

## LIMITED METHANE INVESTIGATION REPORT

8731 Eucalyptus Avenue  
Ontario, California 91762

May 31, 2017  
Partner Project Number: 16-161616.3

Prepared for:  
**Prologis**  
Pier 1, Bay 1  
San Francisco, California 94111



May 31, 2017

Ms. Janet Frentzel  
Prologis  
Pier 1, Bay 1  
San Francisco, California 94111

Subject: Limited Methane Investigation Report  
8731 Eucalyptus Avenue  
Ontario, California 90501  
Partner Project Number: 16-161616.3

Dear Ms. Frentzel:

Partner Engineering and Science, Inc. (Partner) is pleased to provide the results of the assessment performed on the above-referenced property. The following report describes the field activities, methods, and findings of the Limited Methane Investigation conducted at the above-referenced property.

This assessment was performed utilizing methods and procedures consistent with good commercial or customary practices designed to conform to acceptable industry standards. The independent conclusions represent Partner's best professional judgment based upon existing conditions and the information and data available to us during the course of this assignment.

We appreciate the opportunity to provide these services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact Misty Ponce at (818) 337-1203.

Sincerely,

**Partner Engineering and Science, Inc.**



Kathy Lehnus  
Senior Project Manager



Samantha J. Fujita, PG  
Regional Manager-Subsurface Investigation



Misty Ponce  
Principal

## Table of Contents

<b>1.0</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Purpose .....	1
1.2	Limitations .....	1
1.3	User Reliance .....	1
<b>2.0</b>	<b>Site Background.....</b>	<b>3</b>
2.1	Site Description.....	3
2.2	Site History .....	3
2.3	Geology and Hydrogeology .....	3
<b>3.0</b>	<b>Field Activities .....</b>	<b>5</b>
3.1	Preparatory Activities.....	5
3.1.1	Utility Clearance.....	5
3.1.2	Health and Safety Plan.....	5
3.2	Boring Locations.....	5
3.3	Boring Depths.....	5
3.4	Soil Sampling .....	5
3.5	Soil Gas Sampling .....	6
3.6	Post-Sampling Activities.....	6
<b>4.0</b>	<b>Laboratory Analysis.....</b>	<b>7</b>
4.1	Laboratory Analysis .....	7
4.2	Laboratory Analytical Results .....	7
<b>5.0</b>	<b>Discussion and Conclusions .....</b>	<b>8</b>
5.1	Regulatory Agency Guidance.....	8
5.2	Discussion .....	9
5.3	Conclusions and Recommendations.....	9

### ATTACHMENTS

Table	1	Summary of Methane in Soil Gas
Figures	1	Topographic Map
	2	Site Plan with Sampling Locations
Appendices	A	Boring Logs
	B	Laboratory Analytical Report for Soil Gas
	C	City Regulatory Information

# 1.0 INTRODUCTION

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## 1.1 Purpose

Partner Engineering and Science, Inc. (Partner) performed a Phase I Environmental Site Assessment (ESA) dated February 28, 2017 for the property at 8731 Eucalyptus Avenue, Ontario, California (the Site or the subject property). In the Phase I ESA, Partner identified the current and historical use of as a dairy farm, and recommended sampling. The purpose of this investigation was to investigate the soil on the subject property for the presence of methane in order to provide support for the future commercial/industrial development. Prologis provided project authorization of Partner Proposal Number P16-161616.3, and the work was conducted under the Master Services Agreement between Prologis and Partner dated April 18, 2013.

## 1.2 Limitations

This report presents a summary of work conducted by Partner. The work includes observations of site conditions encountered and the analytical results provided by an independent third party laboratory of samples collected during the course of the project. The number and location of samples were selected to provide the required information. However, it cannot be assumed that the limited available data are representative of subsurface conditions in areas not sampled.

Conclusions and/or recommendations are based on the observations, laboratory analyses, and the governing regulations. Conclusions and/or recommendations beyond those stated and reported herein should not be inferred from this document.

Partner warrants that the environmental consulting services contained herein were accomplished in accordance with generally-accepted practices in the environmental engineering, geology, and hydrogeology fields that existed at the time and location of work. No other warranties are implied or expressed.

## 1.3 User Reliance

Prologis engaged Partner to perform this assessment as set forth by the Master Services Agreement between Prologis and Partner dated April 18, 2013 governing the nature, scope, and purpose of the work as well as other matters critical to the engagement. All reports, both verbal and written, are for the sole use and benefit of Prologis. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with Partner granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against Partner, its officers, employees, vendors, successors or assigns. Any such unauthorized user shall be responsible to protect, indemnify and hold Partner, Client and their respective officers, employees, vendors, successors and assigns harmless from any and all claims, damages, losses, liabilities, expenses (including reasonable attorneys' fees) and costs attributable to such Use. Unauthorized use of this report shall constitute acceptance of and commitment to these responsibilities, which shall be irrevocable and shall apply regardless of the cause of action or legal theory pled or asserted. Additional legal penalties may apply.

This report has been completed under specific Terms and Conditions relating to scope, relying parties, limitations of liability, indemnification, dispute resolution, and other factors relevant to any reliance on this report. Any parties relying on this report do so having accepted the Terms and Conditions for which this report was completed.

## **2.0 SITE BACKGROUND**

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### **2.1 Site Description**

The subject property consists of 10 parcels of land comprising 73.86 acres located on the south side of Eucalyptus Avenue and north of Merrill Avenue within a mixed agricultural and industrial area of the City of Ontario in San Bernardino County, California. The subject property is currently operated as a dairy farm identified as the Minaberry Dairy. On-site operations consist of dairy farm activities (which includes milking/breeding of cows and equipment fueling/maintenance) and general residential space. On-site structures or features include: six single-family residences; two milk barns (one inactive); cattle staging areas; feeding corrals; manure/fertilizer storage areas; hay storage; pastures; a commodities barn (feed preparation); a pallet manufacturing company; horse corrals; and at least eight detention ponds. In addition to these site features, landscaped areas are located on the northern property boundary along Eucalyptus Avenue, on the southeastern property boundary along Merrill Avenue, and along a portion of Vineyard Avenue, extending south from Eucalyptus Avenue near the northeastern portion of the subject property.

Minaberry Dairy subleases out portions of their property to three separate businesses. Partida Fertilizer subleases approximately four acres and manufactures composting materials from manure for bulk sale to fertilizer manufacturers; Pallet Supply Wood Services subleases approximately 1/3 acre for the manufacturing of wood pallets; and an independent contractor (not named by the site contact) leases approximately seven acres for raising cattle for beef.

The immediately surrounding properties consist of similar dairy properties to the north across Eucalyptus Avenue (vacant and unidentified addresses); a distribution warehouse (8601 Merrill Avenue) and P&D Dairy (8749 Merrill Avenue) to the south, Majestic Dairy (8911 Eucalyptus Avenue) and Gardener Trucking (9032 Merrill Avenue) to the east; and Hettinga Dairy (GH Dairy) (8643 Eucalyptus Avenue) to the west.

### **2.2 Site History**

The buildings were constructed between 1938 and 1975 (residences and barns) and between 1967 and 1975 (dairy operation buildings). According to historical sources, the subject property was a potato farm from at least 1938 until at least 1953 and was observed as a dairy farm by at least 1966 (with operations expanding throughout the property from the 1970s through the late 2000s).

The long term use of the subject property as a dairy farm was considered a recognized environmental condition (REC) in the Phase I ESA due to the potential for the build-up of methane, nitrates, and ammonia in soil from animal waste.

### **2.3 Geology and Hydrogeology**

The subject property is located in the Upper Santa Ana Valley, a broad alluvial and fluvial plain located within the Los Angeles, Orange, Riverside, and San Bernardino Counties. The Upper Santa Ana Valley is a southwesterly draining basin bounded by the San Gabriel Mountains and San Bernardino Mountains on the north and east, the Puente and San Jose Hills on the west and the Jurupa Hills and the Santa Ana Mountains to the south. The mountain range on the north and south and the basement rock underlying the Valley, are primarily composed of granitic and metamorphic rock. The hills to the west are composed of Miocene

sandstone, shale, siltstone, and conglomerate. Within the Valley, the basement complex is overlain by a series of unconsolidated and semi-consolidated alluvial and fluvial sediments eroded from the surrounding mountain ranges. Subsurface lithology in the general vicinity is mapped as recent-age alluvium and colluvium.

Based on information obtained from the USDA Natural Resources Conservation Service Web Soil Survey online database, the subject property is mapped as Delhi fine sand. The Delhi series consists of Class A high filtration rates. Soils are deep well drained to excessively drained sand and gravels. Slopes range from 0 to 1 percent. Soils encountered in the upper 15 feet of the subject property during this subsurface investigation were described as brown, fine-grained silty sand.

According to the Kamron Saremi of the Regional Water Quality Control Board (RWQCB), interviewed as part of Partner's Phase I ESA, groundwater in the vicinity of the subject property is 130 feet below ground surface (bgs) and flows toward the south-southwest. Groundwater was not encountered during soil investigation activities conducted as part of this scope of work (the soil boring terminus depth was 16 feet bgs).

## **3.0 FIELD ACTIVITIES**

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The Limited Methane Investigation included the advancement of 15 soil borings (B1 through B15), and collection of 18 soil gas grab samples (gas points B1 through B15 at 7 feet bgs and soil gas points B4, B7, and B14 at 15 feet bgs) for the analysis of representative soil gas samples. Refer to Table 1 and Section 3.5 for a summary of the borings advanced, sampling schedule, and laboratory analyses for this investigation.

### **3.1 Preparatory Activities**

#### **3.1.1 Utility Clearance**

Partner delineated the work area with white spray paint and Underground Service Alert of Southern California (USA/SC) was contacted to clear public utility lines as required by law at least 48 hours prior to drilling activities.

#### **3.1.2 Health and Safety Plan**

Partner prepared and reviewed a site-specific Health and Safety Plan with on-site personnel involved in the project prior to the commencement of drilling activities.

On May 22, 2017, Partner subcontracted with Munoz Direct Push (Munoz) to provide and operate drilling equipment. Munoz, under the direction of Partner, advanced borings B1 through B15 with a truck-mounted Geoprobe Model 540MT direct push rig. Non-dedicated sampling equipment was decontaminated between sample intervals and boring locations to prevent cross-contamination.

### **3.2 Boring Locations**

The soil borings / temporary soil gas probes were installed throughout the subject property spaced to allow for an overall assessment of methane throughout the subject property. The soil gas sampling locations were targeted within the planned industrial/commercial building footprints, and also within areas suspected to have a high accumulation of methane (e.g. ponds and pen areas).

Some boring placements were modified based on nearby presence of utilities and/or access by the drill rig, although the overall objectives of the sampling event were still met. Refer to Figure 2 for a map indicating boring / soil gas point locations.

### **3.3 Boring Depths**

Borings B4, B7, and B15 were advanced to 16 feet bgs. The remaining borings were advanced to 8 feet bgs. Soil gas points were installed at 7 feet bgs in each location, and also at 15 feet bgs at soil gas points B4, B7, and B15 to assess deeper methane zones.

### **3.4 Soil Sampling**

Soil samples were collected from borings B1 through B15 using a four-foot long by 1.5-inch diameter sampler with a four-foot long acetate liner and sampling point. The sampler was advanced by the direct-push drill rig using four-foot by 1.25-inch diameter hollow rods with the inner rods in place. At approximately one foot above the desired sampling depth, an inner rod was removed and the sampler was



advanced to the desired sampling depth to allow undisturbed soil to enter the sampling liner. The sampler was retrieved from the subsurface and the soil-filled liner was removed.

Each acetate liner was marked with the depths and were opened using a pipe-cutter and visually inspected for discoloration, monitored for odors, classified in accordance with the Unified Soil Classification System (Modified). They were also field-screened with a photoionization detector (PID). None of the samples exhibited extreme discoloration or odor and no elevated PID readings were encountered.

Soil samples were screened continuously in the borings and described (see Appendix B for written boring logs).

### **3.5 Soil Gas Sampling**

Partner contracted Jones Environmental, Inc. (Jones) to collect soil gas samples from the temporary soil gas probes. Purging was completed using a pump set at approximately 200 cubic centimeters per minute (cc/min), except if noted differently on the chain of custody record. Three purge volumes were used, as recommended by July 2015 Department of Toxic Substances Control (DTSC)/Regional Water Quality Control Board (RWQCB) guidance documents.

Prior to purging and sampling, probe pressure was measured with a magnehelic gauge able to reach a limit of detection of 0.1 inches of H<sub>2</sub>O and recorded in the field logs. No probes were found to be pressurized prior to purging and sampling. A shut-in test was conducted to check for leaks in the above ground fittings. The shut-in test was performed on the above ground apparatus by evacuating the line to a vacuum of 100 inches of water, sealing the entire system, and watching the vacuum for at least one minute. A vacuum gauge attached in parallel to the apparatus measured the vacuum. If there was any observable loss of vacuum, the fittings were adjusted as needed until the vacuum did not change noticeably. The soil gas sample was then collected using a glass-tight syringe and containerizing into a Tedlar bag with a sampling rate of approximately 200 cc/min, except if noted differently on the chain of custody record.

A duplicate sample was collected from B5 at 7 feet bgs for quality control.

### **3.6 Post-Sampling Activities**

Probes were removed from the subsurface and the boreholes were backfilled with hydrated bentonite chips following sampling activities.

No significant amounts of derived wastes were generated during this investigation.

## **4.0 LABORATORY ANALYSIS**

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### **4.1 Laboratory Analysis**

Jones collected 18 soil gas samples on May 22, 2017, which were transported in two shifts on the same day to their fixed laboratory in Fullerton, California (California Department of Public Health (CDPH) Environmental Laboratory Accreditation Program (ELAP) Certificate No. 2484), for methane analysis using American Society of Testing Materials (ASTM) Method D1946. A Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were analyzed with each batch of soil gas samples. In addition, Instrument Blanks and Sampling Blanks were analyzed every 12 hours as prescribed by the method. All samples were injected into the GC/MS system within 6 hours of sampling and no contamination was noted in the blanks.

### **4.2 Laboratory Analytical Results**

Methane was detected in four soil gas samples: at concentrations of 4,000 parts per million per volume (ppmV) in the 7 foot probe at B8, 45,000 ppmV in the 7 foot probe at B10, 15,000 ppmV in the 7 foot probe at B14, and 10,000 ppmV in the 15 foot probe at B14. Methane was not detected in sample collected from B5 from 7 feet bgs or the duplicate.

Refer to Table 1 for a summary of the soil gas sample laboratory analysis results. The complete laboratory analytical report is included in Appendix B.

## 5.0 DISCUSSION AND CONCLUSIONS

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### 5.1 Regulatory Agency Guidance

#### Environmental Protection Agency Regional Screening Levels

Environmental Protection Agency Regional Screening Levels (EPA RSLs) (formerly Preliminary Remediation Goals or PRG) are generic, risk-based chemical concentrations developed by EPA Region 9 for use in initial screening-level evaluations. EPA RSLs combine human health toxicity values with standard exposure factors to estimate contaminant concentrations that are considered to be health protective of human exposures over a lifetime through direct-contact exposure pathways (e.g., via inhalation and/or ingestion of and/or dermal contact with impacted soil and/or indoor air). EPA RSLs are not legally enforceable standards, but rather are considered guidelines to evaluate if potential risks associated with encountered chemical impacts may warrant further evaluation.

EPA has not developed EPA RSLs for methane in environmental media.

#### Department of Toxic Substances Control Attenuation Factor and Recommended Screening Levels

The DTSC Office of Human and Ecological Risk (HERO) developed California-Modified Recommended Screening Levels (DTSC RSLs) for soil and indoor air based on a review of 1) the differences in methodology between EPA PRGs/EPA RSLs 2) EPA RSL concentrations, and 3) recent toxicity values. Per DTSC, if a HERO value has not been developed, the EPA RSL can be used.

For soil gas, since soil gas detections are not immediately comparable to the indoor air quality guidelines within the RSLs, the DTSC issued recommended default attenuation factors of 0.05 (subslab sampling locations) and 0.002/0.001 (residential/commercial contaminant source sampling locations) for sites where the attenuation factor for the building slab is unknown or cannot be determined in the October 2011 document *Guidance for the Evaluation and Mitigation of Subsurface Gas Intrusion to Indoor Air*. With the subsurface contaminant concentrations and default attenuation factors, the associated contaminant concentrations in indoor air can be estimated as Calculated Residential and Commercial/Industrial Soil Gas Screening Levels (SGSLs).

DTSC has not developed RSLs for methane in environmental media. DTSC has developed two white papers on sampling of methane in California (*Evaluation of Biogenic Methane*, dated March 2012 and *DTSC Advisory on Methane Assessment and Common Remedies at School Sites*, dated June 2005). In addition, DTSC provides for soil gas sampling probe installation details in their *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)*, dated October 2011. Partner adhered to all three of those documents when sampling the Site and evaluating the resulting data.

#### City of Ontario Building Department Regulations

The City of Ontario has published Methane Design Guidelines for "Projects in the New Model Colony". According to Building Department personnel, those guidelines are applicable to any building development on farm properties (including dairy farms) and is independent of the planned building use (i.e. residential or commercial/industrial). Therefore, Partner has confirmed that the City of Ontario *Methane Assessment for Projects in the New Model Colony* document (Methane Design Document) is applicable to the subject property.

The Methane Design Document indicates that a Methane Site Assessment is required of any parcels used as animal farms or composting / fertilizer farms, and that the survey must be completed within "all lots in potential methane areas". The Methane Site Assessment must be completed within properties 30 days after building footprints have been put in place.

The Methane Design Document further indicates that all buildings are to be installed with 10-mil methane barrier with sealed penetrations, and that for properties with methane concentrations over 15,000 ppmV, is it additionally required that any remediation required by the engineer after the Methane Site Assessment is completed. Partner notes that methane was detected as high as 45,000 ppmV in soil gas within the Partida Fertilizer area of the subject property. A copy of the regulation is attached as Appendix C.

## **5.2 Discussion**

The purpose of the investigation was to investigate the soil on the subject property for the presence of methane in order to provide support for the future commercial/industrial development. Methane was detected as high as 45,000 ppmV in soil gas within the Partida Fertilizer area of the subject property. During the development of the property, it is understood that the City of Ontario will require a full methane evaluation when the footprints of the planned buildings. At that time, the appropriate mitigation measures can be determined.

## **5.3 Conclusions and Recommendations**

Based on the results of this subsurface investigation, soil gas sampling has indicated that there is not a widespread methane issue in soil gas at the subject property. However, an elevated concentration of methane was detected in the 7-foot bgs gas probe at B10, located in the Partida Fertilizer area, with borderline concentrations to the south in B14.

Partner recommends that further assessment of methane in soil gas be conducted during property redevelopment in at least the central-eastern area of the Site (where high methane was encountered during this survey) to determine extent of elevated methane and thereafter a mitigation measure can be determined. It is likely that the mitigation measure will be the application of a 10-mil liner with sealant at utility penetrations. Partner notes that a full site survey may be required by the City of Ontario.

## TABLE

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Table 1: Summary of Methane in Soil Gas

USEPA Method	D1946		Methane Concentration (ppmV)
Sample Identification	Sample Depth (feet bgs)	Date Collected	
B1	7	5/22/2017	ND<100
B2	7	5/22/2017	ND<100
B3	7	5/22/2017	ND<100
B4	7	5/22/2017	ND<100
B4	15	5/22/2017	ND<100
B5 (and Duplicate)	7	5/22/2017	ND<100
B6	7	5/22/2017	ND<100
B7	7	5/22/2017	ND<100
B7	15	5/22/2017	ND<100
B8	7	5/22/2017	4,000
B9	7	5/22/2017	ND<100
B10	7	5/22/2017	45,000
B11	7	5/22/2017	ND<100
B12	7	5/22/2017	ND<100
B13	7	5/22/2017	ND<100
B14	7	5/22/2017	15,000
B14	15	5/22/2017	10,000
B15	7	5/22/2017	ND<100
Ontario Methane Design Guidelines (Residential)			15,000

Notes:

USEPA = United States Environmental Protection Agency

ppmV = parts per million by volume

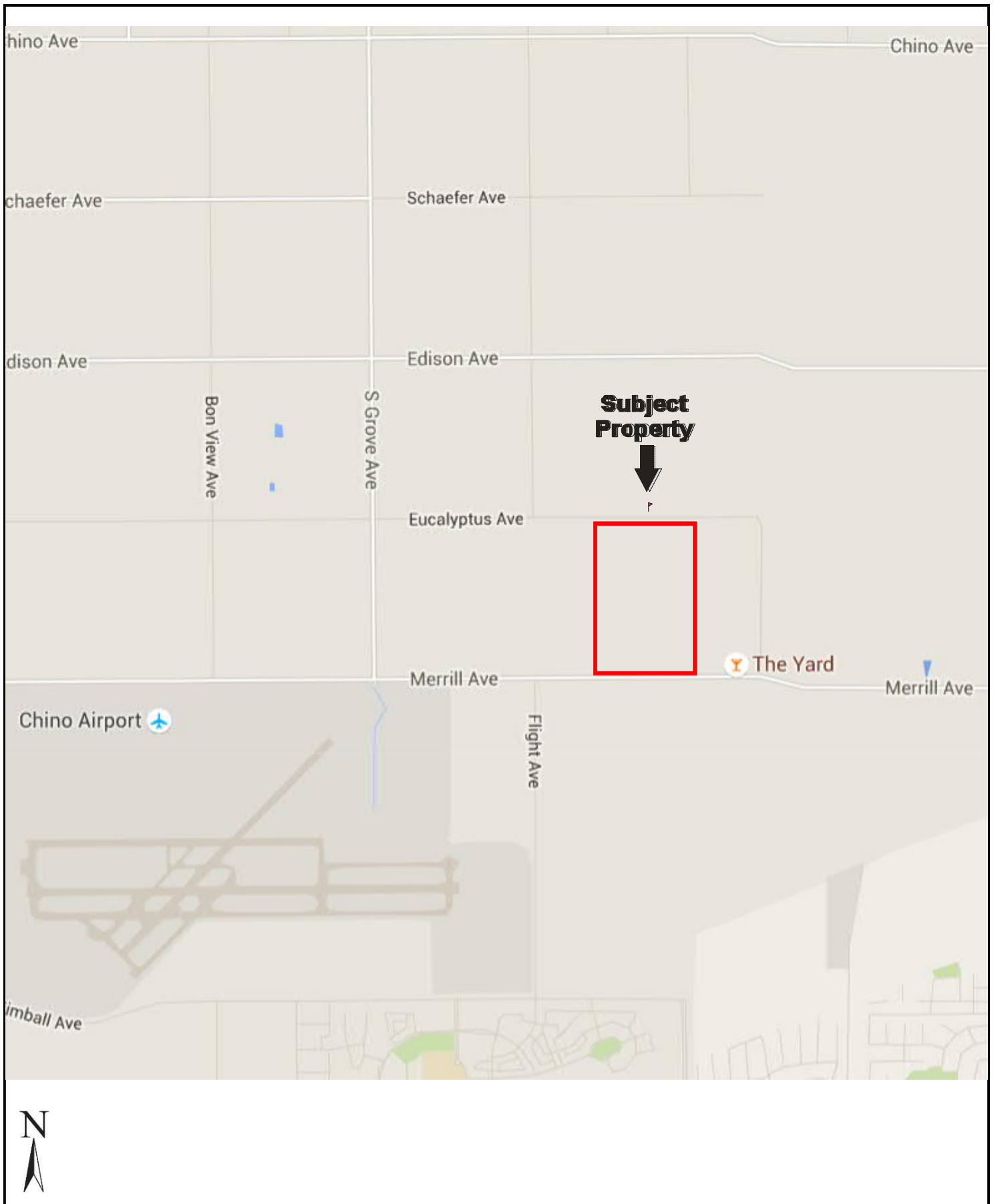
ND = not detected above indicated laboratory practical quantitation limits (PQLs)

45,000 Exceeds regulatory threshold noted

## FIGURES

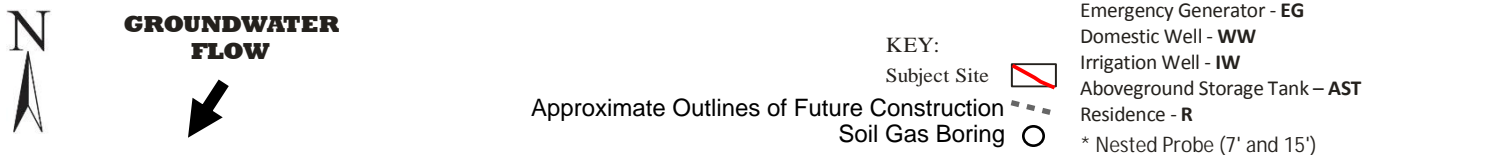
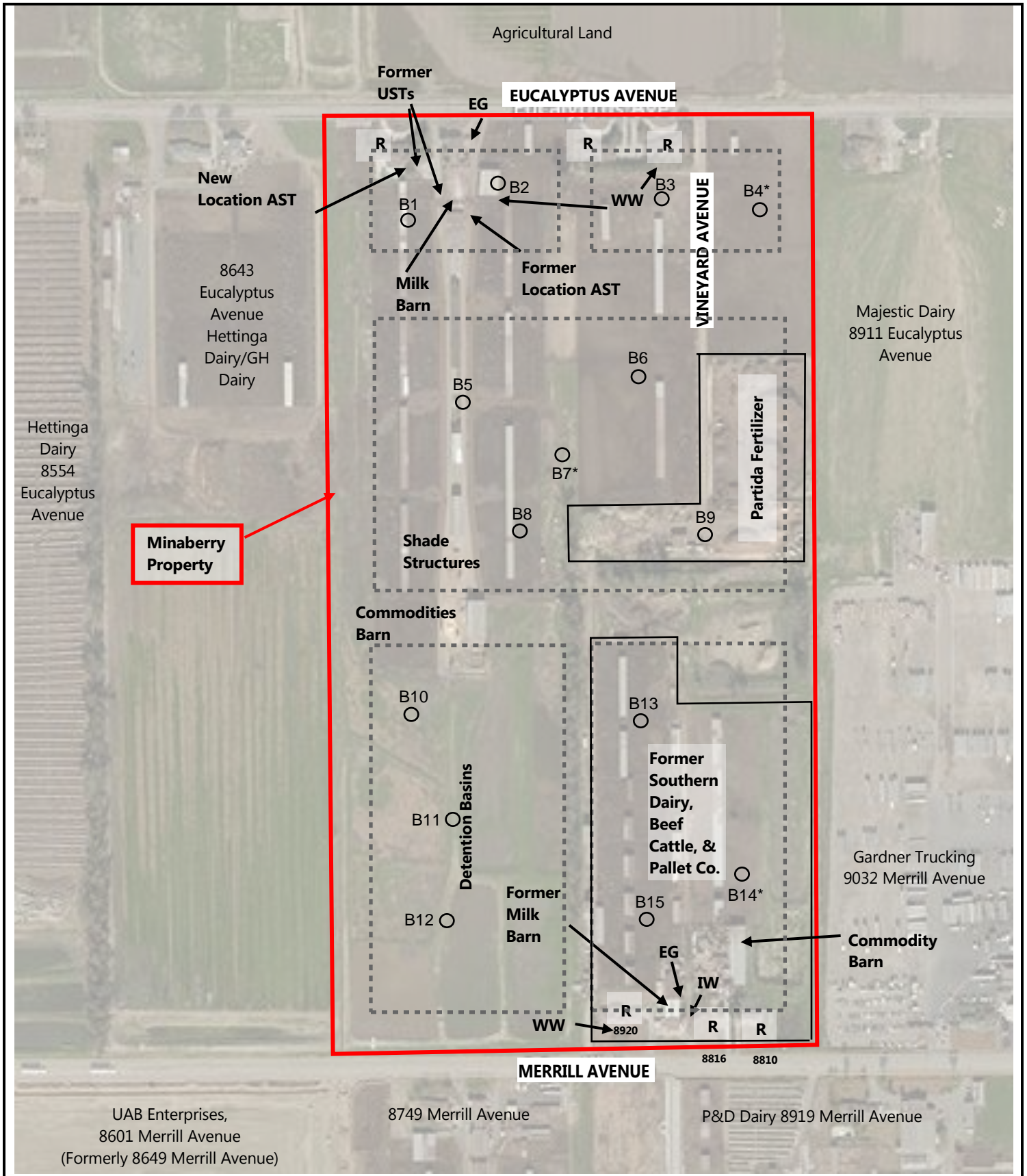
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**PARTNER**



**FIGURE 1: SITE LOCATION MAP**  
Project No. 16-161616.3





**FIGURE 2:** Site Plan with Sampling Locations  
 Project No. 16-161616.3

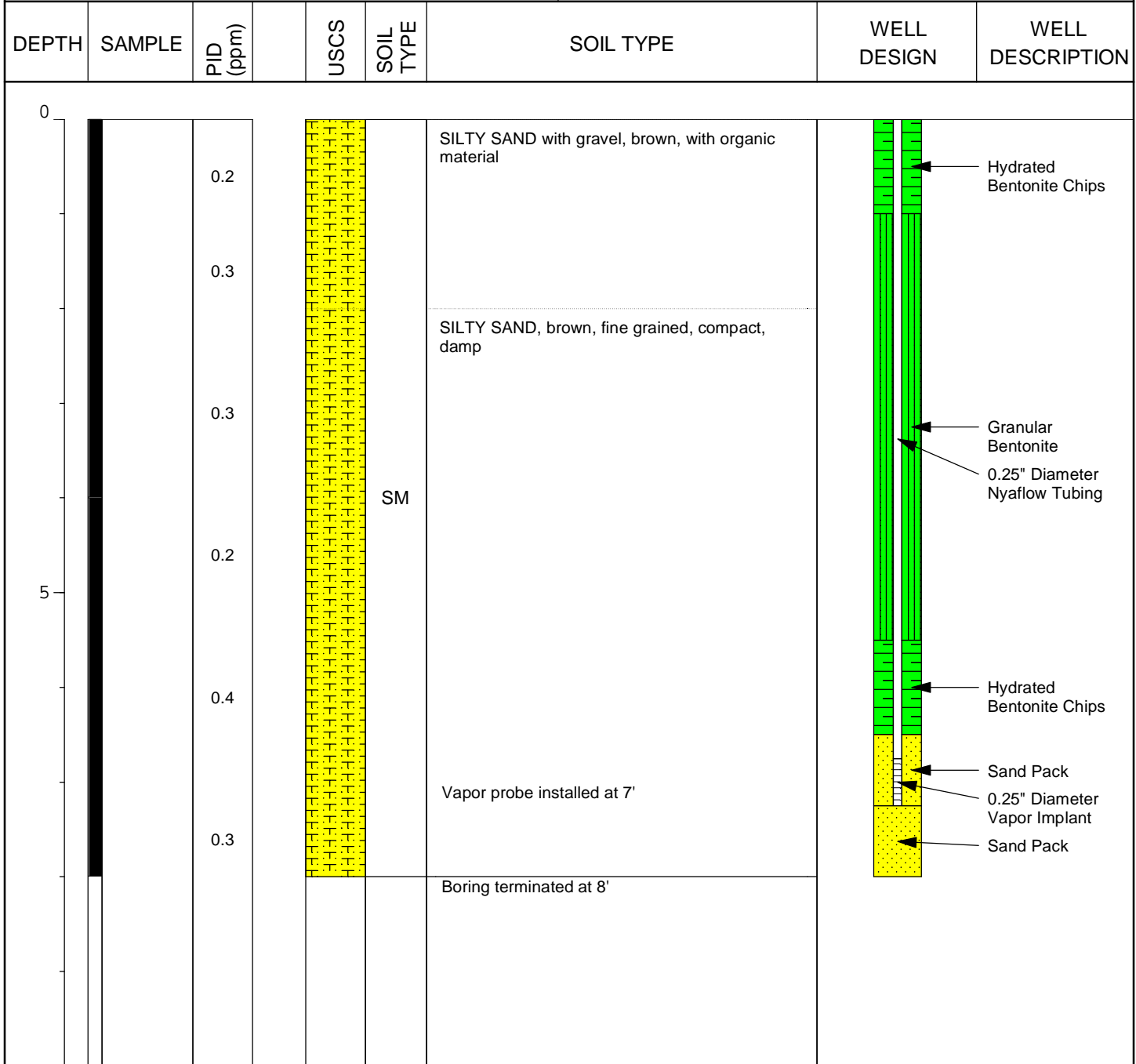
## APPENDIX A: BORING LOGS

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# BORING LOG

BORING: B1  
 TOTAL DEPTH: 8'

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Corral in northwest corner of property			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

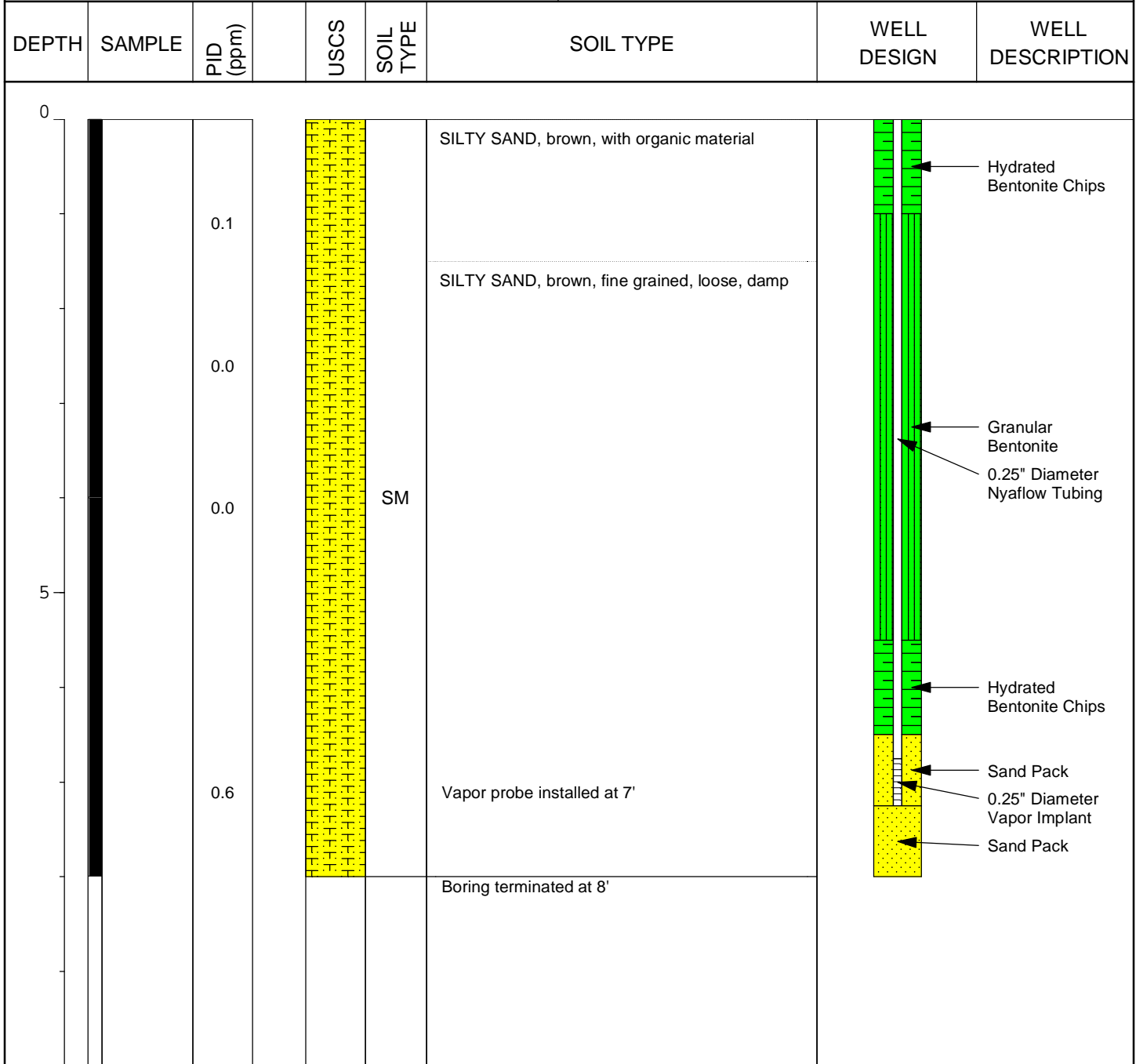


NOTES: Vapor probe sampled at 5:45 pm on 5/22/2017

# BORING LOG

BORING: B2  
 TOTAL DEPTH: 8'

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Corral east of milk barn			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		



NOTES: Vapor probe sampled at 12:45 pm on 5/22/2017

# BORING LOG

BORING: B3  
 TOTAL DEPTH: 8'

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Northern border, behind houses			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0					SILTY SAND, brown, with organic material		
		0.0			SILTY SAND, brown, fine grained, loose, damp		Hydrated Bentonite Chips
		1.3					
		2.0		SM			Granular Bentonite 0.25" Diameter Nyaflow Tubing
5					-fine to medium grained, 6' to 8'		Hydrated Bentonite Chips
		0.4			Vapor probe installed at 7'		Sand Pack 0.25" Diameter Vapor Implant
					Boring terminated at 8'		Sand Pack
10							

NOTES: Vapor probe sampled at 12:49 pm on 5/22/2017

# BORING LOG

BORING: B4  
 TOTAL DEPTH: 16'



2154 Torrance Boulevard, Suite 200  
 Torrance, California 90501

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Corral in northeast corner of property			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0					SILTY SAND, brown, with organic material		
0.1					SILTY SAND, brown, fine grained, loose, moist		Hydrated Bentonite Chips
0.2							Granular Bentonite
5		0.0			SILTY SAND, light brown, fine to medium grained, compact, moist		0.25" Diameter Nyaflo Tubing
		0.0		SM	Vapor probe installed at 7'		Hydrated Bentonite Chips
		0.0					0.25" Diameter Vapor Implant
		0.0					Sand Pack
10		0.0					Granular Bentonite
		0.4					Hydrated Bentonite Chips
15		0.0		SP	SAND with Silt and Gravel, fine to coarse grained, compact, moist		0.25" Diameter Vapor Implant
		0.0			Vapor probe installed at 15'		Sand Pack
					Boring terminated at 16'		

NOTES: Vapor probe at 7' sampled at 12:54 pm on 5/22/2017  
 Vapor probe at 15' sampled at 12:59 pm on 5/22/2017

# BORING LOG

BORING: B5  
 TOTAL DEPTH: 8'

**PARTNER**  
 Engineering and Science, Inc.  
 2154 Torrance Boulevard, Suite 200  
 Torrance, California 90501

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Along main driveway			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0					SILTY SAND, brown, fine grained, loose, moist 3" concrete at surface		
		3.2					Hydrated Bentonite Chips
		1.3					
		0.7					
		0.2		SM			Granular Bentonite 0.25" Diameter Nyaflow Tubing
5		0.6					Hydrated Bentonite Chips
		1.1			Vapor probe installed at 7'		Sand Pack 0.25" Diameter Vapor Implant
					Boring terminated at 8'		Sand Pack
10							

NOTES: Vapor probe sampled at 4:10 pm on 5/22/2017

# BORING LOG

BORING: B6  
 TOTAL DEPTH: 8'

**PARTNER**  
 Engineering and Science, Inc.  
 2154 Torrance Boulevard, Suite 200  
 Torrance, California 90501

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Corral east of Partida Fertilizer			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0		0.0			SILTY SAND, brown, with organic material		Hydrated Bentonite Chips
		0.0			SILTY SAND, brown, fine grained, loose, moist		Granular Bentonite
		0.0		SM			0.25" Diameter Nyaflow Tubing
5		0.0			SILTY SAND with Gravel, light brown, fine to medium grained, compact, moist		Hydrated Bentonite Chips
		0.7			Vapor probe installed at 7'		Sand Pack
							0.25" Diameter Vapor Implant
							Sand Pack
10					Boring terminated at 8'		

NOTES: Vapor probe sampled at 1:18 pm on 5/22/2017



# BORING LOG

BORING: B7  
 TOTAL DEPTH: 16'



2154 Torrance Boulevard, Suite 200  
 Torrance, California 90501

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Center of property, east of main driveway			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0		0.0			SILTY SAND, brown, with organic material		Hydrated Bentonite Chips
		0.0			SILTY SAND, brown, fine to medium grained, loose, moist		Granular Bentonite
		0.0			SILTY SAND with gravel, light brown, fine to medium grained, compact, moist		0.25" Diameter Nyaflow Tubing
5		0.0					Hydrated Bentonite Chips
		0.0			Vapor probe installed at 7'		0.25" Diameter Vapor Implant
		0.0		SM			Sand Pack
10		0.0					Granular Bentonite
		2.7			SILTY SAND with gravel and trace organics, light brown, fine to coarse grained, compact, moist		Hydrated Bentonite Chips
15		1.7			Vapor probe installed at 15'		0.25" Diameter Vapor Implant
					Boring terminated at 16'		Sand Pack
20							

NOTES: Vapor probe at 7' sampled at 1:22 pm on 5/22/2017  
 Vapor probe at 15' sampled at 1:24 pm on 5/22/2017

# BORING LOG

BORING: B8  
 TOTAL DEPTH: 8'

**PARTNER**  
 Engineering and Science, Inc.  
 2154 Torrance Boulevard, Suite 200  
 Torrance, California 90501

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Central corral east of main driveway			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0					SILTY SAND, brown, with organic material		
		0.0					Hydrated Bentonite Chips
		0.2			SILTY SAND, brown, fine grained, loose, moist		
		0		SM			Granular Bentonite 0.25" Diameter Nyaflow Tubing
5		0					Hydrated Bentonite Chips
		0.4			Vapor probe installed at 7'		Sand Pack 0.25" Diameter Vapor Implant Sand Pack
					Boring terminated at 8'		
10							

NOTES: Vapor probe sampled at 1:52 pm on 5/22/2017

# BORING LOG

BORING: B9  
 TOTAL DEPTH: 8'

**PARTNER**  
 Engineering and Science, Inc.  
 2154 Torrance Boulevard, Suite 200  
 Torrance, California 90501

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	South central border of Partida Fertilizer			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0					SILTY SAND, brown, fine to medium grained, loose, moist		
		0.0					Hydrated Bentonite Chips
		0.0					
		0.0			SILTY SAND, brown, fine grained, loose, moist		Granular Bentonite
		0.0		SM			0.25" Diameter Nyaflo Tubing
5		0.9					Hydrated Bentonite Chips
		0.3			Vapor probe installed at 7'		Sand Pack
							0.25" Diameter Vapor Implant
							Sand Pack
					Boring terminated at 8'		
10							

NOTES: Vapor probe sampled at 1:03 pm on 5/22/2017

# BORING LOG

BORING: B10

TOTAL DEPTH: 8'



2154 Torrance Boulevard, Suite 200  
Torrance, California 90501

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Northern detention basin			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0		0.0			SILTY SAND, brown, with organic material		
		0.0			SILTY SAND, brown, fine grained, loose, moist, with trace organics		Hydrated Bentonite Chips
		0.0		SM			Granular Bentonite 0.25" Diameter Nyaflo Tubing
5		0.1					Hydrated Bentonite Chips
		0.0			Vapor probe installed at 7'		Sand Pack 0.25" Diameter Vapor Implant
					Boring terminated at 8'		Sand Pack
10							

NOTES: Vapor probe sampled at 4:35 pm on 5/22/2017

# BORING LOG

BORING: B11

TOTAL DEPTH: 8'



2154 Torrance Boulevard, Suite 200  
Torrance, California 90501

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	North berm between detention basins			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0		0.0		SM	SILTY SAND with trace clay, dark brown, fine grained, loose, damp		Hydrated Bentonite Chips
		0.0		SC	CLAYEY SAND, dark brown, fine grained, compact, wet		Granular Bentonite 0.25" Diameter Nyaflow Tubing
5		2.7		SM	SILTY SAND, brown, fine grained, compact, moist		Hydrated Bentonite Chips
		2.1		SM	Vapor probe installed at 7'		Sand Pack 0.25" Diameter Vapor Implant
		0.3			Boring terminated at 8'		Sand Pack

NOTES: Vapor probe sampled at 5:07 pm on 5/22/2017

# BORING LOG

BORING: B12  
 TOTAL DEPTH: 8'



2154 Torrance Boulevard, Suite 200  
 Torrance, California 90501

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Southern berm between detention basins			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0					SILTY SAND, light brown, loose, dry, with roots		
		0.0					Hydrated Bentonite Chips
		0.7			SILTY SAND with trace Clay, dark brown, fine grained, compact, damp		
				SM			Granular Bentonite
							0.25" Diameter Nyaflo Tubing
5		0.3					Hydrated Bentonite Chips
		0.1			Vapor probe installed at 7'		Sand Pack
							0.25" Diameter Vapor Implant
							Sand Pack
					Boring terminated at 8'		
10							

NOTES: Vapor probe sampled at 4:52 pm on 5/22/2017

# BORING LOG

BORING: B13

TOTAL DEPTH: 8'



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PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Northeast of detention basins			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0					SILTY SAND with Gravel, brown, with organic material		
		0.0			SILTY SAND, brown, fine grained, loose, damp		Hydrated Bentonite Chips
		0.1					
		0.1		SM			Granular Bentonite 0.25" Diameter Nyaflo Tubing
		0.1					
5		0.1					Hydrated Bentonite Chips
		0.1			Vapor probe installed at 7'		Sand Pack 0.25" Diameter Vapor Implant
		0.1					Sand Pack
					Boring terminated at 8'		
10							

NOTES: Vapor probe sampled at 4:20 pm on 5/22/2017

# BORING LOG

BORING: B14  
 TOTAL DEPTH: 16'

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Southeast corral, north of commodity barn			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0					SILTY SAND, brown, with organic material		
		5.3			SILTY SAND, brown, fine grained, loose, moist		Hydrated Bentonite Chips
		1.3					Granular Bentonite
		0.6					0.25" Diameter Nyaflo Tubing
5		0.4		SM			Hydrated Bentonite Chips
		0.4			Vapor probe installed at 7'		0.25" Diameter Vapor Implant
		0.5					Sand Pack
		0.6					
10		0.5					Granular Bentonite
		0.3					
		0.5		SP	SAND with Silt and Gravel, light brown, fine to coarse grained, compact, moist		
		0.7		SM	SILTY SAND, brown, fine grained, compact, damp		Hydrated Bentonite Chips
15					Vapor probe installed at 15'		0.25" Diameter Vapor Implant
					Boring terminated at 16'		Sand Pack
20							

NOTES: Vapor probe at 7' sampled at 4:13 pm on 5/22/2017  
 Vapor probe at 15' sampled at 4:15 pm on 5/22/2017



# BORING LOG

BORING: B15  
 TOTAL DEPTH: 8'

**PARTNER**  
 Engineering and Science, Inc.  
 2154 Torrance Boulevard, Suite 200  
 Torrance, California 90501

PROJECT INFORMATION				DRILLING INFORMATION			
PROJECT:	Minaberry Land Methane Investigation			DEPTH TO GROUNDWATER:	N/A		
LOCATION:	Southeast corner of property near commodity barn			RIG TYPE:	Truck-mounted Geoprobe		
SITE ADDRESS:	8371 Eucalyptus Avenue Ontario, CA 91762			METHOD OF DRILLING:	Direct Push		
JOB NO.:	17-161616.3			SAMPLING METHODS:	4' Acetate Liners		
DATES DRILLED:	5/22/2017			BORING DIAMETER:	2"		
				FIELD TECHNICIAN:	D.H.		

DEPTH	SAMPLE	PID (ppm)	USCS	SOIL TYPE	SOIL TYPE	WELL DESIGN	WELL DESCRIPTION
0					SILTY SAND, brown, with organic material		
		0.0			SILTY SAND, brown, fine grained, loose, moist		Hydrated Bentonite Chips
		0.1					
		0.3		SM			Granular Bentonite 0.25" Diameter Nyaflo Tubing
5		0.4					Hydrated Bentonite Chips
		0.2			Vapor probe installed at 7'		Sand Pack 0.25" Diameter Vapor Implant Sand Pack
					Boring terminated at 8'		
10							

NOTES: Vapor probe sampled at 4:25 pm on 5/22/2017

**APPENDIX B: LABORATORY ANALYTICAL REPORT  
FOR SOIL GAS**

---



714-449-9937  
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**JONES ENVIRONMENTAL  
LABORATORY RESULTS**

**Client:** Partner Engineering & Science  
**Client Address:** 2154 Torrance Blvd, Suite 200  
Torrance, CA

**Report date:** 5/22/2017  
**JEL Ref. No.:** ST-10630  
**Client Ref. No.:** 16-161616.2

**Attn:** Kathy Lehnus

**Date Sampled:** 5/22/2017  
**Date Received:** 5/22/2017  
**Date Analyzed:** 5/22/2017  
**Physical State:** Soil Gas

**Project Address:** 8731 Eucalyptus Ave.  
Ontario, CA

---

**ANALYSES REQUESTED**

1. ASTM D1946 – Fixed Gases

Sampling – Soil Gas samples were collected in Tedlar bags.

Analytical – Soil Gas samples were analyzed using ASTM D1946 by GC/TCD.

**Approval:**

Colby Wakeman  
Operations Manager



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**JONES ENVIRONMENTAL  
LABORATORY RESULTS**

**Client:** Partner Engineering & Science  
**Client Address:** 2154 Torrance Blvd, Suite 200  
Torrance, CA

**Report date:** 5/22/2017  
**JEL Ref. No.:** ST-10630  
**Client Ref. No.:** 16-161616.2

**Attn:** Kathy Lehnus

**Date Sampled:** 5/22/2017  
**Date Received:** 5/22/2017  
**Date Analyzed:** 5/22/2017

**Project Address:** 8731 Eucalyptus Ave.  
Ontario, CA

**Physical State:** Soil Gas

**ASTM D1946 – Methane**

<u>Sample ID:</u>	B2-7	B3-7	B4-7	B4-15	B9-7		
<u>JEL ID:</u>	ST-10630-01	ST-10630-02	ST-10630-03	ST-10630-04	ST-10630-05	<u>Practical Quantitation Limit</u>	<u>Units</u>
Methane (CH <sub>4</sub> )	ND	ND	ND	ND	ND	100	ppmV
<u>Dilution Factor</u>	1	1	1	1	1		
	ASTM- 052217_01	ASTM- 052217_01	ASTM- 052217_01	ASTM- 052217_01	ASTM- 052217_01		

ND = Not Detected



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**JONES ENVIRONMENTAL  
LABORATORY RESULTS**

**Client:** Partner Engineering & Science  
**Client Address:** 2154 Torrance Blvd, Suite 200  
Torrance, CA

**Report date:** 5/22/2017  
**JEL Ref. No.:** ST-10630  
**Client Ref. No.:** 16-161616.2

**Attn:** Kathy Lehnus

**Date Sampled:** 5/22/2017  
**Date Received:** 5/22/2017  
**Date Analyzed:** 5/22/2017

**Project Address:** 8731 Eucalyptus Ave.  
Ontario, CA

**Physical State:** Soil Gas

**ASTM D1946 – Methane**

<u>Sample ID:</u>	<b>B6-7</b>	<b>B7-7</b>	<b>B7-15</b>	<b>B8-7</b>	<b>B5-7</b>		
<u>JEL ID:</u>	<b>ST-10630-06</b>	<b>ST-10630-07</b>	<b>ST-10630-08</b>	<b>ST-10630-09</b>	<b>ST-10630-10</b>	<u>Practical Quantitation Limit</u>	<u>Units</u>
Methane (CH <sub>4</sub> )	ND	ND	ND	<b>4000</b>	ND	100	ppmV
<u>Dilution Factor</u>	1	1	1	1	1		
	ASTM- 052217_01	ASTM- 052217_01	ASTM- 052217_01	ASTM- 052217_01	ASTM- 052217_01		

ND = Not Detected



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**JONES ENVIRONMENTAL  
LABORATORY RESULTS**

**Client:** Partner Engineering & Science  
**Client Address:** 2154 Torrance Blvd, Suite 200  
Torrance, CA

**Report date:** 5/22/2017  
**JEL Ref. No.:** ST-10630  
**Client Ref. No.:** 16-161616.2

**Attn:** Kathy Lehnus

**Date Sampled:** 5/22/2017  
**Date Received:** 5/22/2017  
**Date Analyzed:** 5/22/2017

**Project Address:** 8731 Eucalyptus Ave.  
Ontario, CA

**Physical State:** Soil Gas

**ASTM D1946 – Methane**

<u>Sample ID:</u>	<b>B14-7</b>	<b>B14-15</b>	<b>B13-7</b>	<b>B15-7</b>	<b>B10-7</b>		
<u>JEL ID:</u>	ST-10630-11	ST-10630-12	ST-10630-13	ST-10630-14	ST-10630-15	<u>Practical Quantitation Limit</u>	<u>Units</u>
Methane (CH <sub>4</sub> )	<b>15000</b>	<b>10000</b>	ND	ND	<b>45000</b>	100	ppmV
<u>Dilution Factor</u>	1	1	1	1	1		
	ASTM-052217_01	ASTM-052217_01	ASTM-052217_01	ASTM-052217_01	ASTM-052217_01		

ND = Not Detected



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**JONES ENVIRONMENTAL  
 LABORATORY RESULTS**

**Client:** Partner Engineering & Science  
**Client Address:** 2154 Torrance Blvd, Suite 200  
 Torrance, CA

**Report date:** 5/22/2017  
**JEL Ref. No.:** ST-10630  
**Client Ref. No.:** 16-161616.2

**Attn:** Kathy Lehnus

**Date Sampled:** 5/22/2017  
**Date Received:** 5/22/2017  
**Date Analyzed:** 5/22/2017

**Project Address:** 8731 Eucalyptus Ave.  
 Ontario, CA

**Physical State:** Soil Gas

**ASTM D1946 – Methane**

<u>Sample ID:</u>	<b>B12-7</b>	<b>B11-7</b>	<b>B1-7</b>	<b>B5-7 DUP</b>		
<u>JEL ID:</u>	ST-10630-16	ST-10630-17	ST-10630-18	052217- TCDUP1	<u>Practical Quantitation Limit</u>	<u>Units</u>
Methane (CH <sub>4</sub> )	ND	ND	ND	ND	100	ppmV
<u>Dilution Factor</u>	1	1	1	1		
	ASTM- 052217_01	ASTM- 052217_01	ASTM- 052217_01	ASTM- 052217_01		

ND = Not Detected



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**JONES ENVIRONMENTAL  
 LABORATORY RESULTS**

**Client:** Partner Engineering & Science  
**Client Address:** 2154 Torrance Blvd, Suite 200  
 Torrance, CA

**Report date:** 5/22/2017  
**JEL Ref. No.:** ST-10630  
**Client Ref. No.:** 16-161616.2

**Attn:** Kathy Lehnus

**Date Sampled:** 5/22/2017  
**Date Received:** 5/22/2017  
**Date Analyzed:** 5/22/2017

**Project Address:** 8731 Eucalyptus Ave.  
 Ontario, CA

**Physical State:** Soil Gas

**ASTM D1946 – Methane**

<u>Sample ID:</u>	<b>METHOD</b>		
<u>JEL ID:</u>	<b>BLANK</b>		
	<b>052217-TCMB1</b>	<u>Practical</u>	<u>Units</u>
		<u>Quantitation</u>	
		<u>Limit</u>	
Methane (CH <sub>4</sub> )	ND	100	ppmV
<b><u>Dilution Factor</u></b>	1		
	ASTM-052217_01		

ND = Not Detected





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**JONES ENVIRONMENTAL  
 QUALITY CONTROL INFORMATION**

**Client:** Partner Engineering & Science  
**Client Address:** 2154 Torrance Blvd, Suite 200  
 Torrance, CA

**Report date:** 5/22/2017  
**JEL Ref. No.:** ST-10630  
**Client Ref. No.:** 16-161616.2

**Attn:** Kathy Lehnus

**Date Sampled:** 5/22/2017  
**Date Received:** 5/22/2017  
**Date Analyzed:** 5/22/2017

**Project Address:** 8731 Eucalyptus Ave.  
 Ontario, CA

**Physical State:** Soil Gas

**ASTM D1946 – Methane**

**GC#:** ASTM-052217\_01

**JEL ID:**                    **052217-TCLCS1**    **052217-TCLCSD1**

<u>Parameter</u>	LCS Recovery (%)	LCSD Recovery (%)	<u>RPD</u>	Acceptability Range (%)
Methane (CH <sub>4</sub> )	104%	104%		60 - 140

LCS = Lab Control Sample  
 LCSD = Lab Control Sample Duplicate  
 RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%



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 Santa Fe Springs, CA 90670  
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# Chain-of-Custody Record

LAB USE ONLY

Jones Project #

ST-10630

Page

1 of 2

Sample Condition as Received:

Chilled  yes  no  
 Sealed  yes  no

Client: Partner  
 Project Name:  
 Project Address: 8731 Eucalyptus Ave  
 Ontario, CA, 91764  
 Email: Klehnus@partneresi.com  
 Report To: Kathy Lehnus. Sampler: D. Horrell

Date: 05/22/17  
 Client Project #: 16-161616.2  
 Sample Container / Preservative Abbreviations:  
 AS - Acetate Sleeve  
 SS - Stainless Steel Sleeve  
 BS - Brass Sleeve  
 G - Glass  
 AB - Amber Bottle  
 P - Plastic  
 SOBI - Sodium Bisulfate  
 MeOH - Methanol  
 HCl - Hydrochloric Acid  
 HNO3 - Nitric Acid  
 O - Other (See Notes)

Turn Around Requested:

- Immediate Attention  
 Rush 24 Hours  
 Rush 48 Hours  
 Rush 72 Hours  
 Normal

Report Options

EDD \_\_\_\_\_  
 EDF\* - 10% Surcharge \_\_\_\_\_  
 \*Global ID \_\_\_\_\_

Analysis Requested

Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)

ASTM 1946 Methue

11 of 120

Number of Containers

Sample ID	Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Sample Matrix	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Notes & Special Instructions
<del>B2-8</del> B2-7	05/22	1245	ST-10630-01		SG	X													Tedlar
<del>B3-8</del> B3-7		1249	ST-10630-02		SG	+													
<del>B9-8</del> B9-7 <sup>04-7</sup> @		1254	ST-10630-03		SG	X													
<del>B9-15</del> B4-15 <sup>9</sup> @		1259	ST-10630-04		SG	X													
<del>B10-8</del> B10-8 <sup>9</sup> @		1303	ST-10630-05		SG	X													
<del>B6-8</del> B6-8		1318	ST-10630-06		SG	X													
<del>B7-8</del> B7-8		1322	ST-10630-07		SG	X													
<del>B17-15</del> B7-15		1324	ST-10630-08		SG	X													
<del>B8-8</del> B8-7		1352	ST-10630-09		SG	X													
<del>B5-8</del> B5-7		1610	ST-10630-10		SG	Y													

Relinquished By (Signature): David Horrell  
 Printed Name: DAVID HORRELL

Received By (Signature): Chris Jones  
 Printed Name: Chris Jones

Total Number of Containers: 10

Company: Partner ESI  
 Date: 5/22/17 Time: 1800

Company: JEL  
 Date: 05/22/17 Time: 1800

Relinquished By (Signature): Chris Jones  
 Printed Name: Chris Jones

Received By Laboratory (Signature): Jessica Kyees  
 Printed Name: Jessica Kyees

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.

Company: JEL  
 Date: 05/22/17 Time: 1905

Company: Jones Environmental  
 Date: 5/22/17 Time: 1905



11007 Forest Pl.  
 Santa Fe Springs, CA 90670  
 (714) 449-9937  
 Fax (714) 449-9685  
 www.jonesenv.com

# Chain-of-Custody Record

LAB USE ONLY

Jones Project #

ST-10630

Page

2 of 2

Sample Condition as Received:

Chilled  yes  no  
 Sealed  yes  no

Client Partner  
 Project Name \_\_\_\_\_  
 Project Address 8731 Eucalyptus Ave.  
Ontario, CA  
 Email Klehous @ partneresi.com  
 Phone \_\_\_\_\_  
 Report To Kathy Lehous Sampler D. Horrell

Date 05/22/17  
 Client Project # 16-161616.2  
 Sample Container / Preservative Abbreviations  
 AS - Acetate Sleeve  
 SS - Stainless Steel Sleeve  
 BS - Brass Sleeve  
 G - Glass  
 AB - Amber Bottle  
 P - Plastic  
 SOB1 - Sodium Bisulfate  
 MeOH - Methanol  
 HCl - Hydrochloric Acid  
 HNO3 - Nitric Acid  
 O - Other (See Notes)

Turn Around Requested:

- Immediate Attention
- Rush 24 Hours
- Rush 48 Hours
- Rush 72 Hours
- Normal

Report Options

EDD \_\_\_\_\_  
 EDF\* - 10% Surcharge \_\_\_\_\_

\*Global ID \_\_\_\_\_

Analysis Requested

Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)	ASTM 1946 Meth																			

Sample ID	Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Sample Matrix	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Analysis Requested	Notes & Special Instructions
B17-8' B17-7'*	05/22	1613	ST-10630-11		SG	X														* Sample ID: B14-7'
B17-15' B17-15'*		1615	ST-10630-12		SG	X														* Sample ID: B14-15' @ B15-7'
B16-8' B16-7'*		1620	ST-10630-13		SG	X														* Sample ID: B13-7'
B18-8' B18-7'*		1625	ST-10630-14		SG	X														* Sample ID: B15-7' @ B16-7'
B11-8' B11-7'*		1635	ST-10630-15		SG	X														* Sample ID: B10-7'
B15-8' B15-7'*		1652	ST-10630-16		SG	X														* Sample ID: B12-7'
B13-8' B13-7'*		1707	ST-10630-17		SG	X														* Sample ID: B11-7'
B1-8' B1-7'		1745	ST-10630-18		SG	X														

Relinquished By (Signature) <u>David Horrell</u>	Printed Name <u>DAVID HORRELL</u>	Received By (Signature) <u>Chris Jones</u>	Printed Name <u>Chris Jones</u>	8 Total Number of Containers
Company <u>Partner ESI</u>	Date <u>5/22/17</u> Time <u>1800</u>	Company <u>JEL</u>	Date <u>05/22/17</u> Time <u>1800</u>	
Relinquished By (Signature) <u>Chris Jones</u>	Printed Name <u>Chris Jones</u>	Received By Laboratory (Signature) <u>Jessica Kyeas</u>	Printed Name <u>Jessica Kyeas</u>	Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.
Company <u>JEL</u>	Date <u>05/22/17</u> Time <u>1905</u>	Company <u>Jones Environmental</u>	Date <u>5/22/17</u> Time <u>1905</u>	

## APPENDIX C: CITY REGULATORY INFORMATION

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## City of Ontario

### BUILDING DEPARTMENT

303 EAST "B" STREET, CIVIC CENTER, ONTARIO, CALIFORNIA 91764-4196  
TELEPHONE: (909) 395-2023 FAX: (909) 395-2180

#### METHANE ASSESSMENT FOR PROJECTS IN THE NEW MODEL COLONY

Applicants shall provide for the Building Department's review and approval, a methane assessment report addressing whether the property in questions was ever used as a dairy, poultry ranch, hog ranch, livestock feed operation site, manure stockpile site, manure/livestock burial site, run-off ponds, or for any other purpose that might result in the deposition of materials which might produce methane.

The report shall be prepared by a licensed engineer or licensed geologist and shall include the following:

- Historic aerial photos and historic topographic map review.
- Interviewing the owner/land managers for possible locations of potential methane generation areas.
- Site reconnaissance to determine the current site usage and conditions.
- Identifying potential methane areas.
- A proposed scope of work for post-grading methane investigation based on the historical study.

This report may be included as part of the soils and geology report and shall be submitted to the Building Department for review and approval at the time building permit applications are filed.

All lots in potential methane areas identified in the Methane Site Assessment report shall be tested for the presence of any methane and its concentration 30 days after building pads are graded and created.

A report, prepared by a licensed engineer or geologist and separate from the Methane Site Assessment report, summarizing the methane test conducted, the location/lot where methane is found and its concentration, and the recommended mitigation measures shall be submitted to the Building Department for review and approval. This test report could be a standalone report or be a part of the soils and geology report. This test report should be submitted together with building plans when permit applications are filed, or thereafter as soon as it is available. No building permit will be issued until the test report is approved by the Building Department, and the lots with methane and any required mitigation measures are shown on building plans.

#### METHANE DESIGN GUIDELINES

Measured Methane Concentration (ppm)	Minimum Mitigation Guidelines
< 15,000	Provide a 10-mil moisture barrier. Seal utility conduits and other penetration in an approved method.
> 15,000	Provide a 10-mil moisture barrier. Seal utility conduits and other penetration in an approved method. Also include any remediation required by the Engineer of record.
Waste, Burial Site, Pond, Lowland	Require methane report prepared by a licensed engineer or geologist on required remediation.