Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

December 10, 2009 03-23551-03

Mr. Matt Denio
Dayton Land Developers, LLC
523 Little Sorrel Court
Reno, NV 89521

Subject: **SOIL SAMPLING**
Santa Maria Ranch Subdivision, Phase II
Dayton, Nevada

Dear Mr. Denio:

INTRODUCTION

On November 7, 2008, Converse Consultants (Converse) presented a sampling plan to conduct random soil samples within the Phase II area of the Santa Maria Ranch Subdivision. The subdivision is in the area of the Carson River Mercury Site (CRMS). The CRMS is 50 miles in length within the Carson River and its floodplain beginning near Carson City, Nevada, and extends downstream to the Lahontan Valley. Contamination at the site is a legacy of the Comstock mining era of the late 1800s when mercury was imported for the processing of gold and silver ore. Based upon topography, the Phase II portion of the Santa Maria Ranch is outside the floodplain of the Carson River with the exception of a small area that will be used for stormwater control and undisturbed open space. However, the area in question is intersected with the Town Ditch; this ditch was used to supply irrigation water from the Carson River to the irrigated fields located in the project area.

SITE HISTORY

Between 1993 and 1995, the Environmental Protection Agency (EPA) conducted an assessment of the CRMS and identified four areas within the site they believed contained soil that may endanger public heath. None of the areas were within the boundaries of Santa Maria Ranch. All areas identified by EPA have been remediated, which included the removal of two feet of contaminated soil and replacement with clean soil. During the assessment, EPA established a mercury clean-up level for the Dayton area. Clean-up levels are set below the level evaluated to pose a health risk to children and pregnant women. This population is studied as a matter of course due to the fact that children and pregnant women are the most sensitive to environmental conditions. Based on extensive site specific information, as well as available toxicology studies, EPA set the clean-up levels for residential soils at 80 parts per million (ppm) for the Dayton area. This means that soil containing mercury levels up to 80 ppm do not require any clean-up action and are safe to be used in residential applications.

IDENTIFICATION OF SAMPLE LOCATIONS

Dayton Land Developers, LLC request that Converse develop a sampling plan to test the soil along the Town Ditch as well as in the irrigated field. The plan identified 9 locations for soil sampling along the ditch. The samples along the ditch were collected December 30, 2008. None of these sample reported mercury levels greater than 80 ppb. Converse presented a sampling report dated January 19, 2009 (documentation of sampling), as well as a Work Plan dated June 30, 2009 (identification of additional sample locations to cover irrigated field). After the review of the information submitted the Nevada Division of Environmental Protection (NDEP) requested a meeting to discuss the additional sample locations. The meeting was held October 22, 2009. During the meeting five addition sample locations were identified. These locations were tied to the former Ophir Mill, Daney Canyon drainage and the Carson River 100 year flood plain.

SOIL SAMPLING

On November 10, 2009, Converse mobilized to the site to collect soil samples at the five locations identified during the October 22, 2009 meeting with NDEP. Converse excavated a test pit at each location utilizing pre cleaned hand held equipment. The equipment was decontaminated between locations. Samples were collected from 0 to 1 foot and 1 to 2 foot at each location. Samples were placed in laboratory supplied jars, sealed, placed on ice, and delivered to a Nevada Certified Laboratory under proper chain of custody. The samples were analyzed for total mercury by EPA method 7471A. The analytical results are summarized in the following table:

Sample Location	Lab Designation	Easting*	Northing	Location Logic	Sample Depth	Results Parts Per Million (ppm)
B-10	S-01	274806.8	4344167.8	Site of former Ophir Mill	0 to 1'	0.90
B-10	S-02				1'to2'	0.58
B-11	S-03	274710.2	4344598.3	Located in former Daney Canyon Drainage	0 to 1'	1.6
B-11	S-04				1'to2'	0.91
B-12	S-05	274936.4	4344482.8	Located in former Daney Canyon Drainage	0 to 1'	0.48
B-12	S-06				1'to2'	0.13
B-13	S-07	275011.7	4344269.6	Down-gradient of former Ophir Mill	0 to 1'	0.54
B-13	S-08				1'to2'	0.93
B-14	S-09	274781.5	4344077.4	In 100 Flood Plain of Carson River	0 to 1'	15
B-14	S-10				1'to2'	0.53

*UTM Zone 11N NAD 83 Meters Datum

CONCLUSIONS AND RECOMMENDATIONS

Of the ten samples analyzed none are approaching the EPA action level of 80 ppm. The highest value measured was 15 ppm in B-14 from 0 to 1 foot. In general, it appears the shallower soils have higher mercury levels than the deeper soil. Additionally, the sample analyzed from the December 30, 2008 sampling event did not approach the EPA action level of 80 ppm. Based upon these results, there is no evidence that the soil mercury levels within the Santa Maria Ranch Subdivision, Phase II will be over the EPA Action Level of 80 ppm. Therefore, Dayton Land Developers, LLC, is requesting that NDEP not require soil testing for mercury on the final lots for Santa Maria Phase II. Dayton Land Developers, LLC understands this decision would only apply to Santa Maria Ranch Phase II.

CLOSURE

The behavior of subsurface contaminants is a complex phenomenon involving geochemistry, hydrogeology, and the geotechnical sciences. Converse's conclusions regarding the potential for subsurface contamination are based solely upon information cited in this report. The analyses and conclusions in this report are based upon data obtained from this assessment and the public well data that was reviewed for this report. The nature and extent of variations beyond this assessment may not become evident until further exploration. If variations then appear evident, it may be necessary to reevaluate the conclusions of this report. The professional services provided, and judgment rendered on this project, meet current professional standards and do not carry any other guarantee.

Converse accepts no responsibility or liability to any person or organization for any claim, for loss or damage (including attorney's fees) caused, or believed to be caused, directly or indirectly by: conditions not revealed by the laboratory analysis performed; failure to perform other chemical analyses or utilize different test methods or equipment; or failure to locate or install additional sample points, test pits, soil borings, or monitoring wells.

If you have any questions about the information presented above, please contact our office at 775-856-3833.

Respectfully submitted,

CONVERSE CONSULTANTS

Kathi Brandmueller, P.E., C.E.M.[1]
Senior Engineer

Reviewed and Approved

Dean Stanphill, P.E.
Vice President/Managing Officer

Enclosures: Site Map
Laboratory Results

cc/with enclosures: David Friedman, NDEP
W. Marvin Tebeau, Resource Concepts

[1] *I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all Federal, State, and local statues, regulations, and ordinances.*

Western Environmental Testing Laboratory
Analytical Report

Converse Consultants
4840 Mill Street #5
Reno, NV 89502
Attn: Kathi Brandmueller
Phone: (775) 856-3833 **Fax:** (775) 856-3513
PO\Project: *03-23551-03*

Date Printed: 11/23/2009
OrderID: *0911089*

Customer Sample ID: S-01/B-11 0'-1' **Collect Date/Time:** 11/10/2009 08:35
WETLAB Sample ID: 0911089-001 **Receive Date:** 11/10/2009 14:31

Parameter	Method	Results	Units	Reporting Limit	Date Analyzed
Mercury	SW846 7471A	0.90	mg/kg	0.80	11/13/2009

Customer Sample ID: S-02/B-11 1'-2' **Collect Date/Time:** 11/10/2009 08:58
WETLAB Sample ID: 0911089-002 **Receive Date:** 11/10/2009 14:31

Parameter	Method	Results	Units	Reporting Limit	Date Analyzed
Mercury	SW846 7471A	0.58	mg/kg	0.10	11/13/2009

Customer Sample ID: S-03/B-12 0'-1' **Collect Date/Time:** 11/10/2009 09:20
WETLAB Sample ID: 0911089-003 **Receive Date:** 11/10/2009 14:31

Parameter	Method	Results	Units	Reporting Limit	Date Analyzed
Mercury	SW846 7471A	1.6	mg/kg	0.85	11/13/2009

Customer Sample ID: S-04/B-12 1'-2' **Collect Date/Time:** 11/10/2009 09:31
WETLAB Sample ID: 0911089-004 **Receive Date:** 11/10/2009 14:31

Parameter	Method	Results	Units	Reporting Limit	Date Analyzed
Mercury	SW846 7471A	0.91	mg/kg	0.85	11/13/2009

Customer Sample ID: S-05/B-13 0'-1' **Collect Date/Time:** 11/10/2009 09:47
WETLAB Sample ID: 0911089-005 **Receive Date:** 11/10/2009 14:31

Parameter	Method	Results	Units	Reporting Limit	Date Analyzed
Mercury	SW846 7471A	0.48	mg/kg	0.10	11/13/2009

Customer Sample ID: S-06/B-13 1'-2' **Collect Date/Time:** 11/10/2009 10:08
WETLAB Sample ID: 0911089-006 **Receive Date:** 11/10/2009 14:31

Parameter	Method	Results	Units	Reporting Limit	Date Analyzed
Mercury	SW846 7471A	0.13	mg/kg	0.10	11/13/2009

Customer Sample ID: S-07/B-10 0'-1' **Collect Date/Time:** 11/10/2009 10:21
WETLAB Sample ID: 0911089-007 **Receive Date:** 11/10/2009 14:31

Parameter	Method	Results	Units	Reporting Limit	Date Analyzed
Mercury	SW846 7471A	0.54	mg/kg	0.10	11/13/2009

Customer Sample ID: S-08/B-10 1'-2' **Collect Date/Time:** 11/10/2009 10:42
WETLAB Sample ID: 0911089-008 **Receive Date:** 11/10/2009 14:31

Parameter	Method	Results	Units	Reporting Limit	Date Analyzed
Mercury	SW846 7471A	0.93	mg/kg	0.75	11/13/2009

Customer Sample ID: S-09/B-14 0'-1' **Collect Date/Time:** 11/10/2009 11:12
WETLAB Sample ID: 0911089-009 **Receive Date:** 11/10/2009 14:31

Parameter	Method	Results	Units	Reporting Limit	Date Analyzed
Mercury	SW846 7471A	15	mg/kg	8.1	11/13/2009

Customer Sample ID: S-10/B-14 1'-2' **Collect Date/Time:** 11/10/2009 11:36
WETLAB Sample ID: 0911089-010 **Receive Date:** 11/10/2009 14:31

Parameter	Method	Results	Units	Reporting Limit	Date Analyzed
Mercury	SW846 7471A	0.53	mg/kg	0.10	11/13/2009

Western Environmental Testing Laboratory
QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC0911212	Blank 1	Mercury	SW846 7471 A	<0.10	mg/kg Dry
QC0911212	Blank 2	Mercury	SW846 7471 A	<0.10	mg/kg Dry
QC0911212	Blank 3	Mercury	SW846 7471 A	<0.10	mg/kg Dry

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC0911212	LCS 1	Mercury	SW846 7471 A	0.169	0.167	101	mg/kg

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC0911212	MS 1	Mercury	SW846 7471 A	0911056-001	<4.50	19.2	15.8	19.1	mg/kg	101	83	19 %
QC0911212	MS 2	Mercury	SW846 7471 A	0911089-010		0.673	0.804	0.167	mg/kg	85	164	18 %

Western Environmental Testing Laboratory
Report Comments

Converse Consultants - 911089

General Comments

None

Specific Comments

None

Data Qualifier Legend

B – Blank contamination; Analyte detected above the method reporting limit in an associated blank

HT – Sample held beyond the accepted holding time

J – The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

M – Reported value is estimated; The sample matrix interfered with the analysis

N – There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.

NC – Not calculated due to matrix interference

Q – Reported value is estimated; The value failed to meet QC criteria for either precision or accuracy

SA – Reported value was calculated using the method of Standard Additions.

SC – Spike recovery not calculated. Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.