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WELL CONSTRUCTION
SPCC PLAN R6

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

FOR THE

ADEP GROUNDWATER MONITORING WELL DRILLING OPERATIONS

Los Alamos National Laboratory

Prepared By:
North Wind, Inc.
1350 Central Ave. Suite 300
Los Alamos, NM 87544
Phone 505-661-4290

In Conjunction with
Los Alamos National Laboratory
Water Quality (ENV-RCRA)

Revision 0: December 2008
Revision 1: May 2009
Revision 2: Sept 2009
Revision 3: March 2010
Revision 4: May 2010
Revision 5: December 2010
Revision 6: July 2011

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General Requirements Cross Reference

Final SPCC Rule	Old SPCC Rule	Description of Section	SPCC Section
§ 112.7	§ 112.7	General requirements for SPCC Plans for all facilities and all oil types.	General requirements, cross reference, certification pages
112.7(a.1, 2)	§ 112.7	Discussion of facility's conformance with rule requirements; deviations from Plan requirements	1.1 Conformance
112.7(a.3.i, iii)	§ 112.7	Facility characteristics that must be described in the Plan; facility diagram	Section 2: Facility Description and Appendix H Site Maps
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§ 112.9, § 112.13	§ 112.7(e)(5)	Requirements for onshore production facilities.	N/A
§ 112.10 § 112.14	§ 112.7(e)(6)	Requirements for onshore oil drilling and workover facilities.	N/A
§ 112.11 § 112.15	§ 112.7(e)(7)	Requirements for offshore oil drilling, production, or workover facilities.	N/A

CERTIFICATION

This Plan was developed pursuant to provisions of the federal regulation for oil pollution prevention, 40 CFR Part 112. Its purpose is to provide spill prevention and response measures to prevent the pollution of navigable waters from oil related spills.

In accordance with 40 CFR Part 112.3 (d), this Plan has been reviewed and certified by a Registered Professional Engineer (PE). By means of this certification, the engineer, having examined the facility or having an agent examine the facility, and being familiar with the provisions of this regulation, attests that the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of Part 112. Procedures for required inspections and testing have been established and this Plan is adequate for the facility.

Certified by: _____ Date: 7/14/11

Terril Lemke
Registered Professional Engineer
LANS, LLC

MANAGEMENT APPROVAL

This Plan has the full approval of management at a level with authority to commit the necessary resources. The owner/operator will fully implement this Plan in accordance with the requirements of 40 CFR Part 112.

Facility Owner Approval:

Approved by: _____ Date: 3/12/12

Mike Alexander
Program Manager Operations LANL Water Stewardship Project

MANAGEMENT APPROVAL
Eberline Services, Inc.

This Plan has the full approval of management at a level with authority to commit the necessary resources. The owner/operator will fully implement this Plan in accordance with the requirements of 40 CFR Part 112.

Facility Operator Approval:

Approved by: Veronica Ybarra Date: 3/13/2012

Name: Veronica Ybarra
Title: Environmental Services Manager

MANAGEMENT APPROVAL
TPMC, LLC.

This Plan has the full approval of management at a level with authority to commit the necessary resources. The owner/operator will fully implement this Plan in accordance with the requirements of 40 CFR Part 112.

Facility Operator Approval:

Approved by: _____ Date: 11/30/09
Name: Andrew Crowder
Title: Deputy Program Manager, Los Alamos

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN REVIEW PAGE

In accordance with 40 CFR 112.5(b), a review and evaluation of this SPCC Plan is conducted at least once every five years. As a result of this review and evaluation, the SPCC Plan will be amended within six months of the review to include more effective prevention and control technology if: (1) such technology will significantly reduce the likelihood of a spill event from the facility, and (2) if such technology has been field proven at the time of review. Any amendment to the SPCC Plan shall be certified by a Professional Engineer within six months after a change in the facility design, construction, operation, or maintenance occurs which materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. Non-technical amendments do not need to be certified by a Professional Engineer.

I have completed review and evaluation of the SPCC Plan and will or will not amend the plan as indicated below.

Review Date	Signature	Name	Title	Amendment required? (yes/no)
3/12/12		Michael R Ward	OPS Mgr.	NO

1. INTRODUCTION

The Spill Prevention Control and Countermeasure (SPCC) Plan is an Environmental Protection Agency (EPA) requirement of the Oil Pollution Prevention Regulation (40 CFR 112). This Plan has been developed to comply with requirements of the regulations and the amendments published through December 5, 2008. 40 CFR 112.1(d)(2)(ii) requires that facilities that have an aggregate aboveground storage capacity of 1,320 gallons or greater of oil, including all containers 55 gallons or greater, maintain a SPCC Plan. The intent of the SPCC Plan is to prevent oil related spills from polluting navigable waters of the United States (U.S.) through the implementation of adequate prevention and response measures. With regard to Los Alamos National Laboratory (LANL), navigable waters of the U.S. include all canyons, arroyos, streams, and rivers within and surrounding LANL Technical Areas (TAs).

Due to LANL's diverse activities and changing conditions, a single Plan incorporating all LANL facilities subject to SPCC requirements is impractical. SPCC locations are addressed according to specific facility boundaries within LANL as determined by management and funding origination. The Facility Operations Director (FOD) or the facility tenant with approval from the FM, develops, implements, and maintains SPCC Plans for the specific SPCC location(s) within their stewardship.

This SPCC Plan addresses temporary tanks and equipment at ADEP Groundwater Regional Wells (R-wells) Project Sites. The Project involves the drilling and construction of Regional, Deep, Intermediate, and Alluvial wells located within Los Alamos National Laboratory (LANL) and adjacent areas. The storage tanks, oil filled equipment, and drums are owned by subcontractors, but due to their temporary location on LANL property for ADEP Projects they fall under the management of the ADEP Project. Operational equipment on well sites after construction is complete is not part of this Project and is not covered by this SPCC Plan.

1.1. Conformance

This SPCC Plan and facility conform to the requirements of 40 CFR Part 112 to the fullest extent possible. This facility has appropriate spill prevention, reporting, and response measures; tanks shall be appropriate for the materials stored; security shall be adequate; there shall be procedures for inspections, testing, and records; and annual training will occur.

In addition to Federal regulations, this Plan complies with the New Mexico Environment Department (NMED) regulations for Ground and Surface Water Protection (NMAC 20.6.2). State water quality standards were considered when determining procedures for secondary containment drainage, and steps are outlined to conform to the state standards. Tanks associated with this project are not permanently installed (>365 days) and therefore are not required to be permitted under the NMED Petroleum storage Tank Regulations (NMAC 20.5.1-17). Work is performed using LANL's five step Integrated Safety Management approach, which evaluates a task and identifies potential hazards such as a spill event.

The Certification of the Applicability of Substantial Harm Criteria is included in Appendix A.

1.2. Facility Owner & Operator

The Well Construction jobsites are managed by the ADEP group during construction activities. Owner and operator contacts for the facility are:

Facility Owner
ADEP
Los Alamos National Security (LANS)
Los Alamos National Laboratory

Facility Operator :
Terra Near PMC

Facility Operator :
Eberline Services Inc.

Facility Operator :
LATA

Name	*Phone*	*Title*
Mike Alexander	665-4752	Program Manager Operations
Johnny Salazar	667-1997	Operations Contact
Steve Pearson	667-3005	Operations Contact
Greg Helland	667-2657	Operations Contact

1.3. Management Responsibilities

The owner/operator is responsible for preparing and implementing the requirements of the SPCC Plan. In addition to requirements specific to storage tanks and containment structures, 40 CFR Part 112 requires the development of procedures associated with inspections, record keeping, training, and Plan amendment. The following sections address implementation of these procedures at the facility.

This table shows the responsibilities that are further described in the SPCC Plan.

		ENV-RCRA	*Facility Owner*	*Facility Operator*
General	*Prepare SPCC to meet regulatory requirements*	X		
	Approve SPCC		X	x
	Implement SPCC		x	x
	Approve physical changes needed to implement SPCC		X	
	Provide oversight	X		
	Leak and spill cleanup and disposal, provide spill information to ENV-RCRA			X
	Spill reporting	X		
Inspections	*Provide qualified personnel to perform and write monthly SPCC walk around inspections*	X		
	Provide qualified personnel to perform and write annual SPCC inspections	X		
	Implement corrective actions noted in inspections		X	X
Recordkeeping	*Maintain monthly inspections in onsite SPCC*		X	
	Maintain onsite training records for periodic briefings or Lessons Learned		X	X
	Complete spill reports and place in onsite SPCC		X	X
	Complete Secondary discharge form and place in onsite SPCC		X	X
	Review SPCC every five years	X	X	
Training	*Provide annual training that meets SPCC regulatory requirements*	X		
	Ensure all oil handling personnel and designated persons accountable for discharge prevention attend annual training		X	X
Plan Amendment	*Provide information on changes to design, construction, operation or maintenance*		X	X
	Complete Monthly SPCC inventory and maintain in onsite SPCC	X		
	Amend Plan when major spill or other change in facility occurs	X		
	Implement changes to plan within 6 months of change to facility		X	X

1.3.1. Inspections

Inspections include monthly inspections, annual SPCC walk around inspections, and certified inspections including integrity testing. Procedures for each are detailed below. Records of each are

kept in accordance with Section 1.3.2, Record Keeping. In the event of a problem, the deficiency is documented on the applicable inspection form and corrective action is taken utilizing the Integrated Work Management process. Any identified leaks or problems associated with the system will be promptly corrected, and any oil accumulations will be removed.

Inspection Summary

Type	Frequency	Inspector
Monthly Inspections	Monthly	ADEP Operations Contact or designee
Annual SPCC	Annual	ENV-RCRA
Certified	Not applicable	n/a
Brittle Failure	Not applicable	n/a
Bulk storage tank pressure	As Needed	STI Qualified

Monthly Inspections: Monthly periodic inspections are conducted by the ADEP Operations Contact or their designee using the Periodic Inspection Checklist form in Appendix B. The inspections assess items recommended for periodic inspection in SP-001 including: good housekeeping, tanks, equipment, and drum exteriors, fuel level, and water in tank. Equipment, oil drum and storage tanks are inventoried during this inspection.

Annual SPCC Walk-Around Inspections: Annual SPCC inspections are performed by ENV-RCRA personnel and assess compliance with the SPCC Plan including record keeping; changes to the facility; and the condition of the tank, piping and associated equipment, and secondary containment unit. The facility is responsible for ensuring that annual physical inspections for: water in the tank, fuel level, grounding, and vents has been completed. This inspection covers all areas required by SPCC regulations and Section 4, Periodic Inspections, of the Steel Tank Institute (STI) standard SP-001-03. Annual SPCC inspections are performed using the SPCC Walk-Around Inspection Form located in Appendix C, and they identify the date the inspection was performed, facility/structure conditions, and identified deficiencies. Completed inspection forms contain the signature of the inspector. In addition, ENV-RCRA personnel will inspect the tank after a "Critical Situation" occurs such as a leak, exposure to fire, or a major storm event.

Certified Inspections: In accordance with SPCC regulations and STI SP-001, tanks up to 1100 gallons with sized secondary containment only require visual inspections for damage or accumulations of oil.

Brittle Failure and Catastrophe Evaluation: Regulations require an evaluation for risk of discharge or failure due to brittle fracture or other catastrophe for field constructed ASTs that undergo a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure. The tanks are not field constructed ASTs, this evaluation does not apply.

Bulk Storage Tank Pressure Testing: Regulations and industrial standards require that a pressure test be conducted on all Class I and Class II liquid bulk storage tanks for the following reasons:

- new tank installation,
- modification to the tank,
- anytime the tank is moved **(note: all liquids must be removed from the tank and associated piping prior to moving the tank system)**,
- and/or anytime the product being stored in the tank is changed.

Pressure tests will be performed by qualified personnel and be conducted pursuant to Steel Tank Institute (STI) R912-00 Stationary Aboveground Storage Tanks for Flammable and Combustible Liquid Pressure Testing, STI SP001 Inspection Criteria, or other method that uses an acceptable industrial standard.

1.3.2. Record Keeping

As required by 40 CFR 112.3(e), a copy of the SPCC Plan will be maintained at each facility for reference. Due to the nature of these multiple sites, the complete plan will be maintained at the ADEP office at TA-64. This includes inspection procedures, inspections, drainage records, spill reports, and training records (as described below) that will be retained as part of this SPCC Plan at the facility for a minimum of three years. In addition, documents may be forwarded to the Records Management Team

to be retained in accordance with Department of Energy requirements. Following is a summary of how record keeping requirements will be fulfilled:

- Completed AST Periodic Inspection Checklists, annual SPCC inspection reports, and certified inspection reports will be maintained as part of the SPCC in Appendix B.
- Amendments to the Plan will be recorded in the Amendment Log, Appendix C.
- Secondary Containment Drainage Records will be kept in Appendix D
- In the event of a spill, the spill tracking form in Appendix E will be used to describe the spill, corrective actions taken, and plans for preventing recurrence. Or a copy of the spill report will be placed in the appendix.
- Tank, equipment, and drum locations with their respective capacities and oil type will be updated monthly in the table on the monthly inspection form. Any equipment and storage tanks added to the overall inventory will be identified in the Major Equipment Identification form found in Appendix I.
- SPCC training records will be documented in the Employee Development System (EDS), in accordance with LANL's Institutional Program Conduct of Training ISD 781-1. Attendance records for Lessons Learned or periodic briefings are kept per facility requirements. Site Specific SPCC training records are retained in Appendix J.

1.3.3. Training

40 CFR Part 112.7(f)(1) states "Train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan."

An online training program (#30441) has been developed that covers spill procedure protocols; applicable pollution control laws, rules, and regulations; and lessons learned - information on known spill events or failures, SPCC Plan elements, and spill response procedures. Additionally, personnel must complete site specific training by reviewing the SPCC plan. This training program is required at least once a year for oil-handling personnel of SPCC facilities. Additional spill prevention briefings and information on known spill events or failures, malfunctioning equipment, and recently developed precautionary measures is provided to oil handling personnel through the LANL Institutional Program, Lessons Learned Notification and Feedback Program, OST 402-130-01.A.3, or through periodic facility briefings on small spills. In addition to the above training, spill response personnel at LANL receive HAZWOPER training that covers spill prevention, control, and cleanup procedures. Personnel who interact with the tanks covered by this plan will receive site specific training by required reading of this SPCC Plan.

Oil handling personnel and personnel that will have SPCC training at this facility include the LANS Operations Contact, contractor oil handling personnel, and the designated person in charge of discharge prevention. Fueling of the tanks is performed by offsite contractors. The Operations Contact is the designated person at the Well Construction Projects who is accountable for discharge prevention and reports to facility management.

1.3.4. Plan Amendment

This SPCC Plan will be amended whenever there is a change in facility design, construction, operation or maintenance that materially affects the facility's potential for discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. The Plan will also be amended as necessary if a spill causes a change in design, construction, operation, or maintenance. Such amendments shall be fully implemented as soon as possible, but not later than six months after such change occurs.

In addition, in accordance with 40 CFR 112.5(b), a complete review and evaluation of this SPCC Plan will be conducted at least once every five years by the operating group and by ENV-RCRA. As a result of this review and evaluation, the SPCC Plan will be amended within six months of the review to include more effective prevention and control technology if:

- 1) Such technology will significantly reduce the likelihood of a spill event from the facility, and

2) If such technology has been field proven at the time of review.

Changes to the contact lists, and the addition of records to the Plan do not require certification by a Professional Engineer. A Professional Engineer will certify all amendments that address technical changes that affect the facility's ability to discharge diesel fuel.

2. FACILITY DESCRIPTION

This plan covers oil storage at well construction pads and the associated offsite laydown area. Typical items stored include: Diesel filled equipment such as compressors and generators, drill rigs, and drums of BioLube, fish oil, and lubricant. Motive equipment, NM special waste drums, or drums marked "used oil" and containing used oil pads are not considered oil storage. Containers or equipment with capacity under 55 gallons is also excluded. There are no buried or partially buried tanks or piping associated with this SPCC Plan. None of the tanks or drums have master flow or drain valves or starter controls. There are no heating coils, or level alarms.

Each site map or table will describe the expected physical layout of each pad facility including location of loading/unloading operations; location or description of the distance to nearest watercourse; contents and expected location of each container or portable container storage area. The range of current items is tracked monthly on the inspection form found in Appendix B. The section below describes appropriate containment and/or diversionary structures to prevent a discharge before cleanup occurs.

Each well site is located on an approximately 200'x200' gravel pad with a diversion berm to divert run-on from the site and divert runoff to a unlined detention pond. Oil filled equipment, drums, and tanks are not to be stored in a floodplain. A spill kit will be located next to the project trailer on the pad. A list of sites and watercourses is included in the spill predictions section. Well sites are expected to store and use oil for a few months while drilling operations are active, then the equipment will move to the next site. New tanks and equipment to be brought onsite must be added to the SPCC plan before they are fueled, and identified in the Major Equipment Declaration Form found in Appendix I .

Summary of containment requirements

Type of tank	**Containment required**
mobile tank (storage on wheels)	spill control
portable container (drums)	Sized secondary containment
oil filled equipment (with or without wheels)	spill control

2.1. Mobile Refueling Tanks

Mobile tanks fall under the category of tanks and therefore must be built to an industry standard. Mobile refueling trucks under DOT standards are exempted from the sized containment requirement while they are mobile. These tanks cannot be used for purposes other than what they are built for.

Description	**Capacity (gal) And contents**
bulk diesel transfer tank on flatbeds	88 gal each
bulk diesel transfer tank on F-650s	150 gal diesel
bulk diesel transfer tank on F-650s	406 gal diesel
bulk diesel transfer tank on ¾ ton dodge	94 gal diesel
bulk diesel transfer tank Layne mechanics truck	est 200 gal diesel
bulk diesel transfer tank	est 100 diesel
bulk diesel transfer tank	100 gal diesel
bulk diesel transfer tank	105 gal diesel
bulk diesel transfer tank	88 gal diesel

2.2. Oil Filled Equipment and Secondary Containment

There are multiple items that may be used on the sites that are included in this plan as oil filled equipment. When available, a cut sheet for the equipment is included in Appendix G. Reference the SPCC tracking table in monthly inspection form for locations and quantities of current oil storage. Please refer to the site maps in Appendix H for expected locations of storage and equipment areas on each pad. Equipment with tanks under 55 gallons capacity such as light stands and small generators are not included. Equipment with tanks used solely for motive power are excluded from SPCC coverage, however drill rig equipment that is part of motive equipment is not excluded. Equipment expected to be on site with oil storage of at least 55 gallons includes:

Description		Capacity (gal) And contents
Compressors	Ingersoll Rand 900 compressor	180 Diesel 55 hydraulic
	Ingersoll Rand 1170 compressor	180 gal diesel 55 gal hydraulic
	Ingersoll Rand 1070 compressor	180 gal diesel 55 gal hydraulic
	Sullair 1150xh compressor	190 gal diesel
	Aux Air Compressor	150 gal diesel
	Hurricane Compressor	85 gal diesel
	JGQ2 Air Booster	1500 gal diesel
Whisperwatt Generators	Baldor TR80 generator	80 gal diesel
	70KVA Denyo generator whisperwatt	103 gal diesel
	Whisperwatt 125 generator	169 gal diesel
	Whisperwatt 85 generator	170 gal diesel
	45whisperwatt generator	79 gallons Diesel
	Layne genset	est 80 gal diesel
	MQ power generator	169 gallons Diesel
Light Tower	Baldor Powerlite, Light Tower	75 Gal. Diesel
Rigs, cranes, shakes, pumps, and hoists	Pullstar P100k pump hoist	80 gal diesel 80 gal diesel
	Semco pump hoist	75 gal hydraulic fluid, 80 gal diesel
	Semco 315000 pulling unit work over rig	110 gal diesel
	Smeal Hoist rig	80 gal Hydraulic (diesel tanks under 55 gal each)
	Cat equipment with integral SWRI tank	est 500 gal diesel
	Foremost DR-24HD Drill rig	200 gal hydraulic fluid, 200 gal diesel
	Foremost DR-24 Drill Rig	150 gal diesel 170 gal hydraulic
	Speedstar 50k drill rig	55 gal hydraulic oil 241 gal diesel
	Schramm drill Rig	300 gal hydraulic 170 gal diesel
	Atlas Copco Drill Rig	300 gal hydraulic 170 gal diesel
	Boart Work Over Rig International 8100	150 Gal. Diesel 80 Gal. Hydraulic
	Boart Auger Coring Drill rig	90 gal diesel 40 gal hydraulic

	Stinger (crane)	120gal diesel
	Boart mud/shaker system	200 gal diesel
	WDC Water pump	100 gal diesel

Spill control is provided by plastic sheeting under compressors and other equipment while it is operating. Oil filled equipment is not to be stored in a floodplain.

An individual impracticability determination for this equipment is not required in place of impervious secondary containment for oil filled equipment. Section 3.3 includes an oil spill contingency plan and a written commitment of manpower, equipment, and materials to quickly control and remove discharged oil. The facility must also have an inspection or monitoring program for the equipment to detect a failure and/or discharge. The equipment is in an area where a daily walkaround inspection occurs.

2.3. Drum Storage Areas and Secondary Containment

Expected drum storage may include BioLube, fish oil, and lubricant in quantities from 0-3 drums per site. The drum material and construction must be compatible with contents. A dispensing pump will be utilized to minimize spills from transfers. Drums are stored within a manufactured secondary containment pallet with 66 gallons capacity and no drainage valve. Plastic sheeting may be used to prevent spills from dispensing from reaching the ground. The pad itself is fully bermed and drains to an unlined detention pond. Protection against vehicle collision consists of drums being stored in a designated area away from vehicle traffic.

2.4. Facility Transfer Operations

Filling of the tanks will be performed by an offsite DOT approved re-fueler. A summary of DOT Filling procedures is included in Appendix E. All of the pads are configured so that the loading area for the diesel tank is located on a gravel area above the berm next to the tank. The current level of fuel will be checked before offloading to ensure the tank is not overfilled past the 95% level.

Equipment will be checked for leaks before relocating. No fueling of equipment is to occur in a floodplain. When drums are moved from site to site they will be adequately restrained to prevent movement from the vehicle. Delivery from the drum occurs on the containment pallet.

2.5. Security

Tanks, equipment and drums are within fenced and patrolled areas at LANL. The tank dispensers will be locked when the facility is not staffed.

2.6. Secondary Containment Drainage Operations

Storm water accumulations are usually small and are allowed to evaporate. If drainage were required, the containment area could be emptied by portable equipment (e.g. pumps and hoses).

In the event that it is found necessary to pump out storm water accumulations, accumulations must meet federal and state water quality standards prior to discharge. To ensure compliance with these standards, the following steps would be used for secondary containment unit discharge operations:

- Visually inspect accumulation to ensure that the water does not possess an oil sheen, odor, or other constituents that could result in a harmful discharge
- Notify ENV- RCRA at 665-2014 to obtain authorization for release and for testing of contaminates and pH, if necessary
- Complete the Secondary Containment Discharge Record form in Appendix H and retain in the SPCC Plan

3. SPILLS

The section below lists the established procedures to be implemented in the event of a spill. Each addendum will provide information on the potential for spill events at the facility. Appendix E includes a spill history for the last three years.

3.1. Potential Spill Predictions

The table below identifies the tanks and containers at the facility with the potential for an oil discharge; the mode of failure; the flow direction and quantity of the discharge; and secondary containment method and containment capacity.

Type	Type of failure (discharge scenario)	Potential Discharge volume (gallons)	Direction of flow for uncontained discharge	Secondary containment method and capacity
Oil Filled Equipment	Catastrophic	Depends on type of equipment, Max 300 gal	See site map in Appendix H and table below	Plastic liner or absorbent pads - and oil spill contingency plan or prefab spill containment berms - size varies – minimum to contain largest tank
Drum storage Area	Catastrophic	55	See site map in Appendix H and table below	66 gallons – containment pallet
Product transfer areas	Spills	5	See site map in Appendix H and table below	Within dirt berm area of pad and oil spill contingency plan

The table below lists expected oil storage and use locations with watercourses and distance. Reference the SPCC monthly inspection in Appendix B for locations and quantities of current oil storage. Please refer to the site maps in Appendix H for expected locations of storage and equipment areas on each pad.

Site name	Watercourse site drains to	Approximate distance to watercourse	Estimated dates of SPCC oil filled equipment onsite
Pajarito Laydown	Pajarito Canyon	500'	Jan 2009-ongoing
R-3	Pueblo Canyon	200'	April -September 2010
R-37	Canada del Buey	¼ mi	Jan - August 2009
R-38	Canada del Buey	20'	Jan- Feb 2009
R-39	Pajarito Canyon	150'	Jan-March 2009
R-40	Pajarito Canyon	50'	Jan 2009- June 2009
R-41	Canada del Buey	1000'	Feb 09- Sept 2009
R-44	Mortandad Canyon	10'	Jan 2009- Sept 2009
R-45	Mortandad Canyon	10'	Jan 2009- Sept 2009
R-46	Canada del Buey	¼ mi	Feb 2009 to March 2009
R-47	Canada del Buey	400'	June 2009- Dec 2009
Cdv16-3i (R-48)	Tributary of Water Canyon	500'	June 2009- Dec 2009
Cdv16-4i	Canyon de Valle	200'	May -November 2010
PCI-1 (R-49)	Pajarito Canyon	10'	March -Sept 2009
53-1i	Sandia Canyon	¼ mi	Feb 09 to April 09
PCI-2	Pajarito Canyon	10'	Feb 09 to April 09
MCOBT 4.4	Mortandad Canyon	50'	July 2009- Sept 2009
R-27i	Water Canyon	50'	Sept 2009-Dec 2009
R-37-1i	Water Canyon	10'	Oct 2009- Dec 2009
R-29	Tributary of Ancho Canyon	¼ mi	April 2010-Nov 2010

R-30	Tributary of Ancho Canyon	500'	March 2010-ongoing
R-50	Ten Site Canyon	300'	Oct 2009-August 2010
R-51	Pajarito Canyon	10'	Oct 2009-August 2010
R-52	Canada del Buey	¼ mi	Jan - July 2010
R-53	Tributary of Canada del Buey	10'	Jan 2010- August 2010
R-54	Pajarito Canyon	10'	Nov 2009- July 2010
TW-2A(R)	Canada del Buey	50'	Jan 2010- July 2010
R-55	Canada del Buey	100'	May -September 2010
R-56	Canada del Buey	400'	March –July 2010
R-57	Tributary of Pajarito Canyon	200'	March – September 2010
R-60	Mortindad Canyon	200'	July 2010- December 2010
R-63	Canyon de Valle	200'	December 2010-ongoing
R-55i	Canada del Buey	100'	December 2010-ongoing
R-62	Mortandad Canyon	100	July 2011
SCI-3	Sandia Canyon	200	August 2011

3.2. Spill Prevention

Spill prevention includes training employees on appropriate spill prevention and work procedures and performing inspections and maintenance activities to minimize the potential for equipment failure. Work is also to be performed using LANL's five step Integrated Safety Management approach, which evaluates a task and identifies potential hazards such as a spill event.

3.3. Oil Spill Contingency Plan

This facility meets the spill history criteria and an oil spill contingency plan will be used in lieu of secondary containment for oil filled equipment. The tanks and drums are not oil filled equipment and are required to have secondary containment.

An oil spill contingency plan is a detailed oil spill response and removal plan that addresses controlling, containing, and recovering an oil discharge in quantities that may be harmful to navigable waters or adjoining shorelines.

Definition of the authorities, responsibilities, and duties of all entities involved in oil removal operations:

Procedures for early detection and timely notification of an oil discharge;
Daily walk-around inspections are performed by the operations contact. Notifications will occur as in the table above.

Assurance that full resource capability is known and can be committed following a discharge;
EM&R (Emergency Management & Response) is a 24 hour fully trained and equipped team located onsite at LANL at TA-69. They maintain a mobile trailer capable of responding to an oil spill.
Each active drilling site has a spill cleanup kit.

Actions for after discovery and notification of a discharge; Procedures to facilitate recovery of damages and enforcement measures.

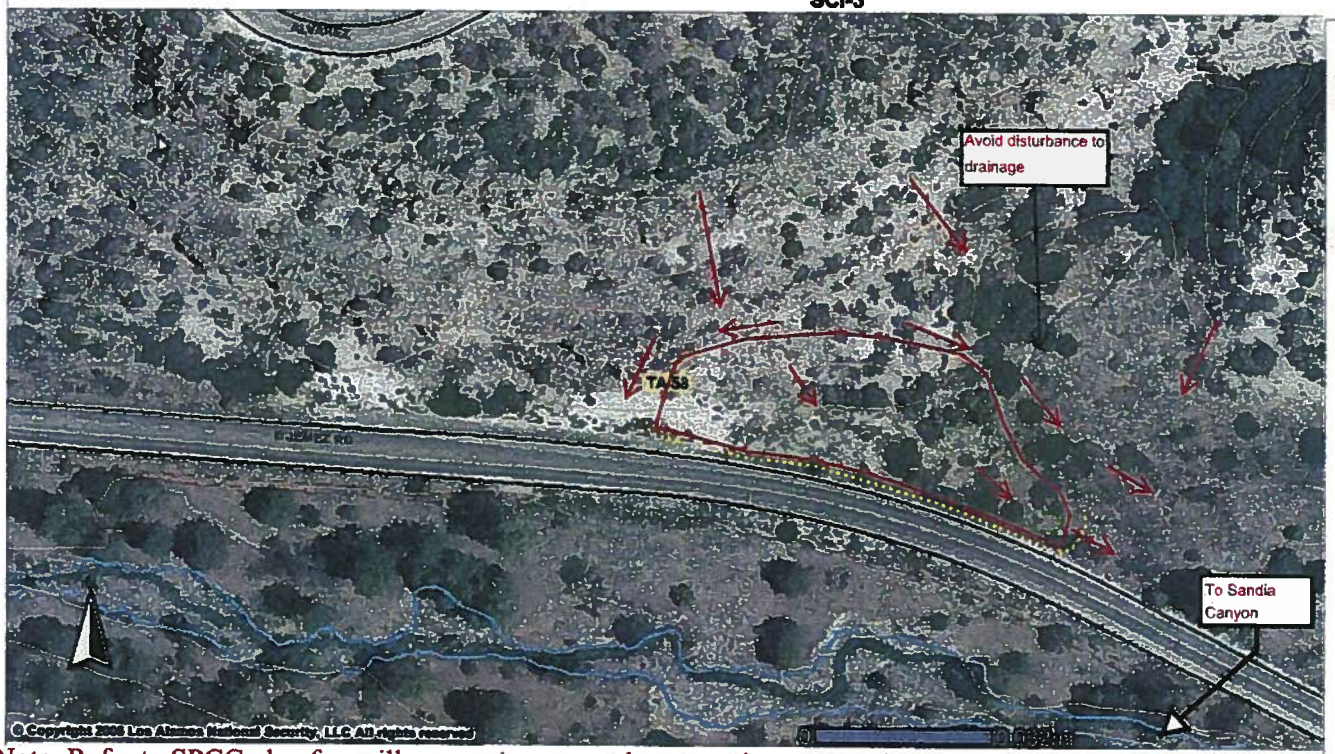
LANLs EM&R team will respond to and clean up a spill per the LANL contingency plan available at http://rcra-permitapps.lanl.gov/General-Appendix%20E.pdf.

Disposal occurs by the Waste Management Coordinator (WMC) per LANL Procedure P409 Waste Management
http://policy.lanl.gov/pods/policies.nsf/MainFrameset?ReadForm&DocNum=P409&FileName=P409.pdf.
Oil stained soils are disposed of as NM special waste, plastic and spill absorbents are disposed of as used oil by the WMC.

ENV-RCRA will complete required state, federal, and DOE Order 232 ORPS reporting, including the federal reporting of spills in excess of 1,000 gallons or two combined spills greater than 42 gallons in 12 months in accordance with Laboratory and DOE policies and federal and state regulatory reporting requirements per ISD 322-3 Manual for Communication, Investigation, and Reporting Abnormal Events

http://policy.lanl.gov/pods/policies.nsf/MainFrameset?ReadForm&DocNum=ISD322-3&FileName=ISD322-3.pdf.

SCI-3

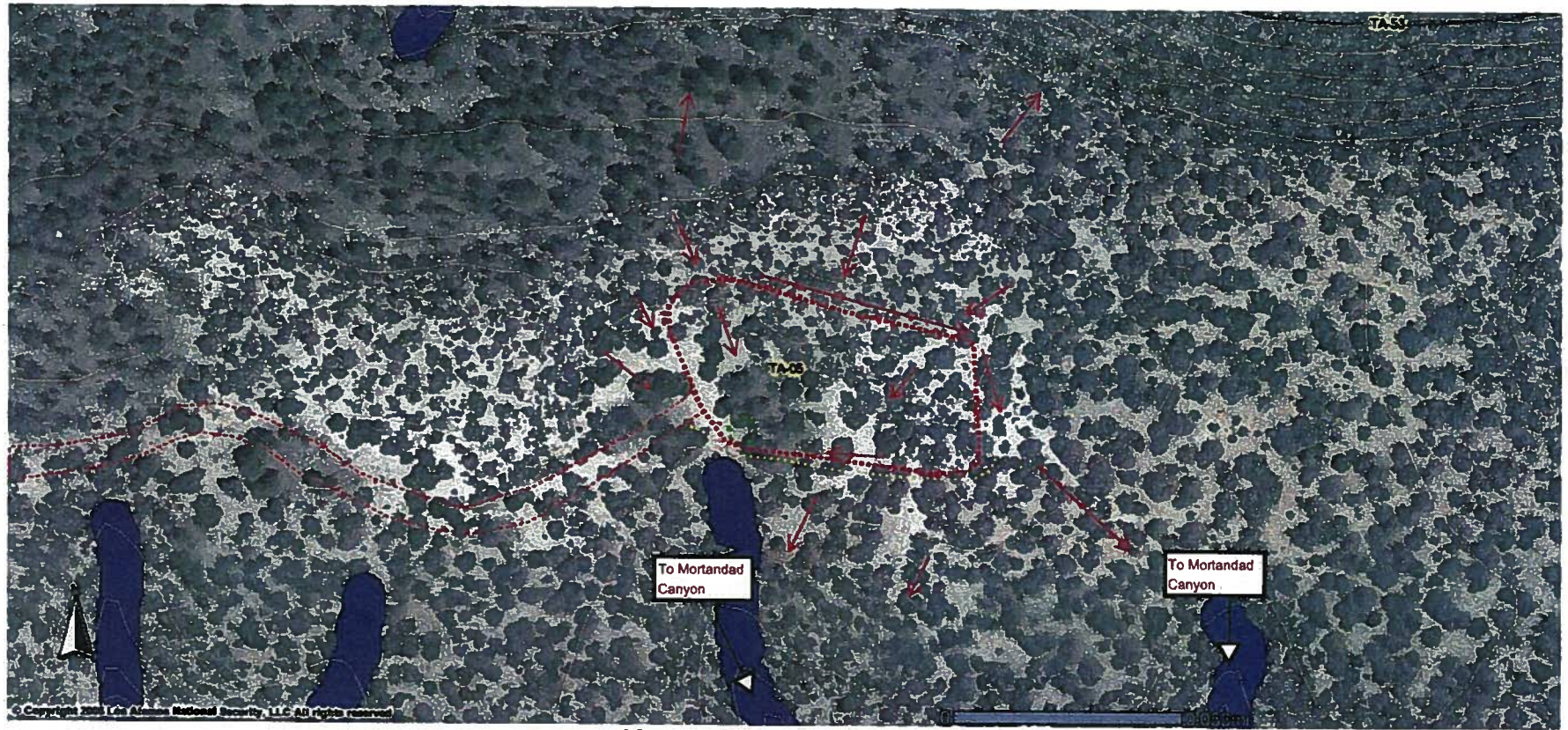


Note: Refer to SPCC plan for spill prevention, secondary containment requirements, refueling operations instructions and placement of epuipment. All equipment will be placed within pad boundaries.

Los Alamos NATIONAL LABORATORY

- ••••• Earthen diversion berms
- ◌ Detention pond with armored inlet/outlet
- ••••• Brush barriers, and/or wattles where necessary
- → Arrows indicate drainage flow

R-62 Well Pad SPCC Site Map



Detention pond with armored inlet/outlet

Earthen diversion berms

Brush barriers, and/or wattles where necessary

Arrows indicate drainage flow

Note: Refer to SPCC plan for spill prevention, secondary containment requirements, refueling operations instructions and placement of epuipment. All equipment will be placed within pad boundaries.

Appendix C
Amendment Log

Changes to the contact lists, and the addition of records to the Plan do not require certification by a Professional Engineer. A Professional Engineer will certify all amendments that address technical changes that affect the facility's ability to discharge diesel fuel.

Date	Plan Section	Amendment	**PE Certification** (if amendment affects facility's ability to discharge oil)
07-14-2011	ii, 1.2, 3.1, Appendix H	• Added Eberline Services as drilling subcontractor, added equipment to inventory, added R-62 and SCI-3 to drill site locations