

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**FINAL
ENVIRONMENTAL IMPACT REPORT**

**MOBIL CALIFORNIA AIR RESOURCES BOARD (CARB)
PHASE 3 – REFORMULATED GASOLINE PROJECT**

SCH NO: 2000081105

October 2001

Executive Officer

Barry R. Wallerstein, D. Env.

Deputy Executive Officer Planning, Rules and Area Sources

Elaine Chang, Dr. PH

**Planning and Rules, Manager CEQA, Socioeconomic Analysis,
PM/AQMP Control Strategy**

Alene Taber, AICP

Prepared by: ENSR International

Reviewed by: Steve Smith, Ph.D., - Program Supervisor, SCAQMD
Frances Keeler – Senior Deputy District Counsel, SCAQMD
Kathy C. Stevens - CEQA Staff, SCAQMD

Final Environmental Impact Report

MOBIL CALIFORNIA AIR RESOURCES BOARD (CARB) PHASE 3 – REFORMULATED GASOLINE PROJECT

October 2001

South Coast Air Quality Management District

**ENSR International
1220 Avenida Acaso
Camarillo, California 93012**

CONTENTS

Page

1.0	INTRODUCTION AND EXECUTIVE SUMMARY	1-1
1.1	Introduction	1-1
1.1.1	Project Need.....	1-1
1.1.2	Purpose and Authority	1-2
1.1.3	Scope of EIR and Format	1-2
1.2	Chapter 2 Summary - Project Description	1-3
1.2.1	Torrance Refinery and Terminals Improvements	1-3
1.3	Chapter 3 Summary - Setting	1-5
1.4	Chapter 4 Summary - Potential Environmental Impacts and Mitigation Measures	1-5
1.5	Chapter 5 Summary - Project Alternatives.....	1-6
1.6	Chapter 6 Summary - Cumulative Impacts	1-9
1.7	Chapters 7 and 8 - Persons and Organizations Consulted and References	1-9
2.0	PROJECT DESCRIPTION.....	2-1
2.1	Project Overview and Objectives.....	2-1
2.1.1	Project Objectives.....	2-1
2.1.2	Project Overview.....	2-1
2.2	Locations.....	2-3
2.3	Overview of Current Operations	2-6
2.4	Proposed Project.....	2-14
2.4.1	Strategy	2-14
2.4.2	Torrance Refinery Modifications	2-16
2.4.3	Terminal Modifications	2-23
2.5	Construction	2-32
2.5.1	Schedule.....	2-32
2.5.2	Labor Force	2-32
2.5.3	Construction Plan	2-34
2.5.4	Materials and Services.....	2-35
2.6	Operation of Project	2-35
2.6.1	Labor Force	2-35
2.7	Project Termination and Decommissioning.....	2-35
2.8	Permits and Approvals	2-35

CONTENTS (CONTINUED)

3.0	SETTING	3-1
3.1	Air Quality	3-1
3.1.1	Regional Climate	3-1
3.1.2	Meteorology of the Project Vicinity	3-3
3.1.3	Existing Air Quality and Regulatory Setting	3-12
3.1.4	Regional Emissions Inventory	3-25
3.2	Cultural Resources	3-27
3.2.1	Resource Identifications	3-27
3.2.2	Ethnographic Setting	3-29
3.2.3	History	3-29
3.2.4	Site-Specific Setting	3-30
3.3	Energy Sources	3-31
3.3.1	Electricity	3-32
3.3.2	Natural Gas	3-34
3.4	Geology and Soils	3-35
3.4.1	Geological Setting	3-35
3.4.2	Structural Setting	3-36
3.4.3	Soils (Surficial Geology)	3-40
3.5	Hazards and Hazardous Materials	3-41
3.5.1	Types of Onsite Hazards and Upset Scenarios	3-41
3.5.2	Applicable Hazards Regulations	3-42
3.6	Hydrology/Water Quality	3-44
3.6.1	Water Quality	3-44
3.6.2	Water Supply	3-56
3.7	Land Use and Planning	3-57
3.7.1	Regional Setting	3-58
3.7.2	Project Site and Vicinity Land Uses	3-58
3.7.3	Zoning	3-60
3.7.4	Land Use Development Plans	3-65
3.8	Public Services	3-67
3.9	Solid and Hazardous Waste	3-69
3.9.1	Disposal Facilities	3-70
3.9.2	Waste Generation	3-70
3.9.3	Waste Minimization	3-71
3.10	Transportation/Circulation	3-71
3.10.1	Surrounding Highway Network	3-71
3.10.2	Existing Traffic Conditions	3-73

CONTENTS (CONTINUED)

4.0	POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES	4-1
4.1	Air Quality	4-2
4.1.1	Construction Emissions	4-3
4.1.2	Operational Emissions	4-13
4.1.3	Significance of Project Operational Emissions	4-20
4.1.4	Potential Health Risks from Diesel Exhaust Particulate Matter	4-28
4.1.5	Carbon Monoxide Impacts Analysis	4-29
4.1.6	Mitigation Measures	4-32
4.1.7	AQMP Consistency	4-35
4.2	Cultural Resources	4-36
4.2.1	Methodology and Significance Thresholds	4-36
4.2.2	Project Impacts	4-36
4.2.3	Mitigation Measures	4-37
4.3	Energy Sources	4-38
4.3.1	Construction Impacts	4-38
4.3.2	Operation Impacts	4-39
4.3.3	Mitigation Measures	4-40
4.4	Geology and Soils	4-40
4.4.1	Construction	4-41
4.4.2	Operational Impacts	4-42
4.4.3	Mitigation Measures	4-43
4.5	Hazards and Hazardous Materials	4-43
4.5.1	Background	4-44
4.5.2	Overview of Approach	4-45
4.5.3	Hazardous Chemicals Associated with the Project	4-45
4.5.4	Refinery Modifications	4-46
4.5.5	Terminal Improvements	4-49
4.5.6	Review of Potential Hazards	4-52
4.5.7	Categorize the Risk	4-55
4.5.8	Select Specific Scenarios	4-57
4.5.9	Estimate Likelihood of Accidents	4-57
4.5.10	Assess Consequences	4-60
4.5.11	Potential Risks from Transportation Accidents	4-68
4.5.12	Mitigation Measures	4-70
4.6	Hydrology/Water Quality (Water Resources)	4-73
4.6.1	Water Supply Effects	4-73
4.6.2	Water Quality Effects	4-74
4.6.3	Mitigation Measures	4-79

CONTENTS (Continued)

4.7	Land Use and Planning	4-79
4.7.1	Construction	4-79
4.7.2	Operation.....	4-79
4.7.3	Mitigation Measures.....	4-80
4.8	Public Services.....	4-81
4.8.1	Construction and Operation	4-81
4.8.2	Mitigation Measures.....	4-81
4.9	Solid/Hazardous Waste	4-81
4.9.1	Nonhazardous Waste	4-81
4.9.2	Hazardous Waste	4-83
4.9.3	Mitigation Measures.....	4-83
4.10	Transportation/Traffic	4-83
4.10.1	Trip Generation.....	4-84
4.10.2	Trip Distribution.....	4-85
4.10.3	2000/Existing Plus Project Traffic Impacts	4-86
4.10.4	Onsite Circulation and Parking.....	4-88
4.10.5	Mitigation Measures.....	4-89
4.11	Growth-Inducing Impacts of the Proposed Project.....	4-89
4.12	Effects Not Found to be Significant	4-89
5.0	PROJECT ALTERNATIVES.....	5-1
5.1	Introduction	5-1
5.2	Project Alternatives Description.....	5-1
5.3	Alternatives Analysis	5-5
5.3.1	Air Quality	5-6
5.3.2	Cultural Resources	5-15
5.3.3	Energy	5-15
5.3.4	Geology/Soils	5-15
5.3.5	Hazards and Hazardous Materials	5-15
5.3.6	Hydrology/Water Quality	5-19
5.3.7	Land Use and Planning.....	5-20
5.3.8	Public Services	5-20
5.3.9	Solid/Hazardous Waste	5-20
5.3.10	Transportation/Traffic.....	5-21
5.4	Conclusion	5-22

CONTENTS (CONTINUED)

6.0 CUMULATIVE IMPACTS6-1

6.1 Introduction6-1

6.2 Proposed Projects6-1

6.2.1 Projects at Other Refineries in the Los Angeles Basin6-2

6.2.2 Projects Proposed Near The Torrance Refinery and Torrance Loading Rack with Potential for Cumulative Impacts6-5

6.2.3 Projects Proposed Near the Vernon Terminal with Potential for Cumulative Impacts6-6

6.2.4 Projects Proposed Near the Atwood Terminal with Potential for Cumulative Impacts6-6

6.2.5 Projects Proposed Near Southwestern Terminal with Potential for Cumulative Impacts6-7

6.3 Cumulative Effects6-7

6.3.1 Air Quality6-8

6.3.2 Cultural Resources6-11

6.3.3 Energy6-12

6.3.4 Geology/Soils6-12

6.3.5 Hazards and Hazardous Materials6-13

6.3.6 Hydrology/Water Quality6-15

6.3.7 Land Use and Planning6-15

6.3.8 Public Services6-16

6.3.9 Solid/Hazardous Waste6-16

6.3.10 Transportation/Traffic6-17

6.4 Mitigation Measures6-17

7.0 ORGANIZATIONS AND PERSONS CONSULTED7-1

7.1 Organizations7-1

7.2 Persons Consulted7-2

7.3 List of Preparers7-2

8.0 REFERENCES8-1

APPENDIX

A NOTICE OF PREPARATION/INITIAL STUDY

B AIR QUALITY ANALYSIS METHODOLOGY

C HAZARD IMPACT CALCULATIONS

D TRAFFIC STUDY

E CULTURAL RESOURCES

F COMMENTS RECEIVED ON DRAFT EIR AND RESPONSES

LIST OF FIGURES

Figure 1-2-1	Location Map	1-4
Figure 2.1-1	Proposed Fuel Ethanol Import and Distribution Approach.....	2-4
Figure 2.2-1	Regional Location Map	2-5
Figure 2.2-2	Site Location Map Torrance Refinery	2-7
Figure 2.2-3	Site Location Map Vernon Terminal	2-8
Figure 2.2-4	Site Location Map Atwood Terminal	2-9
Figure 2.2-5	Site Location Map Southwestern Terminal	2-10
Figure 2.3-1	Simplified Block Diagram – Mobil Torrance Refinery	2-15
Figure 2.4-1	Refinery Layout Map.....	2-20
Figure 2.4-2	Proposed Modifications and Additions at the Torrance Loading Rack	2-25
Figure 2.4-3	Proposed Modifications and Additions at the Vernon Terminal	2-27
Figure 2.4-4	Proposed Modifications at the Atwood Terminal	2-29
Figure 2.4-5	Proposed Modifications and Additions at SWT.....	2-31
Figure 2.5-1	Project Construction Schedule	2-33
Figure 3.1-1	SCAQMD Jurisdiction.....	3-2
Figure 3.1-2	Meteorological Monitoring Stations in the Project Area.....	3-6
Figure 3.1-3	Dominant Wind Patterns in the Basin.....	3-7
Figure 3.1-4	King Harbor Station	3-8
Figure 3.1-5	Long Beach Station	3-9
Figure 3.1-6	Vernon Station.....	3-10
Figure 3.1-7	La Habra Station	3-11
Figure 3.1-8	Ambient Air Monitoring Stations in South Coast Air Basin	3-15
Figure 3.1.9	Major Pollutants Contributing To Cancer Risk In The South Coast Air Basin	3-24
Figure 3.4-1	Regional Fault Map Los Angeles Area.....	3-37
Figure 3.6-1	Refinery Wastewater Flow Diagram Van Ness Outfall.....	3-51
Figure 3.6-2	Refinery Wastewater Flow Diagram Del Amo Outfall.....	3-52
Figure 3.7-1	Land Uses and Zoning near Torrance Refinery and Torrance Loading Rack.....	3-62
Figure 3.7-2	Zoning Near Vernon Terminal	3-63
Figure 3.7-3	Zoning Near Atwood Terminal.....	3-64
Figure 3.7-4	Zoning Near Southwestern Terminal.....	3-66
Figure 3.10-1	Primary Roadways Near the Torrance Refinery.....	3-72
Figure 3.10-2	Existing AM Peak Hour Turn Volumes (Torrance Refinery).....	3-74
Figure 3.10-3	Existing PM Peak Hour Turn Volumes (Torrance Refinery).....	3-75
Figure 4.10-1	Existing + Project AM Peak Hour Turn Volumes.....	4-87
Figure 6.1-1	Los Angeles Area Refineries.....	6-3

LIST OF TABLES

Table 1.4-1	Summary of Mitigated Potential Environmental Impacts from the Project, Project Alternatives or Cumulatively with Other Projects	1-6
Table 1.4-2	Summary of Mitigation Measures for Significant Impacts.....	1-8
Table 2.1-1	Existing CARB Phase 2 and New CARB Phase 3 Gasoline Specifications	2-2
Table 2.3-1	Descriptions of Key Terms	2-11
Table 2.4-1	Proposed Refinery Modifications and New Equipment	2-17
Table 2.4-2	Proposed Terminal Changes.....	2-24
Table 2.8-1	List of Federal, State, and Local Agency Permits, Approvals, and Other Requirements.....	2-36
Table 3.1-1	Monthly Temperatures and Precipitation for LA International Airport, CA, 1939-1978	3-3
Table 3.1-2	Average Monthly Temperatures and Precipitation for Long Beach, CA, 1941-1978	3-4
Table 3.1-3	Average Monthly Temperatures and Precipitation for Los Angeles Civic Center, CA	3-5
Table 3.1-4	Ambient Air Quality Standards	3-13
Table 3.1-5	Background Air Quality Data for the South West Coast Los Angeles County Monitoring Station.....	3-16
Table 3.1-6	Background Air Quality Data for the South Coast Los Angeles County Monitoring Station	3-17
Table 3.1-7	Background Air Quality Data for the South Central Los Angeles County Monitoring Station	3-19
Table 3.1-8	Background Air Quality Data for the North Orange County Monitoring Station	3-20
Table 3.1-9	Sources of Criteria Pollutant Emissions Caused by Human Activities.....	3-25
Table 3.1-10	1998 Annual Average Day Toxic Emissions for the South Coast Air Basin	3-26
Table 3.3-1	Summary of Current Electricity Usage	3-33
Table 3.4-1	Ground Motion and Maximum Magnitude Estimates for the Project Sites	3-39
Table 3.6-1	Discharge Limitations for Mobil Torrance Refinery.....	3-46
Table 3.6-2	Discharge Limitations for SWT	3-54
Table 3.10-1	Intersection Capacity Utilization Ratios – Existing.....	3-76
Table 4.1-1	Air Quality Significance Thresholds.....	4-3
Table 4.1-2	Motor Vehicle Classes and Speeds during Construction	4-7
Table 4.1-3	Peak Daily Construction Emissions by Location and Activity	4-8
Table 4.1-4	Anticipated Starting and Ending Dates of Construction Activities.....	4-10

LIST OF TABLES (CONTINUED)

Table 4.1-5	Overall Peak Daily Construction Emissions Summary (Pre-mitigation).....	4-12
Table 4.1-6	Peak Daily Operational Emissions Summary (Pre-Mitigation)	4-17
Table 4.1-7	Changes in Direct Operational Toxic Air Contaminant Emissions.....	4-18
Table 4.1-8	Project Operational Criteria Pollutant Emissions Summary for RECLAIM Sources	4-21
Table 4.1-9	Project Operational Criteria Pollutant Emissions Summary for Non-RECLAIM Sources	4-21
Table 4.1-10	Tier 2 Analysis Results and Comparison to Threshold for MICR	4-22
Table 4.1-11	Tier 2 Analysis Results and Comparison to Threshold for HIA.....	4-22
Table 4.1-12	Tier 2 Analysis Results and Comparison to Threshold for HIC	4-23
Table 4.1-13	Dispersion Modeling Options for ISCST3.....	4-25
Table 4.1-14	Area Source Locations and Parameters Used in Modeling the Proposed Project	4-26
Table 4.1-15	Point Source Locations and Parameters Used in Modeling	4-26
Table 4.1-16	CO Hot Spots Analysis – Peak Impact	4-31
Table 4.1-17	Construction-Related Mitigation Measures and Control Efficiency.....	4-33
Table 4.1-18	Overall Peak Daily Construction Emissions (Mitigated).....	4-34
Table 4.5-1	Qualitative and Quantitative Estimates of Failures that may Contribute to Hazardous Releases.....	4-57
Table 4.5-2	Definition of Hazard Scenarios Modeled	4-61
Table 4.5-3	Distance (meters) to Endpoint from Center to Upset in Meters (feet)*	4-64
Table 4.10-1	Intersection Capacity Utilization Summary – Existing Plus Project Conditions	4-88
Table 5.3-1	Summary of Construction Emissions for Alternatives.....	5-7
Table 5.3-2	Summary of Operation Emissions for Alternatives	5-7
Table 5.3-3	Overall Peak Daily Construction Emissions - Alternative 2A (Mitigated)	5-8
Table 5.3-4	Overall Peak Daily Construction Emissions - Alternative 2B (Mitigated)	5-9
Table 5.3-5	Overall Peak Daily Construction Emissions - Alternative 2C (Mitigated)	5-10
Table 5.3-6	Overall Peak Daily Construction Emissions - Alternative 3B (Mitigated)	5-12
Table 5.3-7	Overall Peak Daily Construction Emissions - Alternative 4 (Mitigated)	5-14
Table 6.3.1-1	Summary of Cumulative Project Daily Operational Emissions	6-9

ABBREVIATIONS AND ACRONYMS

AQMP	Air Quality Management Plan
AST	Aboveground storage tank
ASTM	American Society for Testing and Materials
BACT	Best available control technology
bbf	Barrel
bgs	Below ground surface
BLEVE	Boiling Liquid Expanding Vapor Explosion
BNSF	Burlington Northern Santa Fe Railroad
BOD	Biochemical oxygen demand
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention
Cal-OSHA	California Occupational Safety and Health Association
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CDMG	California Division of Mines and Geology
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CMP	Congestion Management Plan
CO	Carbon monoxide
CWA	Clean Water Act
DOT	Department of Transportation
EIR	Environmental Impact Report
FCC	Fluid Catalytic Cracking
gpm	Gallons per minute
g/s	Gram per second

ABBREVIATIONS AND ACRONYMS (Continued)

g/s-m ²	Grams per second-square meters
H ₂ S	Hydrogen sulfide
HIA	Hazard index-acute
HIC	Hazard index-chronic
HRA	Health risk assessment
IS	Initial Study
ISCST3	Industrial Source Complex Short-Term 3
LACDPW	Los Angeles County Department of Public Works
LADWP	Los Angeles Department of Water and Power
LACSD	Los Angeles County Sanitation Districts
LARWQCB	Los Angeles Regional Water Quality Control Board
LOS	Level of service
LPG	Liquid petroleum gas
MATES II	Multiple Air Toxics Exposure Study, 2000
MICR	Maximum individual cancer risk
MTBE	Methyl tertiary butyl ether
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NO ₂	Nitrogen dioxide
NO _x	Oxides of nitrogen
NOP	Notice of Preparation
NPDES	National Pollution Discharge Elimination System
O ₃	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety and Health Administration
PM ₁₀	Particulate matter less than 10 microns
ppm	Parts per million

ABBREVIATIONS AND ACRONYMS (Concluded)

psi	Pounds per square inch
PSM	Process safety management
RCRA	Resource Conservation and Recovery Act
RECLAIM	Regional Clean Air Incentives Market
RELS	Reference exposure levels
RMP	Risk Management Program
RMPP	Risk Management Prevention Program
RVP	Reid vapor pressure
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCR	Selective catalytic reduction
SO ₂	Sulfur dioxide
SO _x	Oxides of Sulfur
SPCC	Spill Prevention Control and Countermeasure
SWPPP	Stormwater Pollution Prevention Plan
SWT	Southwestern Terminal
T-BACT	Best available control technology for toxic air contaminants
TACs	Toxic air contaminants
U.S. EPA	(United States) Environmental Protection Agency
UST	Underground storage tank
VOC	Volatile organic compound
WRD	Water Replenishment District

1.0 INTRODUCTION AND EXECUTIVE SUMMARY

Mobil Oil Corp. (Mobil) is proposing to modify its Torrance Refinery, one marine terminal, and three distribution terminals in southern California. This Environmental Impact Report (EIR) has been prepared to assess the impacts of the project on the environment, as required under the California Environmental Quality Act (CEQA).

1.1 Introduction

Mobil's proposed project was developed to comply with California Air Resources Board (CARB) regulatory requirements to remove methyl tertiary butyl ether (MTBE) from produced gasoline, and to produce and distribute product gasoline meeting the CARB Phase 3 Reformulated Gasoline specifications.

1.1.1 Project Need

Governor Davis signed Executive Order D-5-99 on March 25, 1999, which directs that MTBE be phased-out of California's gasoline no later than December 31, 2002. The Executive Order also directs CARB to adopt gasoline regulations (CARB Phase 3) to facilitate the removal of MTBE without reducing the emission benefits of the existing reformulated gasoline program (CARB Phase 2).

To comply with these new requirements, Mobil proposes to make changes at the Torrance Refinery by constructing one new process unit, modifying several existing process units, as well as constructing and installing new equipment and ancillary facilities. The objective of the project is to provide the means for manufacturing gasoline that complies with the MTBE phase-out mandate and CARB Phase 3 gasoline specifications.

To meet the oxygenate requirements of the CARB Phase 3 specifications for gasoline without MTBE, fuel ethanol will be blended into the gasoline. California has requested a waiver of the federal oxygenate requirement. If the waiver is approved, it would not be necessary to add fuel ethanol during the summer RVP blending season. While the federal government is reviewing California's oxygenate waiver request, the proposed project is being developed with the assumption that the oxygenate mandate will remain in place, and that fuel ethanol will continue to be the only permissible oxygenate.

The fuel ethanol will not be blended at the Torrance Refinery in the same manner as MTBE. Rather, the blending of fuel ethanol into the base gasoline stock will occur at distribution facilities. Therefore, Mobil must modify a number of distribution terminals in southern California. The distribution terminals are located in the cities of Vernon (Vernon Terminal), Anaheim (Atwood Terminal), and Torrance (Torrance Loading Rack, which is located on the Torrance Refinery property). Mobil will also modify its marine terminal in the Port of Los Angeles (Southwestern Terminal).

1.1.2 Purpose and Authority

CEQA requires that the environmental impacts of proposed projects be evaluated and that feasible methods be considered to reduce, avoid, or eliminate identified significant adverse impacts of these projects. To fulfill the purpose and intent of CEQA, the South Coast Air Quality Management District (SCAQMD), as the CEQA lead agency, directed the preparation of the Draft EIR, which addresses the potential adverse environmental impacts associated with the Mobil CARB Phase 3 MTBE Reformulated Gasoline Project.

Lead Agency means "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment" (Public Resources Code, §21067). Because the SCAQMD has primary discretionary approval authority over the proposed project, it was determined that the SCAQMD would be the appropriate lead agency. Additionally, improvements are required at several distribution facilities within southern California. All affected facilities are located within the South Coast Air Basin. Specifically, these facilities are located within the jurisdictions of the cities of Vernon, Anaheim, Torrance, and the Port of Los Angeles, which is an agency of the City of Los Angeles. As the terminal improvements are part of this project, these cities may act as responsible agencies for the proposed project.

While the SCAQMD is the lead agency, the CEQA Guidelines, §15102 and §15103, require that responsible agencies, trustee agencies, and the public to be notified of the intent and scope of the proposed project. Consistent with the above CEQA Guidelines sections, a Notice of Preparation (NOP) and Initial Study (IS) were distributed to the identified responsible agencies and parties for review and comment. The NOP/IS and comments received, as well as responses to these comments, are provided as Appendix A to this EIR.

1.1.3 Scope of EIR and Format

The scope of this Draft EIR complies with all applicable requirements identified under CEQA and includes a description of the proposed project in Chapter 2. Chapter 3 discusses the existing environmental setting. Chapter 4 analyzes the potential adverse impacts associated with the proposed project. Chapter 4 also includes mitigation measures identified to reduce or lessen potential significant impacts of the proposed project.

CEQA requires that both alternatives to the proposed project and cumulative impacts be analyzed in an EIR. These topics are addressed in Chapters 5 and 6, respectively. Chapters 7 and 8 identify the organizations and persons consulted and references used in the preparation of this document. Supporting documentation to the impact analysis is provided as technical appendices to this Draft EIR as recommended by CEQA Guidelines §15147.

The Initial Study identified seven environmental issues where project environmental impacts were found not to be significant: aesthetics, agricultural resources, biological resources, mineral resources, noise, population and housing, and recreation.

1.2 Chapter 2 Summary - Project Description

1.2.1 Torrance Refinery and Terminals Improvements

The proposed modifications will enable the production of CARB Phase 3 – compliant gasoline. The proposed project will not alter the Torrance Refinery's current crude oil throughput capacity. As discussed in the EIR, less fuel ethanol needs to be added to gasoline for oxygenation purposes than is the case currently with MTBE. Also, pentanes and butanes must be removed from the base gasoline stock to meet CARB Phase 3 requirements. For these kinds of technical reasons, and taking into account business conditions, Mobil expects to produce less gasoline at its southern California facilities than it does currently.

To comply with the new CARB Phase 3 gasoline and MTBE phase-out requirements, the objectives of the Torrance Refinery improvements are to replace MTBE-gasoline blending with fuel ethanol-gasoline blending base stock, reduce the vapor pressure of the base gasoline pool to allow blending with fuel ethanol, and to reduce gasoline sulfur content. To meet these objectives, the proposed project consists of the construction of one new process unit, and modifications to several existing process units. In addition, modification or new construction is required of storage tankage; railcar loading and unloading facilities; tanker truck loading and unloading facilities; and associated pumps, piping, and control systems. Each of the proposed modifications is discussed separately and in greater detail in Chapter 2. The CARB Phase 3 gasoline specifications also require benzene reduction. However, no modifications to facilities or equipment are needed at the Torrance Refinery to meet these requirements. Changes in blending procedures will be sufficient to comply with the CARB Phase 3 benzene requirements.

Under the CARB Phase 3 requirements, fuel ethanol will need to be added to the base gasoline stock to meet oxygenate content criteria. The fuel ethanol will not be blended at the Torrance Refinery in the same manner as MTBE. Rather, the blending will occur at the distribution terminals. Therefore, Mobil's three southern California distribution terminals will be modified. These terminals are located in the cities of Vernon, Torrance, and Anaheim. Mobil also will modify its marine terminal in the Port of Los Angeles. Figure 1.2-1 shows the various proposed project locations.

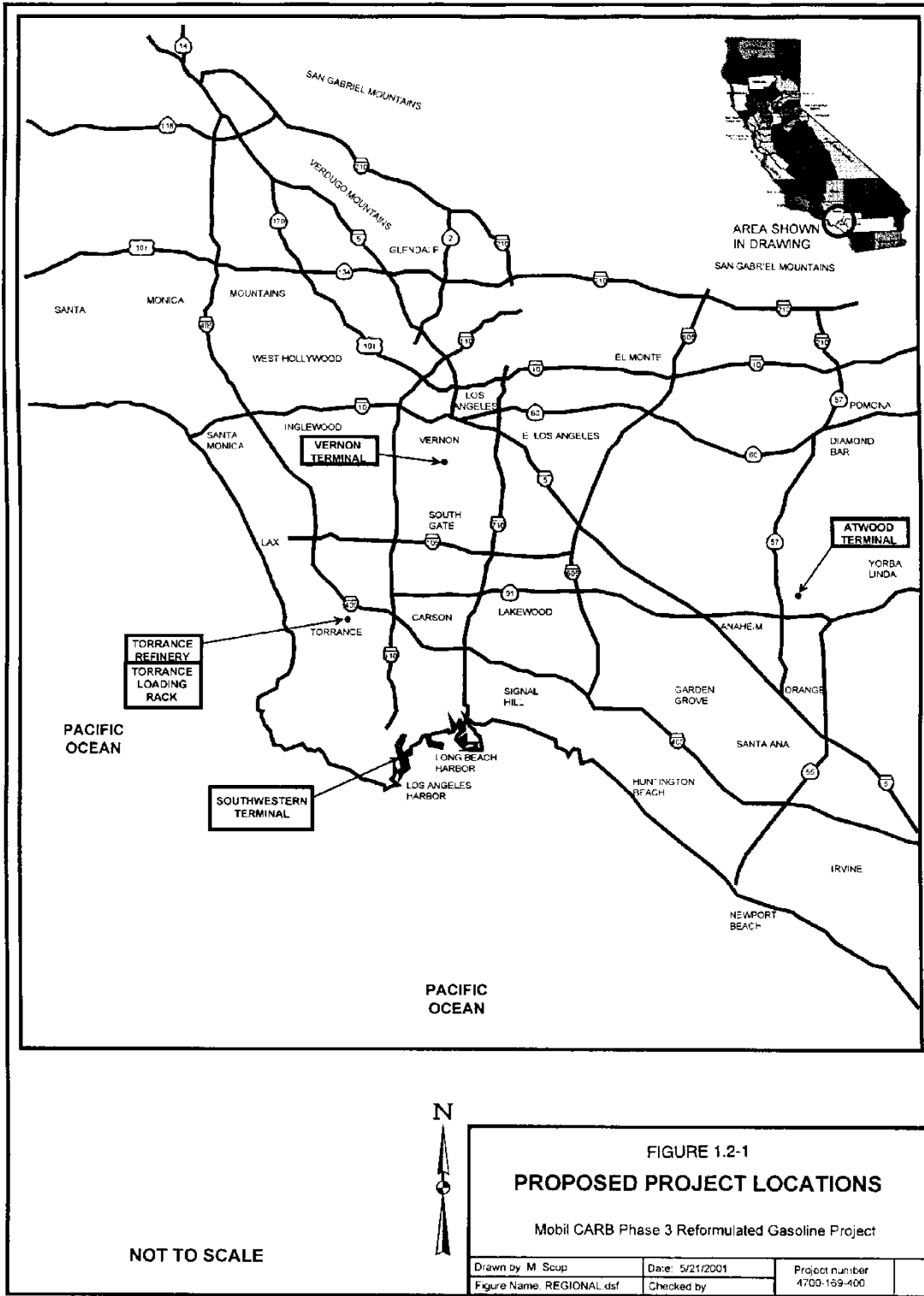


Figure 1-2-1 Location Map

The primary improvements at the distribution terminals include: the construction of new aboveground storage tanks (ASTs) for fuel ethanol; conversion of existing ASTs to fuel ethanol service; modification of rail facilities to unload fuel ethanol (at the Vernon Terminal only); construction or modification of tanker truck loading and unloading facilities; and piping, pumps and other modifications for receiving and blending fuel ethanol. The primary modifications at the marine terminal include conversion of existing storage tanks to also store fuel ethanol, and construction of new tanker truck loading facilities.

1.3 Chapter 3 Summary - Setting

The existing Torrance Refinery and the various terminals are located within developed portions of Los Angeles and Orange Counties. All elements of the proposed project will occur at existing Mobil facilities. The land uses near the affected facilities generally are comprised of a blend of heavy and light industrial, commercial, residential, and transportation-related uses. Chapter 3 provides more detailed discussions of the following existing environmental settings: air quality, cultural resources, energy resources, geology and soils, hazards and hazardous materials, water quality, land use and planning, public services, hazardous and non-hazardous wastes, and transportation/circulation.

1.4 Chapter 4 Summary - Potential Environmental Impacts and Mitigation Measures

Table 1.4-1 presents a summary of the identified potential adverse environmental impacts and the significance determination for each of the environmental topics as they relate to the proposed project, the alternatives, and cumulatively with other projects. Proposed mitigation measures for significant impacts are summarized in Table 1.4-2. No significant adverse environmental impacts have been identified for the majority of the topics, including cultural resources, energy, geology/soils, hydrology/water quality, land use, public services, solids/hazardous waste, transportation/traffic, and growth-inducing impacts.

Significant potential adverse environmental impacts resulting from the proposed project after implementation of available mitigation measures have been identified for two topics: air quality and hazards. The air quality impacts are from construction activities, fugitive emissions from project components during operations, and fuel ethanol loading of tanker trucks and gasoline loading of marine tankers. The hazards impacts are primarily from possible explosions and fires associated with the shipment and storage of pentane, butane, and fuel ethanol. Chapter 4 provides a detailed discussion of the environmental analysis for each environmental area and presents mitigation measures, if required.

Long-term growth-inducing impacts are not expected to occur as a result of this project. The project is merely reformulating the existing amount of gasoline supply and not augmenting it. There also will be a negligible increase (two employees) in operations personnel at the Mobil facilities. As such, there will be no inducement for growth.

1.5 Chapter 5 Summary - Project Alternatives

Pursuant to CEQA Guidelines §15126.6, this EIR identifies and compares the relative merits of a range of reasonable alternatives to the proposed project. Chapter 5 presents a detailed discussion of the alternatives.

**Table 1.4-1
Summary of Mitigated Potential Environmental Impacts from the Project,
Project Alternatives or Cumulatively with Other Projects**

Issue Area	Potential Impacts from the Project	Level of Significance								Cumulative
		Project	Alternative							
			1	2A	2B	2C	3A	3B	4	
Air Quality	Construction emissions	S	S	S	S	S	S	S	S	S
	Increased chronic non-cancer and cancer risk from air toxic emissions (construction and operations phases)	N	N	N	N	N	N	N	N	N
	Acute risk from air toxic emissions (construction and operations phases)	N	N	N	N	N	N	N	N	N
	Operations phase criteria emissions except volatile organic compounds (VOCs) and nitrogen oxides (NOx)	N	N	N	N	N	N	N	N	N
	Operations phase emissions of VOC	S	S	S	S	S	S	S	S	S
	Operations phase emissions of NOx	S	S	S	S	S	S	S	S	S
Cultural Resources	Ground disturbing activities to structures > 50 years of age	N	N	N	N	N	N	N	N	N
Energy Sources	Increased use of energy resources	N	N	N	N	N	N	N	N	N
Geology and Soils	Risk of lateral spreading or loss of subsurface soil strength from liquefaction	N	N	N	N	N	N	N	N	N
Hazards	Increased risk from catastrophic failure of storage tanks, pipelines, and ship fires at Southwestern Terminal during operations phase	S	S	S	S	S	S	S	S	S
	Increased risk from catastrophic failure of storage tanks and pipelines at Torrance Refinery during operations phase	S	S	S	S	S	S	S	S	S
	Increased risk from catastrophic failure of fuel ethanol trucks at the terminals during operations phase	S	S	S	S	S	S	S	S	S
Land Use/ Planning	Alter existing land use designations	N	N	N	N	N	N	N	N	N
Public Services	Increased use of public services	N	N	N	N	N	N	N	N	N

Table 1.4-1 (Concluded)
Summary of Mitigated Potential Environmental Impacts from the Project,
Project Alternatives or Cumulatively with Other Projects

Issue Area	Potential Impacts from the Project	Level of Significance								
		Project	Alternative							Cumulative
			1	2A	2B	2C	3A	3B	4	
Solid and Hazardous Waste	Increased disposal of hazardous and non-hazardous waste	N	N	N	N	N	N	N	N	N
Transportation/Circulation	Increased traffic during construction	N	N	N	N	N	N	N	N	N
	Increased traffic during operation	N	N	N	N	N	N	N	N	N
Water	Increased water use	N	N	N	N	N	N	N	N	N
	Increased wastewater discharge	N	N	N	N	N	N	N	N	N
	Decreased surface water quality	N	N	N	N	N	N	N	N	N
Growth-Inducing Impacts	Foster population growth, requiring the need for additional housing and/or infrastructure.	N	N	N	N	N	N	N	N	N

Level of Significance:
 N – No significant impacts from the project
 M – Significant impacts before mitigation; no significant impacts after mitigation
 S – significant impacts even after mitigation

Alternatives:
 1 – Alternative railcar unloading facility location at the Torrance Refinery;
 2 – Construct second new 40,000-bbl fuel ethanol storage tank at the Torrance Refinery ;
 3 – Convert two existing 20,000-bbl tanks to fuel ethanol storage service at the Torrance Refinery (no new fuel ethanol storage tank construction);
 4 – Convert two existing 1,500-bbl tanks to fuel ethanol storage service at the Torrance Refinery (no new fuel ethanol storage tank construction or other tank conversions);
 5 – Modify existing idle stabilizer at the Torrance Refinery to serve as a C4/C5 splitter (no construction of new splitter);
 6 – Route C5/LSR stream straight to storage (no C4/C5 splitter at all);
 7 – Use existing Mobil pipeline rather than tanker trucks to transfer marine tanker-imported fuel ethanol from Southwestern Terminal.

Note: Seven issue areas were eliminated in the Initial Study as having no potential for significant environmental impacts: aesthetics, agricultural resources, biological resources, mineral resources, noise, population/housing, and recreation.

**Table 1.4-2
Summary of Mitigation Measures for Significant Impacts**

Issue Area	Impact	Required Mitigation Measure
Air	<p>Construction Emissions of VOC, NO_x, oxides of sulfur (SO_x), and particulate matter less than 10 microns (PM₁₀)</p> <p>Operational VOC emissions from fuel ethanol loading, gasoline loading, and component fugitive emissions; and NO_x emissions from fuel ethanol loading and switch engine</p>	<p>AQ1 – Increase watering of active site by one time per day AQ2 – Wash wheels of all vehicles leaving unimproved areas AQ3 – Remove visible roadway dust tracked out into paved surfaces from unimproved areas at the end of the workday. AQ4 – Evaluate the feasibility of retrofitting large off-road construction equipment that will be operating for significant periods. AQ5 – Use low sulfur diesel fuel where feasible AQ6 – Proper equipment maintenance</p>
Hazards	<p>Risk of upset from C5/LSR storage at Torrance Refinery; fuel ethanol and non-CARB export gasoline storage, pipeline transfer and aboard ships at Southwestern Terminal; and from fuel ethanol truck transport to the terminals</p>	<p>H1 – Conduct a pre-start up safety review for those additions/modifications where an acutely hazardous and/or flammable material will be used. H2 – Apply current best safety practices and procedures to new/modified project facilities and equipment, including 24-hour seven-day staffing, fire detectors and high pressure fire deluge systems, and manual shutdown procedures for storage tanks and process units. H3 – Tailor as needed, and apply to fuel ethanol truck transport current best safety practices for other flammable material truck transport operations.</p>

In order to evaluate the environmental impacts of the proposed project, the environmental characteristics of the existing environment have been compared to the proposed project, as well as the environmental impacts of a number of project alternatives. The project alternatives consider other possible means of feasibly attaining the objectives of the proposed project that would avoid or substantially lessen any of the significant adverse effects of the proposed project, and provide a means for evaluating the comparative merits of each alternative.

- Alternative 1 – Alternative Fuel Ethanol Receiving Location at Torrance Refinery
- Alternative 2 – Fuel Ethanol Storage Alternatives at the Torrance Refinery
 - Alternative 2A – Construction of Second New 40,000 – Barrel Storage Tank for Fuel Ethanol Storage
 - Alternative 2B – Conversion of Two Existing 20,000 – Barrel Tanks and No New Tank Construction for Fuel Ethanol
 - Alternative 2C – Conversion of Two Existing 1,500 – Barrel Storage Tanks and No New Tank Construction for Fuel Ethanol Storage

- Alternative 3 – Alternatives to Constructing a New C4/C5 Splitter at Torrance Refinery
 - Alternative 3A – Conversion of an Existing Stabilizer to Serve as a C4/C5 Splitter
 - Alternative 3B – Routing Pentane/Light Straight Run (C5/LSR) Input Stream Directly to Storage instead of Constructing New C4/C5 Splitter
- Alternative 4 – Transport Fuel Ethanol from SWT to Distribution Terminals Through Existing Pipeline instead of by Truck

In accordance with Public Resources Code §21178(g) the “no project” alternative and alternative sites outside of existing refinery boundaries are not required and, therefore, are not discussed in this EIR.

1.6 Chapter 6 Summary - Cumulative Impacts

In order to assess cumulative impacts, other planned projects were identified in the areas of the Torrance Refinery and the terminals. These planned projects then were combined with Mobil’s proposed project to assess cumulative impacts in each area. Chapter 6 presents the cumulative impacts discussion. No significant adverse cumulative impacts were identified.

1.7 Chapters 7 and 8 - Persons and Organizations Consulted and References

Information on persons and organizations contacted and references cited are presented in Chapters 7 and 8, respectively.