EA Engineering, Science, & Technology, Inc.
320 Gold Avenue SW, Suite 1210
Albuquerque, New Mexico 87102
Phone: (505) 224-9013 Fax (505) 224-9016

February 24, 2012

Mr. George Beaumont
New Mexico Environment Department
Petroleum Storage Tank Bureau
1301 Siler Road, Building B
Santa Fe, New Mexico 87507

Dear Mr. Beaumont:

On behalf of Conway Oil Company, EA Engineering, Science, and Technology, Inc. is submitting the Direct Push Boring Investigation Report for the Holiday Chevron located at 3623 East Tucumcari Blvd, Tucumcari, New Mexico. The report discusses the field activities and investigation results to fulfill requirements stated in the New Mexico Administrative Code, Title 20, Chapter 5, Section 12 and the New Mexico Environment Department Petroleum Storage Tank Bureau (PSTB) Guidelines for Corrective Action.

The total approved scope of work was completed during this investigation. The total for the Direct Push Boring Investigation Report is $29,371.50 including NMGRT of 7.00%.

Please let me know if you have any questions regarding the information provided in this report.

Sincerely,

Teri McMillan
Project Manager

Jay Snyder
Senior Hydrogeologist

Enclosure

Cc: Jim Conway, Conway Oil Company
File

DIRECT PUSH BORING INVESTIGATION REPORT

HOLIDAY CHEVRON
3623 EAST TUCUMCARI BLVD
TUCUMCARI, NEW MEXICO

Prepared for:

Mr. Jim Conway
Conway Oil Company
1348 US Hwy 60-84
Clovis, NM 88101

Prepared by:

EA Engineering, Science,
and Technology, Inc.
320 Gold Avenue SW, Suite 1210
Albuquerque, New Mexico 87102

February 2012

EA Project No. 6231702.05

320 Gold Avenue SW, Ste.1210
Albuquerque, NM 87102
Telephone: 505-224-9013
Fax: 505-224-9016

EA Project No. 6231702.05

DIRECT PUSH BORING INVESTIGATION REPORT

Holiday Chevron
3623 East Tucumcari Blvd
Tucumcari, New Mexico

Prepared for:

Mr. Jim Conway
Conway Oil Company
1348 US Hwy 60-84
Clovis, NM 88101

Prepared by:

EA Engineering, Science,
and Technology, Inc.
320 Gold Avenue SW, Suite 1210
Albuquerque, New Mexico

2/24/2012

Teri McMillan
Project Manager

Date

2/24/2012

Jay Snyder
Senior Hydrogeologist

Date

February 2012

TABLE OF CONTENTS

Page

1.0 INTRODUCTION.....1

1.1 Objective.....1

1.2 Background.....1

2.0 SITE SETTING.....3

3.0 SITE INVESTIGATION ACTIVITIES.....4

3.1 Preliminary Investigation Activities.....4

3.2 Surveying.....4

3.3 Direct Push Boring Investigation.....4

3.4 Soil Sampling.....4

4.0 INVESTIGATION RESULTS.....6

4.1 Soil Investigation Results.....6

5.0 CONCLUSION AND RECOMMENDATIONS.....7

6.0 REFERENCES.....8

LIST OF TABLES

Table 1 Summary of PID Data
Table 2 Summary of Soil Sample Results
Table 3 Summary of Oil Screen Soil Results

LIST OF FIGURES

Figure 1 Site Map and Direct Push Boring Locations
Figure 2 Cross Section Location Map
Figure 3 Geologic Cross Section A-A'
Figure 4 PID Data Map
Figure 5 Soil Headspace 2' BGS Concentration Map
Figure 6 Soil Headspace 4' BGS Concentration Map
Figure 7 Soil Headspace 6' BGS Concentration Map
Figure 8 Soil Headspace 8' BGS Concentration Map
Figure 9 Soil Headspace 10' BGS Concentration Map
Figure 10 Soil Headspace 12' BGS Concentration Map
Figure 11 Soil Headspace 14' BGS Concentration Map
Figure 12 Soil Headspace 16' BGS Concentration Map

LIST OF APPENDICES

Appendix A Soil Boring Logs
Appendix B Photographic Documentation
Appendix C Survey
Appendix D Analytical Laboratory Results

1.0 INTRODUCTION

On behalf of Conway Oil Company, EA Engineering, Science, and Technology, Inc. (EA) has prepared this Direct Push Boring Investigation Report for the Holiday Chevron located at 3623 East Tucumcari Blvd, Tucumcari, New Mexico. This report was completed in accordance with the *Work Plan for Direct Push Boring Investigation,* dated September 13, 2011, prepared by EA to satisfy the requirements stated in the New Mexico Administrative Code, Title 20, Chapter 5, Section 12 and the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) Guidelines for Corrective Action (GCA). The work plan was approved by the NMED PSTB on September 29, 2011 with an extension approved on December 8, 2011. Work was completed under work plan identification number (WPID #) 16179.

1.1 Objective

The scope of work was to complete a direct push boring survey to delineate the vertical and horizontal extent of soil contamination in order to determine the volume of soil required to complete a removal action. The following work was performed:

- Completed a grid based direct push boring survey;
- Collected soil samples for field screening with a photo-ionization detector (PID) every 2 feet;
- Collected soil samples from five borings located within the area of highest contamination for laboratory verification;
- Collected one composite sample for waste characterization;
- Prepared this Direct Push Boring Report.

1.2 Background

The Holiday Chevron site is no longer an active gasoline station. The Holiday Chevron is located on the north side of Tucumcari Boulevard on the east end of Tucumcari, New Mexico. Three USTs were located southeast of the store and east of the canopy and dispenser islands. The USTs installed in 1984 only contained unleaded gasoline. The dispenser islands were located south of the store. The USTs were steel with cathodic protection and the lines to dispensers were fiberglass reinforced piping. The facility was placed in temporary closure on December 5, 2005; at that time all automatic tank gauging reports for this facility indicated there were no leaks in the tanks. The cathodic protection system was maintained as required until lines, dispensers and tanks were removed on August 24, 2009. Upon removal of the USTs, water was found in one of the tanks indicating a leak. Excavation of the USTs revealed petroleum hydrocarbon impacted soils in the UST tank hold, indicating that a release had occurred at the site.

A Minimum Site Assessment (MSA) that included installing five soil borings and converting them to monitoring wells to establish nature and extent of soil and groundwater impacts at the site was completed in June 2010. Soil and groundwater samples collected during the MSA indicated that soil and groundwater has been impacted at this site.

In addition to the Holiday Chevron site, there are two known Leaking Petroleum Storage Tank (LUST) sites in close proximity. A former Whiting Brothers gas station was located contiguous on the west of the Holiday Chevron site. The Whiting Brothers site is now a vacant lot with existing monitoring wells and is downgradient from the Holiday Chevron site. The Holiday Conoco is located across Tucumcari Boulevard, southeast and directly upgradient of the Holiday Chevron site. The Holiday Conoco is an operating gas station that is out of compliance with NMED PSTB Regulations.

2.0 SITE SETTING

Holiday Chevron is located on Tucumcari Boulevard on the eastern edge of Tucumcari, New Mexico, approximately 300 yards from the Westbound Interstate 40 on-ramp (Figure 1). North of the property is an operating gas station (Holiday Conoco), a hotel and a restaurant. East of the property is a Super 8 Motel and an Interstate 40 exit for Tucumcari. South of the property is vacant land. West of the property is vacant land which is the location of a former gas station (Whiting Brothers).

2.1 Topography

The property is located approximately 4,040 feet above mean sea level (amsl). The property and surrounding property are relatively flat. Regionally, the land slopes gently to the east.

2.2 Regional Geology and Hydrology

The Tucumcari Basin is an asymmetric depression located in east-central New Mexico. The depression is a structural basin that developed during Middle Pennsylvannian time. It is believed that the basin formed as a result of solution and collapse (Berkstresser and Mourant, 1966). The basin is bound to the north by the late Paleozoic Sierra Grande Uplift and Bravo Dome and to the west by the late Paleozoic Pedernal Uplift.

The Tucumcari Basin is composed of older alluvium, consisting of terrace gravels of Pleistocene age (Berkstresser and Mourant, 1966). The older alluvium deposits within the Tucumcari Basin may be as thick as 600 feet. It was reported by Berkstresser and Mourant that well yield from the town wells completed in the alluvium are as great as 325 gallons per minute.

2.3 Site Specific Geology and Hydrology

The subsurface conditions beneath the site were determined during this investigation with the installation of 25 soil borings. On January 18-20, 2012, 25 soil borings were advanced at the site (Figure 1).

Soil samples collected from the borings indicate that the subsurface lithology beneath the site consists of predominantly fat clay, silty clay, and sandy clay that are interbedded. There is a layer of red fat clay encountered at depths ranging from 4 feet bgs to 10 ft bgs in most borings. Also, a moist red to reddish brown clay with silt to clayey silt was encountered from approximately 10 to 12 ft bgs. The total depth of the borings ranged from 10 to 18 ft bgs with the majority of the borings having a depth of 12 ft bgs. The cross section location map and geologic cross section are presented as Figures 2 and 3, respectively. The soil boring logs are included in Appendix A. Photographic Documentation of the soil cores is provided in Appendix B.

Groundwater elevation was observed during the last groundwater monitoring event in Sept. 2011 from the surface to approximately 6 to 10 feet below the top of the casing.

3.0 SITE INVESTIGATION ACTIVITIES

Site investigation activities included completing a subsurface investigation using a direct push boring survey to delineate the vertical and horizontal extent of soil contamination.

3.1 Preliminary Investigation Activities

Prior to performing any fieldwork, EA obtained access from Conway Oil and the New Mexico Department of Transportation (NMDOT). NMDOT access was required in order to access the right-of-way in front of the site. Access from NMDOT was granted on December 14, 2011. EA also prepared a site-specific health and safety plan, and the NMED PSTB project manager, Mr. George Beaumont, and Jim Conway were contacted prior to conducting the field work.

3.2 Surveying

Prior to beginning any work, a 20 ft by 20 ft grid was established at the site (Figure 1). A New Mexico Professional Licensed Surveyor marked and recorded GIS coordinates, northing, eastings, and state plane coordinates at 40 ft by 40 ft grid locations and the finer grid established by tape. All locations were surveyed to US State Plane Coordinates 1983, North American Datum of 1983, and the North America Vertical Datum of 1988. Locations were located to within 0.01 foot horizontal and 0.01 foot vertical. The survey results are attached in Appendix C.

3.3 Direct Push Boring Investigation

January 18 through the 20, 2012, 25 soil borings were advanced at the site (Figure 1). Soil borings were completed by JR Drilling, LLC utilizing a Geoprobe® 540-UD DT-21 Soil Sampling System. The soil borings were advanced to total depths ranging from 10 - 18 ft bgs with the majority of them having total depths of 12 ft bgs. The 12 prescribed borings as shown on Figure 1 were installed first. Based on field screening measurements additional borings were placed stepping outward away from the source area to try and delineate contamination at the Site. Prescribed boring B-9 could not be advanced due to probe refusal. All borings were backfilled with bentonite granules and hydrated with water.

3.4 Soil Sampling

During drilling, EA collected soil samples continuously with disposable acetate liners. Soil samples were described using the Unified Soil Classification System (USCS). All soil samples were field screened with a photo-ionization detector (PID) using the heated headspace method as described in the Guidelines for Corrective Action (NMED, 2000). Soil samples were collected every 2 feet in each boring for heated headspace measurements. Two soil samples from the five borings that exhibited the highest contamination were collected for laboratory analysis. The first soil sample was collected from the interval with the highest PID field measurement, and the second, was collected from the final depth of the boring. Both samples were field-preserved using methanol extraction procedures and stored on ice until laboratory analysis.

Soil samples were placed in containers provided by the analytical laboratory. The laboratory soil samples were labeled, immediately placed on ice, and submitted to Hall Environmental Analysis

Laboratory (HEAL) under chain-of-custody. Soil samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8260B and total petroleum hydrocarbons (TPH) full range by EPA Method 8015. Analytical laboratory reports are included in Appendix D.

One soil sample was collected for waste characterization. All soil with PID readings above 100 parts per million by volume (ppm_v) were collected into a sealable container, homogenized, and one composite soil sample was prepared using field methanol extraction and stored on ice. The waste characterization soil sample was submitted to HEAL and analyzed for TPH full range by EPA Method 8015, BTEX (VOCs) by EPA Method 8260, total lead by EPA Method 6010, and ignitability and flashpoint.

In addition, the five soil samples with the highest PID measurements were field screened using the Oil Screen Soil – Indigo Blue field screening kit (Cheiron Resources Ltd.) to assess the presence of NAPL.

Wastes generated during the direct push boring activities were placed in a 55 gallon drum and remain on-site awaiting disposal during the removal action.

4.0 INVESTIGATION RESULTS

4.1 Soil Investigation Results

PID field screening results from soil samples collected from the borings ranged from 0.8 to 10,270 ppm_v. Of the 25 borings advanced at the site, only five (C-3, D-1, G-1, I-2, and I-12) had PID measurements below 100 ppm_v. Four of these borings (C-3, D-1, G-1 and I-2) were located along the northern portion of the property, north of the building. Boring I-12 was located in the southeast corner within the NMDOT right-of-way. Hydrocarbon contamination appears to be extensive at the Site. Figure 4 summarizes and Table 1 summarizes the PID measurements at each boring location.

Soil heated headspace concentration contour maps at 2 foot intervals are provided as Figures 5 through 12. Within the vadose zone, from surface to 6 feet bgs, there appears to be limited hydrocarbon contamination. However, within the NMDOT right-of-way, there appears to have been a surface spill with PID measurements at boring C-10 at 2 feet bgs being 2,689 ppm_v. At 4 foot bgs low level PID measurements were observed within the central portion of the Site, with the exception of the borings located in the southwest corner of the NMDOT right-of-way. PID concentrations increase throughout the site at the 6 foot, 8 foot, and 10 foot intervals within the capillary fringe and top of the water table. It appears that the bulk of the contamination is emanating from the former tank hold and southern dispenser islands. Hydrocarbon contamination begins to taper off at 12 and 14 feet bgs. In several borings within the vicinity of the former tank hold "clean" soil was not observed until 16 and 18 feet bgs. One anomaly where contamination appeared to be isolated was in the vicinity of borings E-2 and E-3. This may have been the location of a former tank.

Based on PID measurements in soil borings, the extent of soil contamination was only defined to the north. Contamination has migrated onto the properties to the east, west and within the NMDOT right-of-way.

The Oil Screen Soil – Indigo Blue field screening test for NAPL results are presented in Table 3. Five samples were field screened for NAPL from the following borings, A-12 (5.5 to 6 foot interval), B-7 (9.5 to 10 foot interval), E-10 (5.5 to 6 foot interval), I-9 (9.5 to 10 foot interval), and G-7 (5.5 to 6 foot interval), and only B-7 tested positive for NAPL (see Photographic Documentation Appendix B).

Analytical results from 10 soil samples collected from five borings are summarized in Table 2. The soil sample collected from boring B-7 at 9.5 to 10 feet bgs had the highest hydrocarbon concentrations with a TPH gasoline range concentration of 3,400 mg/kg. Boring B-7 was located just east of the former tank hold. All of the soil samples collected from the total depth of the borings were non-detect or had very low detections of toluene or MTBE.

5.0 CONCLUSION AND RECOMMENDATIONS

Based on the data collected the following conclusions and recommendations are presented:

- The subsurface lithology beneath the site is comprised of predominantly clayey silty sand, dense clay, and occasional thin layers of sandy clay.

- Soil contamination is extensive at the Site. Only the northern extent of contamination was determined. Contamination appears to have migrated to the west and east onto private property. Contamination is present within the NMDOT right-of-way that is adjacently south of the Site.

- Shallow soil contamination is present at 2 feet bgs within the NMDOT right-of-way. Otherwise soil contamination is present from 4 feet to 14 feet bgs in most boring at the site.

- NAPL was observed in boring B-7 based on field screening results.

Based on the findings of this investigation, EA recommends the following:

- Further direct push boring investigation to define the extent of hydrocarbon contamination that has migrated onto the Whiting Brothers Site to the west.

- Prepare a plan to excavate the contaminated soil from the Site.

6.0 REFERENCES

Berkstresser, Charles Jr. and Mourant, Walter A.. 1966. *Ground-Water Resources and Geology of Quay County, New Mexico*. Ground-Water Report 9. State Bureau of Mines and Mineral Resources New Mexico Institute of Mining & Technology, Campus Station, Socorro, New Mexico. 1966.

NMED. 2000. New Mexico Underground Storage Tank Bureau Guidelines for Corrective Action. March 13.

TABLES

TABLE 1. SUMMARY OF PID DATA
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

Soil Boring	Date	Depth Feet BGS	PID Measurement[1]
A-5.5	20-Jan-12	2	3.6
		4	26.3
		6	2,917
		8	1,672
		9	1,264
		10	108
		11.5	37
A-7	20-Jan-12	2	3.4
		4	3.2
		6	3,520
		8	745.1
		10	215.5
		12	16.4
A-9	19-Jan-12	2	16.6
		4	10.0
		6	8.9
		8	2,763
		10	555.6
		12	22.8
A-10.5	20-Jan-12	2	3.8
		4	1,478
		6	1,504
		8	1,371
		10	338.8
		12	99.3
A-12	19-Jan-12	2	5.9
		4	1,388
		6	5,615
		8	4,938
		10	2,034
		12	117.6
		14	77.2
B-5	19-Jan-12	2	2.9
		4	1.1
		6	246.3
		8	124.5
		10	269.9
		12	5.7
B-7	18-Jan-12	2	4.0
		4	93.7
		6	91.5
		8	3,559
		10	8,232
		12	89.7
C-3	19-Jan-12	2	2.0
		4	0.8
		6	1.2
		8	9.6
		10	0.7
		12	2.2

TABLE 1. SUMMARY OF PID DATA
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

Soil Boring	Date	Depth Feet BGS	PID Measurement[1]
C-10	18-Jan-12	2	2,689
		4	1,487
		6	1,539
		8	1,456
		10	57.9
		12	32.1
D-1	20-Jan-12	2	17.1
		4	5.0
		6	5.1
		8	5.3
		10	31.1
D-12	19-Jan-12	2	129.7
		4	136.6
		6	198.1
		8	88.8
		10	16.8
		12	19.6
E-2	20-Jan-12	2	50.3
		4	183.1
		6	4.2
		8	3,007
		10	NS
		12	588.2
		13	1,422
		14.5	705.5
		15.5	285.1
		17	74.4
E-3	19-Jan-12	2	8.1
		4	10.1
		6	11.7
		8	22.3
		10	101.1
		12	1,475
		14	4,175
		16	1,016
E-7	19-Jan-12	2	7.7
		4	158.4
		6	799.8
		8	2,927
		10	758.2
		12	35.9
E-10	18-Jan-12	2	119.4
		4	202
		6	8,442
		8	3,604
		10	4,715
		12	8.6

TABLE 1. SUMMARY OF PID DATA
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

Soil Boring	Date	Depth Feet BGS	PID Measurement[1]
G-1	20-Jan-12	2	12.2
		4	2.3
		6	5.2
		8	3.9
		10	2.7
G-3	19-Jan-12	2	17.6
		4	8.1
		6	28.6
		8	771.8
		10	3,669
		12	1,028
		14	829.7
		16	255.8
		18	71.2
G-7	19-Jan-12	2	17.5
		4	153.9
		6	6,902
		8	2,907
		10	2,046
		12	2,969
		14	216.8
		15.5	1,701
G-10	18-Jan-12	2	135.3
		4	130
		6	196.7
		8	1,877
		10	2,633
		12	80.4
		14	5.3
G-12	19-Jan-12	2	77.8
		4	466.3
		6	459.1
		8	3,991
		10	5,109
		12	120
		13	94.1
I-2	20-Jan-12	2	4.8
		4	7.2
		6	5.2
		8	3.2
		10	11.7
		11.5	22.1
I-5	18-Jan-12	2	37
		4	324.3
		6	240.7
		8	5,280
		10	1,926
		12	1,540
		14	366.6
		16	66.6

TABLE 1. SUMMARY OF PID DATA
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

Soil Boring	Date	Depth Feet BGS	PID Measurement[1]
I-7	18-Jan-12	2	1.7
		4	0.8
		6	2.3
		8	37.2
		10	898
		12	1,634
		14	55.6
		16	16.5
I-9	18-Jan-12	2	16.6
		4	43.2
		6	41.3
		8	2,333
		10	10,270
		12	6,421
		14	199.6
		16	28.3
I-12	20-Jan-12	2	97.1
		4	46
		6	47.4
		8	34.9
		10	13.1
		12	5.1

NOTES:
[1] Measured in parts per million by volume
BGS = Below ground surface
PID = Photoionization detector

TABLE 2. SUMMARY OF SOIL SAMPLE RESULTS
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

Boring	Date Sampled	Sample Depth (feet)	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	EDB	EDC	Total Naphthalenes	TPH DRO	TPH GRO
A-12	19-Jan-12	5.5-6	<1.0	3.9	5.2	23	<1.0	<1.0	<1.0	2.0	29	320
		13.5-14	<0.050	<0.050	<0.050	<0.10	0.091	<0.050	<0.050	<0.20	<9.9	<5.0
B-7	18-Jan-12	9.5-10	31	270	82	420	<10	<10	<10	<40	230	3,400
		11.5-12	<0.050	0.073	<0.050	<0.10	<0.050	<0.050	<0.050	<0.20	<10	<5.0
E-10	18-Jan-12	5.5-6	1.1	22	22	140	<1.0	<1.0	<1.0	46	310	260
		11.5-12	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.20	<9.8	<5.0
G-7	19-Jan-12	5.5-6	<0.50	<0.50	1.3	7.1	<0.50	<0.50	<0.50	4.6	100	110
		15-15.5	<0.10	<0.10	<0.10	<0.20	<0.10	<0.10	<0.10	<0.40	<9.7	28
I-9	18-Jan-12	9.5-10	<0.50	5.6	4.4	23	<0.50	<0.50	<0.50	1.3	17	260
		15.5-16	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.20	<10	<5.0
Soil Cuttings	20-Jan-12	NA	0.28	1.5	0.57	3.1	<0.25	<0.25	<0.25	<1.0	<9.9	51

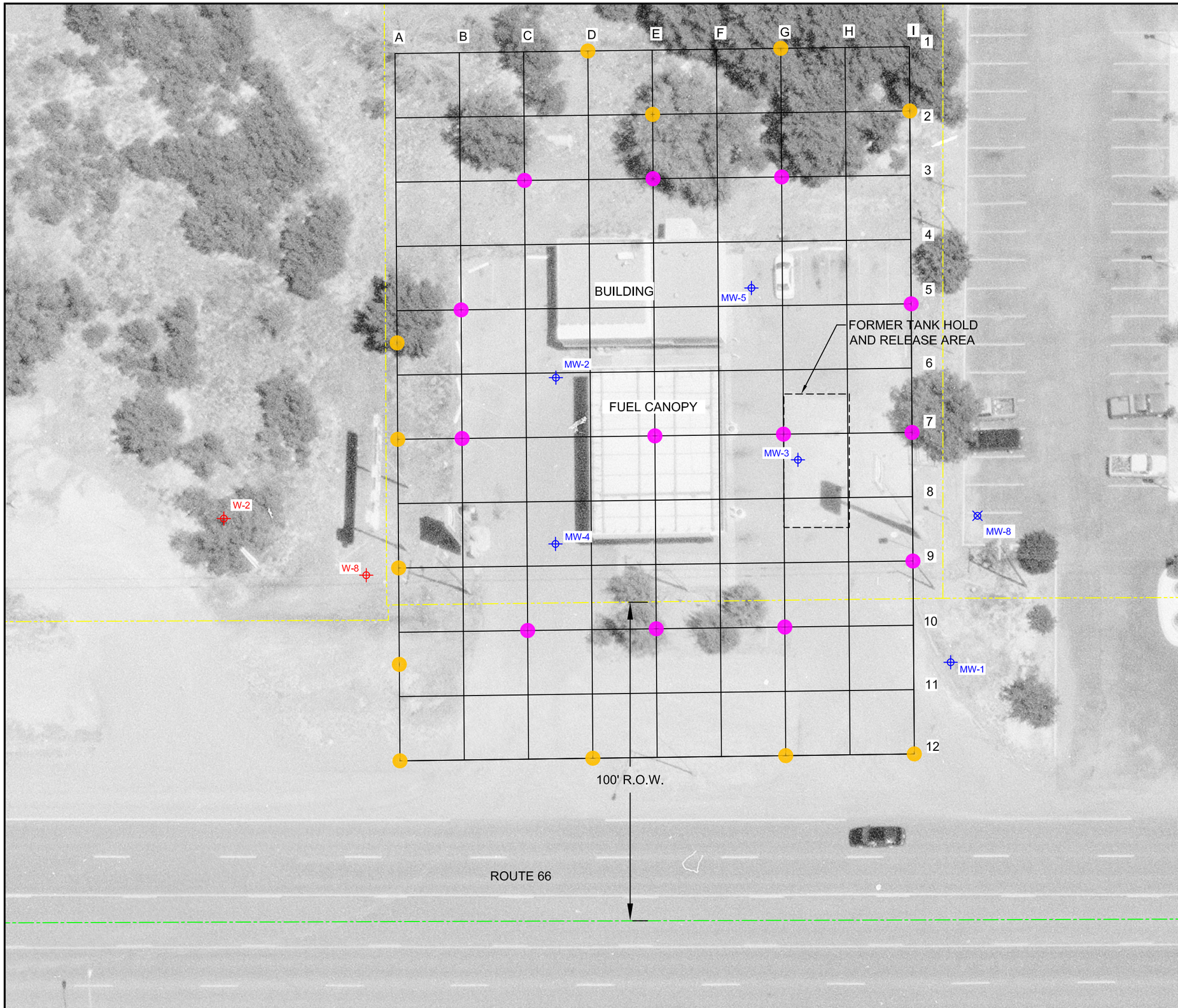
NOTES:
All units are in milligrams/kilogram (mg/Kg) unless otherwise indicated
NA = Not Applicable

TABLE 3. OIL SCREEN SOIL RESULTS
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

Boring	Depth (feet bgs)	Reaction
A-12	5.5 - 6.0	Blue Bead
B-7	9.5 - 10	Blue Bead, Blue Meniscus
E-10	5.5 - 6.0	Blue Bead
G-7	5.5 - 6.0	None
I-9	9.5-10	None

NOTES:
Blue bead indicates total petrolium hydrocarbon (TPH) concentrations >500 parts per million (ppm)
Blue meniscus indicates TPH concentrations >2500 ppm and the presence of non-aqueous phase liquid
Field screening performed with Oil Screen Soil – Indigo Blue by Cheiron Resources Ltd.

FIGURES



LEGEND:

- MW-5 — HOLIDAY CHEVRON MONITORING WELL
- MW-8 — HOLIDAY CONOCO MONITORING WELLS
- W-2 — WHITING BROS. MONITORING WELLS
- APPROXIMATE LOCATION OF PROPERTY LINE
- APPROXIMATE CENTERLINE OF ROUTE 66
- PRESCRIBED BORING LOCATIONS
- ADDITIONAL BORING LOCATIONS

A B
1
2
20' X 20' GRID

N

30 15 0 30
SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

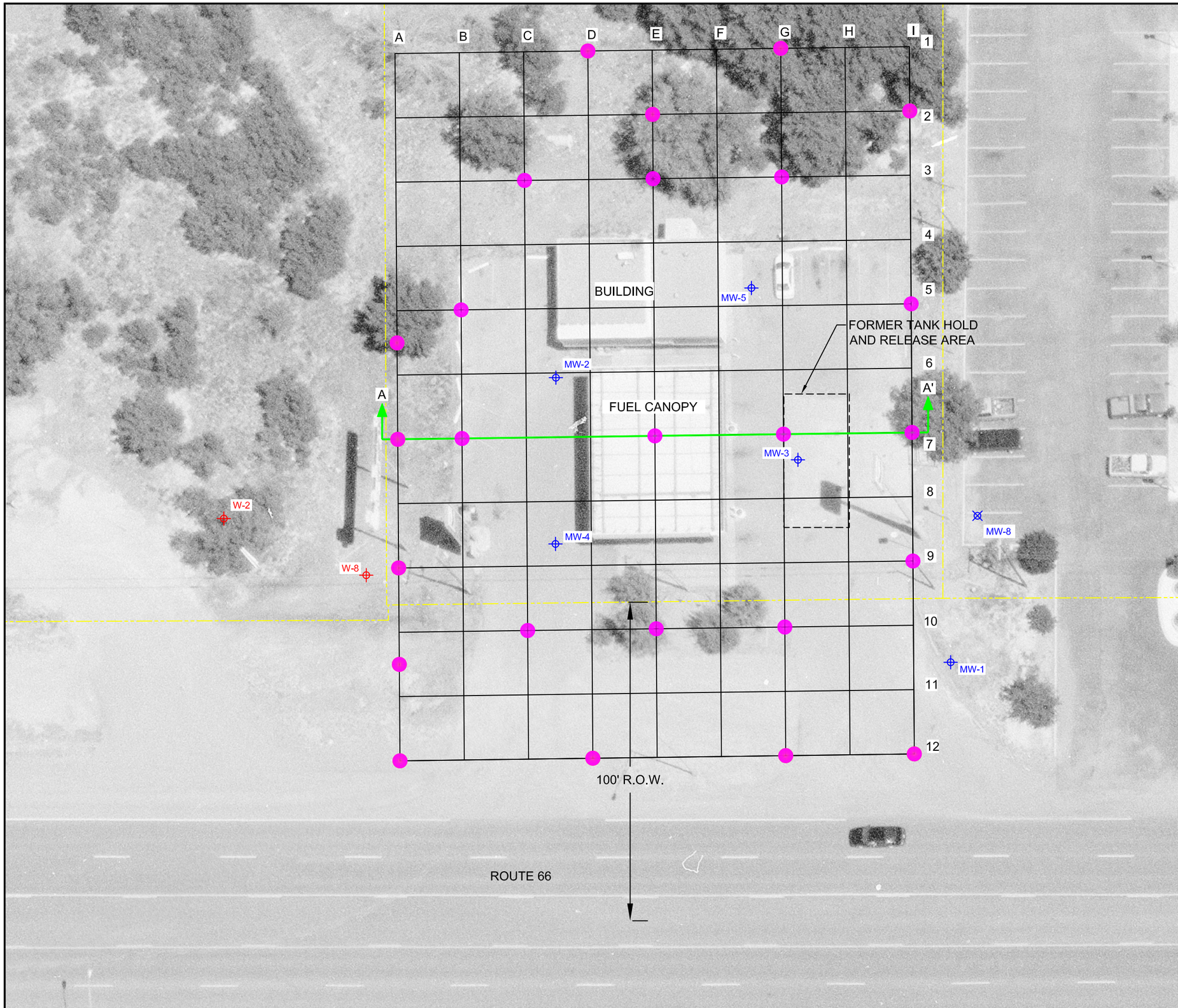
FIGURE 1
SITE MAP AND DIRECT PUSH BORING LOCATIONS

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD



LEGEND:

- MW-5 — HOLIDAY CHEVRON MONITORING WELL
- MW-8 — HOLIDAY CONOCO MONITORING WELLS
- W-2 — WHITING BROS. MONITORING WELLS
- APPROXIMATE LOCATION OF PROPERTY LINE
- CROSS SECTION LINE
- BORING LOCATIONS

A B
1
2
20' X 20' GRID

N

30 15 0 30
SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

FIGURE 2
CROSS SECTION LOCATION MAP

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD

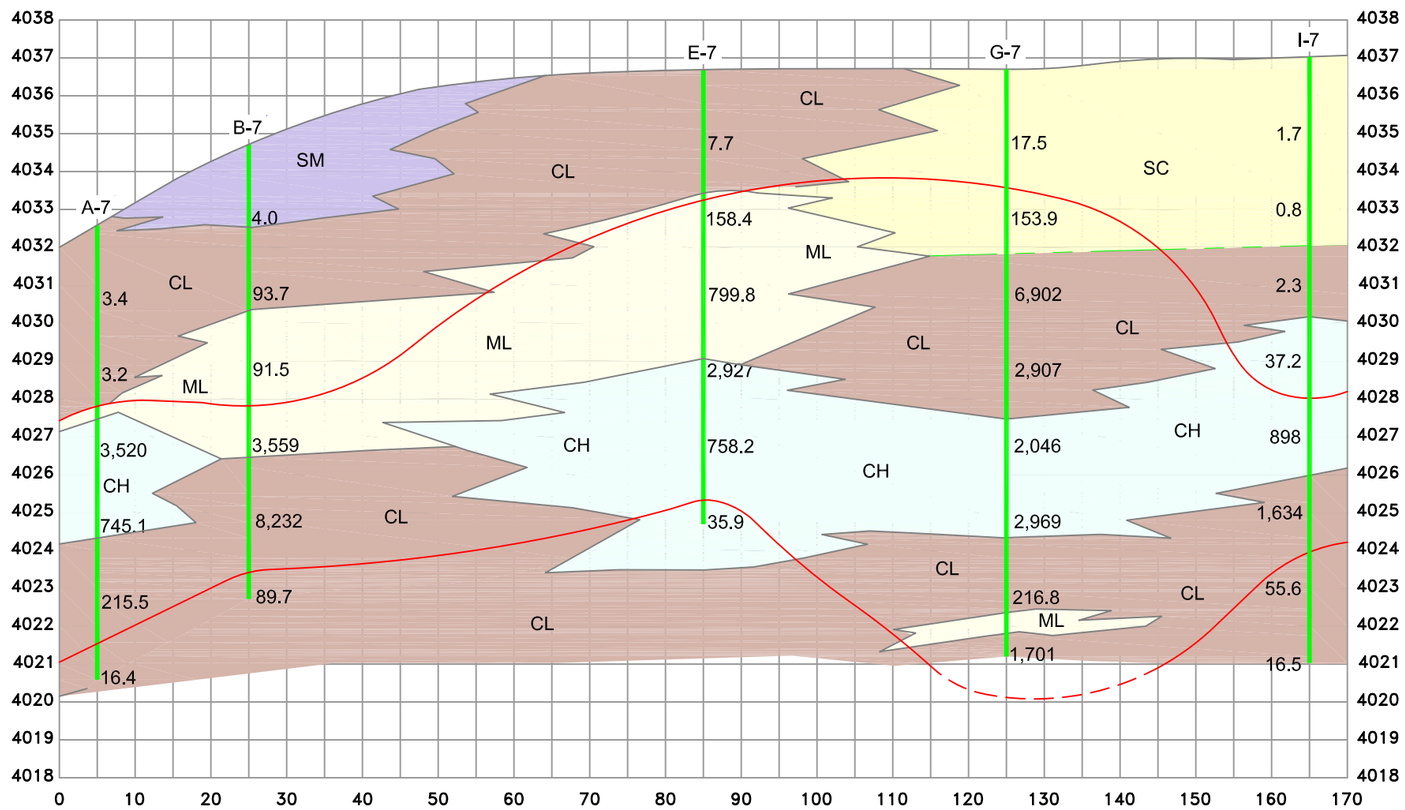


PHOTO-IONIZATION DETECTOR (PID) > 100 PPMV

CH	REDDISH BROWN FAT CLAY
CL	RED TO REDDISH BROWN SANDY TO SILTY CLAY
ML	RED TO REDDISH BROWN CLAYEY SAND AND CLAYEY SILT
SC	RED TO YELLOWISH RED CLAYEY TO SILTY SAND WITH GRAVEL
SM	REDDISH BROWN SILTY SAND WITH CLAY

A-7 ← BORING ID

3.4 ← PID DATA

3.2

3,520 ← BORING

745.1

215.5

16.4

N

20 10 0 20

SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

FIGURE 3
CROSS SECTION A-A'

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD

D-1	
DEPTH (FT BGS)	PID PPM
2	17.1
4	5
6	5.1
8	5.3
10	31.1

E-2	
DEPTH (FT BGS)	PID PPM
2	50.3
4	183.1
6	4.2
8	3,007
10	NS
12	588.2
13	1,422
14.5	705.5
15.5	285.1
17	74.4

G-1	
DEPTH (FT BGS)	PID PPM
2	12.2
4	2.3
6	5.2
8	3.9
10	2.7

I-2	
DEPTH (FT BGS)	PID PPM
2	4.8
4	7.2
6	5.2
8	3.2
10	11.7
11.5	22.1

G-3	
DEPTH (FT BGS)	PID PPM
2	17.6
4	8.1
6	28.6
8	771.8
10	3,669
12	1,028
14	829.7
16	255.8
18	71.2

B-5	
DEPTH (FT BGS)	PID PPM
2	2.9
4	1.1
6	246.3
8	124.5
10	269.9
12	5.7

C-3	
DEPTH (FT BGS)	PID PPM
2	2
4	0.8
6	1.2
8	9.6
10	0.7
12	2.2

I-5	
DEPTH (FT BGS)	PID PPM
2	37
4	324.3
6	240.7
8	5,280
10	1,926
12	1,540
14	366.6
16	66.6

E-3	
DEPTH (FT BGS)	PID PPM
2	8.1
4	10.1
6	11.7
8	22.3
10	101.1
12	1,475
14	4,175
16	1,016

DEPTH (FT BGS)	PID PPM
3	328
6	1463
8	3880
10	1423
12	3846
14	862

A-7	
DEPTH (FT BGS)	PID PPM
2	3.4
4	3.2
6	3,520
8	745.1
10	215.5
12	16.4

A-5.5	
DEPTH (FT BGS)	PID PPM
2	3.6
4	26.3
6	2,917
8	1,672
10	108
11.5	37

I-7	
DEPTH (FT BGS)	PID PPM
2	1.7
4	0.8
6	2.3
8	37.2
10	898
12	1,634
14	55.6
16	16.5

DEPTH (FT BGS)	PID PPM
2	14
4	230
7	390
10	1877
14	408

B-7	
DEPTH (FT BGS)	PID PPM
2	4
4	93.7
6	91.5
8	3,559
10	8,232
12	89.7

E-7	
DEPTH (FT BGS)	PID PPM
2	7.7
4	158.4
6	799.8
8	2,927
10	758.2
12	35.9

DEPTH (FT BGS)	PID PPM
3	158
5	2953
7	1593
9	2408
11	542
13	154

G-7	
DEPTH (FT BGS)	PID PPM
2	17.5
4	153.9
6	6,902
8	2,907
10	2,046
12	2,969
14	216.8
15.5	1,701

A-9	
DEPTH (FT BGS)	PID PPM
2	16.6
4	10
6	8.9
8	2,763
10	535.6
12	22.8

DEPTH (FT BGS)	PID PPM
3	211
5	922
7	3024
9	1996
11	2792
13	1091

I-9	
DEPTH (FT BGS)	PID PPM
2	16.6
4	43.2
6	41.3
8	2,333
10	10,270
12	6,421
14	199.6
16	28.3

A-10.5	
DEPTH (FT BGS)	PID PPM
2	3.8
4	1,478
6	1,504
8	1,371
10	338.8
12	99.3

A-12	
DEPTH (FT BGS)	PID PPM
2	5.9
4	1,388
6	5,615
8	4,938
10	2,034
12	117.6
14	77.2

C-10	
DEPTH (FT BGS)	PID PPM
2	2,689
4	1,487
6	1,539
8	1,456
10	57.9
12	32.1

D-12	
DEPTH (FT BGS)	PID PPM
2	129.7
4	136.6
6	198.1
8	88.8
10	16.8
12	19.6

E-10	
DEPTH (FT BGS)	PID PPM
2	119.4
4	202
6	8,442
8	3,604
10	4,715
12	8.6

G-12	
DEPTH (FT BGS)	PID PPM
2	77.8
4	466.3
6	459.1
8	3,991
10	5,109
12	120.1
13	94.1

G-10	
DEPTH (FT BGS)	PID PPM
2	135.3
4	130
6	196.7
8	1,877
10	2,633
12	80.4
14	5.3

I-12	
DEPTH (FT BGS)	PID PPM
2	97.1
4	46
6	47.4
8	34.9
10	13.1
12	5.1

LEGEND:

MW-5	HOLIDAY CHEVRON MONITORING WELL
MW-8	HOLIDAY CONOCO MONITORING WELLS
W-2	WHITING BROS. MONITORING WELLS
	APPROXIMATE LOCATION OF PROPERTY LINE
	APPROXIMATE CENTERLINE OF ROUTE 66
	BORING LOCATIONS
FT	FEET
BGS	BELOW GRADE SURFACE
PID	PHOTO-IONIZATION DETECTOR
PPM	PARTS PER MILLION
NS	NOT SAMPLED

A B
1
2
20' X 20' GRID

30 15 0 30
SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

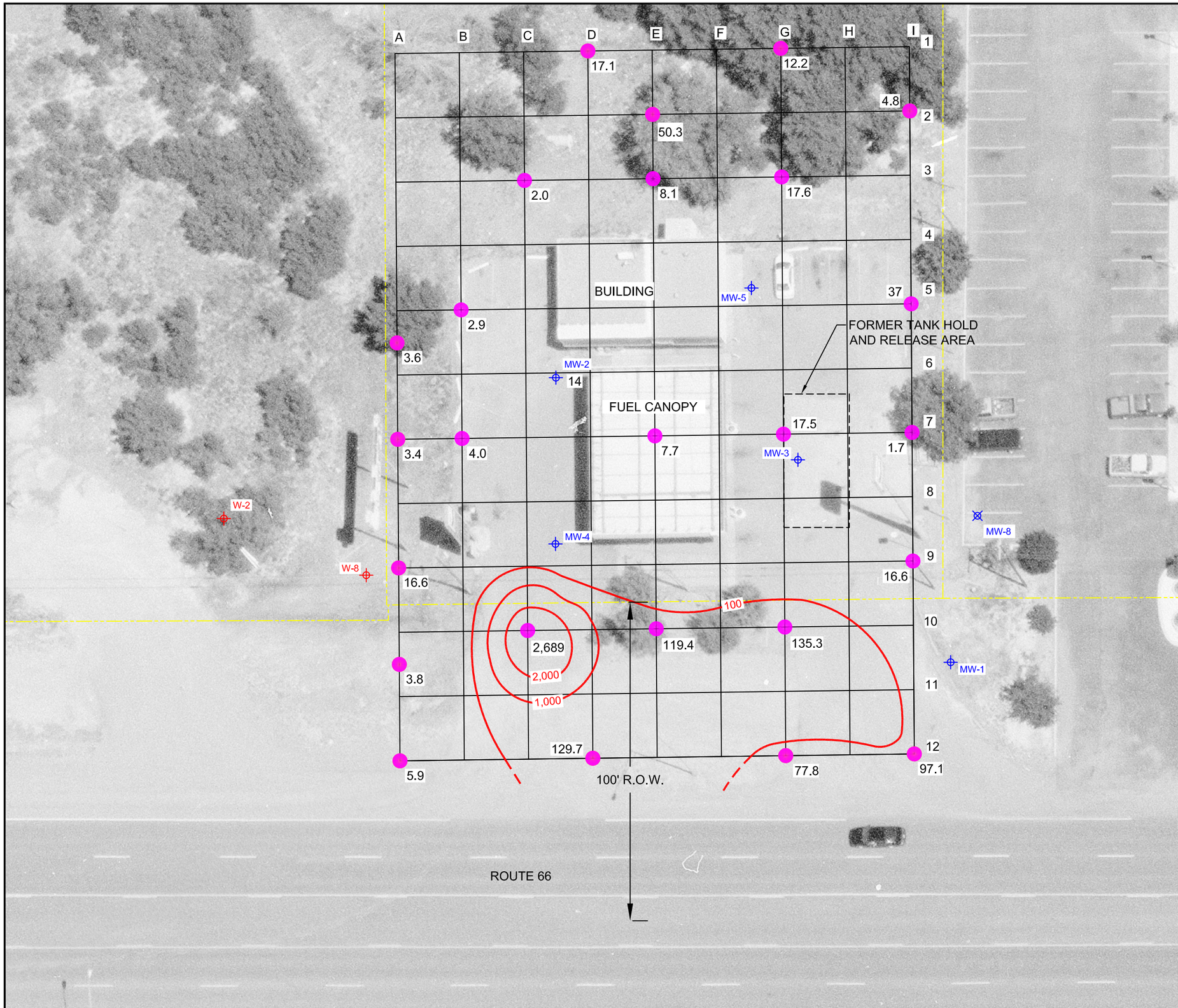
FIGURE 4
PID DATA MAP

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD



LEGEND:

MW-5	HOLIDAY CHEVRON MONITORING WELL
MW-8	HOLIDAY CONOCO MONITORING WELLS
W-2	WHITING BROS. MONITORING WELLS
	APPROXIMATE LOCATION OF PROPERTY LINE
	SOIL HEADSPACE CONCENTRATION CONTOUR (PPMV)
	BORING LOCATIONS WITH SOIL HEADSPACE CONCENTRATIONS (PPMV)
BGS	BELOW GRADE SURFACE
PPMV	PARTS PER MILLION PER VOLUME

A B
1
2
20' X 20' GRID

NOTE:
HEADSPACE MEASUREMENT COLLECTED USING A PHOTO-IONIZATION DETECTOR

30 15 0 30
SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

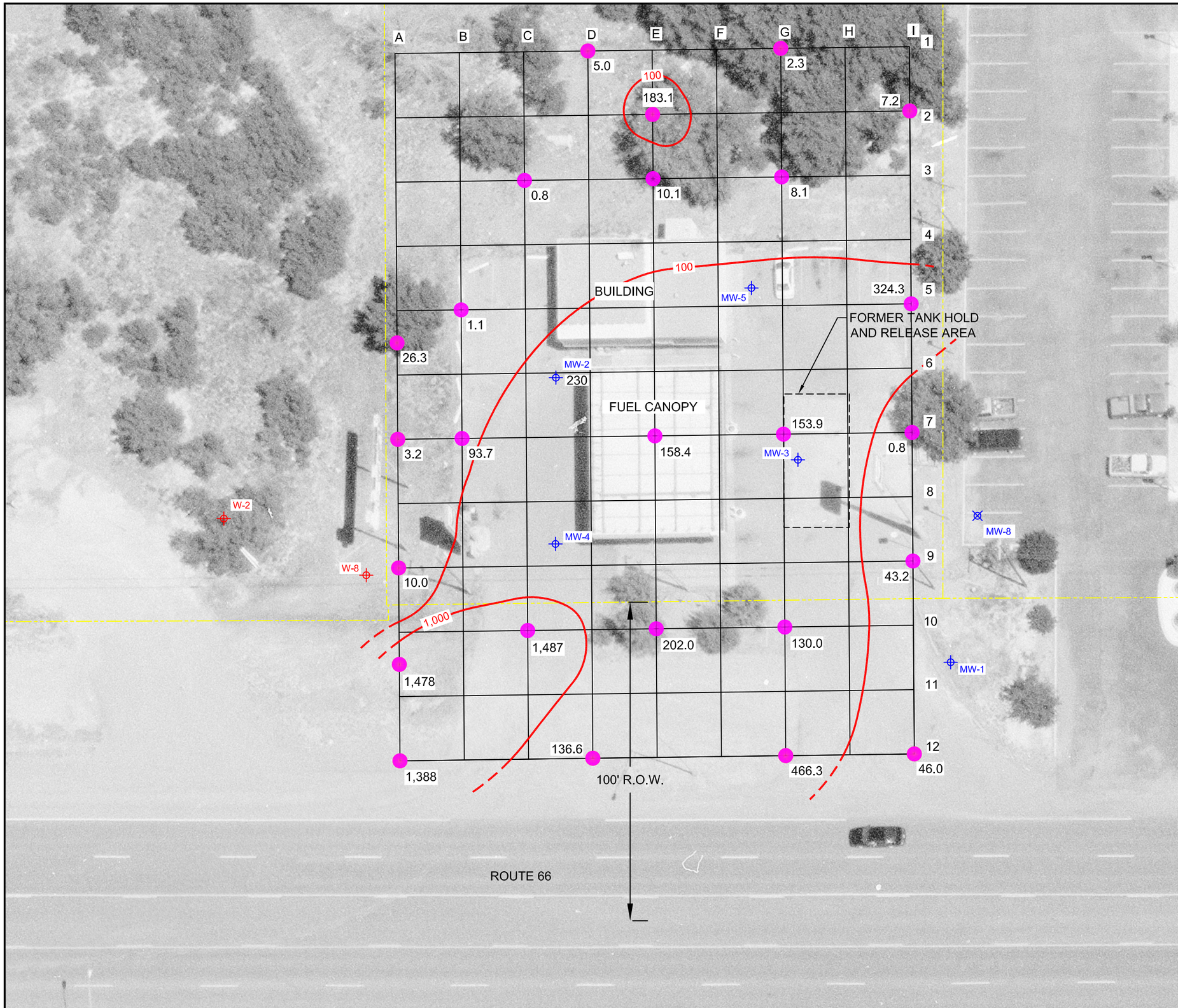
FIGURE 5
SOIL HEADSPACE
2' BGS CONCENTRATION MAP

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD



LEGEND:

MW-5	HOLIDAY CHEVRON MONITORING WELL
MW-8	HOLIDAY CONOCO MONITORING WELLS
W-2	WHITING BROS. MONITORING WELLS
	APPROXIMATE LOCATION OF PROPERTY LINE
	SOIL HEADSPACE CONCENTRATION CONTOUR (PPMV)
	BORING LOCATIONS WITH SOIL HEADSPACE CONCENTRATIONS (PPMV)
BGS	BELOW GRADE SURFACE
PPMV	PARTS PER MILLION PER VOLUME

A B
1
2

20' X 20' GRID

NOTE:
HEADSPACE MEASUREMENT COLLECTED USING A PHOTO-IONIZATION DETECTOR

N

30 15 0 30

SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

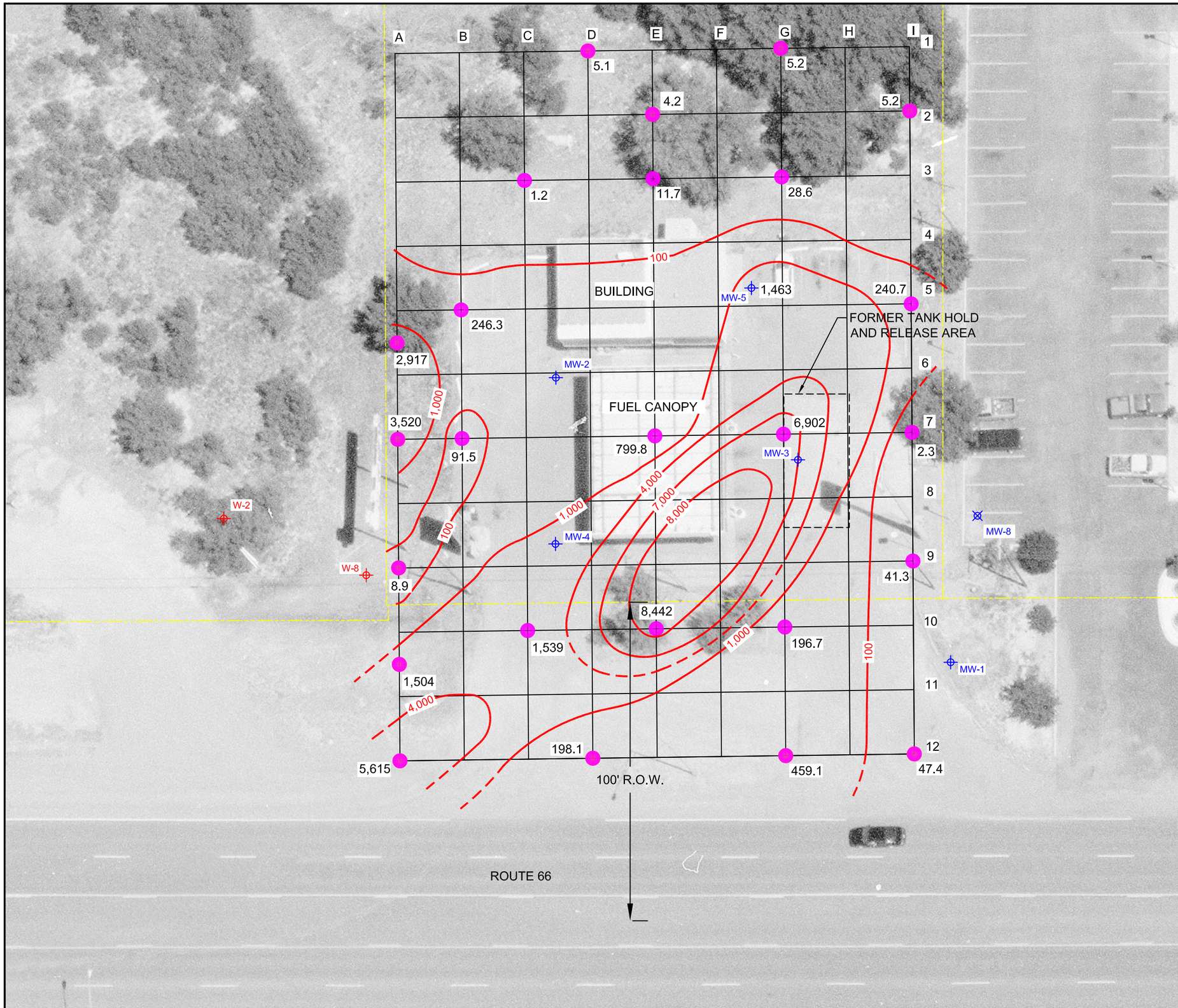
FIGURE 6
SOIL HEADSPACE
4' BGS CONCENTRATION MAP

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

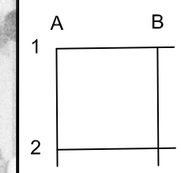
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD



LEGEND:

MW-5	HOLIDAY CHEVRON MONITORING WELL
MW-8	HOLIDAY CONOCO MONITORING WELLS
W-2	WHITING BROS. MONITORING WELLS
	APPROXIMATE LOCATION OF PROPERTY LINE
	SOIL HEADSPACE CONCENTRATION CONTOUR (PPMV)
	BORING LOCATIONS WITH SOIL HEADSPACE CONCENTRATIONS (PPMV)
BGS	BELOW GRADE SURFACE
PPMV	PARTS PER MILLION PER VOLUME



20' X 20' GRID

NOTE:
HEADSPACE MEASUREMENT COLLECTED USING A PHOTO-IONIZATION DETECTOR

30 15 0 30

SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

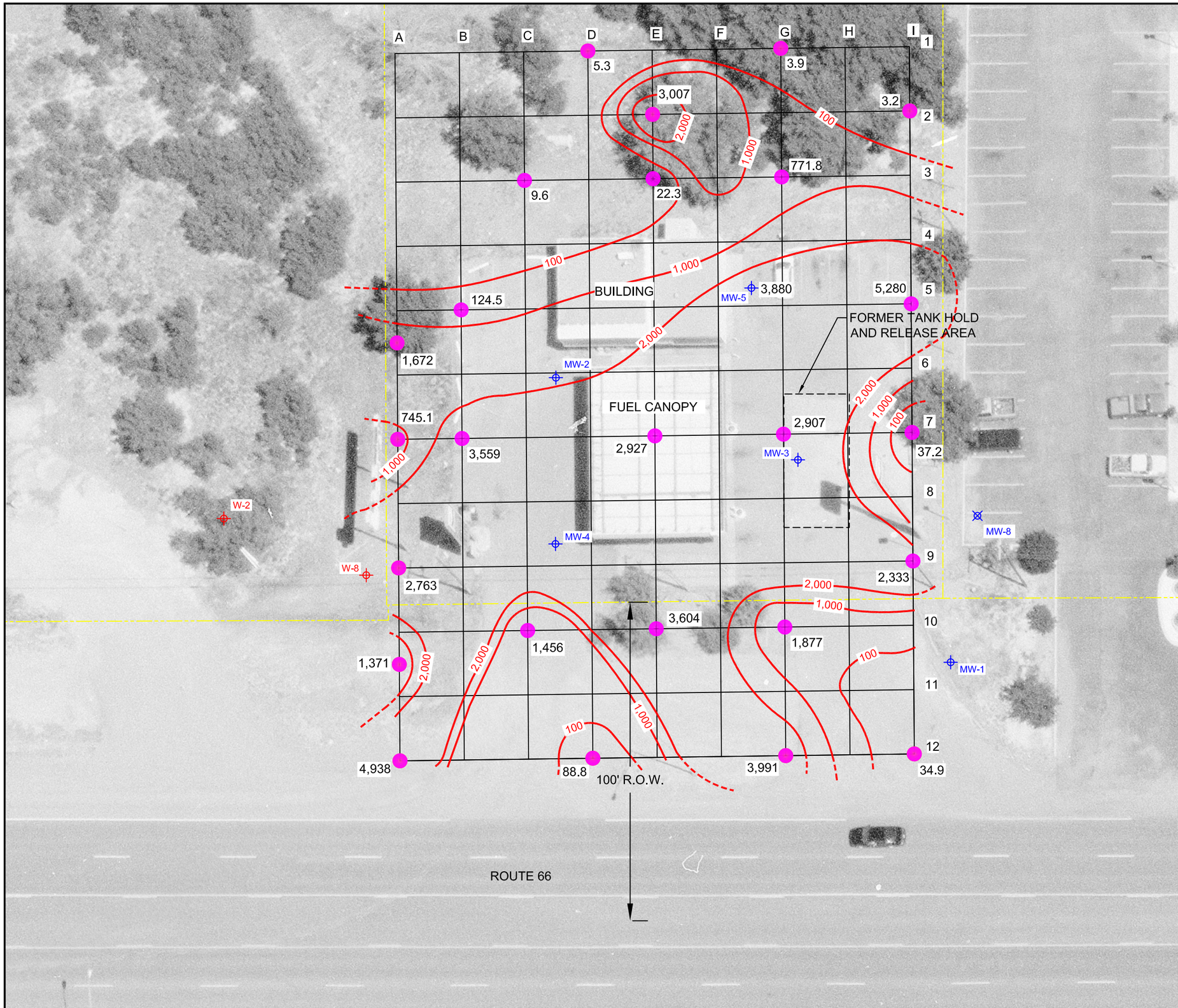
FIGURE 7
SOIL HEADSPACE
6' BGS CONCENTRATION MAP

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD



LEGEND:

MW-5	HOLIDAY CHEVRON MONITORING WELL
MW-8	HOLIDAY CONOCO MONITORING WELLS
W-2	WHITING BROS. MONITORING WELLS
	APPROXIMATE LOCATION OF PROPERTY LINE
	SOIL HEADSPACE CONCENTRATION CONTOUR (PPMV)
	BORING LOCATIONS WITH SOIL HEADSPACE CONCENTRATIONS (PPMV)
BGS	BELOW GRADE SURFACE
PPMV	PARTS PER MILLION PER VOLUME

A B
1
2

20' X 20' GRID

NOTE:
HEADSPACE MEASUREMENT COLLECTED USING A PHOTO-IONIZATION DETECTOR

30 15 0 30

SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

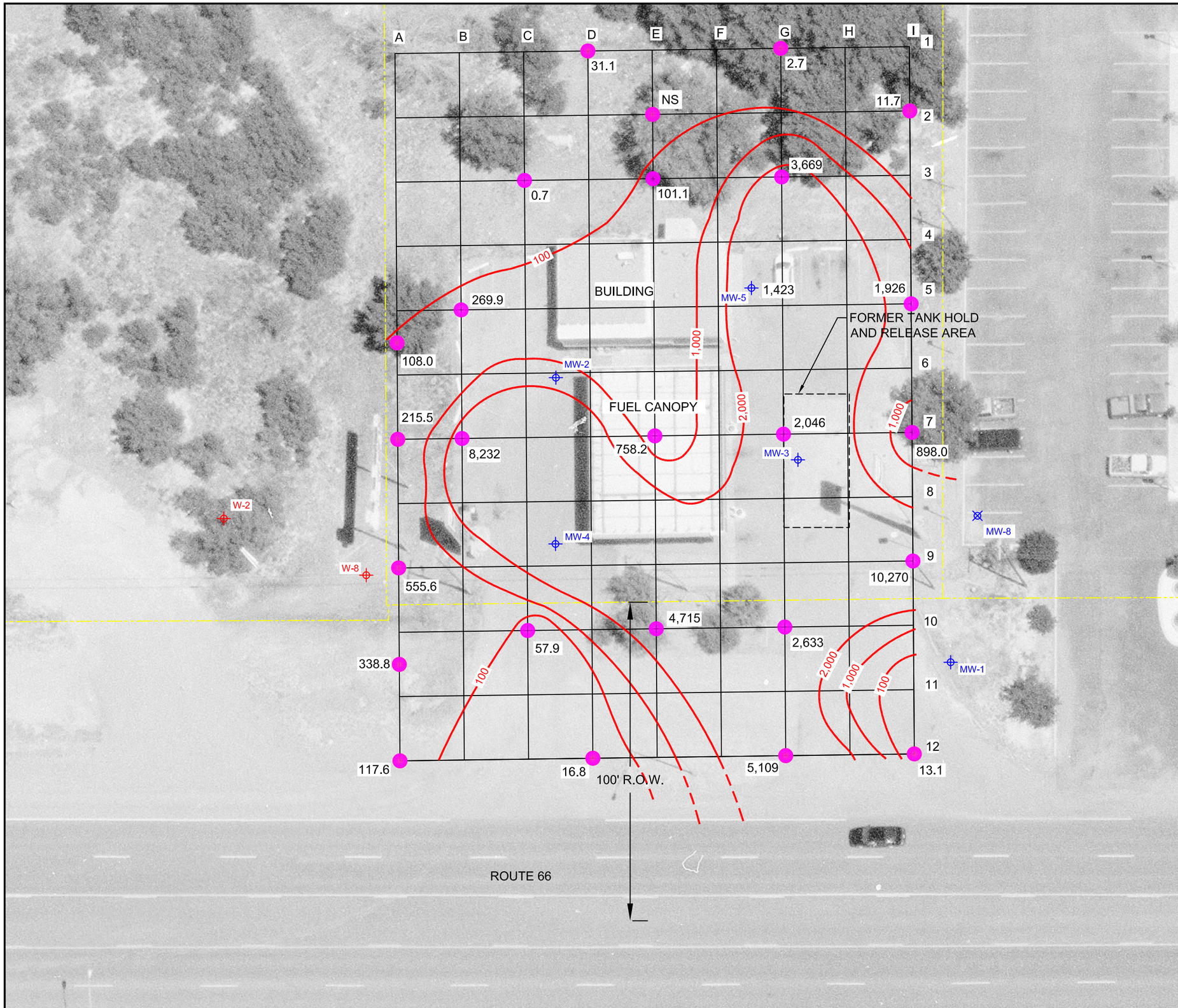
FIGURE 8
SOIL HEADSPACE
8' BGS CONCENTRATION MAP

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD



LEGEND:

MW-5	HOLIDAY CHEVRON MONITORING WELL
MW-8	HOLIDAY CONOCO MONITORING WELLS
W-2	WHITING BROS. MONITORING WELLS
	APPROXIMATE LOCATION OF PROPERTY LINE
	SOIL HEADSPACE CONCENTRATION CONTOUR (PPMV)
	BORING LOCATIONS WITH SOIL HEADSPACE CONCENTRATIONS (PPMV)
BGS	BELOW GRADE SURFACE
PPM	PARTS PER MILLION PER VOLUME
NS	NOT SAMPLED

A B
1
2

20' X 20' GRID

NOTE:
HEADSPACE MEASUREMENT COLLECTED USING A PHOTO-IONIZATION DETECTOR

30 15 0 30

SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

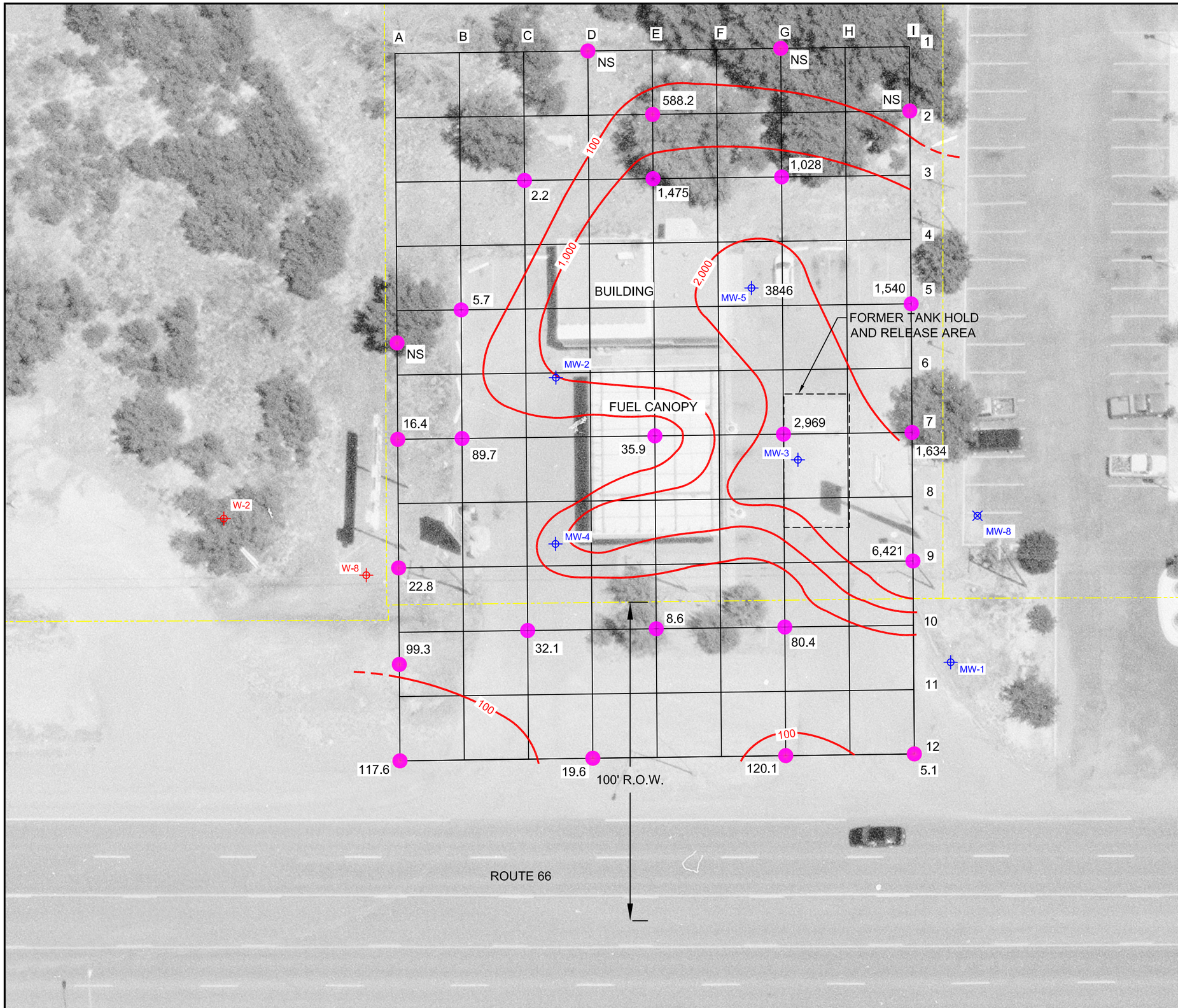
FIGURE 9
SOIL HEADSPACE
10' BGS CONCENTRATION MAP

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD



LEGEND:

MW-5	HOLIDAY CHEVRON MONITORING WELL
MW-8	HOLIDAY CONOCO MONITORING WELLS
W-2	WHITING BROS. MONITORING WELLS
	APPROXIMATE LOCATION OF PROPERTY LINE
	SOIL HEADSPACE CONCENTRATION CONTOUR (PPMV)
	BORING LOCATIONS WITH SOIL HEADSPACE CONCENTRATIONS (PPMV)
BGS	BELOW GRADE SURFACE
PPMV	PARTS PER MILLION PER VOLUME
NS	NOT SAMPLED

A B
1
2

20' X 20' GRID

NOTE:
HEADSPACE MEASUREMENT COLLECTED USING A PHOTO-IONIZATION DETECTOR

N

30 15 0 30

SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

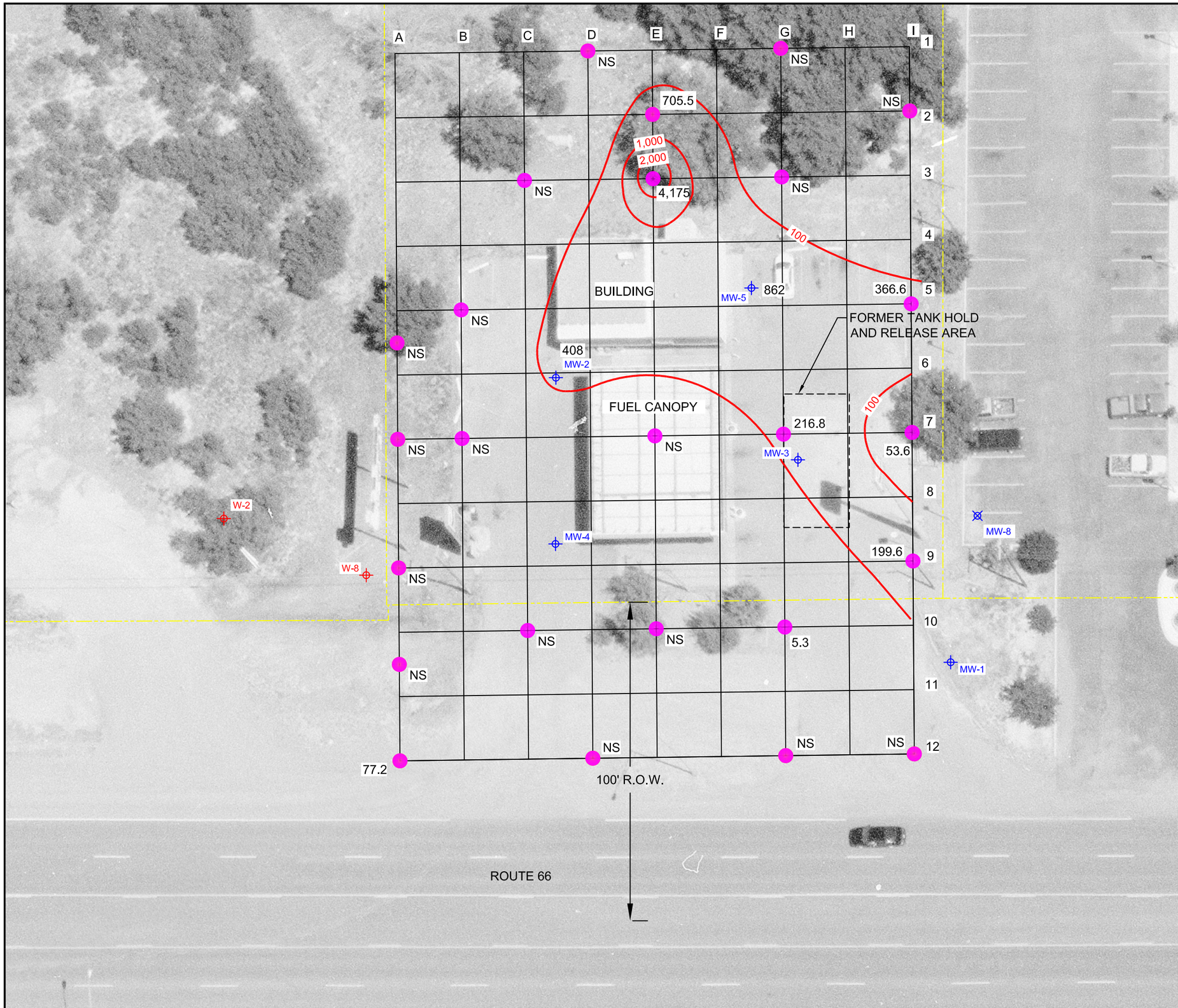
FIGURE 10
SOIL HEADSPACE
12' BGS CONCENTRATION MAP

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD



LEGEND:

MW-5	HOLIDAY CHEVRON MONITORING WELL
MW-8	HOLIDAY CONOCO MONITORING WELLS
W-2	WHITING BROS. MONITORING WELLS
	APPROXIMATE LOCATION OF PROPERTY LINE
	SOIL HEADSPACE CONCENTRATION CONTOUR (PPMV)
	BORING LOCATIONS WITH SOIL HEADSPACE CONCENTRATIONS (PPMV)
BGS	BELOW GRADE SURFACE
PPMV	PARTS PER MILLION PER VOLUME
NS	NOT SAMPLED

A B
1
2

20' X 20' GRID

NOTE:
HEADSPACE MEASUREMENT COLLECTED USING A PHOTO-IONIZATION DETECTOR

N

30 15 0 30

SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

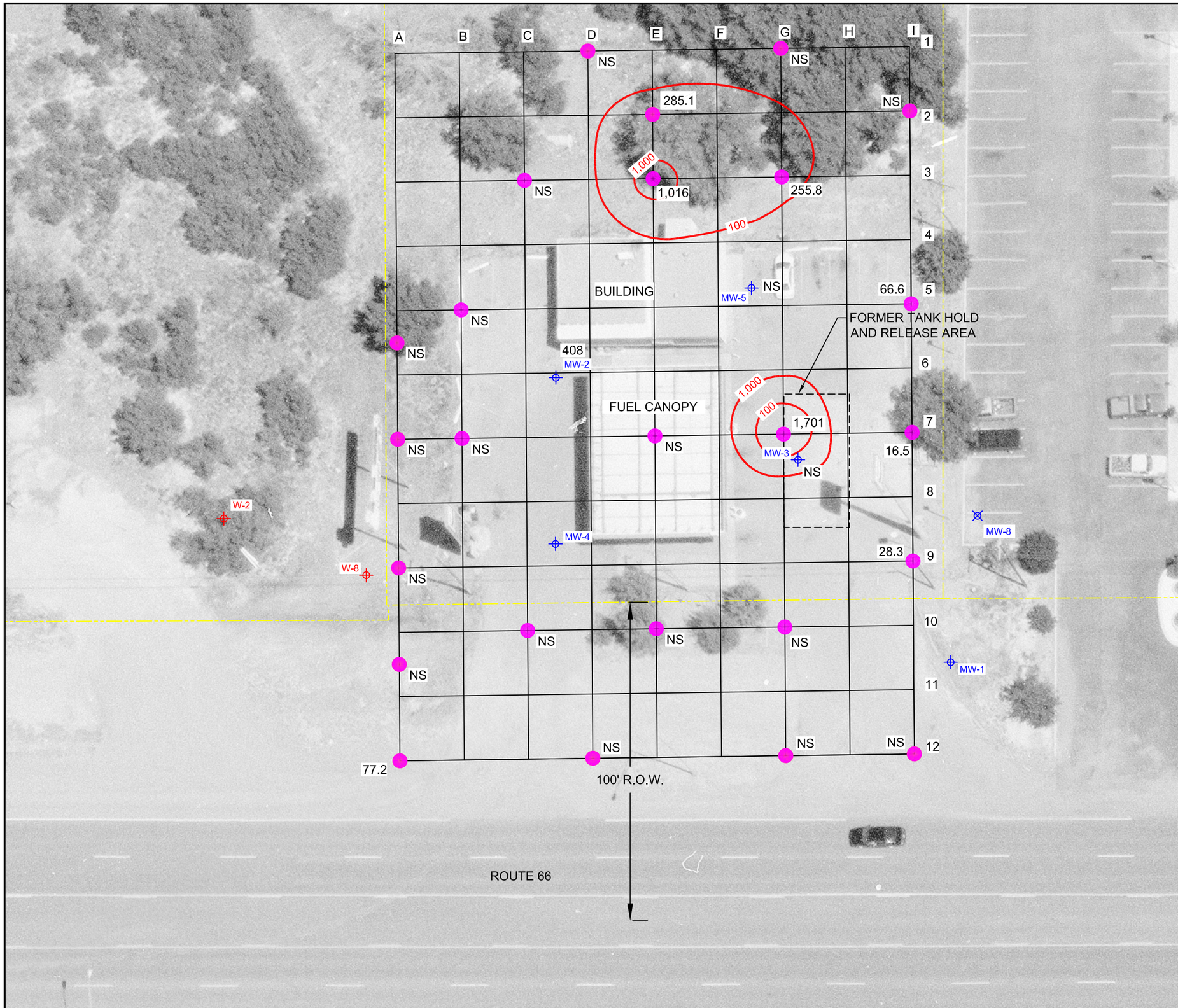
FIGURE 11
SOIL HEADSPACE
14' BGS CONCENTRATION MAP

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD



LEGEND:

MW-5	HOLIDAY CHEVRON MONITORING WELL
MW-8	HOLIDAY CONOCO MONITORING WELLS
W-2	WHITING BROS. MONITORING WELLS
	APPROXIMATE LOCATION OF PROPERTY LINE
	SOIL HEADSPACE CONCENTRATION CONTOUR (PPMV)
	BORING LOCATIONS WITH SOIL HEADSPACE CONCENTRATIONS (PPMV)
BGS	BELOW GRADE SURFACE
PPMV	PARTS PER MILLION PER VOLUME
NS	NOT SAMPLED

A B
1
2

20' X 20' GRID

NOTE:
HEADSPACE MEASUREMENT COLLECTED USING A PHOTO-IONIZATION DETECTOR

30 15 0 30

SCALE IN FEET

SOURCES:
1. GOOGLE EARTH PRO 2009. IMAGE DATE 02/26/06
2. NMDOT AERIAL PHOTOGRAPH. IMAGE DATE 05/14/04
3. BILLINGS AND ASSOCIATES, INC. 10/15/07

CONWAY OIL COMPANY
HOLIDAY CHEVRON, TUCUMCARI, NEW MEXICO

FIGURE 12
SOIL HEADSPACE
16' BGS CONCENTRATION MAP

JANUARY 2012

PROJECT #:	6231702	PROJECT PHASE:	05	PROJECT MANAGER:	TM

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016

P:\Active Projects\Conway\Holiday Chevron\Full MSA\CADD

APPENDIX A
SOIL BORING LOGS

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1335/1-20-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1400/1-20-2012
Driller: Rob Helton	Final Depth: 12'
Boring/Well ID: A-5.5	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct push Acetate Liners				0-4'	SM	0'	Sparse vegetation and topsoil	Bentonite Plug
	1.5-2.0'	3.6				1'	Silty sand with clay, red (2.5YR, 4/6) firm, low plasticity, moist, no hydrocarbon odor, gypsiferous; sand is very fine to coarse, rounded to subangular, poorly sorted, >15% fines (clay and silt)	
					CH			
	3.5-4.0'	26.3				3.5'	Fat clay, dusky red (10R, 3/4) soft, high plasticity, very moist (wet), no hydrocarbon odor	
				4-8'				
	5.5-6.0'	2,917			ML	5.5'	Sandy silt with clay, red (2.5YR, 4/6) soft, low plasticity, wet, strong hydrocarbon odor; sand is very fine to fine, rounded to subangular, well sorted, >15% fines (clay and silt)	
	7.5-8.0'	1,672						
	8.5-9.0'	1,264		8-12'	CL	9'	Silty clay, reddish brown (5YR, 5/4) firm, moderate plasticity, very moist (wet), strong hydrocarbon odor (sheen visible in water at top of borehole)	
	9.5-10.0'	108.0						
	11.0-11.5	37.0				11.5'	As above except stiff, friable/subfissile, slightly moist, mild hydrocarbon odor	
	11.5-12.0'					12'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1410/1-20-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1445/1-20-2012
Driller: Rob Helton	Final Depth: 12'
Boring/Well ID: A-10.5	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	CL	0'	Sparse vegetation and gravelly topsoil with old asphalt	Bentonite Plug
	1.5-2.0'	3.8				1'	Silty clay, reddish brown (2.5YR, 4/4) firm, moderate plasticity, moist, no hydrocarbon odor	
					SM	2.5'	Silty sand with clay, reddish brown (2.5YR, 4/4) soft, low plasticity, very moist, moderate hydrocarbon odor, sand is very fine to coarse, rounded to subangular, poorly sorted, >15% fines (clay and silt)	
	3.5-4.0'	1,478						
				4-8'	CH	5'	Fat clay, reddish brown (5YR, 5/4) soft, high plasticity, very moist, moderate hydrocarbon odor	
	5.5-6.0'	1,504						
	7.5-8.0'	1,371						
				8-12'				
	9.5-10.0'	338.8			SC/SM	9.5'	Clayey sand with silt, red (2.5YR, 4/6) soft, low plasticity, wet, very fine to fine, rounded to subangular, well sorted, >15% fines (silt and clay), mild hydrocarbon odor	
	11.5-12.0'	99.3				12'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1620/1-19-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1650/1-19-2012
Driller: Rob Helton	Final Depth: 14'
Boring/Well ID: A-12	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	CL	0'	Gravelly topsoil with old asphalt	Bentonite Plug
	1.5-2.0'	5.9				1'	Silty clay with sand, red (2.5YR, 4/6) firm, low plasticity, slightly moist, no hydrocarbon odor; sand is very fine to medium, rounded to subangular, well sorted, >15% fines (clay and silt)	
						3'	Silty clay with sand, dark reddish brown (2.5YR, 3/4) due to hydrocarbon stains, soft, moderate plasticity, moist, moderate hydrocarbon odor; sand is very fine, rounded to subangular, well sorted, >15% fines (clay and silt)	
	3.5-4.0'	1,388						
				4-8'		5'	Silty clay with sand, dark red (2.5YR, 3/6) due to hydrocarbon stains, soft, moderate plasticity, moist, strong hydrocarbon odor; sand is very fine, rounded to subangular, well sorted, >15% fines (clay and silt)	
	5.5-6.0'	5,615						
	7.5-8.0'	4,938				7.5'	Silty clay with sand, dark reddish brown (2.5YR, 3/4) due to hydrocarbon stains, firm, moderate plasticity, very moist, strong hydrocarbon odor; sand is very fine, rounded to subangular, well sorted, >15% fines (clay and silt)	
				8-12'				
	9.5-10.0'	2,034			CH	10'	Fat clay, reddish brown (2.5YR, 4/4) soft, high plasticity, very moist (wet), no hydrocarbon odor	
	11.5-12.0'	117.6			CL	12'	Silty clay, red (2.5YR, 4/4), stiff to hard, friable/subfissile, low plasticity, almost dry, slight hydrocarbon odor	
	13.5-14	77.2		13-14'		14'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 0800/1-20-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 0845/1-20-2012
Driller: Rob Helton	Final Depth: 12'
Boring/Well ID: A-7	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	CL	0'	Sparse vegetation and topsoil	Bentonite Plug
	1.5-2.0'	3.4				1'	Sandy clay with silt, red (2.5YR, 4/8) soft, moderate plasticity, moist, no hydrocarbon odor ; sand is very fine to medium, rounded to subangular, moderately sorted, >15% fines (clay and silt)	
	3.5-4.0'	3.2						
				4-8'	CH	5'	Fat clay, reddish brown (2.5YR, 4/4) firm, moderate plasticity, very moist (wet), strong hydrocarbon odor	
	5.5-6.0'	3,520						
	7.5-8.0'	745.1			CL	8'	Silty clay with sand, red (2.5YR, 4/8) stiff, moderate plasticity, moist, strong hydrocarbon odor; sand is very fine to fine, rounded to subangular, well sorted, >15% fines (clay and silt)	
				8-12'				
	9.5-10.0'	215.5				9.5'	Silty clay, reddish brown (5YR, 4/4) stiff to hard, friable/subfissile, low to moderate plasticity, slightly moist, slight hydrocarbon odor	
	11.5-12.0'	16.4				12'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1150/1-19-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1115/1-19-2012
Driller: Rob Helton	Final Depth: 12'
Boring/Well ID: "A-9" (8' SSW of A-9)	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	ML	0'	Sparse vegetation, gravelly topsoil with old asphalt	Bentonite Plug
	1.5-2.0'	16.6				1.5'	Sandy clay with silt, red (2.5YR,4/6) soft, low plasticity, moist, no HC odor	
	3.5-4.0'	10.0						
				4-8'				
	5.5-6.0'	8.9						
	7.5-8.0'	2,763			CL	7.5'	Silty clay, dark red (10R, 3/6) soft, high plasticity, very moist (wet), strong hydrocarbon odor with stains	
				8-12'				
	9.5-10.0'	555.6						
						11'	Clay, reddish brown (2.5YR, 4/4), hard, high plasticity, almost dry, strong hydrocarbon odor	
	11.5-12.0'	22.8				12'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron		Project Number:	6231702.05
Drilling Company: JR Drilling		Start Time/Date:	0800/1-19-2012
Drilling Rig/Bit: Geoprobe with acetate liner		Completion Time/Date:	0830/1-19-2012
Driller: Rob Helton		Final Depth:	12'
Boring/Well ID: B-5		Logged By:	Alan Izard

Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	Paved	0'	Asphalt and base coarse 1' bgs	Bentonite Plug
	1.5-2.0'	2.9			ML			
						2'	Clayey silt, yellowish red (5YR, 4/6), stiff, moderate plasticity, very moist, no HC odor	
	3.5-4.0'	1.1				4'	Clayey silt,dark reddish brown (5YR, 3/3), soft, high plasticity, wet, mild HC odor, HC stains (dark gray)	
				4-8'				
	5.5-6.0'	246.3						
	7.5-8.0'	124.5			CL	8'	Sandy clay w/silt, red (2.5YR, 4/6) stiff, low to moderate plasticity, very moist (wet), light HC odor	
				8-12'				
	9.5-10.0'	269.9				10'	As above, except dark reddish brown (2.5 YR, 3/4) due to HC staining, firm, wet	
						11'	Silty clay, red (2.5YR, 4/8) stiff, moderate plasticity, moist, no HC odor	
	11.5-12.0'	5.7				12'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron		Project Number:	6231702.05
Drilling Company: JR Drilling		Start Time/Date:	1700/1-18-2012
Drilling Rig/Bit: Geoprobe with acetate liner		Completion Time/Date:	1745/1-18-2012
Driller: Rob Helton		Final Depth:	12'
Boring/Well ID: B-7		Logged By:	Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	SM	0'	Asphalt and base coarse 6" bgs , silty sand w/clay, reddish brown (2.5YR,4/4), firm, low plasticity, moist, very fine grain, >15% fines (silt & clay), no HC odor	Bentonite Plug
	1.5-2.0'	4.0						
					CL	2'	Silty clay, red (2.5YR, 5/8), stiff, moderate to high plasticity, moist, mild HC odor	
	3.5-4.0'	93.7			ML	4'	Clayey silt, reddish brown (5YR, 4/3), hard, low plasticity, slightly moist, mild HC odor	
				4-8'				
	5.5-6.0'	91.5						
	7.5-8.0'	3,559			CL	8'	Sandy clay, red (2.5YR, 4/6) stiff, low to moderate plasticity, very moist (wet), strong HC odor	
				8-12'				
	9.5-10.0'	8,232				9.5'	Silty clay, red (2.5YR, 5/6), stiff, moderate to high plasticity, moist, strong HC odor	
	11.5-12.0'	89.7				12'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron		Project Number:	6231702.05
Drilling Company: JR Drilling		Start Time/Date:	0835/1-19-2012
Drilling Rig/Bit: Geoprobe with acetate liner		Completion Time/Date:	0910/1-19-2012
Driller: Rob Helton		Final Depth:	12'
Boring/Well ID: C-3		Logged By:	Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	SM	0'	Sparse vegetation, topsoil	Bentonite Plug
	1.5-2.0'	2.0				1'	Silty sand, yellowish red (5YR,5/6), friable, slightly moist, fine to very fine grain, subrounded to subangular, well-sorted, >15% fines (silt and clay), no HC odor	
	3.5-4.0'	0.8				4'	As above, minor gypsum	
				4-8'	CL	4.5'	Sandy clay w/silt, red (2.5YR, 4/6), friable, subfissile, low plasticity, slightly moist, light HC odor	
	5.5-6.0'	1.2						
	7.5-8.0'	9.6			ML	8'	Sandy silt w/clay, red (2.5YR, 4/8), friable, subfissile, low plasticity, slightly moist, no HC odor	
				8-12'				
	9.5-10.0'	0.7			CL	10'	Silty clay, red (2.5YR, 4/6) stiff, moderate plasticity, moist, no HC odor	
					CH	11'	Fat clay, red (10R,4/6), stiff, high plasticity, moist, no HC odor	
	11.5-12.0'	2.2				12'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron		Project Number:	6231702.05
Drilling Company: JR Drilling		Start Time/Date:	1525/1-18-2012
Drilling Rig/Bit: Geoprobe with acetate liner		Completion Time/Date:	1615/1-18-2012
Driller: Rob Helton		Final Depth:	12'
Boring/Well ID: C-10		Logged By:	Alan Izard

Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	ML	0'	Asphalt to 6" bgs	Bentonite Plug
	1.5-2.0'	2,689				2'	Clayey silt, red (2.5YR, 4/6), stiff, low plasticity, moist, mild HC odor	
					SM	3'	Silty sand, red (2.5YR, 5/6), loose, slightly moist, very fine grain, subrounded to subangular, well sorted, no HC odor	
	3.5-4.0'	1487.0			ML	3.5	Clayey silt, brown (7.5YR, 4/4), stiff, low plasticity, wet, mild HC odor	
				4-8'				
	5.5-6.0'	1,539			CL	5.5	Silty clay, brown (7.5YR, 4/4), soft, moderate to high plasticity, very moist, moderate HC odor	
	7.5-8.0'	1,456						
				8-12'				
	9.5-10.0'	57.9			CL/ML	9.5'	Clayey silt, red (2.5YR, 4/6), stiff, friable, subfissile, low plasticity, moist, no HC odor	
						10'	As above, with some reduced clay Gley 1, (pale green 8/2) and occasional microcrystalline gy	
	11.5-12.0'	32.1						
						12'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1050/1-20-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1150/1-20-2012
Driller: Rob Helton	Final Depth: 10'
Boring/Well ID: D-1	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	ML	0'	Sparse vegetation and topsoil	Bentonite Plug
	1.5-2.0'	17.1				1'	Sandy silt, red (2.5YR, 4/8) loose, slightly moist, very fine to fine, rounded to subangular, well sorted, >15% fines (clay and silt) no hydrocarbon odor	
	3.5-4.0'	5.0						
				4-8'				
	5.5-6.0'	5.1				5.5'	Clayey silt, red (2.5YR, 4/6) firm, moderate plasticity, slightly moist, no hydrocarbon odor	
	7.5-8.0'	5.3						
				8-10'	CH	8.5'	Fat clay, red (2.5YR, 5/6) stiff, moderate plasticity, very moist (wet), no hydrocarbon odor	
	9.5-10.0'	31.1				10'	As above, total depth drilled was only 10' because the elevation at this location is three to four feet lower than the elevation of the other boring locations around the former gas station.	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1520/1-19-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1605/1-19-2012
Driller: Rob Helton	Final Depth: 12'
Boring/Well ID: D-12	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	ML	0'	Gravelly topsoil with old asphalt	Bentonite Plug
	1.5-2.0'	129.7				1'	Silty clay, red (2.5YR, 5/6) firm, low plasticity, moist, no hydrocarbon odor, gypsiferous	
						3'	Clayey sand with silt, red (2.5YR, 5/6) firm, low plasticity, moist, very fine to coarse, rounded to subangular, poorly sorted, >15% fines (clay and silt) no hydrocarbon odor, gypsiferous	
	3.5-4.0'	136.6						
				4-8'		5'	As above, except dusky red (10R, 3/4) due to hydrocarbon staining, soft, moderate plasticity, very moist (wet), moderate hydrocarbon odor	
	5.5-6.0'	198.1						
	7.5-8.0'	88.8			CL	8'	As above, except weak red (10R, 3/4)	
				8-12'		9.5'	Silty clay, red (2.5YR, 5/6) soft, high plasticity, very moist, no hydrocarbon odor	
	9.5-10.0'	16.8				10'	Clay, reddish brown (2.5YR, 4/4), stiff to hard, friable/subfissile, low plasticity, almost dry, strong hydrocarbon odor	
	11.5-12.0'	19.6				12'	TD, as above with microcrystalline gypsum along bedding planes	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 0900/1-20-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 0950/1-20-2012
Driller: Rob Helton	Final Depth: 17'
Boring/Well ID: E-2	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	CL	0'	Sparse vegetation and topsoil	Bentonite Plug
	1.5-2.0'	50.3				1'	Silty clay w/sand, dominant color is red (2.5YR, 4/6) with some Gley 1 (greenish gray 8/1) reduced clay, stiff, low plasticity, slightly moist, no hydrocarbon odor; sand is very fine to medium, rounded to subangular, moderately sorted	
	3.5-4.0'	183.1				3.5'	Silty clay w/sand, red (2.5YR, 4/8) firm, low plasticity, slightly moist, slight hydrocarbon odor; sand is very fine, subrounded to subangular, well sorted	
				4-8'				
	5.5-6.0'	4.2						
						7'	Silty clay, reddish brown (5YR, 4/4) firm, low to moderate plasticity, moist, slight hydrocarbon odor	
	7.5-8.0'	3,007			CH	8'	Fat clay, red (2.5YR, 5/6) firm, moderate plasticity, very moist, strong hydrocarbon odor	
				8-12'				
	9.5-10.0'	NS					Unable to remove sample from core barrel (8 - 11')	
	11.5-12.0'	588.2		11-12'	ML	11'	Clayey silt, yellowish red (5YR, 5/6) stiff, friable/subfissile, low plasticity, slightly moist, slight hydrocarbon odor	
	12.5-13.0'	1,422		12-13'	CL	12'	Silty clay, reddish brown (5YR, 4/4) stiff, friable/subfissile, low to moderate plasticity, slightly moist, slight hydrocarbon odor	
	14.0-14.5'	705.5		14-18'				
	15.0-15.5'	285.1						
	16.5-17.0'	74.4				17'	TD, as above, refusal at 17' below ground surface	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron		Project Number:	6231702.05
Drilling Company: JR Drilling		Start Time/Date:	0930/1-19-2012
Drilling Rig/Bit: Geoprobe with acetate liner		Completion Time/Date:	0955/1-19-2012
Driller: Rob Helton		Final Depth:	16
Boring/Well ID: E-3		Logged By:	Alan Izard

Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	SM	0'	Sparse vegetation, topsoil	Bentonite Plug
	1.5-2.0'	8.1				1'	Silty sand, red (2.5YR, 5/8), friable, slightly moist, very fine grain, subrounded to subangular, well-sorted, >15% fines (silt and clay), no HC odor	
	3.5-4.0'	10.1				3.5'	As above, minor gypsum	
				4-8'	CL	5	Sandy clay w/silt, reddish brown (2.5YR, 4/6), friable, subfissile, low plasticity, slightly moist, no HC odor	
	5.5-6.0'	11.7						
	7.5-8.0'	22.3				7.5'	As above, microcrystalline gypsum along bedding planes, slight HC odor	
				8-12'				
	9.5-10.0'	101.1				9.5'	Silty clay w/sand, red (2.5YR, 4/6) stiff, moderate plasticity, moist, slight HC odor	
	11.5-12.0'	1,475				12'	Silty clay, red (2.5YR, 4/6) stiff, high plasticity, very moist, moderate HC odor	
				12-16'				
	13.5-14.0'	4,175						
	15.5-16.0'	1,016				16	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1315/1-19-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1400/1-19-2012
Driller: Rob Helton	Final Depth: 12'
Boring/Well ID: E-7	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	ML	0'	Concrete to 3' BGS	Bentonite Plug
	1.5-2.0'	7.7				1.0'	Sandy clay, red (2.5YR,4/6) soft, low plasticity, moist, no HC odor	
						3.0'	Clayey sand, red (2.5YR,4/6), soft, low plasticity, moist, very fine to fine, rounded to subangular, well sorted, slight HC odor	
	3.5-4.0'	158.4						
				4-8'				
	5.5-6.0'	799.8						
	7.5-8.0'	2,927			CH	7.5'	Fat clay, reddish brown (2.5YR,3/6) soft, high plasticity, very moist, strong hydrocarbon odor and stains	
				8-12'				
	9.5-10.0'	758.2						
						12	As above, TD	
	11.5-12.0'	35.9						

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron		Project Number:	6231702.05
Drilling Company: JR Drilling		Start Time/Date:	1410/1-18-2012
Drilling Rig/Bit: Geoprobe with acetate liner		Completion Time/Date:	1445/1-18-2012
Driller: Rob Helton		Final Depth:	12'
Boring/Well ID: E-10		Logged By:	Alan Izard

Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	SM	0'	Gravel	Bentonite Plug
	1.5-2.0'	119.4				1'	Silty sand, reddish brown (2.5YR, 4/3), friable, moist, vfg to 8mm, rounded to subangular, >15% fines (silt and clay), no HC odor	
					ML	3'	Clayey silt, reddish brown (2.5YR, 4/4), hard, low plasticity, slightly moist, no HC odor	
	3.5-4.0'	202.0				4'	As above, with dark gray HC stains	
				4-8'				
	5.5-6.0'	8,442				6'	Clayey silt w/sand, reddish brown (2.5YR,4/4), as above with mild HC odor	
	7.5-8.0'	3,604						
				8-12'				
	9.5-10.0'	4,715			CL	9'	Silty clay, yellowish red (5YR, 4/6), low plasticity, moist, gypsiferous, strong HC odor	
						10'	As above occasional microcrystalline gypsum	
	11.5-12.0'	8.6			ML	10.5'	Clayey silt, red (2.5YR, 4/6) and reduced clay, Gley 1 (pale green, 8/2), friable/subfissile, no HC odor	
						12'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1125/1-20-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1200/1-20-2012
Driller: Rob Helton	Final Depth: 10'
Boring/Well ID: G-1	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	CH	0'	Sparse vegetation and topsoil	Bentonite Plug
	1.5-2.0'	12.2				1'	Silty clay, red (2.5YR, 4/6) stiff to hard, moderately plastic, slightly moist, no hydrocarbon odor	
	3.5-4.0'	2.3				3.5'	Sandy clay with silt, red (2.5YR, 4/6) firm, moderately plastic, slightly moist, no hydrocarbon odor; sand is very fine to fine, rounded to subangular, well sorted, >15% fines (clay and silt)	
				4-8'				
	5.5-6.0'	5.2				5.5'	Sandy clay, red (2.5YR, 4/4) firm, moderately plastic, slightly moist, no hydrocarbon odor; sand is very fine to fine, rounded to subangular, well sorted, >15% fines (clay and silt)	
	7.5-8.0'	3.9						
				8-10'	CL	7.5'	Fat clay, reddish brown (5YR, 4/3), stiff, moderate to high plasticity, very moist (wet), no hydrocarbon odor	
	9.5-10.0'	2.7				10'	As above... total depth drilled was only 10' because the elevation at this location is three to four feet lower than the elevation of most of the other boring locations around the former gas station.	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron		Project Number:	6231702.05
Drilling Company: JR Drilling		Start Time/Date:	1000/1-19-2012
Drilling Rig/Bit: Geoprobe with acetate liner		Completion Time/Date:	1100/1-19-2012
Driller: Rob Helton		Final Depth:	18'
Boring/Well ID: G-3		Logged By:	Alan Izard

Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	SM	0'	Sparse vegetation, topsoil	Bentonite Plug
	1.5-2.0'	17.6						
						1'	Silty sand, yellowish red (5YR, 5/6), loose to friable, moist, very fine to coarse, subrounded to subangular, some gypsum nodules and decaying vegetation, poorly-sorted, >15% fines (silt and clay)	
	3.5-4.0'	8.1				3.5'	As above, except red (10R, 4/8) no gypsum or decaying vegetation	
				4-8'				
	5.5-6.0'	28.6			SC	5.5'	Clayey sand with silt, red (10R,4/8), friable, slightly moist, very fine to fine, rounded to subangular, well sorted, >15% fines (silt and clay)	
					CL	7'	Silty clay, red (2.5YR, 4/8) firm, moderate plasticity, moist, mild hydrocarbon odor	
	7.5-8.0'	771.8						
				8-12'				
	9.5-10.0'	3,669						
						11'	Silty clay, reddish brown (2.5YR, 4/4) firm, high plasticity, very moist (wet), strong hydrocarbon odor	
	11.5-12.0'	1,028						
				12-16'				
	13.5-14.0'	829.7						
						15'	Silty clay, red (10R, 4/6) hard, friable, subfissile, low plasticity, moist, mild hydrocarbon odor	
	15.5-16'	255.8						
				16-18'				
	17.5-18'	71.2				18'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1210/1-19-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1300/1-19-2012
Driller: Rob Helton	Final Depth: 15.5'
Boring/Well ID: G-7	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	SC	0'	Concrete to 4" below ground surface	Bentonite Plug
	1.5-2.0'	17.5				1'	Clayey sand with gravel, red (2.5YR,4/6) loose, non-plastic, moist, very fine to 10mm, rounded to subangular, poorly sorted, no hydrocarbon odor	
						3.5'	As above	
	3.5-4.0'	153.9						
				4-8'	CL	5'	Sandy clay, reddish brown (2.5YR, 4/3) firm to friable, moderately plastic, very moist, strong hydrocarbon odor	
	5.5-6.0'	6,902				7'	As above, except reddish brown (2.5YR, 4/4) stiff, very moist	
	7.5-8.0'	2,907						
				8-12'	CH	9'	Fat clay, reddish brown (2.5YR, 4/4) firm, very moist (wet), high plasticity, strong hydrocarbon odor	
	9.5-10.0'	2,046				11'	Fat clay, reddish brown (2.5YR, 4/4) firm, very moist (wet), high plasticity, strong hydrocarbon odor, dark gray hydrocarbon stains and white to tan mottling (gypsum)	
	11.5-12.0'	2,969			CL	12'	Silty clay, red (2.5YR, 4/6), stiff, friable and subfissile, slightly moist, moderate hydrocarbon odor	
	13.5-14.0'	216.8		12-16'	ML	14'	Clayey silt (reduced), Gley 1 (greenish gray 8/1) stiff to hard, friable and subfissile, slightly moist, weak hydrocarbon odor	
					CL	14.5'	Silty clay, red (2.5YR, 4/6), stiff to friable and subfissile, slightly moist, moderate hydrocarbon odor	
	15.5-16'	1,701				15.5'	TD, as above, refusal at 15.5'	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron		Project Number:	6231702.05
Drilling Company: JR Drilling		Start Time/Date:	1320/1-18-2012
Drilling Rig/Bit: Geoprobe with acetate liner		Completion Time/Date:	1400/1-18-2012
Driller: Rob Helton		Final Depth:	14'
Boring/Well ID: G-10		Logged By:	Alan Izard

Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	CL	0'	Asphalt, silty sand w/clay, reddish brown (2.5YR,4/4), firm, low plasticity, moist, very fine grain, >15% fines (silt & clay), no HC odor	Bentonite Plug
	1.5-2.0'	135.3						
						4'		
	3.5-4.0'	130.0					As above, with mild HC odor, traces of charcoal and gypsum	
				4-8'				
	5.5-6.0'	196.7				6'	Silty clay, red (2.5YR,5/8), stiff, moderate to high plasticity, moist, mild HC odor	
	7.5-8.0'	1,877						
				8-12'				
	9.5-10.0'	2,633				9'	As above except , red (10R, 4/6), very moist (wet), friable/subfissile	
	11.5-12.0'	80.4						
				12-16'	ML	12.5'	Clayey silt, red (10R, 4/8) and reduced clay Gley 1 (pale green, 6/2), hard, low plasticity, slightly moist, strong HC odor	
	13.5-14.0'	5.3			CH	14'	TD, all reduced clay, Gley 1 (pale green, 6/2), slightly moist	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1410/1-19-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1440/1-19-2012
Driller: Rob Helton	Final Depth: 13'
Boring/Well ID: G-12	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	ML	0'	Old asphalt	Bentonite Plug
	1.5-2.0'	77.8				1'	Sandy clay, red (2.5YR, 4/6) firm, low plasticity, moist, no hydrocarbon odor	
						2'	As above, with weak hydrocarbon odor	
	3.5-4.0'	466.3						
				4-8'				
	5.5-6.0'	459.1				6'	Clayey sand with silt and minor gravel, red (2.5YR, 4/6) loose to soft, non-plastic, moist, very fine grained to 10 mm, subrounded to subangular, gypsiferous, poorly sorted, >15% fines (clay and silt)	
	7.5-8.0'	3,991			CL	7.5'	As above, except reddish brown (2.5YR,4/4)	
				8-12'		9.5'	Fat clay, red (2.5YR, 4/6) stiff to hard, moderate to high plasticity, slightly moist, strong hydrocarbon odor	
	9.5-10.0'	5,109						
	11.5-12.0'	120.1				11'	Clay, red (2.5YR, 4/4) and Gley 1 (pale green 6/2) reduced clay, friable and subfissile, moderately plastic, almost dry, strong hydrocarbon odor	
	12.5-13.0'	94.1		12-13'		13'	TD, refusal in similar, yet harder, material as described above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1000/1-20-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1040/1-20-2012
Driller: Rob Helton	Final Depth: 11.5'
Boring/Well ID: I-2	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	CL	0'	Sparse vegetation and topsoil	Bentonite Plug
	1.5-2.0'	4.8				1'	Silty clay, yellowish red (5YR, 4/6) firm, moist, low plasticity, no hydrocarbon odor	
	3.5-4.0'	7.2			SM/SC	3.5'	Silty sand with clay, yellowish red (5YR, 4/6) soft, friable, moist, non-plastic, very fine to medium, rounded to subangular, moderately sorted, >15% fines (clay and silt) no hydrocarbon odor	
				4-8'				
	5.5-6.0'	5.2						
	7.5-8.0'	3.2			CL	7.5'	Silty clay, yellowish red (5YR, 5/6) stiff, very moist, low plasticity, no hydrocarbon odor	
				8-12'				
	9.5-10.0'	11.7						
	11.0-11.5'	22.1				11.5'	As above, except red (2.5YR, 4/8) and hard; refusal at 11.5'	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron		Project Number:	6231702.05
Drilling Company: JR Drilling		Start Time/Date:	1100/1-18-2012
Drilling Rig/Bit: Geoprobe with acetate liner		Completion Time/Date:	1145/1-18-2012
Driller: Rob Helton		Final Depth:	16'
Boring/Well ID: I-5		Logged By:	Alan Izard

Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	SC	0'	Sparse veg, gravelly clay w\silt, red (2.5YR, 4/6), firm/friable, non-plastic, moist, very fine grain to 1.5", 10% gravel to 1.5", subrnd. -subang., poorly, sorted, >15% fines (silt and clay)	Bentonite Plug
	1.5-2.0'	37						
					CL	2'	Silty clay, yellowish- red (5YR, 5/6), hard, subfissile, moderate plasticity, no HC odor	
	3.5-4.0'	324.3						
				4-8'				
	5.5-6.0'	240.7						
	7.5-8.0'	5,280			CH	7.5'	Clay, dark reddish brown (5 YR, 3/4), stiff to hard, moderate plasticity, moist, mod. HC odor	
				8-12'				
	9.5-10.0'	1,926				9.5'	Fat clay, red (10R, 4/8), firm, high plasticity, strong HC odor	
	11.5-12.0'	1,540						
				12-16'	ML	12.5'	Clayey silt, red (10R, 4/6), hard, low plasticity, slightly moist, strong HC odor	
	13.5-14.0'	366.6						
	15.5-16.0'	66.6				16'	TD, as above, except very slight HC odor	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron		Project Number:	6231702.05
Drilling Company: JR Drilling		Start Time/Date:	1000/1-18-2012
Drilling Rig/Bit: Geoprobe with acetate liner		Completion Time/Date:	1045/1-18-2012
Driller: Rob Helton		Final Depth:	16'
Boring/Well ID: I-7		Logged By:	Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	SC	0'	Sparse veg, silty sand w/gravel, yellowish red (2.5YR, 5/6), loose to friable, non-plastic, moist, very fine grain to coarse, 5% gravel to 10 mm, subrnd. -subang., poorly, sorted, >15% fines (silt)	Bentonite Plug
	1.5-2.0'	1.7						
	3.5-4.0'	0.8						
				4-8'	CL	5'	Sandy clay, yellowish- red (2.5YR, 5/6), soft/friable, low plast., moist, no HC odor	
	5.5-6.0'	2.3				6'	Charcoal anomaly 6.0' -6.5'	
	7.5-8.0'	37.2			CH	7'	Clay, reddish brown (2.5 YR, 4/4), stiff to hard, moderate plasticity, moist, no HC odor	
				8-12'				
	9.5-10.0'	898						
	11.5-12.0'	1,634			CL	11'	Silty clay w/sand, reddish brown (2.5YR, 4/4) with reduced zone Gley 1 (pale green 7/2), friable, non-plastic, moist, no HC odor	
				12-16'		12'	Clay and charcoal, weak red (2.5YR,5/6) and black, hard, moderate to high plasticity, moist, moderate HC odor	
	13.5-14.0'	55.6			CL(SH)	14.7'	silty clay, red (2.5YR, 5/6), friable to hard, subfissile, moderate plasticity, slightly moist, no HC odor	
	15.5-16.0'	16.5				16'	TD	

---------- = gradual or obscure contact ———— = distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron		Project Number:	6231702.05
Drilling Company: JR Drilling		Start Time/Date:	0820/1-18-2012
Drilling Rig/Bit: Geoprobe with acetate liner		Completion Time/Date:	0915/1-18-2012
Driller: Rob Helton		Final Depth:	16'
Boring/Well ID: I-9		Logged By:	Alan Izard

Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	SC	0'	Sparse veg, silty sand w/clay, yellowish red (5YR, 4/6), firm, non-plastic, subfissile, slighly moist, gypsum flakes, no HC odor	Bentonite Plug
	1.5-2.0'	16.6						
	3.5-4.0'	43.2						
				4-8'				
	5.5-6.0'	41.3						
	7.5-8.0'	2,333			CH	7'	Fat clay, weak red (10R, 4/6), highly plastic, wet at 8.5', moderate HC odor	
				8-12'				
	9.5-10.0'	10,270						
	11.5-12.0'	6,421			CL	11.5'	Sandy clay w/silt, red (10R, 4/6), soft, moderate plasticity, wet, strong HC odor	
				12-16'				
	13.5-14.0'	199.6			CL(SH)	13'	Sandy clay w/silt, yellowish red (5YR, 4/6), hard, subfissile, friable, microcrystalline gypsum along bedding planes here and there, strong HC odor	
	15.5-16.0'	28.3				16'	TD	

= gradual or obscure contact

= distinct or sharp contact

EA Engineering, Science, and Technology, Inc.

BORING/WELL CONSTRUCTION LOG

Project: Holiday Chevron	Project Number: 6231702.05
Drilling Company: JR Drilling	Start Time/Date: 1240/1-20-2012
Drilling Rig/Bit: Geoprobe with acetate liner	Completion Time/Date: 1320/1-20-2012
Driller: Rob Helton	Final Depth: 12'
Boring/Well ID: I-12	Logged By: Alan Izard Page __1__ of _ 1

Sample Type	PID Reading Interval	PID Reading (ppm)	Recovery	Sample Interval	USCS Soil Type	Depth, ft bgs	Soil Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, sorting, other)	Boring and/or Well Details
Direct Push Acetate Liners				0-4'	CL	0'	Sparse vegetation and topsoil	Bentonite Plug
	1.5-2.0'	97.1				1'	Silty clay, dark reddish brown (5YR, 3/4) firm, moderate plasticity, moist, mild hydrocarbon odor, gypsiferous	
	3.5-4.0'	46.0				3'	Silty clay, reddish brown (5YR, 4/4) firm, friable/subfissile, moderate plasticity, moist, slight hydrocarbon odor	
				4-8'				
	5.5-6.0'	47.4						
	7.5-8.0'	34.9			SM	7.5'	Silty sand with clay, red (2.5YR, 4/6) stiff, low plasticity, very moist, strong hydrocarbon odor; sand is very fine to fine, rounded to subangular, well sorted, >15% fines (clay and silt)	
				8-12'				
	9.5-10.0'	13.1			CH	9'	Fat clay, red (2.5YR, 4/6) soft, moderate to high plasticity, very moist (wet), no hydrocarbon odor	
						11.5'	Clay, reddish brown (5YR, 4/4) stiff, friable/subfissile, moderate plasticity, microcrystalline gypsum along bedding planes	
	11.5-12.0'	5.1				12'	TD, as above	

---------- = gradual or obscure contact ———— = distinct or sharp contact

APPENDIX B
PHOTOGRAPHIC DOCUMENTATION

HOLIDAY CHEVRON PST SITE
PHOTOGRAPHIC DOCUMENTATION
JANUARY 18-21, 2012

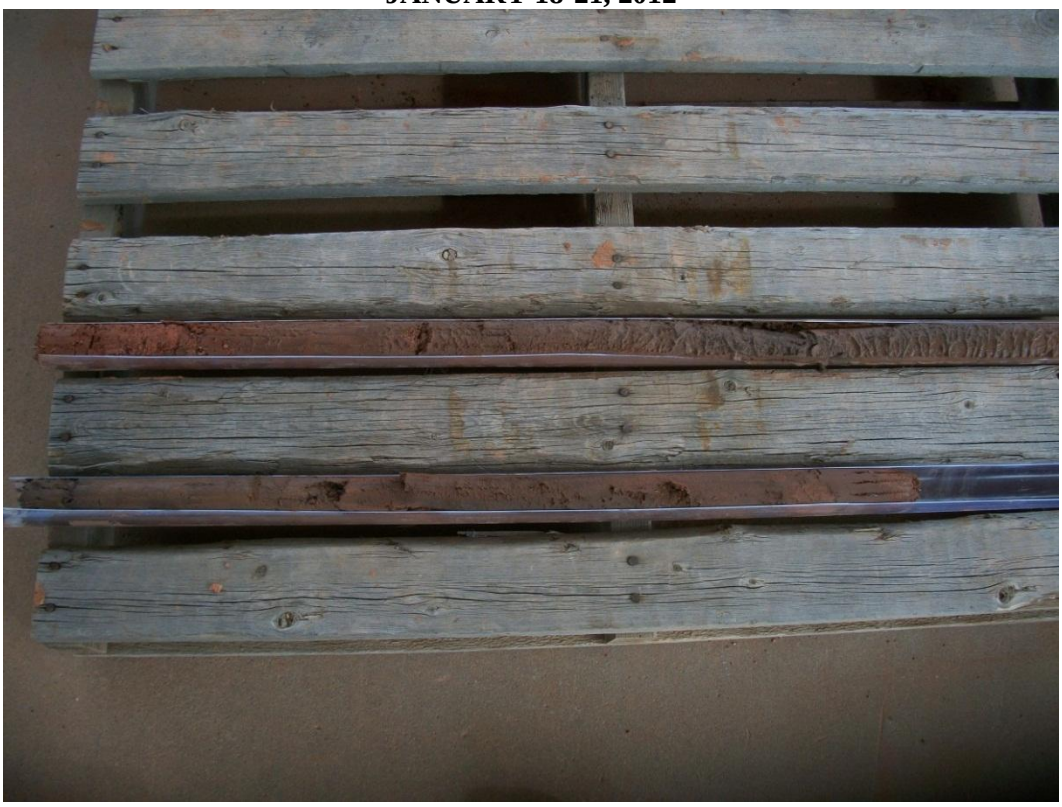
1) Charcoal in 4-8' core sample from boring I-7

2) Red and gray clayey silt and silty clay in 8-12' core sample from boring E-10

HOLIDAY CHEVRON PST SITE
PHOTOGRAPHIC DOCUMENTATION
JANUARY 18-21, 2012

3) Third attempt (successful) to bore B-9; facing west. Refusal at shallow depth on first 2 attempts (plugged with bentonite) shown by arrows

4) Boring A-5.5; facing west



5) Cores samples from A-5.5:
   Bottom Core: 8.0’ to 4.0’ (left to right); Top Core: 10.0’ to 8.0’ (left to right)

6) Positive results from oil screen vial sample taken from B-7

APPENDIX C
SURVEY DATA

Project Information		Coordinate System	
Name:	DEC-EA-Tucumcari-Jan10-12.vce	Name:	Default
Size:	267 KB	Datum:	WGS 1984
Modified:	1/10/2012)	Zone:	Default
Time zone:	Mountain Standard Time	Geoid:	NMAZ03.ggf
Reference number:		Vertical datum:	NAVD88
Description:			

Point List

ID	Northing (US survey foot)	Easting (US survey foot)	Elevation (US survey foot)	Feature Code
201	1518616.935	736235.363	4031.878	APPROX PROP COR
202	1518823.303	736232.621	4030.631	RBR5 FND LS3789
203	1518827.307	736398.788	4035.632	APPROX PROP COR T-POST
204	1518618.022	736401.302	4036.888	APPROX PRP COR
300	1518744.564	736235.513	4031.580	NAIL SET A-3
301	1518745.026	736275.606	4034.566	NAIL SET C-3
302	1518745.393	736315.462	4035.241	NAIL SET E-3
303	1518745.878	736355.491	4035.506	NAIL SET G-3
304	1518746.318	736395.472	4034.797	NAIL SET I-3
305	1518704.618	736236.564	4032.065	NAIL SET A-5
306	1518705.068	736275.899	4036.574	PK NAIL SET C-5
308	1518705.864	736355.882	4037.053	PK NAIL SET G-5
309	1518706.247	736395.935	4036.456	NAIL SET I-5
310	1518664.673	736236.298	4032.459	NAIL SET A-7
311	1518665.049	736276.287	4035.880	PK NAIL SET C-7
313	1518665.951	736356.359	4037.068	PK NAIL SET G-7
314	1518666.347	736396.292	4037.016	NAIL SET I-7
315	1518624.642	736236.682	4031.841	NAIL SET A-9
316	1518625.056	736276.718	4034.701	PK NAIL SET C-9
317	1518625.488	736316.658	4035.631	X ON CONC E-9
318	1518625.868	736356.722	4036.640	PK NAIL SET
319	1518626.244	736396.651	4037.595	NAI SET I-9
320	1518584.624	736237.149	4032.942	NAIL SET A-11
321	1518585.127	736277.121	4033.665	PK NAIL SET C-11
322	1518585.563	736317.095	4034.042	NAIL SET E-11
323	1518585.903	736357.130	4035.879	PK NAIL SET G-11
324	1518586.340	736397.146	4036.169	PK NAIL SET I-11
5000	1518677.747	736247.743	4035.661	PK NAIL

Field data for this project was obtained using Trimble R8 dual frequency GPS receivers in RTK and Static mode. Horizontal and vertical control calibration was generated from National Geodetic Survey's Online Positioning User Service (OPUS) with an observation at the base control point-Point 5000 preformed May 5, 2010.

Coordinates are NAD83, New Mexico State Plane East Zone, in US survey feet. All coordinates are on the State Plane "Grid". All elevations are NAVD88.

All work was completed by James a. Botsford, NMPS No. 5211 on January 10, 2012.

JAMES A. BOTSFORD
NEW MEXICO
5211
REGISTERED LAND SURVEYOR

APPENDIX D
ANALYTICAL LABORATORY RESULTS

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 07, 2012

Teri McMillan

EA Engineering
320 Gold Ave SW Suite 1210
Albuquerque, NM 87102
TEL: (505) 259-6779
FAX

RE: Holiday Chevron OrderNo.: 1201630

Dear Teri McMillan:

Hall Environmental Analysis Laboratory received 12 sample(s) on 1/23/2012 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results designated with a "J" qualifier are estimated and represent a detection above the Method Detection Limit (MDL) and less than the Reporting Limit (PQL). These analytes are not reviewed nor narrated as to whether they are laboratory artifacts.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: **1201630**
Date: **2/7/2012**

CLIENT: EA Engineering
Project: Holiday Chevron

1201630
FLASHPOINT has been Sub Contracted.
1201630
FLASHPOINT has been Sub Contracted.
Analytical Comments for METHOD METALS_SOIL, SAMPLE 1201630-012A, Batch ID 450: Matrix effect confirmed. % recoveries failed in MS/MSD/PS and Dilution Test.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Project: Holiday Chevron
Lab ID: 1201630-001
Matrix: MEOH (SOIL)
Client Sample ID: I-9 (9.5'-10.0')
Collection Date: 1/18/2012 9:00:00 AM
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	17	9.7		mg/Kg	1	1/24/2012 10:43:22 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/24/2012 10:43:22 AM
Surr: DNOP	95.1	77.4-131		%REC	1	1/24/2012 10:43:22 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	260	25		mg/Kg	5	1/24/2012 7:47:45 PM
Surr: BFB	122	69.7-121	S	%REC	5	1/24/2012 7:47:45 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	1/27/2012 9:33:39 PM
Benzene	ND	0.50		mg/Kg	10	1/27/2012 9:33:39 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	1/27/2012 9:33:39 PM
Toluene	5.6	0.50		mg/Kg	10	1/27/2012 9:33:39 PM
Ethylbenzene	4.4	0.50		mg/Kg	10	1/27/2012 9:33:39 PM
Xylenes, Total	23	1.0		mg/Kg	10	1/27/2012 9:33:39 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	1/27/2012 9:33:39 PM
1,2,4-Trimethylbenzene	14	0.50		mg/Kg	10	1/27/2012 9:33:39 PM
1,3,5-Trimethylbenzene	4.5	0.50		mg/Kg	10	1/27/2012 9:33:39 PM
Naphthalene	1.3	1.0		mg/Kg	10	1/27/2012 9:33:39 PM
2-Methylnaphthalene	ND	2.0		mg/Kg	10	1/27/2012 9:33:39 PM
1-Methylnaphthalene	ND	2.0		mg/Kg	10	1/27/2012 9:33:39 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	10	1/27/2012 9:33:39 PM
Surr: 4-Bromofluorobenzene	93.4	70-130		%REC	10	1/27/2012 9:33:39 PM
Surr: Dibromofluoromethane	110	71.7-132		%REC	10	1/27/2012 9:33:39 PM
Surr: Toluene-d8	91.3	70-130		%REC	10	1/27/2012 9:33:39 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Project: Holiday Chevron
Lab ID: 1201630-002
Matrix: MEOH (SOIL)
Client Sample ID: I-9 (15.5'-16.0')
Collection Date: 1/18/2012 9:15:00 AM
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/24/2012 12:25:44 PM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	1/24/2012 12:25:44 PM
Surr: DNOP	128	77.4-131		%REC	1	1/24/2012 12:25:44 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/24/2012 9:48:57 PM
Surr: BFB	109	69.7-121		%REC	1	1/24/2012 9:48:57 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	1/28/2012 1:45:50 AM
Benzene	ND	0.050		mg/Kg	1	1/28/2012 1:45:50 AM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	1/28/2012 1:45:50 AM
Toluene	ND	0.050		mg/Kg	1	1/28/2012 1:45:50 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 1:45:50 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/28/2012 1:45:50 AM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	1/28/2012 1:45:50 AM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 1:45:50 AM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 1:45:50 AM
Naphthalene	ND	0.10		mg/Kg	1	1/28/2012 1:45:50 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	1/28/2012 1:45:50 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	1/28/2012 1:45:50 AM
Surr: 1,2-Dichloroethane-d4	92.1	70-130		%REC	1	1/28/2012 1:45:50 AM
Surr: 4-Bromofluorobenzene	89.4	70-130		%REC	1	1/28/2012 1:45:50 AM
Surr: Dibromofluoromethane	105	71.7-132		%REC	1	1/28/2012 1:45:50 AM
Surr: Toluene-d8	94.9	70-130		%REC	1	1/28/2012 1:45:50 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Project: Holiday Chevron
Lab ID: 1201630-003
Matrix: MEOH (SOIL)
Client Sample ID: A-12 (5.5'-6.0')
Collection Date: 1/19/2012 4:40:00 PM
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	29	9.7		mg/Kg	1	1/25/2012 7:24:23 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/25/2012 7:24:23 AM
Surr: DNOP	121	77.4-131		%REC	1	1/25/2012 7:24:23 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	320	25		mg/Kg	5	1/25/2012 12:19:44 AM
Surr: BFB	147	69.7-121	S	%REC	5	1/25/2012 12:19:44 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	20	1/28/2012 2:13:53 AM
Benzene	ND	1.0		mg/Kg	20	1/28/2012 2:13:53 AM
1,2-Dichloroethane (EDC)	ND	1.0		mg/Kg	20	1/28/2012 2:13:53 AM
Toluene	3.9	1.0		mg/Kg	20	1/28/2012 2:13:53 AM
Ethylbenzene	5.2	1.0		mg/Kg	20	1/28/2012 2:13:53 AM
Xylenes, Total	23	2.0		mg/Kg	20	1/28/2012 2:13:53 AM
1,2-Dibromoethane (EDB)	ND	1.0		mg/Kg	20	1/28/2012 2:13:53 AM
1,2,4-Trimethylbenzene	16	1.0		mg/Kg	20	1/28/2012 2:13:53 AM
1,3,5-Trimethylbenzene	5.0	1.0		mg/Kg	20	1/28/2012 2:13:53 AM
Naphthalene	2.0	2.0		mg/Kg	20	1/28/2012 2:13:53 AM
2-Methylnaphthalene	ND	4.0		mg/Kg	20	1/28/2012 2:13:53 AM
1-Methylnaphthalene	ND	4.0		mg/Kg	20	1/28/2012 2:13:53 AM
Surr: 1,2-Dichloroethane-d4	100	70-130		%REC	20	1/28/2012 2:13:53 AM
Surr: 4-Bromofluorobenzene	91.0	70-130		%REC	20	1/28/2012 2:13:53 AM
Surr: Dibromofluoromethane	106	71.7-132		%REC	20	1/28/2012 2:13:53 AM
Surr: Toluene-d8	91.3	70-130		%REC	20	1/28/2012 2:13:53 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Project: Holiday Chevron
Lab ID: 1201630-004
Matrix: MEOH (SOIL)
Client Sample ID: A-12 (13.5'-14.0')
Collection Date: 1/19/2012 4:50:00 PM
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/24/2012 1:34:24 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/24/2012 1:34:24 PM
Surr: DNOP	127	77.4-131		%REC	1	1/24/2012 1:34:24 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/25/2012 1:20:07 AM
Surr: BFB	112	69.7-121		%REC	1	1/25/2012 1:20:07 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	0.091	0.050		mg/Kg	1	1/28/2012 2:41:47 AM
Benzene	ND	0.050		mg/Kg	1	1/28/2012 2:41:47 AM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	1/28/2012 2:41:47 AM
Toluene	ND	0.050		mg/Kg	1	1/28/2012 2:41:47 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 2:41:47 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/28/2012 2:41:47 AM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	1/28/2012 2:41:47 AM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 2:41:47 AM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 2:41:47 AM
Naphthalene	ND	0.10		mg/Kg	1	1/28/2012 2:41:47 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	1/28/2012 2:41:47 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	1/28/2012 2:41:47 AM
Surr: 1,2-Dichloroethane-d4	91.2	70-130		%REC	1	1/28/2012 2:41:47 AM
Surr: 4-Bromofluorobenzene	90.3	70-130		%REC	1	1/28/2012 2:41:47 AM
Surr: Dibromofluoromethane	101	71.7-132		%REC	1	1/28/2012 2:41:47 AM
Surr: Toluene-d8	91.1	70-130		%REC	1	1/28/2012 2:41:47 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Project: Holiday Chevron
Lab ID: 1201630-005 **Matrix:** MEOH (SOIL)

Client Sample ID: E-10 (5.5'-6.0')
Collection Date: 1/18/2012 2:20:00 PM
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	310	10		mg/Kg	1	1/24/2012 2:08:44 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/24/2012 2:08:44 PM
Surr: DNOP	118	77.4-131		%REC	1	1/24/2012 2:08:44 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	260	25		mg/Kg	5	1/25/2012 1:50:23 AM
Surr: BFB	109	69.7-121		%REC	5	1/25/2012 1:50:23 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	20	1/28/2012 3:09:47 AM
Benzene	1.1	1.0		mg/Kg	20	1/28/2012 3:09:47 AM
1,2-Dichloroethane (EDC)	ND	1.0		mg/Kg	20	1/28/2012 3:09:47 AM
Toluene	22	1.0		mg/Kg	20	1/28/2012 3:09:47 AM
Ethylbenzene	22	1.0		mg/Kg	20	1/28/2012 3:09:47 AM
Xylenes, Total	140	2.0		mg/Kg	20	1/28/2012 3:09:47 AM
1,2-Dibromoethane (EDB)	ND	1.0		mg/Kg	20	1/28/2012 3:09:47 AM
1,2,4-Trimethylbenzene	240	2.5		mg/Kg	50	1/28/2012 2:52:02 PM
1,3,5-Trimethylbenzene	36	1.0		mg/Kg	20	1/28/2012 3:09:47 AM
Naphthalene	19	2.0		mg/Kg	20	1/28/2012 3:09:47 AM
2-Methylnaphthalene	19	4.0		mg/Kg	20	1/28/2012 3:09:47 AM
1-Methylnaphthalene	8.0	4.0		mg/Kg	20	1/28/2012 3:09:47 AM
Surr: 1,2-Dichloroethane-d4	109	70-130		%REC	20	1/28/2012 3:09:47 AM
Surr: 4-Bromofluorobenzene	81.8	70-130		%REC	20	1/28/2012 3:09:47 AM
Surr: Dibromofluoromethane	113	71.7-132		%REC	20	1/28/2012 3:09:47 AM
Surr: Toluene-d8	89.2	70-130		%REC	20	1/28/2012 3:09:47 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Project: Holiday Chevron
Lab ID: 1201630-006
Matrix: MEOH (SOIL)
Client Sample ID: E-10 (11.5'-12.0')
Collection Date: 1/18/2012 2:45:00 PM
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/24/2012 2:42:50 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/24/2012 2:42:50 PM
Surr: DNOP	115	77.4-131		%REC	1	1/24/2012 2:42:50 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/25/2012 2:50:39 AM
Surr: BFB	96.3	69.7-121		%REC	1	1/25/2012 2:50:39 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	1/28/2012 3:37:45 AM
Benzene	ND	0.050		mg/Kg	1	1/28/2012 3:37:45 AM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	1/28/2012 3:37:45 AM
Toluene	ND	0.050		mg/Kg	1	1/28/2012 3:37:45 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 3:37:45 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/28/2012 3:37:45 AM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	1/28/2012 3:37:45 AM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 3:37:45 AM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 3:37:45 AM
Naphthalene	ND	0.10		mg/Kg	1	1/28/2012 3:37:45 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	1/28/2012 3:37:45 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	1/28/2012 3:37:45 AM
Surr: 1,2-Dichloroethane-d4	92.5	70-130		%REC	1	1/28/2012 3:37:45 AM
Surr: 4-Bromofluorobenzene	87.2	70-130		%REC	1	1/28/2012 3:37:45 AM
Surr: Dibromofluoromethane	104	71.7-132		%REC	1	1/28/2012 3:37:45 AM
Surr: Toluene-d8	92.9	70-130		%REC	1	1/28/2012 3:37:45 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Project: Holiday Chevron
Lab ID: 1201630-007
Matrix: MEOH (SOIL)
Client Sample ID: G-7 (5.5'-6.0')
Collection Date: 1/19/2012 12:15:00 PM
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	100	9.7		mg/Kg	1	1/24/2012 3:16:59 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/24/2012 3:16:59 PM
Surr: DNOP	115	77.4-131		%REC	1	1/24/2012 3:16:59 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	110	50		mg/Kg	10	1/25/2012 3:20:57 AM
Surr: BFB	114	69.7-121		%REC	10	1/25/2012 3:20:57 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	1/28/2012 4:05:41 AM
Benzene	ND	0.50		mg/Kg	10	1/28/2012 4:05:41 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	1/28/2012 4:05:41 AM
Toluene	ND	0.50		mg/Kg	10	1/28/2012 4:05:41 AM
Ethylbenzene	1.3	0.50		mg/Kg	10	1/28/2012 4:05:41 AM
Xylenes, Total	7.1	1.0		mg/Kg	10	1/28/2012 4:05:41 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	1/28/2012 4:05:41 AM
1,2,4-Trimethylbenzene	9.9	0.50		mg/Kg	10	1/28/2012 4:05:41 AM
1,3,5-Trimethylbenzene	2.9	0.50		mg/Kg	10	1/28/2012 4:05:41 AM
Naphthalene	1.6	1.0		mg/Kg	10	1/28/2012 4:05:41 AM
2-Methylnaphthalene	3.0	2.0		mg/Kg	10	1/28/2012 4:05:41 AM
1-Methylnaphthalene	ND	2.0		mg/Kg	10	1/28/2012 4:05:41 AM
Surr: 1,2-Dichloroethane-d4	98.9	70-130		%REC	10	1/28/2012 4:05:41 AM
Surr: 4-Bromofluorobenzene	93.5	70-130		%REC	10	1/28/2012 4:05:41 AM
Surr: Dibromofluoromethane	106	71.7-132		%REC	10	1/28/2012 4:05:41 AM
Surr: Toluene-d8	94.0	70-130		%REC	10	1/28/2012 4:05:41 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Project: Holiday Chevron
Lab ID: 1201630-008
Matrix: MEOH (SOIL)
Client Sample ID: G-7 (15.0'-15.5')
Collection Date: 1/19/2012 12:40:00 PM
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/24/2012 3:51:06 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/24/2012 3:51:06 PM
Surr: DNOP	111	77.4-131		%REC	1	1/24/2012 3:51:06 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	28	5.0		mg/Kg	1	1/25/2012 9:18:00 PM
Surr: BFB	122	69.7-121	S	%REC	1	1/25/2012 9:18:00 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	2	1/28/2012 4:33:41 AM
Benzene	ND	0.10		mg/Kg	2	1/28/2012 4:33:41 AM
1,2-Dichloroethane (EDC)	ND	0.10		mg/Kg	2	1/28/2012 4:33:41 AM
Toluene	ND	0.10		mg/Kg	2	1/28/2012 4:33:41 AM
Ethylbenzene	ND	0.10		mg/Kg	2	1/28/2012 4:33:41 AM
Xylenes, Total	ND	0.20		mg/Kg	2	1/28/2012 4:33:41 AM
1,2-Dibromoethane (EDB)	ND	0.10		mg/Kg	2	1/28/2012 4:33:41 AM
1,2,4-Trimethylbenzene	0.42	0.10		mg/Kg	2	1/28/2012 4:33:41 AM
1,3,5-Trimethylbenzene	0.13	0.10		mg/Kg	2	1/28/2012 4:33:41 AM
Naphthalene	ND	0.20		mg/Kg	2	1/28/2012 4:33:41 AM
2-Methylnaphthalene	ND	0.40		mg/Kg	2	1/28/2012 4:33:41 AM
1-Methylnaphthalene	ND	0.40		mg/Kg	2	1/28/2012 4:33:41 AM
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%REC	2	1/28/2012 4:33:41 AM
Surr: 4-Bromofluorobenzene	89.5	70-130		%REC	2	1/28/2012 4:33:41 AM
Surr: Dibromofluoromethane	106	71.7-132		%REC	2	1/28/2012 4:33:41 AM
Surr: Toluene-d8	91.4	70-130		%REC	2	1/28/2012 4:33:41 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Project: Holiday Chevron
Lab ID: 1201630-009
Matrix: MEOH (SOIL)
Client Sample ID: B-7 (9.5'-10.0')
Collection Date: 1/18/2012 5:25:00 PM
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	230	9.8		mg/Kg	1	1/24/2012 4:24:58 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/24/2012 4:24:58 PM
Surr: DNOP	115	77.4-131		%REC	1	1/24/2012 4:24:58 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	3,400	250		mg/Kg	50	1/25/2012 4:21:13 AM
Surr: BFB	112	69.7-121		%REC	50	1/25/2012 4:21:13 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	10		mg/Kg	200	1/28/2012 5:01:39 AM
Benzene	31	10		mg/Kg	200	1/28/2012 5:01:39 AM
1,2-Dichloroethane (EDC)	ND	10		mg/Kg	200	1/28/2012 5:01:39 AM
Toluene	270	10		mg/Kg	200	1/28/2012 5:01:39 AM
Ethylbenzene	82	10		mg/Kg	200	1/28/2012 5:01:39 AM
Xylenes, Total	420	20		mg/Kg	200	1/28/2012 5:01:39 AM
1,2-Dibromoethane (EDB)	ND	10		mg/Kg	200	1/28/2012 5:01:39 AM
1,2,4-Trimethylbenzene	160	10		mg/Kg	200	1/28/2012 5:01:39 AM
1,3,5-Trimethylbenzene	45	10		mg/Kg	200	1/28/2012 5:01:39 AM
Naphthalene	ND	20		mg/Kg	200	1/28/2012 5:01:39 AM
2-Methylnaphthalene	ND	40		mg/Kg	200	1/28/2012 5:01:39 AM
1-Methylnaphthalene	ND	40		mg/Kg	200	1/28/2012 5:01:39 AM
Surr: 1,2-Dichloroethane-d4	98.0	70-130		%REC	200	1/28/2012 5:01:39 AM
Surr: 4-Bromofluorobenzene	91.9	70-130		%REC	200	1/28/2012 5:01:39 AM
Surr: Dibromofluoromethane	104	71.7-132		%REC	200	1/28/2012 5:01:39 AM
Surr: Toluene-d8	93.6	70-130		%REC	200	1/28/2012 5:01:39 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Project: Holiday Chevron
Lab ID: 1201630-010
Matrix: MEOH (SOIL)
Client Sample ID: B-7 (11.5'-12.0')
Collection Date: 1/18/2012 5:30:00 PM
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/24/2012 4:59:05 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/24/2012 4:59:05 PM
Surr: DNOP	113	77.4-131		%REC	1	1/24/2012 4:59:05 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/25/2012 5:21:34 AM
Surr: BFB	95.1	69.7-121		%REC	1	1/25/2012 5:21:34 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	1/28/2012 5:29:34 AM
Benzene	ND	0.050		mg/Kg	1	1/28/2012 5:29:34 AM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	1/28/2012 5:29:34 AM
Toluene	0.073	0.050		mg/Kg	1	1/28/2012 5:29:34 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 5:29:34 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/28/2012 5:29:34 AM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	1/28/2012 5:29:34 AM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 5:29:34 AM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 5:29:34 AM
Naphthalene	ND	0.10		mg/Kg	1	1/28/2012 5:29:34 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	1/28/2012 5:29:34 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	1/28/2012 5:29:34 AM
Surr: 1,2-Dichloroethane-d4	89.4	70-130		%REC	1	1/28/2012 5:29:34 AM
Surr: 4-Bromofluorobenzene	93.4	70-130		%REC	1	1/28/2012 5:29:34 AM
Surr: Dibromofluoromethane	104	71.7-132		%REC	1	1/28/2012 5:29:34 AM
Surr: Toluene-d8	95.2	70-130		%REC	1	1/28/2012 5:29:34 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Client Sample ID: Methanol Blank
Project: Holiday Chevron
Collection Date:
Lab ID: 1201630-011
Matrix: MEOH (SOIL)
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/25/2012 5:51:43 AM
Surr: BFB	107	69.7-121		%REC	1	1/25/2012 5:51:43 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	1/28/2012 5:57:34 AM
Benzene	ND	0.050		mg/Kg	1	1/28/2012 5:57:34 AM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	1/28/2012 5:57:34 AM
Toluene	ND	0.050		mg/Kg	1	1/28/2012 5:57:34 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 5:57:34 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/28/2012 5:57:34 AM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	1/28/2012 5:57:34 AM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 5:57:34 AM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	1/28/2012 5:57:34 AM
Naphthalene	ND	0.10		mg/Kg	1	1/28/2012 5:57:34 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	1/28/2012 5:57:34 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	1/28/2012 5:57:34 AM
Surr: 1,2-Dichloroethane-d4	88.4	70-130		%REC	1	1/28/2012 5:57:34 AM
Surr: 4-Bromofluorobenzene	87.0	70-130		%REC	1	1/28/2012 5:57:34 AM
Surr: Dibromofluoromethane	101	71.7-132		%REC	1	1/28/2012 5:57:34 AM
Surr: Toluene-d8	95.1	70-130		%REC	1	1/28/2012 5:57:34 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EA Engineering
Project: Holiday Chevron
Lab ID: 1201630-012 **Matrix:** SOIL

Client Sample ID: Soil Cuttings
Collection Date: 1/20/2012 3:10:00 PM
Received Date: 1/23/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/25/2012 7:58:48 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/25/2012 7:58:48 AM
Surr: DNOP	125	77.4-131		%REC	1	1/25/2012 7:58:48 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	51	25		mg/Kg	5	1/25/2012 6:21:49 AM
Surr: BFB	120	69.7-121		%REC	5	1/25/2012 6:21:49 AM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Lead	4.4	0.25		mg/L	1	1/27/2012 6:32:50 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	0.25		mg/Kg	5	1/28/2012 6:25:33 AM
Benzene	0.28	0.25		mg/Kg	5	1/28/2012 6:25:33 AM
1,2-Dichloroethane (EDC)	ND	0.25		mg/Kg	5	1/28/2012 6:25:33 AM
Toluene	1.5	0.25		mg/Kg	5	1/28/2012 6:25:33 AM
Ethylbenzene	0.57	0.25		mg/Kg	5	1/28/2012 6:25:33 AM
Xylenes, Total	3.1	0.50		mg/Kg	5	1/28/2012 6:25:33 AM
1,2-Dibromoethane (EDB)	ND	0.25		mg/Kg	5	1/28/2012 6:25:33 AM
1,2,4-Trimethylbenzene	1.7	0.25		mg/Kg	5	1/28/2012 6:25:33 AM
1,3,5-Trimethylbenzene	0.47	0.25		mg/Kg	5	1/28/2012 6:25:33 AM
Naphthalene	ND	0.50		mg/Kg	5	1/28/2012 6:25:33 AM
2-Methylnaphthalene	ND	1.0		mg/Kg	5	1/28/2012 6:25:33 AM
1-Methylnaphthalene	ND	1.0		mg/Kg	5	1/28/2012 6:25:33 AM
Surr: 1,2-Dichloroethane-d4	93.8	70-130		%REC	5	1/28/2012 6:25:33 AM
Surr: 4-Bromofluorobenzene	90.0	70-130		%REC	5	1/28/2012 6:25:33 AM
Surr: Dibromofluoromethane	105	71.7-132		%REC	5	1/28/2012 6:25:33 AM
Surr: Toluene-d8	94.2	70-130		%REC	5	1/28/2012 6:25:33 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	120124033
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1201630
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	120124033-001	**Sampling Date**	1/20/2012	**Date/Time Received**	1/24/2012	12:00 PM
Client Sample ID	1201630-012B / SOIL CUTTINGS	**Sampling Time**	3:10 PM			
Matrix	Soil					
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Ignitability	Negative			1/25/2012	JWC	EPA 1030	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1201630**
07-Feb-12

Client: EA Engineering
Project: Holiday Chevron

Sample ID **MB-390** SampType: **MBLK** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS** Batch ID: **390** RunNo: **517**
Prep Date: **1/23/2012** Analysis Date: **1/23/2012** SeqNo: **14646** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.8		10.00		97.9	77.4	131			

Sample ID **LCS-390** SampType: **LCS** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **390** RunNo: **517**
Prep Date: **1/23/2012** Analysis Date: **1/23/2012** SeqNo: **14796** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	83.9	62.7	139			
Surr: DNOP	5.7		5.000		115	77.4	131			

Sample ID **LCSD-390** SampType: **LCSD** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS02** Batch ID: **390** RunNo: **517**
Prep Date: **1/23/2012** Analysis Date: **1/23/2012** SeqNo: **14865** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.1	62.7	139	11.4	20	
Surr: DNOP	5.9		5.000		119	77.4	131	0	0	

Sample ID **1201630-001AMS** SampType: **MS** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **I-9 (9.5'-10.0')** Batch ID: **390** RunNo: **517**
Prep Date: **1/23/2012** Analysis Date: **1/24/2012** SeqNo: **15547** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	72	9.9	49.65	16.58	112	57.2	146			
Surr: DNOP	7.4		4.965		149	77.4	131			S

Sample ID **1201630-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **I-9 (9.5'-10.0')** Batch ID: **390** RunNo: **517**
Prep Date: **1/23/2012** Analysis Date: **1/24/2012** SeqNo: **15548** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	71	9.7	48.26	16.58	113	57.2	146	1.53	26.7	
Surr: DNOP	6.2		4.826		128	77.4	131	0	0	

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1201630**
07-Feb-12

Client: EA Engineering
Project: Holiday Chevron

Sample ID **5ML-RB** SampType: **MBLK** TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBS** Batch ID: **R567** RunNo: **567**
Prep Date: Analysis Date: **1/24/2012** SeqNo: **16181** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1,000		1,000		104	69.7	121			

Sample ID **2.5UG GRO LCS** SampType: **LCS** TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSS** Batch ID: **R567** RunNo: **567**
Prep Date: Analysis Date: **1/24/2012** SeqNo: **16182** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	110	86.4	132			
Surr: BFB	1,100		1,000		109	69.7	121			

Sample ID **1201630-001A MS** SampType: **MS** TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **I-9 (9.5'-10.0')** Batch ID: **R567** RunNo: **567**
Prep Date: Analysis Date: **1/24/2012** SeqNo: **16183** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	340	25	77.60	264.8	95.2	85.4	147			
Surr: BFB	3,900		3,104		125	69.7	121			S

Sample ID **1201630-001A MSD** SampType: **MSD** TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **I-9 (9.5'-10.0')** Batch ID: **R567** RunNo: **567**
Prep Date: Analysis Date: **1/24/2012** SeqNo: **16184** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	330	25	77.60	264.8	78.4	85.4	147	3.92	19.2	S
Surr: BFB	3,800		3,104		123	69.7	121	0	0	S

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1201630**
07-Feb-12

Client: EA Engineering
Project: Holiday Chevron

Sample ID **5ml rb** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **R633** RunNo: **633**
Prep Date: Analysis Date: **1/27/2012** SeqNo: **17911** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.050								
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
1,2-Dibromoethane (EDB)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
Naphthalene	ND	0.10								
2-Methylnaphthalene	ND	0.20								
1-Methylnaphthalene	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.3	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.3	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	71.7	132			
Surr: Toluene-d8	0.47		0.5000		94.9	70	130			

Sample ID **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **R633** RunNo: **633**
Prep Date: Analysis Date: **1/27/2012** SeqNo: **17912** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.050	1.000	0	96.9	70.7	123			
Toluene	1.0	0.050	1.000	0	101	80	120			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.5	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.3	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		91.3	71.7	132			
Surr: Toluene-d8	0.47		0.5000		94.4	70	130			

Sample ID **1201630-01a ms** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **R633** RunNo: **633**
Prep Date: Analysis Date: **1/28/2012** SeqNo: **17926** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	6.3	0.50	6.208	0	101	60	126			
Toluene	11	0.50	6.208	5.550	90.8	68.7	132			
Surr: 1,2-Dichloroethane-d4	3.3		3.104		105	70	130			
Surr: 4-Bromofluorobenzene	2.9		3.104		93.5	70	130			
Surr: Dibromofluoromethane	3.4		3.104		108	71.7	132			
Surr: Toluene-d8	2.7		3.104		88.6	70	130			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1201630**
07-Feb-12

Client: EA Engineering
Project: Holiday Chevron

Sample ID **1201630-01a msd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **R633** RunNo: **633**
Prep Date: Analysis Date: **1/28/2012** SeqNo: **17927** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	6.2	0.50	6.208	0	99.1	60	126	1.99	15.7	
Toluene	11	0.50	6.208	5.550	89.5	68.7	132	0.753	16.2	
Surr: 1,2-Dichloroethane-d4	3.3		3.104		106	70	130	0	0	
Surr: 4-Bromofluorobenzene	3.0		3.104		95.5	70	130	0	0	
Surr: Dibromofluoromethane	3.4		3.104		109	71.7	132	0	0	
Surr: Toluene-d8	2.9		3.104		93.0	70	130	0	0	

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1201630**
07-Feb-12

Client: EA Engineering
Project: Holiday Chevron

Sample ID **MB-450** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS** Batch ID: **450** RunNo: **616**
Prep Date: **1/26/2012** Analysis Date: **1/27/2012** SeqNo: **17428** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.25								

Sample ID **LCS-450** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS** Batch ID: **450** RunNo: **616**
Prep Date: **1/26/2012** Analysis Date: **1/27/2012** SeqNo: **17429** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	25	0.25	25.00	0	98.8	80	120			

Sample ID **1201630-012AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **Soil Cuttings** Batch ID: **450** RunNo: **616**
Prep Date: **1/26/2012** Analysis Date: **1/27/2012** SeqNo: **17432** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	22	0.25	24.79	4.389	71.8	75	125			S

Sample ID **1201630-012AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **Soil Cuttings** Batch ID: **450** RunNo: **616**
Prep Date: **1/26/2012** Analysis Date: **1/27/2012** SeqNo: **17433** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	22	0.25	24.79	4.389	70.0	75	125	1.99	20	S

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name:	EA Engineering Alb	Work Order Number: 1201630	
Logged by:	**Anne Thorne**	1/23/2012 8:00:00 AM	Anne Thorne
Completed By:	**Anne Thorne**	1/23/2012	Anne Thorne
Reviewed By:		1/23/12	

Chain of Custody

1. Were seals intact? Yes ☑ No ☐ Not Present ☐
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? Client

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Not Present			

Chain-of-Custody Record

Client: EA Engineering

Mailing Address: 320 Gold Ave. Ste. 1210
Albuquerque NM

Phone #: 505-224-9013

email or Fax#: 505-224-9016

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☐ Rush _____

Project Name: Holiday Chevron

Project #: 6231702.05

Project Manager: Teri McMillan

Sampler: A. Izard

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1201630	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel) full range	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) short list	8270 (Semi-VOA)					Air Bubbles (Y or N)
~~1/18/12~~	~~0900~~	~~soil~~	~~I-9 (9.5'-10.0')~~	~~4oz~~																		
1/18/12	0900	soil	I-9 (9.5'-10.0')	4oz glass jar	none	-1			✓													
1/18/12	0900	soil	I-9 (9.5'-10.0')	20ml vial	MeOH	-1										✓						
1/18/12	0915	soil	I-9 (15.5'-16.0')	4oz glass jar	none	-2			✓													
1/18/12	0915	soil	I-9 (15.5'-16.0')	20ml vial	MeOH	-2										✓						
1/19/12	1640	soil	A-12 (5.5'-6.0')	4oz glass jar	none	-3			✓													
1/19/12	1640	soil	A-12 (5.5'-6.0')	20ml vial	MeOH	-3										✓						
1/19/12	1650	soil	A-12 (13.5'-14.0')	4oz glass jar	none	-4			✓													
1/19/12	1650	soil	A-12 (13.5'-14.0')	20ml vial	MeOH	-4										✓						
1/18/12	1420	soil	E-10 (5.5'-6.0')	4oz glass jar	none	-5			✓													
1/18/12	1420	soil	E-10 (5.5'-6.0')	20ml vial	MeOH	-5										✓						
1/18/12	1445	soil	E-10 (11.5'-12.0')	4oz glass jar	none	-6			✓													
1/18/12	1445	soil	E-10 (11.5'-12.0')	20ml vial	MeOH	-6										✓						

Date	Time	Relinquished by:	Received by:	Date	Time
1-20-12	1900	[signature]	[signature]	1/20/12	1900
1-21-12	1045	[signature]	[signature]	1/21/12	1045
1-23-12	800	Joe McMillan	[signature]	1/23/12	0800

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Client: EA Engineering
Mailing Address: 320 Gold Ave Ste 1210
Albuquerque NM
Phone #: 505-224-9013
email or Fax#: 505-224-9016
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☐ Rush _____
Project Name: Holiday Chevron
Project #: 6231702.05
Project Manager: T. McMillan
Sampler: A. Izard
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.4

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1201630	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel) full range	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) Short list	8270 (Semi-VOA)	Pb 1/23/12	Flashpoint 1/23/12			Air Bubbles (Y or N)
1/19/12	1215	Soil	G-7(5.5'-6.0')	4oz glass jar	none	-7			✓													
1/19/12	1215	Soil	G-7(5.5'-6.0')	20 ml vial	MeOH	-7										✓						
1/19/12	1240	Soil	G-7(15.0'-15.5')	4oz glass jar	none	-8			✓													
1/19/12	1240	Soil	G-7(15.0'-15.5')	20 ml vial	MeOH	-8										✓						
1/18/12	1725	Soil	B-7(9.5'-10.0')	4oz glass jar	none	-9			✓													
1/18/12	1725	Soil	B-7(9.5'-10.0')	20 ml vial	MeOH	-9										✓						
1/18/12	1730	Soil	B-7(11.5'-12.0')	4oz glass jar	none	-10			✓													
1/18/12	1730	Soil	B-7(11.5'-12.0')	20 ml vial	MeOH	-10										✓						
			~~Trip~~ Blank MeOH AI 1/23/12			-11										X						
1/20/12	1510	Soil	Soil Cuttings						X							X		X	X			

Date:	Time:	Relinquished by:	Received by:	Date	Time
1-20-12	1900	Alan Izard	[signature]	1/20/12	1900
1-21-12	1045	[signature]	[signature]	1/21/12	1045
1-23-12	8:00	[signature]	[signature]	1/23/12	0800

Remarks:
per TM analyze Soil Cuttings for 8260 SC, GRO/DRO, Pb, Flashpoint. AI 1/23/12

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.