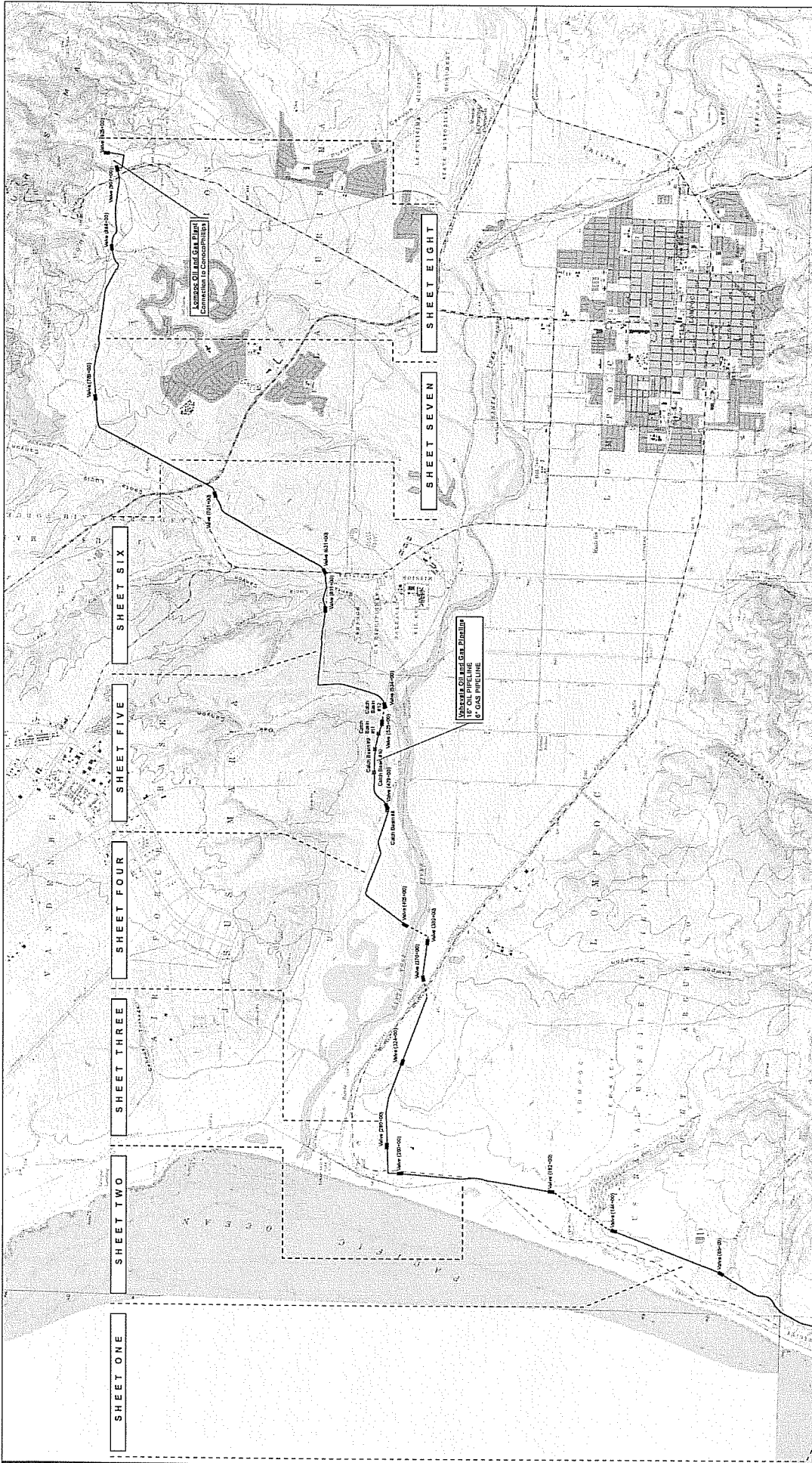


ATTACHMENT A.10

**Excerpts from ExxonMobil/Sunset Vahevala Project Application to Santa
Barbara County, *December 2006 Responses to Agency Comments***



VAHEVALA OIL AND GAS PROJECT
CONTRACT NO. 05-01-001
CONTRACTOR: LA CONSULTANTS INC.

SHEET ONE

SHEET TWO

SHEET THREE

SHEET FOUR

SHEET FIVE

SHEET SIX

SHEET SEVEN

SHEET EIGHT

VAHEVALA OIL AND GAS PROJECT
CONTRACT NO. 05-01-001
CONTRACTOR: LA CONSULTANTS INC.

LEGEND

- Existing Catch Basin
- Valve Locations
- Proposed Pipeline Alignment (Trenching) by Construction Method
- Proposed Pipeline Alignment (Trenching) (Potential Discontinuity Gap (PDCG))

LOCATION

M.P. LOCATION

Additional Pipeline Details

- SK-02445-02 Base Creek HDD Crossing Details
- SK-02445-03 Base Creek HDD Crossing Details
- SK-02445-04 Base Creek HDD Crossing Details
- SK-02445-05 Oak Creek HDD Crossing Details
- SK-02445-06 Typical Road Box Crossing Details
- SK-02445-07 Valve Box and Database Information
- SK-02445-08 Pipeline Layout Details
- SK-02445-09 Typical Pipeline Drilling and Boring Equipment
- SK-02445-10 Typical Pipeline Drilling and Boring Equipment

Note: Drains and catchbasin locations in common area are approximated as per PDCG at-birth spacing drawings (SPEC System, REV. B, February 14, 2007).

REV. NO.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE
0	1/22/08	Issued for review and approval	

VAAHEVALA OIL AND GAS PROJECT
Onshore Pipeline Route
PLAN & PROFILE

INDEX MAP

ENTER

ATTACHMENT A.10
December 2006 Vahevala Project Application, Responses to Agency Comments
Attachment E.2 [part], Pipeline Information, Pipeline Alignment and Profile

DS-05145-174
115 kV / 70 kV Substation Site Considerations
Vahevala Oil & Gas Project
Sunset Exploration and Exxon Mobil Corporation

A. Location Alternatives - 115kV / 70 kV Substation

1. General

Vandenberg Air Force Base (VAFB), which is the host of the Vahevala Project site, is not allowed to have electrical transmission line voltages exceeding 70,000 volts (70 kV). Since the voltage of the existing PG&E power source located near Surf is 115,000 volts (115 kV), a substation must be constructed to step the voltage down from 115kV to 70kV.

Five (5) locations have been considered for the 115kV/70kV electrical substation. The 5 locations are as follows:

<u>Alternative</u>	<u>Substation Location</u>
Proposed	On VAFB, west of Coast Rd, ~700' south of Coast Rd Gate
# 1	On VAFB, west of Coast Rd, just south of Coast Rd Gate
# 2	Off VAFB, co-located with & south of Surf Substation
# 3	On VAFB, east of Coast Rd, ~400' south of Coast Rd Gate
# 4	On VAFB, at or near Drilling & Production Facilities site

The Proposed location and Alternative locations #1 through 3 are shown on the Site Plan drawing SK-05145-160. Alternative #4 is located on or near the project Drilling and Production Facilities site, and is outside the extents of the Site Plan base map.

2. Proposed Location

The proposed location for the 115kV/70kV electrical substation is immediately west of Coast Road and

ATTACHMENT A.10

approximately 700 feet south of the Coast Road Gate on South VAFB. The substation is planned to occupy a block-fenced area that is approximately 90 feet x 180 feet.

This location is deemed the preferred location for the following reasons:

- a. The location is on VAFB, which is a secure location that is not readily accessible by the public.
- b. The location is on the west side of Coast Road, which is a request of Base staff. VAFB would prefer the substation not be located on the east of Coast Road for operational reasons.
- c. The location is east of some higher elevation topographical features, which obscures the majority of the substation from view when on the adjacent beach areas, Amtrak Station, and Union Pacific Railroad.
- d. The location, and the area immediately surrounding the location, is not utilized for any other Base activities.

3. Alternative #1 Location - Coast Road Gate

The Alternative #1 location for the 115kV/70kV substation is on South VAFB, west of Coast Road and immediately south of the Coast Road Gate. This location has the benefit that a minimal length of 115kV PG&E powerline that supplies the substation would be located on Base property. However, this location is more visible from the adjacent beach areas, Amtrak Station, and Union Pacific Railroad.

4. Alternative #2 Location - Co-location at Surf Substation

The Alternative #2 location for the 115kV/70kV substation is to co-locate immediately south of the existing PXP Platform Irene Surf Substation. This

ATTACHMENT A.10

location is not a preferred location for the following reasons:

- a. It is a much less secure location than alternative locations on VAFB, making it much more accessible to the public.
- b. It is much more visible from the adjacent beach areas, Amtrak Station, and Union Pacific Railroad.
- c. It would require disruption of the naturally vegetated and re-vegetated areas south of the existing Surf Substation.

5. Alternative #3 Location - East Side of Coast Road

The Alternative #3 location for the 115kV/70kV substation is on South VAFB, east of Coast Road and approximately 200 feet south of Spin Road (approximately 400 feet south of the Coast Road Gate). This location is not a preferred location for the following reasons:

- a. It is on the east side of Coast Road. VAFB has requested that the substation not be located east of Coast Road for operational reasons.
- b. It is slightly more visible from the adjacent beach areas, Amtrak Station, and Union Pacific Railroad.

6. Alternative #4 Location - Drilling and Production Site

The Alternative #4 location for the 115kV/70kV substation is on South VAFB at the Drilling and Production Facilities site. This site is located between Coast, Surf, and Delphi Roads.

At this potential location, the 115kV/70kV substation could be co-located with the site 70kV/12kV substation located south of the Production Facilities, or could be located at another nearby site. Under this scenario, a 115,000 volt (115kV) powerline would be routed from the existing PG&E source near Surf to the project site.

ATTACHMENT A.10

This alternative is not a preferred location primarily due to the fact that VAFB is not allowed to run power transmission lines greater than 70,000 volts (70kV). To build an 115kV power line would require Air Force command to change Base rules regarding maximum transmission line voltage.

B. Use of the Existing PXP Surf Substation

Another alternative considered for supplying electrical power to the VAFB project site would be to utilize the existing PXP Platform Irene Surf Substation.

It is not feasible to use the existing Surf Substation to supply the Vahevala project site with power since PG&E Rule 18 does not allow the sub-metering of electrical power. Metering is set-up for only one end user to purchase power.

C. Painting, Fencing, and Landscaping of Substation

1. Painting of Substation Components

To provide resistance to weathering and corrosion, it is proposed that all steel structures and steel electrical components in the 115kV/70kV substation be hot-dipped galvanized whenever practical. To provide an additional level of corrosion resistance and to make the steel structures and components more aesthetically pleasing, it is proposed to paint over the hot-dipped galvanized surfaces and use an appropriate topcoat paint color.

2. Fencing of Substation

To provide maximum safety and visual mitigation benefits, it is proposed that the perimeter of the approximate 90 foot x 180 foot 115kV/70kV substation be fenced with an architecturally-attractive block wall (block fence). There would be one or two gates constructed in the block wall to allow access to the substation facility. The gates would be constructed of materials that would provide resistance to the corrosive atmosphere and obscure the view of substation equipment.

The height of the block wall is currently anticipated to be 8 feet. Greater heights, if deemed beneficial, can be considered for use.

3. Landscaping around the Substation

Re-vegetation of disturbed areas and planting of indigenous shrubs, bushes, and trees will be done to allow the substation to blend in with existing Base facilities and terrain.

ATTACHMENT A.10



NO.	DATE	REVISION	ISSUED FOR	BY	APPROVED BY
A	11/20/06	REVISED	ISSUED FOR TEAM REVIEW	BY	BY
				BY	BY
				BY	BY
				BY	BY
				BY	BY
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				BY	BY
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				BY	BY
				BY	BY

DATE: 11/20/06	BY: J. J. CHASE
PROJECT NO: 05145-160	DESIGN: ELECTRICAL
SCALE: AS SHOWN	CHECKED BY: JFC
DATE: 11/20/06	DATE: 11/20/06

PROJECT NO:	05145-160
PROJECT NAME:	VAHEVALA OIL AND GAS PROJECT
CLIENT:	SUNSET EXPLORATION, INC.
LOCATION:	SANTA BARBARA COUNTY, CA
DATE:	11/20/06

Sunset Exploration, Inc.
Exxon Mobil Corporation

SITE PLAN - LOCATION ALTERNATIVES
115KV / 70KV SUBSTATION
VAHEVALA OIL AND GAS PROJECT
SANTA BARBARA COUNTY, CA

TERRACON

J. J. Chase AUTOCAD CONTROL
DATE: 11/20/06
PROJECT NO: 05145-160
SCALE: AS SHOWN
CHECKED BY: JFC
DATE: 11/20/06

DATE: 11/20/06
PROJECT NO: 05145-160
SCALE: AS SHOWN
CHECKED BY: JFC
DATE: 11/20/06

REFERENCE DRAWINGS
- PLOT PLAN - 115KV/70KV SUBSTATION

SK-05145-160 A 1

ATTACHMENT A.10

December 2006 Vahevala Project Application, Responses to Agency Comments
Attachment E.3 [part], Electrical Power Information

5. Water Treating

- a. Produced water from the FWKOs and HTs will be stored in two 10,000 bbl water tanks.
- b. The water will be pumped into Primary Flotation Cells to remove suspended oil and solids. The water will then flow into two 10,000 bbl Filter Feed Tanks. The primary skimmings will flow to the 2500 bbl Primary Skim Tank.
- c. Produced water will be pumped from the Filter Feed Tanks by Filter Feed Pumps into two Nut-shell Filters. The filtered water will flow into two 10,000 bbl Injection Tanks. The filter backwash will flow into two 1500 bbl backwash tanks. Solids will be removed from the backwash tanks by vacuum trucks and hauled off-site for disposal. Water from the backwash tanks will be pumped back to the water tanks.
- d. Primary skimmings will be pumped from the Primary Skim Tank to the Secondary Flotation Cell. The water will flow back to the water tanks. The secondary skimmings will flow to the 250 bbl Secondary Skim Tank.
- e. Water from the Secondary Skim Tank will be pumped to the FWKOs.

6. Water Injection

- a. Water will be pumped from the Injection Tanks by two high pressure Injection Pumps (one spare will also be installed) to onshore and/or offshore injection wells for disposal and/or reservoir pressure maintenance.

7. Tank Vapor Recovery

- a. All tanks will be connected to a gas blanketing and vapor recovery system to prevent air intrusion and to prevent VOCs from escaping.
- b. The Vapor Recovery Skid will have two rotary vane compressors to compress tank vapors from atmospheric pressure to approximately 35 psig. The compressed tank vapors will flow to the gas system.

8. Gas Treating

- a. Gas from the FWKOs, HTs, and Vapor Recovery Compressors will flow to the Gas Compressors. The gas will be compressed to approximately 500 psig and after-cooled to 20°F above ambient.
- b. The compressed gas will be chilled to approximately 45°F and liquids will be removed by the Dewpoint Control Skid. This will prevent water and hydrocarbons from condensing in the pipeline. The liquids will be pumped to the FWKOs.
- c. The gas will then flow via a new 6" pipeline that will tie-in at the front end of the LOGP for processing.

ATTACHMENT A.10