RECEIVED
JAN - 6 2010
NMOCD ARTESIA

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- ☐ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
- ☒ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
- ☐ Modification to an existing permit
- ☐ Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: XOG Operating, LLC. OGRID #: 236790
Address: 1801 W. Texas, Midland, TX 79701
Facility or well name: Catclaw 18-001
API Number: 30-015-34574 OCD Permit Number:
U/L or Qtr/Qtr P Section 18 Township 21S Range 26E County: Eddy
Center of Proposed Design: Latitude Longitude NAD: ☐1927 ☐1983
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

2
☒ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☒ Lined ☐ Unlined Liner type: Thickness 12 mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☒ Other stitched Volume: 14,000 bbl Dimensions: L 150 x W 110 x D 5

3.
☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other
☐ Lined ☐ Unlined Liner type: Thickness mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
Liner Seams: ☐ Welded ☐ Factory ☐ Other

4.
☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: bbl Type of fluid:
Tank Construction material:
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other
Liner type: Thickness mil ☐ HDPE ☐ PVC ☐ Other

5.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

Closure Completion 12/10/09 - Rule 50 permitted

6.
Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*

☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*

☒ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☐ Alternate. Please specify_____

7.
Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

8.
Signs: Subsection C of 19.15.17.11 NMAC

☒ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.3.103 NMAC

9.
Administrative Approvals and Exceptions:
Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☐ Administrative approval(s). Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.

☐ Exception(s). Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

10.
Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. **Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.**

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to permanent pits)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

11.
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15 17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19 15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17 12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____

☐ Previously Approved Operating and Maintenance Plan API Number: _____ *(Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)*

13.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☒ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Closed-loop System ☐ Alternative

Proposed Closure Method:
- ☒ Waste Excavation and Removal
- ☐ Waste Removal (Closed-loop systems only)
- ☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
  - ☐ In-place Burial ☐ On-site Trench Burial
- ☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19 15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)
Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name CRI Disposal Facility Permit Number: 6

Disposal Facility Name. _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations.
☒ Soil Backfill and Cover Design Specifications - - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC
Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

18.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19 15.17.11 NMAC
☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15 17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.
Operator Application Certification:
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.
Name (Print): Nick Hoop Title: ENGINEER
Signature: Nick Hoop Date:
e-mail address: Telephone:

20.
OCD Approval: ☐ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)
OCD Representative Signature: **Approval Date:**
Title: **OCD Permit Number:**

21.
Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC
***Instructions:** Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.*
☒ **Closure Completion Date:** 12-10-2009

22.
Closure Method:
☒ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

23.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:
***Instructions:** Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.*
Disposal Facility Name: CRI Disposal Facility Permit Number: NM R-9166
Disposal Facility Name: Disposal Facility Permit Number:
Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please demonstrate compliance to the items below) ☒ No
Required for impacted areas which will not be used for future service and operations:
☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24.
Closure Report Attachment Checklist: ***Instructions:** Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*
☐ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure)
☐ Plot Plan (for on-site closures and temporary pits)
☑ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (required for on-site closure)
☑ Disposal Facility Name and Permit Number
☑ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique
☑ Site Reclamation (Photo Documentation)
On-site Closure Location: Latitude Longitude NAD: ☐ 1927 ☐ 1983

25.
Operator Closure Certification:
I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.
Name (Print): Nick Hoop Title: ENGINEER
Signature: Nick Hoop Date:
e-mail address: Telephone:

Accepted for record
NMOCD
JAN 11 2010

PIT REMEDIATION AND CLOSURE REPORT

XOG OPERATING, LLC.
CATCLAW 18 #001, API: 30-015-34574
EDDY COUNTY, NEW MEXICO

Prepared For:

XOG OPERATING, LLC.
1801 W. TEXAS AVENUE
MIDLAND, TEXAS 79701

Prepared By:

SOUTH ENVIRONMENTAL SERVICES, INC
2400 S. LOOP 250 WEST
MIDLAND, TEXAS 79703

DECEMBER 2009

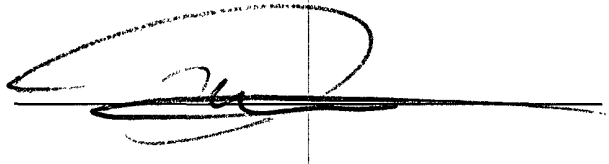
A Report Prepared for:

XOG OPERATING, LLC.
1801 W. TEXAS AVENUE
MIDLAND, TEXAS 79701

PIT REMEDIATION AND CLOSURE REPORT

Prepared by:

Ronnie W. Nickell



SOUTH ENVIRONMENTAL SERVICES, INC
2400 S. LOOP 250 WEST
MIDLAND, TEXAS 79703

DECEMBER 2009

TABLE OF CONTENTS

ATTACHMENTS

December 10, 2009

Mr. Mike Bratcher
Oil Conservation Division
1301 West Grand Avenue
Artesia, NM 88210

RE: Pit Remediation and Closure Report
Catclaw 18 #001, API #: 30-015-34574
Excavation and Remediation of Impacted Soil
Eddy County, New Mexico

1.0 INTRODUCTION

On behalf of XOG Operating, LLC. (XOG), South Environmental Services, Inc. (SES) is pleased to submit this Pit Remediation and Closure Report for the site known as Catclaw unit 18 #001 Lease, API: 30-015-34574, Eddy County, New Mexico (the site). This report presents the results of the remedial actions performed at the above referenced site.

1.1 Purpose of Report

The purpose of this report is to present a summary of the completed field activities and results of remedial actions performed in order to facilitate regulatory closure of this site.

2.0 PROTOCOLS AND PROCEDURES

2.1 Pit Remediation and Closure Activities

As illustrated in the attached Figures, the Excavation and Backfill procedures followed all applicable protocols and rules outlined in 19.15.17.10 NMAC. All liquids were removed prior to excavation process and 3,044 cubic yards of the contaminated soil was hauled to the Controlled Recovery, Inc. (CRI). South Environmental Services, Inc. took special care to ensure all impacted soils were included in the excavation and disposal. As outlined an approved state disposal facility was utilized for waste disposal. Confirmation sampling took place to ensure no impacted soil had been left in place. The pit was lined with a twelve (12) mil stitched liner. All backfilled material was appropriate soil, clean and compacted. Re-Vegetation and Site Remediation procedures were followed.

3.0 CONFIRMATION SAMPLING

As illustrated in the attached figures, confirmation sampling took place after impacted material had been disposed of. The confirmation samples were taken for each quadrant (North, South, East, and West) of the main reserve pit and a sample from the center of the main reserve pit. Multiple sampling events were conducted on May 20, 2009 thru September 17, 2009. The confirmation samples (NW, SW, CENTER, and NE) were analyzed for chlorides using EPA METHOD 4500. Confirmation sampling locations are depicted in Attachment 2, Figure 2.

4.0 DISPOSAL FACILITY NAME AND PERMIT NUMBER

Controlled Recovery, Inc. Disposal, Permit #: NM R-9166

5.0 SOIL BACKFILL AND COVER DESIGN SPECIFICATIONS

A twenty (20) mil cap was installed in the bottom of the pit to meet OCD requirements. The soil cover is an adequate backfill material, compacted and non-waste containing, from top to cap (<4' below surface ground) to >1' below ground surface and topsoil to surface grade.

6.0 RE-VEGETATION

The re-vegetation took place with a minimum of 70% native perennial vegetative cover consisted of at least 3 native plant species, including at least one grass and no noxious weeds. Cover will be maintained through 2 successive growing seasons.

7.0 RECOMMENDATIONS

Based on the findings and results of the remedial actions described herewith, South Environmental request the OCD's concurrence that the site meets the conditions for final site closure, thus requiring no further corrective action by XOG Operating. Upon OCD approval, the site will be restored as near as possible to the original site conditions as set out below.

- The former pit area will be backfilled with native soils to the original elevation and contours of the surrounding land.
- The disturbed soils in the native pasture areas will be tilled and seeded to help minimize erosion and re-establish natural plant growth.

8.0 QA/QC PROCEDURES

8.1 Soil Sampling

Samples of subsurface soils were obtained utilizing proper EPA protocols and/or standards. Representative soil samples were collected using clean, disposable gloves and clean sampling tools. The soil sample was then placed in a sterile glass container equipped with a Teflon-lined lid furnished by the analytical laboratory. The container was filled to capacity to limit the amount of head-space present. Each container was labeled and placed on ice in an insulated cooler. Upon selection of samples for analysis, the cooler will be sealed for shipment to the laboratory. Proper chain-of-custody documentation will be maintained throughout the sampling and transportation process.

Soil samples were delivered to Cardinal Laboratories in Hobbs, NM for Chloride analyses using the methods described below. Soil samples were analyzed for Chlorides within fourteen days following the collection date.

The soil samples were analyzed as follows:

1. Chloride concentrations in accordance with Method 4500-Cl-B.

8.2 Laboratory Protocol

The laboratory will be responsible for proper QA/QC procedures. These procedures will either be transmitted with the laboratory reports or on file at the laboratory.

9.0 LIMITATIONS

South Environmental Services, Inc. has prepared this Pit Remediation and Closure Report to the best of its ability. No other warranty, expressed or implied, is made or intended.

South Environmental Services, Inc. has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. South Environmental Services, Inc. has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. South Environmental Services, Inc. has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. South Environmental Services, Inc. also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of XOG Operating, LLC. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent of South Environmental Services, Inc. and/or XOG Operating, LLC.

Thank you for the assistance in this matter. If you have any questions or require additional information, please contact me at 432-425-8454.

Sincerely,
SOUTH ENVIRONMENTAL SERVICES, INC.

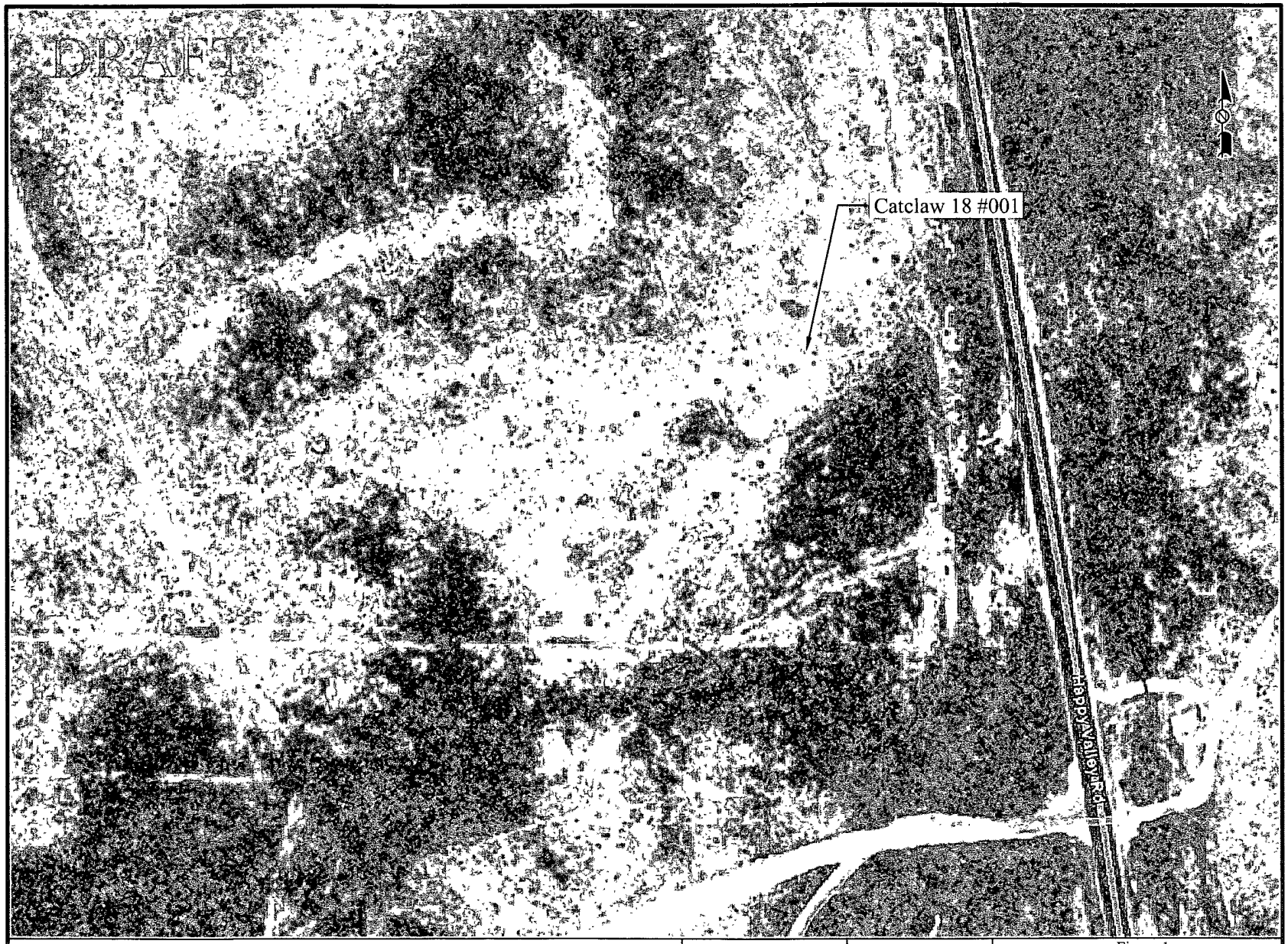
Ronnie W. Nickell
Sr. Project Manager

Cc: XOG Operating, LLC, Midland, Texas

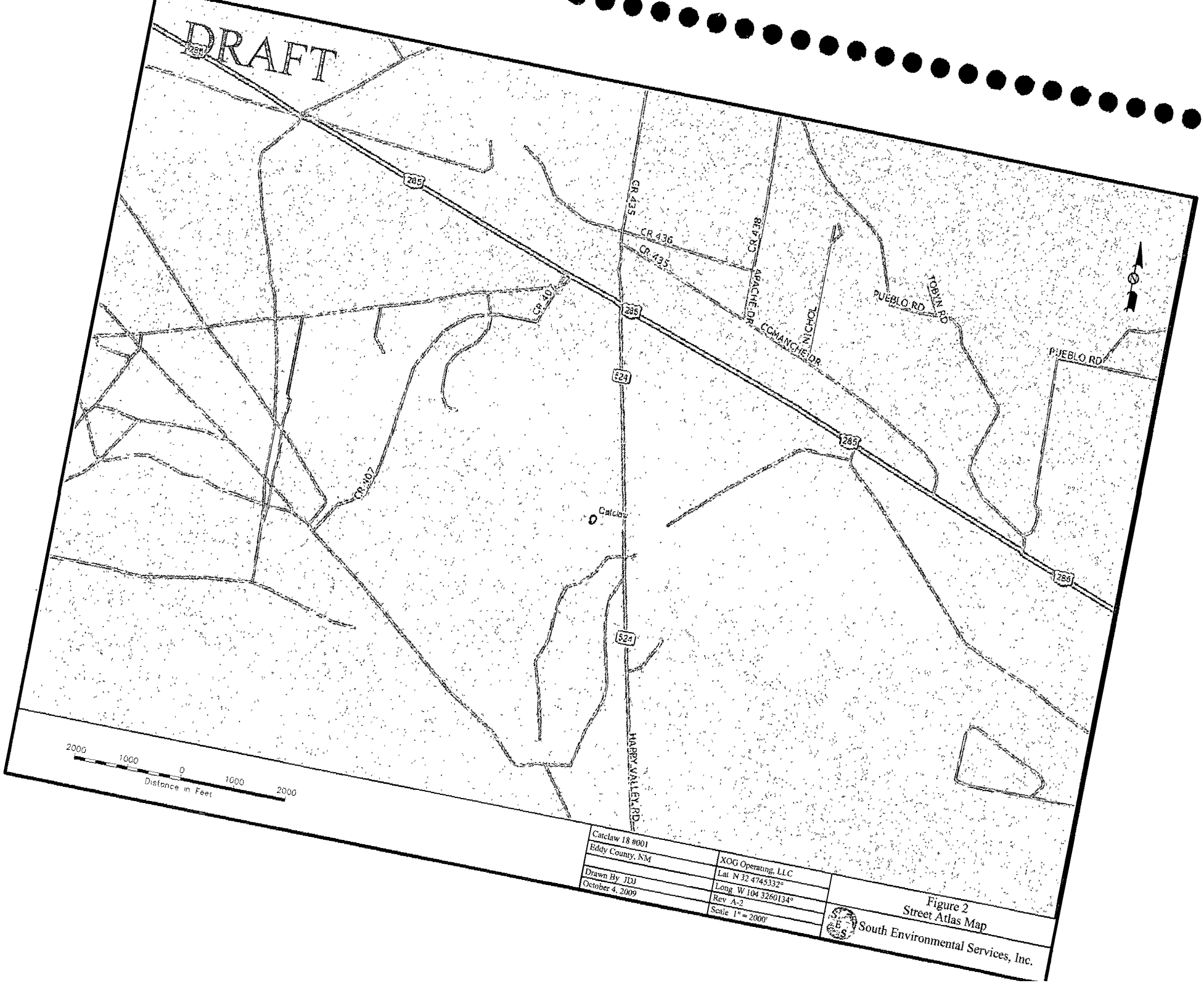
ATTACHMENTS

ATTACHMENT 1

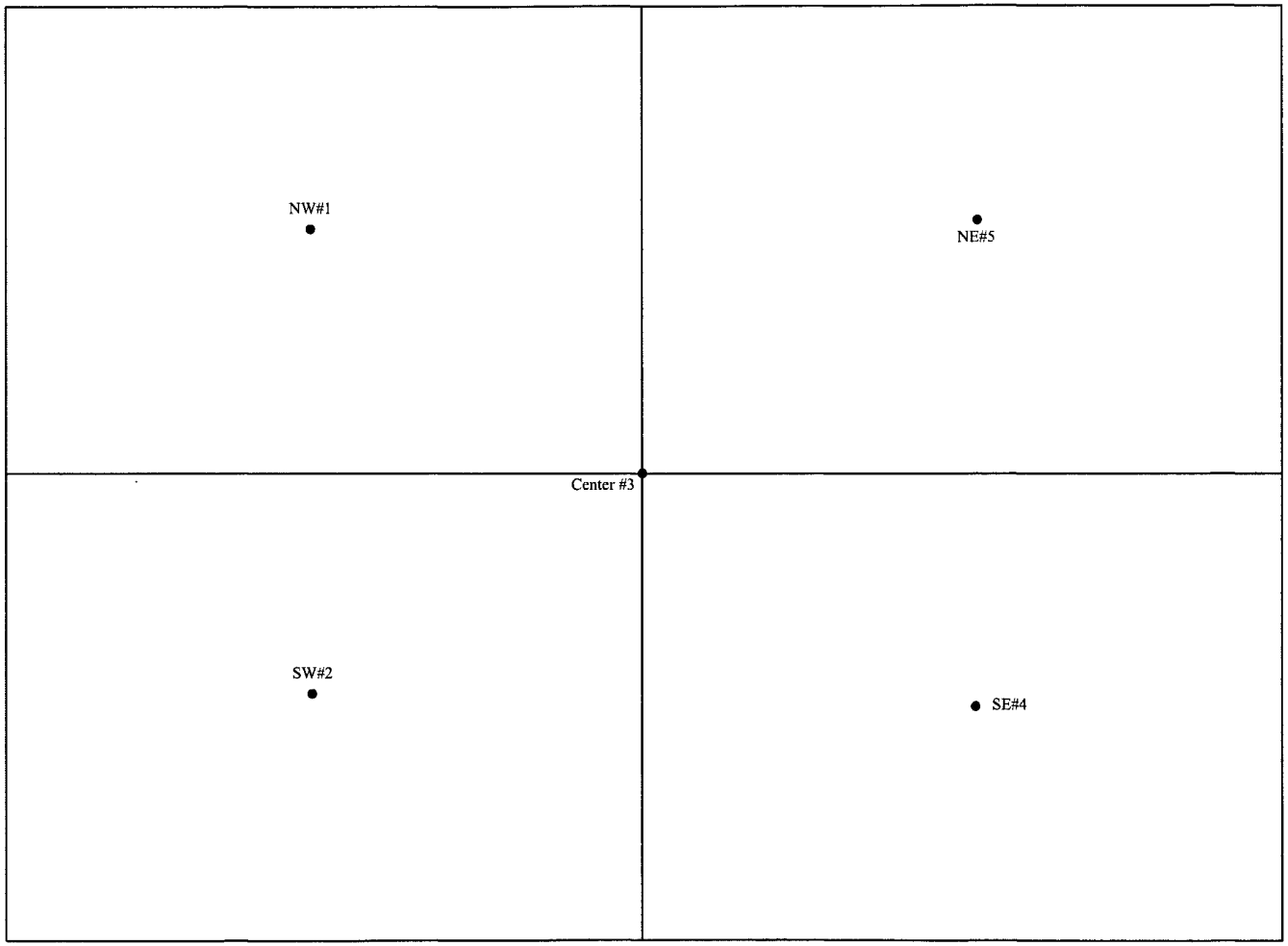
SITE FIGURES



Catclaw 18 #001	XOG Operating, LLC	Figure 1 Aerial Photo
Eddy County, NM	Lat N 32 4745332°	
	Long W 104 3260134°	South Environmental Services, Inc.
Drawn By: JDJ	Rev A-2	
October 4, 2009	Scale 1" = 200'	


DRAFT
285
CR 435
CR 436
CR 438
APACHE DR
COMANCHE DR
CHOCTAW DR
PUEBLO RD
TOBIN RD
PUEBLO RD
CR 402
524
CR 407
Catclaw
HARRY VALLEY RD
2000
1000
0
1000
2000
Distance in Feet
Catclaw 18 #001
Eddy County, NM
Drawn By: JDJ
October 4, 2009
XOG Operating, LLC
Lat. N 32 4745332°
Long. W 104 3260134°
Rev. A-2
Scale 1" = 2000'
Figure 2
Street Atlas Map
South Environmental Services, Inc.

DRAFT

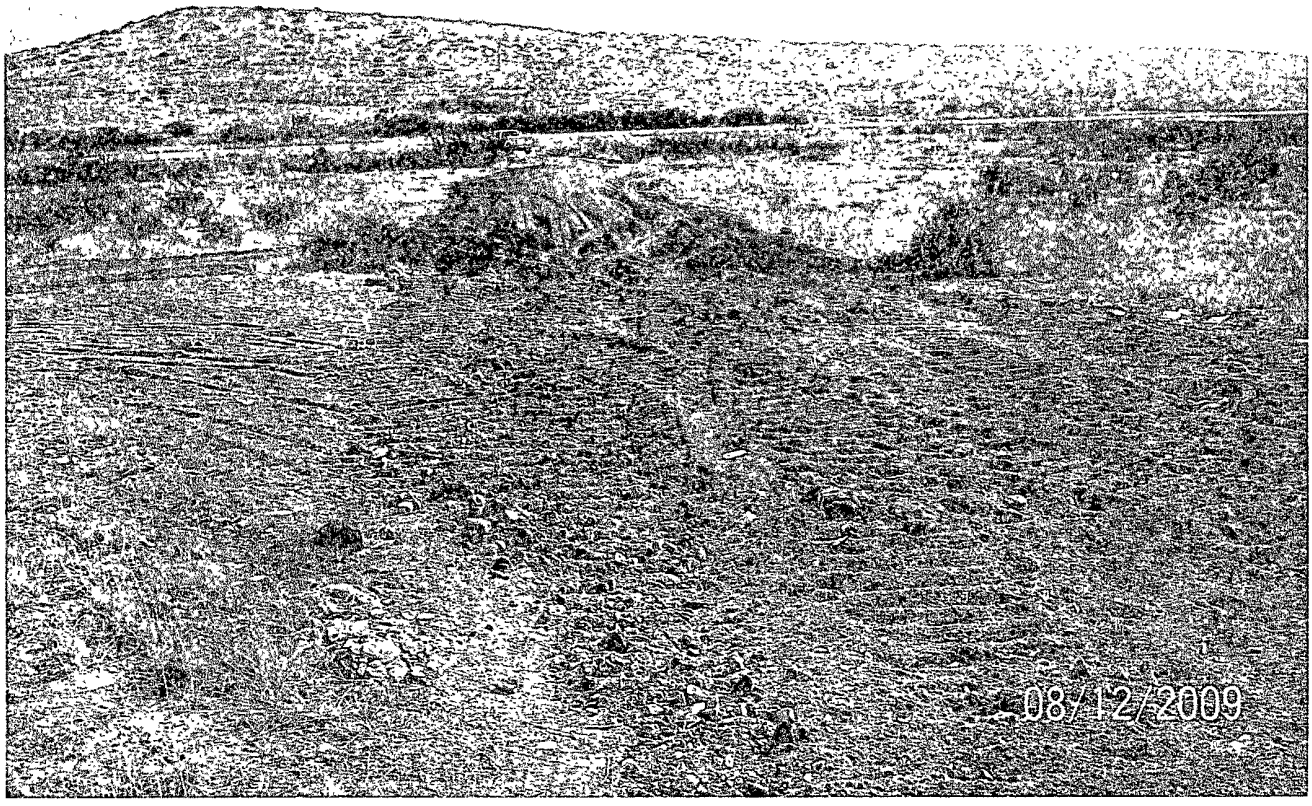


20 10 0 10 20
Distance in Feet

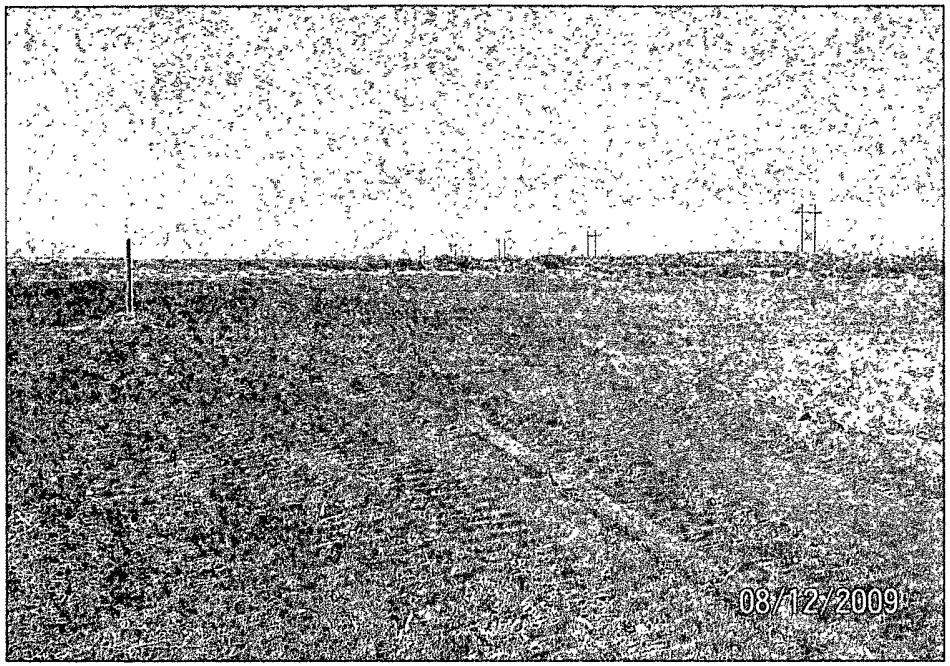
Catclaw 18 #001	XOG Operating, LLC	Figure 3 Site Map
Eddy County, NM	Lat N 32 4745332°	
	Long W 104 3260134°	South Environmental Services, Inc.
Drawn By: JDJ	Rev: A-2	
October 4, 2009	Scale: 1" = 20'	

ATTACHMENT 2

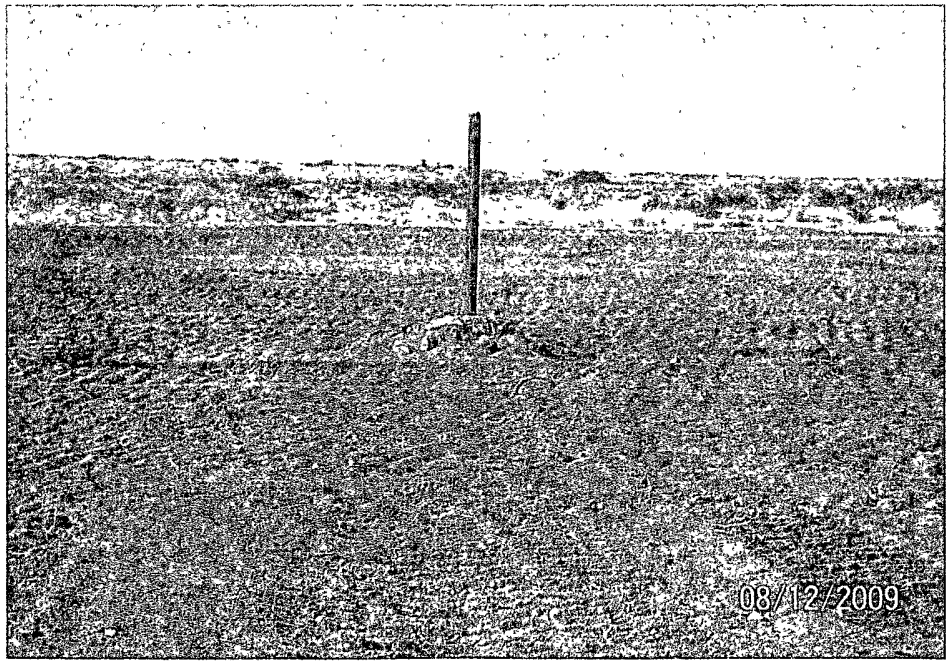
SITE PHOTOGRAPHS

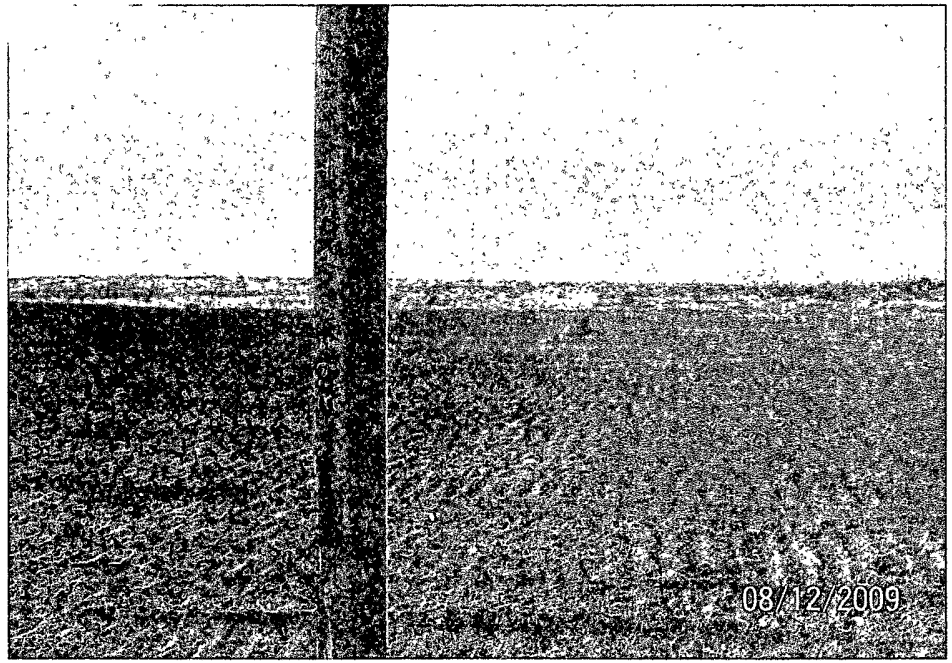

08/12/2009


XOG OPERATING, LLC
(888) 683-3171
CAT CLAW 18-001
UNIT P, SEC.18-T21S-R26E
EDDY CO., NM API #30-015-34574


08/12/2009


08/12/2009


08/12/2009


08/12/2009

ATTACHMENT 3

LABORATORY ANAYLSIS REPORTS

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
XOG
ATTN: JAMES MANN
P.O BOX 352
MIDLAND, TX 79702
FAX TO: (432) 682-4182 & (575) 393-3615

Receiving Date: 05/20/09
Reporting Date: 06/09/09
Project Owner: NOT GIVEN
Project Name: CAT CLAW
Project Location: CARLSBAD, NM
Lab Number: H17460-1
Sample ID: PIT

Analysis Date: 06/09/09
Sampling Date: 05/20/09
Sample Type: SOIL
Sample Condition: INTACT @ 24°C
Sample Received By: AB
Analyzed By: CK

TCLP SEMIVOLATILES (mg/L)	EPA LIMIT	Sample Result H17460-1	Method Blank	QC	% Recov.	True Value QC
Pyridine	5.00	<0.014	<0.010	0.024	121	0.020
1,4-Dichlorobenzene	7.50	<0.007	<0.005	0.029	145	0.020
o-Cresol	200	<0.014	<0.010	0.023	115	0.020
m, p-Cresol	200	<0.007	<0.005	0 025	125	0.020
Hexachloroethane	3.00	<0.007	<0.005	0.025	125	0.020
Nitrobenzene	2.00	<0.007	<0.005	0.022	110	0.020
Hexachloro-1,3-butadiene	0.500	<0.014	<0.010	0.025	125	0 020
2,4,6-Trichlorophenol	2.00	<0.007	<0.005	0.020	97.5	0.020
2,4,5-Trichlorophenol	400	<0.007	<0.005	0.022	110	0.020
2,4-Dinitrotoluene	0.130	<0.011	<0.008	0.019	95.0	0.020
Hexachlorobenzene	0.130	<0.007	<0.005	0.024	120	0.020
Pentachlorophenol	100	<0.029	<0.020	0.024	120	0.020

	% RECOVERY
Fluorophenol	15.8
Phenol-d5	8.38
Nitrobenzene-d5	43.9
2-Fluorobiphenyl	24.7
2,4,6-Tribromophenol	21.2
Terphenyl-d14	49.2

METHODS: EPA SW-846 1311, 8270, 3510

Chemist

06/10/09
Date

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
XOG
ATTN: JAMES MANN
P.O. BOX 352
MIDLAND, TX 79702
FAX TO: (432) 682-4182 & (575) 393-3615

Receiving Date: 05/20/09
Reporting Date: 06/09/09
Project Owner: NOT GIVEN
Project Name: CAT CLAW
Project Location: CARLSBAD, NM
Sample ID: PIT
Lab Number: H17460-1

Analysis Date: 06/03/09
Sampling Date: 05/20/09
Sample Type: SOIL
Sample Condition: INTACT @ 24°C
Sample Received By: AB
Analyzed By: JH

TCLP VOLATILES - 8260 (mg/L)		EPA LIMIT	Sample Result H17460-1	Method Blank	QC	%Recov.	True Value QC
1	Vinyl chloride	0.20	<0.20	<0.20	9.6	96	10.0
2	1,1-Dichloroethene	0.7	<0 20	<0.20	9.0	90	10.0
3	Chloroform	6.0	<0.20	<0.20	9.2	92	10.0
4	Carbon tetrachloride	0.5	<0 20	<0.20	10.0	100	10.0
5	2-Butanone	200	<1.0	<1 0	47.9	96	50.0
6	Benzene	0.5	<0.20	<0.20	8.8	88	10.0
7	1,2-Dichloroethane	0.5	<0.20	<0.20	11.1	111	10.0
8	Trichloroethene	0.5	<0.20	<0.20	9.2	92	10.0
9	Tetrachloroethene	0.7	<0.20	<0.20	8.9	89	10.0
10	Chlorobenzene	100	<0.20	<0.20	10.1	101	10.0
11	1,4 Dichlorobenzene	7.5	<0.20	<0.20	9.0	90	10.0

Surrogates	%Recovery
1,2 Dichloroethane-d4	92
Toluene-d8	89
4-Bromofluorobenzene	88

METHODS: EPA SW-846-1311/8260.
*Note: Analysis subcontracted to Ask Laboratories. Inc.

Chemist

06/10/09
Date

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
XOG
ATTN: JAMES MANN
P.O. BOX 352
MIDLAND, TX 79702
FAX TO: (432) 682-4182 & (575) 393-3615

Receiving Date: 05/20/09
Reporting Date: 06/09/09
Project Owner: NOT GIVEN
Project Name: CAT CLAW
Project Location: CARLSBAD, NM
Lab Number: H17460-2
Sample ID. BG

Analysis Date: 06/09/09
Sampling Date: 05/20/09
Sample Type: SOIL
Sample Condition: INTACT @ 24°C
Sample Received By: AB
Analyzed By: CK

TCLP SEMIVOLATILES (mg/L)	EPA LIMIT	Sample Result H17460-2	Method Blank	QC	% Recov.	True Value QC
Pyridine	5.00	<0.015	<0.010	0.024	121	0.020
1,4-Dichlorobenzene	7.50	<0.008	<0.005	0.029	145	0.020
o-Cresol	200	<0.015	<0.010	0.023	115	0.020
m, p-Cresol	200	<0.008	<0.005	0.025	125	0.020
Hexachloroethane	3.00	<0.008	<0.005	0.025	125	0.020
Nitrobenzene	2.00	<0.008	<0.005	0.022	110	0.020
Hexachloro-1,3-butadiene	0.500	<0.015	<0.010	0.025	125	0.020
2,4,6-Trichlorophenol	2.00	<0.008	<0.005	0 020	97.5	0.020
2,4,5-Trichlorophenol	400	<0.008	<0.005	0.022	110	0.020
2,4-Dinitrotoluene	0.130	<0.012	<0.008	0 019	95.0	0.020
Hexachlorobenzene	0.130	<0.008	<0.005	0.024	120	0.020
Pentachlorophenol	100	<0.030	<0.020	0.024	120	0.020

	% RECOVERY
Fluorophenol	15.9
Phenol-d5	10.3
Nitrobenzene-d5	46.4
2-Fluorobiphenyl	27.8
2,4,6-Tribromophenol	27.4
Terphenyl-d14	49.0

METHODS: EPA SW-846 1311, 8270, 3510

Chemist

06/10/09
Date

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
XOG
ATTN: JAMES MANN
P.O. BOX 352
MIDLAND, TX 79702
FAX TO: (432) 682-4182 & (575) 393-3615

Receiving Date: 05/20/09
Reporting Date: 06/09/09
Project Owner: NOT GIVEN
Project Name: CAT CLAW
Project Location: CARLSBAD, NM
Sample ID: BG
Lab Number: H17460-2

Analysis Date: 06/03/09
Sampling Date: 05/20/09
Sample Type: SOIL
Sample Condition: INTACT @ 24°C
Sample Received By: AB
Analyzed By: JH

TCLP VOLATILES - 8260 (mg/L)		EPA LIMIT	Sample Result H17460-2	Method Blank	QC	%Recov	True Value QC
1	Vinyl chloride	0.20	<0.20	<0.20	9.6	96	10.0
2	1,1-Dichloroethene	0.7	<0.20	<0.20	9.0	90	10.0
3	Chloroform	6.0	<0.20	<0.20	9.2	92	10.0
4	Carbon tetrachloride	0.5	<0.20	<0.20	10.0	100	10.0
5	2-Butanone	200	<1.0	<1.0	47.9	96	50.0
6	Benzene	0.5	<0.20	<0.20	8.8	88	10.0
7	1,2-Dichloroethane	0.5	<0.20	<0.20	11.1	111	10.0
8	Trichloroethene	0.5	<0.20	<0.20	9.2	92	10.0
9	Tetrachloroethene	0.7	<0.20	<0.20	8.9	89	10.0
10	Chlorobenzene	100	<0.20	<0.20	10.1	101	10.0
11	1,4 Dichlorobenzene	7.5	<0.20	<0.20	9.0	90	10.0

Surrogates	%Recovery
1,2 Dichloroethane-d4	90
Toluene-d8	87
4-Bromofluorobenzene	91

METHODS: EPA SW-846-1311/8260.
*Note: Analysis subcontracted to Ask Laboratories. Inc.

Chemist

06/10/09
Date

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(575) 393-2326 Fax (575) 393-2476

Page____ of____

Company Name:	XOG Operating	**BILL TO**	
Project Manager:	James	P.O. #:	
Address:	POBox352	Company:	XOG
City:	Midland	State: TX Zip: 79702	Attn:
Phone #:	432-683-3171	Fax #:	Address:
Project #:		Project Owner:	City: Midland
Project Name:	Cat Claw		State: TX Zip:
Project Location:	Carlsbad		Phone #:
Sampler Name:	Mike Nickey		Fax #:

ANALYSIS REQUEST

TCLP

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME
H17460-1	Pit	C	1			X						X	5-26-09	1030
-2	BG	C	1			X						X		1035

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Sampler Relinquished:	Date: 5.26.09	Received By:	Phone Result: ☐ No Add'l Phone #:
	Time: 1735		Fax Result: ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: Fax COA to XOG
	Time:		" " 682-4182
Delivered By: (Circle One)	Temp.	Sample Condition: Cool ☒ Yes ☐ No; Intact ☒ Yes ☐ No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other: #26	21.2C		" " CRI 393-3615

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

August 13, 2009

Nick Hood
XOG Operations, LLC
P.O. Box 352
Midland, TX 79702

Re: Cat Claw

Enclosed are the results of analyses for sample number H17982, received by the laboratory on 08/13/09 at 9:15 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,

Celey D. Keene
Laboratory Director

This report conforms with NELAP requirements.

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
XOG OPERATIONS, LLC
ATTN: NCK HOOD
P.O. BOX 352
MIDLAND, TX 79702
FAX TO: (432) 682-4182 & (575) 746-6534

Receiving Date: 08/13/09
Reporting Date: 08/13/09
Project Owner: XOG
Project Name: CAT CLAW
Project Location: EDDY CO.

Analysis Date: 08/13/09
Sampling Date: 08/13/09
Sample Type: SOIL
Sample Condition: INTACT @ 28°C
Sample Received By: CK
Analyzed By: HM

LAB NO.	SAMPLE ID	Cl^- (mg/kg)
H17982-1	NW #1	688
H17982-2	SW #2	8,720
H17982-3	CENTER #3	7,800
H17982-4	SE #4	1,740
H17982-5	NE #5	208
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		< 0.1

METHOD: Standard Methods	4500-ClˉB

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

08/13/09
Date

H17982 XOG

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(575) 393-2326 Fax (575) 393-2476

Page____ of____

Company Name:	XOG operations Llc	**BILL TO**	
Project Manager:	Nick Hood	P.O. #:	
Address:	mid land	Company:	South
City:	State: TX Zip: 79701	Attn:	Environmental
Phone #:	Fax #:	Address:	Servicing
Project #:	18-001 Project Owner: XOG	City:	
Project Name:	CAT Claw	State:	Zip:
Project Location:	Eddy, CO	Phone #:	
Sampler Name:	Felix Moreno	Fax #:	

ANALYSIS REQUEST

Chlorides

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME
H17982-1	NW #1	X				X							8/13/09	7:30AM
-2	SW #2	X				X								7:35AM
-3	Center #3	X				X								7:40AM
-4	SE #4	X				X								7:45AM
-5	NE #5	X				X								7:50AM

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Sampler Relinquished:	Date: 8/13/09	Received By:	
	Time: 5pm		
Relinquished By:	Date:	Received By:	
	Time:		
Delivered By: (Circle One)	Temp.	Sample Condition: Cool ☐ Yes ☑ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	28.0°C		CM

Phone Result: ☑ No Add'l Phone #:
Fax Result: ☑ No Add'l Fax #:

REMARKS:
Call Bill Box 575 920-6120
FAX to 432 682-4182
575 746-6534
RUSH

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

September 17, 2009

Nick Hood
XOG Operations, LLC
P.O. Box 352
Midland, TX 79702

Re: Cat Claw

Enclosed are the results of analyses for sample number H18259, received by the laboratory on 09/16/09 at 11:10 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,

Celey D. Keene
Laboratory Director

This report conforms with NELAP requirements.

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
XOG OPERATIONS, LLC
ATTN: NCK HOOD
P.O. BOX 352
MIDLAND, TX 79702
FAX TO: (432) 682-4182 & (575) 746-6534

Receiving Date: 09/16/09
Reporting Date: 09/16/09
Project Number: 18-001
Project Name: CAT CLAW
Project Location: EDDY

Analysis Date: 09/16/09
Sampling Date: 09/16/09
Sample Type: SOIL
Sample Condition: INTACT @ 22.5°C
Sample Received By: ML
Analyzed By: HM

LAB NO.	SAMPLE ID	Cl^- (mg/kg)
H18259-1	#1 SE	2,800
H18259-2	#2 SW	3,880
H18259-3	#3 NW	416
H18259-4	#4 NE	64
H18259-5	#5 C	48
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		2.0

METHOD: Standard Methods	4500-Cl B

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

09/17/09
Date

H18259 XOG

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(575) 393-2326 Fax (575) 393-2476

Page____ of ____

Company Name:	XTO Operations	**BILL TO**	
Project Manager:		P.O. #:	
Address:	PO Box 352	Company:	
City:	Midland State: TX Zip: 79702	Attn:	
Phone #:	Fax #:	Address:	Smith Environ
Project #:	18-007 Project Owner.	City:	Services
Project Name:	Cat Claw	State: Zip:	
Project Location:	Eddy	Phone #:	
Sampler Name:	Felix M	Fax #:	

ANALYSIS REQUEST

Chlorides

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME
H18259-1	1# SE	G	1			X							9/16/09	9 am
-2	2# SW	G	1			X								9:05 am
-3	3# NW	G	1			X								9:10 AM
-4	4# NE	G	1			X								9:15 am
-5	5# C	G	1			X							✓	9:20 am

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Sampler Relinquished:	Date: 9/16/09	Received By:	Phone Result:	☒ Yes ☐ No	Add'l Phone #:
Relinquished By:	Time: 11:10		Fax Result:	☒ Yes ☐ No	Add'l Fax #:
	Date:	Received By:	REMARKS:		
	Time:		Fax # (575) 746-6534		
			432-682-4182		
			Phone - Bill Box 940-6120		

Delivered By: (Circle One) Sampler - UPS - Bus - Other:

Temp. 22.5°C

Sample Condition: Cool ☐ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials) MB

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

#26

ATTACHMENT 4

CLOSURE PLAN APPLICATION C-144

WASTE EXCAVATION AND REMOVAL CLOSURE PLAN

DRILLING RESERVE PIT
PIT CLOSURE PLAN

Catclaw Unit 18 #001
Eddy County, New Mexico

Prepared for:

XOG Operating, LLC.

API Well #30-015-34574

Prepared by:

South Environmental Services, Inc.

MAY 2009

TABLE OF CONTENTS

1.0 INTRODUCTION

On behalf of XOG Operating, LLC., South Environmental Services, Inc. has prepared this Closure Plan in compliance with the Oil Conservation Districts (OCD) regulations. The site is located approximately 0.8 miles Southeast of Hwy. 524 in Eddy County, New Mexico.

2.0 PROTOCOLS AND PROCEDURES

The Excavation and Backfill procedures shall follow all applicable protocols and rules outlined in 19.15.17.10 NMAC. All liquids will be removed prior to excavation process and the in place soil will be hauled to Controlled Recovery, Inc. (CRI). South will take special care to ensure all impacted soils are included in the excavation and disposal. As outlined an approved state disposal facility will be utilized for waste disposal. Confirmation Sampling shall take place to ensure no impacted soil has been left in place. All backfill material will be appropriate soil, clean and compacted. Re-Vegetation and Site Reclamation procedures will be followed according to NMOCD Rules as outlined below.

3.0 CONFIRMATION SAMPLING PLAN

Confirmation sampling shall take place after impacted material has been disposed of to a state disposal facility (CRI). The confirmation samples shall be taken for each quadrant (North, South, East, and West) as well as the center. If a confirmation sample results do not meet regulatory requirements, a supplemental plan will be established to address the results.

4.0 DISPOSAL FACILITY NAME AND PERMIT NUMBER

Controlled Recovery Recovery, Inc. Disposal, Permit #: NM R-9166

5.0 SOIL BACKFILL AND SPECIFICATIONS

The cover soil shall be an adequate backfill material, compacted and non-waste containing, from top of cap (>4' below ground surface) to >1' below ground surface and topsoil to surface grade.

6.0 RE-VEGETATION PLAN

The re-vegetation shall take place with a minimum of 70% native perennial vegetative cover consisting of at least 3 native plant species, including at least one grass and no noxious weeds. Cover shall be maintained through 2 successive growing seasons.

7.0 SITE RECLAMATION PLAN

Site reclamation will be accomplished through several steps. The original surface grade will be established with both the original reserve pits and the burial trench and re-vegetation, will take place as described above. Additionally, site photo documentation will be submitted upon closure request to show that proper surface measures have been taken to ensure the site is brought back, as much as possible, to its condition before surface activity took place.