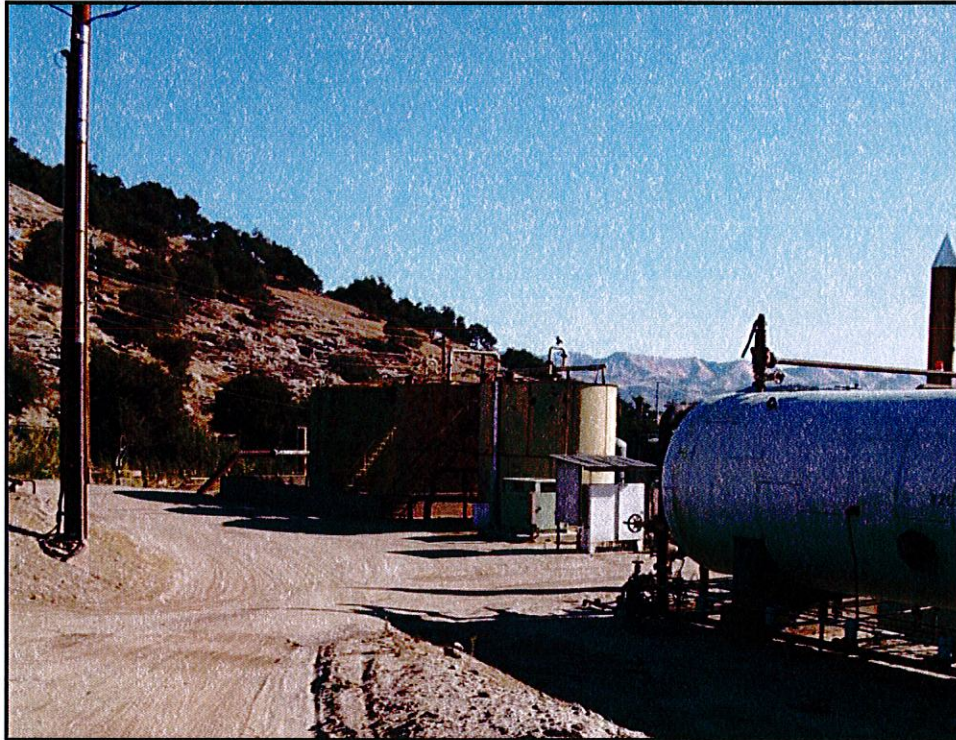


**PLAINS EXPLORATION AND PRODUCTION
CONDITIONAL USE PERMIT D010386D
(PHASE IV DEVELOPMENT PLAN)**

2nd ADDENDUM TO FINAL ENVIRONMENTAL IMPACT REPORT



Prepared for:

County of San Luis Obispo
Department of Planning and Building

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1.0 INTRODUCTION

On September 23, 2004, the County of San Luis Obispo Planning Commission approved the Final Environmental Impact Report (FEIR) for the proposed Plains Exploration and Production (PXP) Conditional Use Permit (D010386D) for the Phase IV Expansion.

The project involved two phases: (1) Construction, and (2) Operations. The primary components of the project are construction of 95 producer wells, 30 injector wells, modification of 31 existing well pads and construction of 4 new well pads, and construction of 3 steam generators. Existing facilities, such as water and utility gas lines, would be utilized to the greatest extent feasible; however, some ancillary facilities would be constructed. Such facilities may include flowlines, which would be installed above ground in groups along roads.

However, several modifications and additions have been made to the Phase IV project since the Final EIR was certified. This included modifications for well pads Pulas 5 and 6 which were included and discussed in the first EIR Addendum dated September 2008. The purpose of this 2nd EIR Addendum is to provide additional project-specific information to comply with Section 15164 of the California Environmental Quality Act (CEQA) Guidelines.

2.0 BACKGROUND

2.1 CEQA REQUIREMENTS

The State CEQA Guidelines provide guidance on the appropriate document for revisions to a previously certified EIR.

Section 15162 requires the preparation of a Subsequent EIR if the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or,
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

- (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or,
- (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Section 15164 requires the lead agency to prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred. An Addendum need not be circulated for public review but can be included in or attached to the final EIR. A brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in the Addendum, the lead agency's findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence.

2.2 EXISTING CEQA DOCUMENTATION

An EIR was prepared for Plains Exploration and Production (PXP) Conditional Use Permit (D0110386D) for the Phase IV Expansion and Development Plan. The EIR was certified by the County of San Luis Obispo Planning Commission on September 23, 2004. The project included:

- Grading of 4 new well pads (total disturbance of about 2.68 acres);
- Grading on 18 existing well pads (total disturbance of about 4.22 acres);
- Construction of 95 production wells;
- Construction of 30 injection wells;
- Construction of 3 new steam generators (previously approved in the 1994 Phase III Development Plan); and,
- Increasing production of marketable quality crude oil from 1,800 – 1,900 barrels of per day (BOPD) to 5,000 BOPD.

2.3 FINDINGS

Recently proposed modifications to the Phase IV project were not fully described in the Final EIR certified in 2004. However, none of the conditions described above under Section 15162 requiring a subsequent or supplemental EIR have occurred. New significant environmental effects or a substantial increase in the severity of previously identified significant effects are not expected. In addition, no substantial changes have occurred with respect to the circumstances under which the project will be undertaken. These findings are supported by the following environmental assessment of the project. Recent changes to the project are considered "minor technical changes or additions" under Section 15164 of the State CEQA Guidelines, and an Addendum to the previously certified EIR is the appropriate CEQA documentation. This Addendum will be considered by the San Luis Obispo County Department of Planning and Building.

3.0 PROJECT DESCRIPTION

3.1 PROJECT PROPONENT

Plains Exploration and Production (PXP)
1821 Price Canyon Road
San Luis Obispo, California 93401
Contact: Mr. Steve Rusch

3.2 LEAD AGENCY

As defined in Section 15367 of the State CEQA Guidelines, the "Lead Agency" is "...the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment." The County of San Luis Obispo Department of Planning and Building is the lead agency for this project and will be responsible for the addendum approval.

3.3 PROJECT LOCATION

The Arroyo Grande oil field is located in Price Canyon about 3 miles northeast of Pismo Beach in San Luis Obispo County, California. The project site is located east and west of Price Canyon Road near its intersection with Ormonde Road, between Highway 101 and Highway 227. The proposed Phase IV project lies within the 264-acre Phase III development project approved by the San Luis Obispo Planning Commission (SLOPC) in Resolution 94-49, Development Permit No. D910026D, which was delineated in the 1994 Shell Western Development Plan EIR (1994 EIR). This site lies primarily within the 320-acre Arroyo Grande oil field, which is within the larger 1,480-acre Price Canyon Unit as defined by the California Division of Oil, Gas & Geothermal Resources (DOGGR). The project site and surrounding local area is shown in Figure 1.

3.4 PROJECT BACKGROUND

According to unofficial records, the Arroyo Grande oil field has been an actively producing field since 1906. DOGGR records officially began recording oil and gas wells for the area in 1919. Between 1919 and 1980, roughly 129 oil wells were drilled in the field. Previous EIRs have been prepared for past expansion of the oil field, including *Final Environmental Impact Report for the Proposed Arroyo Grande Thermal Project, Teal Production Company (1978)*, and *Arroyo Grande Thermal Project, Phase II Operations (ERCO 1981)*. In 1978, Teal Petroleum (Teal) obtained approval from the SLOPC for the expansion of oil field operations (Phase I).

The permit granted the drilling of 54 wells and the installation of associated equipment. In the event that Teal wanted to drill additional wells, the County required a Development Plan application for each additional well group. Teal Petroleum was absorbed by Grace Petroleum shortly thereafter.

Grace Petroleum proposed a Phase II expansion. The subsequent EIR considered the potential environmental effects of the entire Arroyo Grande oil field. In 1982, the County certified the EIR and approved a Phase II Project consisting of 40 wells and 1 steam generator. Under Phase II, individual wells could be constructed and drilled at the rate of no more than 40

producible wells per year. At that time, the County conceptually approved, but did not guarantee, an additional 160 wells and 3 steam generators.

The conceptual approval included a delineation of Phases III, IV, and V and included only the facilities that would be added during each phase; the areas that would be developed during each of these future phases were not designated at that time. Additionally, the 1982 EIR noted that each Development Plan may authorize fewer but no more than the listed facilities and any required accessory equipment. Subsequently, Grace was acquired by Shell Western Petroleum, Inc.

In 1994, Shell Western Exploration and Petroleum, Inc., received approval from the San Luis Obispo Planning Commission (SLOPC) for a Development Plan to allow expansion of the oil field by drilling 65 additional producing wells and installing three steam generators and accessory facilities with an extended phasing schedule (Phase III). In 1997, the area was acquired by Stocker Resources, Inc. (Stocker), which currently operates the facility. Stocker recently underwent change of ownership and is now Plains Exploration & Production Company (PXP).

A previous addendum to the Phase IV EIR was submitted in September 2008, for the installation of two new wells Pulas 5 and Pulas 6. Installation of two additional water injection wells (Pulas 5 and 6) were proposed to be within existing well pads (former Signal Lease area) located immediately west and southwest of the Phase IV Development Plan EIR boundary area.

3.5 PROJECT OBJECTIVES

The objective of this addendum is to provide an analysis of the new project modifications proposed by PXP as it relates to the Phase IV EIR and Section 15162 of CEQA. Specifically, PXP plans to drill two (2) additional water injector wells outside the Phase IV boundary on existing pads with roadways and related infrastructure already in place. The additional water injector wells are currently needed due to high production water rates and limited water disposal capacity on-site. In addition, PXP plans on relocating and replacing a number of existing facilities within the main facility area, including a series of water tanks and related structures. The details of the proposed project modifications are discussed in section 3.6 Project Modifications below.

3.6 PROJECT MODIFICATIONS

The following provides an overview of the proposed project modifications to the previously certified PXP Phase IV Development Plan Final EIR. These project modifications are the basis of the environmental analysis of this EIR Addendum:

- Installation of two additional water injection wells (Pulas 7 and 8) within existing well pads (former Signal Lease area) located immediately to the west and northwest of the Phase IV Development Plan EIR boundary area (See Figure 2).

In addition to the newly proposed water injection wells, the project modifications also include proposed equipment relocation/replacement (summarized in Figure 3 Equipment Relocation and Replacement Summary Map). All replacements and relocations will occur within the Phase IV development plan boundary subsequently also within the main facility area. This area has been previously disturbed and is currently PXP's main facility operations area. The

following are project modifications that will take place in the main facility area. These project modifications are the basis of the environmental analysis of this EIR Addendum:

- Softener & Brine Tank Relocation
- T-201 Utility Water Tank Replacement
- T-203 Waste Water Tank Replacement
- T-205 Filtered Water Tank Replacement
- T-103 Cone Bottom De-Sand Tank Replacement
- T-104 Clarifier Tank Replacement
- V-310, 311, 312 Hydromation Filter Replacement
- V-308 Unicel Addition
- T-10400, 10401, 10433, 10434, 10397 Oil Storage Tank Replacement
- T-110 & T-111 Sand Plant Tank Replacement
- V-203, 207, 204, 208 Free Water Knock Out & Heater Treating Replacement/Addition

The proposed modifications comply with the provisions of the original PXP Phase IV Development Plan EIR, Section 3.4.3.1, Producer and Injector Wells (page 3-19): *“the applicant may construct up to (5) five water injector wells outside the Phase III and Phase IV boundary area.”*

3.6.1 Pulas 7

Proposed Pulas 7 consists of an existing oil well pad that has been cleared and grubbed for water injector well drilling and installation (see Figure 2). Currently there is an existing idle producer well installed on the existing graded pad. Berm removal will be required to allow the drilling rig access to the site. Oak tree trimming might be necessary at the entrance of Pulas 7, but no oak tree removal is anticipated. Manzanita will be minimally trimmed and maintained with protective fencing once construction begins. Mitch Siemens a wildlife biologist for Levine Fricke Inc. (LFR Inc.) conducted a pre-construction wildlife survey of the Pulas 7 well pad on September 19, 2008. A copy of the pre-construction wildlife survey results for Pulas 7 and 8 well pads at the PXP Arroyo Grande Oilfield is provided in Appendix A.

3.6.2 Pulas 8

Proposed Pulas 8 is located uphill from Pulas 7 within an existing oil well pad that has been cleared and grubbed for well installation activities (see Figure 2). This pad and surrounding area was originally graded over thirty years ago (P. Delorenzo, Pers. Comm., 10/13/08). Currently there is an existing water injection well on the pad. This well is scheduled to be removed and a new well will be installed in its place. LFR conducted a pre-construction wildlife survey of the existing pad and did not find any sensitive wildlife species (Appendix A).

3.6.3 Softener & Brine Tank Relocation

The softeners and brine tanks are existing pieces of equipment that are used to make soft water for steam generation. The brine tanks hold the salt and water (brine) to use in the

making of soft water. These existing vessels will be located in a new area located approximately 180 feet north of the vessel location within a previously disturbed area (see Figure 3). The existing site will be cleared and grubbed to install the Brine Tanks, but no grading of previously undisturbed areas would be necessary. In addition, the existing tanks are already painted green to match the existing view shed.

3.6.4 T-201 Utility Water Tank Replacement

Tank 201 will be used to back up the filtered water and waste water tanks (T-203 & T-205). This back up will be needed when routine maintenance is performed on the other tanks (see Figure 3). This tank will be located in the northern half of the existing main facility, see Figure 3. With the addition of the approved ancillary equipment, the existing T-201 will not be able to handle the volume of fluid that will be produced from the equipment. A larger tank with a capacity of 10,000 BBL (55-feet in diameter by 24-feet tall) is needed to handle the volume. This will be a fifty percent increase in capacity with the installation of the new tank. Clearing and grubbing will be required in order to clear a pad for the larger replacement tank. All clearing and grubbing will occur in previously disturbed areas within the existing main facility. The new tanks will be painted green to match existing colors.

3.6.5 T-203 Waste Water Tank Replacement

Tank 203 will be used to collect the wastewater and provide storage for the existing waste water injection pumps. With the addition of the approved ancillary equipment, the existing T-203 which currently has a capacity of 5,000 BBL (30-feet in diameter by 24-feet tall) will not be able to handle the volume of fluid that will be produced from the equipment. Therefore, a larger tank with a capacity of 10,000 BBL (55-feet in diameter by 24-feet tall) is needed to handle the increase in fluid volume. The new tank will be located in the existing location, but will require clearing and grubbing for installation of a larger pad (see Figure 3). No substantial earth disturbance is required. This clearing and grubbing will be done in previously disturbed soils within the existing facility. The new tanks will be painted green to match existing facility colors.

3.6.6 T-205 Filtered Water Tank Replacement

Tank T-205 will be used to collect filtered water and provide storage for the existing water softeners. With the addition of the approved ancillary equipment, the existing T-205 with a current capacity of 5,000 BBL (30-feet in diameter by 24-feet tall) will not be able to handle the volume of fluid that will be produced from the equipment. Therefore, a larger tank with a capacity of 20,000 BBL (80-feet in diameter by 24 feet tall) is needed to handle the volume. Clearing and grubbing will be required in order to prepare the pad for the larger tank, although this clearing and grubbing will take place in previously disturbed soils within the existing facility and approved Phase IV boundary. No new grading or substantial earth disturbance is required. The tanks will be painted green to match the existing facility. Tank T-205 will be located on the upper portion of the existing facility where there is currently a building used for facility activities (see Figure 3).

3.6.7 Building Demolition

An existing 1500 square-foot office building within the main facility is scheduled for demolition during the equipment relocation and replacement activities. The office building is

currently located within the center of the existing tank battery area and has been vacated (see Figure 3). The building will be replaced by T-205 near the existing tank battery locations.

3.6.8 T-103 Cone Bottom De-Sand Tank Replacement

This tank is designed to separate the sand from the produced water that comes from the water out valve on the free water knockout. The newly proposed tank will replace the existing Tank 103 that is currently in use. With the start up of wells from the Phase III project, the current Tank 103 with a capacity of 750 BBL (15-feet in diameter by 28 feet tall) will not be able to handle the volumes of fluid and sand that will be produced. A larger tank with a capacity of 2,000 BBL (30-feet in diameter by 28-feet tall) is needed to handle these volumes. The new tank will be located approximately 120 feet southeast from the existing location (see Figure 3). This will allow the installation of the new tank while keeping the current tank operational. A new foundation will need to be installed, but no grading of undisturbed soils is required. Clearing and grubbing will take place in order to prepare the area for a new larger foundation. The new tank would occupy the existing location between the free water knock out and the tank battery within the main existing facility. The new tank will improve the removal of sand from produced fluids, due to better retention time in a larger tank. Lastly, the new tank will be painted green to match the existing facility.

3.6.9 T-104 Clarifier Tank Replacement

Tank 104 will be used to separate the water and oil and will replace an existing clarification tank with capacity of 1,500 BBL. With the addition of the approved ancillary equipment, the clarification tank will not be able to handle the volume of fluid that will be produced. A larger tank with capacity of 10,000 BBL (55-feet in diameter by 24 feet tall) is needed to handle the volume. The replacement tank will be installed in the existing location and no grading of undisturbed soils is required (see Figure 3). The new tank will be painted green to match the existing facility.

3.6.10 V-310, 311, 312 Hydromation Filter Replacement

These vessels will be used to filter the water before it is softened and turned into steam. Due to the age and condition of the existing sand filter and new technology these new filters will allow PXP to improve the water clarification process and reduce fouling of the existing waste water disposal wells. The new vessels will be located in the existing location, however the existing foundation will need to be upgraded to support the additional weight (see Figure 3). The new tanks will be painted green to match the existing facility.

3.6.11 V-308 Unicel Addition

This vessel will be used to further separate oil from the water. This new vessel is identical to the two existing Unicel Flootation Units that are now in service. Due to the increased fluid volumes from the Phase III drilling program the two existing Unicel Flootation Units are working at full capacity with no back-up available. The third unit will allow PXP to complete maintenance on the existing units without curtailing production. Clearing and grubbing will be done to upgrade the existing foundations to support the additional weight, however all clearing and grubbing will be done in previously disturbed soils (see Figure 3). The new tank will be painted green to match the existing facility.

3.6.12 T10400, 10401, 10433, 10434, 10397 Oil Storage Tank Replacement

The replacement of these tanks will be in-kind. The current tanks are out of service due to age and deteriorated condition. Therefore, due to health and safety concerns these tanks need to be replaced. The new tanks will be located in the existing location and will be painted green to match the existing facility (see Figure 3). The tanks that will be added are the same size (8-feet by 7-feet) as the existing tanks with no changes in service anticipated.

3.6.13 T-110 & T-111 Sand Plant Tank Replacement

These tanks will be used to separate the sand and produced water that has been collected in the vessels and tanks in the oil facilities from the wells. These new tanks will be replacing the existing tanks serving the same function. With the addition of the approved ancillary equipment the existing de-sand tanks will not be able to handle the volumes of fluid and sand that will be produced from the equipment. Therefore, four larger tanks (21-feet in diameter by 16-feet tall) and one larger tank (30-feet in diameter and 16-feet tall) are needed to handle the increased volume. The new tanks would occupy a site about 30 feet east of the existing tanks within a previously disturbed/graded area (see Figure 3 and 4). The tank pad will require grading to lower the pad five feet below existing grade. A block wall will be constructed along the perimeter of the recontoured pad area. The total grading area for the new tank pad will be approximately 30-feet by 90-feet and 5-feet in depth (+/- 500 cubic yards). The new tanks will be painted green to match existing facility colors.

3.6.14 V-203, 207, 204, 208 Free Water Knock Out & Heater Treating Replacement/Addition

These vessels are designed to separate oil from water. The new vessels will provide the same services as the existing vessels. The new vessels will be located on top of and directly adjacent to existing locations (see Figure 3). This will allow PXP to install two new vessels while keeping the other vessels operational. The new vessels would occupy the existing location between the free water knock out and the steam generators within the main facility.

3.7 PROJECT CONSTRUCTION

Proposed construction activities for the water injector wells would involve the same methodologies as discussed in the PXP Phase IV Development Plan EIR. As such, all previously approved mitigation measures applicable to construction would also apply to well construction at Pulas 7 and 8. All other facility/equipment replacement and relocation activities are also discussed in the Phase IV Development Plan EIR and therefore the existing mitigation measures are applicable.

3.8 MAINTENANCE

Maintenance for the new water injector well pads and equipment relocation/replacement will be the same as proposed in the PXP Phase IV Development Plan EIR. As such, all applicable Final EIR mitigation measures applicable to site maintenance would also apply to the long-term management of Pulas 7 and 8, and the equipment relocation/replacement.

4.0 IMPACT ANALYSIS

4.1 IMPACT ANALYSIS

The following impact discussion provides an overview of the potential environmental impacts associated with the proposed Pulas 7, Pulas 8 and equipment relocation/replacement activities. This includes a brief discussion of the existing environmental conditions of the project site and any potential environmental impacts that may occur as a direct result of project implementation.

4.1.1 Traffic and Circulation

The proposed project is expected to result in a short-term increase in local traffic volumes due to proposed activities, including the replacement and relocation of equipment within the main facility (i.e., delivery of new tank and facility materials, etc.) However, these short-term traffic and circulation impacts would be mitigated to less than significant with the implementation of the mitigation measures adopted within the Phase IV Development Plan EIR (see Table 1). No long-term traffic increases would be expected with proposed project implementation.

4.1.2 Air Quality

The proposed project would result in a short-term increase in air pollutant emissions as a result of proposed construction activities, including exhaust emissions from vehicles and heavy equipment, and fugitive dust. This would include a combination of autos and light-duty trucks used to transport workers and equipment operators, and heavy-duty trucks to transport new tanks and equipment to the facility. However, short-term air quality impacts would be mitigated to less than significant with the implementation of the mitigation measures adopted within the Phase IV Development Plan EIR (see Table 1). The proposed project would not result in the introduction of any new emission sources (e.g., steam generators, tank heaters, etc.); therefore mitigation measures for long-term air quality impacts would not be applicable.

4.1.3 Biological Resources

All proposed project activities would occur within previously disturbed areas of the existing main facility, including several previously graded well pad areas (Pulas 7 and 8). A pre-activity survey of the proposed Pulas 7 and 8 well pad areas was conducted by a qualified biologist and did not result in the identification of any special-status species within the previously graded areas (see Appendix A – Mitigation Monitoring Field Report). Therefore, with the implementation of the approved mitigation measures adopted within the Phase IV Development Plan EIR (see Table 1); the proposed project would result in less than significant impacts to biological resources. This would include installation of protective fencing along proposed access roadways to protect existing Well's manzanita and coast live oaks in those areas. Refer to Table 1 for an overview of biological resources mitigation measures.

4.1.4 Cultural Resources

All proposed construction activities would occur within previously disturbed areas; therefore, impacts to cultural resources would be considered less than significant. Refer to

Table 1 for an overview of applicable cultural resources mitigation measures adopted from the Phase IV Development Plan EIR.

4.1.5 Geology and Soils

Demolition, excavation, and grading activities associated with the proposed project would require the use of heavy equipment to remove, relocate, and dispose of miscellaneous materials. The excavation and grading activities would result in the removal of existing vegetation and expose erodible soils. Additionally, short-term use of heavy equipment would result in localized soil compaction and reduce soil permeability. This would potentially increase the volume and velocity of surface sheet flows during rain events. Consequently, the proposed project would have the potential to result in short-term drainage, erosion, and sedimentation impacts. However, the overall excavation and grading activities at the project site are expected to be short-term and limited to previously disturbed areas. Further, potential short-term erosion and sedimentation impacts would be reduced to less than significant levels with implementation of the Phase IV Development Plan EIR mitigation measures outlined in Table 1. Lastly, no impacts are anticipated from geologic or seismic hazards.

4.1.6 Noise

The proposed project would involve the use of a variety of construction equipment, including but not limited to loaders, excavators, and backhoes. The distance between the proposed project site and the nearest residence is approximately 5,000 feet. The combination of distance, topographic barriers, and implementation of the Phase IV Development Plan EIR mitigation measures (see Table 1) would reduce the noise impacts to less than significant. The proposed project would not result in the introduction of any noise sources (e.g., steam generators, tank heaters, etc.), therefore mitigation measures for long-term noise impacts would not be applicable.

4.1.7 Hazards/Risk of Upset

Well drilling, workover, re-drilling, or steam injection activities associated with the proposed project would have the potential to create additional site hazards and increase the risk of upset including well blow-outs which could result in an uncontrolled release of fluids and possibly explosion and/or fire. However, due to the limited scope of the proposed project, the overall increase of hazards/risk of upset at the site would be considered low. Further, implementation of Phase IV Development Plan EIR mitigation measures summarized in Table 1 would reduce potential hazards/risk of upset impacts to less than significant.

4.1.8 Mitigation Measures

An analysis of all applicable PXP Phase IV Development Plan Final EIR mitigation measures was conducted to determine if the proposed project modifications represent substantial changes to the original project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. This analysis has been summarized in the attached Table 1 and includes the Impact Number and Description, Mitigation Measure, Project Modification Discussion, and a determination of Substantial Conformance. Mitigation measures considered inapplicable to the proposed project modification were not included in Table 1. For a complete list of mitigation measures please refer to the Phase IV Final EIR. The table included in this addendum is only a summary of mitigation measures applicable to Pulas 7, Pulas 8 and

the proposed equipment relocation/replacement activities. Based on the analysis provided in Table 1, the proposed project modifications will substantially conform to existing mitigation measures of the Phase IV Final Environmental Impact Report.

5.0 ALTERNATIVES ANALYSIS

The alternatives analysis provided in the Final EIR adequately addresses the impacts of the modified project and remain valid.

6.0 GROWTH INDUCEMENT

The growth inducement analysis provided in the Final EIR adequately addresses the impacts of the modified project and remain valid.

7.0 REFERENCES

California Resources Agency. 2007. *Guidelines for Implementation of the California Environmental Quality Act*. http://ceres.ca.gov/topic/env_law/ceqa/guidelines/index.html.

County of San Luis Obispo. 1981. *Final Environmental Impact Report*.

Levine Fricke. 2008. *Pre-Construction Wildlife Survey Results for the Pulas 7 and Pulas 8 Well Pads at the PXP Arroyo Grande Oilfield*. Prepared for Firma. San Luis Obispo, CA.

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TABLE

**TABLE 1
SUMMARY OF APPLICABLE IMPACTS AND MITIGATION MEASURES
PXP PHASE IV DEVELOPMENT PLAN PROJECT ADDENDUM (PULAS 7, PULAS 8, AND EQUIPMENT RELOCATION/REPLACEMENT)**

Impact No./Description	Mitigation Measure Summary	Project Modification Discussion	Substantial Conformance?
TRAFFIC AND CIRCULATION			
TRA-1	Construction-related traffic may reduce the LOS along Price Canyon Road.	No mitigation is required.	Yes
TRA-2	Entering and exiting of the trucks may reduce traffic safety on Price Canyon Road during the A.M. and P.M. peak hour.	Trucks (delivery, hauling and transportation trucks) should be scheduled outside the A.M. and P.M. peak period (7:00 to 9:00 A.M. and 4:00 to 6:00 P.M. to the extent feasible (no increase in truck trips will occur during the A.M. and P.M. peak periods). Construction related traffic shall use on-site roads wherever possible. Warning signs should be placed on Price Canyon Road prior to construction to notify through traffic of trucks entering and exiting the site.	Proposed modifications would not affect the severity of this impact. Mitigation measures would remain applicable.
AIR QUALITY			
AQ-1	Construction activity would generate air emissions that may adversely impact local and regional air quality.	<u>Equipment Emission Control Measures:</u> Prior to construction, a Drilling Emissions Reduction and Monitoring Plan shall be developed, approved by the County and fully implemented. The Plan shall specify the emissions control measures to be implemented on each emission source, the expected reduction for each criteria pollutant, the period the emissions control measures are to be in place, and a quarterly summary of the emissions reductions. The summary shall include sufficient information for the APCD to verify the emissions reductions have occurred. <u>Dust Control Measures:</u> Dust generated	Project changes would result in slight increase of air emissions due to the installation of two additional wells. However, proposed project modifications would not affect the severity of this impact, such that AQ-1 would need to be modified. Mitigation measures would remain applicable.

**TABLE 1
SUMMARY OF APPLICABLE IMPACTS AND MITIGATION MEASURES
PXP PHASE IV DEVELOPMENT PLAN PROJECT ADDENDUM (PULAS 7, PULAS 8, AND EQUIPMENT RELOCATION/REPLACEMENT)**

Impact No./Description	Mitigation Measure Summary	Project Modification Discussion	Substantial Conformance?
	<p>by construction activities shall be kept to a minimum by full implementation of the following measures.</p> <p>Emission Offsets. Project emissions remaining following implementation of the above mitigation measures shall be offset through contribution to an off-site mitigation fund. The fund is managed by the APCD and used to finance regional emission reduction projects such as bikeways, vehicle scrapping programs, diesel bus conversions, agricultural engine replacements and similar activities. Therefore, project emissions would be offset on a regional basis through applicant-funded off-site projects that would result in emissions reductions. Based on past experience the APCD has determined that \$8,500 is required per ton NOx reduced. These funds would be used by the APCD to purchase clean-burning engines and other equipment/facilities that would result in a decrease in emissions in the County. The financial contribution would be paid on a per well basis, based on the number of wells to be drilled during a known period. The dollar amount shall be based on offsetting excess emissions (greater than 2.5 tons NOx per quarter) at \$8,500 per ton.</p>		
AQ-2	Diesel fuel combustion associated with project construction activity would generate emissions of toxic air contaminants.	Proposed project modifications would not affect the severity of this impact.	Yes

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Impact No./Description	Mitigation Measure Summary	Project Modification Discussion	Substantial Conformance?
AQ-3 Fugitive dust generated by construction activity may contain asbestos and result in exposure of the public to this toxic air contaminant.	No mitigation is required.	Proposed project modifications would not affect the severity of this impact.	Yes
AQ-4 Operation of the proposed oil production facilities would result in NOx and ROG emissions from steam generators that may adversely affect local and regional air quality	<p>A. The proposed steam generators would be lo-NOx designs and comply with APCD Rule 430. No further emission controls are considered feasible. However, emissions can be offset through the contribution to an off-site mitigation fund to finance regional emission reduction projects such as bikeways, diesel bus conversions, agricultural engine replacements and similar activities.</p> <p>B. Alternatively, the project proponent may elect to reduce emissions from existing steam generators and other fuel burning equipment such as heater treaters, tank heaters and glycol reboilers. Emissions may be reduced through the retrofit of existing burners with lo-NOx designs. Emissions could be reduced to a level of less than significant through a combination of these measures.</p>	Proposed project modifications would not affect the severity of this impact. Mitigation measures would remain applicable.	Yes

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Impact No./Description	Mitigation Measure Summary	Project Modification Discussion	Substantial Conformance?
AQ-5	<p>Operation of the proposed oil production facilities would result in fugitive emissions from valves, flanges and other components associated with well production.</p>	<p>The applicant is fully implementing the requirements of Rule 417, which requires quarterly monitoring for leaks, and repair of leaks completed within 14 days for minor gas leaks, 5 days for major gas leaks and 2 days for liquid leaks. Based on Table 5-3 of Protocol for Equipment Leak Emission Estimates (EPA, 1995b) it was assumed that full implementation of the requirements of Rule 417 would result in at least a 61 percent reduction in fugitive hydrocarbons. Project ROG emissions could be reduced further as discussed above under Mitigation Measure AQ-4.</p>	<p>Proposed project modifications would not affect the severity of this impact. Mitigation measures would be applicable to project modifications.</p> <p align="center">Yes</p>
AQ-6	<p>Toxic air contaminants contained with steam generator exhaust and fugitive hydrocarbon emissions may result in unacceptable human health risk.</p>	<p>As part of permitting for the proposed steam generators (New Source Review), the APCD would require the project proponent to complete a comprehensive facility-wide health risk assessment (HRA) according to the Emission Inventory Criteria and Guidelines for the "Hot Spots" program. The Assessment would include a facility-wide inventory of toxic air contaminants (including sulfur compounds), air dispersion modeling to determine ground-level concentrations at adjacent residences and application of unit risk factors to identify cancer and non-cancer health risk. Should the results of the health risk assessment indicate unacceptable health risk, mitigation measures may be required to reduce health risk by reducing ground-level concentrations of toxic air contaminants.</p>	<p>Proposed project modifications would not affect the severity of this impact. Mitigation measures would be applicable to project modifications.</p> <p align="center">Yes</p>
AQ-7	<p>The impact of odors from the expansion of the oil production is an air quality issue.</p>	<p>While no mitigation is required, an <u>Odor Monitoring and Complaint Response Plan</u></p>	<p>Proposed project modifications would not affect the severity of this</p> <p align="center">Yes</p>

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Impact No./Description	Mitigation Measure Summary	Project Modification Discussion	Substantial Conformance?
	may be developed, approved by the APCD and fully implemented.	impact. Mitigation measures would remain applicable.	
BIOLOGICAL RESOURCES			
BIO-1 Construction activities could result in the disturbance of wildlife occupying adjacent habitats.	No mitigation required.	Proposed project modifications would not affect the severity of this impact.	Yes
BIO-2 Construction activities could adversely affect nesting activities of protected migratory birds.	Construction and drilling operations shall be conducted prior to the initiation of nesting, or after the completion of nesting to avoid any potential impact to migratory birds. As required this shall include pre activity nesting bird surveys per original condition BIO-2 measures A and B.	Proposed project modifications would not affect the severity of this impact. Mitigation measures would remain applicable.	Yes
BIO-3 Construction activities could adversely affect special-status plant and animal species potentially occurring in the project area.	The following mitigation measures are recommended to avoid and/or minimize impacts to special-status species known to occur or with the potential to occur within the existing and newly proposed well pads during construction. This includes protective measures to avoid and/or minimize impacts to Well's Manzanita during the construction phase of the project, including general measures A through K.	Proposed project modification would not affect severity of this impact. Mitigation measures for BIO-3 would remain applicable. A biological resources pre-activity survey was completed within Pulas 7 and 8 per the requirements of BIO-3. Protective fencing will be installed along the perimeter of the well pads to protect existing sensitive botanical resources (i.e., Well's Manzanita and oak trees). No other special-status species were observed on-site. LFR's pre-construction survey letter is attached in Appendix A. Proposed replacement activities should not affect special status plants or	Yes

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Impact No./Description	Mitigation Measure Summary	Project Modification Discussion	Substantial Conformance?
BIO-5	Implementation of the Phase IV Expansion will result in the removal of up to 46 coast live oak trees and an additional 107 oak trees could be impacted by proposed activities.	<p>animals due to the fact that activities are occurring in pre disturbed main facility areas.</p> <p>Proposed project modification would not affect severity of this impact. Mitigation measures for BIO-5 would remain applicable.</p>	Yes
CULTURAL RESOURCES			
CUL-1	Construction during the proposed project could result in the inadvertent damage to historic, cultural, archaeological, and/or burials during earthmoving activities.	<p>Cultural Resource sites SLO-353, SLO-652, and SLO-1266 shall be avoided. Any future ground disturbances within a 150-foot buffer from the sites shall be subject to a subsurface archaeological excavation program to assess artifact presence in these areas. If artifacts do exist and cannot be feasibly avoided, a Phase 2 archaeological significance assessment program, and, if necessary, a Phase 3 data recovery mitigation program, shall be carried out by a qualified archaeologist and all construction activity within the sites and buffer areas shall be monitored by a qualified archaeologist and Native American monitor. The archaeological sites and buffer areas shall be indicated as "Environmental Sensitive Areas" on grading plans. If construction is proposed within 100 feet of the buffer areas, the areas shall be temporarily fenced to protect from disturbance. All significance assessment and mitigation activities shall be funded by the applicant. In addition,</p>	Proposed project modifications would not affect the severity of this impact. Mitigation measures would be applicable to project modifications.

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Impact No./Description	Mitigation Measure Summary	Project Modification Discussion	Substantial Conformance?
	<p>such buffer zones shall be observed for Areas A, B, and C.</p> <p>In the event that unknown cultural remains are encountered anywhere within the project area during construction, activities shall be terminated or redirected to another area until a qualified archaeologist can be retained to evaluate the potential significance of the finds in a Phase 2 archaeological significance investigation or PXP shall have the option to relocate work permanently without need to conduct further studies at that location. Relocation of work and any subsequent archaeological investigation would be done in consultation with the County of San Luis Obispo. If they are significant and cannot be feasibly avoided, then a Phase 3 data recovery mitigation program shall be performed by a qualified archaeologist, and all construction activity within the site and 150-foot buffer area shall be monitored by a qualified archaeologist and Native American monitor. All Phase 3 significance assessments and Phase 3 mitigation activities shall be funded by the applicant.</p>		
GEOLOGY AND SOILS			
GEO-1	Construction of the proposed project may result in a substantial, or potentially substantial, adverse change in the physical condition of the land.	Proposed project modifications would not affect the severity of this impact.	Yes

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Impact No./Description	Mitigation Measure Summary	Project Modification Discussion	Substantial Conformance?
GEO-2	<p>Construction of the proposed project could result in short-term increases in erosion and sedimentation resulting from earth-moving operations and exposed soils.</p>	<p>In compliance with the Land Use Ordinance, the applicant will prepare and implement a Sediment and Erosion Control Plan (SECP) for the proposed project. The SECP will include: In compliance with Section 23.05.020 – Grading, the applicant will prepare a grading plan for the project. PXP will comply with the requirements under a general stormwater construction permit, which may be required by the RWQCB for the project. Such requirements may include preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would include provisions for the installation and maintenance of Best Management Practices to reduce the potential for erosion of disturbed soils at the Project site.</p>	<p>Proposed project modifications would not affect the severity of this impact. Mitigation measures would remain applicable.</p> <p align="center">Yes</p>
GEO-3	<p>Groundwater quality may be impacted by the project.</p>	<p>To minimize any impact on groundwater downgradient from the site, petroleum products should be removed from wastewater generated in the oil recovery process prior to reinjection. In addition, the water quality of the shallow aquifer zone beneath and downgradient from the site should be monitored regularly to detect any water quality impacts of project activities (e.g., steam or produced water injection). This can be accomplished by monitoring of wells on the property. The number of wells and well locations and frequency should be</p>	<p>Proposed project modifications would not affect the severity of this impact. Mitigation measures would remain applicable, such that GEO-3 would need to be modified.</p> <p align="center">Yes</p>

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Impact No./Description	Mitigation Measure Summary	Project Modification Discussion	Substantial Conformance?
	adequate to detect any impacts to water quality as determined by the appropriate jurisdictional authority. See also HAZ-1D. Copies of any reports shall be promptly provided to the County.		
NOISE			
NOI-1	Construction activities would result in short-term noise impacts to nearby residences.	The authorization of future well and well pad construction associated with the Conditional Use Permit for this project should incorporate the following mitigation measures. Coordination between the County, the applicant, and a third-party monitor shall occur to ensure effective implementation of these measures. Excluding drilling activities, no use of heavy equipment or heavy-duty trucks shall occur between 7 p.m. and 7 a.m. Noise attenuation blankets or other devices with a sound transmission class of 25 or greater shall be installed at Signal 113D and Morehouse 303 at a height exceeding the highest exhaust outlet and in a line-of-sight alignment so as to minimize noise attenuation at these Equipment engine covers shall be in place and mufflers shall be in good condition.	Proposed project modifications would not affect the severity of this impact. Mitigation measures for NOI-1 would remain applicable. Yes
NO-2	Operation of the steam generators may result in noise impacts to nearby residences.	No mitigation is required.	Proposed project modifications would not affect the severity of this impact. Yes
NO-3	Operation of the oil well pumping units may	No mitigation is required.	Proposed project modifications Yes

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Impact No./Description	Mitigation Measure Summary	Project Modification Discussion	Substantial Conformance?
result in an increase in noise levels at nearby residences.		would not affect the severity of this impact.	
NO-4 The additional 25 truck trips/day to transport the produced oil from the proposed project may increase noise levels along Price Canyon Road.	No mitigation is required.	Proposed project modifications would not affect the severity of this impact.	Yes
HAZARDS/RISK OF UPSET			
HAZ-1 Well drilling, workover, re-drilling, or steam injection activities could experience a well blow-out resulting in the uncontrolled release of fluids and possibly explosion and fire.	HAZ -1A - Prior to initiation of well drilling activities, the applicant shall complete table-top and field emergency training with CDF/County Fire, County Hazardous Materials Team, and DOGGR. PXP shall provide CDF/County fire with actual costs to cover the expenses of the training exercises, including overtime and equipment replacement. The amount of this training shall not exceed \$8,000 every two years of \$4,000 annually. HAZ 1C – PXP shall submit a Notice of Intent and obtain written approval from the State Oil and Gas Supervisor prior to drilling, reworking, injecting into, plugging, or abandoning any well. The Notice of Intent will be reviewed by DOGGR on an engineering and geological basis. PXP will be required to submit detailed geological and engineering information to support the project. Approval will be subject to protection of the public and the environment by using adequate blowout prevention equipment. DOGGR will monitor potential risks from critical wells (wells located in close proximity to Price Canyon Road and the UPRR railroad) as part of their well application review	Proposed project modifications would not affect the severity of this impact. Mitigation measures would remain applicable.	Yes

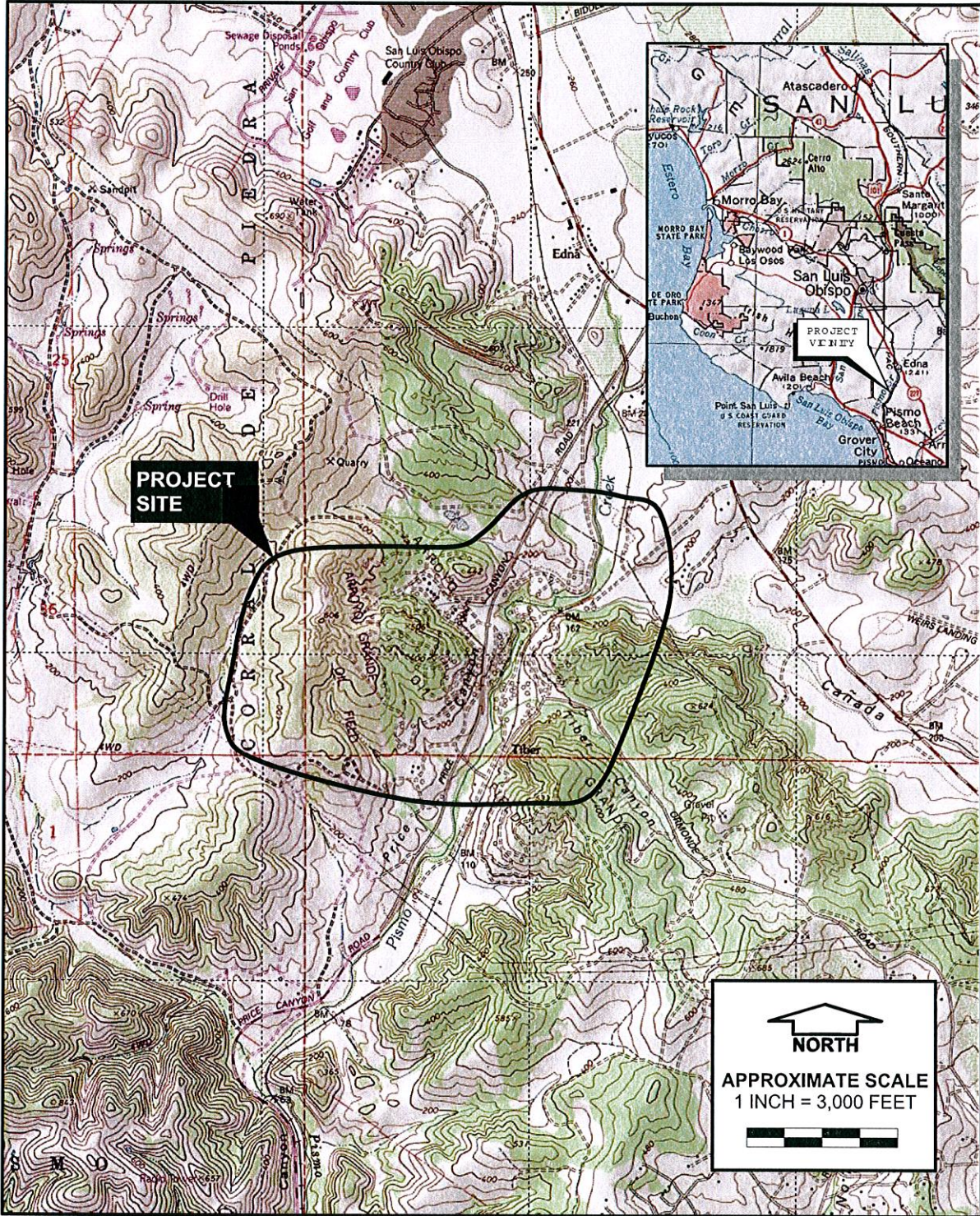
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Impact No./Description	Mitigation Measure Summary	Project Modification Discussion	Substantial Conformance?
HAZ-2	<p>An oil spill could occur at abandoned wells or other surface locations at the project site during water injection or steam injection activities.</p>	<p>process. HAZ 1D – Prior to approval, PXP shall develop a contingency plan for proper wastewater handling in the event that adequate wastewater injection capacity cannot be developed. During water injection and steaming operations, PXP shall make daily inspections of drainages, known nearby well sites, and surface seeps within the 2,000 feet of the injection locations to identify oil release at the ground surface. In the event of a spill release, the applicant shall immediately notify the appropriate regulatory agencies of the discovery and implement spill response, mitigation, and clean-up activities. As required by DOGGR, abandoned oil wells identified to have the potential to release oil to the environment shall be re-abandoned to current DOGGR standards. HAZ-2B – The applicant shall store on-site cleanup materials including diking materials and absorbent material such as pads and booms that will be accessible to the fire department in case of emergency. The applicant shall provide CDF/County Fire with two gas detectors for the closest responding fire engines or HAZ MAT Unit who would respond to an incident at the oil fields or along the travel routes to the refinery. These detectors shall be capable of detecting combustible levels and Hydrogen Sulfide (H2S) levels and will be the equivalent of the iTX Multi-Gas Monitor.</p>	<p>Proposed project modifications would not affect the severity of this impact. Mitigation measures related to spill response would remain applicable.</p> <p>Yes</p>

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HAZ-3 The proposed project could generate risks to the public safety and the environment by exposure to crude oil spills, subsequent fires during transportation and wildfires due to operations.	<p>HAZ-3A – On an annual basis, the applicant shall provide CDF/County Fire and County Environmental Health with their emergency response plan for review and approval. The plan will include procedures and annual training exercises with CDF/County Fire, the County Hazardous Materials Team, and other appropriate agencies on handling a petroleum or hydrogen sulfide emergency at the Project Site. See Mitigation Measure HAZ-1A.</p> <p>HAZ-3B – The applicant shall produce CDF/County Fire a Fire Hydrant System plan for approval prior to construction. This plan shall be implemented before construction commences.</p> <p>HAZ-3C – PXP shall submit a vegetation management plan to CDF/County Fire for approval prior to issuance of construction permits. This will identify measures to minimize the risk of wildfires due to operation of existing and proposed new pipelines and powerlines. It will also make recommendations for protection of such facilities from a wildfire fire.</p>	Proposed project modifications would not affect the severity of this impact. Mitigation measures would be applicable to project modifications.	Yes
HAZ-5 An accidental release of gas containing hydrogen sulfide could pose a risk to on-site worker or adjacent populations.	Refer to Measures HAZ-2 and HAZ-3A.	Proposed project modifications would not affect the severity of this impact. Mitigation measures would be applicable to project modifications.	Yes

FIGURES



Source: TOPO! c 2001 National Geographic Holdings (www.topo.com)

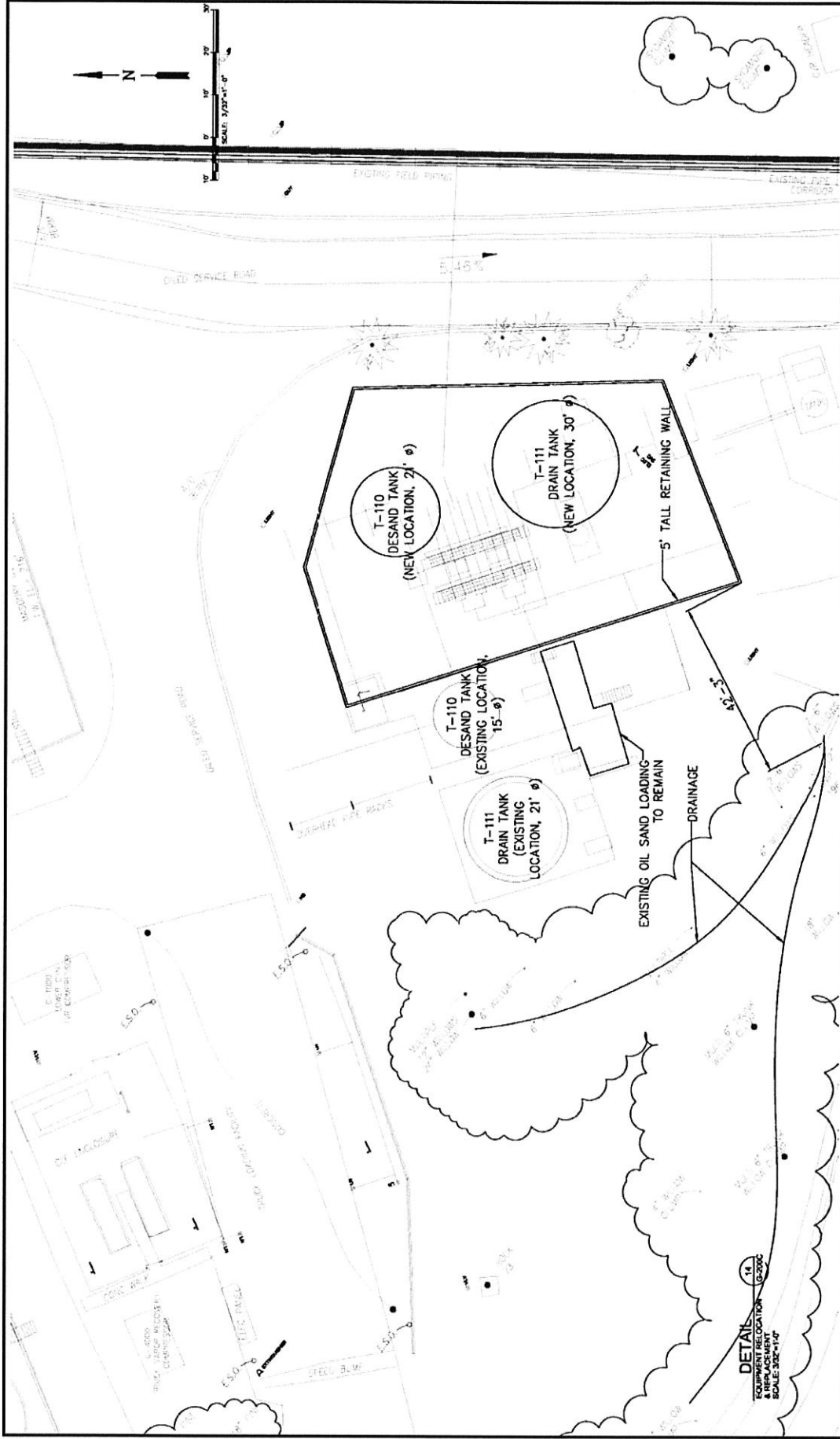
November 2008
Project No. 0202-2723



PROPOSED WATER INJECTOR WELL LOCATION MAP
FIGURE 2

Source: Firma
padre
CORPORATION
ENVIRONMENTAL, GEOLOGICAL &
ENGINEERING CONSULTANTS &
SCIENTISTS

November 2008
Project No. 0202-2723



Source: Adair Engineering

TANK 110 & TANK 111 RELOCATION
FIGURE 4

APPENDIX A



ENVIRONMENTAL MANAGEMENT & CONSULTING ENGINEERING

September 24, 2008

Mr. David Foote
Firma
1034 Mill Street
San Luis Obispo CA 93401

Subject: Pre-Construction Wildlife Survey Results for the Pulas 7 and Pulas 8 Well Pads at the PXP Arroyo Grande Oilfield

Dear Mr. Foote:

Pre-construction wildlife surveys were conducted by LFR Inc. at the Pulas 7 & 8 well pads at the PXP Arroyo Grande Oilfield on September 19th, 2008. The survey results were negative for sensitive wildlife species. The Pulas 8 well pad has recently undergone preparation for scheduled drilling activity and as a result provides very little habitat that could be used by sensitive species such as the California horned lizard (*Phrynosoma coronatum*) or the silvery legless lizard (*Anniella pulchra*); both target species for the surveys. The Pulas 7 well pad has not yet been cleared or prepared for drilling operations however, no wildlife species were observed on the pad during the survey. LFR noted no significant environmental impacts caused by preparation of the Pulas 8 well pad.

If you have questions regarding the survey results or if I may be of further service, please call me at 349-7180.

Sincerely,

A handwritten signature in black ink that reads "Mitch Siemens".

Mitch Siemens
Wildlife Biologist
LFR Inc.

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