Craig Carlisle

URS

SAN DIEGO REGIONAL
WATER QUALITY
CONTROL BOARD

2008 MAY 15 A 10: 10

May 13, 2008

California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, California 92123

Attention: Mr. Bob Morris

Submittal of CEQA Initial Study and Negative Declaration for
In-Situ Chemical Oxidation Pilot Study
Former Texaco Station and Former Shell Station
105 and 112 South Rancho Santa Fe Road
San Marcos, California
SAM Case Number: H05804-002 and H03229-001

Dear Mr. Morris,

Enclosed please find two copies of the California Environmental Quality Act (CEQA) Initial Study and Negative Declaration for a proposed In-Situ Chemical Oxidation Pilot Study at the former Texaco and former Shell service stations in San Marcos, California.

URS Corporation (URS) is submitting this Initial Study and Negative Declaration on behalf of the Resource Environmental Limited Liability Corporation (RELLC).

As indicated in the attached Initial Study and Negative Declaration (dated May 13, 2008), URS proposes to inject hydrogen peroxide and sodium persulfate into groundwater that is impacted by petroleum hydrocarbons, fuel oxygenates, and volatile organic compounds to assess the potential for the in-situ destruction of these chemicals.

The County of San Diego Department of Environmental Health (DEH) Site Assessment and Mitigation Program (SAM) case manager assigned to this project is Mr. Jon Senaha. Mr. Senaha's phone number is 619.338.2195.

Please contact the undersigned at 714.853.6886 if you have any questions with regard to the Initial Study.

Sincerely,

URS CORPORATION

Matt S. Himmelstein, PE
Sr. Project Engineer

for Michael Welch
Project Manager

Attachments: In-Situ Chemical Oxidation Pilot Study Initial Study and Negative Declaration

URS Corporation
2020 East First Street, Suite 400
Santa Ana, CA 92705
Tel: 714.835.6886
Fax: 714.667.7147

cc: Mr. John Englehardt, RELLC
Mr. Marvin Katz, Shell Oil Products, U.S.
Mr. Eric Roehl, Chevron U.S.A. Inc.
Mr. Jon Senaha, DEH SAM
Mr. Jerome Zimmerle, URS

Craig Carlisle

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CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) - INITIAL STUDY & NEGATIVE DECLARATION

IN-SITU CHEMICAL OXIDATION (ISCO) PILOT STUDY

Prepared for

Resource Environmental Limited Liability Corporation (RELLC)
4700 LA Highway 22, Suite 520
Mandeville, Louisiana 70471

May 13, 2008

Prepared by

URS

URS Corporation
2020 East First Street, Suite 400
Santa Ana, CA 92705
(714) 835-6886 Fax: (714) 433-7701

TABLE OF CONTENTS

Section **Page**

1.0 INTRODUCTION 1-1

1.1. PROJECT DESCRIPTION INFORMATION 1-1
1.1.1. Project Title 1-1
1.1.2. Lead Agency 1-1
1.1.3. Contact Person 1-1
1.1.4. Project Location 1-1
1.1.5. General Plan Designation 1-1
1.1.6. Zoning 1-2
1.1.7. Description of Project 1-2

2.0 ENVIRONMENTAL CHECKLIST 2-1

3.0 ENVIRONMENTAL ANALYSIS 3-1

3.1. AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS OF THE PROPOSED PROJECT 3-1
3.2. AESTHETICS 3-1
3.3. AGRICULTURAL RESOURCES 3-1
3.4. AIR QUALITY 3-2
3.5. BIOLOGICAL RESOURCES 3-3
3.6. CULTURAL RESOURCES 3-3
3.7. GEOLOGY AND SOILS 3-4
3.8. HAZARDS AND HAZARDOUS MATERIALS 3-5
3.9. HYDROLOGY AND WATER QUALITY 3-6
3.10. LAND USE AND PLANNING 3-9
3.11. MINERAL RESOURCES 3-9
3.12. NOISE 3-9
3.13. POPULATION AND HOUSING 3-10
3.14. PUBLIC SERVICES 3-10
3.15. RECREATION 3-11
3.16. TRANSPORTATION / TRAFFIC 3-11
3.17. UTILITIES AND SERVICE SYSTEMS 3-11
3.18. MANDATORY FINDINGS OF SIGNIFICANCE 3-11

4.0 REFERENCES 4-1

LIST OF FIGURES

Figure 1 Site Vicinity Map
Figure 2 Proposed In-Situ Chemical Oxidation Injection Points Location Map
Figure 3 Aerial Photograph Depicting Surface Water Features

1.0 INTRODUCTION

1.1. PROJECT DESCRIPTION INFORMATION

This environmental document is an Initial Study (IS). An IS is a preliminary analysis prepared by the Lead Agency to determine whether an Environmental Impact Report (EIR) or Negative Declaration (ND) must be prepared when evaluating the potential environmental impacts of a proposed project. A ND is a written statement by the Lead Agency briefly describing the reasons that a proposed action, which is not otherwise exempt from the California Environmental Quality Act (CEQA) of 1970, as amended, would not have a significant effect on the environment and; therefore, does not require the preparation of an EIR. NDs that recommend the implementation of mitigation measures to reduce potentially significant environmental impacts to an insignificant level are termed Mitigated NDs. The project evaluated in this IS is comprised of an in-situ chemical oxidation pilot study for groundwater remediation at an existing gasoline service station.

1.1.1. Project Title

In-Situ Chemical Oxidation Pilot Study

1.1.2. Lead Agency

California Regional Water Quality Control Board, San Diego Region (SDRWQCB)

9174 Sky Park Court, Suite 100

San Diego, California 92123

1.1.3. Contact Person

Mr. Bob Morris, Senior Water Resource Engineer, SDRWQCB

1.1.4. Project Location

The project Site is located at 105 South Rancho Santa Fe Road, which is located on the southeast corner of South Rancho Santa Fe Road and Descanso Avenue in the City of San Marcos, in San Diego County, California (Figures 1 and 2). State Route 78 is located approximately 0.10 miles north of the project Site. There are commercial and industrial businesses surrounding the project Site to the north, south, east, and west, with some residential housing located approximately 0.10 miles to the west and upgradient from the project Site.

1.1.5. General Plan Designation

Industrial

1.1.6. Zoning

The project Site is located in an industrial zone per the City of San Marcos General Plan.

1.1.7. Description of Project

The proposed in-situ chemical oxidation (ISCO) pilot study project (project) will be conducted at 105 South Ranch Santa Fe Road (the Site), where an existing gasoline service station (Rancho Santa Fe, an independently owned service station) currently exists. The property was previously owned and operated by Texaco. Analytical results from the groundwater samples collected from onsite groundwater monitoring wells indicate that groundwater is impacted with petroleum hydrocarbons, volatile organic compounds (VOCs), and fuel oxygenates.

The project will involve injecting oxidants (calcium peroxide and sodium persulfate) into the subsurface to reduce concentrations of the constituents of concern within the groundwater. Additional monitoring wells will be installed in the vicinity of the ISCO injection points to identify vertical contaminant distribution, monitor effects of the oxidant injections, and identify oxidation reaction by-products. These wells will be permitted by the County of San Diego Department of Environmental Health (DEH).

Project Objectives

The project objective is to assess whether injecting oxidants (calcium peroxide in combination with sodium persulfate) is effective for reducing concentrations of petroleum hydrocarbons, VOCs, and fuel oxygenates in impacted groundwater at the Site.

How Objectives will be Accomplished

To meet the project objectives, RELLC proposes to conduct a pilot study at the Site. The pilot study will be conducted in three phases; pre-oxidant injection activities, pneumatic fracturing and injections, and groundwater monitoring activities. A Waste Discharge Requirement (WDR) permit application has been submitted to the SDRWQCB for approval of the calcium peroxide and sodium persulfate injection activities.

Existing Site Conditions

An operating Rancho Santa Fe independently owned service station currently occupies the Site located at 105 Rancho Santa Fe Road, which is located at the southeastern corner of the intersection of Rancho Santa Fe Road and Descanso Avenue in San Marcos, California. There are two, 20,000-gallon, double-walled, underground storage tanks (USTs) onsite that are used for storing gasoline and diesel; two dispenser islands with associated product piping; and a station building. From the late 1970s to June 2003, this Site was operated as a Texaco service station. The former Texaco station consisted of three, 10,000-gallon, double-walled, gasoline USTs and

one, 10,000-gallon, diesel UST. Based on available site records, the current and former tanks and dispensers are in the same general locations.

Environmental Setting

Land uses near the Site include commercial and industrial to the north, south, east, and south, and residential property to the west and upgradient from the Site. A retail shopping center and associated parking lots are located east and south of the Site.

Regulatory Approvals

The project may require the following regulatory approvals, permits, and notifications:

- Certification of the environmental document by the SDRWQCB;
- County of San Diego DEH, Site Assessment and Mitigation Program work plan approval (granted April 4, 2008);
- San Diego County DEH well permitting; and
- Notification to Underground Services Alert (USA) of subsurface investigations at least 48 hours prior to field activities.

Environmental Review Process

This Draft IS/ND evaluates potentially significant environmental effects of the proposed project, and also identifies measures that would mitigate potentially significant effects of the project or reduce other non-significant effects. CEQA does not require that an IS identify mitigation measures for impacts that would not be significant [CEQA Sec. 21100(c)]. The environmental issues evaluated in this IS/ND include the following:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Seismicity, and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise

- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Services Systems

2.0 ENVIRONMENTAL CHECKLIST

This section presents an Environmental Checklist Form for the project, as required by CEQA for an IS. The impact analyses for environmental disciplines included herein are presented in Section 3.0.

1. Project title: In-Situ Chemical Oxidation Pilot Study
2. Lead agency name and address:

   California Regional Water Quality Control Board, San Diego Region (SDRWQCB)

   9174 Sky Park Court, Suite 100, San Diego, California 92123
3. Contact person and phone number: Mr. Bob Morris, Senior Water Resource Engineer, SDRWQCB, (858) 467-2962
4. Project location: 105 South Santa Fe Road, San Marcos, County of San Diego, CA
5. Project sponsor's name and address:

   Resource Environmental Limited Liability Corporation (RELLC)

   4700 LA Highway 22, Suite 520, Mandeville, Louisiana 70471
6. General plan designation: Industrial
7. Zoning: Industrial (M): City of San Marcos General Plan
8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

   San Diego DEH has determined that groundwater underlying the Site has been impacted with petroleum hydrocarbons, VOCs, and fuel oxygenates. As a result, RELLC proposes to conduct a pilot study to determine if injection of oxidants (calcium peroxide and sodium persulfate) is effective at reducing concentrations of the constituents of concern. The project involves the use of a direct-push drill rig, generator, air compressor and a pneumatic fracturing tool that will be used for the chemical injections. ISCO-related activities will occur during normal business hours with as little disruption to the current gasoline service station operations as possible.

9. Surrounding land uses and setting: (Briefly describe the project's surroundings)

   A retail shopping center and commercial businesses are located immediately to the south and east of the Site. State Route 78 is located to the north and residential housing is located approximately 0.10 miles to the west and upgradient from the Site.

10. Other public agencies and entities whose approval is required (e.g., permits, financing approval, or participation agreement.)
    - Certification of the environmental document by the SDRWQCB;
    - San Diego County DEH work plan approval (granted April 4, 2008);
    - San Diego County DEH well permits; and
    - Notification to USA of subsurface investigation activities 48-hours prior to field tasks.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Utilities and Service Systems	☐ Hydrology/ Water Quality	☐ Land Use and Planning
☐ Hazards & Hazardous Materials	☐ Noise	☐ Population and Housing
☐ Mineral Resources	☐ Recreation	☐ Transportation / Circulation
☐ Public Services	☐ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a significant effect(s) on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant

impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.

Signature: _____ Date: _____

Printed Name: _____ For: San Diego Regional Water Quality Control Board

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
2.1	**AESTHETICS.** ***Would the project:***				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b)	Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☑
c)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☑
2.2	**AGRICULTURAL RESOURCES:** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) Prepared by the California Dept. of Conservation as an optional Model to use in assessing impacts on agriculture and farmland. ***Would the project:***				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑

c)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☑
2.3	**AIR QUALITY:** Where available, the significance criteria Established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. ***Would the project:***				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑	☐
b)	Violate any air quality standards or contribute substantially to an existing or projected air quality standard?	☐	☐	☑	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☑
c)	Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☑
2.4	**BIOLOGICAL RESOURCES.** ***Would the project:***				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑

b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

2.5 CULTURAL RESOURCES. *Would the project*

a)	Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☐	☑
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☑
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☑

2.6 GEOLOGY AND SOILS. *Would the project:*

a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, or injury, or death involving:				
	i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☑
	ii. Strong seismic ground shaking?	☐	☐	☐	☑
	iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☑
	iv. Landslides?	☐	☐	☐	☑
b)	Result in substantial soil erosion or loss of topsoil?	☐	☐	☐	☑
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☑
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☑

2.7 HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*

a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐

b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
d)	Be located on a site which is included on a list of hazardous materials sites Compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
e)	For a project located within an airport land use plan, or, where such a plan has not been adopted, within two miles of a public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project result in safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency plan or emergency evacuation plan?	☐	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑
2.8	**HYDROLOGY AND WATER QUALITY.** ***Would the project:***				
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑

b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☑
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☑
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
f)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
g)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☑
i)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

2.9	**LAND USE AND PLANNING.** ***Would the project:***				
a)	Physically divide an established community?	☐	☐	☐	☑
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑
2.10	**MINERAL RESOURCES.** ***Would the project:***				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☑
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑
2.11	**NOISE.** ***Would the project result in:***				
a)	Exposure of persons to or generation of noise level in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c)	A substantial permanent increase in the ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑

d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
e)	For a project located within an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

2.12 POPULATION AND HOUSING. *Would the project*

a)	Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☑
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

2.13 PUBLIC SERVICES.

a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any public services:	☐	☐	☐	☑

	Fire protection?	☐	☐	☐	☑
	Police protection?	☐	☐	☐	☑
	Schools?	☐	☐	☐	☑
	Parks?	☐	☐	☐	☑
	Other public facilities?	☐	☐	☐	☑
2.14	**RECREATION.**				
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration the facility would occur to be accelerated?	☐	☐	☐	☑
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment?	☐	☐	☐	☑
2.15	**TRANSPORTATION/TRAFFIC.** ***Would the project:***				
a)	Cause an increase in traffic which is substantial in relation to the existing system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	☑
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads?	☐	☐	☐	☑
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d)	Substantially increase hazards due to design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☑

e)	Result in inadequate emergency access?	☐	☐	☐	☑
f)	Result in inadequate parking capacity?	☐	☐	☐	☑
g)	Conflicts with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☑

2.16 UTILITIES AND SERVICE SYSTEMS.
Would the project:

a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☑
e)	Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

MANDATORY FINDINGS OF SIGNIFICANCE.

a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☑
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

3.0 ENVIRONMENTAL ANALYSIS

3.1. AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS OF THE PROPOSED PROJECT

This section considers the potential environmental impacts of the proposed project, including direct and indirect, short- and long-term impacts of project actions (construction and operation). No potentially significant impacts have been identified; therefore, no mitigation measures are required.

3.2. AESTHETICS

The project area is located in an existing commercial/industrial area containing no trees, rock outcropping, scenic vistas, or historic buildings. The project is located approximately 0.10 miles south of State Route 78. The portion of State Route 78 that is designated as a scenic resource is located in Anza-Borrego Desert State Park, over 40 miles southeast of the Site. The portion of State Route 78 located within the vicinity of the Site is not identified on the California Scenic Highway Mapping System[1] as a scenic resource; therefore no impacts to scenic resources would be expected.

Above-ground equipment required for the project includes a direct-push drill rig, generator, air compressor and a pneumatic fracturing tool. The pilot study will be a temporary project that will not result in permanent fixtures that would impact views, nor degrade or change the existing visual character of the surrounding industrial and commercial area. The existing gasoline service station would continue to operate during the project and no impacts to the existing visual character of the area would occur.

Since no additional light or glare would result from project operations, no impacts to surrounding night time views in the area would be expected. The project will be conducted during daylight hours and within normal operating hours.

3.3. AGRICULTURAL RESOURCES

According to Appendix G of the State CEQA Guidelines and the Department of Conservation, a project will have a significant impact on agricultural resources if it falls into any of the following Farmland designations: Prime Farmland; Farmland of Statewide Importance; or Unique Farmland (United States Department of Conservation).

[1] California Scenic Highway Mapping System. 2008. Website: http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm

The project is not located on agricultural or farmlands, nor would it involve the conversion of Prime, Unique, or other farmland of Statewide Importance to a non-agricultural use. The project would not affect an agricultural preserve under Williamson Act contract. The project would be located within an industrial area of the City of San Marcos, at a site that has no agricultural use. The project would not result in direct or indirect impacts to agricultural resources.

3.4. AIR QUALITY

Air Quality Regulations, Plans and Policies

State and federal agencies have set ambient air quality standards for certain air pollutants. National Ambient Air Quality Standards (NAAQS) have been established for carbon monoxide (CO), Ozone (O_3), Sulfur Dioxide (SO_2), Nitrogen Dioxide (NO_2), inhalable particulate matter (PM_{10}) and lead (Pb). The State ambient air quality standards for these and other pollutants are more stringent than the corresponding federal standards.

Areas are classified under the Clean Air Act as either "attainment" or "non-attainment" areas for each criteria pollutant, based on whether the NAAQS have been achieved or not. The project is located within San Diego County, which is part of the San Diego Air Basin. Per the California Clean Air Act (CCAA), areas must comply with the State ambient air quality standards for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide; areas that do not attain the national and/or state ambient air quality standards must prepare a plan to work towards attainment. San Diego County is in attainment for all air quality standards with the exception of ozone.

The California Air Resources Board (CARB) regulates mobile emission sources and oversees the activities of County Air Pollution Control Districts (APCDs) and Regional Air Quality Management Districts (AQMDs) in California. The San Diego Air Pollution Control District (SDAPCD) is the regional agency empowered to regulate stationary sources in the San Diego Air Basin. The SDAPCD develops and enforces air quality regulations for stationary sources, issues permits for new and modified facilities, participates in air quality planning, and operates a regional air quality monitoring network. The San Diego Air Pollution Control District developed the San Diego Regional Air Quality Strategy (RAQS), providing guidance on attaining state ozone air quality standards.

Impact Analysis

Stationary or mobile powered onsite equipment (direct-push drill rig, generator, air compressor and a pneumatic fracturing tool) would be required. The project would involve approximately three direct-push drill rig trips during the four month pilot project duration. The direct-push drill rig would be onsite for three days to conduct the chemical injections. Assuming (as a worst case scenario) all equipment is running throughout the duration of the injection activities, air pollutant

emissions from the equipment and direct-push drill rig trips would be incremental and insignificant. Construction-related air quality impacts are, by nature, of short-term duration, and would be temporary.

Project operation would not significantly increase the number of vehicle trips or result in an increase of any criteria pollutant for which the project region is under non-attainment. Implementation of the proposed project would require a direct-push drill rig making approximately three round trips to the Site during the duration of the pilot project. Based on these criteria, the project would not have the potential to result in significant air quality impacts during operations. Project operations are not expected to alter local air quality, or expose sensitive receptors to air pollutants.

A direct-push drill rig will be utilized for project operations. Since the direct-push drill rig will be running while project operations are occurring, there will be incidental exhaust (diesel emissions). However, the exhaust will only result during project operations, which will occur temporarily, and only during normal business hours. Therefore, there will not be a substantial odor related air quality impact generated over the long-term and impacts would be less than significant.

In summary, while the proposed project would result in short-term, temporary impacts of diesel emissions resulting from the direct-push drill rig, generator, air compressor, and pneumatic tools, these impacts would result in only de minimus increases in emissions and are of a small enough magnitude to be considered less than significant. The project would not conflict with the implementation of the SDAPCD's RAQS.

3.5. BIOLOGICAL RESOURCES

The project will be conducted at an existing gasoline service station in an area that is completely paved and devoid of native vegetation. No biological resources exist at the Site. The project area is not within the San Marcos Creek Specific Plan area, and will not result in impacts to San Marcos Creek. Additionally, the proposed project would have no impact on implementation of the San Diego Multi-Species Habitat Conservation Plan. Therefore, activities associated with the project would not result in impacts to biological resources at the Site or within the project area.

3.6. CULTURAL RESOURCES

Cultural resources include archaeological or cultural sites, standing structures, and other historic properties considered to be eligible for, and/or listed on the National Register of Historic Places. Section 106 of the National Historic Preservation Act (NHPA) mandates that federal agencies consider the impact of their undertakings on historic properties within the project's area of potential effect (APE). The APE for the proposed project is defined as a 0.5 mile radius of the

Site. If adverse effects on historic, archaeological, or cultural properties are identified, then agencies must attempt to avoid, minimize, or mitigate these impacts to resources considered important in our nation's history.

Impact Analysis

The National Register of Historic Places[2], California Historic Landmarks[3], and California Environmental Resources Evaluation System (CERES) State Historic Landmarks of San Diego County[4] were reviewed for listing of historical resources in San Marcos, near the Site. There were no historical resources within the project area; therefore, no impacts to historical resources are expected to occur.

The project will occur entirely on existing developed land. There are no known unique archeological or paleontological resources within the project area. Additionally no human remains or cemeteries will be disturbed by the proposed project. However, in the unlikely event that human remains are encountered during project activities, the project would comply with existing CEQA requirements, including halting all project activities and notifying the County Coroner and proper notification to the appropriate Native American Representative if remains were of Native American origin. Therefore, the project is not expected to result in adverse impacts to prehistoric or historic archaeological sites.

3.7. GEOLOGY AND SOILS

The Site is located within the Peninsular Ranges physiographic province at an elevation of approximately 580 feet above mean sea level (msl) with a slight slope to the southeast according to the North American Vertical Datum (NAVD) of 1988. The Site is located to the south of the San Marcos Mountains, at the northwestern end of Los Vallecitos de San Marcos. Los Vallecitos de San Marcos is a narrow valley with a slight topographic gradient to the south, and is located just south of the San Marcos Valley (United States Geologic Survey, 1968, photorevised 1983). The surrounding hills are composed of sediments within the La Jolla Group of Eocene age. The La Jolla Group is comprised of six partly inter-fingering formations, which from oldest to youngest, are the Mount Soledad Formation, Delmar Formation, Torrey Sandstone Ardath Shale, Scripps Formation, and Friars Formation. The Site is underlain by the Delmar Formation, which is mainly comprised of sandy claystone interbedded with coarse-grained sandstone (Miller Brooks Environmental, Inc., 2006).

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[2] National register of Historic Places. 2008. Website: http://www.nr.nps.gov/nrloc1.htm
[3] California Historic Landmarks. 2008. Website: http://www.ohp.parks.ca.gov/default.asp?page_id=21478
[4] CERES State Historic Landmarks of San Diego County. 2008. Website: http://ceres.ca.gov/geo_area/counties/San_Diego/landmarks.html

Shallow soil at the Site generally consists of fine gravel or sand fill and native stratigraphy consists of sand, silt, and clay. Damp, stiff, sandy, silty clay, locally interbedded with silty, fine-grained sand has been observed to approximately 10 feet below ground surface (bgs). Damp, silty, fine-grained sand with subordinate silt and clay layers has been encountered from approximately 10 to 21 bgs (Alton Geoscience, 1993). Although the Site is located within the earthquake-prone Southern California region, it is not within an Alquist-Priolo Earthquake Fault Zone.

Impact Analysis

The project does not involve the construction of any structures; therefore, the project would not expose people or structures to an increased risk of adverse effects due to an earthquake fault rupture. Earthquake faults, present throughout Southern California, can produce seismic ground shaking, especially in the event of a large earthquake. However, the project will not create increased risks of adverse effects caused by ground shaking. Therefore impacts due to ground shaking are considered less than significant.

The project does not involve the construction of habitable structures that would be occupied, so no impacts to the public from potentially expansive soils or liquefaction would be occur.

There would be no loss of top soil or erosion caused by the project. Project activities involve injection of oxidizing chemicals into the subsurface via injection points. There will be no grading, loss of vegetation, increase in pavement, or discharge from the project; therefore, there would be no soil loss impacts.

The project does not include a septic tank, alternative wastewater disposal system, or connection to the sanitary sewer. There will be no regular generation of wastewater resulting from project operations. However incidental liquid wastes (e.g., liquid waste from decontamination, development, and purge water) will be collected and stored in a Department of Transportation (DOT)-approved 55-gallon drum.

3.8. HAZARDS AND HAZARDOUS MATERIALS

The project will utilize calcium peroxide and sodium persulfate to achieve rapid contaminant destruction through oxidation. Approximately 1,000-pounds of calcium peroxide and 1,000-pounds of sodium persulfate will be needed to oxidize the contaminants of concern at the Site. The anticipated by-products of the calcium peroxide and sodium persulfate oxidation reactions include innocuous compounds such as carbon dioxide, oxygen, sodium, calcium hydroxide, calcium carbonate, gypsum (calcium sulfate), sulfate, and water. Oxidizers can be considered exothermic or lead to exothermic reactions; however, the reaction process related to the proposed oxidants does not generate significant thermal energy, so while the injections will

occur in the vicinity of USTs/piping containing gasoline, there is no significant risk of either UST/piping failure or fire/explosion from the injection process. The project will use surface geophysics in an effort to identify subsurface lines and obstructions before boring begins. Geophysical methods used to identify subsurface utility lines may include: magnetic, electromagnetics, and ground penetrating radar. Borings will be cleared to 10 feet bgs, or the maximum depth achievable by air knife or hand augering, to avoid potential damage to undetected buried structures.

Liquid wastes (decontamination, development, and purge water) and soil cuttings generated during injection, decontamination, and sampling activities will be collected and stored in separate DOT-approved 55-gallon drums. Drums will be sealed, labeled (with date, well/boring number, contents, and source of waste), and stored in a secured area onsite designated by the property owner for later sampling and off-site disposal. Based on historical data from the Site, decontamination and development water and the drill cuttings are anticipated to be non-hazardous. Since it is anticipated that project injection chemicals and by-products are anticipated to be non-hazardous, impacts from the risk of accidental explosion or release of hazardous materials are considered to be less than significant. Also, there are no existing or proposed schools located within one-quarter mile of the Site. Therefore, the potential for the public or the environment to be exposed to health hazards would also be less significant.

The Site is not located on a list of hazardous materials sites. The project area is not located within an airport land use plan, within two miles of a public or public-use airport, or a private air strip. McClellan Palomar Airport is located approximately five miles southwest of the Site. Since the nearest airport is approximately five miles away, the project would not result in safety hazards for people working or residing in the pilot study area. Thus, there would be no impacts resulting from the project and no new health hazards would be created.

The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; no impact would result from the proposed project.

There are no wildlands within the vicinity of the Site. The project will be conducted at an existing gasoline service station located with commercial, industrial, and some residential land use areas. There will be no risk of wildland fire damage at the Site and therefore no impacts are expected.

3.9. HYDROLOGY AND WATER QUALITY

San Marcos Creek is located approximately 1.25 miles southeast of the Site. In addition, the Second San Diego Aqueduct is located underground directly east of the Site. See Figure 3 for locations of San Marcos Creek and the Second San Diego Aqueduct in relation to the Site.

Site-specific hydrogeologic conditions suggest that a groundwater divide, which has a southwest/northeast trending axis, passes through the intersection of Rancho Santa Fe Road and Descanso Avenue. Historical groundwater elevation data indicate that the groundwater flow direction is generally to the southeast across the Site.

The Site is located in the Richland Hydrographic Subarea (Hydrologic Unit Basin Number 4.5.2) of the Carlsbad Hydrologic Unit. According to the SDRWQCB, groundwater within the Richland Hydrologic Subarea has been designated as having existing beneficial uses for municipal and domestic supply, agricultural supply, and industrial service supply (SDRWQCB, 1994, amended 2007). The Site lies on the northern boundary of an area between Highway 78 and El Camino Real, which is exempt from beneficial uses and water quality objectives (WQOs) designated in Table 2-5[5] and 3-3[6] of the Water Quality Control Plan for the San Diego Basin, respectively. The Basin Plan states that the "Richland Subbasin between Highway 78 and El Camino Real and to all lands which drain to Moonlight Creek, Cottonwood Creek, and to Encinitas Creek are exempt from sources of drinking water policy."

The groundwater migration directed to the southeast of the Site would remain within this exempt area, thus making the Site exempt from the beneficial use standards and WQOs. Based on these findings, URS (2008) has concluded that additional analyses for the constituents listed in Table 3-3 of the Water Quality Control Plan for the San Diego Basin are not warranted for the Report of Waste Discharge (ROWD) described below.

Groundwater at the Site during the first quarter 2008 ranged between 569.54 feet relative to msl in monitoring well (MW)-12 to 573.03 feet msl in MW-B1, with a hydraulic gradient of approximately 0.02 feet per foot to the southeast (URS, 2008). See Figure 2 for monitoring well locations.

Five groundwater supply wells are located within a one-mile radius of the Site. Of those five supply wells, only four are located east to southeast and downgradient of the Site. Of the four wells located east to southeast, three are irrigation wells and one is an industrial well. These wells are not drinking water wells and are screened at depths ranging from 90 to 735 feet bgs. The proposed treatment will be in the upper 15 feet bgs; therefore; monitoring of the groundwater supply wells is considered unnecessary at this time (URS, 2008).

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[5] San Diego RWQCB. 1994 (2007 amendments). Water Quality Control Plan for the San Diego Basin 9 (Basin Plan). Website: http://www.swrcb.ca.gov/rwqcb9/programs/basin_plan/Update%2010-22-07/Chapter%202%20-%20April%2025,%202007.pdf

[6] Ibid. http://www.swrcb.ca.gov/rwqcb9/programs/basin_plan/Update%2010-22-07/Chapter%203%20-%20April%2025,%202007.pdf

Downgradient compliance well MW-12, which is in close proximity to the treatment area, will be monitored for the following contaminants of concern: total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tertiary butyl ether (MTBE), tertiary butyl alcohol (TBA), and diisopropyl ether (DIPE). Compliance well MW-12 will also be monitored for the following: cations (sodium, potassium, calcium, magnesium, ferrous and ferric iron); anions (chloride, sulfide, bicarbonate, carbonate, sulfate, and phosphate); total organic carbon; total dissolved solids; hexavalent chromium; and for residual oxidants (via measuring groundwater quality parameters to detect the effects of oxidation, including oxidation reduction potential [ORP], dissolved oxygen [DO], pH, conductivity, and temperature). If water quality is negatively affected at well location MW-12, additional monitoring will be conducted at downgradient wells (URS, 2008).

Prior to conducting the project, a notification letter will be mailed to groundwater supply well owners to inform them of the proposed treatment at the Site.

Impact Analysis

A ROWD for the proposed project was submitted on November 13, 2007 as part of the WDR application package. RELLC has applied for a WDR permit for the Former Texaco Station to cover the project injection activities. WDRs are required when discharging to land or groundwater. Since the objective of the project is to improve groundwater quality by remediating petroleum hydrocarbons, VOCs, and fuel oxygenates; the project would provide improvements to groundwater quality by injecting oxidizing agents into the impacted groundwater.

There will be no drainage or sheet flow generated by project activities. Therefore, there will be no impact or alteration to any receiving waters (San Marcos Creek and Second San Diego Aqueduct) that would lead to erosion or siltation; therefore no impact.

The project will not affect the existing drainage pattern because the project consists of injection activities only. No change in the existing site conditions or generation of increased surface runoff to nearby receiving waters would occur. Injections will be made directly to the underlying impacted groundwater for purposes of remediation, and thus, no impact to surface flows and drainage will occur, nor result in any discharges to surrounding streams or rivers.

The project involves the injection of oxidizing agents into the groundwater plume underlying the Site. No groundwater pumping would occur as a result of the project. Thus, no depletion of groundwater supplies or interference with groundwater recharge is anticipated.

The proposed project does not involve development of housing units or structures of any kind; therefore, no flood hazard or floodplain impacts would occur.

Since the project is located eight miles inland from the Pacific Ocean, the risk of seiche or tsunami is considered low. Mudlfows would also not be considered a risk due to the existing project location's geology and topography.

3.10. LAND USE AND PLANNING

The proposed project does not involve construction of new development or any changes in land use. The project will be a temporary groundwater improvement project occurring at an operating gasoline service station located in an industrial zoned area. Therefore, no conflicts with applicable land use plans, policies, or other adopted regulations would occur as the Site is not within the San Marcos Creek Specific Plan area, and will not result in impacts to San Marcos Creek. Additionally, the proposed project would have no impact on implementation of the San Diego Multi Species Habitat Conservation Plan.

The proposed injections would only occur at the Site. Surrounding land uses include State Route 78 approximately 0.10 miles north of the Site, commercial and industrial business surrounding the Site to the north, south, east, and west, with some residential housing located west (approximately 0.10 miles) of the Site. The City of San Marcos General Plan Designation for the Site is Industrial. The injection activities will be temporary and will not conflict with the designated land use and zoning for the project area. Therefore no significant land use/planning impacts are anticipated.

3.11. MINERAL RESOURCES

The State Mineral Lands Classification Study (MLCS) identifies locations of significant mineral resources within an area. The City of San Marcos' General Plan Conservation Element lists three zones of mineral resources (MRZ-1, MRZ-3, MRZ-4) within the city. However, per the MLCS designation; lands classified as MRZ-1, MRZ-3, and MRZ-4 are considered areas where geologic information indicates no significant mineral deposits are present, undetermined resource significance, and unknown mineral resource potential; respectively. Since there are no areas of identified significant mineral resources, the project would not affect the availability of mineral resources of local or statewide importance, and would not directly nor indirectly impact the mineral resources of the area.

3.12. NOISE

Noise can generally be characterized as unwanted sound. The nature and degree of effects upon the environment produced by noise depends on its loudness, duration, time of day, impulse character, pure tone content, variability, season of the year, and the receiver. While individual annoyance created by noise is relative and variable, excessive disturbance can lead to problems with physical health, psychological stability, social cohesion, property values, and economic productivity.

Certain activities are particularly sensitive to noise. These include sleeping, studying, reading, leisure, and other activities requiring intense concentration or relaxation. Hospitals and convalescent homes, churches, libraries, schools, and childcare facilities are considered noise-sensitive, especially during the nighttime hours.

A variety of sources contribute to the ambient noise levels in the project area, including 1) vehicular noise on surrounding streets; 2) aircraft overflight; and, 3) human activities.

Impact Analysis

Noise generating equipment that will be used during the project activities includes a direct-push drill rig that would be required for injection activities at the Site. Noise levels from the direct-push drill rig would be approximately 70 decibel (dBA), but would only occur during the temporary injection activities. In addition a 110 volt generator would be maintained onsite to supply power for the injection pumps and pressure monitoring computer systems. Typically, generators and air compressors produce approximately an 80 dBA noise level during operations. A pneumatic fracturing mechanism will be used to enhance the chemical injection pathway through which the remediation chemicals will enter. Noise levels from pneumatic fracturing will be very quiet as it is a gas injection tool.

Project activities could result in minor, short-term, increases in noise to residences along Rancho Santa Fe Road. Palomar College, located about 0.75 miles southeast of the Site, is sufficiently distant from project activities so as to preclude adverse noise impacts. Noise impacts associated with the proposed project would be less than significant. Project activities would be required to comply with the existing municipal noise ordinance that would restrict hours of project activities to standard work hours.

3.13. POPULATION AND HOUSING

The project would not directly or indirectly induce population growth in the area, nor displace existing housing. The project will be temporary and occur at an existing gasoline service station and would not displace existing housing or people, nor require the construction of replacement housing.

3.14. PUBLIC SERVICES

The proposed project involves remediating impacted groundwater underlying an existing gasoline service station. Oxidizers can be considered exothermic or lead to exothermic reactions; however, the reaction process related to the proposed oxidants does not generate significant thermal energy, so while the injections will occur in the vicinity of USTs/piping containing gasoline, there is no significant risk of either UST/piping failure or fire/explosion from the injection process; therefore, the proposed project would have no effects on fire

protection, police protection, schools, parks, or other government facilities/buildings. The project would not result in direct or indirect impacts upon local public services, nor require the provision of additional public services.

3.15. RECREATION

The Site is not located near any recreational facilities or parks. Project activities would not affect recreational resources, nor would the project result in increased residential development that would require additional recreational resources. No impacts to recreational resources would be expected.

3.16. TRANSPORTATION / TRAFFIC

The proposed project would not cause impacts to traffic or transportation/circulation systems in the area. The direct-push drill rig required for project activities would be stationed at the existing gasoline service station with cones diverting traffic within the gasoline service station area away from the project activity. However, no impacts to local roads would result from the project.

3.17. UTILITIES AND SERVICE SYSTEMS

The proposed project involves injection of oxidizing agents into the subsurface for groundwater remediation purposes. Prior to ground disturbing activities, USA would be contacted 48 hours in advance of construction crossing, potholing, or preconstruction meetings, to avoid potential damage to existing utility services. USA will contact utility owners of record within the vicinity and notify them of subsurface activities associated with the proposed project. In addition to the measures described above, the project will use surface geophysics in an effort to identify subsurface lines and obstructions. Geophysical methods used to identify subsurface utility lines may include: magnetic, electromagnetics, and ground penetrating radar. Borings will be cleared to 10 feet bgs, or the maximum depth achievable by air knife or hand augering, to avoid potential damage to undetected buried structures.

3.18. MANDATORY FINDINGS OF SIGNIFICANCE

The proposed project does not have the potential to significantly degrade the quality of the environment. The project would involve the injection of oxidizing chemicals (calcium peroxide and sodium persulfate) into the subsurface to reduce concentrations of petroleum hydrocarbons, VOCs, and fuel oxygenates. The project would not result in significant impacts on biological resources, surface waters or groundwater, and would not eliminate any known examples of the major periods of California history and would not degrade the quality of these aspects of the environment. In fact, the project is expected to provide a benefit to the environment as it

involves remediation of contaminated groundwater. Therefore, no adverse environmental impacts are anticipated from the project.

No cumulative impacts are anticipated in connection with this or other projects in the area. The cumulative impacts of the project with planned development in the vicinity would be considered less than significant. The project would be consistent with surrounding land uses, and with applicable general plan and zoning designations. The project does not have any impact on projected growth or planned projects within the San Marcos area.

4.0 REFERENCES

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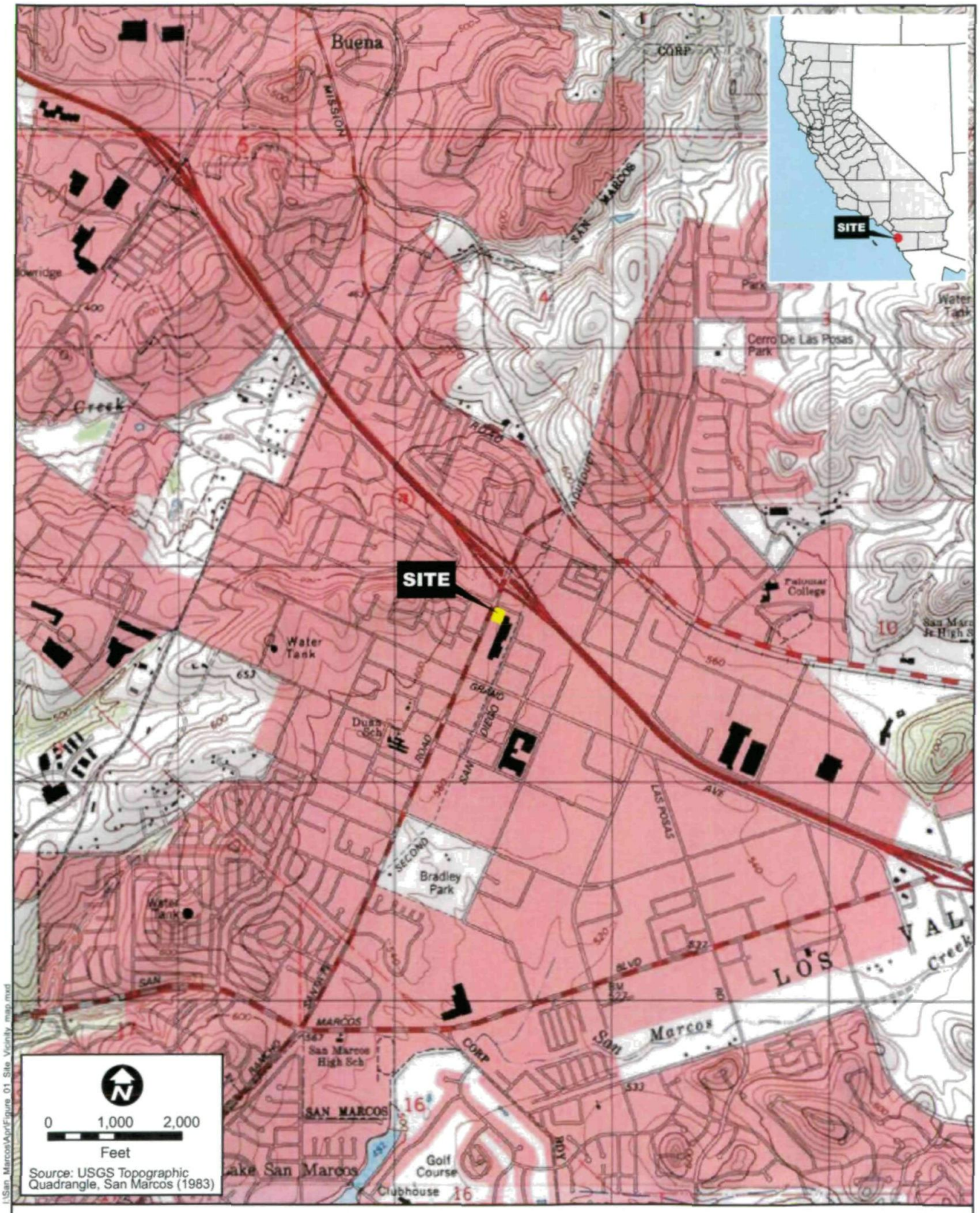
United States Geologic Survey (USGS), 1968 (Photorevised 1983), San Marcos, 7.5 Minute Quadrangle: San Diego County, California: 7.5 Minute series, Scale 1:24,000.

FIGURES

Figure 1

Site Vicinity Map

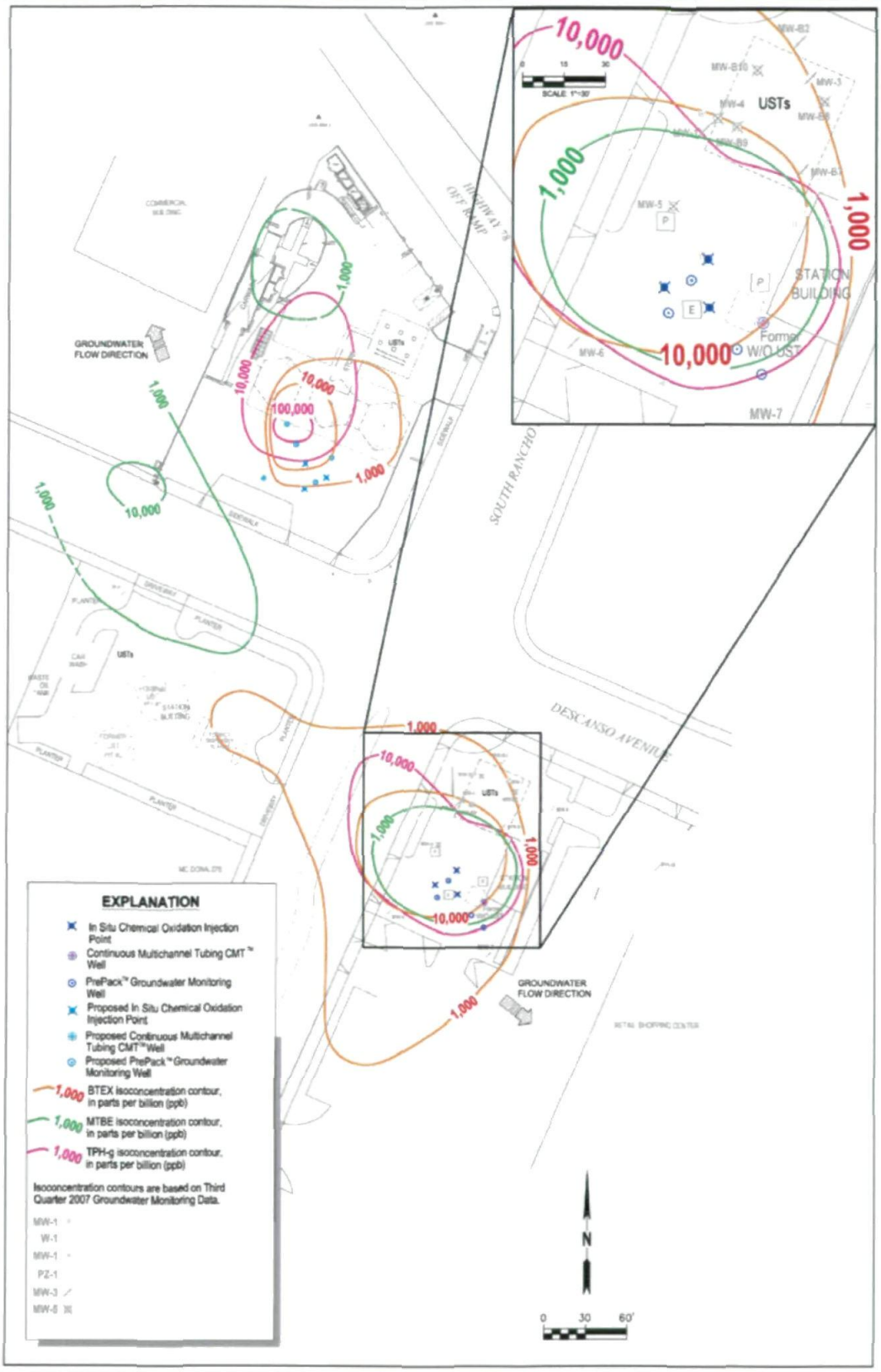


SITE VICINITY MAP

URS	May 2008	Resource Environmental LLC. San Marcos, California	**Figure 1**

Figure 2

Proposed In-Situ Chemical Oxidation Injection Points Location Map



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PROPOSED IN-SITU CHEMICAL OXIDATION INJECTION POINTS LOCATION MAP

URS	May 2008	Resource Envirnmental LLC. San Marcos, California	Figure 2

Figure 3

Aerial Photograph Depicting Surface Water Features

AERIAL PHOTOGRAPH DEPICTING SURFACE WATER FEATURES

URS	May 2008	Resource Environmental LLC. San Marcos, California	**Figure 3**

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