Project Description Errata (12-20-13): Executive Summary and Section 1.0

BIOLOGICAL RESOURCES ASSESSMENT REPORT

FOR THE

PHASE V DEVELOPMENT OF THE ARROYO GRANDE OIL FIELD

SAN LUIS OBISPO COUNTY, CALIFORNIA

Prepared for:

FREEPORT-McMoRAN OIL & GAS
201 South Broadway
Orcutt, California 93455
Contact: Michelle Gibbs, EH&S Advisor

Prepared by:

URS
130 Robin Hill Road, Suite 100
Santa Barbara, California 93117
(805) 692-0600 ⬍ Fax: (805) 964-0259

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EXECUTIVE SUMMARY

ES.1 INTRODUCTION AND BACKGROUND

Freeport-McMoRan Oil & Gas (FM O&G) has retained URS Corporation (URS) to prepare this Biological Resources Assessment Report (BRAR) for the Phase V Development Project (Project) at the Arroyo Grande Oil Field (AGOF), in unincorporated San Luis Obispo County (County), California. This BRAR has been prepared in accordance with the County Department of Planning and Building's *Guidelines for Biological Resources Assessments* (San Luis Obispo County 2009).

This BRAR is organized as follows:

- **Section 1.0, Introduction and Background –** Explains the proposed Project and the purpose of the BRAR, and provides an introduction to the report's content;
- **Section 2.0, Methodology –** Presents the biological investigations that have been conducted at the Study Area to date, and describes the methods employed;
- **Section 3.0, Results –** Presents the results of the biological investigations that have been conducted at the Study Area;
- **Section 4.0, Impact Assessment and Mitigation –** Describes the effects of the Project on biological resources, and recommends feasible mitigation measures that would avoid or substantially lessen the biological impacts of the proposed Project; and
- **Section 5.0, References Cited –** Provides bibliographical citations for all data sources referenced in this BRAR.

ES.1.1 Project Description

FM O&G proposes to expand its existing operations at the 1,480-acre AGOF through the Phase V Development Plan. The Project is anticipated to increase oil production levels from 1,500 barrels of oil per day (bopd) to approximately 10,000 bopd. The proposed Phase V construction and operational expansion activities in AGOF and the biological resources affected by these activities comprise the focus of this BRAR.

The proposed Project (discussed in greater detail in Section 1.3) includes the following principal activities over a period of approximately ten years:

- Addition of 8~~11~~ new well pads (with access roads) and modification of 33~~34~~ existing well pads;
- Drilling of approximately 450~~350~~ wells (approximately 45~~35~~ per year);
- An increase in production of marketable quality crude oil;

- Abandonment of wells no longer capable of production or operation;
- Installation of three~~five~~ 85-million-British-thermal-units-per-hour (MMBtu/hr) steam generators;
- Installation of additional production and steam lines to support Phase V production, including two areas that would involve jack and boring underneath the Union Pacific Railroad (UPRR) and Price Canyon Road (PCR);
- Expansion of the existing electrical power system/lines; and
- Replacement of one existing pipe bridge over Pismo Creek (near existing well pad Signal 113A; herein referred to as the Northern Pipe Crossing).

ES.2 ENVIRONMENTAL SETTING

According to historical records that pre-date Department of Oil, Gas and Geothermal Resources (DOGGR) records, the AGOF has been an actively producing oil field since 1906. DOGGR started officially documenting oil and gas wells in the Project region in 1919; since that year, over 560 wells have been drilled at AGOF. Currently, FM O&G operates between 85 and 100 active producing wells and between 37 and 40 active injectors in the AGOF. Production of the field employs thermally enhanced oil recovery via steam injection. The current oil and gas production facilities, well pads, and lease access roads occupy over 80 acres of disturbed/graded land. Most of the 1,480-acre AGOF comprises undeveloped land supporting native vegetation. Adjacent land uses include cattle grazing to the north and vineyards to the south, as well as significant undeveloped land.

ES.3 SUMMARY OF IMPACTS AND RECOMMENDED MITIGATION

The proposed Project would entail a patch work of grading and construction over a relatively large area. The area is an active oil field that already supports numerous pads, pipelines, and facilities; the proposed action would increase the number and expand the area covered but the proposed action would not change the nature or character of the AGOF. While California Environmental Quality Act (CEQA) significance determinations have not been explicitly stated in this BRAR, the Project's impacts, combined with a robust suite of recommended mitigation, should allow adequate avoidance, minimization, rectification, reduction, and/or compensation for the Project's biological impacts.

Common wildlife species that currently utilize the Project site could be impacted by construction and operation of the proposed Project. Generally speaking, impacts could potentially include injury or mortality during construction, destruction of suitable habitat, and construction-related edge effects. Implementation of the proposed Project would result in the removal of existing natural habitat (55.93 acres) within the Study Area during grading. Mitigation for these impacts would be achieved through a combination of minimization measures and restoration activities.

SECTION 1.0
INTRODUCTION AND BACKGROUND

FM O&G proposes to expand its existing operations at the 1,480-acre AGOF through a Phase V Development Plan (Project). The proposed Project (discussed in greater detail in Section 1.3) includes the following principal activities over a period of approximately ten years:

- Addition of 8~~11~~ new well pads (with access roads) and modification of 33~~34~~ existing well pads;
- Drilling of approximately 450~~350~~ wells (approximately 45~~35~~ per year);
- An increase in production of marketable quality crude oil;
- Abandonment of wells no longer capable of production or operation;
- Installation of three~~five~~ 85-million MMBtu/hr steam generators;
- Installation of additional production and steam lines to support Phase V production, including two areas that would involve jack and boring underneath the Union Pacific Railroad (UPRR) and Price Canyon Road (PCR);
- Expansion of the existing electrical power system/lines; and
- Replacement of one existing pipe bridge over Pismo Creek (near existing well pad Signal 113A; herein referred to as the Northern Pipe Crossing).

The purpose of this BRAR is to provide a description of existing biological resources within the Project site and surrounding area, to identify any significant impacts to these resources that would result from the proposed Project, and to recommend feasible mitigation measures that would avoid or substantially lessen these impacts. It is anticipated that the baseline information, impacts analyses, and recommended mitigation measures presented in this BRAR will be considered by the County when preparing CEQA documentation for the proposed Project.

1.1 STUDY AREA

The Study Area evaluated in this BRAR includes the limits of proposed ground disturbance where the new and expanded Project facilities are proposed, as well as an associated buffer area of approximately 30 feet (Figure 1-1). In addition, the Study Area includes a 50-foot buffer along Price Canyon Road within the Arroyo Grande Oil Field (AGOF) boundary. The Study Area is located entirely within the AGOF, a State-designated Oil Field in Price Canyon, approximately three miles northeast of Pismo Beach in unincorporated San Luis Obispo County, California. The Study Area can be accessed from Price Canyon Road via Interstate 101/State Highway 1, and is located on the Corral De Piedra Land Grant within the Arroyo Grande NE, CA U.S. Geological Survey (USGS) 7.5-minute quadrangle (with a

1.3.3 Project Characteristics

The proposed Project includes the Phase V expansion activities over a period of approximately ten years at AGOF that would be anticipated to increase oil production levels from 1,500 barrels of oil per day (bopd) to approximately 10,000 bopd.

To accomplish this, the Phase V expansion activities involve: addition of 8~~11~~ new well pads (with access roads) and modification of 33~~34~~ existing well pads; drilling of approximately 450 wells (approximately 45 per year); abandonment of wells no longer capable of production or operation; installation of three, 85-million-MMBtu/hr steam generators; installation of additional ancillary production and steam lines, including two areas that would involve jack and boring underneath the UPRR and Price Canyon Road; expansion of the existing electrical power system/lines; and replacement of the Northern Pipe Crossing over Pismo Creek. These activities are described in the following sections in further detail.

1.3.3.1 Grading Activities and Project Disturbance Areas

FM O&G plans to maximize use of existing graded pads and previously disturbed areas as much as possible. Eight new well pads would require grading and construction of new access roads. Additionally, five existing pads that currently do not house oil wells would be used for some of the proposed wells; these pads may need surface grooming. The proposed Project would also include expansion of 33 existing pads to accommodate more wells. Phase V would involve approximately 257,710 cubic yards (cy) of cut and 198,900 cy of fill, for a total of 456,610 cy of grading. As a worst-case scenario, it is estimated that this would occur over the first six years of the project. The 58,810 cy of excess soil would be stored on-site, at the proposed “stockpile waste pad” shown on the grading plans. No soil would be transported to or from the site during well pad construction. The estimated total disturbance for the Project is 67.2 acres of which approximately 53.2 acres would be newly graded; this acreage also accounts for drainage improvements associated with the new and modified pads.

In addition, CalFire would require clearing of vegetation within 13 feet on either side of all new roads constructed under Phase V. Because new wells are typically located in the center of well pads, no additional fuel modification would be needed around new or modified well pads, according to CalFire. The area of fuel modification would be approximately 5.2 acres, which is included in the 67.2 acres of total disturbance. It is acceptable by CalFire to remove vegetation in a mosaic pattern, which would result in thinning the vegetative cover rather than clearing 100 percent; therefore, this would be implemented to the maximum extent possible.

Sites to be graded would first be cleared of vegetation between January 1 and February 15, to avoid the bird nesting period to the maximum extent feasible. Then pads are planned to be graded between April 15 and October 15, to avoid the rainy season to the maximum extent feasible. Cut and fill slopes associated with well pad construction activities would be re-