazardous Materials Proposed for Use at AMS During Operations), below, or in greater quantities or strengths than those identified by chemical name in Appendix A (Hazardous Materials Proposed for Use at AMS During Operations), below, unless approved in advance by the Compliance Project Manager (CPM). The project owner shall provide to the CPM, in the Annual Compliance Report, a list of hazardous materials contained at the facility. **See attachments for Diesel fuel, gasoline and hazardous chemical deliveries during the month. No HTF deliveries were made for the month. The Beck Oil (tickets) and summary for January 2015 are included, please see attachments.**

## **HAZ-2 [ASI and A/T]**

At least 60 days prior to receiving any hazardous material on the site for commissioning or operations, the project owner shall provide a copy of a final Hazardous Materials Business Plan (HMBP), Spill Prevention, Control, and Countermeasure (SPCC) Plan, and a Process Safety Management (PSM) Plan to the CPM for approval.

The HMBP was submitted to the CPM and San Bernardino Fire Department on 07/23/2013. The CPM and SBCFD Haz Mat Division approved the HMBP on 08/01/2013 and 10/09/2013 respectively. The SPCC and PSM plans were submitted to the CPM on 10/29/2013, and SBCFD Haz Mat Division on 11/01/2013. The plans were approved by SBC Haz Mat Division as they stated that their only requirement is to have a copy of the SPCC on file at the site should a representative visit. The SPCC was approved by CPM on 11/25/2013. The PSM plan was returned with comments on 12/09/2013. Revised PSM plan, PHA, LOPA and O&M Manuals were resubmitted to the CPM on 01/29/2014, CEC approved on 02/10/2014. The HTF End Loop Testing procedure was submitted to the CPM on 01/17/2014, CPM approved on 01/27/2014. SBCFD provided comments to the SPCC on 02/13/2014. Comments were addressed and submitted to CPM on 02/28/2014, please see attachment. CPM comments for the PSM plan were addressed and submitted to CPM on 01/27/2014. CPM approved PSM plan on 02/10/2014, please see attachment. HMBP was resubmitted on 03/26/2014 to include the hydrogen and CO2 for the turbine cooling system, CEC approved on 04/16/2014, please see

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attachments. Submittal for steam generator chemical pipe cleaning procedure submitted to CPM on 04/23/2014. Location map showing storage locations of chemical pipe cleaning chemicals submitted to CPM on 04/25/2014, please see attachments. Conditional approval of Chemical Pipe Cleaning process approved by CEC on 04/29/2014. SBC permit to place baker tanks in Harper Lake Road right-of-way for the chemical pipe cleaning submitted to SBC on 03/17/2014, SBC approval on 03/20/2014. HAZ-2-04-00, the revised Hazardous Materials Business Plan (HMBP) was submitted to CPM on 05/01/2014, CPM approved 05/02/2014. HAZ-2-07-00, the revised Hazardous Materials Business Plan (HMBP) was submitted on 07/11/2014 and approved by the CPM on 08/21/2014.

## **WASTE-2 [ASI and A/T]**

Project owner shall keep a copy of the identification number on file at the project site and provide documentation of the hazardous waste generation notification and receipt of the number to the CPM after receipt of the number. Waste generator number issued by California EPA on September 28, 2012. CEC reviewed and approved submittal on November 27, 2012. The application for the USEPA hazardous waste generation notification number was submitted on July 9, 2013. EPA approval issued on 10/02/2013.

## **WASTE-10 [ASI and A/T]**

The project owner shall document all releases and spills of HTF as described in Condition of Certification **WASTE-9** and as required in the **Soil & Water Resources** section of this Decision. Cleanup and temporary staging of HTF-contaminated soils shall be conducted in accordance with the approved Operation Waste Management Plan required in Condition of Certification of **WASTE-6**. The project owner shall sample HTF-contaminated soil in accordance with the United States Environmental Protection Agency's (USEPA) current version of "Test Methods for Evaluating Solid Waste" (SW-846). Samples shall be analyzed in accordance with USEPA Method 1625B or other method to be reviewed and approved by DTSC and the CPM.

Within 28 days of an HTF spill the project owner shall provide the results of the analyses and their assessment of whether the HTF-contaminated soil is considered hazardous or non-hazardous to DTSC and the CPM for review and approval. If DTSC and the CPM determine the HTF-contaminated soil is considered hazardous it shall be disposed of in accordance with California Health and Safety Code (HSC) Section 25203 and procedures outlined in the approved Operation Waste Management Plan required in Condition of Certification **WASTE-9** and reported to the CPM in accordance with Condition of Certification **WASTE-12**. If DTSC and the CPM determine the HTF-contaminated soil is considered nonhazardous it shall be retained in the land farm and treated on-site in accordance with the Waste Discharge Requirements contained in the **Soil & Water Resources** section of this Decision.

HTF contaminated soil samples have been submitted to a testing lab. Lab results submitted to the CPM on 04/25/2014 and to DTSC on 05/09/2014. CPM approved

on 05/22/2014 and DTSC on 05/09/2014. HTF contaminated soil sample lab results resubmitted to CEC after testing for biphenyl and diphenyl on 07/09/2014, CPM approved on 08/04/2014. **A hazardous spill report summary and the spill reports for January 2015 have been provided, please see attachments. WASTE-10-09-00 Submittal made to CPM on 01/21/2015 for waste reports from July 2014 through December 2014, please see attachments. WASTE-10 Memo Clarification submitted to CPM on 01/29/2015, see attachment.**

## **WASTE-11 [ASI and A/T]**

The project owner shall ensure that the cooling tower basin sludge is tested pursuant to Title 22, California Code of Regulations, and section 66262.10 and report the findings to the CPM. The handling, testing, and disposal methods for sludge shall be identified in the Operation Waste Management Plan required in Condition of Certification **WASTE-9**. The project owner shall report the results of filter cake testing to the CPM within 30 days of sampling. If two consecutive tests show that the sludge is non-hazardous, the project owner may apply to the CPM to discontinue testing. The test results and method and location of sludge disposal shall also be reported in the Annual Compliance Report required in Condition of Certification **WASTE-9**. WASTE-11-01-00 Submittal for filter cake testing for Alpha WTP submitted to CPM on 11/17/2014.

## **WORKER SAFETY-1**

The project owner shall submit to the Compliance Project Manager (CPM) a copy of the Project Construction Safety and Health Program containing the following:

- A Construction Personal Protective Equipment Program;
- A Construction Exposure Monitoring Program;
- A Construction Injury and Illness Prevention Program;
- A Construction heat stress protection plan that implements and expands on existing Cal OSHA regulations as found in 8 CCR 3395;
- A Construction Emergency Action Plan; and
- A Construction Fire Prevention Plan.

The Personal Protective Equipment Program, the Exposure Monitoring Program, the Heat Stress Protection Plan, and the Injury and Illness Prevention Program shall be submitted to the CPM for review and approval concerning compliance of the program with all applicable safety orders. The Construction Emergency Action Plan and the Fire Prevention Plan shall be submitted to the San Bernardino County Fire Department (SBCFD) for review and comment prior to submittal to the CPM for approval. Verification: At least 30 days prior to the start of construction, the project owner shall submit to the SBCFD a copy of the Construction Fire Prevention Plan and Emergency Action Plan for review and comment and a copy of the Project Construction Safety and Health Program to the CPM for review and approval. WKSF-01-03-00, Lightning Mitigation plans for TCO submitted to CPM on 11/07/2014. CPM returned with comments on 11/12/2014, WKSF-01-03-01 Submitted to CPM on 11/13/2014, CPM approved on 11/14/2014.



WKSF-01-04-00, Lighting Mitigation plans for TCO submitted to CPM on 11/07/2014. CPM returned with comments on 11/12/2014, WKSF-01-04-01 Submitted to CPM on 11/13/2014, CPM approved on 11/14/2014.

## WORKER SAFETY-2

At least 30 days prior to the start of commissioning, the project owner shall submit to the SBCFD the final Operations Fire Prevention Plan and Emergency Action for review and the final Project Operations and Maintenance Safety and Health Program to the CPM for approval.

Health & Safety, Fire Prevention and Emergency Response plans for operations submitted to SBCFD and CPM on 02/14/2014, please see attachments. SBCFD issued comments on 02/26/2014, comments addressed and resubmitted to CPM on 02/26/2014. CPM issued comments on 03/03/2014, package resubmitted on 03/05/2014, please see attachment. CPM approved package on 03/10/2014, please see attachment. CPM clarified its approval of this compliance on 03/25/2014. WKSF-2-01-00 Emergency Response plan revision 2 to include the lightning mitigation plan submitted to CEC on 11/18/2014, CEC approved plan on 12/04/2014.

## SOIL&WATER-1

Provide an analysis on the effectiveness of the drainage, erosion, and sediment control measures and the results of monitoring and maintenance activities.

**Please see the attached Construction Site Stormwater Runoff Control Inspection forms. The contractor reports as of January 2015 that 0 [AEPC Placeholder] If (24,730 If total for project) of straw rolls and 0 [AEPC Placeholder] If (16,219 If total for project) of new swale have been installed for this month, maintenance required for this month included cleaning all waddles running north/south in Alpha East due to sand buildup. The existing fiber rolls and swales continued being monitored, maintained, and replaced as needed. These BMP's were effective in preventing sediment run off from the site. There are two concrete washout stations (1 in Alpha and 1 in Beta). Additionally, the steel rumble strips remain in place at the Alpha east main entrance (north), Alpha east (south) entrance, Alpha west entrance, and on Lockhart Road adjacent to the TAB main entrance. They were effective in preventing dirt and mud from being tracked from the site onto Harper Lake Road and Lockhart Road as well as an effective deterrent against the spreading of noxious weeds. The steel beams are continuously maintained to prevent clogging. Street sweeping of the construction entrances and Harper Lake Road and Lockhart Road is occurring on an as needed basis as a means of good housekeeping; it has improved and will continue to be the main activity to keep the streets free of dirt and mud, especially when high winds and storm events occur. Soil stabilizer wasn't used for this month on traffic areas as daily watering was an effective means for dust control. Project site areas for the month that have been stabilized are 0 acres for Alpha East (279.50 acres total), 0 acres in Alpha West (369 acres total), 0 acres in Beta East (502 acres total), and 0 acres in Beta West (102.50 acres total). No sand build-up was reported in the retention basins between collectors. Trash collection still remains an issue, as changes in personnel left the site temporarily short-handed. A crew was assigned to the task and it is now back on track and being taken care of daily. Notification to the**

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**subcontractors to clean up their own trash, especially any accumulating in the trenches, pipes and power block areas has been mentioned at the daily subcontractor meetings. All site personnel have been instructed to not feed any on site wildlife, particularly coyotes, who have come onto the site looking for food. The DB should be contacted immediately should a coyote be spotted. Sand removal along tortoise fences was done daily. Please see attachments, which include the SWPPP Summary and weekly Construction Site Stormwater Runoff Control Inspection forms signed by the project QSP and the Bureau Veritas site inspector.**

## SOIL&WATER-2

The project owner shall comply with the Waste Discharge Requirements (WDRs) established in Soil and Water Resources Appendices C, D, and E for the construction and operation of the surface impoundments (evaporation ponds), land treatment units, and storm water management system. These requirements relate to discharges, or potential discharges, of waste that could affect the quality of waters of the state, and were developed in consultation with staff of the State Water Resources Control Board and/or the applicable California Regional Water Quality Control Board (hereafter "Water Boards"). It is the Commission's intent that these requirements be enforceable by both the Commission and the Water Boards. In furtherance of that objective, the Commission hereby delegates the enforcement of these requirements, and associated monitoring, inspection and annual fee collection authority, to the Water Boards. Accordingly, the Commission and the Water Board shall confer with each other and coordinate, as needed, in the enforcement of the requirements. The project owner shall pay the annual waste discharge permit fee associated with this facility to the Water Boards. In addition, the Water Boards may "prescribe" these requirements as waste discharge requirements pursuant to Water Code Section 13263 solely for the purposes of enforcement, monitoring, inspection, and the assessment of annual fees, consistent with Public Resources Code Section 25531, subdivision (c). No later than sixty (60) days prior to any wastewater or storm water discharge or use of land treatment units, the AMS project shall provide documentation to the CPM, with copies to the Lahontan RWQCB, demonstrating compliance with the WDRs established in Appendices C, D, and E. Any changes to the design, construction, or operation of the ponds, treatment units, or storm water system shall be requested in writing to the CPM, with copies to the Lahontan RWQCB, and approved by the CPM, in consultation with the Lahontan RWQCB, prior to initiation of any changes. The AMS project shall provide to the CPM, with copies to the Lahontan RWQCB, all monitoring reports required by the WDRs, and fully explain any violations, exceedances, enforcement actions, or corrective actions related to construction or operation of the ponds, treatment units, or storm water system. SWAT2-01-00, construction plans for the Evaporation ponds and LTU's were submitted to the CEC, Lahontan and CBO on June 6, 2013 and approved by all agencies on June 11, 2013. SWAT2-02-00, a modification to the LTU plans was submitted to the CEC and Lahontan on August 5, 2013, and an approval was issued on August 8, 2013. SWAT2-04-00 for a change in verification was requested by the CEC but AEPC suggested that any change will be covered by the closure compliances, COMPLIANCE-12, -13 and -14. The CEC responded on September 12, 2013 that they were in agreement. SWAT2-03-00, for the monitoring well system was submitted to the CEC and Lahontan the week of 10/28. Abeinsa EPC engineering staff is still coordinating with the CEC and Lahontan on the final design. Abeinsa EPC submitted a well plan for CEC review on 11/27/2013. CEC provided comments to the well plan on 12/17/2013. Revised well plan submitted to the CEC on

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12/23/2013, CPM approved on 01/14/2014. DMP submitted to CEC on 06/03/2014. CEC provided comments, DMP resubmitted on 06/30/2014. SWAT-2-08-02 request to use Cooling Tower and pipe cleaning water for dust control submitted and approved on 06/17/2014. SWAT-2-06-01, Bioremediation Manual, was submitted to CPM on 06/20/2014. CPM approved SWAT-2-06-01 Bioremediation Manual on 07/02/2014. DMP, SWAT-2-09-05 resubmitted to CPM on 08/21/2014, CPM approved on 08/26/2014. SWAT-02-10-05 closure plans for the LTU's and Evaporation ponds approved by the CPM on 08/26/2014. CEC provided comments on the GMN portion of the combined DMP/GMN plan on 09/29/2014, package resubmitted to CPM on 10/27/2014, please see attachment. SWAT-2-11-00 request to use steam blow test water for dust control submitted on 09/30/2014, CPM approved on 10/02/2014, please see attachment. SWAT-2-03-00 Submittal for the monitoring well locations submitted to CPM on 08/14/2014 and approved on 11/20/2014. SWAT-2-12-00 for the DMP/GMN, rev 4 submitted to CPM on 10/27/2014, CPM approved on 11/13/2014. SWAT-2-13-00, request to CPM to use condensate water for dust control submitted to CPM on 11/20/2014, CPM approved on 11/24/2014. **Now that evaporation ponds are operational, it is required to perform weekly pond inspections. Please see attached for the January 2015 weekly inspection forms for the Alpha and Beta evaporation ponds.**

## SOIL&WATER-4

Well abandonment status for remaining abandonments submitted to CPM on 09.06.12, As of 09.06.12, the CEC has approved all well abandonments with the exception of wells 11 and 14 (stuck pump wells). They require a wildlife survey in the area of the two wells to ensure that their habitats won't be disrupted with the use of explosives for the stuck pump wells. As of 10.13.2012, the well contractor was able to remove the pump from Well #11 by conventional means. However, Well #2 has now been determined as having a stuck pump and needing explosives to remove. The abandonment package was revised and resubmitted to the CEC on 10.22.2012. CEC has approved the use of explosives on Wells #2 and #14 as of October 31, 2012. As of March 5, 2013, the remaining wells to be abandoned are: Ryken and Wetlands. Wells #2 and #14 (by explosives) and 8, 10, 19, were abandoned during January 2013 but their well completion reports were finalized this month, please see attachments. Ryken and Wetlands wells were approved to be abandoned by SBC on May 7, 2013. Final abandonment was completed on May 17, 2013 and well completion reports were submitted to the CEC for approval. ASI and Abeinsa EPC have agreed on a new location of the Beta #4. An exhibit indicating final production well locations (including Beta #4) was provided to CPM on 11/27/2013. CPM responded asking for the well design by well contractor that will show a sealed upper layer which prevents any infiltration of the perched layer into the lower aquifer. Well contractor submitted a permit to SBC on 12/07/2013 but decision was made to go with a different contractor. New contractor submitted a permit for the Beta #4 well on 01/14/2014, SBC approved on 01/31/2014 based on the condition that Beta #1 be retrofitted as a monitoring well and the Beta #2 conductor casing be destroyed. The CPM further approved the use of Beta #1 for construction water while Beta #3 construction was completed. CPM approved the Beta #4 permit on 02/04/2014. A request to extend the discharge permit for well test water to the BLM marsh was submitted to CPM on 02/10/2014, CPM approved on 02/12/2014. Beta #4 well completion report submitted to CPM on 05/22/2014. SBC final well cards for Alpha #1 and #2, SWAT-4-14-00 and SWAT-4-15-00 respectively, provided by SBC on 09/02/2014, submitted to CPM on 09/30/2014, approved on 10/10/2014. SWAT-04-13-01, contractor well certification letter submitted to CPM on 09/09/2014. SBC final well card for Beta #4,

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SWAT-4-12-00, provided by SBC, submitted to CPM on 09/04/2014. CEC approved SWAT-0-12-00 on 11/10/2014.

## SOIL&WATER-5

Beginning six (6) months after the start of construction, the project owner shall prepare a semi-annual summary report of the amount of water used for construction purposes. The summary shall include the monthly range and monthly average of daily water usage in gallons per day.

**For January 2015, 4,537,000 gallons were pumped from Beta #4, and 3,143,000 gallons from Alpha #1 (South). SBC didn't use any water for the month. The overall total site water usage for January 2015 is 7,680,000 gallons. The running total of water usage for construction/testing purposes from January 1, 2015 to January 31, 2015 is 7,680,000 gallons. To date, there were 20 working days for 2015 which equates to 384,000 gal/day. This equates to 7,680,000 gal/month, please see attachments. SWAT5-00-00 CEC Submittal made on 01.30.2015 is attached which corrects water data for various 2014 MCRs.**

## SOIL&WATER-6

The project owner shall do all of the following:

1. At least sixty (60) days prior to project construction, the project owner shall submit to the CPM, for review and approval, a comprehensive plan (Groundwater Level Monitoring and Reporting Plan) presenting all the data and information required in Item A above. The project owner shall submit to the both the CPM all calculations and assumptions made in development of the plan.
2. During project construction, the project owner shall submit to the CPM quarterly reports presenting all the data and information required in Item B above. The project owner shall submit to the CPM all calculations and assumptions made in development of the report data and interpretations.
3. No later than sixty (60) days after commencing project operation, the project owner shall provide to the CPM, for review and approval, documentation showing that any mitigation to private well owners during project construction was satisfied, based on the requirements of the property owner as determined by the CPM.
4. During project operation, the project owner shall submit to CPM, applicable quarterly, semi-annual, and annual reports presenting all the data and information required in Item C above. The project owner shall submit to the CPM all calculations and assumptions made in development of report data and interpretations, calculations, and assumptions used in development of any reports.
5. The project owner shall provide mitigation as described in Item D above, if the CPM's inspection of the monitoring information confirms project-induced changes to water levels and water level trends relative to measured preproject water levels, and well yield has been lowered by project pumping. The type and extent of mitigation shall be determined by the amount of water level decline and site-specific well construction and water use characteristics. The mitigation of impacts will be determined as set forth in Item D above.
6. No later than 30 days after CPM approval of the well drawdown analysis, the project owner shall submit to the CPM for review and approval all documentation and calculations describing necessary compensation for energy costs associated with additional lift requirements.
7. The project owner shall submit to the CPM all calculations, along with any letters signed by the well owners indicating agreement with the calculations,

and the name and phone numbers of those well owners that do not agree with the calculations.

8. If mitigation includes monetary compensation, the project owner shall provide documentation to the CPM that compensation payments have been made by March 31 of each year of project operation or, if a lump-sum payment is made, payment shall be made by March 31 of the following year. Within 30 days after compensation is paid, the project owner shall submit to the CPM a compliance report describing compensation for increased energy costs necessary to comply with the provisions of this condition.

9. After the first 5-year operational and monitoring period, and every subsequent 5-year period, the project owner shall submit a 5-year monitoring report to the CPM for review and approval. This report shall contain all monitoring data collected and provide a summary of the findings and a recommendation about whether the frequency of water level measurements should be revised or eliminated.

10. During the life of the project, the project owner shall provide to the CPM all monitoring reports, complaints, studies, and other relevant data within 10 days of being received by the project owner.

Fourth quarter water quality report submitted to CPM on 03/28/2014 CPM provided comments, report resubmitted on 04/25/2014. SWAT6-09-00 2014 Q2 Water Quality Report submitted to CPM on 09/04/2014. CEC provided comments on the GMN portion of the combined DMP/GMN plan on 09/29/2014, since the DMP and GMN are now combined, the CEC required the package to be submitted under both compliances. SWAT-6-01-01, DMP/GMN, rev 4, resubmitted to CPM on 10/27/2014, CPM approved on 11/13/2014. CPM requested that since the plan was combined that a submittal under both SWAT-2 and SWAT-6 be done. SWAT-6-08-00, CEC approval of the DMP/GMN, rev 4, was approved on 12/26/2014. SWAT-6-10-00, Q3 2014 Water Quality report submitted to CPM on 11/11/2014. **SWAT-6-11-00, Q4 Water Quality report submitted to CPM on 01/30/2015, please see attachment.**

## **SOIL&WATER-9**

Prior to the start of construction of the sanitary waste system, the project owner shall submit to the County of San Bernardino for review and comment, and to the CPM for review and approval, plans for the construction and operation of the project's proposed sanitary waste septic system and leach field. These plans shall comply with the requirements set forth in County of San Bernardino Code Title 3, Division 3, Chapter 8 Waste Management, Article 5, Liquid Waste Disposal and Title 6, Division 3, Chapter 3, and the Uniform Plumbing Code. Project construction shall not proceed until the CPM has approved the plans. The project owner shall remain in compliance with the San Bernardino County code requirements for the life of the project.

The septic plans were submitted to CEC on 04/03/2012 for review and approval. CEC approved on 04/23/2012. Plans were resubmitted to SBC on 12/16/2013 to include the addition of the sanitary lift station, comments received regarding the addition and reason for the sanitary lift station, package resubmitted to SBC on 02/19/2014, SBC approved on 02/20/2014. Plans were submitted to CPM on 02/28/2014, CPM approved on 04/23/2014.



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## SOIL&WATER-10

The project owner shall obtain a permit to operate a nontransient, non-community water system with the County of San Bernardino at least sixty (60) days prior to commencement of construction at the site. The project owner shall supply updates annually for all monitoring requirements and submittals to County of San Bernardino related to the permit, and proof of annual renewal of the operating permit. To date, potable water system is not installed, thus no monitoring requirements are in effect.

Alpha #1 well permit issued by San Bernardino County on 01/10/2012.

Alpha #2 well permit issued by San Bernardino County on 01/10/2012.

Beta #3 well permit issued by San Bernardino County on 06/04/2012.

Non-transient, non-community water system submitted to SBC on 05/05/2014.

Non-transient, non-community water system resubmitted to SBC on 07/30/2014.

**Non-transient, non-community water system resubmitted to SBC on 08/27/2014. SBC returned with comments on 09/24/2014, SBC has agreed to schedule an inspection for 01/29/2015. SBC performed inspection on 01/29/2015 and provided comments. AEPC to incorporate changes once official SBC comment letter is received. SBC has not provided comment letter to date.**

## GEN-2

Provide schedule updates in the monthly compliance report.

**All engineering disciplines have submitted updated master drawing/spec lists. In addition, the latest construction schedule and equipment list has been provided. Please see attached copies.**

## CIVIL-1

At least 15 days (or project owner and CBO approved alternative time frame) prior to the start of site grading the project owner shall submit the documents described above to the CBO for design review and approval. In the next monthly compliance report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

## STRUC-1

Submit to the CPM, in the next monthly compliance report, a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and comply with the requirements set forth in applicable engineering LORS.

**STRUC-1-84.00: Alpha & Beta Turbine Pit Foundation plans submitted to CBO on 09/30/2014, CBO approved on 01/16/2015, please see attachment.**

## MECH-1



Send the CPM a copy of the transmittal letter.

**MECH-2**

Alpha & Beta Inspections for Compressed Air and Steam Boiler Systems from California Industrial Relations performed on 10/08/2014.

**ECN-1**

Send the CPM a copy of the transmittal letter in the next monthly compliance report.

**ELEC-1**

Send the CPM a copy of the transmittal letter in the next monthly compliance report.

**NOISE-7**

At least 15 days prior to the first steam blow, the project owner shall notify all residents and business owners within two miles of the project site. The notification may be in the form of letters, phone calls, fliers, or other effective means as approved by the CPM. The notification shall include a description of the purpose and nature of the steam blow(s), the planned schedule, expected sound levels, and explanation that it is a one-time activity and not part of normal plant operation. During steam blow activities, noise levels will be monitored at receptor locations LT-1, ST-1, and ST-2 and the results reported to the CPM.

First steam blow occurred on 08/29/2014 at Alpha power block. All Neighbors within 2 miles of the project site were notified 15 days prior to first steam blow by registered mail and by personal verbal notification. Steam Blow Decibel Readings submitted to CPM on 10/21/2014, all readings were below the maximum noise level as specified in the compliance.

**TRANS-1**

Prior to site mobilization activities, the project owner shall secure or construct one or more park-and-ride facilities with a combined capacity of 500 spaces.

Verification: At least 90 days prior to start of site mobilization, the project owner shall propose new park-and-ride lot(s) to the County of San Bernardino for review and comment and the Compliance Project Manager (CPM) for review and approval. The proposal shall include a rationale for the location of the lot(s) based upon the expected geographic distribution of employees and availability of suitable sites. At least 30 days prior to site mobilization, the project owner shall notify the County of

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San Bernardino and the CPM that the park-and-ride lot(s) are ready for usage and available for inspection. Submittal for permission to close the park and ride, TRANS-1-03-00 made to the CPM on 12/11/2014, please see attachment. CPM granted approval to close the park and ride on 12/11/2014.

## **TRANS-3 [A/T]**

No later than two months after the end of construction activities, the applicant shall submit an analysis of the roadway pavement conditions to San Bernardino County and Caltrans for review and comment and to the CPM for review and approval. The review will include photographs, the visual analysis of pavement and sub-surface conditions, and a schedule for repair. After the repairs are completed, the project owner shall submit a letter to San Bernardino County, Caltrans, and the CPM indicating such repairs are finished and ready for inspection. Harper Lake Road Restoration plans being reviewed by registered engineer. Plans submitted to SBC on 10/06/2014. Submittal to CPM on 09/23/2014 to request that a pavement analysis is no longer valid due to SBC grinding the surface until a new road is in place. CPM approved that a pavement analysis is no longer needed on 09/23/2014 because it will be covered by SBC/CALTRANS comments. **AEPC coordinating with a geotechnical engineer in order to obtain an acceptable pavement cross section. Section expected to be provided on January 11, 2015.**

## **TRANS-5 [A/T]**

The project owner shall not allow hazardous materials deliveries during non-daylight periods (during both construction and operation) to enhance safety at the rail crossing. A record of hazardous materials deliveries shall be provided to the CPM as required in HAZ-3. **Please see attached Beck Oil delivery lists.**

## **TSE-1**

Provide schedule updates in the MCR.  
**Please see attached Electrical Master List.**

## **TSE-4**

At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for equipment and systems of the power plant switchyard, outlet line and termination, including a copy of the signed and stamped statement from the responsible electrical engineer attesting to compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report. The following activities shall be reported in the Monthly Compliance Report:

A. Receipt or delay of major electrical equipment;

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Please see attached list of receipt of major electrical equipment.

B. Testing or energization of major electrical equipment;

Please see attachments for electrical tests to date.

C. The number of electrical drawings approved, submitted for approval, and still to be submitted.

**Please see attached Electrical Master List.**

## TSE-5

At least 60 days prior to the start of construction of transmission facilities (or a lesser number of days mutually agreed to by the project owner and CBO), the project owner shall submit to the CBO for approval:

A. Design drawings, specifications and calculations conforming with CPUC General Order 95 or NESC, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems and major switchyard equipment.

B. For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions" and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", NEC, applicable interconnection standards, and related industry standards.

C. Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by requirements TSE-5 a) through f) above. 7 Worst case conditions for the foundations would include for instance, a dead-end or angle pole.

D. The Special Protection System (SPS) sequencing and timing if applicable shall be provided concurrently to the CPM.

E. A letter stating the mitigation measures or projects selected by the transmission owners for each reliability criteria violation are acceptable,

F. An Operational study report based on the expected or current COD from the California ISO and/or SCE, and

G. A copy of the executed LGIA signed by the California ISO and the project owner.

Submittal of project LGIA sent to CPM on 11/08/2013, CPM approved on 12/02/2013.

## TSE-7

The project owner shall provide the following Notice to the California Independent System Operator (California ISO) prior to synchronizing the facility with the California Transmission system:

1. At least one week prior to synchronizing the facility with the grid for testing, provide the California ISO a letter stating the proposed date

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of synchronization; and  
2. At least one business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the California ISO Outage Coordination Department.

The project owner shall provide copies of the California ISO letter to the CPM when it is sent to the California ISO one week prior to initial synchronization with the grid. The project owner shall contact the California ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 and 1530 at (916) 351-2300 at least one business day prior to synchronizing the facility with the grid for testing. A report of conversation with the California ISO shall be provided electronically to the CPM one day before synchronizing the facility with the California transmission system for the first time. TSE-07-00, 7 day advance synchronization notification letter to CAISO submitted to CAISO and CPM on 10/23/2014, please see attachment. Synchronization was delayed, another letter was submitted to CAISO and CPM on 10/31/2014. TSE-07-00-02, 7 day advance synchronization notification letter to CAISO resubmitted to CPM on 11/07/2014. CPM approved on 12/26/2014. TSE-07-01-00, 1 day phone notification to CAISO of synchronization submitted to CPM on 11/19/2014, CPM approved on 12/26/2014.

## **TLSN-3**

The project owner shall file copies of the pre and post energization measurements within 60 days after completion of the measurements.  
Pre-energization results were sent to the CPM on 06/09/2014. CPM approved on 07/07/2014.

## **TLSN-5**

The project owner shall ensure that all permanent metallic objects within the right-of-way of the project-related lines are grounded according to industry standards regardless of ownership.  
At least 30 days before the lines are energized, the project owner shall transmit to the CPM a letter confirming compliance with this Condition.  
Confirmation letter sent to the CPM on 11/06/2013, CPM approved on 11/07/2013.

## **VIS-1**

Revised Surface Treatment Package was submitted to CPM on 04/14/2014. CPM approved plans on 05/16/2014. VIS-01-02-00, Colored photographs from Key Observation Points (KOP's) 1-7a submitted to CPM as required by this compliance on 10/29/2014. CPM approved this submittal on 12/26/2014. No date has been set for CPM and CEC visual staff inspection of color schemes on all above ground equipment, buildings and structures.

## **VIS-3**

Permanent Lighting plans. Package was submitted to CPM on 05/05/2014. CPM approved plans on 05/05/2014.

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**MOJAVE**

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Victorville, CA 92392  
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Should you have any questions or need any additional information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven Pochmara". The signature is fluid and cursive, with the first name "Steven" and last name "Pochmara" clearly distinguishable.

Steven Pochmara  
**ABEINSA EPC**  
13911 Park Avenue, Suite 208  
Victorville, CA 92392

## KEY EVENTS LIST

PROJECT: MOJAVE SOLAR PROJECT

DOCKET #: 09-AFC-5

COMPLIANCE PROJECT MANAGER: DALE RUNDQUIST

EVENT DESCRIPTION	DATE
Certification Date	09/2010
Obtain Site Control	
Online Date	12/2014
<b>POWER PLANT SITE ACTIVITIES</b>	
Start Site Mobilization	08/2011
Start Ground Disturbance	08/2011
Start Grading	08/2011
Start Construction	08/2011
Begin Pouring Major Foundation Concrete	09/2011
Begin Installation of Major Equipment	07/2012
Completion of Installation of Major Equipment	07/2014
First Combustion of Gas Turbine	N/A
Obtain Building Occupation Permit	
Start Commercial Operation	11/2014
Complete All Construction	
<b>TRANSMISSION LINE ACTIVITIES</b>	
Start T/L Construction	11/2012
Synchronization with Grid and Interconnection	11/2014
Complete T/L Construction	02/2013
<b>FUEL SUPPLY LINE ACTIVITIES</b>	
Start Gas Pipeline Construction and Interconnection	N/A
Complete Gas Pipeline Construction	N/A
<b>WATER SUPPLY LINE ACTIVITIES</b>	
Start Water Supply Line Construction	01/2013
Complete Water Supply Line Construction	08/2014



# ABENER TEYMA MOJAVE

## Cover Letter

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**Date:** January 12, 2015  
**Subject:** Mojave Solar Project (09-AFC-5C)  
**Condition Number:** AQ-64  
**Description:** **Monitoring and Change Out Plan for the Carbon Adsorption System Request for Extension**  
**Submittal No.:** AQ64-02-00

---

Mr. Chris Anderson  
Mojave Desert Air Quality  
Management District.  
Permitting Department  
14306 Park Ave  
Victorville CA 92392  
canderson@mdaqmd.ca.gov

Dear Mr. Anderson,

In accordance with AQ-64, we are requesting an extension until February 28, 2014 to complete the annual VOC testing. Due to site weather conditions, we want to ensure that we remain in compliance to complete the tests per MDAQMD permits C012015 and C 012016.

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

COPY TO: File SIGNED BY:

  
\_\_\_\_\_  
Vernon D. Leeming  
Permitting Engineer  
**ABEINSA EPC**

**Chris Anderson**

01/12/2015 03:04 PM

Send To	"Steven.Pochmara@abengoa.com" <Steven.Pochmara@abengoa.com>, "drundqui@energy.state.ca.us" <drundqui@energy.state.ca.us>
CC	"vernon.leeming@abeinsaepc.abengoa.com" <vernon.leeming@abeinsaepc.abengoa.com>, "manjunath.shivalingappa@abengoa.com" <manjunath.shivalingappa@abengoa.com>, "mercedes.macias@abeinsaepc.abengoa.com" <mercedes.macias@abeinsaepc.abengoa.com>
bcc	
Subject	RE: AQ64-02-00

Send to: "Steven.Pochmara@abengoa.com" <Steven.Pochmara@abengoa.com>, "drundqui@energy.state.ca.us" <drundqui@energy.state.ca.us>  
cc: "vernon.leeming@abeinsaepc.abengoa.com" <vernon.leeming@abeinsaepc.abengoa.com>, "manjunath.shivalingappa@abengoa.com" <manjunath.shivalingappa@abengoa.com>, "mercedes.macias@abeinsaepc.abengoa.com" <mercedes.macias@abeinsaepc.abengoa.com>  
Subject: RE: AQ64-02-00

History:  This memo has been replied

Hello Steven,

It never rains in Southern California!...except for when want to test your facility right? Considering the recent weather and the outlook, your request to extend the test due date until February 28, 2015 is approved.

Regards,

Chris Anderson  
Permits  
MDAQMD

**From:** Steven.Pochmara@abengoa.com [mailto:Steven.Pochmara@abengoa.com]  
**Sent:** Monday, January 12, 2015 1:39 PM  
**To:** Chris Anderson; drundqui@energy.state.ca.us  
**Cc:** vernon.leeming@abeinsaepc.abengoa.com; manjunath.shivalingappa@abengoa.com; mercedes.macias@abeinsaepc.abengoa.com; Antonio.Balbas@abengoa.com; Kathleen.Sullivan@solar.abengoa.com; nicholas.potrovitza@solar.abengoa.com; frances.sanchez@solar.abengoa.com; william.grisolia@abengoa.com  
**Subject:** AQ64-02-00

Good Afternoon Chris,  
Please see attached for the the request to extend the date of completion for the annual VOC per AQ-64 until the end of February 2015.

Regards,

Steven Pochmara - Permit Manager

# ABENGOA

## Abeinsa

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[Steven.Pochmara@teyma.abengoa.com](mailto:Steven.Pochmara@teyma.abengoa.com)

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# ABENGOA

**Manjunath Shivalingappa**

01/06/2015 04:39 PM

Send To	Antonio Balbas Garcia/AbeinsaEPC/Abengoa@Abengoa, Junover Pantin/AbeinsaEPC/Abengoa@Abengoa, José Manuel Romero González/AbeinsaEPC/Abengoa@Abengoa
cc	Steven Pochmara/AbeinsaEPC/Abengoa@Abengoa, Vernon Leeming/AbeinsaEPC/Abengoa@Abengoa, Efraín Perez/AbeinsaEPC/Abengoa@Abengoa, Ángel Pimentel Fernández/AbeinsaEPC/Abengoa@Abengoa
bcc	
Subject	FW: Approval of Mojave Solar Sorce Test Protocol Plan

Antonio, Junover:

We have the test protocol approved for the emission testing for the carbon adsorption system in alpha and beta. Two- 10 minute runs each will be performed in alpha and beta sites.

Note: We have to get this test done by the 20th of January. As we have to submit the report by January 31st.

Please let me know the dates for the scheduling the testing 's. The plan is to do one site per day @ Normal Load Operation.

Attached: Test Protocol for your reference.



Mojave Sloar LLC Protocol.pdf

Thank you!


Regards,

Manjunath Shivalingappa - Environmental Engineer

## ABENGOA

### Abeinsa

Abener Teyma Mojave General Partnership  
42134 Harper Lake road  
Hinkley, CA 92347  
Phone: (602) 282- 4103 (84613) Cell: (480) 768- 7793 Fax: +13142755801  
[manjunath.shivalingappa@abeinsaepc.abengoa.com](mailto:manjunath.shivalingappa@abeinsaepc.abengoa.com)

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----- Forwarded by Manjunath Shivalingappa/AbeinsaEPC/Abengoa on 01/06/2015 04:20 PM -----

**"Ken Kumar"**

01/06/2015 04:16 PM

Send To: <[manjunath.shivalingappa@abeinsaepc.abengoa.com](mailto:manjunath.shivalingappa@abeinsaepc.abengoa.com)>  
cc: <[manjunath.shivalingappa@abengoa.com](mailto:manjunath.shivalingappa@abengoa.com)>  
Subject: FW: Approval of Mojave Solar Sorce Test Protocol Plan

Here you go manju.

Sincerely,  
Energy Environmental Solutions, Inc.

Ken Kumar  
President/CEO  
2905 East Miraloma Avenue, Unit 7/8  
Anaheim, CA 92806  
Phone: (714) 630-5210  
Fax: (714) 630-7844  
Cellular: (714) 920-6767  
[www.sourcetester.com](http://www.sourcetester.com)

**From:** Chris Anderson [mailto:[canderson@mdaqmd.ca.gov](mailto:canderson@mdaqmd.ca.gov)]  
**Sent:** Tuesday, January 06, 2015 4:00 PM  
**To:** [kenkumar@sourcetester.com](mailto:kenkumar@sourcetester.com)  
**Cc:** [Kathleen.Sullivan@solar.abengoa.com](mailto:Kathleen.Sullivan@solar.abengoa.com); Questys Import  
**Subject:** Approval of Mojave Solar Sorce Test Protocol Plan

Hello,

The MDAQMD has reviewed the source test protocol submitted on behalf of Mojave Solar (Fac# 3130) by EES for permit units C012015 and C012016. The MDAQMD approves of the test protocol as submitted.

Should you have any questions please let me know.

***Chris Anderson***  
Air Quality Engineer  
760 245-1661 x1846  
[canderson@mdaqmd.ca.gov](mailto:canderson@mdaqmd.ca.gov)

California is in a drought emergency.  
Visit [www.SaveOurH2O.org](http://www.SaveOurH2O.org) for water conservation tips.

# ABENGOA

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01/06/2015 04:39 PM

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Regards,

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## ABENGOA

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Abener Teyma Mojave General Partnership  
42134 Harper Lake road  
Hinkley, CA 92347  
Phone: (602) 282- 4103 (84613) Cell: (480) 768- 7793 Fax: +13142755801  
[manjunath.shivalingappa@abeinsaepc.abengoa.com](mailto:manjunath.shivalingappa@abeinsaepc.abengoa.com)



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01/06/2015 04:16 PM

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cc: <[manjunath.shivalingappa@abengoa.com](mailto:manjunath.shivalingappa@abengoa.com)>  
Subject: FW: Approval of Mojave Solar Sorce Test Protocol Plan



Here you go manju.

Sincerely,  
Energy Environmental Solutions, Inc.

Ken Kumar  
President/CEO  
2905 East Miraloma Avenue, Unit 7/8  
Anaheim, CA 92806  
Phone: (714) 630-5210  
Fax: (714) 630-7844  
Cellular: (714) 920-6767  
[www.sourcetester.com](http://www.sourcetester.com)

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**Sent:** Tuesday, January 06, 2015 4:00 PM  
**To:** [kenkumar@sourcetester.com](mailto:kenkumar@sourcetester.com)  
**Cc:** [Kathleen.Sullivan@solar.abengoa.com](mailto:Kathleen.Sullivan@solar.abengoa.com); Questys Import  
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Hello,

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Should you have any questions please let me know.

***Chris Anderson***  
Air Quality Engineer  
760 245-1661 x1846  
[canderson@mdaqmd.ca.gov](mailto:canderson@mdaqmd.ca.gov)

California is in a drought emergency.  
Visit [www.SaveOurH2O.org](http://www.SaveOurH2O.org) for water conservation tips.

# ABENER TEYMA MOJAVE

## LETTER OF TRANSMITTAL

---

**Date:** January 7, 2015  
**Subject:** Mojave Solar Project (09-AFC-5C)  
**Condition Number:** AQ-72  
**Description:** **Protocol for VOC & Benzene Emissions Testing on Carbon Adsorption Systems**  
**Submittal No.:** AQ-72-00-00  
**To:** Mr. Dale Rundquist, CPM  
California Energy Commission

---

WE ARE SENDING YOU

Document Name	Title	REV
AQ-72 Cover Letter		
Protocol for VOC & Benzene Emissions Testing on Carbon Adsorption Systems	Protocol to Conduct VOC & Benzene Emissions Testing on Two(2) Carbon Adsorption Systems at Mojave Solar LLC (Facility No. 3130)	0

THESE ARE TRANSMITTED as checked below:

For Review

REMARKS

---

---

---

---

COPY TO: File SIGNED BY:

  
Vernon D. Leeming  
Permitting Engineer  
**ABEINSA EPC**

# ABENER TEYMA MOJAVE

## Cover Letter

---

**Date:** January 7, 2015  
**Subject:** Mojave Solar Project (09-AFC-5C)  
**Condition Number:** AQ-72  
**Description:** **Protocol for VOC & Benzene Emissions Testing on Carbon Adsorption Systems**  
**Submittal No.:** AQ-72-00-00

---

Mr. Dale Rundquist, CPM  
California Energy Commission  
1516 Ninth Street (MS-2000)  
Sacramento, CA 95814  
[DRundquist@energy.state.ca.us](mailto:DRundquist@energy.state.ca.us)

Dear Mr. Rundquist,

In compliance with AQ-72 we are submitting the Protocol for VOC & Benzene Emissions Testing on Carbon Adsorption systems of the Mojave Solar Project for your approval.

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

AQ-72: The project owner 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.

Verification: 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.

COPY TO: File SIGNED BY:

  
\_\_\_\_\_  
Vernon D. Leeming  
Permitting Engineer  
**ABEINSA EPC**

**PROTOCOL TO CONDUCT  
VOC & BENZENE EMISSIONS TESTING  
ON TWO (2) CARBON ADSORPTION SYSTEMS  
AT MOJAVE SOLAR LLC  
(Facility No. 3130)**

**Prepared By:**

Ken Kumar  
Energy Environmental Solutions, Inc.  
2905 East Miraloma Avenue, Unit 7/8  
Anaheim, CA 92806  
E-mail: [kenkumar@sourcetester.com](mailto:kenkumar@sourcetester.com)

**Prepared For:**

Mojave Solar LLC  
42134 Harper Lake Road  
Hinkley, CA 92347

**For Submittal to:**

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

December 9, 2014

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A	Measurement Procedure
B	Quality Assurance Information
B.1	Laboratory Approval Program (LAP) and CARB Certificates
B.2	EES' Quality Assurance Brief Summary
B.3	Field Data Sheet
C	Authority to Construct

## 1.0

### INTRODUCTION

Energy Environmental Solutions, Inc. (EES) has been contracted by Abeinsa EPC on behalf of Mojave Solar LLC to conduct source emissions tests on two (2) Carbon Adsorption Systems (CAS) located in Hinkley, California. The purpose of the test is to satisfy the compliance test requirements of the Mojave Desert Air Quality Management District (MDAQMD) Authority to Construct C012015 for Alpha System and C012016 for the Beta System.

This test protocol presents EES' scope of work, description of equipment, process description, sampling and analytical methods, and calibration and quality assurance procedures.

The source test date is tentatively scheduled for January 5-6, 2014. The actual source test date will be confirmed to the MDAQMD by telephone.

EES source test personnel will perform all testing. Abeinsa EPC will coordinate the CAS operation and provide process data for inclusion in the final report. Mr. Manjunath Shivalingappa of Abeinsa EPC will serve as Project Coordinator on behalf of Mojave Solar LLC.

## 2.0

### UNIT DESCRIPTION

- Carbon Adsorption System, HTF Ullage/Expansion System (ALPHA) consisting of: Carbon Adsorption System having two (2) multibed carbon filter sets capturing Ullage/Expansion system emissions. Ullage vent scrubber and overflow tank vent scrubber will each vent only to their own carbon filter set. Both sets will be vented to Atmosphere through on common stack.
- Carbon Adsorption System, HTF Ullage/Expansion System (BETA) consisting of: Carbon Adsorption System having two (2) multibed carbon filter sets capturing Ullage/Expansion system emissions. Ullage vent scrubber and overflow tank vent scrubber will each vent only to their own carbon filter set. Both sets will be vented to Atmosphere through on common stack.



### 3.0

#### PROCESS DESCRIPTION

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

The Ullage system start to work when the pressure in the HTF expansion header connected with the ullage system reach the remote set point in the vent control. This control (PIC-20626B) has a remote set point according with the pressure and the time, and the maximum value is 165 psia. Over this pressure, the vents valves will be full open in order 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 as possible. The HTF used in these scrubbers comes from the HTF Tank Cooler, MX-205, normally at 70°F +/- . After the scrubbers, these remaining HTF vapor streams are combined and routed through a series of three carbon filters to remove as many organics (VOCs/HAPS) as possible before the vapors are released to the atmosphere. There is a nitrogen blanket system set at 8 bara providing Nitrogen to the HTF vapor system (all the way back to the Expansion Vessels). The vent line to the carbon filters is designed to vent at 12 bara from the pressurized system but, the overflow system (that works at atmosphere pressure) start to vent at 14.40 psia, pressure set according with the 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.

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

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

phase. The nitrogen, degradation products, and vaporous HTF remaining in the vapor phase at the exit of the scrubber will enter the carbon filters for further cleaning before venting to the atmosphere.

## 4.0

### TEST DESCRIPTION

#### 4.1 OPERATING CONDITIONS FOR THE TEST

Both CAS will be tested two different days at their normal operating load condition. CAS will be operated manually to simulate the normal operating condition. This test cannot be conducted in auto mode because by seeing the attached trend of VOC passing through CAS attached in Appendix D of this protocol, it looks like it opens few times a month and the timing of start is also unknown.

#### 4.2 DIMENSIONS OF DUCT, STACKS AND SAMPLING PORT LOCATIONS

From Scrubber

Inlet Sample Port Diameter      4 inches

Outlet Sample Port Diameter      4 inches

From Expansion Tank

Inlet Sample Port Diameter      4 inches

Outlet Sample Port Diameter      4 inches

CAS line diagram is attached in Appendix D. Before the sampling, cyclonic flow check will be conducted. Also above dimensions will be checked during the test.

#### 4.3 FIELD DATA AND LABORATORY FORMS TO BE USED

Examples of our field data and laboratory forms can be found in Appendix B-2.

#### 4.4 SAMPLING AND ANALYTICAL PROCEDURES

Procedures that will be used to collect the data are summarized in Table 4-1 discussed below.

#### 4.4.1 Velocity and Volumetric Flow Rate

The exhaust gas velocity and volumetric flow rate will be determined according to the guidelines specified in ARB Methods 1 and 2. The final report will include a diagram of the traverse points.

#### 4.4.2 Moisture Content

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

#### 4.4.3 Hexane and Benzene Emissions Testing

- Simultaneous inlet and the outlet sampling for Hexane will be conducted using EPA Method 18. Analysis will be conducted as per the method using a Gas Chromatography (GC).
- Simultaneous inlet and the outlet sampling for Benzene will be conducted using ARB Method 410 A. Analysis will be conducted as per the method using a GC/PID.

Table 4-1  
**SOURCE TEST PROCEDURES**  
Mojave Solar LLC

PARAMETERS	LOCATION	METHOD	NUMBER OF TESTS	DURATION
Hexane	Inlet and the Outlet	EPA Method 18	Two (2)*	10 minutes
Benzene	Inlet and the Outlet	ARB Method 410 A	Two (2)*	10 minutes
Flow Rate	Inlet and the Outlet	ARB Method 2	One (1)	10 minutes
Moisture Content	Inlet and the Outlet	Dry Wet Bulb	One (1)	10 minutes

\* Due to the process limitations of sampling passing the CAS for a very short period, it will be difficult to conduct longer period of runs. By seeing the trend attached in Appendix D of this protocol, EES proposes only 10 minutes sampling, one at the beginning of the day and other at the end of the day. In ideal case, one sample will be more representative for this kind of process.

## 5.0

### QUALITY ASSURANCE

EES has been approved by the California Air Resources Board (ARB) to conduct compliance source testing pursuant to Title 17, section 91200-21200, of the California Code of Regulations. EES has also been approved by the MDAQMD to conduct source testing under the Laboratory Approval Program (LAP).

EES' quality assurance/quality control (QA/QC) package is available on request. The package contains:

- EES' December 2008 Quality Assurance Manual;
- Source testing approvals by the California Air Resources Board and MDAQMD;
- Calibration gas certification and analysis sheets;
- Current equipment calibration record; and
- Samples of field data forms.



6.0  
REPORTING

EES will prepare a thorough report summarizing the test result within 15 days after completion of testing. The contents of the test report will be as follows:

Cover Letter

Title Page

Report Certification

1. Introduction
2. Equipment Description
3. Summary of Results
4. Discussion and Recommendations
5. Sampling and Analytical Procedures

Appendices

- A. Measurement Procedures
- B. Quality Assurance Information
- C. Data Sheets
- D. Sample Calculations
- E. Laboratory Results
- F. Permit to Construct
- G. Correspondence

DECLARATION OF DISTRICT RULE 304 (k)

This source test will be performed by:

Energy Environmental Solutions, Inc.  
2905 East Miraloma Avenue, Suite 7/8  
Anaheim, CA 92806  
Attn.: Ken Kumar  
(714) 630-5210

The project is being coordinated for Mojave Solar LLC by:

Abeinsa EPC  
42134 Harper Lake Road  
Hinkley, CA 92347  
Attn.: Manjunath Shivalingappa - Environmental Engineer  
(602) 282- 4103

The source test will be conducted at:

Mojave Solar LLC  
42134 Harper Lake Road  
Hinkley, CA 92347

EES meets all the criteria for No Conflict of Interest as follows:

1. EES has 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, has no financial interest in EES;
3. No company or facility responsible for emission of significant quantities of pollutants to the atmosphere, or parent company or any subsidiary thereof, has financial interest in EES; and
4. EES is not in partnership with, does not own and is not owned by, in part or in full, the contractor who has provided or installed equipment (basic or control), or monitoring system, or is providing maintenance for installed equipment or monitoring systems, for the company being tested.

Ken Kumar  
(Signature)

Ken Kumar  
(Print Name)

12/9/2014  
(Date)

## APPENDIX A

### Measurement Procedures

**Method**                      **Sample and Velocity Traverse for Stationary Sources**

Applicable                      SCAQMD 1.1-1.2, EPA 1, CARB 1  
Ref. Methods:

Principle:                      To make a representative measurement of pollutant emissions and/or total volumetric flow rate from a stationary source, a measurement site is selected where the effluent stream flows in a known direction and the divide the cross-section of the stack into a number of equal areas. Then a traverse point is located at the centroid of each of these equal areas.

Applicability:                      This method applies to flowing gas streams in ducts, stacks, and flues. This method can not be used (1) when the flow is cyclonic, (2) a stack is smaller than 12 inches or (3) the measurement site is less than two stack or duct diameter downstream or less than one-half diameter upstream from a flow disturbance.

Field Procedure:                      Sampling or velocity measurement is performed at a site located at least eight stack or duct diameter downstream and two diameter upstream from a flow disturbance (such as bend, expansion, or contraction in the stack), visible flame, chemical injection, or chemical reaction. An alternative site is selected at a position at least two stack or duct diameters downstream and one-half diameter upstream from any flow disturbance if the standard criteria of eight duct diameter downstream and two duct diameter upstream does not meet.

The duct diameter referred to is obvious in the case of circular ducts, but it means that the "equivalent" diameter,  $D_e$ , for rectangular duct is given by following equation:

$$D_e = (2XLXW)/(L+W)$$

Where L and W are the two rectangular dimensions of the duct cross-sectional area.

Number of  
Traverse Points

Attached Figures and Table show details to calculate minimum number of traverse points for velocity (nonparticulate) traverses and their locations for circular and rectangular ducts. The minimum number of measurement points for most duct is 12 ( for smaller diameter ducts, as few as 8).

An important aspect of this Method is the requirement that any traverse point locations, as calculated from the attached Figures, that fall within 2.5 cm (1") from the duct wall (or 1.3 cm for ducts with diameters less than 0.61 meter) must be moved to 2.5 cm from the wall (or again, 1.3 cm for small ducts) and called "adjusted " traverse points.

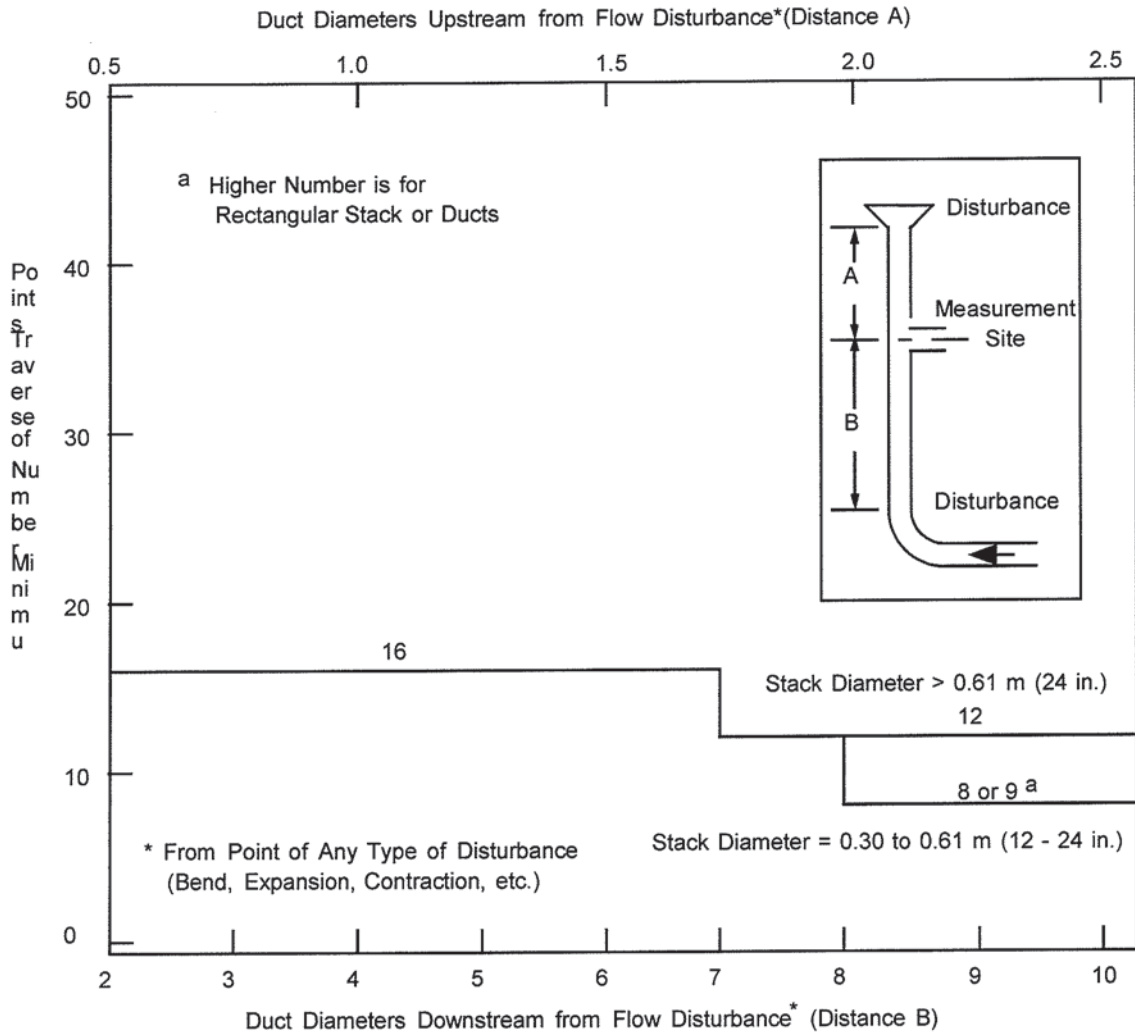


Figure 1 Minimum number of traverse points for velocity (non particulate) traverses.

**TABLE 1**  
**LOCATION OF TRAVERSE POINTS IN CIRCULAR STACKS**  
 (Percent of stack diameter from inside wall to traverse point)

Traverse Point Number on a Diameter	Number of traverse points on a diameter											
	2	4	6	8	10	12	14	16	18	20	22	24
1.....	14.6	6.7	4.4	3.2	2.6	2.1	1.8	1.6	1.4	1.3	1.1	1.1
2.....	85.4	25.0	14.6	10.5	8.2	6.7	5.7	4.9	4.4	3.9	3.5	3.2
3.....		75.0	29.6	19.4	14.6	11.8	9.9	8.5	7.5	6.7	6.0	5.5
4.....		93.3	70.4	32.3	22.6	17.7	14.6	12.5	10.9	9.7	8.7	7.9
5.....			85.4	67.7	34.2	25.0	20.1	16.9	14.6	12.9	11.6	10.5
6.....			95.6	80.6	65.8	35.6	26.9	22.0	18.8	16.5	14.6	13.2
7.....				89.5	77.4	64.4	36.6	28.3	23.6	20.4	18.0	16.1
8.....				96.8	85.4	75.0	63.4	37.5	29.6	25.0	21.8	19.4
9.....					91.8	82.3	73.1	62.5	38.2	30.6	26.2	23.0
10.....					97.4	88.2	79.9	71.7	61.8	38.8	31.5	27.2
11.....						93.3	85.4	78.0	70.4	61.2	39.3	32.3
12.....						97.9	90.1	83.1	76.4	69.4	60.7	39.8
13.....							94.3	87.5	81.2	75.0	68.5	60.2
14.....							98.2	91.5	85.4	79.6	73.8	67.7
15.....								95.1	89.1	83.5	78.2	72.8
16.....								98.4	92.5	87.1	82.0	77.0
17.....									95.6	90.3	85.4	80.6
18.....									98.6	93.3	88.4	83.9
19.....										96.1	91.3	86.8
20.....										98.7	94.0	89.5
21.....											96.5	92.1
22.....											98.9	94.5
23.....												96.8
24.....												98.9

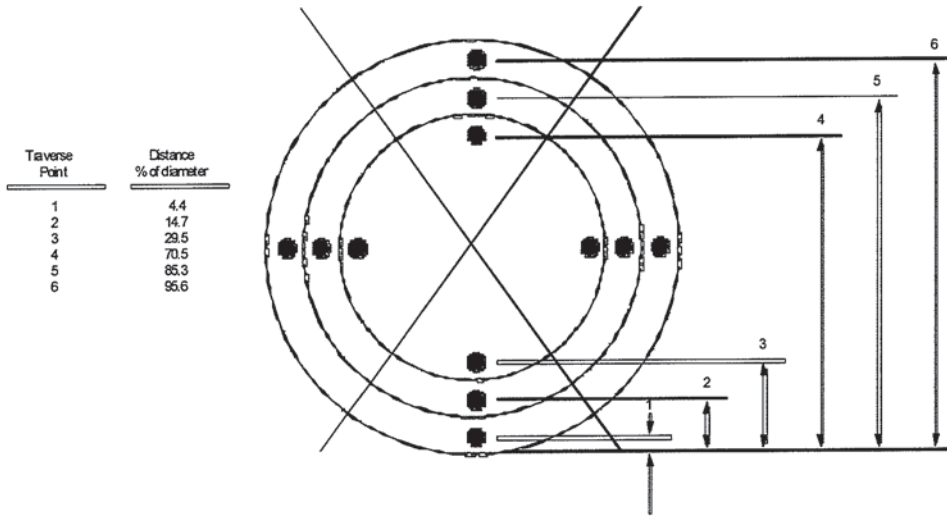


Figure 2 Example showing circular stack cross section divided into 12 equal areas, with location of traverse points indicated



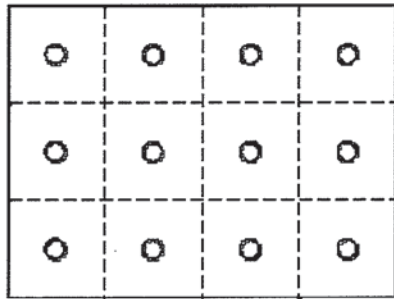


Figure 3 Example showing rectangular stack cross section divided into 12 equal areas, with a traverse point at centroid of each area.

**Method**                      **Stack Gas Velocity and Volumetric Flow Rate**

Applicable                      SCAQMD 2.1, EPA 2, ARB 2  
Reference Methods:

Principle:                      The average gas velocity in a stack is determined from the measurement of the gas density and from the measurement of the average velocity head using a Type-S (Stausschiebe) Pitot tube.

Sampling                      The velocity head and temperature are measured at traverse points specified by EPA  
Procedure                      Method 1 or SCAQMD Method 1.1. The velocity is measured using a Type-S Pitot tube and an inclined water manometer. The flow coefficient of the Pitot tube is known. Temperature of the gas is measured using a thermocouple. The stack gas molecular weight is determined from independent measurements of O<sub>2</sub>, CO<sub>2</sub>, and CO.

Sample                      The stack gas velocity is determined from the measured average velocity head, the  
Analysis                      measured average temperature, the measured average duct static pressure, the dry  
And Recovery                      concentrations of O<sub>2</sub>, CO and CO<sub>2</sub>. The velocity is determined from the following set of equations:

$$V_s = 2.9C_p(\sqrt{(\Delta p T_s [29.92/P_s] [28.95/MW_{wet}]})} \quad \text{[ft/sec]}$$

$\Delta p$  = Velocity Head                      [inches of Water]  
 $T_s$  = Gas Temperature                      [°R]  
 $P_s$  = Absolute Static Pressure                      [inches of Hg]  
 $C_p$  = Pitot tube coefficient                      [Unitless]

$$MW_{wet} = [(0.44)(\%CO_2) + (0.32)(\%O_2) + (0.28)(\%N_2)](1 - (\%H_2O/100)) + (18)(\%H_2O/100)$$

The stack gas volumetric rate is determined from the measured stack gas velocity, the area of the stack at the measurement plane, and the measured gas temperature and pressure. The volumetric flow rate is determined from the following set of equations:

$$Q = (V_s)(AREA)(60) \quad \text{[wacfm]}$$
$$Q_{ws} = Q [T_{ref}/T_s] [P_s/29.92] \quad \text{[wscfm]}$$
$$Q_{sd} = Q_{ws} [1 - (\%H_2O/100)] \quad \text{[dscfm]}$$

## APPENDIX B

### Quality Assurance Information

## APPENDIX B.1

### Laboratory Approval Program (LAP) and CARB Certificates



# South Coast Air Quality Management District

South Coast  
AQMD

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

April 8, 2014

Mr. Ken Kumar  
Energy Environmental Solutions, Inc.  
2905 East Miraloma Avenue #6  
Anaheim, CA 92806

Subject: LAP Approval Notice  
Reference # 97LA1118

Dear Mr. Kumar:

We completed our review of the renewal application you submitted for approval under the South Coast Air Quality Management District's Laboratory Approval Program (SCAQMD LAP). We are pleased to inform you that your firm is approved for the period beginning April 30, 2014, and ending April 30, 2015 for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

SCAQMD Methods 1-4  
SCAQMD Method 100.1 (CO, CO<sub>2</sub>, NO<sub>x</sub>, O<sub>2</sub>)  
SCAQMD Method 5.1 (Sampling)  
SCAQMD Method 25.1 (Sampling)  
SCAQMD Method 25.3 (Sampling)  
SCAQMD Rule 1121/ 1146.2 Protocol

Thank you for participating in the SCAQMD 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, Glenn Kasai. He may be reached by telephone at (909) 396-2271, or via e-mail at [gkasai@aqmd.gov](mailto:gkasai@aqmd.gov).

Sincerely,

Rudy Eden, Senior Manager  
Laboratory Services &  
Source Test Engineering

RE:GK/gk

cc: Dipankar Sarkar

140408 LapRenewal.doc



State of California  
**Air Resources Board**  
Approved Independent Contractor

**Energy Environmental Solutions, Incorporated**

This is to certify that the company listed above has been approved by the Air Resources Board to conduct compliance testing pursuant to California Code of Regulations, Title 17, Section 91207, until June 30, 2015, for these test methods listed below:

ARB Source Test Methods:

1, 2, 3, 4, 5, 8,

100 (CO, CO<sub>2</sub>, NO<sub>x</sub>, O<sub>2</sub>, SO<sub>2</sub>, THC)



Dr. Michael T. Benjamin, Chief  
Monitoring and Laboratory Division

## APPENDIX B.2

### EES' Quality Assurance Brief Summary



## Quality Assurance Program Summary

EES ensures the quality and validity of its emissions measurement and reporting procedures through a rigorous quality assurance (QA) program. The policies and procedures for achieving quality assurance are designed to produce test data that meets following four criteria:

- Complete;
- Representative of the source's emissions;
- Accurate (that is, as near as possible to actual);
- Precise (describe a measurement's precision are repeatability, replicability, and reproducibility).

A principal objective of EES' QA program is to identify and reduce errors associated with emissions measurement and testing. These errors may result from:

- Record Keeping
- System setup
- Equipment maintenance and cleaning
- Equipment calibration
- Test personnel
- Sample handling procedure

EES' QA Program follows the following **Major Steps to Ensure the Quality of Work**:

- Planning the source testing program;
- Preparing the source sampling;
- Equipment maintenance;
- Equipment calibration;
- Quality control in conducting tests;
- Post test quality control procedures;
- Quality assurance Audits;
- Quality assurance reporting; and
- Knowledge of current test methods; and
- Training

### Planning the Source Testing Program

EES' QA officers work very closely with source test division personnel before a test program begins. Their involvement starts at the time of pre-test inspection of a source test site and then preparation of a Source Test Protocol. EES has a certain guidelines for a pre-test inspection of a source which is provided by QA officers. These guidelines are as follows:

1. Detailed information about the type of process or operation (In some cases process flow diagram is required);

2. Information about plants operating conditions (How the plant operating conditions are likely to affect emissions);
3. Information about the type of emissions;
4. Information about the emissions points location and, if they are accessible;
5. Information about existing platforms, sampling ports, and power supplies outlets, if they are satisfactory;
6. Information about duct size, the temperature, pressure and velocity of the effluent gas stream, and an estimate of the moisture content of the effluent gases for nozzle size selection and isokinetics sampling spread sheet setup (If particulate matter sampling is in our plan);
7. Information about the process whether it is steady state or cyclic;
8. Information about type of location and condition of process instrumentation; and
9. Details if safety hazards and special equipment required. Find if the facility has their own safety training).

All details are filled out on a standard pre-test inspection form provided by EES' QA officers. At the time of developing protocols above information is used. At the time of preparation of the source test protocol, additional precaution is taken if the process is cyclic. Sample is collected over several cycles to obtain an adequate sample if the cycle is of short duration. Cycles of extended duration may be broken into definable parts.

### **Preparing the Source Sampling**

EES' personnel take extra care to minimize error in the preparation of the sampling trains and in handling of samples.

For SCAQMD Method 4.1, moisture content sampling, extra care is taken when impingers are weighed before sampling. Measured weights are checked three times and noted down on the data sheet and the field note book. Train is checked for leak before sampling starts.

For SCAQMD Method 100.1, Continuous Emissions Monitoring, equipment error is minimized by the proper maintenance of the instruments and quality control of the calibration gases. The quality control of the calibration gases is performed as follows:

- a) checking the expiration date of the calibration gases;
- b) if calibration gases are EPA protocol or not; and
- c) Calibration gas cylinder pressure.

### **Equipment Maintenance**

EES maintains the source testing equipment according to the manufacturer's instructions to ensure proper operations. EES has developed Equipment Preventive Maintenance Program (EPMP) described as below.

EPMP consists of those actions required to reduce equipment down time, improve the reliability of the source test results, and increase confidence in the results. The program consists of cleaning, lubricating, rebuilding, and adjusting equipment at pre-determined intervals. A spare parts inventory is also maintained by EES to assist in limiting equipment service time.

EPMP is performed mainly on the following equipment:

- a) Sampling pumps;
- b) Flow measuring devices (dry test meters, rotameters);
- c) Pressure measuring devices (gauges);
- d) Sampling instruments;and
- e) Mobile van sampling system.

Table 1 summarizes the maintenance schedule for the equipment based on manufacturer's specifications and EES experience.

EES office manager is responsible for:

- a) Planning and implementing an equipment maintenance program;
- b) Ensuring that all maintenance and calibration are performed on schedule; and
- c) Maintaining equipment logs and keeping all service records up to date.

The instructions for periodic maintenance, calibration, and special care of instruments and equipment are frequently updated. Abstracts from manufacturer's service and maintenance manuals are the primary source of these updates. Manufacturer's instructions for operating an instrument are followed to reduce error and prolonged equipment life.

### **Equipment Calibration**

An effective program of equipment calibration is essential in assuring the quality control of source test data. EES calibrates its source testing equipment at a designated times and whenever major repairs are made. The calibration schedule, method of calibration, or standard of comparison and the acceptance limits for each analyzers are given in Table 2.

EES keeps and maintains a record of each calibration in the instrument calibration logbook. This records includes, but not limited, to the following information:

- a) Instrument Identification (EES serial number);
- b) Date of Calibration;
- c) Operator identification;
- d) Calibration technique;
- e) Description and identification of standard material used;
- f) Calibration curves, correction factors, etc.; and
- g) Operator comments

EES personnel follows quality control procedures described below at the time of conducting source test:

1. In CEMS sampling a probe is inserted to the stack; at a specific flow rate the gases are passed through a conditioner system and then to a series of analyzers. EES observes very carefully the following items:



- The temperature of the probe and the Teflon line should maintain a temperature of 250°F;
  - The gas temperature at the outlet of the impinger and the outlet of the thermo-electric cooler should maintain less than 60°F and 37°F respectively;
  - A drain line and a valve should provide to constantly expel any condensed moisture from the drier;
  - The flow rate to the instrument during the test should be same as it was during the pre-test calibration;
  - After the sample acquisition system, the gas is directed into a distribution manifold. Excess sample is vented through a back-pressure regulator, maintaining constant pressure of 5-6 psig to the analyzers. EES personnel observe excess pressure;
  - Any shift between pre-and post-test calibration, along with any non-linearity revealed in the periodic multi point calibration of the equipment, is noted by EES personnel; and
  - Before conducting a test, calibration gases cylinders are checked by EES personnel for the expiration date and the pressure.
2. In Flow Rate and Moisture Sampling a gas sample is extracted at a constant rate from the source; moisture is removed from the sample stream and determined volumetrically or gravimetrically. EES observes very carefully the following items:
- Impingers pre- and post- weight is taken and recorded carefully both on EES field notebook and EES moisture data sheet.
  - A mandatory pre- and post leak check is performed on the sample train.
  - The impinger train should always cover with the ice and maintain a temperature of 40°F-45°F.
  - For velocity traverse, entire stack cross-section is traversed. SCAQMD Method 1.1 determines the minimum number and location of traverse points and locations.
  - Cyclonic flow check is performed before starting of velocity traverse measurement.

### Post Test Quality Control Procedures

Significant errors can occur when data are not reduced properly. Besides the sampling and analytical errors occurring during the test, human error can be introduced at any time between sample collection and data reporting. EES has following guidelines for post-test quality control:

- **Initial Examination Of Data**

During or after a test, EES source tester examines the test data-sheets to determine if any of the sheets contain any obviously abnormal value. Each abnormal value are examined and corrected. Depending on the significance of the error a judgement is made as to the acceptability of the data and results. EES keeps record of the test results or values, which is discarded.

- **Data Reduction**

EES has a standard spreadsheet made for emissions calculations. All required data is reduced by hand first, checked and initialed by three source testing personals. After data reduction, all data are inputted in

the computer. Before the report is finished, the QA officers make a final review of the data and make the final decision of the validity of the data.

Data from CEMS is recorded on 10" width strip chart recorder connected with a Data Acquisition System (DAS). Data from the strip chart is always checked by source testing manager

- **Validating Data**

Once the test results have been calculated, with adequate precautions taken to assure accuracy, the next problem is determining if the results are representative of actual emissions. Variability in results derived from multiple tests conducted on the same sources at different times is due to part or all of the following:

- (a) Variation in source operating parameters;
- (b) Testing equipment and personnel variations both in the field and in the laboratory; and
- (c) Uncertainties inherent in the test method.

Variations in the source operation may often be the most significant factor in the total variability of the test results. Knowledge of the source operation and the monitoring of key operating parameters help to identify these variations. EES conducts a training program for their source testing personnel and time to time send them for training seminars and conferences to minimize variation caused by personnel during source test conducting and equipment monitoring. As described before, EPMP helps minimize variations in equipment operation.

### Quality Assurance Audits

EES' QA officers conduct quality assurance audit time to time. They conduct performance audits and check source tests results. Performance audits fall under three distinct phases as follows:

- Sampling Audits
- Analysis Audits
- Data Processing Audits

#### Sampling Audits

An acceptable sampling audit consists of a qualitative appraisal of the test procedures and test equipment used during the test. The QA officer (Auditor) verifies that all the equipment is functioning properly during the test and that all of the pre-test performance and calibration checks are made.

#### Analysis Audits

An analysis audit consists of separate analyses of commonly collected integrated samples. Samples of known concentration are submitted to two or more independent laboratories.

#### Data Processing Audits

Data processing audits consists of spot-checks of data reduction and calculation procedures. EES checks computation methods by inserting dummy data sets into computer programs and calculation sheets.

A checklist is used to assist in conducting audits. QA officers make every effort to locate and correct the problem, if problems are found during any phase of a performance audit. All problems are recorded for a later review. A periodic review of the preventive maintenance program is included as apart of the audit process. This consists of monitoring equipment downtime.

### **Quality Assurance Reporting**

Periodically a quality assurance report to the manager of source testing is given to outline the important aspects of quality assurance program. The report includes following items:

- (1) System audit results;
- (2) Performance audit results;
- (3) Instrument or equipment operation;
- (4) Percent void samples versus total samples;
- (5) Inter-laboratory test results;
- (6) Intra-laboratory test results;
- (7) Status of solutions to major problems; and
- (8) Recommendation for source test procedure changes.

Table 1  
**EQUIPMENT MAINTENANCE SCHEDULE**  
 Based on Manufacturer's Specifications  
 And EES Experience

Equipment	Performance Requirement	Maintenance Interval	Corrective Action
Pumps	<ol style="list-style-type: none"> <li>1. Absence of leaks</li> <li>2. Ability to draw mfr. required vacuum and flow</li> </ol>	Every 500 hrs of operation or 6 months whichever is less	<ol style="list-style-type: none"> <li>1. Visual insp.</li> <li>2. Clean</li> <li>3. Replace worn parts</li> <li>4. Leak check</li> </ol>
Flow Measuring Device	<ol style="list-style-type: none"> <li>1. Free mechanical movement</li> <li>2. Absence of malfunction</li> </ol>	Every 500 hrs of operation or 6 months whichever is less	<ol style="list-style-type: none"> <li>1. Visual insp.</li> <li>2. Clean</li> <li>3. Calibrate</li> </ol>
Sampling Instruments	<ol style="list-style-type: none"> <li>1. Absence of malfunction</li> <li>2. Proper response to zero, span gas</li> </ol>	As required by manufacturer	As recommended by manufacturer
Integrated Sampling Tanks	Absence of leaks	Depends on nature of use	<ol style="list-style-type: none"> <li>1. Steam clean</li> <li>2. Leak check</li> </ol>
Mobile Van Sampling Systems	Absence of leaks	Depends on nature of use	<ol style="list-style-type: none"> <li>1. Change filters</li> <li>2. Change gas dryer</li> <li>3. Leak check</li> <li>4. Check for system contamination</li> </ol>
Sampling Lines	Sample degradation less than two percent	After each test or test series	Blow filtered air thru line until dry



Table 2  
**SAMPLING INSTRUMENTS AND EQUIPMENT CALIBRATION SCHEDULE**  
 As Specified by the CARB

Instrument Type	Frequency of Calibration	Standard of Comparison or Method of Calibration	Acceptance Limits
Orifice Meter	12 months	Calibrated dry test	$\pm 2\%$ of volume measured (large)
Dry Gas Meter	12 months or when repaired	Calibrated dry test meter	$\pm 2\%$ of volume measured
S-Type Pitot (for use with EPA type sampling train)	6 months	EPA Method 2	C <sub>p</sub> constant (+5%) over working range. Difference between the average C <sub>p</sub> for each leg must be less than 2%
Vacuum Gauges Pressure Gauges	6 months	Manometer	$\pm 3\%$
Field Barometer	6 months	Mercury barometer	$\pm 0.2$ " Hg
Temperature Measurement	6 months	NBS mercury thermometer or NBS calibrated platinum RTD	$\pm 4$ F for $<400^{\circ}\text{F}$ $\pm 1.5\%$ for $>400^{\circ}\text{F}$
Temperature Readout Devices	6 months	Precision potentiometer	$\pm 2\%$ full scale reading
Analytical Balance	12 months (checked prior to each use)	Should be performed by manufacturer or qualified laboratory	$\pm 0.3$ mg of stated weight
Probe Nozzles	12 months	Nozzle diameter check micrometer	Range $\leq \pm 0.10$ mm for three measurements
Continuous Analyzers	Depends on use, frequency, and performance	As specified by manufacturers operating manuals, EPA NBS gases, and/or ref. Methods	Satisfy all limits specified in operating specifications

## Knowledge Of Current Test Methods

With the constant updating of standard test methods and the wide variety of emerging test methods, it is essential that any qualified source tester keep abreast of new development. EES subscribes to services, which provide updates on EPA and CARB reference methods, and on EPA, CARB and SCAQMD rules and regulations. EES personnel maintain membership in the Air and Waste Management Association, the Source Evaluation Society, and the ASME Environmental Control Division.

## Training

Personnel related errors arise due to carelessness, insufficient knowledge, or inadequate training. EES has a formal and informal training program which include:

- (1) Operation and maintenance of equipment;
- (2) Detection of electronic problems;
- (3) Detection of sensor problems;
- (4) Detection of mechanical problems;
- (5) How to perform routine field repairs;
- (6) How to calibrate instruments;
- (7) Limitations of instruments (range, responses, interference functions, temperature limits, moisture limitations, etc.);
- (8) Attending EPA-sponsored training courses;
- (9) Enrollment in EPA correspondence courses;
- (10) A require for all technician and new staffs to read and understand EES' QA manual;
- (11) In-house training and QA meetings on a regular basis; and
- (12) Maintenance of training records.

## APPENDIX B.3

### Field Data Sheets



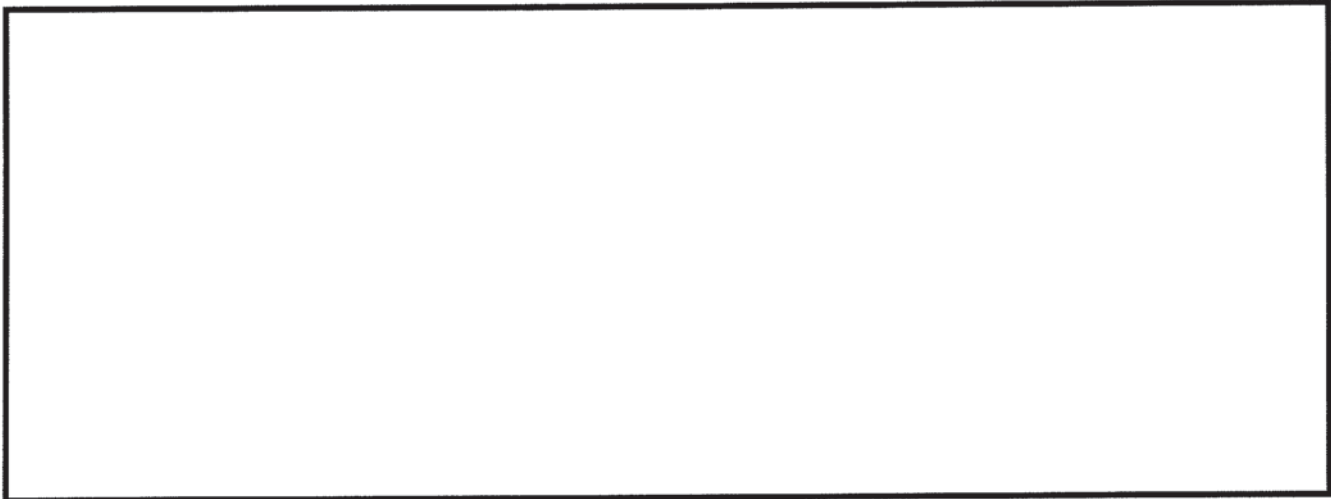


ENERGY ENVIRONMENTAL SOLUTIONS, INC.

SAMPLING PORT LOCATION DATA SHEET

Client: \_\_\_\_\_ Date: \_\_\_\_\_

Data By: \_\_\_\_\_ Location: \_\_\_\_\_



Upstream Dist./Dia.: _____	Sample Point	Percent of Diameter	In from Near Wall
Downstream Dist./Dia.: _____	1	_____	_____
Sample port Dia. _____	2	_____	_____
Coupling Length: _____	3	_____	_____
No. of Sampling Points: _____	4	_____	_____
Stack Diameter: _____	5	_____	_____
	6	_____	_____
	7	_____	_____
	8	_____	_____
	9	_____	_____
	10	_____	_____
	11	_____	_____
	12	_____	_____
	13	_____	_____
	14	_____	_____
	15	_____	_____
	16	_____	_____
	17	_____	_____
	18	_____	_____
	19	_____	_____
	20	_____	_____



## APPENDIX C

### Authority to Construct



**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 2014**

**OWNER OR OPERATOR (Co. #1876)**

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

**EQUIPMENT LOCATION (Fac. #3130)**

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

**Description:**

CARBON ADSORPTION SYSTEM, HTF ULLAGE/EXPANSION SYSTEM (ALPHA) consisting of: Carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions. Ullage vent scrubber and overflow tank vent scrubber will each vent only to their own carbon filter set. Both sets will vented to atmosphere through one common stack.

**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.

Fee Schedule: 7 (h)	Rating: 1 device	SIC: 4911	SCC: 30688801	Location/UTM(Km): 470E/3877N
---------------------	------------------	-----------	---------------	---------------------------------

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 constructed 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  
13911 Park Avenue, Suite 206  
Victorville, CA 92392-2407

By:   
**Eldon Heaston**  
Air Pollution Control Officer

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).
14. The o/o shall perform the following annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. 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 2014**

**OWNER OR OPERATOR (Co. #1876)**

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

**EQUIPMENT LOCATION (Fac. #3130)**

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

**Description:**

CARBON ADSORPTION SYSTEM, HTF ULLAGE/EXPANSION SYSTEM (BETA) consisting of: Carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions. Ullage vent scrubber and overflow tank vent scrubber will each vent only to their own carbon filter set. Both sets will vented to atmosphere through one common stack.

**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.

Fee Schedule: 7 (h)

Rating: 1 device

SIC: 4911

SCC: 30688801

Location/UTM(Km):  
470E/3877N

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 constructed 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  
13911 Park Avenue, Suite 206  
Victorville, CA 92392-2407

By:   
Eldon Heaston  
Air Pollution Control Officer

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).
14. The o/o shall perform the following annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. 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

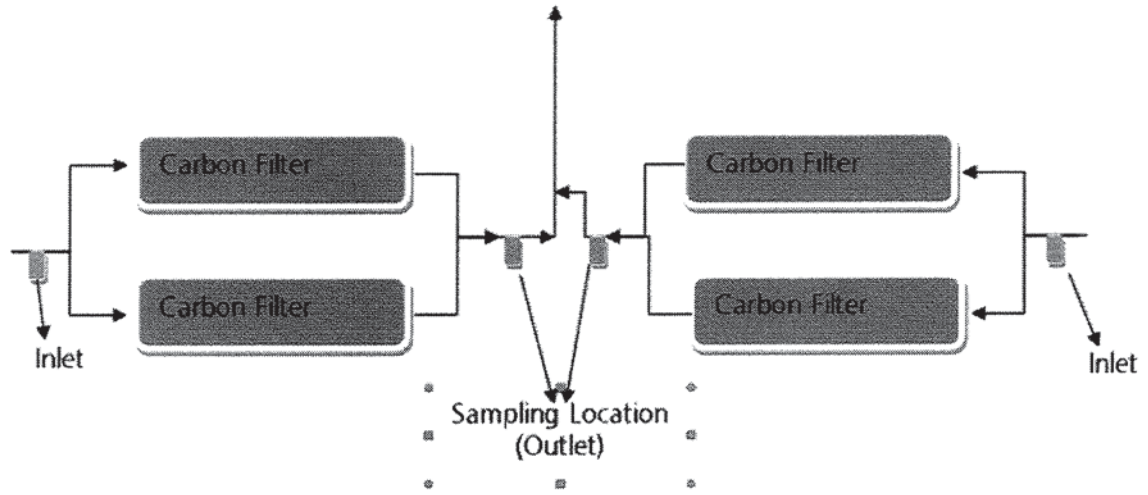


personnel upon request.

APPENDIX D

TRENDS OF VOC PASSING THROUGH CAS

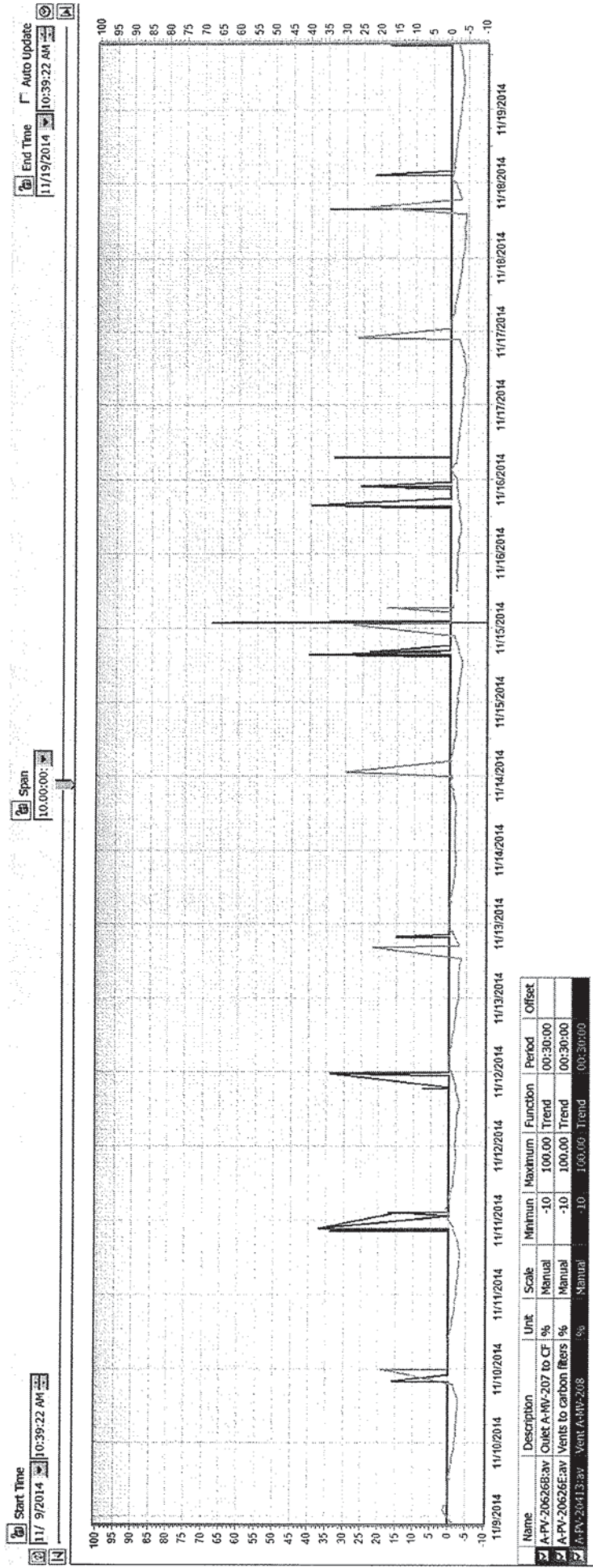
### Carbon Adsorption System



**Figure: Carbon Adsorption System**  
**(Identical both Alpha Beta System)**

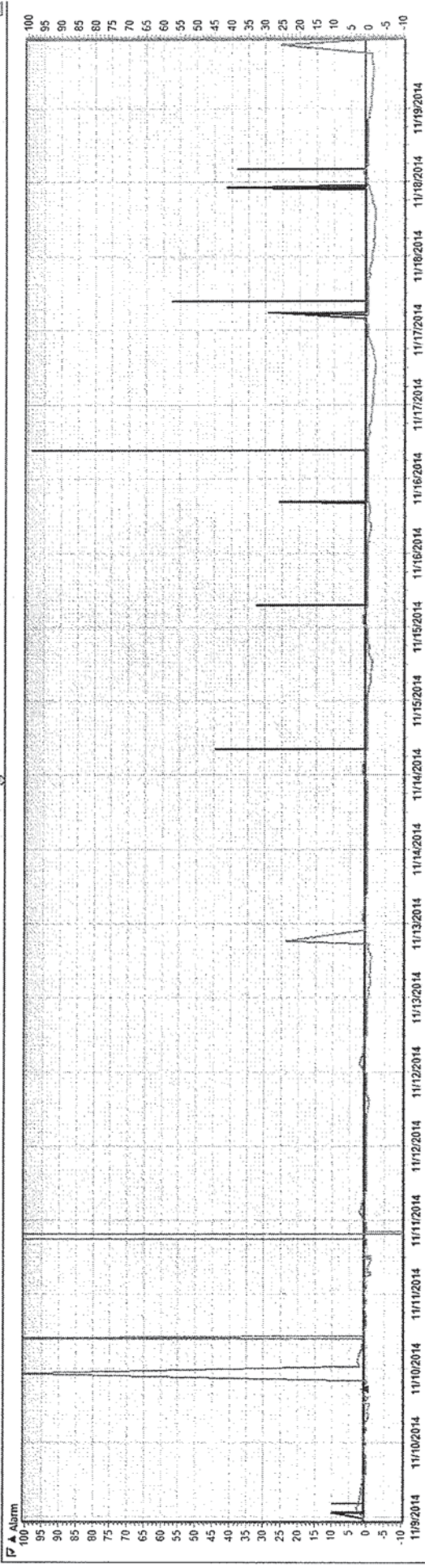
Alpha & Beta:  
 20626B & 20626E - From the Expansion System (Blue & Green)  
 20413 - Overflow Vent (Orange)

Alpha Vent Valves



# Beta Vent Valves

Start Time 11/ 9/2014 11:08:18 AM  End Time 11/19/2014 11:08:18 AM  Auto Update  
 Span 10:00:00



Name	Description	Unit	Scale	Minimum	Maximum	Function	Period	Offset
<input checked="" type="checkbox"/> B-PV-20626B:av	Outlet A-MV-207 to CF	%	Manual	-10.00	100.00	Trend	00:30:00	
<input checked="" type="checkbox"/> B-PV-20626E:av	Vents to carbon filters	%	Manual	-10.00	100.00	Trend	00:30:00	
<input checked="" type="checkbox"/> B-PV-20413:av	Vent A-MV-208	%	Manual	-10.00	100.00	Trend	00:30:00	







**BECK OIL, INC.**  
PETROLEUM PRODUCTS - CARDLOCKS

**DELIVERY TICKET**

REMIT TO: 16640 D Street, Victorville, CA 92395

Victorville Sales (760) 245-4191  
40 D Street, Victorville, CA

Coachella (760) 398-2051/ (800) 634-7332  
85-119 Leoco Lane, Coachella, CA

**SHIPPING ADDRESS**

MOJAVE SOLAR LLC  
42314 HARPER LAKE RD  
P. O. #  
HINKLEY, CA 92347

**BILLING ADDRESS**

MOJAVE SOLAR LLC  
1250 SIMMS ST UNIT 101  
P. O. #  
LAKEWOOD, CO 80401

5) 12:15 P  
E) 12:30 P

Credit Terms: 15 DAYS

DELIVERY DATE	CUSTOMER P.O.	ACCOUNT #	ORDER NUMBER	SALESMAN	TRUCK #	DRIVER'S SIGNATURE		
1.14.15	none	013592	225493	JOE EIFFERT	none	RTH/KIC		
QTY ORD	SIZE	KIND	CODE	DESCRIPTION	SHIPPED QTY	DELIVERED	UNIT PRICE	AMOUNT
150	BULK		105/01	GASOLINE, 87 OCTANE W/10% ETHANOL	150.0000	88	\$0.00000	
CRITICAL DESCRIPTION: GASOLINE, 3, UN 1203, PG II MEETS STATE/FED RVP REQUIREMENTS, DETERGENT ADDITIZED								
500	BULK		120/01	CARB ULS #2 DIESEL, CLEAR	500.0000	70	\$0.00000	
CRITICAL DESCRIPTION: DIESEL FUEL, 3, NA 1993, PG III CARB ULTRA LOW SULFUR DIESEL, MAX 15 PPM SULFUR TAXABLE FOR ON-ROAD USE								
1			300-N10/15	WETHOSE	1.0000	1	\$0.00000	
1			311-N10/15	REGULATORY COMPLIANCE FEE	1.0000	1	\$0.00000	

Taxes	Amount Due
FEDERAL EXCISE TAX - DIESEL-.243	
STATE EXCISE TAX - DIESEL-.11	
STATE EXCISE TAX - GAS/ETHANOL-.36	
FEDERAL EXCISE TAX-ETH 10%-.183	
CALIF STATE SALES TAX - DIESEL	
CALIF STATE SALES TAX - LOCAL	
CAAB 32 ADMIN FEE - DIESEL .002652	
CALIF SALES TAX SAN BERNARDINO	
FEDERAL OIL SPILL FEE DSL & KERO-.0019	
CALIF STATE SALES TAX - GAS	
FEDERAL LUST TAX - .001	
CALIF STATE SALES TAX - COUNTY	
CAAB 32 ADMIN FEE - GAS .002276	
FEDERAL OIL SPILL FEE ETH/GAS-.00171	
CALIF LEAD POISON-.001425	
CALIF STATE SALES TAX	
CALIF OIL SPILL-DSL, GAS & ETH-.00	
Tax Total:	

Destination Note: PO# 4500611183 - 90/90 25TH MONTH

PRODUCT	Inches Before	Inches After	Water Y/N

RECEIPT	
CASH	
CHECK	
CARD	
TOTAL	

DRUMS DELIVERED	DRUMS RETURNED	DRUM TOTAL	SUB TOTAL
			DRUM CHARGE
			TAXES
			TOTAL
			DUE DATE

EACH DRUM CHARGE HEREIN WHEN PAID WILL BE HELD BY SELLER AS A DEPOSIT. WHICH SELLER MAY MINGLE WITH HIS OWN FUNDS TO SECURE RETURN OF THE DRUM AND WILL BE FORFEITED TO SELLER IF THE DRUM IS NOT RETURNED IN UNDAMAGED CONDITION WITHIN 90 DAYS AFTER THE DATE HEREON AND WILL BE CREDITED TO THE BUYER IF THE DRUM IS RETURNED.

Interest of 1 1/2% of the balance due (18% per annum) shall be added to invoices for any amounts not paid by due dates or pursuant to the terms and conditions as set forth in the contract or purchase agreement with customer which agreement or contract is incorporated herein by this reference. If any action is brought to enforce the terms of this invoice or to collect amounts due and owing, Beck Oil Inc. shall be entitled to recovery and collection of reasonable attorney fees and costs associated therewith.

HAZARDOUS MATERIAL EMERGENCY RESPONSE 1-800-633-8253

RECEIVED BY: ALD.T.S PRINT NAME: \_\_\_\_\_ DATE/TIME: \_\_\_\_\_



**BECK OIL, INC.**  
PETROLEUM PRODUCTS - CARDLOCKS

**DELIVERY TICKET**

Victorville Sales (760) 245-4191  
16640 D Street, Victorville, CA

REMIT TO: 16640 D Street, Victorville, CA 92395

Coachella (760) 398-2051/ (800) 634-7332  
85-119 Leoco Lane, Coachella, CA

**SHIPPING ADDRESS**

MOJAVE SOLAR LLC  
42314 HARPER LAKE RD  
P. O. #  
HINKLEY, CA 92347

**BILLING ADDRESS**

MOJAVE SOLAR LLC  
1250 SIMMS ST UNIT 101  
P. O. #  
LAKEWOOD, CO 80401

Credit Terms: 15 DAYS

DELIVERY DATE	CUSTOMER P.O.	ACCOUNT #	ORDER NUMBER	SALESMAN	TRUCK #	DRIVER'S SIGNATURE
1/16/15	none	013592	225703	JOE EIFFERT	none	[Signature]

QTY ORD	SIZE	KIND	CODE	DESCRIPTION	SHIPPED QTY	DELIVERED	UNIT PRICE	AMOUNT
150	BULK		105/01	GASOLINE, 87 OCTANE W/10% ETHANCL	150.0000		\$0.00000	
CRITICAL DESCRIPTION: GASOLINE, 3, UN 1203, PG II MEETS STATE/FED RVP REQUIREMENTS, DETERGENT ADDITIZED								
500	BULK		120/01	CARB ULS #2 DIESEL, CLEAR	500.0000		\$0.00000	
CRITICAL DESCRIPTION: DIESEL FUEL, 3, NA 1993, PG III CARB ULTRA LOW SULFUR DIESEL, MAX 15 PPM SULFUR TAXABLE FOR ON-ROAD USE								
1			300-N10/15	WETHOSE	1.0000		\$0.00000	
1			311-N10/15	REGULATORY COMPLIANCE FEE	1.0000		\$6.59000	

Taxes	Amount Due
FEDERAL EXCISE TAX - DIESEL- 243	
STATE EXCISE TAX - DIESEL-.11	
STATE EXCISE TAX - GAS/ETHANOL-.36	
FEDERAL EXCISE TAX-ETH 10%-.183	
CALIF STATE SALES TAX - DIESEL	
CALIF STATE SALES TAX - LOCAL	
CAAB 32 ADMIN FEE - DIESEL .002652	
CALIF SALES TAX SAN BERNARDINO	
FEDERAL OIL SPILL FEE DSL & KERO-.0019	
CALIF STATE SALES TAX - GAS	
FEDERAL LUST TAX - .001	
CALIF STATE SALES TAX - COUNTY	
CALIF STATE SALES TAX	
CAAB 32 ADMIN FEE - GAS .002276	
FEDERAL OIL SPILL FEE ETH/GAS-.00171	
CALIF LEAD POISON-.001425	
CALIF OIL SPILL-DSL, GAS & ETH-.00	
<b>Tax Total:</b>	

Destination Note: PO# 4500611183 - 90/90 25TH MONTH

PRODUCT	Inches Before	Inches After	Water Y/N

DRUMS DELIVERED	DRUMS RETURNED	DRUM TOTAL	SUB TOTAL
			DRUM CHARGE
			TAXES
			TOTAL
			DUE DATE

RECEIPT	
CASH	
CHECK	
CARD	
TOTAL	

EACH DRUM CHARGE HEREIN WHEN PAID WILL BE HELD BY SELLER AS A DEPOSIT, WHICH SELLER MAY MINGLE WITH HIS OWN FUNDS TO SECURE RETURN OF THE DRUM AND WILL BE FORFEITED TO SELLER IF THE DRUM IS NOT RETURNED IN UNDAMAGED CONDITION WITHIN 90 DAYS AFTER THE DATE HEREON AND WILL BE CREDITED TO THE BUYER IF THE DRUM IS RETURNED.

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HAZARDOUS MATERIAL EMERGENCY RESPONSE 1-800-633-8253

RECEIVED BY: \_\_\_\_\_ PRINT NAME: \_\_\_\_\_ DATE/TIME: 1:25-15





**BECK OIL, INC.**  
PETROLEUM PRODUCTS - CARDLOCKS

**DELIVERY TICKET**

REMIT TO: 16640 D Street, Victorville, CA 92395

Victorville Sales (760) 245-4191  
16640 D Street, Victorville, CA

Coachella (760) 398-2051/ (800) 634-7332  
85-119 Leoco Lane, Coachella, CA

**SHIPPING ADDRESS**

MOJAVE SOLAR LLC  
42314 HARPER LAKE RD  
P. O. #  
HINKLEY, CA 92347

**BILLING ADDRESS**

MOJAVE SOLAR LLC  
1250 SIMMS ST UNIT 101  
P. O. #  
LAKEWOOD, CO 80401

⑤ 8:45 AM  
⑥

Credit Terms: 15 DAYS

DELIVERY DATE	CUSTOMER P.O.	ACCOUNT #	ORDER NUMBER	SALESMAN	TRUCK #	DRIVER'S SIGNATURE
1.12.15	none	013592	225356	JOE EIFFERT	none	RHINO

QTY	ORD	SIZE	KIND	CODE	DESCRIPTION	SHIPPED QTY	DELIVERED	UNIT PRICE	AMOUNT
150		BULK		105/01	GASOLINE, 87 OCTANE W/10% ETHANOL	150.0000	51	\$0.00000	
CRITICAL DESCRIPTION: GASOLINE, 3, UN 1203, PG II MEETS STATE/FED RVP REQUIREMENTS, DETERGENT ADDITIZED									
500		BULK		120/01	CARB ULS #2 DIESEL, CLEAR	500.0000	8	\$0.00000	
CRITICAL DESCRIPTION: DIESEL FUEL, 3, NA 1993, PG III CARB ULTRA LOW SULFUR DIESEL, MAX 15 PPM SULFUR TAXABLE FOR ON-ROAD USE									
1				300-N10/15	WETHOSE	1.0000	1	\$0.00000	
1				311-N10/15	REGULATORY COMPLIANCE FEE	1.0000	1	\$0.00000	

Taxes	Amount Due
FEDERAL EXCISE TAX - DIESEL-.243	
STATE EXCISE TAX - DIESEL-.11	
STATE EXCISE TAX - GAS/ETHANOL-.36	
FEDERAL EXCISE TAX-ETH 10%-.183	
CALIF STATE SALES TAX - DIESEL	
CALIF STATE SALES TAX - LOCAL	
CA AB 32 ADMIN FEE - DIESEL .002652	
CALIF SALES TAX SAN BERNARDINO	
FEDERAL OIL SPILL FEE DSL & KERO-.0019	
CALIF STATE SALES TAX - GAS	
FEDERAL LUST TAX - .001	
CALIF STATE SALES TAX - COUNTY	
CA AB 32 ADMIN FEE - GAS .002276	
FEDERAL OIL SPILL FEE ETH/GAS-.00171	
CALIF LEAD POISON-.001425	
CALIF STATE SALES TAX	
CALIF OIL SPILL-DSL, GAS & ETH-.00	
Tax Total:	

Destination Note: PO# 4500611183 - 90/90 25TH MONTH

PRODUCT	Inches Before	Inches After	Water Y/N

DRUMS DELIVERED	DRUMS RETURNED	DRUM TOTAL	SUB TOTAL
			DRUM CHARGE
			TAXES
			TOTAL
			DUE DATE

RECEIPT	
CASH	
CHECK	
CARD	
TOTAL	

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Interest of 1 1/2% of the balance due (18% per annum) shall be added to invoices for any amounts not paid by due dates or pursuant to the terms and conditions as set forth in the contract or purchase agreement with customer which agreement or contract is incorporated herein by this reference. If any action is brought to enforce the terms of this invoice or to collect amounts due and owing, Beck Oil Inc. shall be entitled to recovery and collection of reasonable attorney fees and costs associated therewith.

HAZARDOUS MATERIAL EMERGENCY RESPONSE 1-800-633-8253

RECEIVED BY: \_\_\_\_\_ PRINT NAME: \_\_\_\_\_ DATE/TIME: \_\_\_\_\_



Victorville Sales (760) 245-4191  
16640 D Street, Victorville, CA

REMIT TO: 16640 D Street, Victorville, CA 92395

Coachella (760) 398-2051/ (800) 634-7332  
85-119 Leoco Lane, Coachella, CA

**SHIPPING ADDRESS**

MOJAVE SOLAR LLC  
42314 HARPER LAKE RD  
P. O. #  
HINKLEY, CA 92347

**BILLING ADDRESS**

MOJAVE SOLAR LLC  
1250 SIMMS ST UNIT 101  
P. O. #  
LAKEWOOD, CO 80401

Credit Terms: 15 DAYS

DELIVERY DATE	CUSTOMER P.O.	ACCOUNT #	ORDER NUMBER	SALESMAN	TRUCK #	DRIVER'S SIGNATURE
11/9/15	none	013592	225151	JOE EIFFERT	none	[Signature]

QTY ORD	SIZE	KIND	CODE	DESCRIPTION	SHIPPED QTY	DELIVERED	UNIT PRICE	AMOUNT
150	BULK		105/01	GASOLINE, 87 OCTANE W/10% ETHANOL	150.0000	107	\$0.00000	
CRITICAL DESCRIPTION: GASOLINE, 3, UN 1203, PG II MEETS STATE/FED RVP REQUIREMENTS, DETERGENT ADDITIZED								
500	BULK		120/01	CARB ULS #2 DIESEL, CLEAR	500.0000	40	\$0.00000	
CRITICAL DESCRIPTION: DIESEL FUEL, 3, NA 1993, PG III CARB ULTRA LOW SULFUR DIESEL, MAX 15 PPM SULFUR TAXABLE FOR ON-ROAD USE								
1			300-N10/15	WETHOSE	1.0000	1	\$0.00000	
1			311-N10/15	REGULATORY COMPLIANCE FEE	1.0000	1	\$0.00000	

Taxes	Amount Due
FEDERAL EXCISE TAX - DIESEL-.243	
STATE EXCISE TAX - DIESEL-.11	
STATE EXCISE TAX - GAS/ETHANOL-.36	
FEDERAL EXCISE TAX-ETH 10%-.183	
CALIF STATE SALES TAX - DIESEL	
CALIF STATE SALES TAX - LOCAL	
CA AB 32 ADMIN FEE - DIESEL .002652	
CALIF SALES TAX SAN BERNARDINO	
FEDERAL OIL SPILL FEE DSL & KERO-.0019	
CALIF STATE SALES TAX - GAS	
FEDERAL LUST TAX - .001	
CALIF STATE SALES TAX - COUNTY	
CA AB 32 ADMIN FEE - GAS .002276	
FEDERAL OIL SPILL FEE ETH/GAS-.00171	
CALIF LEAD POISON-.001425	
CALIF STATE SALES TAX	
CALIF OIL SPILL-DSL, GAS & ETH-.00	
<b>Tax Total:</b>	

Destination Note: PO# 4500611183 - 90/90 25TH MONTH

B-0830  
C-0900

PRODUCT	Inches Before	Inches After	Water Y/N

DRUMS DELIVERED	DRUMS RETURNED	DRUM TOTAL	SUB TOTAL
			DRUM CHARGE
			TAXES
			TOTAL
			DUE DATE

EACH DRUM CHARGE HEREIN WHEN PAID WILL BE HELD BY SELLER AS A DEPOSIT, WHICH SELLER MAY MINGLE WITH HIS OWN FUNDS TO SECURE RETURN OF THE DRUM AND WILL BE FORFEITED TO SELLER IF THE DRUM IS NOT RETURNED IN UNDAMAGED CONDITION WITHIN 90 DAYS AFTER THE DATE HEREON AND WILL BE CREDITED TO THE BUYER IF THE DRUM IS RETURNED.

RECEIPT	
CASH	
CHECK	
CARD	
TOTAL	

Interest of 1 1/2% of the balance due (18% per annum) shall be added to invoices for any amounts not paid by due dates or pursuant to the terms and conditions as set forth in the contract or purchase agreement with customer which agreement or contract is incorporated herein by this reference. If any action is brought to enforce the terms of this invoice or to collect amounts due and owing, Beck Oil Inc. shall be entitled to recovery and collection of reasonable attorney fees and costs associated therewith.

HAZARDOUS MATERIAL EMERGENCY RESPONSE 1-800-633-8253

RECEIVED BY: \_\_\_\_\_ PRINT NAME: \_\_\_\_\_ DATE/TIME: \_\_\_\_\_







**BECK OIL, INC.**  
PETROLEUM PRODUCTS - CARDLOCKS

**ORDER / INVOICE**  
Print Date: 01/22/15 10:43AM

Victorville Sales (760) 245-4191 / (800) 788-7582  
16640 D Street, Victorville, CA

REMIT TO: 16640 D Street, Victorville, CA 92395

Coachella (760) 398-2051 / (800) 634-7332  
85-119 Leoco Lane, Coachella, CA

**BILLING ADDRESS**

MOJAVE SOLAR LLC  
1250 SIMMS ST UNIT 101  
P. O. #  
LAKEWOOD, CO 80401

**SHIPPED TO**

MOJAVE SOLAR LLC  
42314 HARPER LAKE RD  
P. O. #  
HINKLEY, CA 92347

**Credit Terms: 30 DAYS**

ORDER DATE	CUSTOMER P.O.	ACCOUNT #	INVOICE #	SALESMAN	TRUCK #	DRIVER
01/22/2015	4500666172	013592	226271	JOE EIFFERT	FLATBED	LOUANE

QTY	ORD	SIZE	KIND	CODE	DESCRIPTION	ORDER QUANTITY	UNIT PRICE	AMOUNT
8		EACH		252/02	DRUM, OPEN TOP NON-RETURABLE	8.0000	\$42.00000	\$336.00
1				311	REGULATORY COMPLIANCE FEE	1.0000	\$6.59000	\$6.59

Invoice Taxes	Quantity	Amount Due	Exempt
CALIF STATE SALES TAX	9.0000	21.41	N
CALIF STATE SALES TAX - COUNTY	9.0000	0.86	N
CALIF STATE SALES TAX - LOCAL	9.0000	3.43	N
CALIF SALES TAX SAN BERNARDINO	9.0000	1.71	N

PO# 4500611183 - 90/90 25TH MONTH

PRODUCT	Inches Before	Inches After	Water Y/N

DRUMS DELIVERED	DRUMS RETURNED	DRUM TOTAL	SUB TOTAL	AMOUNT
			\$342.59	
			DRUM CHARGE	

EACH DRUM CHARGE HEREIN WHEN PAID WILL BE HELD BY SELLER AS A DEPOSIT, WHICH SELLER MAY MINGLE WITH HIS OWN FUNDS TO SECURE RETURN OF THE DRUM AND WILL BE FORFEITED TO SELLER IF THE DRUM IS NOT RETURNED IN UNDAMAGED CONDITION WITHIN 90 DAYS AFTER THE DATE HEREON AND WILL BE CREDITED TO THE BUYER IF THE DRUM IS RETURNED.

RECEIPT	AMOUNT
CASH	
CHECK	
OTHER	
TOTAL	

TAXES/FEES	\$27.41
FREIGHT	\$0.00
TOTAL	\$370.00
DUE DATE	

Interest of 1 1/2% of the balance due (18% per annum) shall be added to invoices for any amounts not paid by due dates or pursuant to the terms and conditions as set forth in the contract or purchase agreement with customer which agreement or contract is incorporated herein by this reference. If any action is brought to enforce the terms of this invoice or to collect amounts due and owing, Beck Oil Inc. shall be entitled to recovery and collection of reasonable attorney fees and costs associated therewith.

HAZARDOUS MATERIAL EMERGENCY RESPONSE 1-800-633-8253

RECEIVED BY: Daniel Farris

PRINT NAME: Daniel Farris

DATE/TIME: 1-22-15





REMIT TO: 16640 D Street, Victorville, CA 92395

Victorville Sales (760) 245-4191  
16640 D Street, Victorville, CA

Coachella (760) 398-2051 / (800) 634-7332  
85-119 Leoco Lane, Coachella, CA

**SHIPPING ADDRESS**

MOJAVE SOLAR LLC  
42314 HARPER LAKE RD  
P. O. #  
HINKLEY, CA 92347

**BILLING ADDRESS**

MOJAVE SOLAR LLC  
1250 SIMMS ST UNIT 101  
P. O. #  
LAKEWOOD, CO 80401

Credit Terms: 15 DAYS

DELIVERY DATE	CUSTOMER P.O.	ACCOUNT #	ORDER NUMBER	SALESMAN	TRUCK #	DRIVER'S SIGNATURE
1/26/15	none	013592	226437	JOE EIFFERT	none	[Signature]

QTY ORD	SIZE	KIND	CODE	DESCRIPTION	SHIPPED QTY	DELIVERED	UNIT PRICE	AMOUNT
150	BULK		105/01	GASOLINE, 87 OCTANE W/10% ETHANOL	150.0000	154	\$0.00000	
CRITICAL DESCRIPTION: GASOLINE, 3, UN 1203, PG II MEETS STATE/FED RVP REQUIREMENTS, DETERGENT ADDITIZED								
500	BULK		120/01	CARB ULS #2 DIESEL, CLEAR	500.0000	188	\$0.00000	
CRITICAL DESCRIPTION: DIESEL FUEL, 3, NA 1993, PG III CARB ULTRA LOW SULFUR DIESEL, MAX 15 PPM SULFUR TAXABLE FOR ON-ROAD USE								
1			300-N10/15	WETHOSE	1.0000	1	\$0.00000	
1			311-N10/15	REGULATORY COMPLIANCE FEE	1.0000	1	\$0.00000	

Taxes	Amount Due
FEDERAL EXCISE TAX - DIESEL-.243	
STATE EXCISE TAX - DIESEL-.11	
STATE EXCISE TAX - GAS/ETHANOL-.36	
FEDERAL EXCISE TAX-ETH 10%-.183	
CALIF STATE SALES TAX - DIESEL	
CALIF STATE SALES TAX - LOCAL	
CA AB 32 ADMIN FEE - DIESEL .002652	
CALIF SALES TAX SAN BERNARDINO	
FEDERAL OIL SPILL FEE DSL & KERO-.0019	
CALIF STATE SALES TAX - GAS	
FEDERAL LUST TAX - .001	
CALIF STATE SALES TAX - COUNTY	
CA AB 32 ADMIN FEE - GAS .002276	
FEDERAL OIL SPILL FEE ETH/GAS-.00171	
CALIF LEAD POISON-.001425	
CALIF STATE SALES TAX	
CALIF OIL SPILL-DSL, GAS & ETH-.00	
Tax Total:	

D-1415  
E-1445

Destination Note: PO# 4500611183 - 90/90 25TH MONTH

PRODUCT	Inches Before	Inches After	Water Y/N

DRUMS DELIVERED	DRUMS RETURNED	DRUM TOTAL	SUB TOTAL
			DRUM CHARGE
EACH DRUM CHARGE HEREIN WHEN PAID WILL BE HELD BY SELLER AS A DEPOSIT, WHICH SELLER MAY MINGLE WITH HIS OWN FUNDS TO SECURE RETURN OF THE DRUM AND WILL BE FORFEITED TO SELLER IF THE DRUM IS NOT RETURNED IN UNDAMAGED CONDITION WITHIN 90 DAYS AFTER THE DATE HEREON AND WILL BE CREDITED TO THE BUYER IF THE DRUM IS RETURNED.			TAXES
			TOTAL
			DUE DATE

RECEIPT	
CASH	
CHECK	
CARD	
TOTAL	

Interest of 1 1/2% of the balance due (18% per annum) shall be added to invoices for any amounts not paid by due dates or pursuant to the terms and conditions as set forth in the contract or purchase agreement with customer which agreement or contract is incorporated herein by this reference. If any action is brought to enforce the terms of this invoice or to collect amounts due and owing, Beck Oil Inc. shall be entitled to recovery and collection of reasonable attorney fees and costs associated therewith.

HAZARDOUS MATERIAL EMERGENCY RESPONSE 1-800-633-8253

RECEIVED BY: [Signature] PRINT NAME: [Signature] DATE/TIME: 1/26/15



**BECK OIL, INC.**  
PETROLEUM PRODUCTS - CARDLOCKS

**DELIVERY TICKET**

REMIT TO: 16640 D Street, Victorville, CA 92395

Victorville Sales (760) 245-4191  
16640 D Street, Victorville, CA

Coachella (760) 398-2051/ (800) 634-7332  
85-119 Leoco Lane, Coachella, CA

**SHIPPING ADDRESS**

MOJAVE SOLAR LLC  
42314 HARPER LAKE RD  
P. O. #  
HINKLEY, CA 92347

**BILLING ADDRESS**

MOJAVE SOLAR LLC  
1250 SIMMS ST UNIT 101  
P. O. #  
LAKEWOOD, CO 80401

(S) 10:00 AM  
(E) 10:15 AM

Credit Terms: 15 DAYS

DELIVERY DATE	CUSTOMER P.O.	ACCOUNT #	ORDER NUMBER	SALESMAN	TRUCK #	DRIVER'S SIGNATURE
1.23.15	none	013592	226268	JOE EIFFERT	none	RHINC

QTY ORD	SIZE	KIND	CODE	DESCRIPTION	SHIPPED QTY	DELIVERED	UNIT PRICE	AMOUNT
150	BULK		105/01	GASOLINE, 87 OCTANE W/10% ETHANOL	150.0000		\$0.00000	
CRITICAL DESCRIPTION: GASOLINE, 3, UN 1203, PG II MEETS STATE/FED RVP REQUIREMENTS, DETERGENT ADDITIZED								
500	BULK		120/01	CARB ULS #2 DIESEL, CLEAR	500.0000		\$0.00000	
CRITICAL DESCRIPTION: DIESEL FUEL, 3, NA 1993, PG III CARB ULTRA LOW SULFUR DIESEL, MAX 15 PPM SULFUR TAXABLE FOR ON-ROAD USE								
1			300-N10/15	WETHOSE	1.0000		\$0.00000	
1			311-N10/15	REGULATORY COMPLIANCE FEE	1.0000		\$6.59000	

Taxes	Amount Due
FEDERAL EXCISE TAX - DIESEL-.243	
STATE EXCISE TAX - DIESEL-.11	
STATE EXCISE TAX - GAS/ETHANOL-.36	
FEDERAL EXCISE TAX-ETH 10%-.183	
CALIF STATE SALES TAX - DIESEL	
CALIF STATE SALES TAX - LOCAL	
CA AB 32 ADMIN FEE - DIESEL .002652	
CALIF SALES TAX SAN BERNARDINO	
FEDERAL OIL SPILL FEE DSL & KERO-.0019	
CALIF STATE SALES TAX - GAS	
FEDERAL LUST TAX -.001	
CALIF STATE SALES TAX - COUNTY	
CALIF STATE SALES TAX	
CA AB 32 ADMIN FEE - GAS .002276	
FEDERAL OIL SPILL FEE ETH/GAS-.00171	
CALIF LEAD POISON-.001425	
CALIF OIL SPILL-DSL, GAS & ETH-.00	
Tax Total:	

Destination Note: PO# 4500611183 - 90/90 25TH MONTH

PRODUCT	Inches Before	Inches After	Water Y/N

DRUMS DELIVERED	DRUMS RETURNED	DRUM TOTAL	SUB TOTAL
			DRUM CHARGE
			TAXES
			TOTAL
			DUE DATE

EACH DRUM CHARGE HEREIN WHEN PAID WILL BE HELD BY SELLER AS A DEPOSIT, WHICH SELLER MAY MINGLE WITH HIS OWN FUNDS TO SECURE RETURN OF THE DRUM AND WILL BE FORFEITED TO SELLER IF THE DRUM IS NOT RETURNED IN UNDAMAGED CONDITION WITHIN 90 DAYS AFTER THE DATE HEREON AND WILL BE CREDITED TO THE BUYER IF THE DRUM IS RETURNED

RECEIPT	
CASH	
CHECK	
CARD	
TOTAL	

Interest of 1 1/2% of the balance due (18% per annum) shall be added to invoices for any amounts not paid by due dates or pursuant to the terms and conditions as set forth in the contract or purchase agreement with customer which agreement or contract is incorporated herein by this reference. If any action is brought to enforce the terms of this invoice or to collect amounts due and owing, Beck Oil Inc. shall be entitled to recovery and collection of reasonable attorney fees and costs associated therewith.

HAZARDOUS MATERIAL EMERGENCY RESPONSE 1-800-633-8253

RECEIVED BY: A.T.S. PRINT NAME: \_\_\_\_\_ DATE/TIME: \_\_\_\_\_



VIRTUAL SANTA FE SPRINGS  
12522 LOS NIETOS ROAD  
SANTA FE SPG, CA 90670  
323-837-7002

CUST WHSE:LA  
SHIP WHSE:EH

ORDER DATE	01/13/15
ORDER NUMBER	LA651000

CUSTOMER P.O. NUMBER 4500665692--HYPO

CUSTOMER NO: 740624 003

CURRENCY: USD  
CUSTOMER NO: 740624

**S H I P T O**  
MOJAVE SOLAR LLC  
42134 HARPER LAKE RD 01  
BETA  
  
HINKLEY, CA 92347  
636-519-3680

**B I L L T O**  
MOJAVE SOLAR LLC  
1250 SIMMS ST. UNIT 101  
  
LAKEWOOD, CO 80401  
303-323-9138

SHIP DATE	SHIP VIA	FREIGHT TERMS	IN. SALES
01/14/15	IN TRANSIT MATERIAL	PREPAID (HDR FRT - NBH)	EGSK
F.O.B.		DELIVERY CONTACT	DELIVERY PHONE
DELIVERED		KRISTI ROSSMAN EXT 80710	636-519-3680
CREDIT TERMS	OUTSIDE SALES	TAX %	DEPT
NET 30 DAYS	KEVIN LATTNER		04

PRODUCT DESCRIPTION	QTY. SHIPPED	QUANTITY B/C
***** ORDER MESSAGES *****		
* ***** SHIPPING *****		
* DELIVERY HOURS 7:30 AM TO 3:00 PM NO APPT NEEDED		*
* NO LOADING DOCK		*
* LIFT GATE IS REQUIRED		*
* FORK LIFT IS AVAILABLE		*
***** BILLING *****		
* MAIL INV: AF.MOJAVESOLARLLC@SOLAR.ABENGOA.COM		*
*****		
* BUS AUTHORIZATION: WATER TREATMENT		*
* FED ID # 46-1741797		*
* 2ND ID# 200905210184, CA SECRETARY OF STATE		*
* DRIVER TO DELIVER TO BETA COOLING TOWER.		*
*****		

629  
Gal

001	SOD HYPO 12.5% LIQUICHLOR 84MG/L MINIBULK NSF LIQ MINIBULK	796956 UNIVAR EPA NO:550-198 1.0000 GL GL	700 GL	0
002	FUEL SURCHG MINIBULK DLVY **** NA	800281 SPCL CHG 1.0000 EA EA	1 EA	0
003	UNV BULK DLVY CHG **** NA	644037 SPCL CHG 1.0000 EA EA	1 EA	0

\*\* NOTE: SIGNATURE ON THE RECEIVED BY LINE, BELOW, ALSO ACKNOWLEDGES RECEIPT OF A MATERIAL SAFETY DATA SHEET(S) FOR HAZARDOUS CHEMICALS IN THIS SHIPMENT.

NO. OF PKGS = \_\_\_\_\_ TOT NET WT = 7140.00 TOT GRS WT = 7140.00

3

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DELIVERED BY	FREIGHT AMT.	TOTAL MDSE.	TOTAL QTY.	RECEIVED BY
<i>[Signature]</i>			62902	<i>[Signature]</i>



**THIS MEMORANDUM** is an acknowledgment that a Bill of Lading Has been issued, and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

CARRIER **IN TRANSIT MATERIAL** DATE **01/14/15** SHIPPER NO. **LA651000** CARRIER NO. **LA651000**

FROM



**VIRTUAL SANTA FE SPRINGS**  
**12522 LOS NIETOS ROAD**  
**SANTA FE SPG, CA 90670**  
**323-837-7002**

CONSIGNEE TO: **740624**  
**MOJAVE SOLAR LLC**  
**42134 HARPER LAKE RD 01**  
**BETA**  
**HINKLEY, CA 92347**

ORDER # **LA651000 PH # 636-519-3680**  
 CUST PO # **4500665692-HYPO**

The property as described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and designated below. Notwithstanding the carrier's tariffs and the Uniform Straight Bill of Lading and its Terms and Conditions as reflected in the National Motor Freight Classification, carrier agrees to indemnify, defend and hold Univar USA Inc. ("Univar"), and its employees and agents harmless from all claims, penalties, losses, and defense costs of whatever nature (collectively "Losses") resulting from Carrier's negligence or while the goods are in Carrier's possession except to the extent the Losses are caused by Univar's negligence, and Univar agrees to indemnify, defend and hold carrier and its employees and agents harmless from all Losses resulting from Univar's negligence or while the goods are in Univar's possession except to the extent the Losses are caused by carrier's negligence. The carrier agrees to transport to the consigned destination listed above, and not to use another carrier for the shipment unless Univar provides prior written approval. If a broker or freight forwarder arranged for the shipment under this bill of lading, the carrier agrees that its only recourse for payment of the freight charges herein is from the broker or freight forwarder.

Subject to Section 7 of conditions of applicable bill of lading. If this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement. The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.	BULK HOOK-UP OK'D <input checked="" type="checkbox"/>
	PLACARDS PROVIDED BY CARRIER <input type="checkbox"/> YES <input type="checkbox"/> NO PROVIDED BY SHIPPER <input type="checkbox"/> YES <input type="checkbox"/> NO
Univar (Signature of Consignor)	DRIVER SIGNATURE <input checked="" type="checkbox"/>
COLLECT ON DELIVERY \$ <u>00</u> and remit to: Univar at above address	If charges are to be prepaid, write stamp here. To be Prepaid. <b>PREPAID</b>
CHARGES ADVANCED C.O.D. Charge to be paid by { Shipper <input type="checkbox"/> Consignee <input type="checkbox"/>	Received \$ _____ to apply in prepayment of the charges on the prop described hereon. Agent or Cashier Per _____ The signature here acknowledges only the amount prepaid

**CARRIER: SHORT FORM BILL OF LADING MUST ACCOMPANY YOUR INVOICE.**

**HAZARDOUS MATERIALS** IN CASE OF CHEMICAL EMERGENCY **CALL CHEMTREC: 1-800-424-9300** (subscription through Univar US)

NO. OF UNITS	PKG/TYPE	NET WEIGHT (LBS)	X HM	DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	GROSS WEIGHT (LBS)
1	MINIBULK	7140	X	RQ, UN1791, HYPOCHLORITE SOLUTIONS, 8, PG III, (CONTAINS SODIUM HYPOCHLORITE) (FOR VESSEL TRANSPORT - STOW AWAY FROM ACIDS), (LOT NUMBER _____), (NSF 60 MAXIMUM USE FOR POTABLE WATER 84 MG/L), (RQ=000100), (ERG#154), (SOD HYP0 12.5% LIQ 84MG/L)  NMFC 60000, SUB 0, CLASS 70  1 CARGO TANK  FREEZE -17 F	7140

\*\*\*\*\*  
 \* FWD FRT BILL TO: UNIVAR \*  
 \* PO BOX 34325 \*  
 \* SEATTLE WA 981241325 \*  
 \*\*\*\*\*

NO. OF PKGS = 1 TOT NET WT = 7140.00 TOT GRS WT = 7140.00

PAGE 1 OF 1

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Where the rates on any of the terms listed below are dependent on released value, the agreed or declared value of the property is hereby specifically stated by the shipper to be the released value per article or per distribution package that results in the lowest transportation charges unless otherwise specified hereon.

ERG INFO VERIFIED BY [Signature]

Shipper, Per \_\_\_\_\_  
 Agent \_\_\_\_\_ Per \_\_\_\_\_





VIRTUAL SANTA FE SPRINGS  
12522 LOS NIETOS ROAD  
SANTA FE SPG, CA 90670  
323-837-7002

CUST WHSE:LA  
SHIP WHSE:EH

ORDER DATE	01/13/15
ORDER NUMBER	LA651000

CUSTOMER P.O. NUMBER 4500665692-HYPO

CUSTOMER NO: 740624 003

CURRENCY: USD  
CUSTOMER NO: 740624

**S**  
**H**  
**I**  
**P**  
**T**  
**O**

MOJAVE SOLAR LLC  
42134 HARPER LAKE RD 01  
BETA  
  
HINKLEY, CA 92347  
636-519-3680

**B**  
**I**  
**L**  
**L**  
**T**  
**O**

MOJAVE SOLAR LLC  
1250 SIMMS ST. UNIT 101  
  
LAKEWOOD, CO 80401  
303-323-9138

SHIP DATE	SHIP VIA	FREIGHT TERMS	IN. SALES
01/14/15	IN TRANSIT MATERIAL	PREPAID (HDR FRT - NBH)	EG5K
F.O.B.		DELIVERY CONTACT	DELIVERY PHONE
DELIVERED		KRISTI ROSSMAN EXT 80710	636-519-3680
CREDIT TERMS NET 30 DAYS		OUTSIDE SALES KEVIN LATTNER	TAX % DEPT 04

PRODUCT DESCRIPTION		QTY. SHIPPED	QUANTITY B/C
***** ORDER MESSAGES *****			
* ***** SHIPPING *****			
* DELIVERY HOURS 7:30 AM TO 3:00 PM NO APPT NEEDED			
* NO LOADING DOCK			
* LIFT GATE IS REQUIRED			
* FORK LIFT IS AVAILABLE			
***** BILLING *****			
* EMAIL INV: AP.MOJAVESOLARLLC@SOLAR.ABENGOA.COM			
*****			
* BUS AUTHORIZATION: WATER TREATMENT			
* FED ID # 46-1741797			
* 2ND ID# 200905210184, CA SECRETARY OF STATE			
* DRIVER TO DELIVER TO BETA COOLING TOWER.			
*****			
001	SOD HYPO 12.5% LIQUICHLOR 84MG/L MINIBULK NSF LIQ MINIBULK	796956 UNIVAR 1.0000 GL GL	700 GL EPA NO:550-198
002	FUEL SURCHG MINIBULK DLVY **** **** NA	800281 SPCL CHG 1.0000 EA EA	1 EA EA EA
003	UNV BULK DLVY CHG **** **** NA	644037 SPCL CHG 1.0000 EA EA	1 EA EA EA

629  
Cal

\*\* NOTE: SIGNATURE ON THE RECEIVED BY LINE, BELOW, ALSO ACKNOWLEDGES RECEIPT OF A MATERIAL SAFETY DATA SHEET(S) FOR HAZARDOUS CHEMICALS IN THIS SHIPMENT.

NO. OF PKGS = \_\_\_\_\_ TOT NET WT = 7140.00 TOT GRS WT = 7140.00

2

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DELIVERED BY	FREIGHT AMT.	TOTAL MDSE.	TOTAL QTY.	RECEIVED BY
<i>[Signature]</i>			62902	<i>[Signature]</i>



MUST BE LEGIBLY FILLED IN, IN INK, IN INDELIBLE PENCIL, OR IN CARBON, AND RETAINED BY THE AGENT  
**THIS SHIPPING ORDER IN TRANSIT MATERIAL** DATE **01/14/15**

CARRIER

SHIPPER NO.

CARRIER NO.

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, and except as provided herein.

LA651000

FROM



CONTAINED TO: 740624

MOJAVE SOLAR LLC  
 42134 HARPER LAKE RD 01  
 BETA  
 HINKLEY, CA 92347

ORDER # LA651000 PH # 636-519-3680  
 CUST PO # 4500665692-HYPO

AT

VIRTUAL SANTA FE SPRINGS  
 12522 LOS NIETOS ROAD  
 SANTA FE SPG, CA 90670  
 323-837-7002

Subject to Section 7 of conditions of applicable bill of lading. If this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement. The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Univar

(Signature of Consignor)

COLLECT ON DELIVERY

\$ .00 and remit to:  
 Univar  
 at above address

\$ CHARGES ADVANCED

C.O.D. Charge { Shipper   
 to be paid by { Consignee

BULK HOOK-UP  
 OK'D

PLACARDS

PROVIDED BY CARRIER  
 YES  NO  
 PROVIDED BY SHIPPER  
 YES  NO

DRIVER SIGNATURE

X  
 If charges are to be prepaid, write stamp here. To be Prepaid.  
**PREPAID**

Received \$  
 to apply in prepayment of the charges on the propt described hereon. Agent or Cashier

Per  
 The signature here acknowledges only the amount prepaid

The property as described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and designated below. Notwithstanding the carrier's tariffs and the Uniform Straight Bill of Lading and its Terms and Conditions as reflected in the National Motor Freight Classification, carrier agrees to indemnify, defend and hold Univar USA Inc. ("Univar"), and its employees and agents harmless from all claims, penalties, losses, and defense costs of whatever nature (collectively "Losses") resulting from Carrier's negligence or while the goods are in Carrier's possession except to the extent the Losses are caused by Univar's negligence, and Univar agrees to indemnify, defend and hold carrier and its employees and agents harmless from all Losses resulting from Univar's negligence or while the goods are in Univar's possession except to the extent the Losses are caused by carrier's negligence. The carrier agrees to transport to the consigned destination listed above, and not to use another carrier for the shipment unless Univar provides prior written approval. If a broker or freight forwarder arranged for the shipment under this bill of lading, the carrier agrees that its only recourse for payment of the freight charges herein is from the broker or freight forwarder.

CARRIER: SHORT FORM BILL OF LADING MUST ACCOMPANY YOUR INVOICE.

HAZARDOUS MATERIALS

IN CASE OF CHEMICAL EMERGENCY

CALL CHEMTREC: 1-800-424-9300 (subscription through Univar US)

NO. OF UNITS	PKG/TYPE	NET WEIGHT (LBS)	X HM	DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	GROSS WEIGHT (LBS)
1	MINIBULK	7140	X	RQ, UN1791, HYPOCHLORITE SOLUTIONS, 8, PG III, (CONTAINS SODIUM HYPOCHLORITE) (FOR VESSEL TRANSPORT - STOW AWAY FROM ACIDS), (LOT NUMBER), (NSF 60 MAXIMUM USE FOR POTABLE WATER 84 MG/L), (RQ=000100), (ERG#154), (SOD HYP0 12.5% LIQ 84MG/L)  NMFC 60000, SUB 0, CLASS 70  1 CARGO TANK  FREEZE -17 F	7140

\*\*\*\*\*  
 \* FWD FRT BILL TO: UNIVAR \*  
 \* PO BOX 34325 \*  
 \* SEATTLE WA 981241325 \*  
 \*\*\*\*\*

NO. OF PKGS = TOT NET WT = 7140.00 TOT GRS WT = 7140.00

PAGE 1 OF 1

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Where the rates on any of the terms listed below are dependent on released value, the agreed or declared value of the property is hereby specifically stated by the shipper to be the released value per article or per distribution package that results in the lowest transportation charges unless otherwise specified hereon.

This is to certify that the herein-named materials are properly classified, described, packaged, marked and labeled, and are proper condition for transportation according to the applicable regulations of the Department of Transportation.

ERG INFO VERIFIED BY

Shipper Per

Agent

Per

UNIVAR

Permanent post-office address of shipper as shown above





SANTA FE SPRINGS  
12522 LOS NIETOS ROAD  
SANTA FE SPR, CA 90670  
800-597-7868

CUST WHSE:LA  
SHIP WHSE:SE

ORDER DATE	01/06/15
ORDER NUMBER	LA648536

CUSTOMER P.O. NUMBER 4500665692

CUSTOMER NO: 740624 002

CURRENCY: USD  
CUSTOMER NO: 740624

**SHIP TO**  
MOJAVE SOLAR LLC  
42134 HARPER LAKE RD  
ALPHA  
  
HINKLEY, CA 92347  
636-519-3680

**BILL TO**  
MOJAVE SOLAR LLC  
1250 SIMMS ST. UNIT 101  
  
LAKEWOOD, CO 80401  
303-928-8500

SHIP DATE	SHIP VIA	FREIGHT TERMS	IN. SALES
01/07/15	IN TRANSIT MATERIAL	PREPAID (HDR FRT -- NBH)	EGSK
F.O.B.		DELIVERY CONTACT	DELIVERY PHONE
DELIVERED		KRISTI ROSSMAN EXT 80710	636-519-3680
CREDIT TERMS		OUTSIDE SALES	TAX %
NET 30 DAYS		KEVIN LATTNER	DEPT 04

PRODUCT DESCRIPTION	QTY. SHIPPED	QUANTITY B/C
***** ORDER MESSAGES *****		
* ***** SHIPPING *****		
* DELIVERY HOURS 7:30 AM TO 3:00 PM NO APPT NEEDED		
* NO LOADING DOCK		
* LIFT GATE IS REQUIRED		
* FORK LIFT IS AVAILABLE		
***** BILLING *****		
MAIL INV: AP.MOJAVESOLARLLC@SOLAR.ABENGOA.COM		
*****		

002	FUEL SURCHG MINIBULK DLVY	800281	1	EA	0
	****	SPCL CHG			
	****	1.0000	EA	EA	
003	UNV BULK DLVY CHG	644037	1	EA	0
	****	SPCL CHG			
	****	1.0000	EA	EA	
004	SULFURIC ACID 50% 1.400SG	797901	400	GL	0
	MINIBULK SVC	UNIVAR			
	TECH LIQ MINIBULK	1.0000	GL	GL	286

\*\* NOTE: SIGNATURE ON THE RECEIVED BY LINE, BELOW, ALSO ACKNOWLEDGES RECEIPT OF A MATERIAL SAFETY DATA SHEET(S) FOR HAZARDOUS CHEMICALS IN THIS SHIPMENT.

NO. OF PKGS = \_\_\_\_\_ TOT NET WT = 4668.00 TOT GRS WT = 4668.00

3  
27 1/2 =

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DELIVERED BY	FREIGHT AMT.	TOTAL MDSE.	TOTAL QTY.	RECEIVED BY
STOOD 183			402	Booth Jank







SANTA FE SPRINGS  
12522 LOS NIETOS ROAD  
SANTA FE SPR, CA 90670  
800-597-7868

CUST WHSE: LA  
SHIP WHSE: SE

ORDER DATE	01/05/15
ORDER NUMBER	LA648469

CUSTOMER P.O. NUMBER 4500665692

CUSTOMER NO: 740624 002

CURRENCY: USD  
CUSTOMER NO: 740624

SHIP TO  
MOJAVE SOLAR LLC  
48134 HARPER LAKE RD  
ALPHA  
HINKLEY, CA 92347  
636-519-3680

BILL TO  
MOJAVE SOLAR LLC  
1250 SIMMS ST. UNIT 101  
LAKEWOOD, CO 80401  
303-928-8500

SHIP DATE	SHIP VIA	FREIGHT TERMS	IN. SALES
01/05/15	IN TRANSIT MATERIAL	PREPAID (HDR FRT - NBH)	EGSK
F.O.B.		DELIVERY CONTACT	DELIVERY PHONE
DELIVERED		KRISTI ROSSMAN EXT 80710	636-519-3680
CREDIT TERMS NET 30 DAYS		OUTSIDE SALES KEVIN LATTNER	TAX % DEPT 04

PRODUCT DESCRIPTION	QTY. SHIPPED	QUANTITY B/C
***** ORDER MESSAGES *****		
***** SHIPPING *****		
* DELIVERY HOURS 7:30 AM TO 3:00 PM NO APPT NEEDED		
* NO LOADING DOCK		
* LIFT GATE IS REQUIRED		
* FORK LIFT IS AVAILABLE		
***** BILLING *****		
MAIL INV: AP.MOJAVESOLARLLC@SOLAR.ABENGOA.COM		
*****		
001 VITEC 4000	811985 UNIVAR	700 GL 0
TECH LIQ MINIBULK	1.0000 GL	GL
		208
002 FUEL SURCHG MINIBULK DLVY	800281 SPCL CHG	1 EA 0
**** **** NA	1.0000 EA	EA
003 UNV BULK DLVY CHG	644037 SPCL CHG	1 EA 0
**** **** NA	1.0000 EA	EA

\*\* NOTE: SIGNATURE ON THE RECEIVED BY LINE, BELOW, ALSO ACKNOWLEDGES RECEIPT OF A MATERIAL SAFETY DATA SHEET(S) FOR HAZARDOUS CHEMICALS IN THIS SHIPMENT.

NO. OF PKGS = \_\_\_\_\_ TOT NET WT = 6419.00 TOT GRS WT = 6419.00

320

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DELIVERED BY	FREIGHT AMT.	TOTAL MDSE.	TOTAL QTY.	RECEIVED BY
Stan D 62			702	[Signature]

THIS MEMORANDUM is an acknowledgment that a Bill of Lading Has been issued, and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

CARRIER **IN TRANSIT MATERIAL** DATE **01/06/15** SHIPPER NO. CARRIER NO.  
 RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, and except as provided herein. **LA648469**

MORT



CONSIGNEE TO: 740624  
 MOJAVE SOLAR LLC  
 42134 HARPER LAKE RD  
 ALPHA HINKLEY, CA 92347

AT

SANTA FE SPRINGS  
 12522 LOS NIETOS ROAD  
 SANTA FE SPR, CA 90670  
 800-597-7868

To Amiflow TANK

ORDER # **LA648469** PH # **636-519-3680**  
 CUST PO # **4500665692**

Subject to Section 7 of conditions of applicable bill of lading. If this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement. The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.	BULK HOOK-UP OKD <b>R.T.</b>
Univar (Signature of Consignor)	PLACARDS PROVIDED BY CARRIER <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO PROVIDED BY SHIPPER <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
COLLECT ON DELIVERY	DRIVER SIGNATURE <b>X [Signature]</b>
\$ <b>0.00</b> and remit to: Univar at above address	If charges are to be prepaid, write stamp here. To be Prepaid. <b>PREPAID</b>
\$ CHARGES ADVANCED	Received \$ to apply in prepayment of the charges on the prop described hereon. Agent or Cashier
C.O.D. Charge to be paid by { Shipper <input type="checkbox"/> Consignee <input type="checkbox"/>	Per The signature here acknowledges only the amount prepaid

The property as described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and designated below. Notwithstanding the carrier's tariffs and the Uniform Straight Bill of Lading and its Terms and Conditions as reflected in the National Motor Freight Classification, carrier agrees to indemnify, defend and hold Univar USA Inc. ("Univar"), and its employees and agents harmless from all claims, penalties, losses, and defense costs of whatever nature (collectively "Losses") resulting from Carrier's negligence or while the goods are in Carrier's possession except to the extent the Losses are caused by Univar's negligence, and Univar agrees to indemnify, defend and hold carrier and its employees and agents harmless from all Losses resulting from Univar's negligence or while the goods are in Univar's possession except to the extent the Losses are caused by carrier's negligence. The carrier agrees to transport to the consigned destination listed above, and not to use another carrier for the shipment unless Univar provides prior written approval. If a broker or freight forwarder arranged for the shipment under this bill of lading, the carrier agrees that its only recourse for payment of the freight charges herein is from the broker or freight forwarder.

**CARRIER: SHORT FORM BILL OF LADING MUST ACCOMPANY YOUR INVOICE.**

**HAZARDOUS MATERIALS** IN CASE OF CHEMICAL EMERGENCY CALL CHEMTREC: 1-800-424-9300 (subscription through Univar US)

NO. OF UNITS	PKG/TYPE	NET WEIGHT (LBS)	X HT	DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	GROSS WEIGHT (LBS)
1	MINIBULK	6419		CHEMICALS, N.O.I., (1 CARGO TANK) (VITEC 4000) NMFC 60000, SUB 0, CLASS 70 FREEZE 32 F	6419
<p>*****                      * FWD FRT BILL TO: UNIVAR *                      * PO BOX 34325 *                      * SEATTLE WA 981241325 *                      *****</p> <p>808</p>					
<p>NO. OF PKGS = <u>1</u> TOT NET WT = <u>6419.00</u> TOT GRS WT = <u>6419.00</u></p> <p style="text-align: right;">PAGE 1 OF 1</p>					

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Where the rates on any of the terms listed below are dependent on released value, the agreed or declared value of the property is hereby specifically stated by the shipper to be the released value per article or per distribution package that results in the lowest transportation charges unless otherwise specified hereon.

ERG INFO VERIFIED BY [Signature]

Shipper, Per [Signature]  
 Agent [Signature]

UNIVAR  
 Per UNIVAR

UNIVAR  
 Permanent post-office address of shipper as shown above





VIRTUAL SANTA FE SPRINGS  
 12522 LOS NIETOS ROAD  
 SANTA FE SPG, CA 90670  
 323-837-7002

CUST WHSE:LA  
 SHIP WHSE:EH

ORDER DATE	01/13/15
ORDER NUMBER	LA650995

CUSTOMER P.O. NUMBER 4500665692-HYPO

CUSTOMER NO: 740624 002

CURRENCY: USD  
 CUSTOMER NO: 740624

**SHIP TO**  
 MOJAVE SOLAR LLC  
 42134 HARPER LAKE RD  
 ALPHA  
 HINKLEY, CA 92347  
 636-519-3680

**BILL TO**  
 MOJAVE SOLAR LLC  
 1250 SIMMS ST UNIT 101  
 LAKEWOOD, CO 80401  
 303-323-5138

SHIP DATE	SHIP VIA	FREIGHT TERMS	IN. SALES
01/14/15	IN TRANSIT MATERIAL	PREPAID (HDR FRT - NBH)	EG5K
F.O.B.		DELIVERY CONTACT	DELIVERY PHONE
DELIVERED		KRISTI ROSSMAN EXT 80710	636-519-3680
CREDIT TERMS	OUTSIDE SALES	TAX %	DEPT
NET 30 DAYS	KEVIN WATTNER		04

**PRODUCT DESCRIPTION**      **QTY. SHIPPED**      **QUANTITY B/C**

\*\*\*\*\* ORDER MESSAGES \*\*\*\*\*

\* \*\*\*\*\* SHIPMENT SHIPPING \*\*\*\*\*

\* DELIVERY HOURS 7:30 AM TO 3:00 PM NO APPT NEEDED

\* NO LOADING DOCK

\* LIFT GATE IS REQUIRED

\* FORK LIFT IS AVAILABLE

\* \*\*\*\*\* BILLING \*\*\*\*\*

\* EMAIL INV: AP.MOJAVESOLARLLC@SOLAR.ABENGOA.COM

\* DRIVER TO DELIVER TO ALPHA COOLING TOWER

\*\*\*\*\*

001	SOD HYPO 12.5% LIQUICHLOR 84MG/L MINIBULK NSF      LIQ      MINIBULK	796956 UNIVAR 1.0000	1000 GL EPA_NO:550-198 GL      GL	
002	FUEL SURCHG MINIBULK DLVY ****      ****      NA	800281 SPCL CHG 1.0000	1 EA EA      EA	0
003	UNV BULK DLVY CHG ****      ****      NA	644037 SPCL CHG 1.0000	1 EA EA      EA	0

\*\* NOTE: SIGNATURE ON THE RECEIVED BY LINE, BELOW, ALSO ACKNOWLEDGES RECEIPT OF A MATERIAL SAFETY DATA SHEET(S) FOR HAZARDOUS CHEMICALS IN THIS SHIPMENT.

NO. OF PKGS = \_\_\_\_\_ TOT NET WT = 10200.00 TOT GRS WT = 10200.00

2

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DELIVERED BY	FREIGHT AMT.	TOTAL MDSE.	TOTAL QTY.	RECEIVED BY
<i>ak</i>			700 2002	<i>Kristi Rossman</i>

MUST BE LEGIBLY FILLED IN, IN INK, IN INDELIBLE PENCIL OR IN CARBON, AND RETAINED BY THE AGENT

CARRIER

IN TRANSIT MATERIAL

DATE

01/14/15

SHIPPER NO.

CARRIER NO.

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, and except as provided herein.

LA650999

FROM



CONSIGNEE TO: 740624  
 MOJAVE SOLAR LLC  
 42134 HARPER LAKE RD  
 ALPHA HINKLEY, CA 92347

AT

VIRTUAL SANTA FE SPRINGS  
 12522 LOS NIETOS ROAD  
 SANTA FE SPG, CA 90670  
 323-837-7002

Subject to Section 7 of conditions of applicable bill of lading. If this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement. The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

BULK HOOK-UP  
 OK'D

PLACARDS  
 PROVIDED BY CARRIER  
 YES  NO  
 PROVIDED BY SHIPPER  
 YES  NO

Univar

(Signature of Consignor)

COLLECT ON DELIVERY

DRIVER SIGNATURE

\$ 00 and remit to:  
 Univar  
 at above address

If charges are to be prepaid, write stamp here. To be Prepaid.

PREPAID

\$ CHARGES ADVANCED

Received \$ to apply in prepayment of the charges on the prop described hereon. Agent or Cashier

C.O.D. Charge to be paid by Shipper  Consignee

Per The signature here acknowledges only the amount prepaid

CARRIER: SHORT FORM BILL OF LADING MUST ACCOMPANY YOUR INVOICE.

HAZARDOUS MATERIALS

IN CASE OF CHEMICAL EMERGENCY

CALL CHEMTREC: 1-800-424-9300 (subscription through Univar US)

NO. OF UNITS	PKG/TYPE	NET WEIGHT (LBS)	X HM	DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	GROSS WEIGHT (LBS)
1	MINIBULK	10200	X	RQ, UN1791, HYPOCHLORITE SOLUTIONS, 8, PG III, (CONTAINS SODIUM HYPOCHLORITE) (FOR VESSEL TRANSPORT - STOW AWAY FROM ACIDS), (LOT NUMBER _____), (NSF 60 MAXIMUM USE FOR POTABLE WATER 84 MG/L), (RQ=000100), (ERG#154), (SOD HYP0 12.5% LIQ 84MG/L)  NMFC 60000, SUB 0, CLASS 70  1 CARGO TANK  FREEZE -17 F	10200

\*\*\*\*\*  
 \* FWD FRT BILL TO: UNIVAR \*  
 \* PO BOX 34325 \*  
 \* \* \* \* \*  
 \* SEATTLE WA 981241325 \*  
 \*\*\*\*\*

NO. OF PKGS = TOT NET WT = 10200.00 TOT GRS WT = 10200.00

PAGE 1 OF 1

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Where the rates on any of the terms listed below are dependent on released value, the agreed or declared value of the property is hereby specifically stated by the shipper to be the released value per article or per distribution package that results in the lowest transportation charges unless otherwise specified hereon.

This is to certify that the herein-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER INFO VERIFIED BY

*Just Now*

Shipper, Per

Agent

Per



Permanent post-office address of shipper as shown above





VIRTUAL SANTA FE SPRINGS  
12522 LOS NIETOS ROAD  
SANTA FE SPG, CA 90670  
323-837-7002

CUST WHSE: LA  
SHIP WHSE: EH

ORDER DATE	01/13/15
ORDER NUMBER	LA650999

CUSTOMER P.O. NUMBER 4500665692-HYPO

CUSTOMER NO: 740624 002

CURRENCY: USD  
CUSTOMER NO: 740624

SHIP TO

MOJAVE SOLAR LLC  
42134 HARPER LAKE RD  
ALPHA  
  
HINKLEY, CA 92347  
636-519-3680

BILL TO

MOJAVE SOLAR LLC  
1250 SIMMS ST. UNIT 101  
  
LAKEWOOD, CO 80401  
303-323-9138

SHIP DATE	SHIP VIA	FREIGHT TERMS	IN. SALES
01/14/15	IN TRANSIT MATERIAL	PREPAID (HDR FRT - NBH)	EG5K
F.O.B.		DELIVERY CONTACT	DELIVERY PHONE
DELIVERED		KRISTI ROSSMAN EXT 80710	636-519-3680
CREDIT TERMS		OUTSIDE SALES	TAX %
NET 30 DAYS		KEVIN LATTNER	
			DEPT 04

PRODUCT DESCRIPTION	QTY. SHIPPED	QUANTITY B/C
***** ORDER MESSAGES *****		
* SHIPPING *****		
* DELIVERY HOURS: 7:30 AM TO 3:00 PM NO APPT NEEDED		
* NO LOADING DOCK		
* LIFT GATE IS REQUIRED		
* FORK LIFT IS AVAILABLE		
***** BILLING *****		
* MAIL INV: AP.MOJAVESOLARLLC@SOLAR.ABENGOA.COM		
* DRIVER TO DELIVER TO ALPHA COOLING TOWER		
*****		

001	SOD HYPO 12.5% LIQUICHLOR 84MG/L MINIBULK NSF LIO MINIBULK	796956 UNIVAR EPA NO:550-198 1.0000 GL GL	1000 GL	0
002	FUEL SURCHG MINIBULK DLVY **** NA	800281 SPCL CHG 1.0000 EA EA	1 EA	0
003	UNV BULK DLVY CHG **** NA	644037 SPCL CHG 1.0000 EA EA	1 EA	0

\*\* NOTE: SIGNATURE ON THE RECEIVED BY LINE, BELOW, ALSO ACKNOWLEDGES RECEIPT OF A MATERIAL SAFETY DATA SHEET(S) FOR HAZARDOUS CHEMICALS IN THIS SHIPMENT.

NO. OF PKGS = 3 TOT NET WT = 10200.00 TOT GRS WT = 10200.00

3

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DELIVERED BY	FREIGHT AMT.	TOTAL MDSE.	TOTAL QTY.	RECEIVED BY
<i>[Signature]</i>			700	<i>[Signature]</i>



THIS MEMORANDUM is an acknowledgment that a Bill of Lading Has been issued, and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

CARRIER IN TRANSIT MATERIAL DATE 01/14/15 SHIPPER NO. LA650598 CARRIER NO. LA650598

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, and except as provided herein.

FORM



CONSIGNEE TO: 740624  
 MOJAVE SOLAR LLC  
 42134 HARPER LAKE RD 01  
 BETA  
 HINKLEY, CA 92347

SANTA FE SPRINGS  
 12522 LOS NIETOS ROAD  
 SANTA FE SPR, CA 90670  
 800-597-7868

AT #

Subject to Section 7 of conditions of applicable bill of lading. If this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement. The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Univar  
 (Signature of Consignor)

COLLECT ON DELIVERY  
 \$ 00 and remit to:  
 Univar  
 at above address

CHARGES ADVANCED

C.O.D. Charge to be paid by Shipper  Consignee

BULK HOOK-UP  
 OK'D

PLACARDS PROVIDED BY CARRIER  
 YES  NO  
 PROVIDED BY SHIPPER  
 YES  NO

DRIVER SIGNATURE  
 X [Signature]

If charges are to be prepaid, write stamp here. To be Prepaid.

PREPAID

Received \$ \_\_\_\_\_ to apply in prepayment of the charges on the prop described hereon. Agent or Cashier

Per \_\_\_\_\_ The signature here acknowledges only the amount prepaid

The property as described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and designated below. Notwithstanding the carrier's tariffs and the Uniform Straight Bill of Lading and its Terms and Conditions as reflected in the National Motor Freight Classification, carrier agrees to indemnify, defend and hold Univar USA Inc. ("Univar"), and its employees and agents harmless from all claims, penalties, losses, and defense costs of whatever nature (collectively "Losses") resulting from Carrier's negligence or while the goods are in Carrier's possession except to the extent the Losses are caused by Univar's negligence, and Univar agrees to indemnify, defend and hold carrier and its employees and agents harmless from all Losses resulting from Univar's negligence or while the goods are in Univar's possession except to the extent the Losses are caused by carrier's negligence. The carrier agrees to transport to the consigned destination listed above, and not to use another carrier for the shipment unless Univar provides prior written approval. If a broker or freight forwarder arranged for the shipment under this bill of lading, the carrier agrees that its only recourse for payment of the freight charges herein is from the broker or freight forwarder.

CARRIER: SHORT FORM BILL OF LADING MUST ACCOMPANY YOUR INVOICE.

HAZARDOUS MATERIALS

IN CASE OF CHEMICAL EMERGENCY

CALL CHEMTREC: 1-800-424-9300 (subscription through Univar US)

NO. OF UNITS	PKG/TYPE	NET WEIGHT (LBS)	X HM	DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	GROSS WEIGHT (LBS)
1	MINIBULK	3501	X	RQ, UN2796, SULFURIC ACID, 8, PG II, (LOT NUMBER _____), (1 CARGO TANK), (RG#001000), (ERG#157), (SULFURIC 50%)  NMFC 60000, SUB 0, CLASS 70  PRODUCT IS FREEZE THAW ST ABLE FREEZE -30 F	3501

\*\*\*\*\*  
 \* FWD FRT BILL TO: UNIVAR \*  
 \* PO BOX 34325 \*  
 \* \* \* \* \*  
 \* SEATTLE WA 981241325 \*  
 \*\*\*\*\*

NO. OF PKGS = \_\_\_\_\_ TOT NET WT = 3501.00 TOT GRS WT = 3501.00

PAGE 1 OF 1

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Where the rates on any of the terms listed below are dependent on released value, the agreed or declared value of the property is hereby specifically stated by the shipper to be the released value per article or per distribution package that results in the lowest transportation charges unless otherwise specified hereon.

This is to certify that the herein-named materials are properly classified, described, packaged, marked and labeled, and are proper condition for transportation according to the applicable regulations of the Department of Transportation.

ERG INFO VERIFIED BY [Signature]

Shipper, Per [Signature] UNIVAR  
 Agent, Per [Signature] UNIVAR

UNIVAR  
 Permanent post office address of shipper as shown above





SANTA FE SPRINGS  
12522 LOS NIETOS ROAD  
SANTA FE SPR, CA 90670  
800-597-7868

CUST WHSE:LA  
SHIP WHSE:SE

ORDER DATE	01/12/15
ORDER NUMBER	LA650592

CUSTOMER P.O. NUMBER 4500665692

CUSTOMER NO: 740624 003

CURRENCY: USD  
CUSTOMER NO: 740624

**S H I P T O**  
MOJAVE SOLAR LLC  
42134 HARPER LAKE RD 01  
BETA  
  
HINKLEY, CA 92347  
636-519-3680

**B I L L T O**  
MOJAVE SOLAR LLC  
1250 SIMMS ST. UNIT 101  
  
LAKEWOOD, CO 80401  
303-323-9138

SHIP DATE	SHIP VIA	FREIGHT TERMS	IN. SALES
01/14/15	IN TRANSIT MATERIAL	PREPAID (HDR FRT - NBH)	EG5K
F.O.B.		DELIVERY CONTACT	DELIVERY PHONE
DELIVERED		KRISTI ROSSMAN EXT 80710	636-519-3680
CREDIT TERMS NET 30 DAYS		OUTSIDE SALES KEVIN LATTNER	TAX % DEPT 04

PRODUCT DESCRIPTION	QTY. SHIPPED	QUANTITY B/C
***** ORDER MESSAGES *****		
* ***** SHIPPING *****		
* DELIVERY HOURS 7:30 AM TO 3:00 PM NO APPT NEEDED		
* NO LOADING DOCK		
* LIFT GATE IS REQUIRED		
* FORK LIFT IS AVAILABLE		
***** BILLING *****		
* EMAIL INV: AP.MOJAVESOLARLLC@SOLAR.ABENGOA.COM		
*****		
* BUS AUTHORIZATION: WATER TREATMENT		
* FED ID # 46-1741797		
* 2ND ID# 200905210184, CA SECRETARY OF STATE		
*****		
001 SULFURIC ACID 50% 1.400SG MINIBULK SVC TECH LIQ MINIBULK	797901 UNIVAR 1.0000 GL GL	300 GL 0
002 FUEL SURCHG MINIBULK DLVY **** NA	800281 SPCL CHG 1.0000 EA EA	1 EA 0
003 UNV BULK DLVY CHG **** NA	644037 SPCL CHG 1.0000 EA EA	1 EA 0

NO. OF PKGS = \_\_\_\_\_ TOT NET WT = 3501.00 TOT GRS WT = 3501.00

3

TANK Full  
No Delivery

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DELIVERED BY	FREIGHT AMT.	TOTAL MDSE.	TOTAL QTY.	RECEIVED BY
Shard 183	2.00	0.00	302	

THIS MEMORANDUM is an acknowledgment that a Bill of Lading Has been issued, and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

CARRIER IN TRANSIT MATERIAL DATE 01/14/15 SHIPPER NO. CARRIER NO.  
 RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, and except as provided herein. LA650594

**FROM**  
**UNIVAR**  
 CONIGNED TO: 740624  
 MOJAVE SOLAR LLC  
 42134 HARPER LAKE RD  
 ALPHA HINKLEY, CA 92347

AT  
 SANTA FE SPRINGS  
 12522 LOS NIETOS ROAD  
 SANTA FE SPR, CA 90670  
 800-597-7868

Subject to Section 7 of conditions of applicable bill of lading. If this shipment is to be delivered to the consignee without recourse on the consignor the consignor shall sign the following statement. The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

BULK HOOK-UP OK'D **B7**  
**PLACARDS PROVIDED BY CARRIER**  
 YES  NO  
**PROVIDED BY SHIPPER**  
 YES  NO

Univar  
 (Signature of Consignor)

COLLECT ON DELIVERY

DRIVER SIGNATURE

\$ 00 and remit to:  
 Univar at above address

If charges are to be prepaid, write stamp here. To be Prepaid.  
**PREPAID**

\$ CHARGES ADVANCED

Received \$ to apply in prepayment of the charges on the property described hereon. Agent or Cashier

C.O.D. Charge to be paid by Shipper  Consignee

Per The signature here acknowledges only the amount prepaid

CARRIER: SHORT FORM BILL OF LADING MUST ACCOMPANY YOUR INVOICE.

HAZARDOUS MATERIALS IN CASE OF CHEMICAL EMERGENCY CALL CHEMTREC: 1-800-424-9300 (subscription through Univar US)

NO. OF UNITS	PKG/TYPE	NET WEIGHT (LBS)	X HM	DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	GROSS WEIGHT (LBS)
1	MINJBULK	4668	X	RQ, UN2796, SULFURIC ACID, 0, PG II, (LOT NUMBER ) (1 CARGO TANK), (RQ=001000), (ERG#157), (SULFURIC 50%)  NMFC 60000, SUB 0, CLASS 70  PRODUCT IS FREEZE THAW ST. ABLE FREEZE -30 F	4668

HGG

\*\*\*\*\*  
 \* FWD FR T BILL TO: UNIVAR \*  
 \* 24011AD PO BOX 34325 \*  
 \* \* \* \* \*  
 \* SEATTLE WA 981241325 \*  
 \*\*\*\*\*

NO. OF PKGS = TOT NET WT = 4668.00 TOT GRS WT = 4668.00

PAGE 1 OF 1

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Where the rates on any of the terms listed below are dependent on released value, the agreed or declared value of the property is hereby specifically stated by the shipper to be the released value per article or per distribution package that results in the lowest transportation charges unless otherwise specified hereon.

ERG INFO VERIFIED BY *[Signature]*

Shipper, Per *[Signature]*  
 Agent *[Signature]*

UNIVAR  
 UNIVAR

UNIVAR  
 Permanent post office address of shipper as shown above



SANTA FE SPRINGS  
12522 LOS NIETOS ROAD  
SANTA FE SPR, CA 90670  
800-597-7868

CUST WHSE:LA  
SHIP WHSE:SE

ORDER DATE	01/12/15
ORDER NUMBER	LA650594

CUSTOMER P.O. NUMBER 4500665692

CUSTOMER NO: 740624 002

CURRENCY: USD  
CUSTOMER NO: 740624

**SHIP TO**  
MOJAVE SOLAR LLC  
42134 HARPER LAKE RD  
ALPHA  
HINKLEY, CA 92347  
636-519-3680

**BILL TO**  
MOJAVE SOLAR LLC  
1250 SIMMS ST. UNIT 101  
LAKEWOOD, CO 80401  
303-323-9138

SHIP DATE	SHIP VIA	FREIGHT TERMS	IN. SALES
01/14/15	IN TRANSIT MATERIAL	PREPAID (HDR FRT - NBH)	EGSK
F.O.B.		DELIVERY CONTACT	DELIVERY PHONE
DELIVERED		KRISTI ROSSMAN EXT 80710	636-519-3680
CREDIT TERMS		OUTSIDE SALES	TAX %
NET 30 DAYS		KEVIN LATTNER	DEPT 04

PRODUCT DESCRIPTION	QTY. SHIPPED	QUANTITY B/C
***** ORDER MESSAGES *****		
***** SHIPPING *****		
* DELIVERY HOURS 7:30 AM TO 3:00 PM NO APPT NEEDED *		
* NO LOADING DOCK *		
* LIFT GATE IS REQUIRED *		
* FORK LIFT IS AVAILABLE *		
***** BILLING *****		
* MAIL INV: AP.MOJAVESOLARLLC@SOLAR.ABENGOA.COM *		
*****		

001	SULFURIC ACID 50% 1.400SG MINIBULK SVC TECH LIQ MINIBULK	797901 UNIVAR 1.0000 GL	GL	400	0
002	FUEL SURCHG MINIBULK DLVY **** NA	800281 SPCL CHG 1.0000 EA	EA	1	0
003	UNV BULK DLVY CHG **** NA	644037 SPCL CHG 1.0000 EA	EA	1	0

*Handwritten: 224 Gallons*

NO. OF PKGS = \_\_\_\_\_ TOT NET WT = 4668.00 TOT GRS WT = 4668.00

**3**  
215

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DELIVERED BY	FREIGHT AMT.	TOTAL MDSE.	TOTAL QTY.	RECEIVED BY
Std 183	0.00	0.00	402	[Signature]



LOADING

Miles Chemical, Inc.  
12901 Rangoon Street  
Arleta, CA 91331

B/L DATE
01/04/2015
B/L NO.
317454

Page 1 of 1

SHIP TO


WTP Mojave Solar Alpha Plant  
42134 Harper Lake Rd.  
Hinkley, CA 92347-  
USA

SOLD TO

Univar USA, Inc  
2600 S. Garfield  
Los Angeles, CA 90040-  
USA

TRUCK RUN # 1748  
STOP # 2

CUST. NO.	SALES AG.	OPERATOR	REQ. NO.	SHIP VIA	Payment Terms: NET30		
100817	1010	MMILES		MCCI			
CUST. PURCHASE ORDER NO.	SHIP DATE	WHSE.	FREIGHT	FOB REMARK	DATE	CHECKED BY	
4500607316	01/04/2015	ARL	Prepaid	Origin	01/05/2015		

QUANTITY ORDERED	QUANTITY SHIPPED	PACKAGING	H M	DESCRIPTION	NET WEIGHT	GROSS WEIGHT	FRT CLASS
				<u>General Remarks:</u> Delivery Instructions: -Driver call David 30 min prior @661-300-1721 -New drivers are required to take training -Classes are from 7am-3pm -ID badges are issued after training is completed -Driver required to scan badge upon entry and exit -Driver will need an escort to Alpha & Beta sites -Safety shower has alarm notify plant before test  Contact information: Dominika Nowakowski 314-660-5287			
2	2	3200.00 lb Tote 11187-233200	X	UN 2582, FERRIC CHLORIDE, SOLUTION, 8, PG III, ERG 154 Ferric Chloride 42 be (2 Tote) MILES LOT: 10104242 SUPP LOT: QTY: 2 Exp: 12/27/2016	5,120.00#	5,388.00#	
2	2			TOTAL WEIGHT IN LBS: 	5,120.00#	5,388.00#	

Note-Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.  
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding:

per \_\_\_\_\_

This is to verify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

*Michael Miles*  
Signature

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:  
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

*[Signature]*  
(Signature of Consignor)

**FOR CHEMICAL EMERGENCY**  
CCN14811  
**CALL CHEMTREC**  
1-800-424-9300

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.

Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

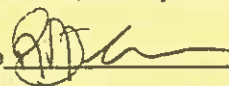
<b>SHIPPER</b>		<b>CARRIER</b>		<b>COD Amt: \$</b>	
Miles Chemical Co. Inc.		PLACARDS OFFERED	PLACARDED <input type="checkbox"/>	FREIGHT CHARGES	
SHIPPER		DRIVER PLEASE INITIAL.	NAME OF PLACARD	Payment Terms	
<i>[Signature]</i>		AGENT		NET30	
OPER		PER			
		TOTAL NO. OF PACKAGES REC'D.			

IN CASE OF CHEMICAL EMERGENCY CALL CHEMTREC @ 1-800-424-9300

QTY	Package	Size	Unit	HM	Residue Last Contained / Product Description	Vendor	Deposit
	Poly UN				Non D.O.T. Regulated		Non Deposit
	Poly UN			X	UN2789, Acetic Acid, 8, PG II, ERG# 132 (Acetic Acid)		
	Poly UN			X	UN2672, Aqua Ammonia, 8, PGII, ERG # 154 (Ammonia Hydroxide)		
3	Poly UN	275g ToTe		X	UN2582, Ferric Chloride, 8, PGIII, ERG # 154 (Ferric Chloride)	MILES	
	Poly UN			X	UN1789, Hydrochloric Acid, 8, PGII, ERG # 157 (Hydrochloric Acid)		
	Poly UN			X	UN1790, Hydrofluoric Acid, Solution, 8, PG I, ERG # 154 (HF Acid)		Non Deposit
	Poly UN			X	UN2014, Hydrogen Peroxide, 5.1, PGII, ERG # 140 (Hydrogen Peroxide)		
	Poly UN			X	UN1805, Phosphoric Acid, 8, PGII, ERG # 154 (Phosphoric Acid)		
	Poly UN			X	UN1908, Sodium Chlorite Solution, 8, PGII, ERG # 154 (Sodium Chlorite 25%)		
	Poly UN			X	UN2922, Sodium Hydrosulfide, Solution, 8, PG III, ERG 154 (Sodium Hydrosulfide)		
	Poly UN			X	UN1824, Sodium Hydroxide, 8, UN1824, PGII, ERG # 154 (Caustic Soda)		
	Poly UN			X	UN1830, Sulfuric Acid, 8, PGII, ERG # 137 (Sulfuric Acid 66be)		
	Poly UN			X	UN2796, Sulfuric Acid, 8, PGII, ERG # 137 (Sulfuric Acid 1%-50%)		
	Poly UN			X	UN1830, Sulfuric Acid, 8, PGII, ERG # 137 (Sulfuric Acid 93%) (PC Grade)		
	Poly UN			X	UN3264, Corrosive Liquid, Acidic, Inorganic, N.O.S., ( Sulfuric Acid, Phosphoric Acid), 8, PG II, ERG # 154 (Phosbrite 174)		
	Poly UN			X	UN1791, Hypochlorite Solution, 8, PGIII, ERG # 154 (Sodium Hypochlorite 12.5%)		
	S.S.			X	UN2031, Nitric Acid, 8, PGII, ERG # 157 (Nitric Acid)		
	S.S. / Steel			X	UN1090, Acetone, 3, PGII, ERG # 127 (Acetone)		
	Steel			X	UN1219, Isopropyl Alcohol, 3, PGII, ERG # 129 (Isopropyl Alcohol)		
	Steel			X	UN1993, Flammable Liquid, N.O.S., (Methanol, Toluene), 3, PG II, ERG # 128 (Lacquer Thinner)		
	Steel			X	UN1193, Methyl Ethyl Ketone, 3, PGII, ERG # 127 (Methyl Ethyl Ketone)		
	Steel			X	UN1173, Methyl Acetate, 3, PGII, ERG # 129 (Methyl Acetate)		
	Steel			X	UN1294, Toluene, 3, PG II, ERG #130 (Toluene)		
	S.S. / Steel			X	UN1230, Methanol, 3, PG II, ERG # 131(Methanol)		
	Poly UN			X	UN3266, CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(AMMONIUM HYDROXIDE, AMMONIUM CHLORIDE), 8, PG III, ERG #154 (High Speed Etch)		Non Deposit
	Steel			X	UN2874, Furfuryl Alcohol, 6.1, PG III, ERG #153 (Furfuryl Alcohol)		
	Steel			X	UN1268, Petroleum Distillate, 3, PG II, ERG# 128		

**EMPTY CONTAINER CERTIFICATION**

I hereby certify these containers are "empty" as that term is defined in the Environmental Protection Agency regulations, 40 CFR 261.7, and they have been properly prepared for transportation under the regulations of the U.S. Department of Transportation, 49 CFR 173.29.

Company Name Univar Customer Number 100817 Date 1-5-19 Signature 

is to certify the above named materials are properly classified, described, packaged, marked, labeled and placarded, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation

Shipper: Miles Chemical Date \_\_\_\_\_ Received by  Date 1-5-15



**STRAIGHT BILL OF LADING**

(SHIPPER/OFFEROR)

**F R O M**  
 Miles Chemical, Inc.  
 12801 Rangoon Street  
 Arleta, CA 91331

B/L DATE
01/04/2015
B/L NO.
317451

Page 1 of 1

**S H I P T O**  
 WTP Mojave Solar Beta Plant  
 42134 Harper Lake Road  
 Hinkley, CA 92347-  
 USA

**S O L D T O**  
 Univar USA, Inc  
 2800 S. Garfield  
 Los Angeles, CA 90040-  
 USA

TRUCK RUN # 1748  
 STOP # 1

CUST. NO.	SALES AG.	OPERATOR	REQ. NO.	SHIP VIA	
100817	1010	MMILES		MCCI	Payment Terms: NET30
CUST. PURCHASE ORDER NO.	SHIP DATE	WHSE.	FREIGHT	FOB REMARK	DATE
4500607316	01/04/2015	ARL	Prepaid	Origin	01/05/2015

QUANTITY ORDERED	QUANTITY SHIPPED	PACKAGING	H M	DESCRIPTION	NET WEIGHT	GROSS WEIGHT	FRT CLASS
		600 Gal		<b>General Remarks:</b> Delivery Instructions: -Driver call David 30 min prior @661-300-1721 -New drivers are required to take training -Classes are from 7am-3pm -ID badges are issued after training is completed -Driver required to scan badge upon entry and exit -Driver will need an escort to Alpha & Beta sites -Safety shower has alarm notify plant before test  Contact information: Dominika Nowakowski 314-650-5287			
1	2	3200.00 lb Tote 11187-233200	X	UN 2582,FERRIC CHLORIDE, SOLUTION, 8, PG III, ERG 154 Ferric Chloride 42 lb (2 Tote) MILES LOT: 10104242 SUPP LOT: QTY: 1 Exp: 12/27/2018	4,480.00#	4,748.00#	
1	2			TOTAL WEIGHT IN LBS:	4,480.00#	4,748.00#	



Note Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.  
 The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding:

This is to verify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.  
*Michael Miles*  
 Signature

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:  
 The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.  
*X Dave Clark*  
 (Signature of Consignor)

**FOR CHEMICAL EMERGENCY  
 CCN14611  
 CALL CHEMTREC  
 1-800-424-9300**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.  
 Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

<b>SHIPPER</b> Miles Chemical Co. Inc.	<b>CARRIER</b> PLACARDS OFFERED DRIVER PLEASE INITIAL.	<b>COD</b> Amt: \$ FREIGHT CHARGES Payment Terms NET30
SHIPPER <i>[Signature]</i>	PLACARDED <input type="checkbox"/> NAME OF PLACARD	
PER <i>[Signature]</i> 1-5-15	AGENT	
	PER	
	TOTAL NO. OF PACKAGES REC'D.	

# CERTIFICATE OF ANALYSIS



**Ferric Chloride 42 be**

<b>ORDER NUMBER</b>
<b>REPORT DATE</b>
01/04/2015

<b>DATE OF MANUFACTURE</b>
12/28/2014
<b>EXPIRATION DATE</b>
12/27/2016

<b>CUSTOMER</b>	<b>CUSTOMER P.O. NUMBER</b>

<b>PRODUCT CODE</b>	<b>PACKAGING</b>	<b>Customer Part #</b>	<b>PRODUCT LOT NUMBER</b>
11187-233200	3,200.00 lb Cage Tote		10104242

<b>SPECIFICATION</b>	<b>SPECIFICATION VERSION</b>	<b>SPECIFICATION DATE</b>	<b>SHIP DATE</b>
standard	1.2000	01/04/2015	

<b>UNITS SHIPPED THIS LOT</b>	<b>WEIGHT PER UNIT</b>	<b>WEIGHT SHIPPED THIS LOT</b>

ANALYTICAL RESULTS		
DETERMINATION	REQUIREMENTS	RESULT
Ferrous Chloride %	0.05 =< Value =< 0.50	0.05 %
Free Acid %	0.00 =< Value =< 1.00	0.85 %
Specific Gravity @68F	1.410 =< Value =< 1.450	1.434
REMARKS		

I certify that the above listed material has been supplied in accordance with the requirements of the purchase order and applicable specifications.

CERTIFIED CORRECT BY:

*Sonyia Villegas*

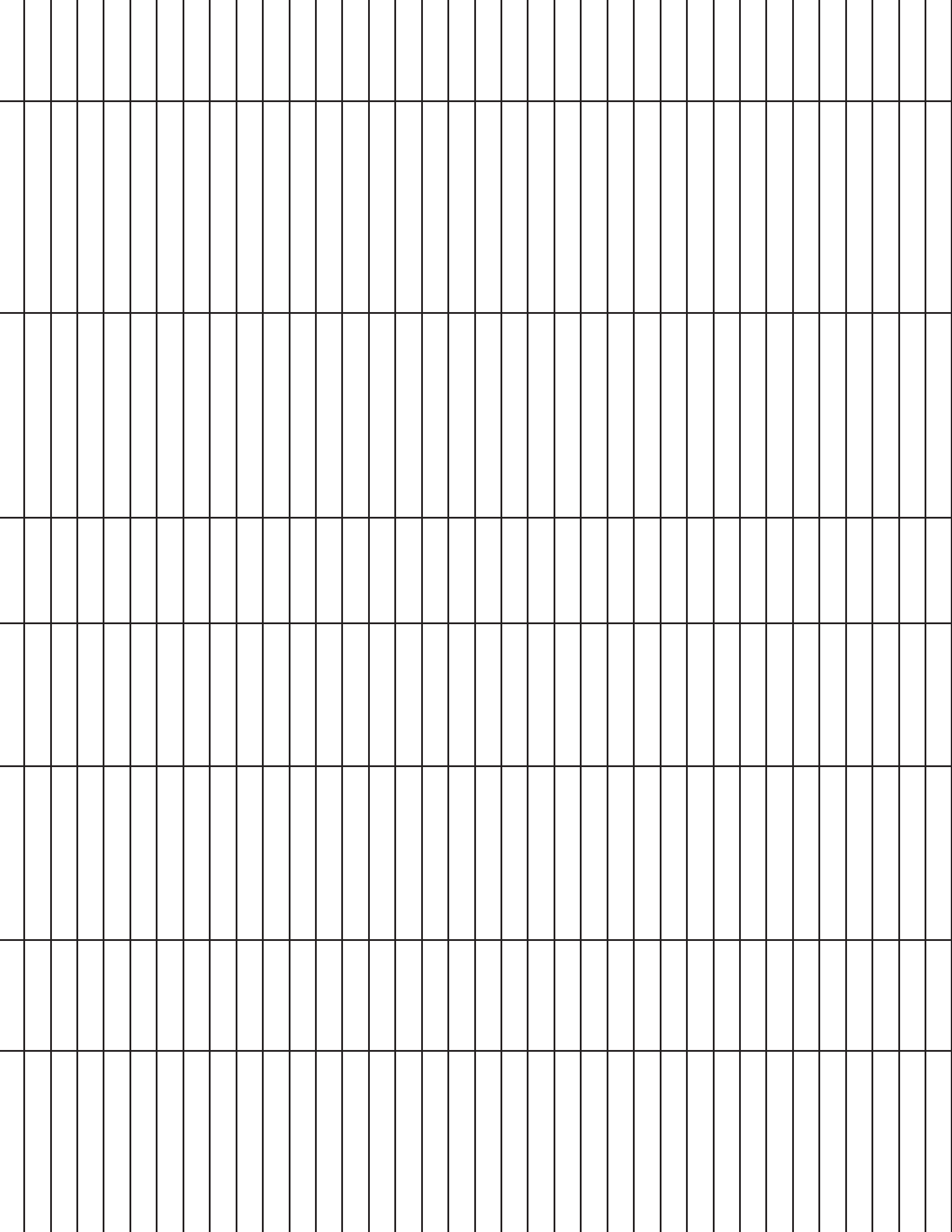
SUPERVISOR -- QUALITY CONTROL

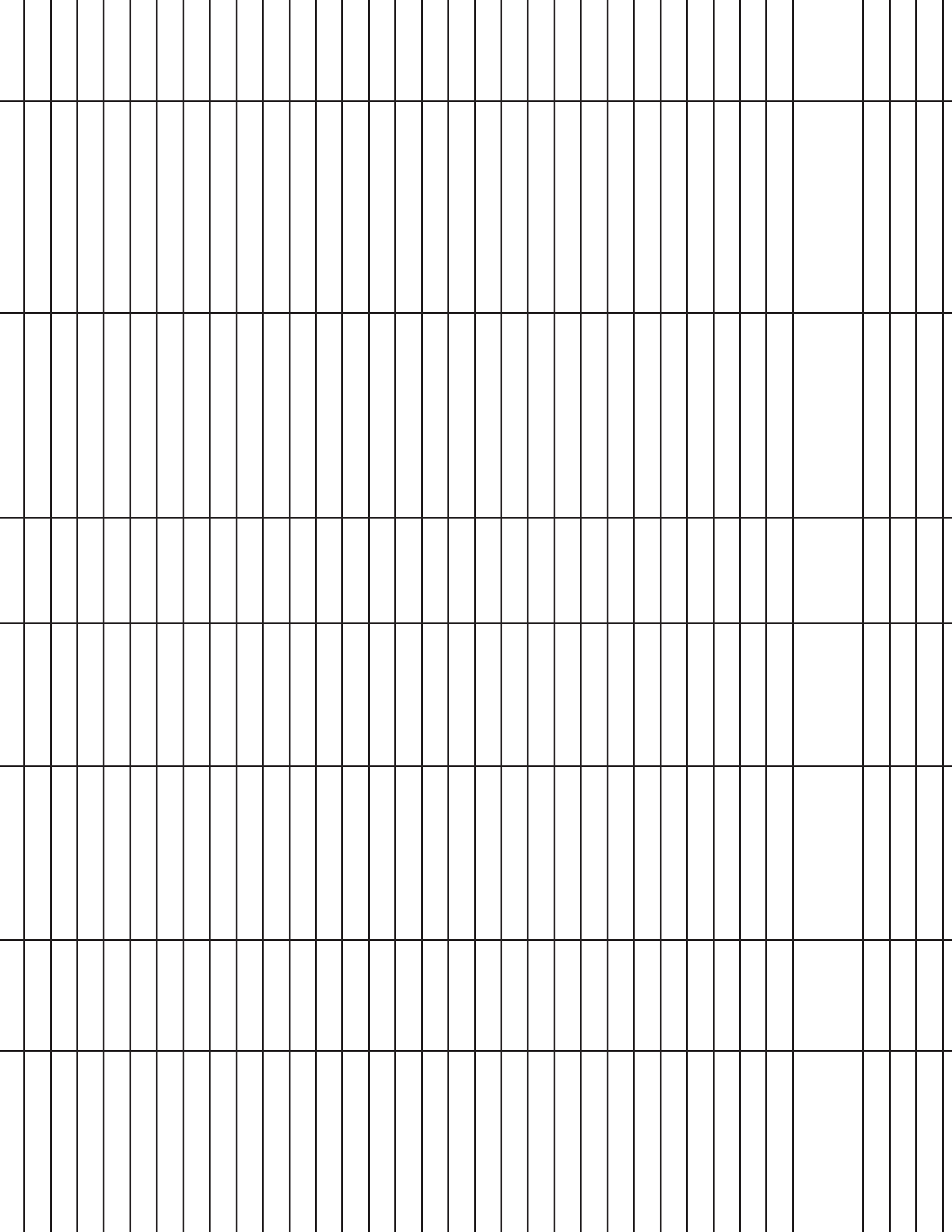


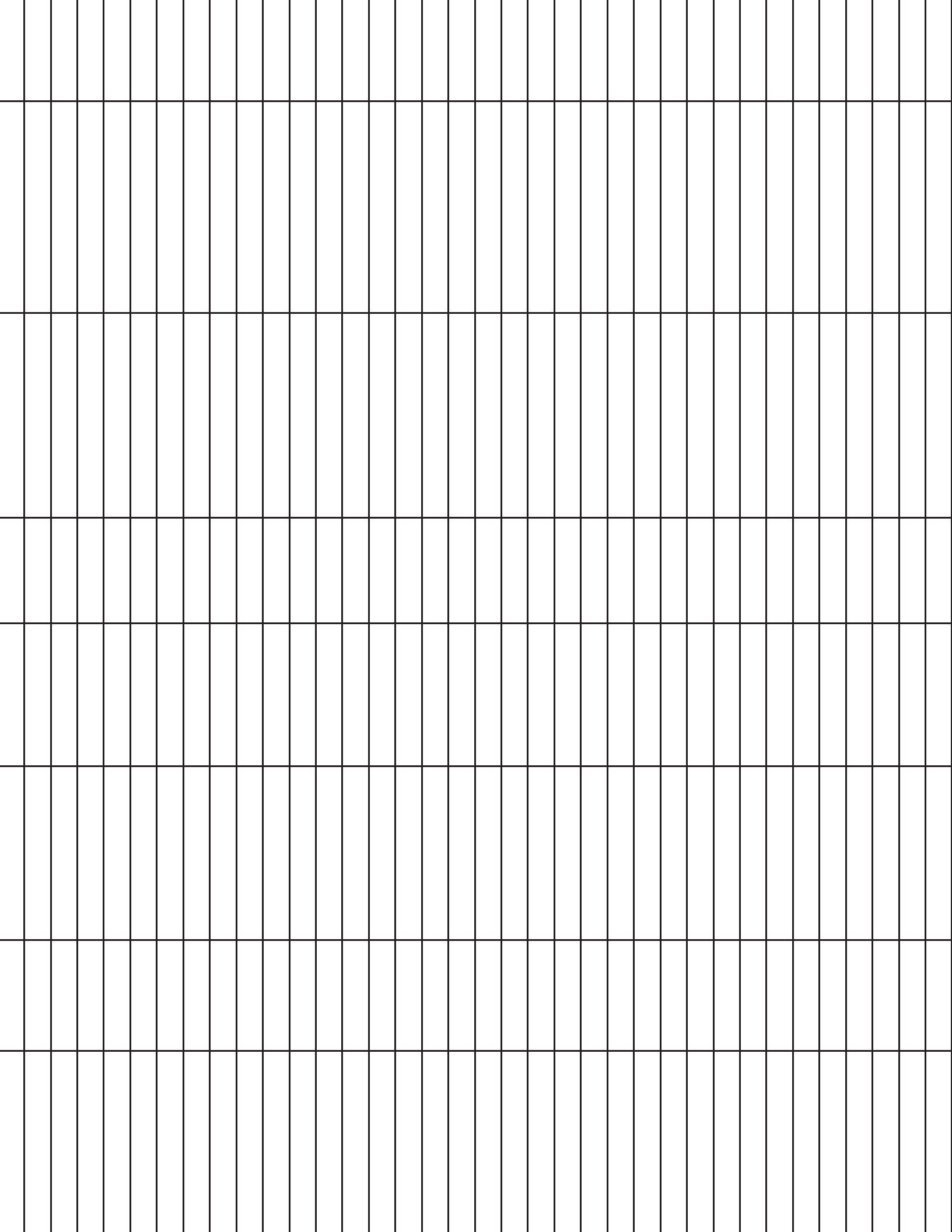


COMMODITY: Industry, VA		RELEASE #:	
PO #: 1A8067241		SPUT LOC:	
LOADING TRUCK: 3503	LOADING TRAILER: 725		
BEGINNING OD READING:	ENDING OD READING:		
WEIGHT TICKET #: 112505686	NET WEIGHT: 50220		
DATE: 1/16/15	APPOINTMENT TIME TO LOAD:	<input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	
ARRIVAL TIME: 09:20	START LOAD: 09:40	END LOAD: 11:00	DEPART LOAD: 11:10
RECORD REASON IF TIME EXCEEDS 1 HR: Had to pressure			
OVER CITY:	DATE: 1/1	DATE: 1/1	
WASHOUT LOCATION:	DATE: 1/1	DATE: 1/1	
OFFICE USE:			
INTRASTATE OPERATIONS ARE SUBJECT TO THE RATES AND REGULATIONS OF THE STATES GOVERNING BODY			
AUTOMATIZATION TO UNLOAD: X		DATE/TIME: 1/16/15 <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	
LOCATION: Silo		RECEIVED BY: X	
DIVISION CODE:		12, N. Kelly, VA	
DROPP/HOOK DRIVER:		CHECKER:	
UNLOADING TRUCK: 3503	UNLOADING TRAILER: 725		
BEGINNING OD READING:	ENDING OD READING:		
WEIGHT TICKET #: 112509626	NET WEIGHT: 52200		
DATE: 1/16/15	APPOINTMENT TIME TO UNLOAD:	<input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	
ARRIVAL TIME: 13:50	START UNLOAD: 13:50	END UNLOAD:	DEPART UNLOAD:
RECORD REASON IF TIME EXCEEDS 1 HR:			
LAYOVER CITY:	DATE: 1/1	DATE: 1/1	
WASHOUT LOCATION:	DATE: 1/1	DATE: 1/1	

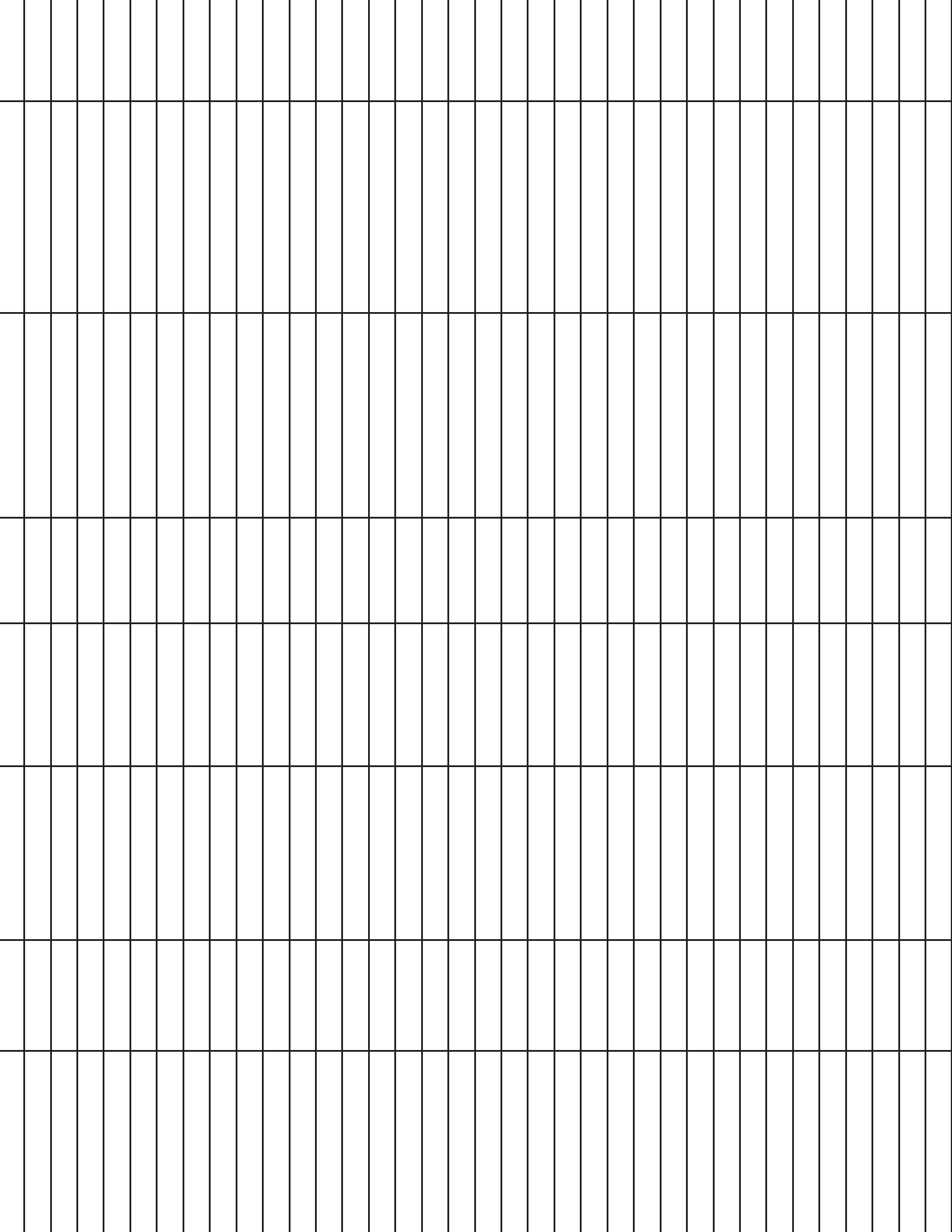














Report Number	Date of Incident	Spill Location	Incident Time	Contractor Responsible	Product	Quantity	Soil Amt Removed	Soil Removed To
1	3.3.14	beta/row128J/3N	3:15pm	Proimtu	Therminol VP1	1/8 Gal.	1 shovel	Barrels /containment
2	3.4.14	beta/row123J/3N	12.15pm	Proimtu	Therminol VP1	1/8 Gal.	1 shovel	Barrels /containment
3	3.11.14	Beta/102I/4N	11.50am	Proimtu	Therminol VP1	1/16 Gal	half shovel	Barrels /containment
4	3.11.14	AE / row110d/3N	3:20pm	Proimtu	Therminol VP1	1/8 Gal.	2 Shovels	Barrels /containment
5	3.11.14	AE / row 110 B / 1N	3:15pm	Proimtu	Therminol VP1	1/8 Gal.	3 shovels	Barrels /containment
6	3.11.14	AE / row 109 H / 3N	4:00pm	Proimtu	Therminol VP1	1/8 Gal.	2 Shovels	Barrels /containment
7	3.12.14	AE / row 109 H / 3N	3:00pm	Proimtu	Therminol VP1	1/8 Gal.	2 Shovels	Barrels /containment
8	3.12.14	AE / row 112 H/ 1N	3:15pm	Proimtu	Therminol VP1	1/8 Gal.	2 Shovels	Barrels /containment
9	3.13.14	AE/row114H / 1N	11:00am	Proimtu	Therminol VP1	1/8 Gal.	2 Shovels	Barrels /containment
10	3.17.14	AE / row 128H /3N	11:00am	Proimtu	Therminol VP1	1/8 Gal.	2 Shovels	Barrels /containment
11	3.17.14	AE / row 128H/2N	11:00am	Proimtu	Therminol VP1	1/8 Gal.	1 shovel	Barrels /containment
12	3.19.14	AE/ row 144F /4S	1:15pm	Proimtu	Therminol VP1	1/8 Gal.	2 Shovels	Barrels /containment
13	3.20.14	AE / row 148G /1N	10:44am	Proimtu	Therminol VP1	1 Pint	1 1/2 Shovels	Barrels /containment
14	3.21.14	AE/row150H/5S	10:50am	Proimtu	Therminol VP1	1/8 Gal.	1 Shovel	Barrels /containment
15	3.21.14	Beta/row70J/2N	4:35pm	Proimtu	Therminol VP1	1/8 Gal.	1 Shovel	Barrels /containment
16	3.22.14	AE/row160EF	10:46am	Proimtu	Therminol VP1	1 Pint	2 Shovels	Barrels /containment
17	3.22.14	AE/row 159G /valve1	10:20am	Proimtu	Therminol VP1	1/2 Pint	1/2 Shovel	Barrels /containment
18	3.24.14	AE/row 164G / HP1ma	10.00am	Proimtu	Therminol VP1	1/2 Pint	2.5 shovels	Barrels /containment
19	3.24.14	AE/ row 168G/3N	3:00pm	Proimtu	Therminol VP1	1/2 Pint	1.5 shovels	Barrels /containment
20	3.24.14	Beta/ row 63J/1N	843pm	Proimtu	Therminol VP1	1/4 pint	1/2 shovel	Barrels /containment
21	3.27.14	AE/ row 184H/54	1005am	Proimtu	Therminol VP1	pint	1 shovel	Barrels /containment
22	3.28.14	AE/row 192F/main line	1035am	Proimtu	Therminol VP1	quart	3 shovels	Barrels /containment
23	3.28.14	AE/row 195H/4N	215pm	Proimtu	Therminol VP1	1/2 pint	1/2 shovel	Barrels /containment
24	3.31.14	BE/row4G/main line	2.50 pm	Proimtu	Therminol VP1	1/2 quart	3 shovels	Barrels /containment
25	4.1.14	BE/row53E/1S	4.30 pm	Proimtu	Therminol VP1	1 pint	2 shovels	Barrels /containment
26	4.1.14	alpha unloading area	3.15 pm	Proimtu	Therminol VP1	1.5 gal	10 shovels	Barrels /containment
27	4.1.14	AW/row 61C/ML	2.30 pm	Proimtu	Therminol VP1	1 quart	4 shovels	Barrels /containment
28	4.1.14	AW/row64D/3 S	2.05 pm	Proimtu	Therminol VP1	1/2 pint	1 shovel	Barrels /containment
29	4.1.14	BE/ row 54E/1N	4.32 pm	Proimtu	Therminol VP1	1 quart	4 shovels	Barrels /containment
30	4.2.14	BE/row60E/2N	1.00 pm	Proimtu	Therminol VP1	1/2 quart	2.5 shovels	Barrels /containment
31	4.2.14	AW/60C / 5N	12.30 pm	Proimtu	Therminol VP1	1/2 quart	2.5 shovels	Barrels /containment
32	4.2.14	AW/59C/3N	11.20am	Proimtu	Therminol VP1	1/2 pint	1.5 shovels	Barrels /containment
33	4.3.14	AW/52D/2S	1030 am	Proimtu	Therminol VP1	1/4 pint	1/4 shovel	Barrels /containment
34	4.4.14	AW/37D/1N	1.00 pm	Proimtu	Therminol VP1	1 pint	1 shovel	Barrels /containment

35	4.4.14	BE/76E/3S	2.05 pm	Proimtu	Therminol VP1	3/4 pint	1 shovel	<b>Barrels /containment</b>
36	4.7.14	BE/row 122G/3N	2.15 pm	Proimtu	Therminol VP1	1 1/2 pint	3 shovels	<b>Barrels /containment</b>
37	4.7.14	BE/row 123 F/4 N	2.15 pm	Proimtu	Therminol VP1	1/2 pint	1 1/2 shovel	<b>Barrels /containment</b>
38	4.8.14	AW / row 25 B / 1 S	10.10 am	Proimtu	Therminol VP1	1/2 quart	5 shovels	<b>Barrels /containment</b>
39	4.8.14	BE/row 118 h / 3 S	11.05 am	Proimtu	Therminol VP1	1/4 pint	1/2 shovel	<b>Barrels /containment</b>
40	4.8.14	BE/ 115 G/ 1S	2.55 pm	Proimtu	Therminol VP1	1/2 pint	2 shovels	<b>Barrels /containment</b>
41	4.9.14	BE/row 109 H / 3N	11.05 am	Proimtu	Therminol VP1	1/2 pint	1 1/2 shovels	<b>Barrels /containment</b>
42	4.9.14	BE/row 105 E/4S	3.06 pm	Proimtu	Therminol VP1	5 drops	1/4 shovel	<b>Barrels /containment</b>
43	4.11.14	BE /row 93f / 4N	9.05am	Proimtu	Therminol VP1	1/8 pint	1 shovel	<b>Barrels /containment</b>
44	4.11.14	BE/row 3 main header	9.30 am	Proimtu	Therminol VP1	3/4 quart	5 shavoel	<b>Barrels /containment</b>
45	4.15.14	AW/row 16e/4N	9.45 am	Proimtu	Therminol VP1	1/8 pint	1/4 shovel	<b>Barrels /containment</b>
46	4.15.14	Alpha overflow	10.00 am	Proimtu	Therminol VP1	1.5 gallon	8 shovels	<b>Barrels /containment</b>
47	4.16.14	BE/row 106D / 5S	12.00pm	Proimtu	Therminol VP1	1 pint	1 shovel	<b>Barrels /containment</b>
48	4.17.14	BE/ row 106 C /5 N	9.30 am	Proimtu	Therminol VP1	1/16 pint	1 shovel	<b>Barrels /containment</b>
49	4.17.14	BE / row 99C/5S	3.30 pm	Proimtu	Therminol VP1	1/16 pint	1 shovel	<b>Barrels /containment</b>
50	4.23.14	BE / row 72A /5N	8.47am	Proimtu	Therminol VP1	1ounce	3 pints	<b>Barrels /containment</b>
51	4.23.14	BE / row 73 C / 5N	8.50 am	Proimtu	Therminol VP1	1 ounce	3 pints	<b>Barrels /containment</b>
52	4.23.14	BE / row 68A/5 N	12.20 pm	Proimtu	Therminol VP1	2 ounces	1 quart	<b>Barrels /containment</b>
53	4.24.14	BE / row 63 a / 5N	9.43 am	Proimtu	Therminol VP1	1/2 pint	1.5 quarts	<b>Barrels /containment</b>
54	4.24.14	BE / row 88E / 5N	11.16 am	Proimtu	Therminol VP1	1/2 Pint	1.75 quarts	<b>Barrels /containment</b>
55	4.25.14	AW / row 83 E / 1N	0830 am	Proimtu	Therminol VP1	1 ounce	1 quart	<b>Barrels /containment</b>
56	4.25.14	Alpha overflow	0900 am	Proimtu	Therminol VP1	1/2 pint	1 quart	<b>Barrels /containment</b>
57	4.28.14	BE / row 45 D /2 N	11.03am	Proimtu	Therminol VP1	5 drops	3 pints	<b>Barrels /containment</b>
58	5.1.14	alpha overflow	11.15am	Proimtu	Therminol VP1	1 pint	1/2 quart	<b>Barrels /containment</b>
59	5.8.14	AE / row 126 efg	12.45 pm	AEPCCommissioning	Therminol VP1	8 gallons	3 barrels	<b>Barrels /containment</b>
60	5.12.14	Beta/row128 abcd	1130am	AEPCCommissioning	Therminol VP1	10 gallons	4 barrels	<b>Barrels /containment</b>
61	5.14.14	Beta overflow	11.00 am	AEPCCommissioning	Therminol VP1	1.5 gallons	12 gallons	<b>Barrels /containment</b>
62	5.14.14	Beta row 101 abcd	11.00 am	AEPCCommissioning	Therminol VP1	3.5gallons	1 barrel	<b>Barrels /containment</b>
63	5.19.14	alpha/ west of WTP	10.00 am	DMI	Gasoline	1/2 cup	1 gallon	<b>Third party manifest</b>
64	5.20.14	TAB / fuel area	8.00 am	Abacus	diesel	2 gallons	20 gallons	<b>Third party manifest</b>
65	5.29.14	Beta/row 64 d	10.20am	AEPCCommissioning	Therminol VP1	28 gallons	Containment	<b>Barrels /containment</b>
66	6.5.14	Alpha BOP	1140am	wood group/gsi	lube oil	5 galons	2 gallons	<b>Third party manifest</b>
67	6.11.14	alpha east/rack 2	9.15 am	AEPC commissioning	Therminol VP1	1/2 gallon	10 gallons	<b>Barrels /containment</b>
68	6.12.14	Beta SE corner of STG	9.40 am	AEPC commissioning	Therminol VP1	1 pint	2 1/2 gallons	<b>Barrels /containment</b>
69	6.20.14	AE row 27 B hitf main	7.30 am	AEPC commissioning	Therminol VP1	2 gallons	45 gallons	<b>Barrels /containment</b>
70	6.23.14	APB / bldg 34	9.15 am	AEPC commissioning	Battery electrolyte	1 gallons	15 gallons	<b>Barrels /containment</b>
71	6.24.14	Brand Office	845 am	United Rentals	Diesel # 2	1 1/2 gallons	5 gallons	<b>Third party manifest</b>

72	6.25.14	APB / bldg 34	5.50 am	AEPC commissioning	Battery electrolyte	1/2 gallon	5 gallons	<b>Third party manifest</b>
73	7.10.14	AE row 110 D3N	10.15 am	AEPC commissioning	Therminol VP1	1 ounce	1 quart	<b>Barrels /containment</b>
74	7.15.14	P1 HTF heaser Alpha	820 am	AEPC commissioning	Therminol VP1	1/2 quart	1 gallon	<b>Barrels /containment</b>
75	7.25.14	Beta PB HTF Pumps	1.30 am	AEPC commissioning	Therminol VP1	15 gallons	40 barrels	<b>Barrels /containment</b>
76	8.9.14	Alpha main header P3	11.45 am	AEPC commissioning	Therminol VP1	1/2 gallon	25 gallons	<b>Barrels /containment</b>
77	8.13.14	Beta lube oil area	750 am	Wood Group	Lube oil	4 gallons	0	<b>Third party manifest</b>
78	9.1.14	Alpha bldg 22 gen.	545 pm	Good speed refuel	#2 diesel	2.5 gallons	15 gallons	<b>Third party manifest</b>
79	9.1.14	Beta rack 1/AWP	545 pm	Abacus	Hyd oil	1 gallon	15 Gallons	<b>Third party manifest</b>
80	9.2.14	Alpha PB	800	Good speed refuel	#2 diesel	2.5	25 Gallons	<b>Third party manifest</b>
81	9.3.14	Beta row 70 LK	1145 am	AEPC commissioning	Therminol VP1	1/2 pint	2.5 gallons	<b>Barrels /containment</b>
82	9.5.14	AE/row 115 EFGH	10.00 am	AEPC commissioning	Therminol VP1	1/2 pint	2 quarts	<b>Barrels /containment</b>
83	9.6.14	AE/exp vessels ne	135 pm	AEPC commissioning	Therminol VP1	8 gallons	6 barrels	<b>Barrels /containment</b>
84	7.1414	APB/P4 bypass	0930 am	AEPC commissioning	Therminol VP1	8 gallons	2 barrels	<b>Barrels /containment</b>
85	7.1514	APB/P3 HTF header	0815am	AEPC commissioning	Therminol VP1	1/2 Gallon	2 1/2 gallons	<b>Barrels /containment</b>
86	9.12.14	APB /Bldg 22	0800 am	Good speed refuel	#2 diesel	5 gallons	55 gallon barre	<b>Third party manifest</b>
87	9.12.14	APB/WS bldg 26	0800 am	Good speed refuel	#2 diesel	3 gallons	1 1/2 barrels	<b>Third party manifest</b>
88	9.12.14	APB/SWYD	0800 am	Good speed refuel	#2 diesel	2.5 gallons	55 gallon barre	<b>Third party manifest</b>
89	9.30.14	Alpha laydown south	11:52 AM	AEPC / Abacus	Battery Acid	5 gallons	40 gallons	<b>Third party manifest</b>
90	10.7.14	AE/row 196 H 3 N	2.20 pm	AEPC commissioning	Therminol VP1	1 pint	5 gallons	<b>Barrels /containment</b>
91	10.8.14	Beta WTP east side	930 am	Abacus	#2 diesel	1/2 gallon	32 gallons	<b>Third party manifest</b>
92	10.8.14	Beta WTP North side	9.35 am	Abacus	#2 diesel	1 1/2 gallons	30 gallons	<b>Third party manifest</b>
93	10.10.14	Alpha PB / SE corner EV	140pm	AEPC commissioning	Therminol VP1	1 1/4 gallons	15 gallons	<b>Barrels /containment</b>
94	10.10.14	Beta west side bldg 26	2.00 pm	Good speed refueling	# 2 diesel	5 gallons	55 gallons	<b>Third party manifest</b>
95	10.13.14	Beta S./fitters fab area	10.45 am	Abacus	Gasoline	3 gallons	30 gallons	<b>Third party manifest</b>
96	10.13.14	BOP W. main road gen	10.45 am	Abacus	# 2 diesel	1 gallon	25 gallons	<b>Third party manifest</b>
97	10.19.14	BE ,row 46E north	5.27 pm	AEPC commissioning	Therminol VP1	1 pint	one gallon	<b>Barrels /containment</b>
98	10.27.14	BE row 58 I / J 1South	10.45 am	AEPC commissioning	Therminol VP1	1 pint	1/2 gallon	<b>Barrels /containment</b>
99	10.27.14	BE 74 E 2-3 South	4.30 pm	AEPC commissioning	Therminol VP1	1 pint	1/2 gallon	<b>Barrels /containment</b>
100	10.28.14	BW row 34 H 2 South	10.35 am	AEPC commissioning	Therminol VP1	1 pint	1/2 gallon	<b>Barrels /containment</b>
101	11.2.14	BE row 78 I /1 north	9.00am	AEPC commissioning	Therminol VP1	1 pint	10 gallons	<b>Barrels /containment</b>
102	11.2.14	AW row 78 E / 4 north	9.30 am	AEPC commissioning	Therminol VP1	1 pint	2 1/2 gallons	<b>Barrels /containment</b>
103	11.7.14	AW west of ASLLC yard	2.50 pm	United Rentals	# 2 diesel	2 gallons	55 gallons	<b>Third party manifest</b>
104	11.9.14	AW row 34 C / N3	2.45 pm	AEPC commissioning	Therminol VP1	1 Gallon	55 Gallons	<b>Barrels /containment</b>
105	11.18.14	AW / ASLLC yard	10.30 am	ASLLC	HYD fluid	2.5 gallons	110 gallons	<b>Third party manifest</b>
106	12.8.14	AE/HTF MAIN PUMPS	07.00 am	Beck Oil	#2 diesel	2 Gallons	22.5 gallons	<b>Barrels /containment</b>
107	12.9.14	BE/57&58 e&f	07.00 am	AEPC commissioning	Therminol VP1	.75 GALLON	32.5 GALLONS	<b>Barrels /containment</b>
108	12.23.14	South expansion vessel eastside in beta	12.00pm	AEPC commissioning	Therminol VP1	10 gallons	100 Gallons	<b>Barrels /containment</b>



# ABENER TEYMA MOJAVE

## LETTER OF TRANSMITTAL

**Date:** January 21, 2015  
**Subject:** Mojave Solar Project  
**Condition Number:** WASTE-10  
**Reference:** HTF Contaminated Soil Analysis  
**To:** Mr. Dale Rundquist, CPM  
California Energy Commission

### WE ARE SENDING YOU

- Attached       Under separate cover via \_\_\_\_\_ the following items:
- Shop Drawings     Prints                     Plans                     Samples     Specifications  
 Copy of Letter     Change Order

COPIES	DATE	NO.	DESCRIPTION
1	1/21/15	1	Cover Letter to CEC
1	1/16/15	1	Spill Lab Results from June 2014 through December 2014

THESE ARE TRANSMITTED as checked below:

- For Approval                                     Approved as submitted  
 For your use                                     Approved as noted  
 As requested                                     Returned for corrections  
 For review                                         For review and comment

REMARKS \_\_\_\_\_

COPY TO: File                                    SIGNED BY: \_\_\_\_\_



Steven Pochmara  
**ABEINSA EPC**

# ABENER TEYMA MOJAVE

13911 Park Ave, Suite 208  
Victorville, CA 92392  
Phone: 480-287-1419

---

**Subject:** Mojave Solar Project (09-AFC-5C)  
**Condition No.:** WASTE-10  
**Description:** HTF Contaminated Soil Lab Results  
**Submittal No.:** WASTE10-09-00

---

January 21, 2015

Mr. Dale Rundquist, CPM  
California Energy Commission  
1516 Ninth Street (MS-2000)  
Sacramento, CA 95814  
[drundqui@energy.state.ca.us](mailto:drundqui@energy.state.ca.us)

Dear Mr. Rundquist,

Please see attached showing lab results for the HTF contaminated soil per condition of certification WASTE-10. Lab tests were run to test for both biphenyl and diphenyl as called for in the compliance. Separate samples are included for each month from July 2014 through December 2014.

Should you have any questions or need any additional information, please do not hesitate to contact me.

Sincerely,



Steven Pochmara  
**ABEINSA EPC**  
13911 Park Ave, Suite 208  
Victorville, CA 92392  
Cell: (480) 287-1419

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-99064-1

Client Project/Site: FPL Kramer Junction, Mojave Solar

For:

Environmental & Chemical Consulting

1431 South Gage St

San Bernardino, California 92408

Attn: Mike Gurnee



Authorized for release by:

1/16/2015 8:56:18 PM

Patty Mata, Senior Project Manager

(949)261-1022

[patty.mata@testamericainc.com](mailto:patty.mata@testamericainc.com)

### LINKS

Review your project  
results through

Total Access

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Sample Summary

Client: Environmental & Chemical Consulting  
Project/Site: FPL Kramer Junction, Mojave Solar

TestAmerica Job ID: 440-99064-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-99064-1	July	Solid	01/14/15 10:00	01/15/15 10:16
440-99064-2	Aug	Solid	01/14/15 10:00	01/15/15 10:16
440-99064-3	Sept	Solid	01/14/15 10:00	01/15/15 10:16
440-99064-4	Oct	Solid	01/14/15 10:00	01/15/15 10:16
440-99064-5	Nov	Solid	01/14/15 10:00	01/15/15 10:16
440-99064-6	Dec	Solid	01/14/15 10:00	01/15/15 10:16

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# Case Narrative

Client: Environmental & Chemical Consulting  
Project/Site: FPL Kramer Junction, Mojave Solar

TestAmerica Job ID: 440-99064-1

**Job ID: 440-99064-1**

**Laboratory: TestAmerica Irvine**

## Narrative

### Job Narrative 440-99064-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/15/2015 10:16 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2° C.

#### GC Semi VOA

Method(s) 8015B: The following samples required dilution due to the nature of the sample matrix: Aug (440-99064-2), July (440-99064-1), Sept (440-99064-3), Dec (440-99064-6), Nov (440-99064-5), Oct (440-99064-4). Because of dilution, the surrogate spike concentration in each sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8015B: The source sample for the MS/MSD associated with batch 230260 was diluted due to abundance of target analytes. As such, surrogate and MS/MSD spike recoveries were diluted out and are not reported. LCS recovery for the batch was within acceptance limits.

Method(s) 8015B: The method blank for batch 230260 contained 1,1'-oxybisbenzene above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because sample results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.





# Client Sample Results

Client: Environmental & Chemical Consulting  
 Project/Site: FPL Kramer Junction, Mojave Solar

TestAmerica Job ID: 440-99064-1

## Client Sample ID: July

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

Lab Sample ID: 440-99064-1

Matrix: Solid

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	15000	B	2000	mg/Kg		01/16/15 11:30	01/16/15 16:26	1000
1,1'-Biphenyl	6300		2000	mg/Kg		01/16/15 11:30	01/16/15 16:26	1000
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
n-Octacosane	0	X	40 - 140			01/16/15 11:30	01/16/15 16:26	1000

## Client Sample ID: Aug

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

Lab Sample ID: 440-99064-2

Matrix: Solid

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	8800	B	2000	mg/Kg		01/16/15 11:30	01/16/15 17:05	1000
1,1'-Biphenyl	3500		2000	mg/Kg		01/16/15 11:30	01/16/15 17:05	1000
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
n-Octacosane	0	X	40 - 140			01/16/15 11:30	01/16/15 17:05	1000

## Client Sample ID: Sept

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

Lab Sample ID: 440-99064-3

Matrix: Solid

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	14000	B	2000	mg/Kg		01/16/15 11:30	01/16/15 17:25	1000
1,1'-Biphenyl	6000		2000	mg/Kg		01/16/15 11:30	01/16/15 17:25	1000
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
n-Octacosane	0	X	40 - 140			01/16/15 11:30	01/16/15 17:25	1000

## Client Sample ID: Oct

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

Lab Sample ID: 440-99064-4

Matrix: Solid

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	11000	B	2000	mg/Kg		01/16/15 11:30	01/16/15 17:45	1000
1,1'-Biphenyl	5000		2000	mg/Kg		01/16/15 11:30	01/16/15 17:45	1000
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
n-Octacosane	0	X	40 - 140			01/16/15 11:30	01/16/15 17:45	1000

## Client Sample ID: Nov

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

Lab Sample ID: 440-99064-5

Matrix: Solid

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	22000	B	3900	mg/Kg		01/16/15 11:30	01/16/15 17:45	2000
1,1'-Biphenyl	9700		2000	mg/Kg		01/16/15 11:30	01/16/15 16:45	1000

TestAmerica Irvine

# Client Sample Results

Client: Environmental & Chemical Consulting  
 Project/Site: FPL Kramer Junction, Mojave Solar

TestAmerica Job ID: 440-99064-1

## Client Sample ID: Nov

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

## Lab Sample ID: 440-99064-5

Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	0	X	40 - 140	01/16/15 11:30	01/16/15 16:45	1000

## Client Sample ID: Dec

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

## Lab Sample ID: 440-99064-6

Matrix: Solid

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	4600	B	990	mg/Kg		01/16/15 11:30	01/16/15 17:05	500
1,1'-Biphenyl	2100		990	mg/Kg		01/16/15 11:30	01/16/15 17:05	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	0	X	40 - 140	01/16/15 11:30	01/16/15 17:05	500

# Method Summary

Client: Environmental & Chemical Consulting  
Project/Site: FPL Kramer Junction, Mojave Solar

TestAmerica Job ID: 440-99064-1

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL IRV

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



# Lab Chronicle

Client: Environmental & Chemical Consulting  
 Project/Site: FPL Kramer Junction, Mojave Solar

TestAmerica Job ID: 440-99064-1

## Client Sample ID: July

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

## Lab Sample ID: 440-99064-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.09 g	1 mL	230260	01/16/15 11:30	AMR	TAL IRV
Total/NA	Analysis	8015B		1000	15.09 g	1 mL	230201	01/16/15 16:26	CN	TAL IRV

## Client Sample ID: Aug

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

## Lab Sample ID: 440-99064-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.23 g	1 mL	230260	01/16/15 11:30	AMR	TAL IRV
Total/NA	Analysis	8015B		1000	15.23 g	1 mL	230201	01/16/15 17:05	CN	TAL IRV

## Client Sample ID: Sept

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

## Lab Sample ID: 440-99064-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.23 g	1 mL	230260	01/16/15 11:30	AMR	TAL IRV
Total/NA	Analysis	8015B		1000	15.23 g	1 mL	230201	01/16/15 17:25	CN	TAL IRV

## Client Sample ID: Oct

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

## Lab Sample ID: 440-99064-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.26 g	1 mL	230260	01/16/15 11:30	AMR	TAL IRV
Total/NA	Analysis	8015B		1000	15.26 g	1 mL	230200	01/16/15 17:45	KW	TAL IRV

## Client Sample ID: Nov

Date Collected: 01/14/15 10:00

Date Received: 01/15/15 10:16

## Lab Sample ID: 440-99064-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.19 g	1 mL	230260	01/16/15 11:30	AMR	TAL IRV
Total/NA	Analysis	8015B		1000	15.19 g	1 mL	230200	01/16/15 16:45	KW	TAL IRV
Total/NA	Prep	3546			15.19 g	1 mL	230260	01/16/15 11:30	AMR	TAL IRV
Total/NA	Analysis	8015B		2000	15.19 g	1 mL	230201	01/16/15 17:45	CN	TAL IRV

# Lab Chronicle

Client: Environmental & Chemical Consulting  
Project/Site: FPL Kramer Junction, Mojave Solar

TestAmerica Job ID: 440-99064-1

**Client Sample ID: Dec**

**Lab Sample ID: 440-99064-6**

**Date Collected: 01/14/15 10:00**

**Matrix: Solid**

**Date Received: 01/15/15 10:16**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.18 g	1 mL	230260	01/16/15 11:30	AMR	TAL IRV
Total/NA	Analysis	8015B		500	15.18 g	1 mL	230200	01/16/15 17:05	KW	TAL IRV

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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# QC Sample Results

Client: Environmental & Chemical Consulting  
 Project/Site: FPL Kramer Junction, Mojave Solar

TestAmerica Job ID: 440-99064-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

**Lab Sample ID: MB 440-230260/1-A**

**Matrix: Solid**

**Analysis Batch: 230200**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 230260**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	3.08		2.0	mg/Kg		01/16/15 11:30	01/16/15 16:06	1
1,1'-Biphenyl	ND		2.0	mg/Kg		01/16/15 11:30	01/16/15 16:06	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	97		40 - 140			01/16/15 11:30	01/16/15 16:06	1

**Lab Sample ID: LCS 440-230260/2-A**

**Matrix: Solid**

**Analysis Batch: 230200**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 230260**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene, 1,1'-oxybis-	6.67	6.49		mg/Kg		97	45 - 115
1,1'-Biphenyl	6.67	7.43		mg/Kg		111	45 - 115
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
<i>n</i> -Octacosane	95		40 - 140				



# QC Association Summary

Client: Environmental & Chemical Consulting  
 Project/Site: FPL Kramer Junction, Mojave Solar

TestAmerica Job ID: 440-99064-1

## GC Semi VOA

### Analysis Batch: 230200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-99064-4	Oct	Total/NA	Solid	8015B	230260
440-99064-5	Nov	Total/NA	Solid	8015B	230260
440-99064-6	Dec	Total/NA	Solid	8015B	230260
LCS 440-230260/2-A	Lab Control Sample	Total/NA	Solid	8015B	230260
MB 440-230260/1-A	Method Blank	Total/NA	Solid	8015B	230260

### Analysis Batch: 230201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-99064-1	July	Total/NA	Solid	8015B	230260
440-99064-2	Aug	Total/NA	Solid	8015B	230260
440-99064-3	Sept	Total/NA	Solid	8015B	230260
440-99064-5	Nov	Total/NA	Solid	8015B	230260

### Prep Batch: 230260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-99064-1	July	Total/NA	Solid	3546	
440-99064-2	Aug	Total/NA	Solid	3546	
440-99064-3	Sept	Total/NA	Solid	3546	
440-99064-4	Oct	Total/NA	Solid	3546	
440-99064-5	Nov	Total/NA	Solid	3546	
440-99064-6	Dec	Total/NA	Solid	3546	
LCS 440-230260/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 440-230260/1-A	Method Blank	Total/NA	Solid	3546	



## Definitions/Glossary

Client: Environmental & Chemical Consulting  
Project/Site: FPL Kramer Junction, Mojave Solar

TestAmerica Job ID: 440-99064-1

### Qualifiers

#### GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
X	Surrogate is outside control limits

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Environmental & Chemical Consulting  
 Project/Site: FPL Kramer Junction, Mojave Solar

TestAmerica Job ID: 440-99064-1

## Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-15 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-15 *
Hawaii	State Program	9	N/A	01-29-15 *
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-15 *
USDA	Federal		P330-09-00080	06-06-15
USEPA UCMR	Federal	1	CA01531	01-31-15

\* Certification renewal pending - certification considered valid.



**TestAmerica Irvine**  
 17461 Berian Ave  
 Suite 100  
 Irvine, CA 92614  
 Phone: 949.261.1022 Fax:

**Chain of Custody Record**

072146

**TestAmerica**  
 THE LEADER IN ENVIRONMENTAL TESTING  
 TestAmerica Laboratories, Inc.  
 TAL-8210 (07/13)

Regulatory Program:  DW  NPDES  RCRA  Other:

Client Contact  
 Company Name: ECC  
 Address: PO Box 3263  
 City/State/Zip: RESILINE, CA 92325  
 Phone: 888-380-8664  
 Fax:  
 Project Name: MOJAVE SOLAR  
 Site: BETA  
 PO #

Project Manager: MIKE GURRIGS  
 Site Contact: MIKE GURRIGS  
 Lab Contact: MIKE GURRIGS  
 Date: \_\_\_\_\_  
 Carrier: \_\_\_\_\_

Analysis Turnaround Time  
 CALENDAR DAYS  WORKING DAYS  
 TAT if different from Below \_\_\_\_\_  
 2 weeks  
 1 week  
 2 days  
 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Sample Specific Notes:
JULY	1/14	1000	G		1			* FOR HTF FLUID INFO: PATELY MATTA
AUG								
SEPT								
DOCT								
NOV								
DEC								



**Preservation Used:** 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other \_\_\_\_\_  
**Possible Hazard Identification:**  
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

**Special Instructions/QC Requirements & Comments:**

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months

Cooler Temp. (°C): Obs'd: \_\_\_\_\_ Therm ID No.: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Company: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Company: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: [Signature] Laboratory by: TA-I Date/Time: 1-15-15 1014

1  
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3.0/2.2.6 IR-73

## Login Sample Receipt Checklist

Client: Environmental & Chemical Consulting

Job Number: 440-99064-1

**Login Number: 99064**

**List Number: 1**

**Creator: Chy, Jonathan**

**List Source: TestAmerica Irvine**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# ABENGOA

Steven Pochmara

01/29/2015 02:16 PM

Send To	drundqui@energy.state.ca.us, drundqui@energy.ca.gov, "Dennis, Christopher@Energy" <Christopher.Dennis@energy.ca.gov>, ellie.townsend-hough@energy.ca.gov
cc	Manjunath Shivalingappa/AbeinsaEPC/Abengoa@Abengoa, Sowjanya Chintalapati/AbeinsaEPC/Abengoa@ABENGOA, Vernon Leeming/AbeinsaEPC/Abengoa@Abengoa, Kathleen Sullivan/Solar/Abengoa@Abengoa, Nicholas Potrovitza/Solar/Abengoa@Abengoa, José Manuel Bravo
bcc	
Subject	WASTE-10 Waste Classification Report for Soil Impacted by HTF

Good Afternoon Dale,  
Our environmental staffs have reviewed the CEC Memo received on January 21, 2015 and have some questions, please see below.  
Regards,  
Steve

---

Dale, Chris, and Ellie,

We are in receipt of the above-referenced Memorandum dated January 21, 2015.

The memo indicates there were some deficiencies in the classification submitted, and that additional information is required to address those deficiencies. Does this mean that the six (6) requests listed are for the next samples to be collected? Or what is the intent? Is this intended to be the sampling protocol for all samples for the life of the facility?

Before we proceed further in evaluating these requests, we need to understand the CEC's intentions.

Thank you,

---

Regards,


Manjunath Shivalingappa - Environmental Engineer

## ABENGOA

### Abeinsa

Abener Teyma Mojave General Partnership  
42134 Harper Lake road  
Hinkley, CA 92347  
Phone: (602) 282- 4103 (84613) Cell: (480) 768- 7793 Fax: +13142755801  
[manjunath.shivalingappa@abeinsaepc.abengoa.com](mailto:manjunath.shivalingappa@abeinsaepc.abengoa.com)



 Eco-Tip: Printing e-mails is usually a waste.

Regards,

Steven Pochmara - Permit Manager

**ABENGOA**

**Abeinsa**

Teyma - Phoenix - Arizona - USA

13911 Park Avenue, Suite 208

Victorville, CA 92392

Phone: +13142751312 Cell: +14802871419 Fax: +16022659360

[Steven.Pochmara@teyma.abengoa.com](mailto:Steven.Pochmara@teyma.abengoa.com)

[www.teyma.com](http://www.teyma.com)

 Eco-Tip: Printing e-mails is usually a waste.

## SWPPP SUMMARY- January, 2015

1. Fiber rolls: total installed 24,730ft. No maintenance was required the month of January.
2. Swales: total installed 16219 ft. No maintenance required during the month of January.
3. Street sweeping and construction entrances maintenance. Sweeping duties performed weekly and as necessary.
4. Trash collection being taken care of on a daily basis.
5. 2 concrete washout station (1 in beta and 1 in alpha).
6. Dust control - Watering the site with trucks on a daily basis.
7. 0 inches of sand build up on straw wattle

**CONSTRUCTION SITE STORMWATER RUNOFF CONTROL INSPECTION FORM** Page 1 of

CORRECTIONS REQUIRED PRIOR TO NEXT INSPECTION?										YES	<input checked="" type="radio"/> NO	N/A			
PROJECT INFORMATION										INSPECTION INFORMATION					
WDID #	6	B	3	6	C	3	6	1	7	2	1	DATE:	1/5/15	TIME:	12:00
NAME: Mojave Solar Project										PRE-STORM	POST-STORM	<input checked="" type="radio"/> WEEKLY	EXTENDED STORM		
ADDRESS: 42134 Harper Lake Rd, Hinkley, CA 92347										RAIN >1/2"	<input checked="" type="radio"/> None	Light	Moderate	Heavy	
CONTRACTOR: Abener Teyma Mojave										WIND >15mph:	<input checked="" type="radio"/> None	Light	Moderate	Heavy	
ON-SITE CONTACT: Alberto Salas										TEMPERATURE:	LOW	34	HIGH	62	

**INSPECTION CHECKLIST**

Stormwater Pollution Prevention Plan	Yes	No	Comments
1. Is the SWPPP binder and/or DESCP on site and accessible?	<input checked="" type="checkbox"/>		Supplemental Form Attached? YES NO NOTE: THE "CONSTRUCTION SITE STORMWATER RUNOFF CONTROL INSPECTION FORM" IS THE ONLY FORM IN USE FOR INSPECTIONS DOCUMENTATION FOR THIS PROJECT.  STORM ACTIVITY: DEFICIENCIES:
2. Does the site have a WDID No.?	<input checked="" type="checkbox"/>		
3. Does the SWPPP address the minimum BMP requirements?	<input checked="" type="checkbox"/>		
4. Are amendments to the SWPPP clearly documented and dated?	<input checked="" type="checkbox"/>		
5. Is the current SWPPP complete?	<input checked="" type="checkbox"/>		
6. Does the SWPPP include a current map accurately indicating BMPs installed at the site?	<input checked="" type="checkbox"/>		
7. Is routine BMP inspection and maintenance documentation on file?	<input checked="" type="checkbox"/>		

Soil Stabilization Practices	Yes	No	Comments
8. Are BMPs implemented on inactive disturbed areas?	<input checked="" type="checkbox"/>		Alpha West
9. Are implemented BMPs effectively stabilizing soil?	<input checked="" type="checkbox"/>		Alpha East
Are BMP materials stockpiled and available for use?	<input checked="" type="checkbox"/>		Beta West
11. Was any erosion observed?	<input checked="" type="checkbox"/>		Beta East

Sediment Control Practices	Yes	No	Discharge Risk Potential	
12. Are sediment control BMPs in place and maintained?	<input checked="" type="checkbox"/>		Alpha West	None
13. Are sediment BMPs placed to protect the downstream perimeter of the site?	<input checked="" type="checkbox"/>		Alpha East	Minor
14. Are the BMPs adequately controlling sediment?	<input checked="" type="checkbox"/>		Beta West	None
15. Are the storm drain inlets protected?	<input checked="" type="checkbox"/>		Beta East	Minor

**Sediment Discharges**

16. Is there evidence that sediment was discharged previously from the site?	<input checked="" type="radio"/> None	Minor	Major
17. Is sediment currently being discharged from the site?	<input checked="" type="radio"/> None	Minor	Major
18. Where is sediment currently being discharged? Check all that apply:	19. Other	20. Creek	21. Drain inlet
	22. Gutter	23. Drainage Outfall	24. Wetland
	25. Vernal Pool	26. Drainage swale	

Tracking Controls	Yes	No	Discharge Risk Potential	
Are adjacent roads and construction entrances free of sediment?	<input checked="" type="checkbox"/>		<input checked="" type="radio"/> None	Minor
28. Are current BMPs effectively preventing tracking of sediment?	<input checked="" type="checkbox"/>		<input checked="" type="radio"/> None	Major