Souder, Miller & Associates ♦ P.O. Box 2606 ♦ Farmington, NM 87499-2606
612 East Murray Drive ♦ Farmington, NM 87401-6624 ♦ (505) 325-5667 ♦ fax (505) 327-1496

May 15, 2007

#3116075

Ms. Lorena Goerger, Project Manager
New Mexico Environment Department
Petroleum Storage Tank Bureau
2044 Galisteo Street
Santa Fe, NM 87505

RE: DELIVERABLE 3179-5, FINAL PROJECT REPORT FOR CONOCO MINI MART, 3837 HWY 64, CHAMA, NEW MEXICO

FACILITY #27498 **RID #2316** **WPID #3179-5**

Dear Ms. Goerger:

This report details the UST removal, excavation, of hydrocarbon contaminated soil, and monitoring well installation completed at the above referenced site. Souder, Miller & Associates (SMA) submitted a work plan dated September 21, 2006 and amended the workplan on December 13, 2006. SMA received the amended workplan approval from the New Mexico Environment Department Petroleum Storage Tank Bureau (NMED PSTB) on December 13, 2006. This report and attached documents constitute Deliverable 3179-5 of the referenced workplan.

The report includes cross sections, soil boring logs, site photographs, and laboratory analysis of soil samples collected. SMA has completed the first quarterly monitoring event at the Conoco Mini Mart and will submit a full report under a separate cover.

If you have any questions, please do not hesitate to call our office at 505-325-5667.

Sincerely,

SOUDER, MILLER & ASSOCIATES

Tami Ross
Staff Scientist

Reid S. Allan, P.G.
Vice President/Principal Scientist

FINAL PROJECT REPORT

CONOCO MINI MART
UST REMOVAL AND EXCAVATION

3837 HWY 64, CHAMA, NEW MEXICO

MAY 11, 2007

Submitted by:
Souder, Miller & Associates
612 E. Murray Dr.
Farmington, New Mexico 87401

On behalf of:
New Mexico Environment Department
Petroleum Storage Tank Bureau

Table of Contents

Figures:

Tables:

Appendix:

FINAL PROJECT REPORT

CONOCO MINI MART UST REMOVAL AND EXCAVATION

3837 HWY 64, CHAMA, NEW MEXICO

MAY 11, 2007

1.0 INTRODUCTION

Souder, Miller & Associates (SMA) has prepared this final project report on behalf of the New Mexico Environment Department Petroleum Storage Tank Bureau (NMED PSTB). The report has been prepared under WPID# 3179-4, approved by the New Mexico Environment Department (NMED) on December 13, 2006.

The Conoco Mini Mart is located at 3837 Highway 64, Chama, New Mexico. Figure 1 illustrates the site location. The remediation approach consisted of underground storage tank (UST) removal and soil excavation. This approach removed the majority of the contaminant mass from the subsurface on the north side of the subject property.

SMA removed three USTs and excavated a total volume of 1,060 yds^3 of contaminated soil. Five site monitoring wells were installed after the remedial excavation was completed. Figure 2 illustrates the location of the site monitoring wells. SMA completed the first quarterly ground water monitoring of the subject site on April 4, 2007 and will submit a report under a separate cover.

2.0 UST Removal

SMA conducted the following activities on December 11-12, 2006, prior to the remedial excavation:

- Removal of three USTs, which included two 6,000 gallon steel tanks and one 3,000 gallon steel tank. The location of the third, smaller tank was unexpected and prompted the amendment to the original workplan. Based on previous site assessments and a geophysical survey, the location of a third tank was suspected on the southeast corner of the building; however, the smaller tank was discovered between the two larger tanks. The tanks were delivered to the Envirotech Yard and the certificate of destruction was included in SMA's letter report dated December 29, 2006.
- Removal and disposal of approximately 2,870 gallons of gasoline/water from the USTs at Envirotech's landfarm. The Bill of Lading for fluid disposal was included in SMA's letter report dated December 29, 2006.
- Continuous air monitoring was performed for total volatile organic compounds, explosivity limit, oxygen, carbon monoxide and hydrogen sulfide. All vapor levels remained well below the 15 minute short term exposure limit and the 8 hour time weighted average.

3.0 Excavation Activities

Soil Excavation and Handling: SMA excavated 1,060 yds^3 of petroleum hydrocarbon contaminated soil from the north side of the subject property. Also three smaller test pits were excavated on the south side of the subject property. Figure 3 illustrates the excavation limits. The main excavation area measured approximately 70 feet long, 40 feet wide and 10 feet deep. The three smaller test pits were approximately 5 feet long, 7 feet wide and 10 feet deep. Site conditions allowed for vertical walls throughout the entire excavation. Wet soil was mixed with dry soils before loading into the trucks.

Soil Disposal: The contaminated soil was disposed at Envirotech's NMED Permitted Soil Facility Landfarm #3 near Hilltop, New Mexico.

Backfill and Compaction: The main excavation area and test pits were backfilled and compacted by the following method:

- Pit run/cobble material (140 yds^3) was placed from total excavation depth to 1 foot above the water table to provide a stable structural base for the overlying compacted fill.
- Proctored backfill (840 yds^3) was backhauled from Landfarm #3, backfilled above the pit run and compacted.
- Base course (40 yds^3) was spread on the surface and compacted to restore the original land surface.

Documentation of Perimeter Conditions: The excavation was completed on the north side of the car wash and three test pits on the south side of the car wash. A 12 foot perimeter was maintained around the building to protect it from structural damage. As the excavation progressed samples were taken from the sidewalls to document the levels of contamination remaining at the perimeter of the site as well as at the building exclusion areas. SMA collected a total of 10 soil samples. Samples were collected at depths ranging from 3 feet bgs to 10 feet bgs. Samples collected at 10 feet bgs were collected from the bottom of the excavation to document the soils remaining within the saturated zone. Soil samples collected from the north building exclusion area resulted in contaminant concentrations above the NMED Tier 1 RBSLs for contaminants of concern. SMA concludes that a significant amount of soil contamination remains beneath the car wash and store.

Table 1 is a summary of the soil sample analysis and Figures 4 and 5 illustrate the sampling results. Schematic cross sections of the subject site are illustrated in Figures 6 and 7. The cross sections illustrate the remaining contaminant mass.

Three test pits were excavated from the south side of the subject property. Soil samples were collected from each test pit in order to document the soils conditions on the south side of the car wash. The test pit on the southwest corner of the subject property was below NMED Tier 1 RBSLs for contaminants of concern. The two test pits excavated near the south east corner of the store were above NMED Tier 1 RBSLs for contaminants of concern. SMA concludes that the soil contamination extends through the south side of the subject property.

4.0 Installation of Replacement Monitoring Wells

Five monitoring wells were installed on March 27-29, 2007, MW-9, MW-10, MW-11, MW-12, and MW-13. The well locations are illustrated in Figure 2. The wells were installed with a CME-75 hollow stem auger drilling rig. As the soil boring for MW-13 was advanced in clean fill

material, SMA did not collect field soil samples during that installation. The remaining four soil borings were sampled. A summary of soil samples for these wells are included in Table 2 and soil boring logs are illustrated in Figures 8-12. All soil samples collected and analyzed were below the NMED Tier 1 RBSLs for contaminants of concern. Of note, a soil sample collected from MW-12 at 4 feet below ground surface, resulted in detection of miscellaneous solvents including 2-Butanone (MEK). The monitoring well is located west of the car wash bays.

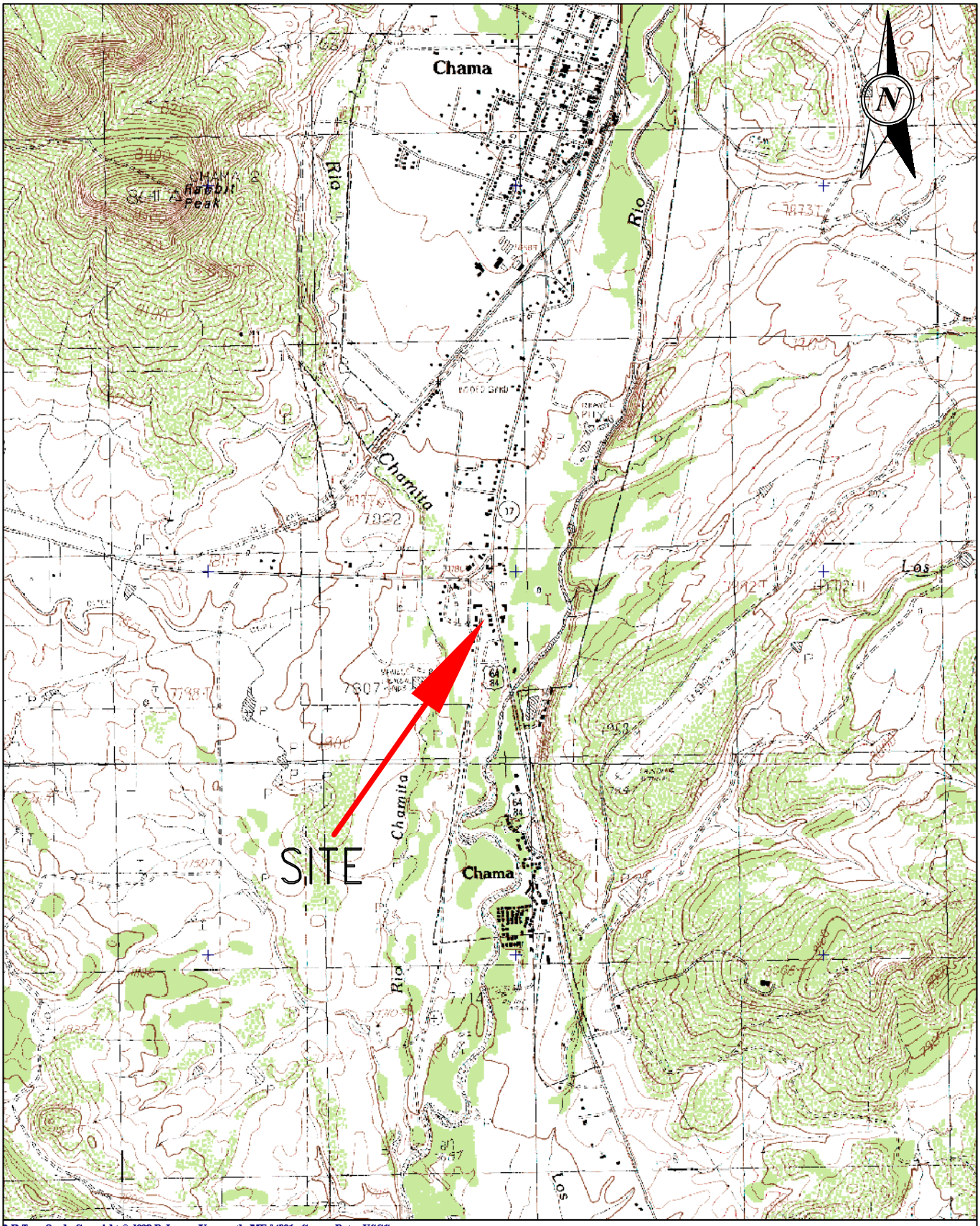
Each monitoring well was constructed of 2 inch PVC with 10 feet of 0.010-inch slot size screen placed across the water table and a 2 foot sediment sump at the bottom. Silica sand (10-20 grade) was placed from total depth to 1.5 feet above the top of the well screen, where possible given the anticipated shallow depth to water. A 1.5 foot bentonite pellet seal was placed and hydrated above the filter pack. A traffic-rated, flush mount manway was installed in a concrete pad to allow for heavy traffic in the parking areas. Wells were capped with locking caps.

All new monitoring wells were surveyed by a Registered Land Surveyor to 0.1 foot laterally and 0.01 foot vertically, relative to the site benchmark(s) already established by SMA.

5.0 Future Work

Following installation of the replacement monitoring wells, SMA will sample 12 existing and replacement monitoring wells following the NMED PSTB Guidelines for Corrective Action and SMA's Standard Operating Procedure. The analytical suite for quarterly monitoring shall include EPA Methods 8260, 8310, and 6010 for lead. Field activities will also include depth to water measurements in each monitoring well, and measurement of NAPL thickness (if any) in each monitoring well.

The above work was completed on April 4, 2007 and the report will be submitted under separate cover.



SMA
Civil / Environmental
Scientists & Engineers
612 E. Murray Drive
Farmington, New Mexico 87401
(505) 325-5667
Santa Fe – Farmington
Albuquerque – Las Cruces

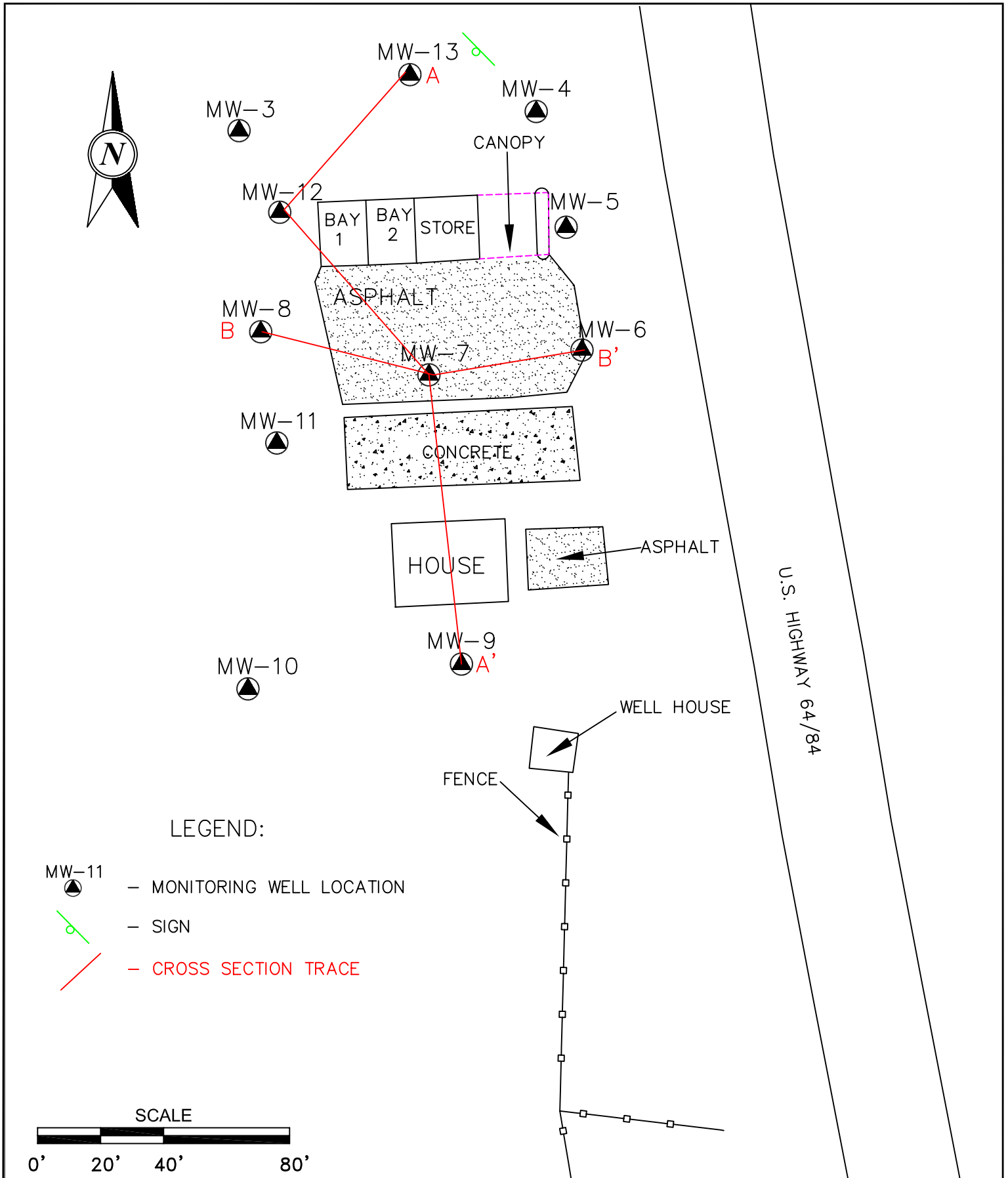
APPROVED: RCA	DATE: 8/8/06
DRAWN BY: TROSS	DATE: 8/8/06
REVISIONS BY:	DATE:
PROJECT NO: 3116075	FIGURE: 1

VICINITY MAP

CONOCO MINI MART

3837 HWY 64

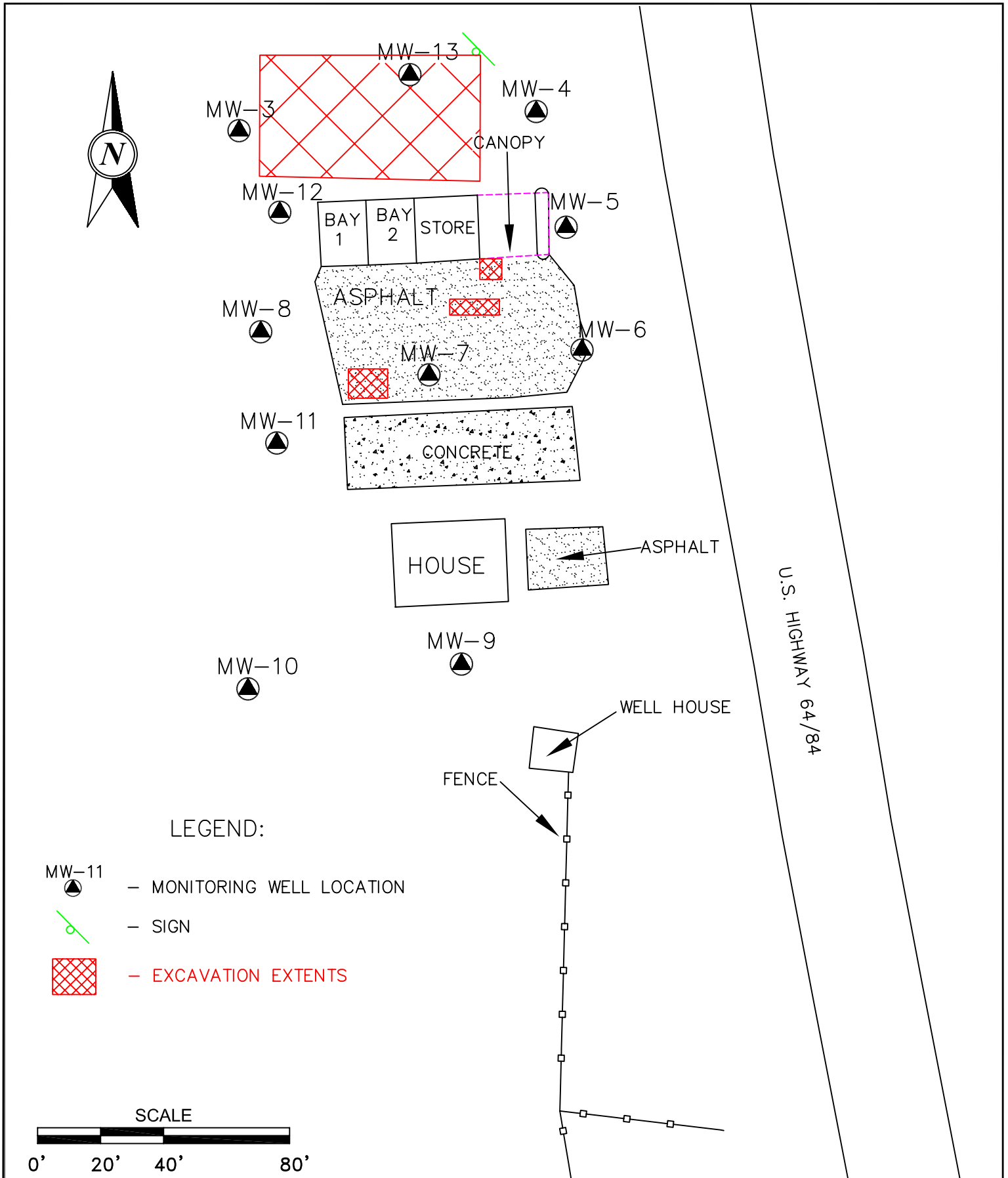
CHAMA, NEW MEXICO



REVISED BY:	DATE:
DRAWN BY: TLONG	DATE: 4/25/07
APPROVED: RSA	DATE: 4/25/07
PROJECT NO. 3116075	FIGURE: 2

SMA
Civil / Environmental Scientists & Engineers

SITE MAP & CROSS SECTION TRACES
CONOCO MINI MART
CHAMA, NEW MEXICO

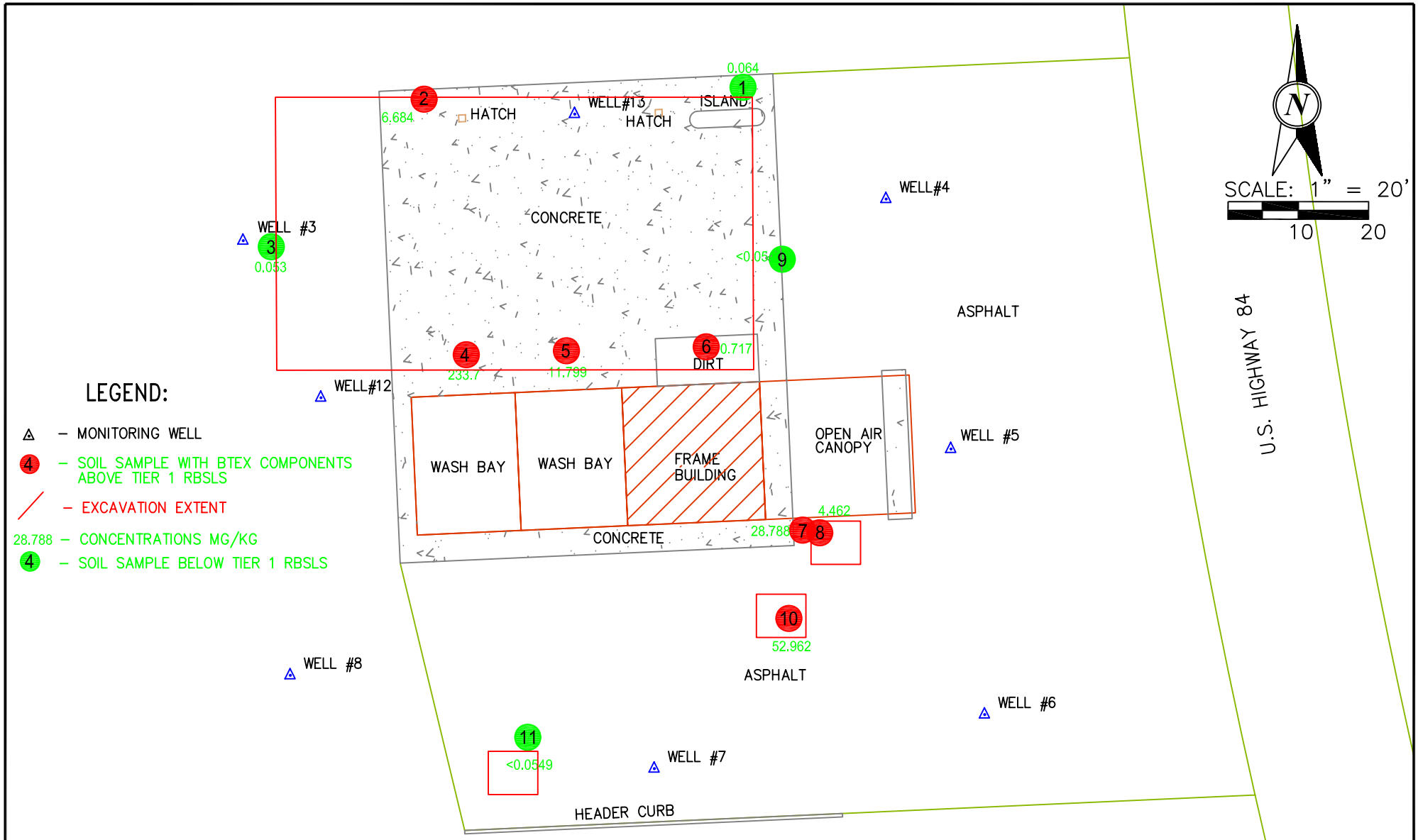


Civil / Environmental Scientists & Engineers

REVISED BY:	DATE:
DRAWN BY: TLONG	DATE: 4/25/07
APPROVED: RSA	DATE: 4/25/07
PROJECT NO. 3116075	FIGURE: 3

EXCAVATION EXTENTS

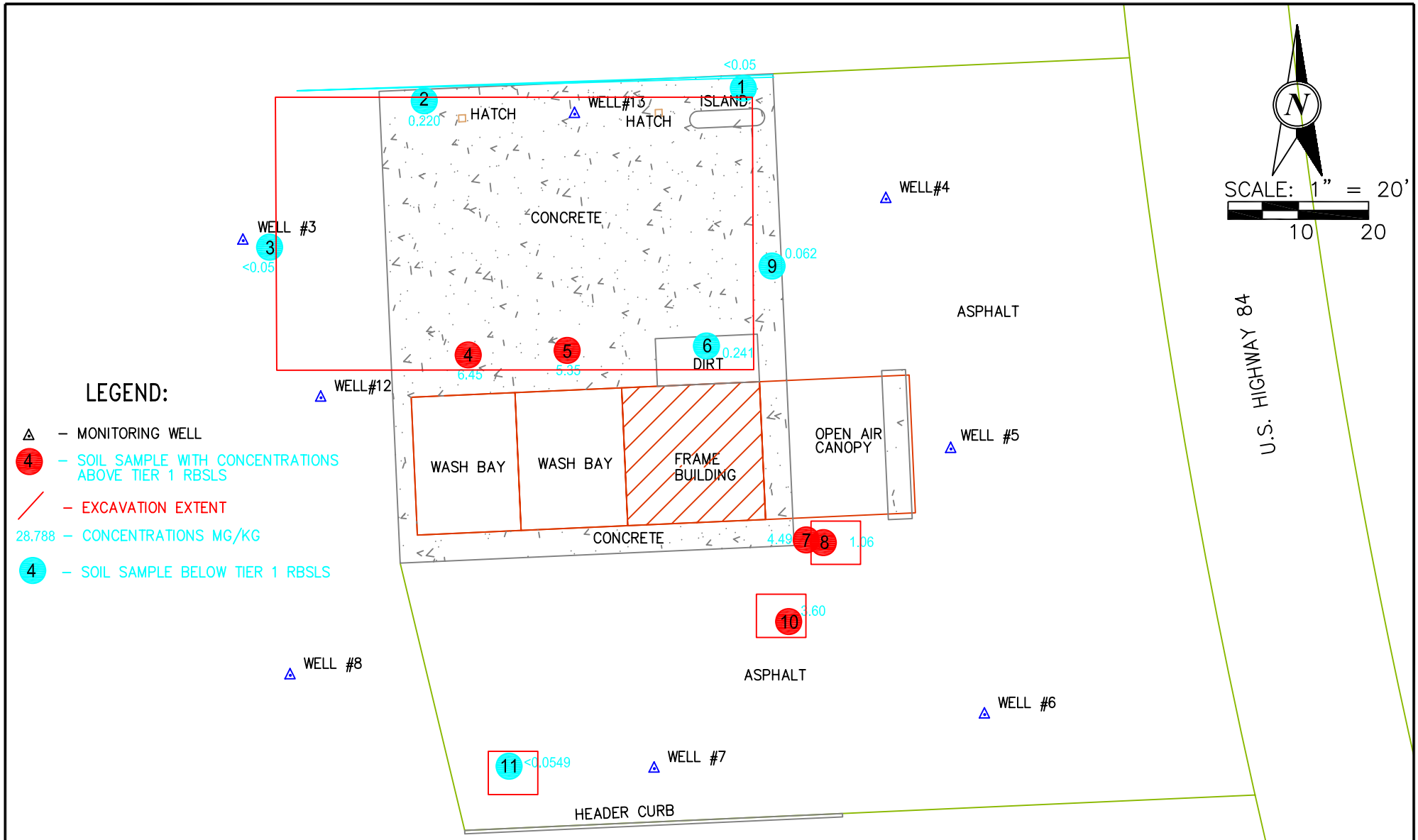
CONOCO MINI MART
CHAMA, NEW MEXICO



SMA
Civil / Environmental Scientists & Engineers
612 E. Murray Drive
Farmington, New Mexico 87401
(505) 325-5667
Santa Fe – Farmington
Albuquerque – Las Cruces

APPROVED: RSA	DATE: 7/14/06
DRAWN BY: INTERA	DATE: 9/7/05
REVISIONS: TROSS	DATE: 01/05/07
PROJECT NO: 3116075	FIGURE: 4

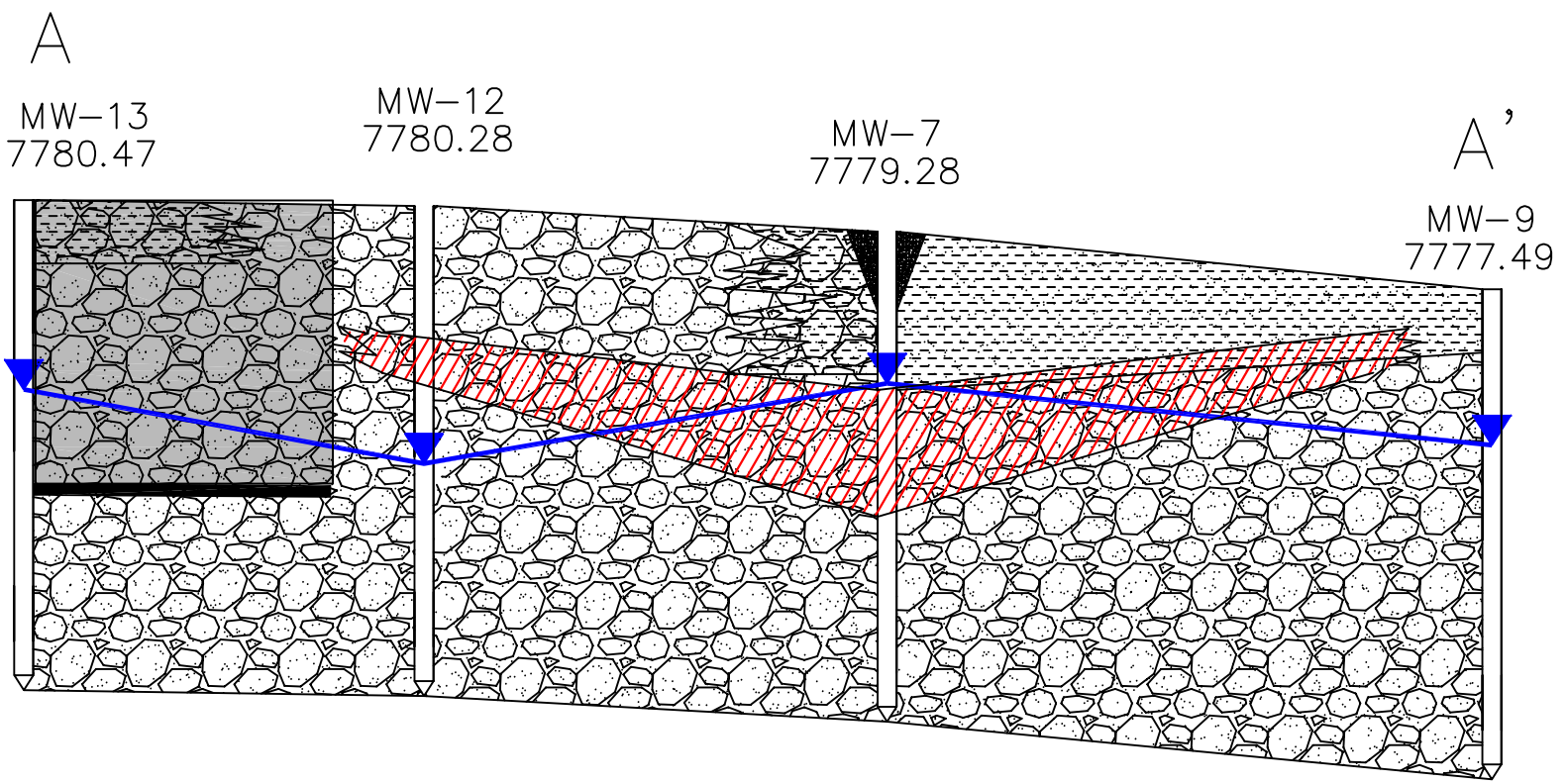
CONOCO MINI MART
3837 HIGHWAY 64
CHAMA, NM
Perimeter Soils – Total BTEX
SITE MAP
December 11–15, 2006

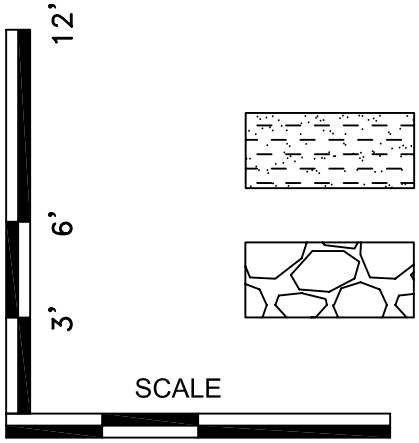


SMA
Civil / Environmental Scientists & Engineers
612 E. Murray Drive
Farmington, New Mexico 87401
(505) 325-5667
Santa Fe – Farmington
Albuquerque – Las Cruces

APPROVED: RSA	DATE: 7/14/06
DRAWN BY: INTERA	DATE: 9/7/05
REVISIONS: TROSS	DATE: 01/05/07
PROJECT NO: 3116075	FIGURE: 5

CONOCO MINI MART
3837 HIGHWAY 64
CHAMA, NM
Perimeter Soils – Naphthalene
SITE MAP
December 11–15, 2006





- SANDY CLAY
- COBBLE
- GROUNDWATER ELEVATION (4/4/07)
- SOIL CONTAMINATION
- AREA OF EXCAVATION

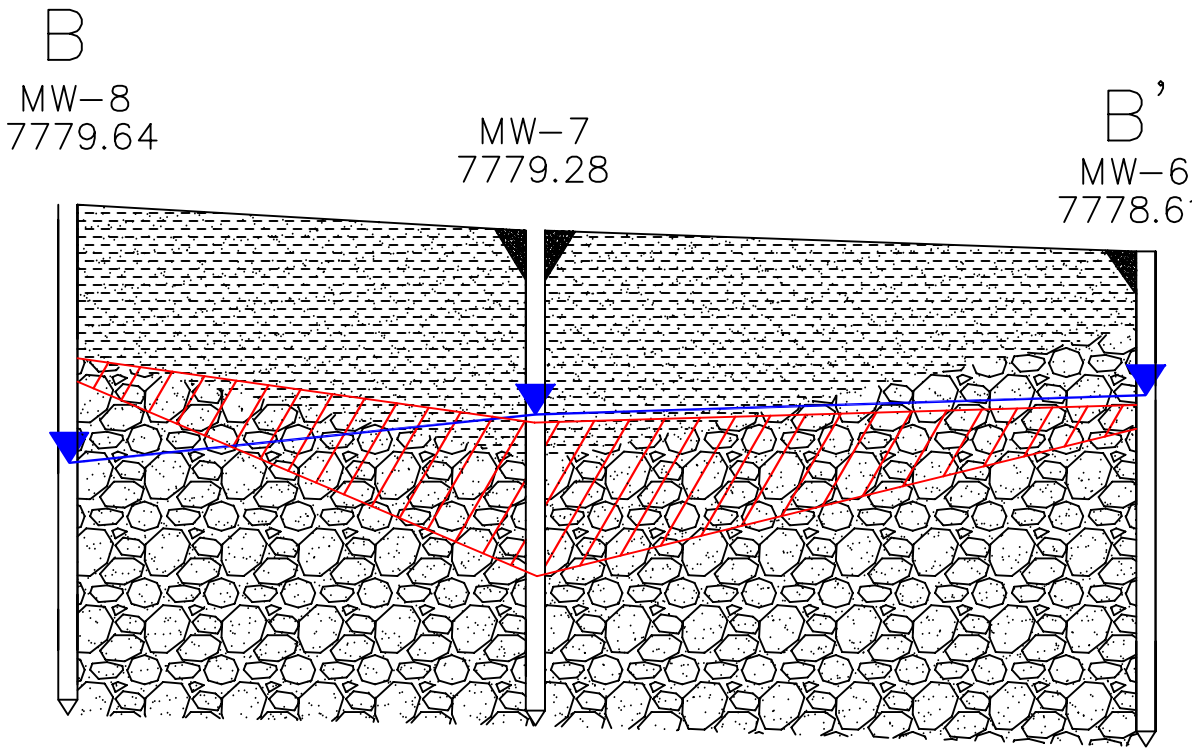
* SOIL DATA COMPILED FROM INTERA 2005 & SMA 2006 DATA

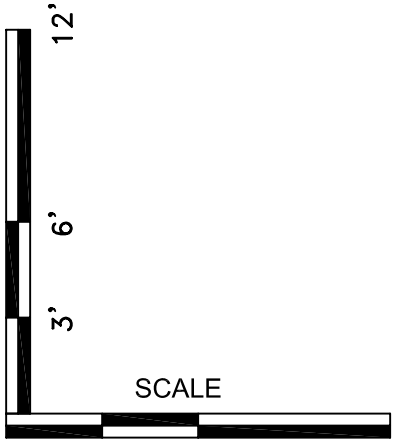
SMA
Civil / Environmental Scientists & Engineers
612 E. MURRAY DR. FARMINGTON, NM 87401
PH. (505) 327-1072 FAX (505) 327-1496

APPROVED: RSA	DATE: 4/26/07
DRAWN BY: TLONG	DATE: 4/26/07
REVISIONS BY: TCR	DATE: 05/14/07
PROJECT NO. 3116075	FIGURE: 6

NORTH-SOUTH CROSS SECTION

CONOCO MINI MART
CHAMA, NEW MEXICO





– SANDY CLAY

– GROUNDWATER ELEVATION (4/4/07)

– COBBLE

– SOIL CONTAMINATION

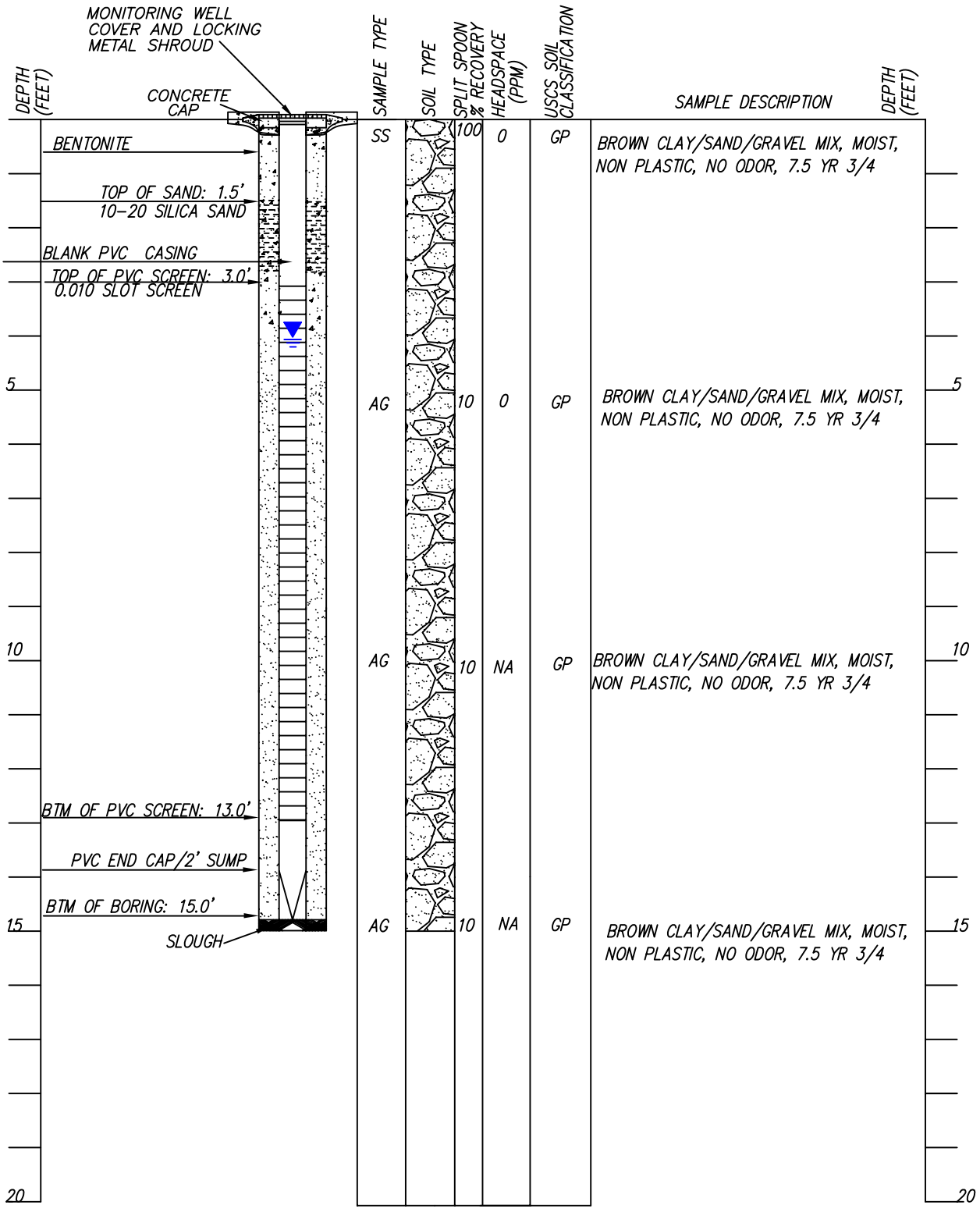
* SOIL DATA COMPILED FROM INTERA 2005 & SMA 2006 DATA

SMA
Civil / Environmental Scientists & Engineers
612 E. MURRAY DR. FARMINGTON, NM 87401
PH. (505) 327-1072 FAX (505) 327-1496

APPROVED: RSA	DATE: 4/26/07
DRAWN BY: TLONG	DATE: 5/11/07
REVISIONS BY: TCR	DATE: 5/14/07
PROJECT NO. 3116075	FIGURE: 7

EAST-WEST CROSS SECTION

CONOCO MINI MART
CHAMA, NEW MEXICO



DATE DRILLED: 3/27/07
DRILLING COMPANY: ENVIROTECH
DRILLER: DANNY PADILLA
TYPE OF DRILL RIG: CME 75
DRILL METHOD: 8" O.D. HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT SPOON (5' INTERVAL)

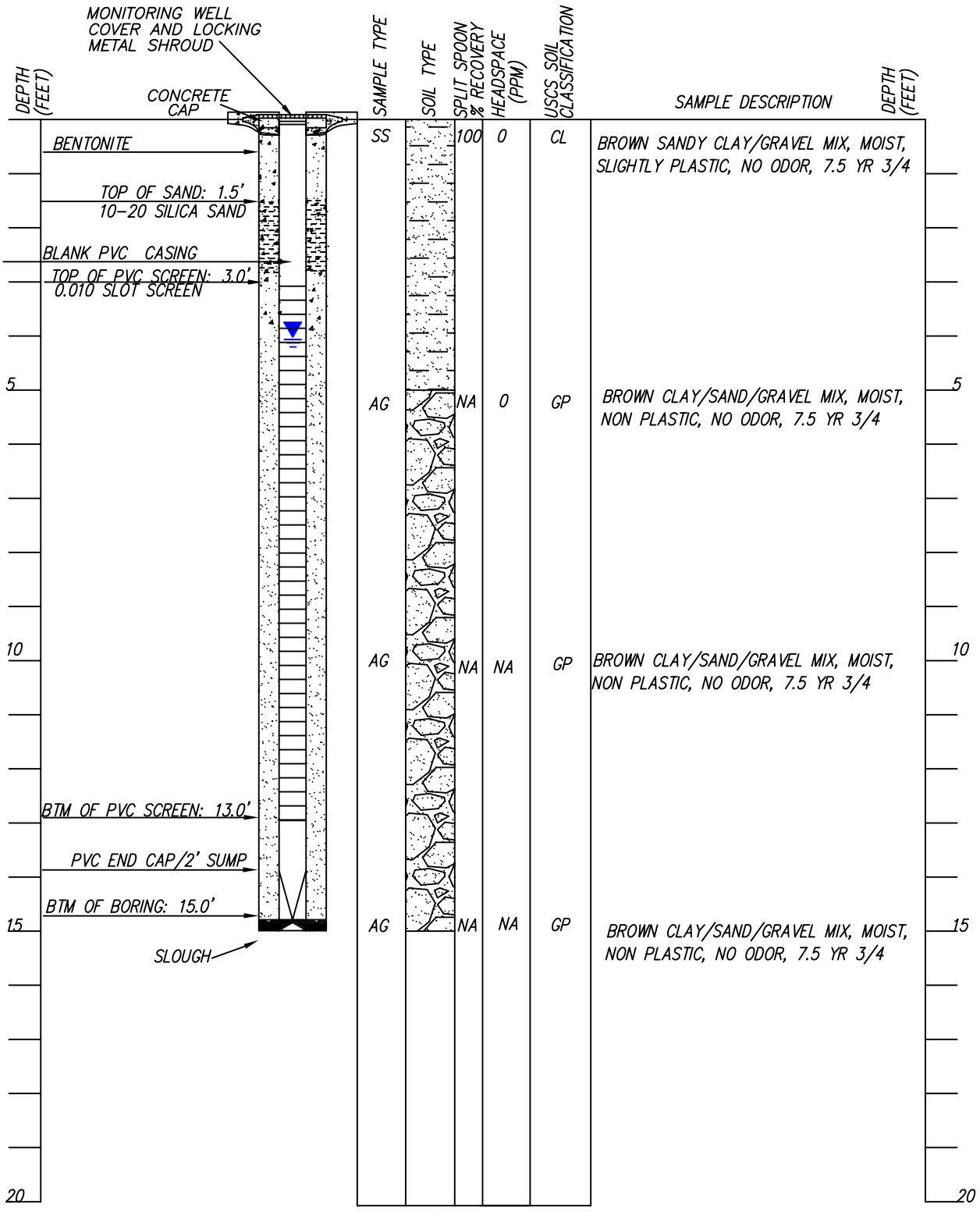
NOTES:
COLOR: MUNSELL SOIL COLOR CHART
AG = AUGER SAMPLE
SS = SPILT SPOON SAMPLE
NA = NOT AVAILABLE

TOC ELEVATION = 7779.64'
CASING DIAMETER = 2"
TOTAL BORING DEPTH: 15.0'
BORE HOLE DIAMETER = 8"
DEPTH TO WATER: ~4.0'
LOGGED BY: THOMAS LONG

SMA
Civil / Environmental Scientists & Engineers
612 E. MURRAY DR. PH. (505) 325-5667
FARMINGTON, NM 87401 FAX (505) 327-1496

APPROVED: RSA	DATE: 4/11/07
DRAWN BY: TROSS	DATE: 4/11/07
REVISIONS BY:	DATE:
PROJECT NO: 3116075	FIGURE: 8

SOIL BORING LOG
MW-9
CONCO MINI MART
3837 U.S HIGWAY 64
CHAMA, NEW MEXICO



DATE DRILLED: 3/27/07
DRILLING COMPANY: ENVIROTECH
DRILLER: DANNY PADILLA
TYPE OF DRILL RIG: CME 75
DRILL METHOD: 8" O.D. HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT SPOON (5' INTERVAL)

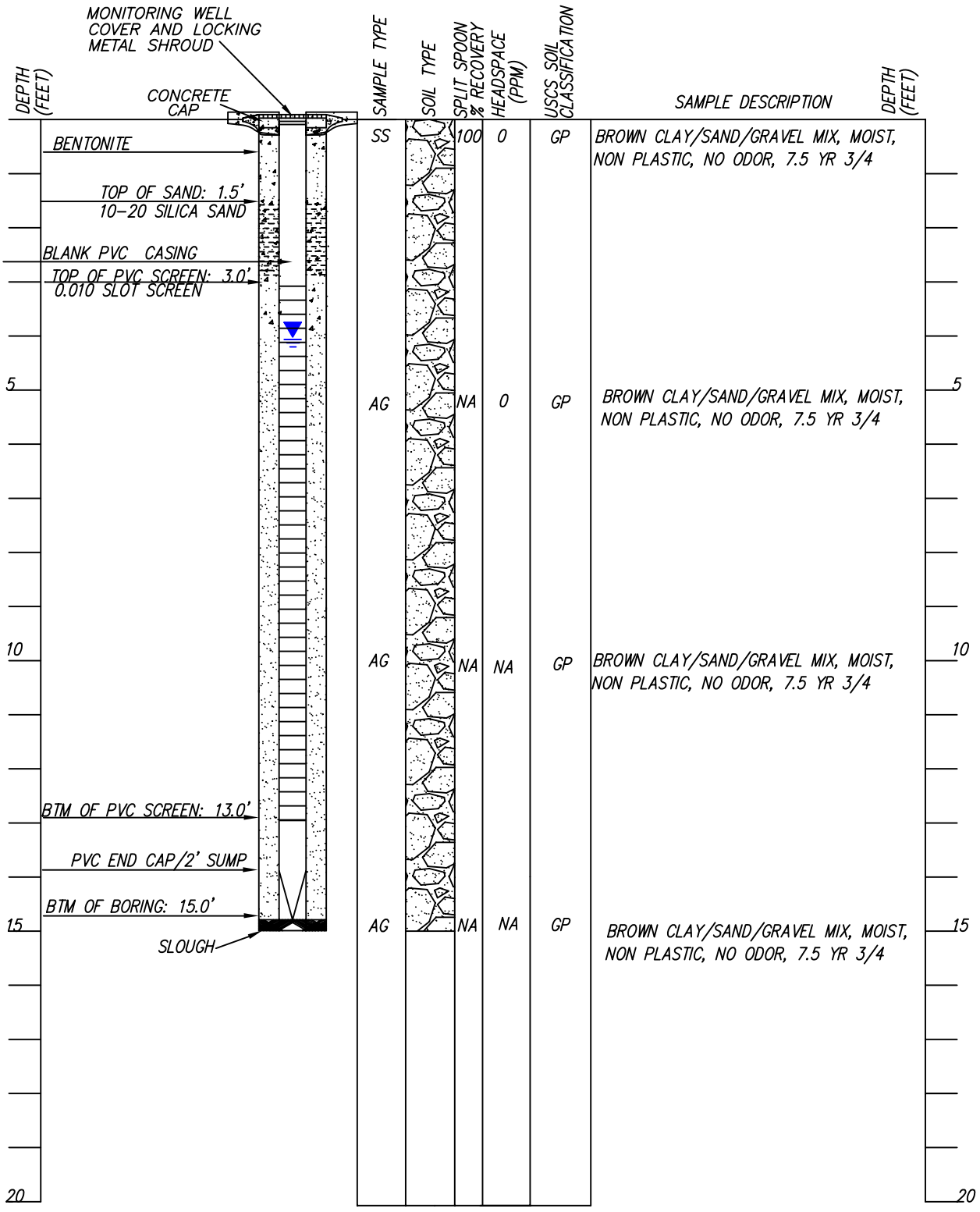
NOTES:
COLOR: MUNSELL SOIL COLOR CHART
AG = AUGER SAMPLE
SS = SPILT SPOON SAMPLE
NA = NOT AVAILABLE

TOC ELEVATION = 7777.61'
CASING DIAMETER = 2"
TOTAL BORING DEPTH: 15.0'
BORE HOLE DIAMETER = 8"
DEPTH TO WATER: ~4.0'
LOGGED BY: THOMAS LONG

SMA
Civil / Environmental Scientists & Engineers
612 E. MURRAY DR. PH. (505) 325-5667
FARMINGTON, NM 87401 FAX (505) 327-1496

APPROVED: RSA	DATE: 4/11/07
DRAWN BY: TROSS	DATE: 4/11/07
REVISIONS BY:	DATE:
PROJECT NO: 3116075	FIGURE: 9

SOIL BORING LOG
MW-10
CONOCO MINI MART
3837 U.S HIGWAY 64
CHAMA, NEW MEXICO



DATE DRILLED: 3/27/07
DRILLING COMPANY: ENVIROTECH
DRILLER: DANNY PADILLA
TYPE OF DRILL RIG: CME 75
DRILL METHOD: 8" O.D. HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT SPOON (5' INTERVAL)

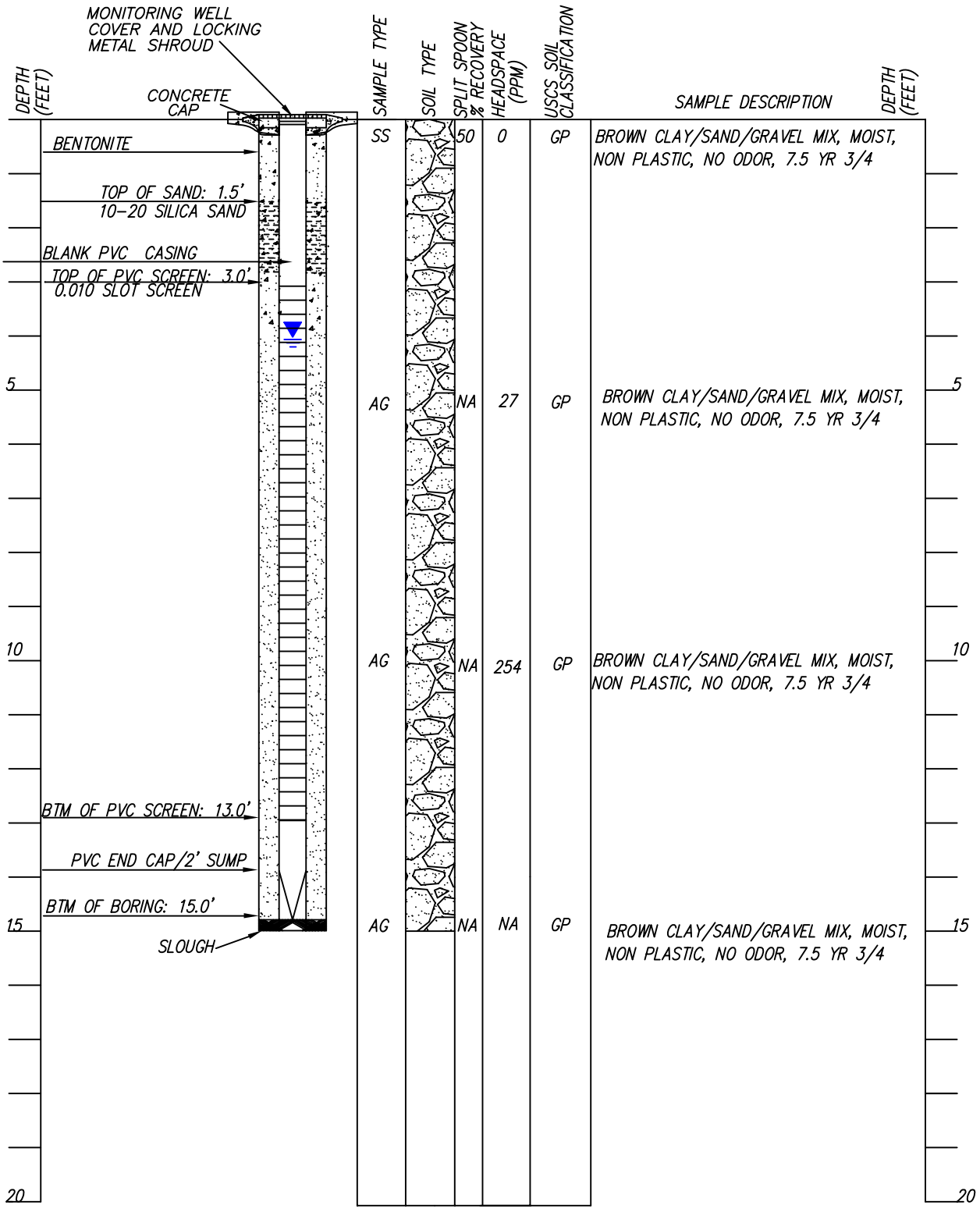
NOTES:
COLOR: MUNSELL SOIL COLOR CHART
AG = AUGER SAMPLE
SS = SPILT SPOON SAMPLE
NA = NOT AVAILABLE

TOC ELEVATION = 7778.53'
CASING DIAMETER = 2"
TOTAL BORING DEPTH: 15.0'
BORE HOLE DIAMETER = 8"
DEPTH TO WATER: ~4.0'
LOGGED BY: THOMAS LONG

SMA
Civil / Environmental Scientists & Engineers
612 E. MURRAY DR. PH. (505) 325-5667
FARMINGTON, NM 87401 FAX (505) 327-1496

APPROVED: RSA	DATE: 4/11/07
DRAWN BY: TROSS	DATE: 4/11/07
REVISIONS BY:	DATE:
PROJECT NO: 3116075	FIGURE: 10

SOIL BORING LOG
MW-11
CONOCO MINI MART
3837 U.S HIGWAY 64
CHAMA, NEW MEXICO



DATE DRILLED: 3/28/07
DRILLING COMPANY: ENVIROTECH
DRILLER: DANNY PADILLA
TYPE OF DRILL RIG: CME 75
DRILL METHOD: 8" O.D. AIR HAMMER (TUBEX)
SAMPLE TYPE: GRAB

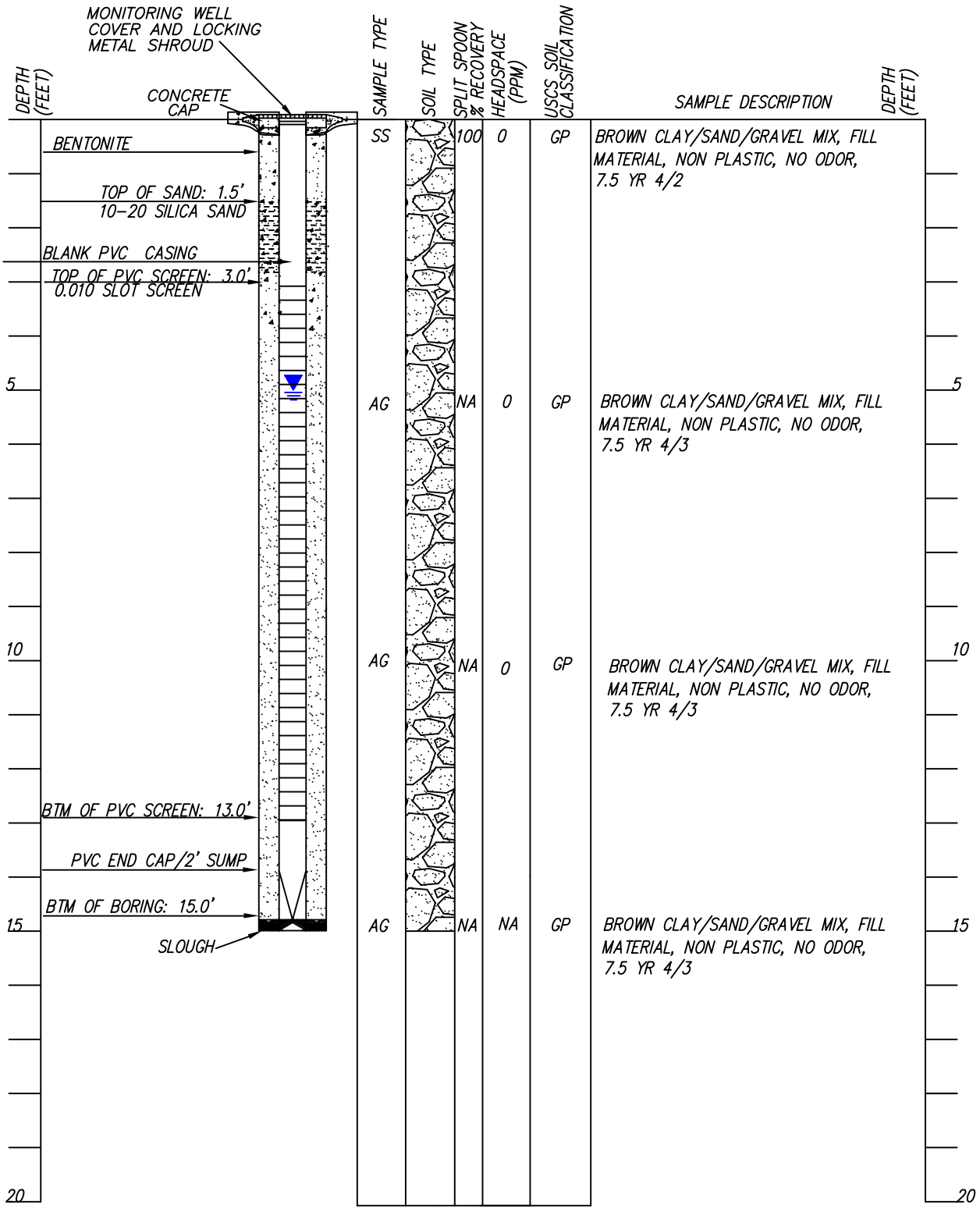
NOTES:
COLOR: MUNSELL SOIL COLOR CHART
AG = AUGER SAMPLE
SS = SPILT SPOON SAMPLE
NA = NOT AVAILABLE

TOC ELEVATION = 7780.28'
CASING DIAMETER = 2"
TOTAL BORING DEPTH: 15.0'
BORE HOLE DIAMETER = 8"
DEPTH TO WATER: ~4.0'
LOGGED BY: THOMAS LONG

SMA
Civil / Environmental Scientists & Engineers
612 E. MURRAY DR. PH. (505) 325-5667
FARMINGTON, NM 87401 FAX (505) 327-1496

APPROVED: RSA	DATE: 4/11/07
DRAWN BY: TROSS	DATE: 4/11/07
REVISIONS BY:	DATE:
PROJECT NO: 3116075	FIGURE: 11

SOIL BORING LOG
MW-12
CONOCO MINI MART
3837 U.S HIGWAY 64
CHAMA, NEW MEXICO



DATE DRILLED: 3/28/07
DRILLING COMPANY: ENVIROTECH
DRILLER: DANNY PADILLA
TYPE OF DRILL RIG: CME 75
DRILL METHOD: 8" O.D. AIR HAMMER (TUBEX)
SAMPLE TYPE: GRAB

NOTES:
COLOR: MUNSELL SOIL COLOR CHART
AG = AUGER SAMPLE
SS = SPILT SPOON SAMPLE
NA = NOT AVAILABLE

TOC ELEVATION = 7780.47'
CASING DIAMETER = 2"
TOTAL BORING DEPTH: 15.0'
BORE HOLE DIAMETER = 8"
DEPTH TO WATER: ~5.0'
LOGGED BY: THOMAS LONG

SMA
Civil / Environmental Scientists & Engineers
612 E. MURRAY DR. PH. (505) 325-5667
FARMINGTON, NM 87401 FAX (505) 327-1496

APPROVED: RSA	DATE: 4/11/07
DRAWN BY: TROSS	DATE: 4/11/07
REVISIONS BY:	DATE:
PROJECT NO: 3116075	FIGURE: 12

SOIL BORING LOG
MW-13
CONOCO MINI MART
3837 U.S HIGWAY 64
CHAMA, NEW MEXICO

Table 1: Perimeter Wall Soil Characterization
Conoco Mini Mart, Chama, New Mexico

			Method 8015		Method 8021						
			mg/Kg		mg/Kg						
Map ID	**Sample ID**	**Collection Date**	**DRO**	**GRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Total BTEX**	**MTBE**	**Naphthalene**
1	NE WALL #1 @ 6'	12/12/2006	<50.00	<2.50	<0.025	<0.025	<0.025	0.064	0.064	<0.050	<0.050
2	NW WALL #1 @ 6'	12/12/2006	<50.00	29.70	**0.075**	<0.025	0.986	**5.623**	6.684	<0.050	0.220
3	W WALL #1 @ 5'	12/13/2006	28.30	37.70	<0.025	<0.025	<0.025	0.053	0.053	<0.050	<0.050
4	BAY #2 @ 4'	12/13/2006	898.00	2070.00	**3.270**	0.630	**17.900**	**211.900**	233.700	**0.227**	**6.450**
5	N BAY #1 @ 4'	12/13/2006	199.00	448.00	**0.299**	<100.0	3.270	**8.230**	11.799	<0.200	**5.350**
6	N BLDG @ 5'	12/13/2006	<25.00	37.70	**0.045**	0.099	0.143	0.430	0.717	<0.050	0.241
7	SE CRN BLDG @ 3'	12/12/2006	4800.00	2280.00	**0.340**	0.598	7.500	**20.340**	28.778	<0.200	**4.490**
8	SE CRN BLDG @ 10'	12/12/2006	131.00	351.00	**0.103**	0.979	0.975	2.405	4.462	<0.050	**1.060**
9	E WALL @ 4'	12/14/2006	<25.00	<2.79	<0.025	<0.025	<0.025	<0.050	<0.050	<0.050	0.062
10	S BLDG @ 5'	12/15/2006	957.00	2310.00	**0.412**	**2.710**	4.250	**45.590**	52.962	**0.292**	**3.600**
11	SW LOT @ 6'	12/15/2006	NA	3.88	<0.0275	<0.0275	<0.0275	<0.0549	<0.0549	<0.0549	<0.0549
		NMED Tier 1 RBSLs	**-**	**-**	**0.02**	**2.09**	**17.23**	**2.91**	**-**	**0.04**	**0.68**

Table 2: Soil Boring Samples
Conoco Mini Mart

			Method 8260 µg/Kg							Method 6010 mg/Kg
SMA No.	**Sample ID**	**Date**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**Naphthalenes**	**1,2,4-TMB**	**1,3,5-TMB**	**Lead**
1	MW-9 @ 2'	3/27/2007	ND	ND	ND	ND	ND	ND	ND	16.3
2	MW-9 @ 5'	3/27/2005	ND	ND	ND	ND	ND	ND	ND	8.62
3	MW-10 @ 2'	3/27/2007	ND	ND	ND	ND	ND	ND	ND	17.4
4	MW-10 @ 5'	3/27/2005	ND	ND	ND	ND	ND	ND	ND	13.8
5	MW-11 @ 2'	3/27/2007	ND	ND	ND	ND	ND	ND	ND	28.8
6	MW-12 @ 2'	3/28/2007	ND	ND	ND	ND	ND	ND	ND	12.1
7	MW-12 @ 4'	3/28/2007	0.409	0.430	78.1	565.0	435.0	2210	823	17.7
NMED RBSLS			**20**	**2090**	**17230**	**2910**	**680**			**53.08**

Solvents Reported in Soil Boring MW-12

		2-Butanone (MEK)	**Acetone**	**Isbutyl alcohol**	**Methylcyclo-hexane**
MW-12 @ 4'	3/28/2007	30.00	188.00	53.80	13.40

SITE HEALTH AND SAFETY PLAN

Location:
Conoco Mini Mart
3837 Hwy 64, Chama, NM

PREPARED FOR:

New Mexico Environment Department
Petroleum Storage Tank Bureau
Ms. Lorena Goerger
Santa Fe, NM

PREPARED BY:
Souder, Miller & Associates
612 East Murray Drive
Farmington, New Mexico
(505) 325-5667

DATE: March 13, 2007

TABLE OF CONTENTS

I. Introduction:

The health and safety of *Souder, Miller & Associates (SMA)* employees and the general public is of primary importance. The inherent danger involved in the handling of hazardous materials, and danger associated with any job site requires that all participants of this project become familiar with the contents of this Health and Safety plan.

II. SITE DESCRIPTION

Date: March 13, 2007

Location: 3827 Hwy 64

Chama, New Mexico

Hazards: Potential hazards in the area include; heavy equipment, exposure to hydrocarbon soil contamination, overhead hazards, and falling tripping hazard.

Area affected: Approximately 2-acre site; former gas station.

Surrounding population: Commercial and Residential

III. ENTRY OBJECTIVES

A. Task 1 Monitoring Well Installation

IV. ON-SITE ORGANIZATION & COORDINATION

The following personnel are designated to carry out the stated job functions on site. (*Note: one person may carry out more than one job function.)*

On Site Technologies/Souder Miller & Associates :

PROJECT TEAM LEADER/ON-SITE COORDINATOR:	Tami Ross/SMA
FIELD TEAM LEADER:	Thomas Long/SMA
ALTERNATES:	Walter Gage/SMA
OWNER:	Village of Chama
STATE or TRIBAL AGENCIES:	NMED-PSTB

V. ON-SITE CONTROL

The occupancy of the area will be minimal. Only key personnel will be in attendance. Representatives of may include the following: Envirotech, Inc. will be present during drilling activities.

Control boundaries will be established and prior to Task 1, and the Exclusion Zone (the contaminated area), Contamination Reduction (decontamination) Zone, and Support Zone (clean area) will be identified as noted.

All personnel involved in the project will be required to adhere to all boundaries and rules regarding the project. All personnel will be required to show proof of 40 Hour HAZWOPPER and other applicable training.

Boundaries to be marked:

Containment:	orange temp fencing & yellow caution tape.
Traffic/Hotline:	Orange Cones
Decontamination:	Orange Cones & White Tape.
Support/Staging area:	Vehicles & As needed.

VI. HAZARDS EVALUATION

Table 1 and 2 list several potential hazards that might be associated with execution of this project. This list is by no means all inclusive and other unforeseen hazards may exist contingent upon conditions.

Table 1
Possible Chemicals

Substances Involved	Concentration	Fire	Eyes	Skin	Respiratory
Anti-Freeze	Ethylene Glycol Variable		Slt.	Slt.	
Used Oil	Petroleum Hydrocarbons Variable		Mod.	Mod.	
Gasoline	Variable	Hi	Hi	Hi	Hi
Diesel	Variable	Hi	Hi	Hi	Hi
Grease	Variable				
Solvent/Cleaners pH Approximate Range 3.5 To 11 (Irritating Liquids)	Variable				
Off-Spec Paint (Liquid/Solid)	Lead And Chromium Variable 8% - 15%				
Tar & MC 250 & MC-70	Variable				
Polychlorinated Biphenyl (PCB)	Variable, Halogens				
Organic Solvents	Variable				
Acids	Variable				
Bases	Variable				
Organic Peroxides	Variable				
Pesticides/Herbicides	Varible				

Legend :

Slt.	Slight
Mod	Moderate .
Hi.	High
IDLH	Immediately Dangerous to Life and Health
NA	Not Applicable

Table 2
Potential Health and Safety Hazards

Hazard	Task 1:	Task 2:	Task 3	Task 4
Inhalation Hazard	Hi			
Contaminated Soil/Liquid Contact	Hi			
Noise	Slt			
Heat/Cold Stress	Slt			
Electrical (Transformer And Buried Powerlines)	Hi			
Potential Fire/Explosion	Hi			
High Pressure Petroleum				
Collapsing Of Sidewalls				
Confined Spaces				
Physical Injury	Mod			
Overhead Powerlines	Slt			
Buried Piping/Tanks	Hi			
Skin Hazards	Hi			
Ventilation Problems	Hi			
Vandalism				
Heavy Equipment/ Trucking	Slt			
Level Of Protection				
Air Monitoring	Hi			
Buried Line Detection	NM One Call 48hr Notice			

VII. PERSONAL PROTECTIVE EQUIPMENT

A. Air Monitoring:

Air Monitoring will be performed.

B. Personal Protective Equipment Matrix:

	COVERALL	HARDHAT	GLOVES	SAFETY BOOTS	NOMEX	HEARING PROTECTION	SAFETY GLASSES W/SIDE SHIELDS	LEVEL C	LEVEL B	LEVEL A	OTHER
DAILY ROUTINE		X	X	X							
DRILLING (NON-OIL FIELD)		X	X	X		X	X				
SAMPLING (NON-OIL FIELD)											
EXCAVATION (OIL FIELD)											
EXCAVATION (NON OIL FIELD)											
FACILITY INVENTORY											
CHEMICAL INVENTORY											
EMERGENCY RESPONSE											
UNDERGROUND STORAGE TANK REMOVAL											

4. Minimum required will be determined by Client's current policy
4. MSDS will be consulted to determine proper Personal Protective Equipment.

VIII. PROTOCOL

The following briefly describes the protocol to be followed for any soil, water, or chemical samples to be taken at a site. A working knowledge of applicable EPA SW-846, sampling and analytical procedures and proper use of field testing equipment is necessary.

A. Water samples:

Volatile Organic Analysis (VOA)- Use of a 40 mL VOA glass vial with Teflon closure, leaves no airspace present, and preserve. Keep cool with ice in cooler, use chain-of-custody sampling procedures, and transport to laboratory.

B. Soil samples for assessment/verification:

Field vapor headspace - 475 mL wide mouth glass container, fill 1/2 full, seal with aluminum foil, or use heavy zip-locking plastic bags.

Laboratory analysis for hydrocarbons - Use laboratory supplied sterile glass container, with Teflon closure. Fill complete, keep cool with ice in cooler, use chain-of custody sampling procedures, transport to Laboratory.

C. Chemical field screening:

Unknown chemical will be field screened using Dexsil ® field screening kits for chlorinated solvent in soils and oils or the HazCat chemical identification kit.

IX. SITE WORK PLAN

This project will be completed in the Tasks outlined in Section B. The following outlines the key personnel and their responsibilities:

Project Team Leader:	Tami Ross ***Souder Miller & Associates*** Farmington, NM (505) 325-5667
Alternates:	Field Team Leader Thomas Long

The Project Team Leader will function as the Project Manager and Site Health & Safety Officer. The Field Team Leader will function as the Site Supervisor and sampler for this Project.

Tailgate safety meetings will be held and all personnel will be briefed on the contents of this plan prior to initiating any efforts. Tailgates will also cover any safety and/or health issues not anticipated or addressed in this plan. The Project Manager will be responsible for briefing and record keeping.

X. COMMUNICATION PROCEDURES

Radio communication is not anticipated to be essential for this project. Personnel in the Exclusion Zone should be in visual contact of the Project Team Leader.

The following standard hand signals will be used:

Hand gripping throat	Out of air, can't breathe
Grip partner's wrist or both hands around waist	Leave area immediately
Hands on top of head	Need assistance
Thumbs up	OK, I'm all right, I understand
Thumbs down	NO, Negative

Others as needed while handling, moving, or loading materials, are acceptable provided that all personnel involved agree to their meaning.

Telephone communication will be available in the Staging Area by mobile phone.

XI. DECONTAMINATION PROCEDURES

The following are a brief summary of decontamination procedures. Common sense should be used at all times.

A. Personal Decontamination:

The following procedure assumes level "D" Personal Protective Equipment (PPE). Prior to entering a vehicle and leaving the site, coveralls are to be doffed and placed in appropriate laundry/duffel bags in the reduction zone, and hands and face are to be washed.

For all other levels of PPE, PPE are to be doffed in the reduction zone, Tyvek and other disposables will be placed with the waste for off-site disposal, and all other reusable PPE will be washed with brushes or soapy rags and rinsed by hand sprayers. All exposed skin to be washed in reduction zone also.

B. Excavation/Exploratory Equipment:

All equipment will be decontaminated by high pressure wash, and/or steam cleaned as necessary, initially in the exclusion zone and final rinsed in the reduction zone. Rinse and wash media to be disposed of with contaminated soil/groundwater.

C. Sampling Equipment:

Reusable sampling equipment to be triple rinsed with alconox soap, tap water and deionized water. Disposable sampling equipment is to be consolidated with waste for off-site disposal.

XII. CONTINGENCIES

A. FIRST AID MEASURES/MEDICAL EMERGENCIES

In the event that personnel exposure symptoms occur, the following procedures will be used:

Prior to removing victim from hot zone or administering first aid decontamination procedures will be done.

B. PETROLEUM PRODUCTS / IRRITATING LIQUIDS:

1. Eye contact:

Flush eye immediately with copious amounts of water and repeat until irritation is eliminated. If prolonged irritation occurs for more than 15 minutes, seek medical attention.

2. Skin contact:

Wash exposed area with soap and water. If dermatitis or severe reddening occurs, seek medical attention.

3. Inhalation:

Remove person into fresh air. If symptom occurs for more than 15 minutes, seek medical attention.

4. Ingestion:

Do not induce vomiting, seek medical attention.

C. PHONE LIST:

AMBULANCE	911
POLICE, FIRE & RESCUE	911
STATE POLICE	911
POISON CONTROL	1-800-362-0101
CHEMTREC	1-800-424-8802

First aid and emergency fire equipment will be available in company vehicles.

D. ENVIRONMENTAL MONITORING

The following environmental monitoring instruments will be used on site:

The following instruments will be used continuously to monitor air quality.

Combustible gas Indicator: Trigger level will be 10%. The alarm will be audible or vibratory in the event of extreme noise levels.
FID/OVA: Will measure in the parts per million. It will indicate organic volatile.
pH meter: The pH meter will be used to indicate the pH of each separate sample.
Gas detection meter: To detect O_2 and H_2S levels.

E. EMERGENCY PROCEDURES (to be modified as required for incident)

The following standard emergency procedures will be used by on site personnel. The Site Safety Officer shall be notified of any on site emergencies and be responsible for ensuring that the appropriate procedures are followed.

1. Personal Injury in the Exclusion Zone:

Upon notification of an injury in the Exclusion Zone, all site personnel shall assemble in the Reduction Zone. The rescue team will enter the Exclusion Zone (if required) to remove the injured person to the hotline. Rescue team and victim will be decontaminated prior to entering the exclusion zone. The Site Safety Officer and Project Team Leader shall evaluate the nature of the injury, prior to movement to the Support Zone. Appropriate first aid will be initiated, and contact should be made for an ambulance and with the designated medical facility (if required). No persons shall reenter the Exclusion Zone until the cause of the injury or symptoms are determined.

2. Personal Injury in the Support Zone:

Upon notification of an injury in the Support Zone, the Project Team Leader and Site Safety Officer will assess the nature of the injury. If the cause of the injury or loss of the injured person does not affect the performance of remaining personnel, operations may continue. If the injury increases the risk to others, the designated emergency signal horn shall be sounded and all site personnel shall move to the Reduction Zone for further instructions.

In any case, the appropriate first aid will be initiated and necessary follow-up as stated above.

3. Fire / Explosion:

Upon notification of a fire or explosion on site, the designated emergency signal horn shall be sounded and all site personnel assembled at the Reduction Zone. The fire department shall be alerted and all personnel moved to a safe distance from the involved area. *Fire extinguishers shall be used with discretion to minimize the risk of fire and explosion that would result in injuries.*

4. Personal Protective Equipment Failure:

If any worker experiences a failure or alteration of protective equipment that affects the protection factor, the affected person and his/her buddy shall immediately leave the Exclusive Zone. Reentry shall not be permitted until the equipment has been repaired or replaced.

5. Other Equipment Failure:

If any other equipment fails to operate properly, the Project Team Leader and Safety Officer shall be notified and then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, all personnel shall leave the Exclusion Zone until the situation is evaluated and appropriate actions taken.

In all situations, when an on site emergency results in evacuation of the Exclusion Zone, personnel shall not reenter until:

1. ***The hazards have been reassessed.***
2. ***The conditions resulting in the emergency have been corrected.***
3. ***The Safety Plan has been reviewed, and personnel have been briefed on any changes in the Safety Plan.***

XIII. CLOSURES AND SIGNATURES

This plan has been reviewed and has the full approval of the following Management.

Owner:

NAME: Village of Chama
TITLE:
DATE:

Consultant ***Souder Miller & Associates***

NAME: Reid Allan
TITLE: Vice President/Principal Scientist
DATE: March 13, 2007

All site personnel have read the above plan and are familiar with its provisions.

	Print Name	Signature
Safety Officer	_____	_____
Project Team Leader	_____	_____
Other Personnel	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____

CONOCO MINI MART UST REMOVAL AND EXCAVATION
SITE PHOTOGRAPHS
DECEMBER 11-15, 2006

Photo 1: Excavation of UST.

Photo 2: Village of Chama line spotting.

Photo 3: Excavation of USTs.

CONOCO MINI MART UST REMOVAL AND EXCAVATION
SITE PHOTOGRAPHS
DECEMBER 11-15, 2006

Photo 4: Removal of asphalt and concrete.

Photo 5: Fluid removal from USTs.

Photo 6: Removal of UST.

Photo 7: Sheen on bottom of UST.

Photo 8: Loading of UST.

Photo 9: Sheen on UST.

Photo 10: Loading of second UST.

Photo 11: Loading of third UST.

Photo 12: Trucking of USTs.

Photo 13: Test pit on southeast side of canopy.

Photo 14: Test pit on southeast side of canopy.

Photo 15: Backfill of tank trench.

Photo 16: Product lines on north side of property.

Photo 17: Excavation of UST trench.

Photo 18: Stock pile of contaminated soils on concrete pad.

CONOCO MINI MART UST REMOVAL AND EXCAVATION
SITE PHOTOGRAPHS
DECEMBER 11-15, 2006

Photo 19: Stock pile of concrete debris.

Photo 20: Excavation of UST trench.

Photo 21: Sheen on UST.

Photo 22: Excavation of second trench.

Photo 23: Stock pile of contaminated soils on asphalt pad.

Photo 24: Excavation of second trench.

Photo 25: Backfill of second trench.

Photo 26: Backfill of excavation area.

Photo 27: Compaction of excavation area.

Photo 28: Test pit on south side of car wash.

Photo 29: Test pit on south side of car wash.

Photo 29: Backfill and final grade of excavation area.

Photo 30: Clean up of site after excavation.

Photo 31: Final grade of excavation area.

Photo 32: Backfill test pit areas.