

OCT 11 2013

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## INTRODUCTION

## Cambio 31-1 Remediation Project

The following document is a plan for all federal and state lands when remediating contaminants resulting from releases of oilfield products. This document provides direction for remediation of soils contaminated as a result of a release according to the New Mexico Oil Conservation Division's (OCD) requirements. Specific constituents and / or requirements for soil analysis and / or remediation may vary depending on site specific conditions.

TEEMCO is a Registered Professional Engineering Company working on behalf of our client PPC Operating Company, LLC. We have been retained to manage, respond and to remediate a release.

## *Chapter 1*

### NOTICE OF RELEASE

Releases of any wastes or products from oilfield operations have been reported to the OCD pursuant to OCD Rule 116 and New Mexico Water Quality Control Commission (WQCC) Regulation 1-203. Notification included all information required under the respective rule or regulation. PPC Operating Company, LLC (PPC) contact information is located in Table 1. Information listed includes, but is not limited to; the responsible party and local contact, federal and state agencies, addresses and contact information.

Notice of Release was documented on the State of New Mexico Energy Mineral and Natural Resources Oil Conservation Division Form C-141 (latest revision 8/8/11). C-141 includes the name and address of the facility where the release took place, as well as the legal location listed by quarter-quarter, section, township and range, and by distance and direction from the nearest town or prominent landmark so that the exact site location can be readily located on the ground. GPS coordinates of the site were also included: N 32.97735° W 103.45190°.

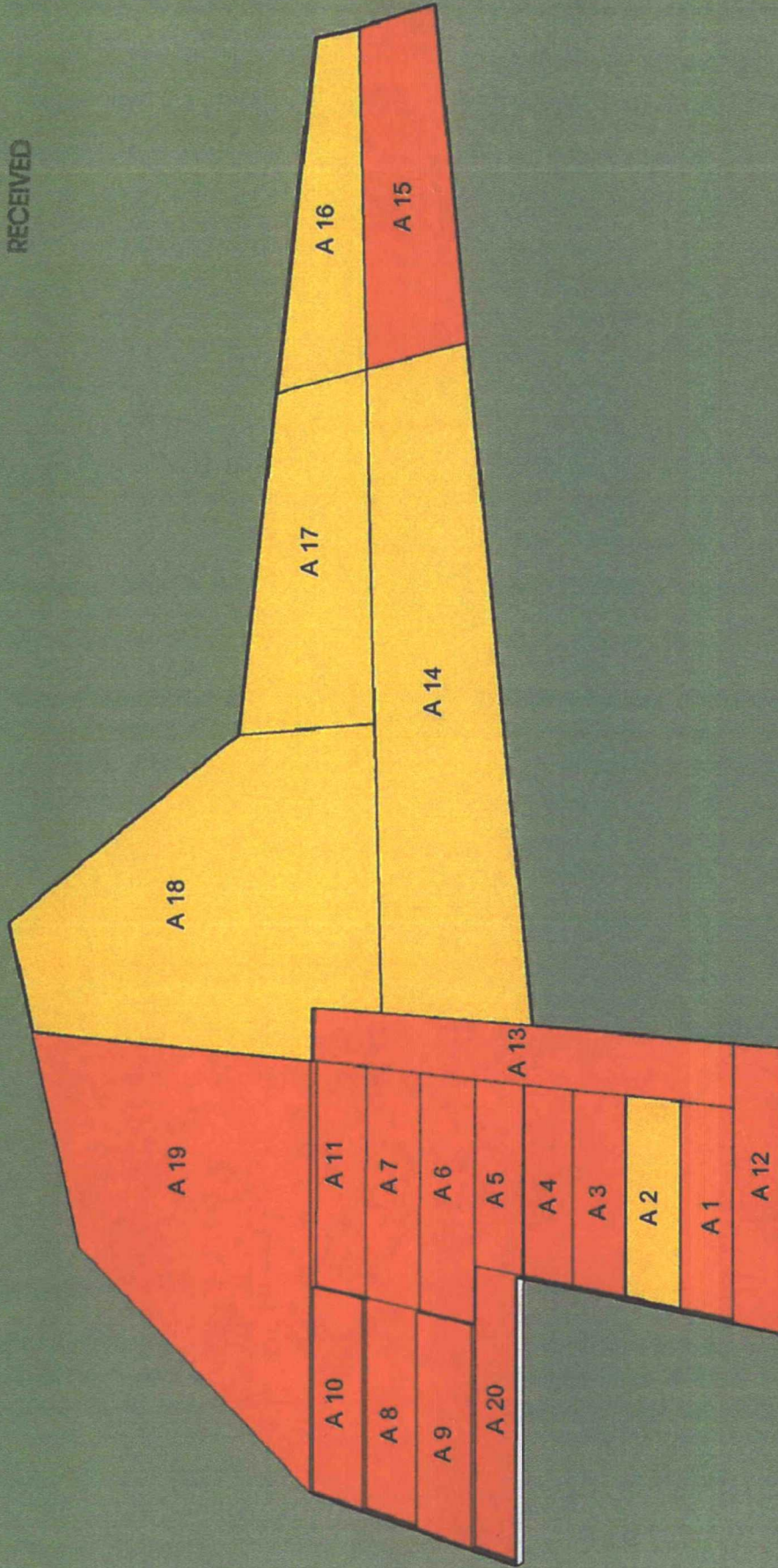
Please see the attached Form C-141 for all other site specific information regarding the nature of the release.



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LEGEND

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Highly Contaminated > 1,000ppm  
Meets NMOCD Requirements < 1,000ppm

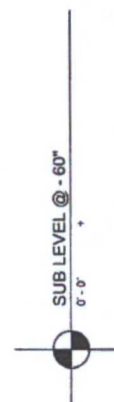
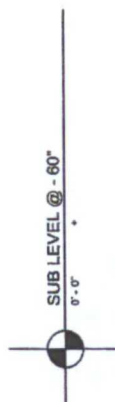
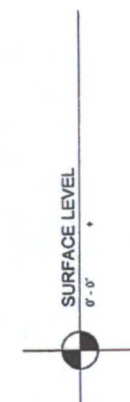
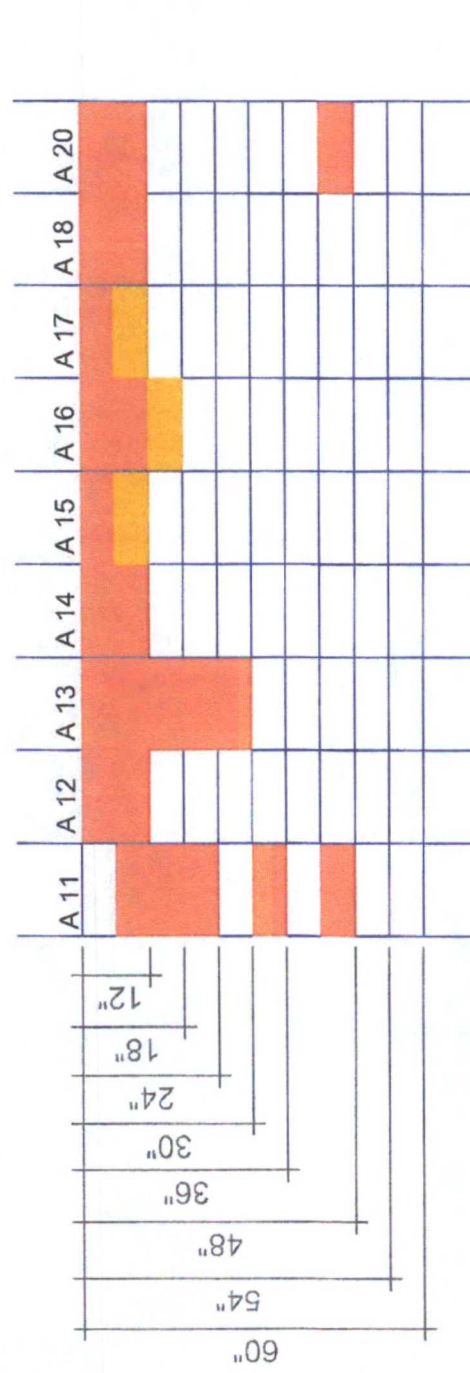
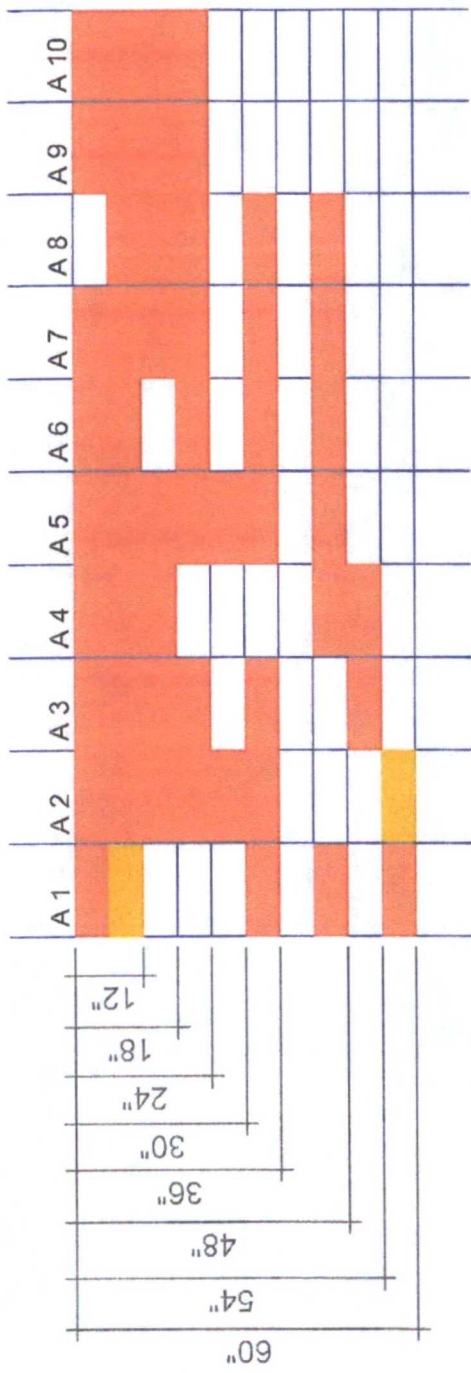


PPC Operating Company,  
LLC

3D MODEL

Date Drawn:	11/20/2013
Revision:	11/26/2013
Field Engineer:	Kevin Robinson
Drawn By:	Colby A. Pidon
Scale:	NOT TO SCALE
Sheet:	S





# LEGEND

All measurements are in parts per million / Total Petroleum Hydrocarbons, ppm / TPH

Areas ("A") are divided into equal sections to show contaminants by depth from test samples.



Highly Contaminated > 1,000ppm

Meets NMOCD Requirements < 1,000ppm



PPC Operating Company, LLC

CAMBIO 31 - 1

Date Drawn:	11/20/2013
Revision:	11/25/2013
Field Engineer:	Kevin Robinson
Drawn By:	Colby A. Picton
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Sheet:	S



A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8	A 9	A 10
1440	22990	31110	24515	36000	11665	9995	--	9865	2470
775	21820	25830	26425	15550	4405	3980	4010	7370	8015
--	9600	10680	6605	9475	--	2085	1155	12730	13055
--	11745	5665	9445	22770	3770	4980	13220	9960	10840
--	2275	--	--	--	--	--	--	--	--
7620	44110	3895	7790	20600	6120	10080	15040	1350	--
--	--	--	--	--	--	--	--	--	--
3330	19260	1400	3410	4755	4300	12060	15300	--	--
--	--	1020	1370	--	--	--	--	--	--
1265	735	--	--	--	--	--	--	--	--

A 11	A 12	A 13	A 14	A 15	A 16	A 17	A 18	A 20
--	3025	7230	6455	3275	5025	5885	1270	3120
--	3440	11100	3050	475	1360	825	1020	1450
1475	--	17225	--	--	805	--	--	--
14450	--	11585	--	--	--	--	--	--
--	--	10975	--	--	--	--	--	--
13970	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
4070	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--

# LEGEND



All measurements are in parts per million / Total Petroleum Hydrocarbons. ppm / TPH

Areas ("A") are divided into equal sections to show contaminants by depth from test samples.



Highly Contaminated > 1,000ppm

Meets NMOC Requirements < 1,000ppm

PPC Operating Company, LLC

Date Drawn: 11/20/2013  
Revision: 11/25/2013  
Field Engineer: Kevin Robinson  
Drawn By: Colby A. Picon  
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Sheet: S

CAMBIO 31 - 1



**Table 1: PPC Operating Company, LLC Emergency Contact Information**

Federal Agencies	
<b>EPA National Response Center</b>	800.424.8802
EPA Contact Information	EPA Region 6 214.665.6444 1445 Ross Avenue Dallas, Texas 75202
State Agencies	
New Mexico Energy Minerals and Natural Resources Oil Conservation Division District 1 - Hobbs Contact Information	1625 North French Drive Hobbs, New Mexico 88240 575.393.6161
Local Contacts	
<b>Lea County LEPC</b> Phone: 505.393.2870 Address: 100 North Main Lovington, New Mexico 88260	<b>PPC Operating Company, LLC Field Contacts</b>  Jesse Madris 325.267.5868  Brady Rutledge 325.260.1800  Pug Hester 325.725.2471  <b>Local Emergency</b> (Fire, Explosion, Other Hazard): <b>911</b>
<b>Lovington Fire Department</b> Phone: 575.396.2359 Address: 213 South Love Street, Lovington, New Mexico 88260	

## Chapter 2

### INITIAL RESPONSE ACTIONS

General conditions prevailing at the site including precipitation, wind conditions, temperature, soil type, distance to nearest residence and proximity to any watercourse has been recorded and is listed in both Table 2 and the topographical map (Figure 1).

**Table 2: Field Inspection Report**

Site Characteristics	Condition
Precipitation	None
Wind Conditions	17 mph
Temperature	High: 93° Low: 53°
Soil Type	Hard, dry, dense material with heavy concentrations of rock with minimal/light vegetation
Distance To Nearest Watercourse	2,300 feet to a pond



Upon learning of the release which could have a reasonable probability to be detrimental to public health, fresh waters, animal or plant life, or unreasonably interfere with the public welfare, the following actions were taken.

Source elimination and site security were established.

Appropriate measures were taken to stop the source of the release and access to the site was limited to reduce the possibility of public exposure.

An impermeable liner was used to prevent leaching of potential contaminants into the underlying soil. The use of absorbent pads and other containment actions limited the area impacted by the event and prevented potential fresh water contaminants from migrating to watercourses. These actions help ensure the containment of the release.

Recovery actions are continuing during the remediation. Contaminants that can be physically removed from the surface within the containment area are being recovered. The recovery of containment ensures site stabilization.

## *Chapter 3*

### SITE ASSESSMENT

Prior to final closure, soils into which recoverable products have infiltrated and which have a reasonable probability to be detrimental to public health, fresh waters, animal or plant life, or unreasonably interfere with the public welfare will be assessed for the potential environmental impacts and remediated according to the procedures contained in the following sections. Assessment results form the basis of any required remediation. The site was assessed for the severity of contamination and potential environmental threats using a risk based ranking system.

General site characteristics include, but are not limited to, depth to ground water, wellhead protection area, and distance to the nearest body of water. The depth of ground water has yet to be determined. This depth is defined as the vertical distance from the lowermost contaminants to the seasonal high water elevation of the ground water.

The distance to the nearest surface body of water has been determined. All down gradient surface water bodies are identified on the topographical graph of the facility. Surface water is defined as perennial rivers, streams, creeks, irrigation canals and ditches, lakes, ponds and playas.



The following initial assessment of damage was conducted at the facility:

- I. Estimated amount of oil/saltwater released.
- II. Surveyed the surrounding area:
- III. Inspected potential pathways to a pond located 1.2 miles south of the facility.
- IV. Determined that oil/saltwater did not reach the pond.
- V. Inspected potential salt scalding or oil staining along pathways to the pond.
- VI. Observed and made a written report of any area that showed signs oil staining.
- VII. Described the condition of soil.
- VIII. Described wildlife in the affected area.
- IX. Photographed the damaged area.
- X. Collected soil samples for lab analysis:
- XI. Determined baseline and contamination levels at time of release

## *Chapter 4*

### REMEDICATION

The following discussion summarizes techniques for remediation of the Cambio 31-1 contaminated soil.

Highly contaminated/saturated soils and unsaturated contaminated soils exceeding the standards are being excavated until a representative sample from the walls and bottom of the excavation is below the contaminant specific remediation level.

Soil is being excavated to the maximum depth and horizontal extent practicable. Upon reaching this limit a sample will be taken from the walls and bottom of the excavation to determine the remaining levels of soil contaminants.

Once excavation is complete, excavated soils will be disposed of at an off-site, permitted facility, if it proves to be the most efficient method of waste disposal.

Samples are being analyzed for potential ground water contaminants contained in the waste stream, as defined by the Water Quality Control Commission (WQCC) Regulations. All ground water samples are being analyzed using EPA methods, or by other OCD approved methods. The samples are being analyzed within the holding time specified by the method. Table 3 outlines target remediation levels for



waste constituents. The Parts Per Million (ppm) listed below were identified as the threshold of absolute safe levels from the US Federal Center for Disease Control (CDC) for human exposure. TEEMCO will remediate to these levels.

**Table 3: Target Remediation Levels**

Target Remediation Levels for Waste Constituents	
Total Petroleum Hydrocarbons (TPH)	5,000 ppm
Chloride (Cl)	500 ppm
Benzene (PH-H)	25 ppm
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)	50 ppm

If soil action levels cannot practicably be attained, an evaluation of risk may be performed and provided to OCD for approval showing that the remaining contaminants will not pose a threat to present or foreseeable beneficial use of fresh water, public health and the environment.

Upon termination of any required remedial actions, the area of release will be closed by backfilling the excavated areas as necessary.

If you should have any questions about the Immediate Action and Remediation plan, please don't hesitate to contact Joshua Robbins, Senior Compliance Consultant at TEEMCO. His contact information is listed below.

Joshua Robbins  
Senior Compliance Consultant  
Office: (405) 216-1300  
Cell: (405) 255-8146  
Fax: (405) 341-3095  
[joshua.robbsins@theteemco.com](mailto:joshua.robbsins@theteemco.com)

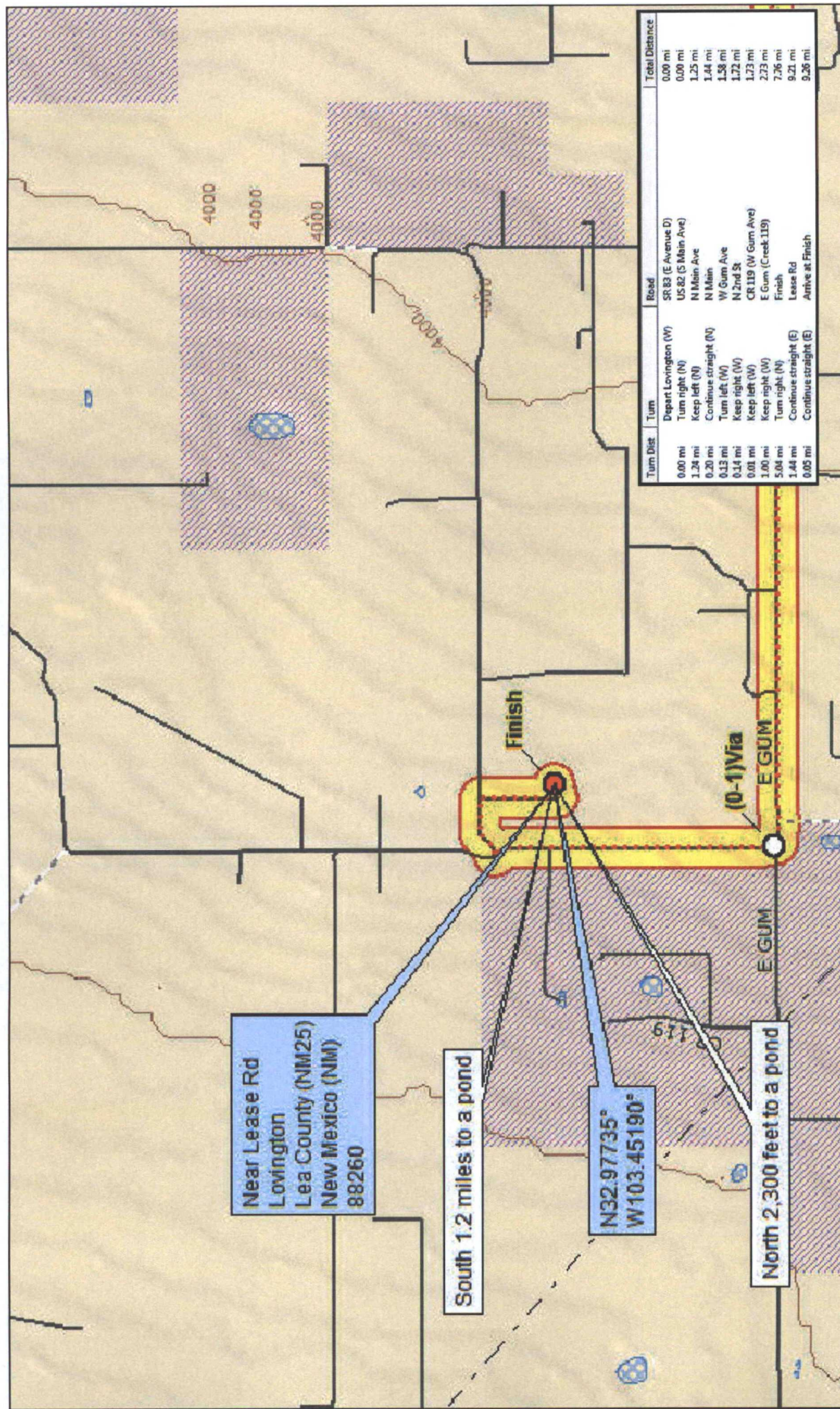
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**Geoffrey Leking**  
NM OCD – District 1

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Date Approved





Turn Dist	Turn	Road	Total Distance
0.00 mi	Depart Lovington (W)	SR 83 (E Avenue D)	0.00 mi
1.24 mi	Turn right (N)	US 82 (S Main Ave)	0.00 mi
0.20 mi	Keep left (N)	N Main Ave	1.25 mi
0.13 mi	Continue straight (N)	N Main	1.44 mi
0.14 mi	Turn left (W)	W Gum Ave	1.58 mi
0.01 mi	Keep right (W)	N 2nd St	1.72 mi
1.00 mi	Keep left (W)	CR 119 (W Gum Ave)	1.73 mi
5.04 mi	Turn right (N)	E Gum (Creek 119)	2.73 mi
1.44 mi	Continue straight (E)	Finish	7.26 mi
0.05 mi	Continue straight (E)	Lease Rd	9.21 mi
		Arrive at Finish	9.26 mi

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**PPC Operating Company, LLC**

Date Drawn: 9/10/2013  
Revision: N/A  
Field Engineer: Roderick Sloan  
Drawn By: David Gilles  
Scale: NOT DRAWN TO SCALE

Interstate Highway

Limited Access Road

Local Road

Major Connector

Minor Connector

Non Limited Access Interstate

Primary State Route

State Route

Toll Road

U.S. / National Route

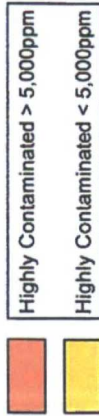
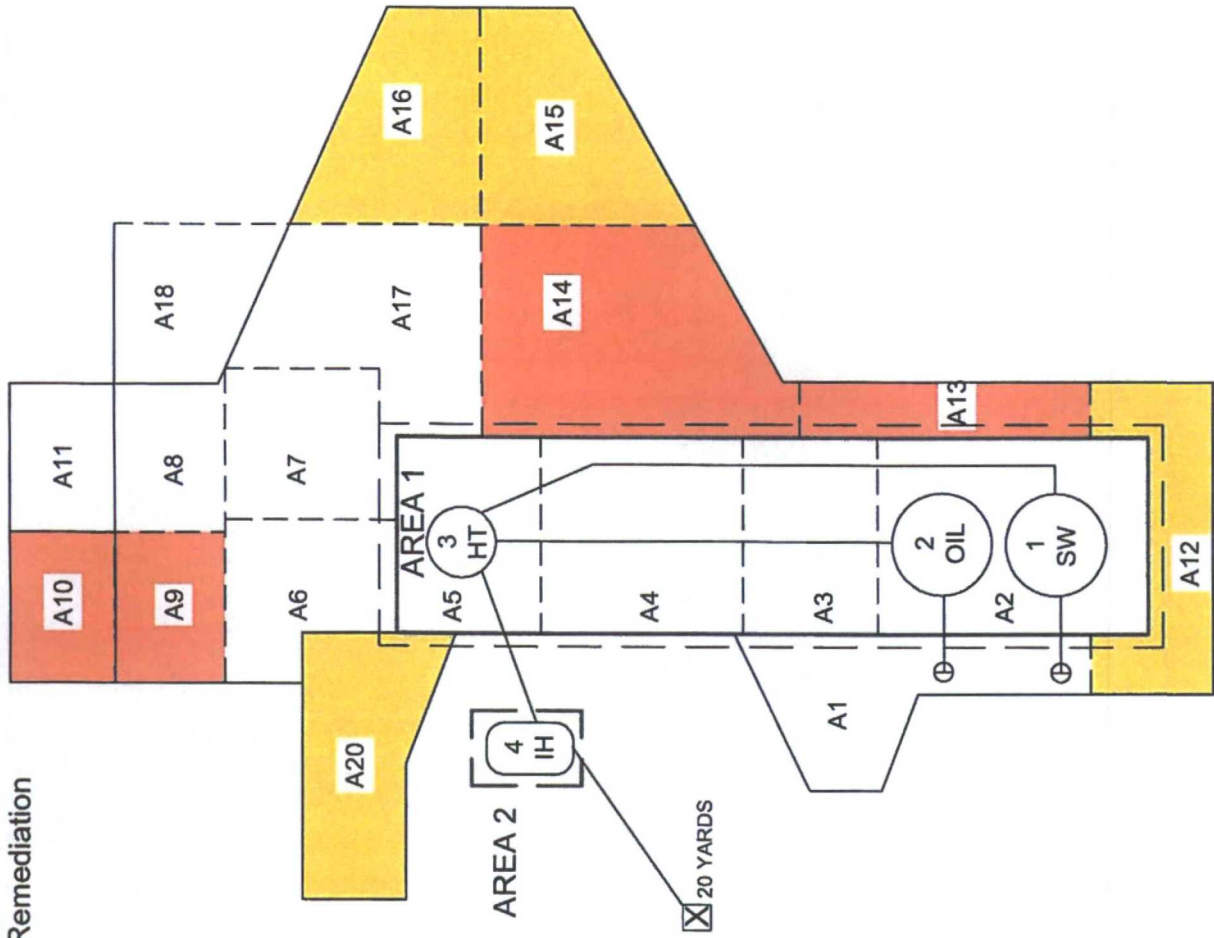
Unclassified Road

Unimproved Road

CAMBIO #1



# Analysis of Contamination Requiring Regulatory Remediation



DAY 1

**LEGEND**

--- FENCE	⊕ ELECTRIC BOX	--- BERM
⊕ ELECTRIC LINE	⊕ FLOW METER	--- PROPOSED BERM
--- DRAINAGE	⊕ ELECTRIC POLE	--- CHEMICAL TANK OUTSIDE BERM IN TUB
● PUMP	⊕ ELECTRIC PANEL	⊕ PRODUCING WELL
⊕ TRANSFORMER	⊕ DIKE DRAIN	⊕ INJECTION WELL
⊕ LOAD LINE	⊕ CHEMICAL TANK	⊕ COMPRESSOR
⊕ DRIP BUCKET	⊕ CHEMICAL TANK IN TUB	⊕ HEADER

**PPC Operating Company, LLC**

CAMBIO #1

NOT DRAWN TO SCALE

Date Drawn: 9/10/2013

Revision: Colby A. Picton

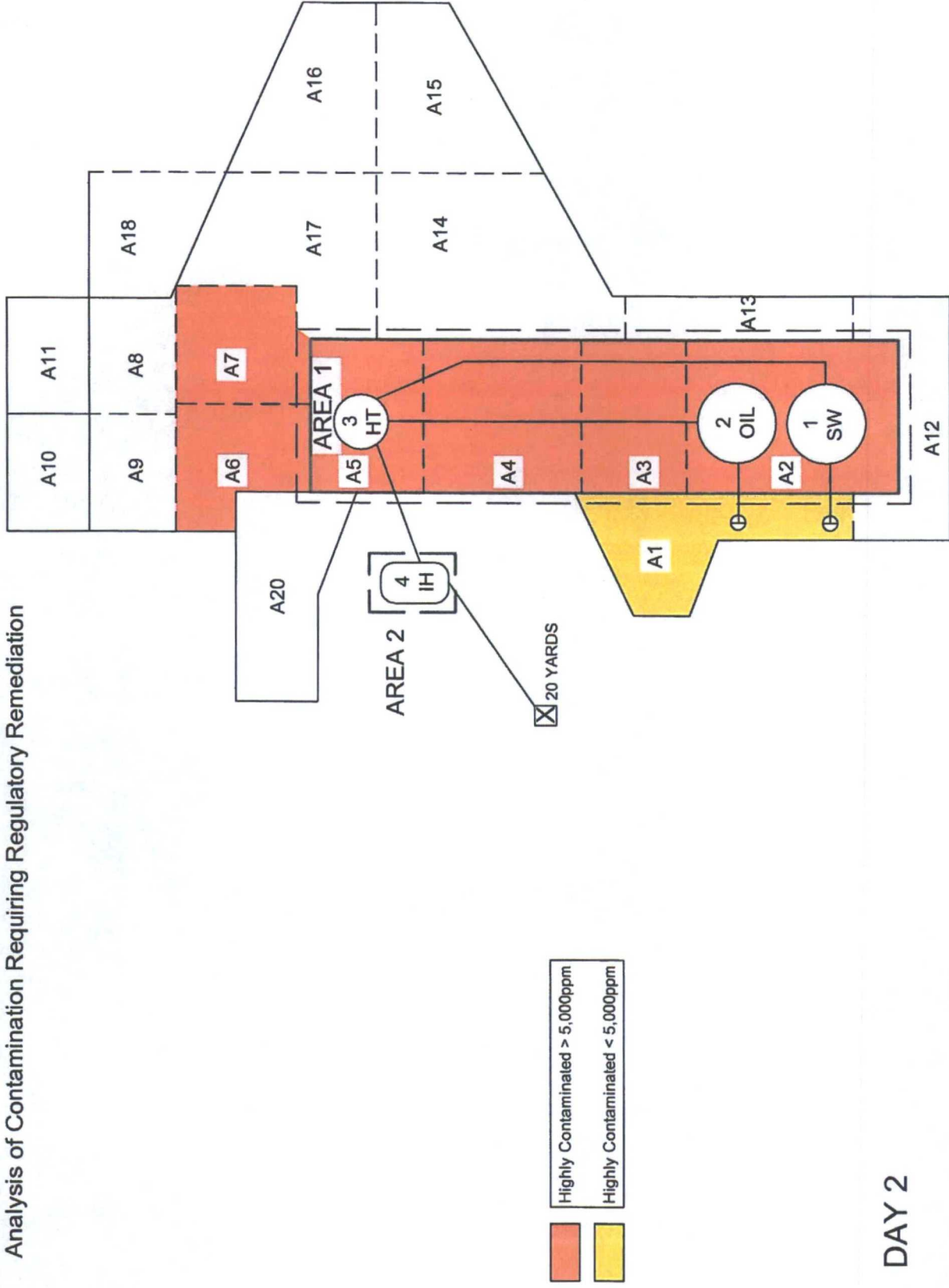
Field Engineer: Roderick Sloan

Drawn By: David Giles

Scale:



# Analysis of Contamination Requiring Regulatory Remediation



DAY 2

## LEGEND



- FENCE
- ELECTRIC LINE
- DRAINAGE
- PUMP
- TRANSFORMER
- LOAD LINE
- DRIP BUCKET
- ELECTRIC BOX
- FLOW METER
- ELECTRIC POLE
- ELECTRIC PANEL
- DIKE DRAIN
- CHEMICAL TANK
- CHEMICAL TANK IN TUB
- BERM
- PROPOSED BERM
- CHEMICAL TANK OUTSIDE BERM IN TUB
- PRODUCING WELL
- INJECTION WELL
- COMPRESSOR
- HEADER

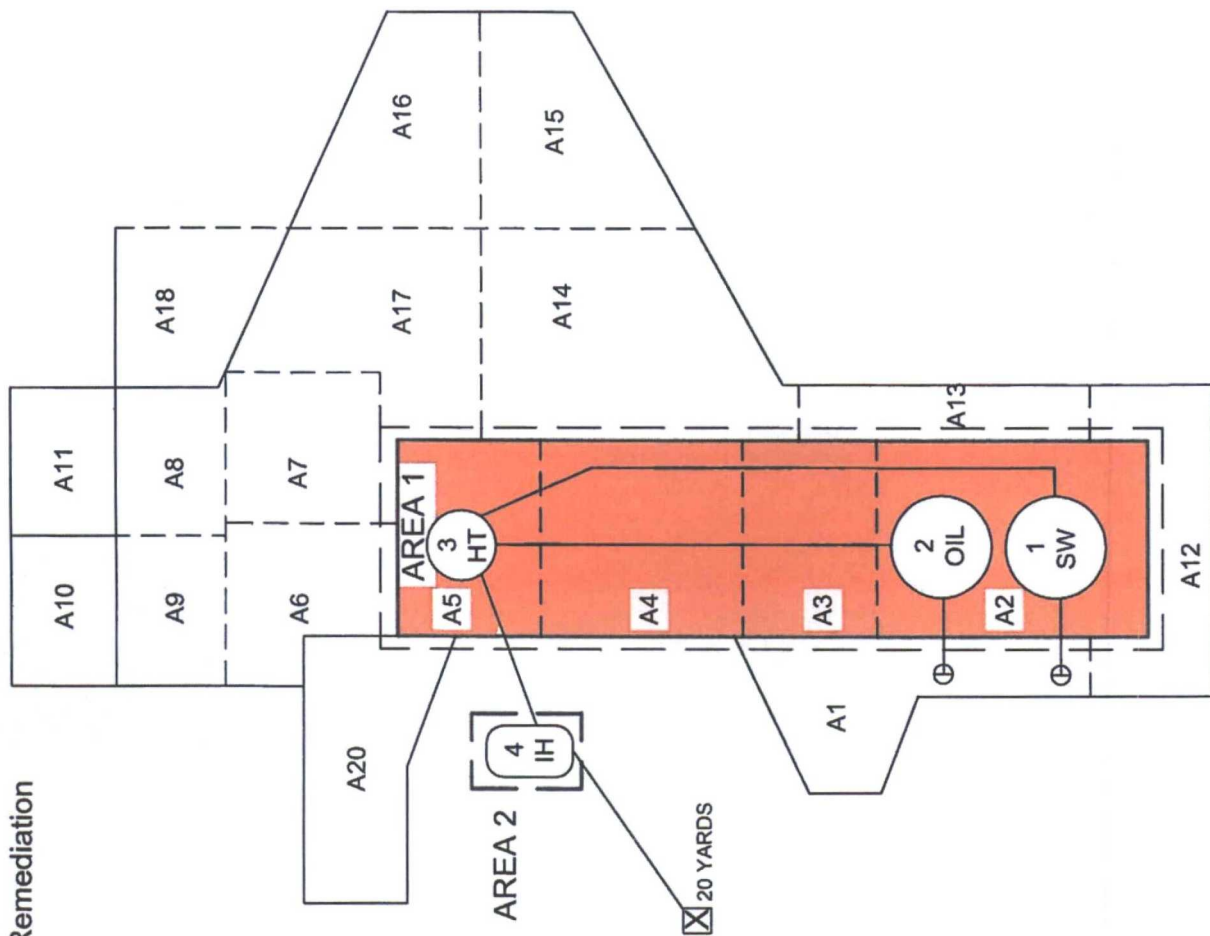


**PPC Operating Company, LLC**

Date Drawn:	9/10/2013
Revision:	Colby A. Picton
Field Engineer:	Roderick Sloan
Drawn By:	David Giles
Scale:	NOT DRAWN TO SCALE

CAMBIO #1

# Analysis of Contamination Requiring Regulatory Remediation



Highly Contaminated > 5,000ppm  
 Highly Contaminated < 5,000ppm

DAY 3

## LEGEND

- FENCE
- ELECTRIC LINE
- DRAINAGE
- PUMP
- LOAD LINE
- DRIP BUCKET
- ELECTRIC BOX
- FLOW METER
- ELECTRIC POLE
- ELECTRIC PANEL
- DIKE DRAIN
- CHEMICAL TANK
- CHEMICAL TANK IN TUB
- BERM
- PROPOSED BERM
- CHEMICAL TANK OUTSIDE BERM IN TUB
- PRODUCING WELL
- INJECTION WELL
- COMPRESSOR
- HEADER

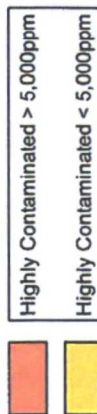
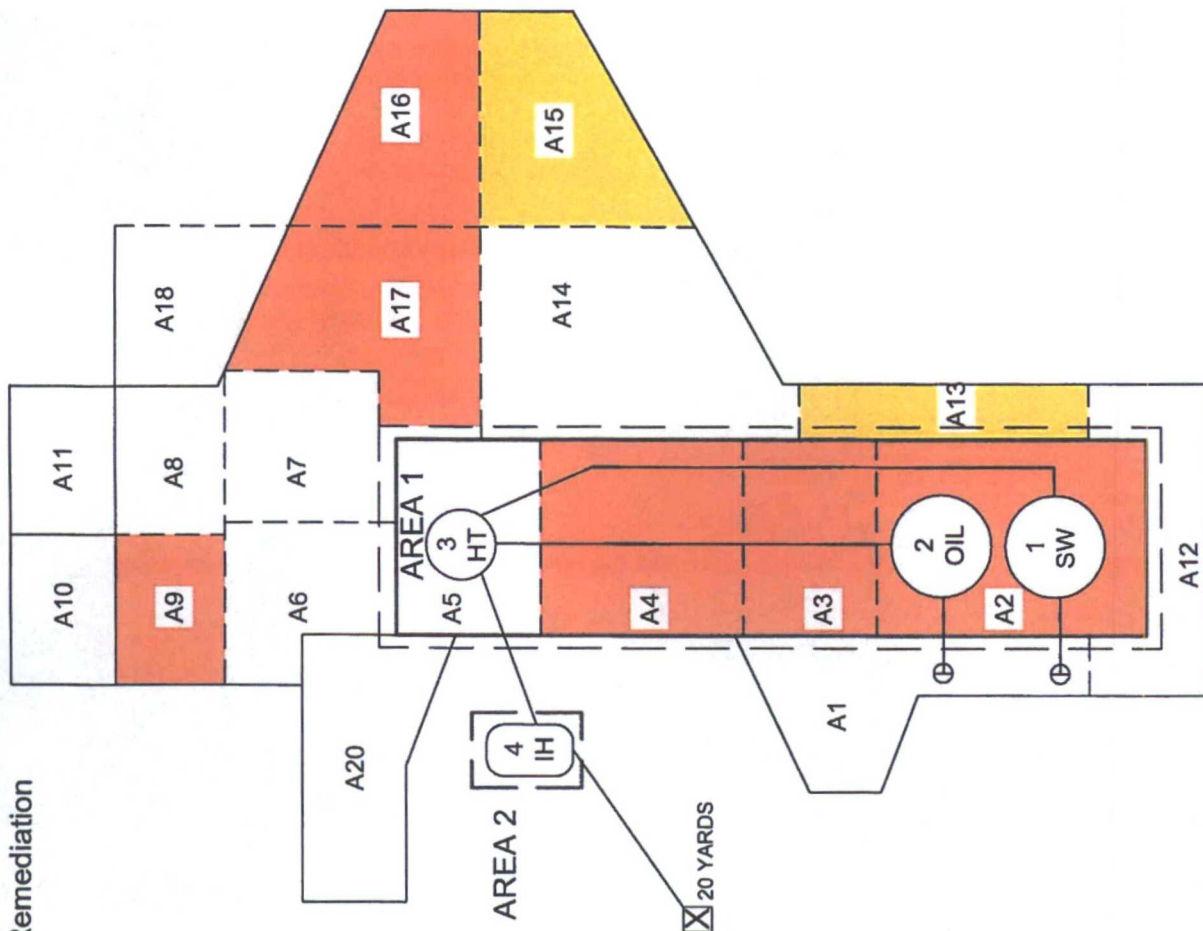
Date Drawn: 9/10/2013  
 Revision: Colby A. Picton  
 Field Engineer  
 Drawn By: Roderick Sloan  
 David Giles  
 Scale: NOT DRAWN TO SCALE

PPC Operating Company, LLC

CAMBIO #1

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# Analysis of Contamination Requiring Regulatory Remediation



DAY 4

## LEGEND



- FENCE
- ELECTRIC LINE
- DRAINAGE
- PUMP
- TRANSFORMER
- LOAD LINE
- DRIP BUCKET
- ELECTRIC BOX
- FLOW METER
- ELECTRIC POLE
- ELECTRIC PANEL
- DIKE DRAIN
- CHEMICAL TANK
- CHEMICAL TANK IN TUB
- BERM
- PROPOSED BERM
- CHEMICAL TANK OUTSIDE BERM IN TUB
- PRODUCING WELL
- INJECTION WELL
- COMPRESSOR
- HEADER



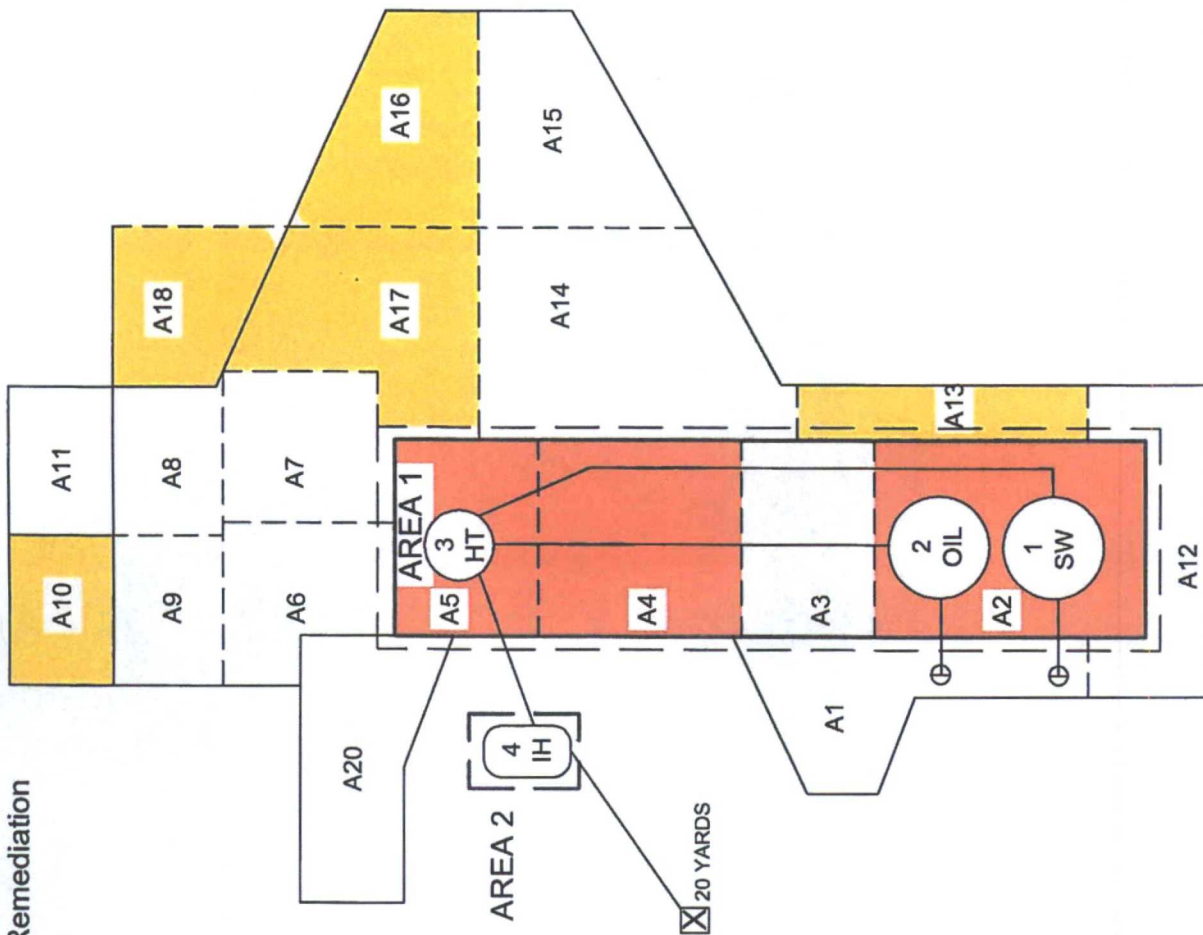
PPC Operating Company, LLC

Date Drawn:	9/10/2013
Revision:	Colby A. Picton
Field Engineer:	Roderick Sloan
Drawn By:	David Giles
Scale:	NOT DRAWN TO SCALE

CAMBIO #1



# Analysis of Contamination Requiring Regulatory Remediation



Highly Contaminated > 5,000ppm  
 Highly Contaminated < 5,000ppm

DAY 5

## LEGEND

- |   |  |  |
|---|--|--|
| <ul style="list-style-type: none"> <li>FENCE</li> <li>ELECTRIC LINE</li> <li>DRAINAGE</li> <li>PUMP</li> <li>TRANSFORMER</li> <li>LOAD LINE</li> <li>DRIP BUCKET</li> </ul> | <ul style="list-style-type: none"> <li>ELECTRIC BOX</li> <li>FLOW METER</li> <li>ELECTRIC POLE</li> <li>ELECTRIC PANEL</li> <li>DIKE DRAIN</li> <li>CHEMICAL TANK</li> <li>CHEMICAL TANK IN TUB</li> </ul> | <ul style="list-style-type: none"> <li>BERM</li> <li>PROPOSED BERM</li> <li>CHEMICAL TANK OUTSIDE BERM IN TUB</li> <li>PRODUCING WELL</li> <li>INJECTION WELL</li> <li>COMPRESSOR</li> <li>HEADER</li> </ul> |
|---|--|--|

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Date Drawn: 9/10/2013  
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