

Appendix J
Spill Prevention and Response Plan

This page intentionally left blank

SPILL PREVENTION AND RESPONSE PLAN
THE LUCERNE SOLAR PROJECT
SAN BERNARDINO COUNTY,
CALIFORNIA

Revision 1 dated: January 12, 2009

Chevron Energy Solutions
345 California Street, 18th Floor
San Francisco, CA 94104

TABLE OF CONTENTS

Section 1	Introduction	1-1
	1.1 PURPOSE.....	1-1
Section 2	Preventative Measures	2-1
	2.1 Hazards Assessment	2-1
	2.2 contractor responsibilities	2-2
	2.3 Training	2-2
	2.4 Release response equipment	2-3
	2.5 equipment inspection	2-3
Section 3	Regulated Materials Storage and Handling	3-1
	3.1 contractor laydown areas	3-1
	3.2 Vehicle and equipment maintenance	3-1
Section 4	Spill Response.....	4-1
	4.1 Spill coordinator	4-1
	4.2 Immediate response	4-1
Section 5	CLOSING OF THE SPILL INCIDENT.....	5-1
	5.1 Disposal of Waste	5-1
	5.2 Final Reporting	5-1
	5.3 Follow-up investigation	5-1
Section 6	Notifications.....	6-1

Figures

Figure 1 Lucerne Solar Vicinity Map

Appendices

Appendix A Spill Report Form

List of Acronyms and Abbreviations

BLM	Bureau of Land Management
CDFG	California Department of Fish and Game
CFR	Code of Federal Regulations
Project	Lucerne Solar Project
SPRG	Spill Prevention and Response Plan

SECTION 1 INTRODUCTION

SECTION 1 INTRODUCTION

1.1 PURPOSE

Chevron Energy Solutions has prepared this Spill Prevention and Response (SPRP) Plan to be implemented during both the construction and operational phases of the Lucerne Solar Project. The Project will consist of a 516 acre, solar photovoltaic facility on BLM land near the town of Lucerne Valley in San Bernardino, California (Figure 1). This land offers a typical desert landscape crossed by regional drainages that have been delineated as ‘waters of the State’ by CDFG.

This SPRP Plan provides restrictions and procedures for fuel storage, fueling activities, and construction equipment maintenance on the project site. Training and lines of communication to facilitate the prevention, response, containment, and cleanup of spills during construction activities are also outlined. The goals of this plan are to minimize the potential for a spill, to contain any spillage to the smallest area possible, and to protect areas that are considered environmentally sensitive (e.g., jurisdictional water ways, groundwater wells, etc.).

All operations, contractor and subcontractor personnel working on the Lucerne Solar Project are responsible for implementation of the measures and procedures defined in this SPRP Plan. This plan will be included, as written herein, in both the bid and the contract documents as contractual requirements and instructions to the contractor.

SECTION 2 PREVENTATIVE MEASURES

SECTION 2 PREVENTATIVE MEASURES

2.1 HAZARDS ASSESSMENT

The hazardous materials that may be on site during construction and operation of the solar field include those usually associated with operation and maintenance of vehicles and machinery, such as: diesel fuel, gasoline, hydraulic fluid, brake fluid, antifreeze and lubricants. Other materials considered hazardous are chemicals used in portable toilets and the associated human waste and herbicides that are used in the weed control plan. There is also the possibility of encountering buried hazardous or toxic materials during the construction process. Each of these hazards is briefly discussed in the following sections.

2.1.1 Vehicle Fluids

The materials associated with vehicle operation and maintenance are hazardous to humans, wildlife and sensitive environments. Spills of diesel fuel, gasoline, and hydraulic fluid are considered and spill prevention and control measures must be initiated. These materials can be toxic to the skin, eyes, respiratory system, and internal organs. Toxicity can be transmitted in the form of liquid or vapor. These materials may also be flammable and combustible, and proper precautions must be used in handling spills. Antifreeze, Freon, and other non-petroleum products are also hazardous toxic substances. The same spill prevention and response actions are to be employed with spills of these materials.

Potential sources of spills of vehicle fluids include mobile refueling trucks and construction vehicles and equipment. Potential causes of vehicle fluid spills include: emergency ruptures in fuel tanks or construction equipment; overflow of fuel from the tank during the refueling of equipment; seepage of fuel or lubricants during normal operation or storage; spills of oil or hydraulic fluid, etc. during on-site vehicle and equipment servicing; vehicle accidents; and natural disasters.

2.1.2 Chemical Toilets and Human Waste

Proper disposal and disinfection of human waste at the construction site is required. Human waste may contain infectious bacteria, pathogens, or other health hazards. Waste must be contained in portable toilets that receive periodic cleaning and disposal of waste. Chemicals used in toilets are also hazardous to wildlife and sensitive environments. Portable chemical toilets could overflow if not pumped regularly or they could spill if dropped or overturned during moving.

2.1.3 Herbicides

Herbicides will be used during both construction and operation to control nonnative plant populations. As these herbicides are generally stored in concentrated liquid form, potential fluid spills include: handling errors and ruptures in storage tanks.

SECTION 2 PREVENTATIVE MEASURES

2.1.4 Unknown Hazardous Materials

Given the previous mining activity on the site, the potential exists for encountering unknown hazardous materials within the construction site. These materials would most likely take the form of buried containers containing used lubricants, batteries, and etc. If any unknown waste is discovered, construction in that particular area shall stop until the material encountered is properly identified and removed.

2.2 CONTRACTOR RESPONSIBILITIES

Chevron will require its contractors and any subcontractors to do everything practicable to minimize the potential for a spill during construction of the Lucerne Solar Project. This will include compliance with applicable environmental and safety laws and regulations. Each contractor will be required to ensure a copy of this plan is available onsite to all contractor and subcontractor personnel.

2.3 TRAINING

All Chevron construction and operations personnel as well as contractor employees and subcontractors involved with transporting or handling fueling equipment or maintaining construction equipment will be required to complete spill training before they commence work on the project. Chevron will audit contractor compliance with respect to this requirement and instruct the contractor to replace any employee (or subcontractors' employee) found to be working on the project prior to having spill training. Spill training will also be required for contractor and subcontractor supervisory personnel prior to commencement of work on the project.

Spill training programs will be conducted by the construction contractor and the Chevron Construction Manager and will:

- Provide information concerning pollution control laws;
- Inform personnel concerning the proper operation and maintenance of fueling equipment;
- Inform personnel of spill prevention and response requirements; and
- Describe the measures and provisions of the SPRP Plan; and
- Assign roles and responsibilities for implementing the SPRP.

Measures, responsibilities, and provisions of this SPRP Plan and Training for other workers will be provided through ongoing weekly meetings, which will discuss safety, and spill prevention and response, including personal responsibility to initiate appropriate procedures. These weekly sessions will be held by the contractor as crew "tail gate" meetings. Chevron will audit the contractor compliance with this requirement and instruct the contractor to replace any foremen (or subcontractors' foremen) found to not be holding such meetings following the receipt of one warning. Attendance of training sessions will be documented using sign-in sheets that will become part of the permanent construction records.

SECTION 2 PREVENTATIVE MEASURES

2.4 RELEASE RESPONSE EQUIPMENT

The contractor will supply two spill prevention kits that can be used in the event of a spill, leak or other release. The spill prevention kits will be stored at contractor's laydown area. Each spill prevention kit will consist of the following:

- One 55-gallon drum,
- Two bags of absorbent,
- One bag of absorbent pads,
- One 400 square foot sheet of plastic sheeting,
- Two short handled shovels,
- One tyvek suit and booties
- Two pair of nitrile gloves, and
- Two pair of safety goggles.

In addition, the contractor shall provide a more portable, 20 gallon spill prevention kit for each refueling truck. These kits shall contain: (25) 17" X 19" white oil-only Sonic Bonded pads, (4) 3" x 48" white oil-only socks, (2) 18" x 18" white oil-only pillows, (1) pair nitrile gloves, (1) pair goggles, (2) clear disposal bags, (3) bag ties, (1) 20 gallon over pack. Oil only products will soak up oil and repel water.

The contractor's Spill Coordinator (Section 4.1) will make known to all personnel involved with the construction (foremen, laborers, and inspectors), the contractor's warehouse/trailer locations of the spill prevention kits. These spill prevention kits will be readily accessible during construction. During operation, two, portable spill prevention packs will be stored in the Operations and Maintenance Building.

2.5 EQUIPMENT INSPECTION

Prior to moving any equipment onto the construction site, the contractor will visually inspect each piece of equipment for cracks, excessive corrosion, or other flaws that may compromise the integrity of its fuel, hydraulic, or cooling systems. The contractor will repair or replace leaking equipment immediately after a leak is detected and will be responsible for prompt reporting and mitigation of any fuel or lubricant spills from their equipment.

SECTION 3 REGULATED MATERIALS STORAGE AND HANDLING

SECTION 3 REGULATED MATERIALS STORAGE AND HANDLING

3.1 CONTRACTOR LAYDOWN AREAS

3.1.1 Contractors and operations personnel will not store fuel onsite. Any other petroleum products, herbicides or hazardous materials at the contractor's laydown area will be stored in safe locations within secondary containment structures. Secondary containment systems normally consist of a bermed area lined with an impervious material to provide a minimum containment volume equal to 150 percent of the volume of the largest storage vessel contained within the bermed area. Spill kits will be stored in readily accessible areas for quick use in the event that they are needed by the construction personnel.

3.1.2 Hazardous liquids will not be stored in areas subject to periodic flooding or within 100 feet of jurisdictional water boundaries. All hazardous materials stored at either the construction laydown or staging area or the operations and maintenance building will be stored in secure (fenced) areas. Accumulated rainwater may be removed if authorized by an Environmental Inspector under specific situations. Specifically, if visual inspection indicates that no spillage has occurred in the containment structure and if no sheen is present on the accumulated rainwater. If spillage has occurred in the structure, accumulated wastewater will be drawn off and pumped into a storage vessel for proper disposal.

3.1.3 All fuel nozzles will be equipped with functional automatic shut-off valves. Drip trays and sorbent pads should be used during on-site re-fueling to minimize spills. Prior to departure of any fuel tank truck, all outlets on the vehicle will be examined by the driver for leakage and tightened, adjusted, or replaced to prevent leaking while in transit.

3.1.4 Routine equipment maintenance of wheel-mounted vehicles such as oil changes will be accomplished at the contractor yards or staging areas to the greatest extent practical. Routine maintenance of track-mounted equipment will be conducted in a manner to gather all oil and other discharges and removed from the project site to a suitable recycling or disposal site.

3.1.5 Storage containers will display labels that identify the contents of the container and whether the contents are hazardous. The contractor will provide and maintain copies on site of Material Safety Data Sheets (MSDS) for all materials accessible to all contractor personnel including subcontractor

3.1.6 The contractor will provide, maintain, and make available the appropriate MSDS documents for all hazardous or controlled materials utilized on the project site or in the contractor's lay down area at an on-site location accessible to all contractor, subcontractor, and Chevron employees.

3.2 VEHICLE AND EQUIPMENT MAINTENANCE

All vehicle and equipment maintenance on the project site involving fluid replacement will be conducted at least 100 feet away from the boundary restrictions for jurisdictional waters of the State. Before lubricants are drained from the construction equipment, a suitable containment vessel and plastic sheeting will be placed under the equipment to collect any spilled material. The contractor will take necessary precautions to ensure that material that might accumulate on the liner does not spill on the ground surface. Vehicle maintenance wastes, including used oils and other fluids, will be handled and managed by

SECTION 3 REGULATED MATERIALS STORAGE AND HANDLING

personnel trained in the procedures outlined in this plan. Vehicle maintenance wastes will be stored and disposed of in accordance with applicable environmental regulations.

SECTION 4 SPILL RESPONSE

SECTION 4 SPILL RESPONSE

In the event of a spill, the release will be contained and cleaned up as soon as possible. The order of priorities after discovering a spill are to protect the safety of personnel and the public, minimize damage to the environment, and control costs associated with cleanup and remediation. The initial response to an emergency will be to protect human health and safety, and then the environment. If a spill is not contained within a dike, an area of isolation will be established around the spill. The size of this area will depend on the size of the spill and the materials involved. The contractor will take precautions in the area of a spill to eliminate possible sources of ignition.

4.1 SPILL COORDINATOR

The contractor or plant operator (if during the operations phase) will appoint a Spill Coordinator who will be responsible for the reporting of spills, coordinating contractor personnel for spill cleanup, subsequent site investigations, and associated incident reports. The Spill Coordinator will report to the Chevron Construction Manager or other designated Chevron onsite representative. In the event of a spill, the Spill Coordinator will be responsible for determining the extent of the isolation area and insuring that proper clean up and disposal measures are initiated. Any notifications under Section 6 of this plan shall be the responsibility of the Chevron site representative.

4.2 IMMEDIATE RESPONSE

All spills regardless of size must be reported to the Spill Coordinator and/or the Chevron Site Representative. The person observing the incident will take the following actions:

- Assess the situation.
- Make every effort to stop the source of the spill and remove any potential ignition sources.
- Promptly notify the contractor's Spill Coordinator and/or Chevron's Construction Manager. Report your name, the spill location, and the extent of the incident. Upon learning of the spill, the Spill Coordinator will implement the following measures:
- Sorbent materials will be applied to the spill area. Contaminated soils and vegetation will be excavated and temporarily placed on and covered by plastic until proper disposal is arranged.

4.2.1 Specific Response Procedures

Specific response procedures have been developed for various spills including vehicle fluid spills; chemical toilet and human waste spills; herbicide spills and discovery of an unknown hazardous material.

Some response procedures common to all spills are to keep people away from the spilled material, secure the source of the spill, if this can be done safely, and determine the spilled material, the volume, extent, and potential for danger of the spill. Securing the source of the spill is an extremely important step in the response activities. However, a source should be secured only if it can be performed safely without risk to human life and health. Steps to be taken to secure the source include turning off machinery, clamping or disabling hoses, etc.

SECTION 4 SPILL RESPONSE

Another key element in the early response to all spills is determining the type of material spilled and the volume and extent of the spill. This should be determined as soon as possible to facilitate the proper response operations. The volume will be needed to evaluate equipment and personnel needs, as well as, requirements for containment and disposal of the recovered waste and incident reporting. A rough estimate of the spill volume can be generated from visual observation and identification of the source.

4.2.1.1 Vehicle and Machinery Spills

Incidents involving loss of a petroleum product from equipment or vehicles shall be considered a spill. After the spill has been flagged, the volume and extent of the spill estimated, and initial notification procedures implemented, the spill must be confined. Do not handle materials without wearing protective clothing (i.e. gloves, etc.).

- Determine if a spill response team is needed to complete the cleanup. If no, prepare a spill report and submit it to the onsite Chevron Representative. If yes, activate the local spill response team.
- Determine additional cleanup contractors are necessary for a major incident. If the answer is no, and the incident has been determined to be a minor spill, conduct the cleanup, inspect and file a spill report form. If the incident requires additional support, hire an additional cleanup contractor to complete the cleanup, inspect the site, dispose of the waste material and complete and file a spill report.
- Arrange for proper testing (if the substance is unknown, send a sample to a laboratory within San Bernardino County for testing and dispose of the waste.
- Closely monitor all cleanup activities.
- Ensure proper disposal of absorbent materials, containers and soils as required.
- Complete cleanup and restore damaged areas.
- Submit spill report to the Chevron Construction Manager.

4.2.1.2 Chemical Toilet Spill

Chemical toilets are self-contained and pose little threat to the construction site. Chemicals used in the portable toilets are biodegradable and generally non-toxic to humans. However, they can pose a danger to wildlife and sensitive habitats by virtue of heavy concentration of chemicals and human waste. They shall be pumped out at regular intervals. Toilets shall never be placed in or near environmentally sensitive areas or in areas with a potential for flooding.

In the unlikely event that a portable toilet spills during transport or relocation, the same procedures for other hazardous material spills shall be used. Disposal of absorbent materials shall be handled the same as other spills, with proper disposal by the toilet supply company.

4.2.1.3 Herbicides

Incidents involving a spill of a concentrated herbicide could potentially occur when storing or handling the material. After the spill has been flagged, the volume and extent of the spill estimated, and initial notification procedures implemented, the spill must be confined. Do not handle materials without wearing protective clothing (i.e. gloves, etc.).

SECTION 4 SPILL RESPONSE

- Determine if a spill response team is needed to complete the cleanup. If no, prepare a spill report form. If yes, activate the local spill response team.
- Determine additional cleanup contractors are necessary for a major incident. If the answer is no, and the incident has been determined to be a minor spill, conduct the cleanup, inspect and file a spill report form. If the incident requires additional support, hire an additional cleanup contractor to complete the cleanup, inspect the site, dispose of the waste material and file a spill report.
- Closely monitor all cleanup activities.
- Ensure proper disposal of absorbent materials, containers and soils as required.
- Complete cleanup and restore damaged areas.
- Submit spill report to the Chevron Construction Manager.

4.2.1.4 Unknown Hazardous Materials

There is always the possibility that personnel may unexpectedly encounter a hazardous situation when working on the site. The most likely materials that may be encountered during grading activities would be materials that are left over from past mining activities. If there is any doubt regarding the degree of hazard of the particular circumstance and personnel are unsure as to what measures to take, the following steps shall be taken immediately to ensure the health and safety of the personnel involved.

- Stop work in the immediate area of the discovery
- Determine what has been encountered, i.e. tank or other container
- Cordon off the area and
- Request a spill team to further investigate and remove the object.

SECTION 5 CLOSING OF THE SPILL INCIDENT

SECTION 5 CLOSING OF THE SPILL INCIDENT

5.1 DISPOSAL OF WASTE

Following the cleanup of a spill, the waste, absorbent materials, protective clothing, and any soil that has been contaminated must be removed to a designated hazardous waste disposal area. All contaminated materials shall be sealed in 55 gallon drums and labeled with the contents. If the contaminant is unknown, a sample of the material must be collected and analyzed before disposal. A permit or approval in writing must be obtained prior to disposal of the drum. A copy of the permit and a chain-of-custody form (obtained from the disposal contractor or testing laboratory) must accompany the material and copies must be attached to the Spill Report Form submitted to the Chevron onsite representative. The contractor is responsible for the proper disposal of all waste and understanding the responsibilities under federal and state statutes.

5.2 FINAL REPORTING

All spill incidents that require cleanup must be reported. Notification must begin as soon as the incident occurs. The Spill Coordinator is responsible for the completion of the Spill Report Form (Appendix A). Completion of this form will assist in the assessment of the spill and will insure that the cleanup has been properly implemented. The spill report form must be submitted no longer than five days after the incident has closed. A copy of the permit or disposal approval and the chain-of-custody for the disposal must be attached to the spill report form.

5.3 FOLLOW-UP INVESTIGATION

Contractor shall critique his spill response efforts and make recommendations or suggested modifications to contractor's operating procedures that could potentially prevent future spills or improve his response efforts. This critique shall consider the following:

- Detection
- Assessment/ Evaluation
- Response, and
- Command Structure

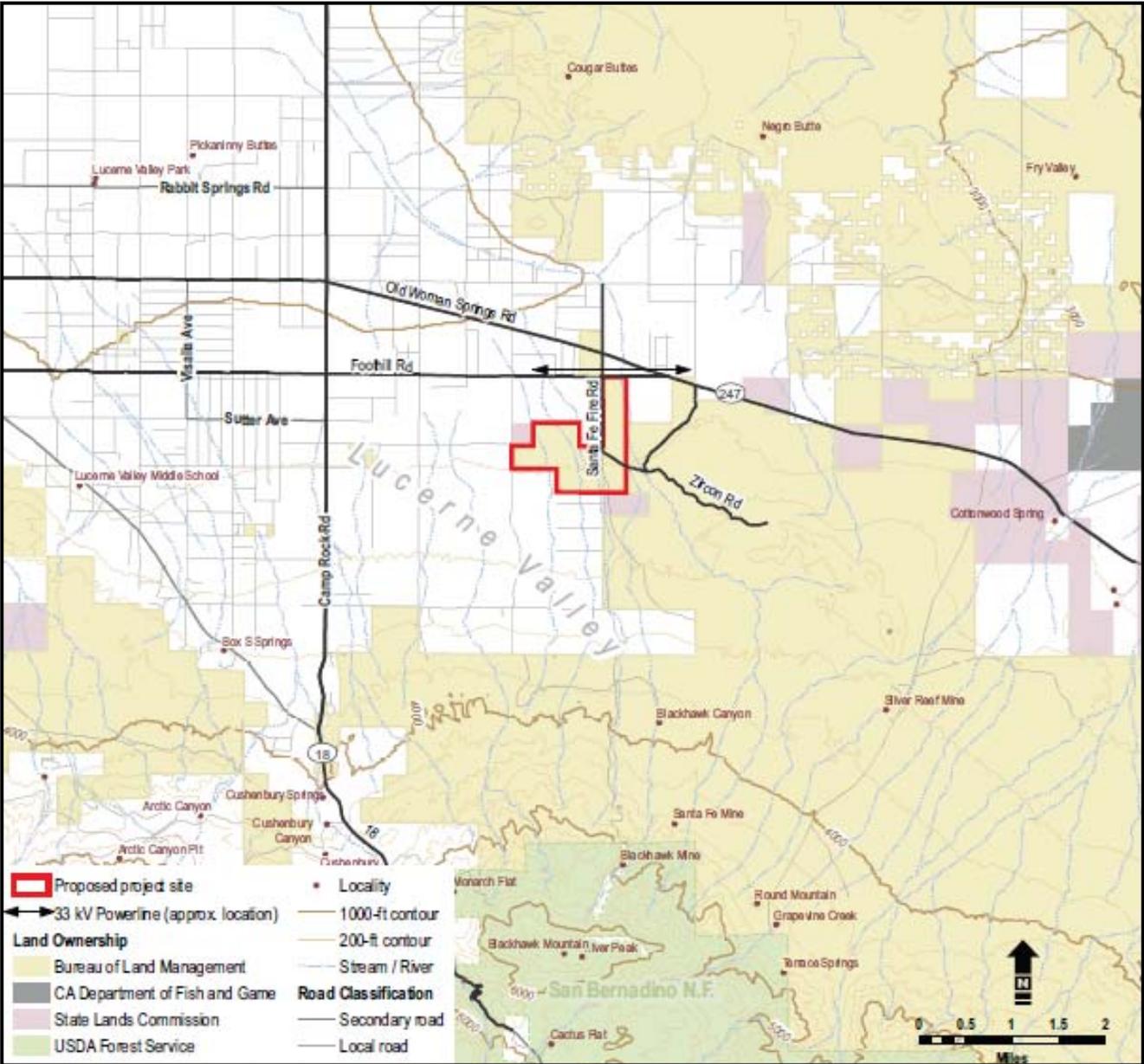
SECTION 6 NOTIFICATIONS

SECTION 6 NOTIFICATIONS

Once the spill has been assessed, the Chevron Site Representative will be responsible for notifying appropriate federal, state, and local agencies. Any spill at the project site of more than the reportable quantities as established under Appendix A of 40CFR172.101 or 42 gallons of petroleum based liquids or three cubic yards of impacted soil will be reported to the San Bernardino County Department of Environmental Health (909)884-4056.

Figures

Figure 1: Lucerne Solar Vicinity Map



APPENDIX A

SPILL REPORT FORM

NAME OF PERSON REPORTING THE SPILL: _____

TITLE/POSITION: _____ PHONE NUMBER: _____

CONSTRUCTION CONTRACTOR SPILL COORDINATOR: _____

CES On Site Representative: _____

AUTHORIZED ALTERNATE (Contact only if you are unable to reach the CHEVRON ONSITE REPRESENTATIVE):

CONSTRUCTION CONTRACTOR SUPERINTENDENT: _____

LOCATION OF, TIME AND SOURCE OF THE SPILL: _____

TYPE OF MATERIAL RELEASED: _____

ESTIMATED QUANTITY OF MATERIAL RELEASED: _____

SOURCE OF THE MATERIAL RELEASED: _____

CORRECTIVE ACTIONS TAKEN: _____

SPILL RESOLUION: _____

SPILL PREVENTION COORDINATOR: _____

CHEVRON ONSITE RPEPRESENTATIVE: _____

COMMENTS:
