



TRANSMITTAL

Date: August 6, 2014
Kleinfelder Project No.: 102657

To:

Mr. Panjini Balaraju
Department of Ecology
Southwest Region Office, Toxics Cleanup Program
P.O. Box 47775
Olympia, WA 98504-7775

Subject:

**2014 - FINAL GROUNDWATER MONITORING EVENT
GROUNDWATER MONITORING REPORT
MEARS GRAMOR - CENTER SQUARE - SOUTH
NE 20th AVENUE & NE HIGHWAY 99
ASTRO #607 -TRAIL MART
ECOLOGY VCP #SW0821
VANCOUVER, WASHINGTON**

We are sending the following:

One copy of the above-referenced report.

Remarks:

If you have any questions, please contact our office at (503) 644-9447.
Thank you.

By:

A handwritten signature in blue ink that reads "Peter L. Stroud". The signature is written in a cursive style with a large initial 'P'.

Peter L. Stroud, L.E.G.
Principal Engineering Geologist



**2014–FINAL GROUNDWATER MONITORING EVENT
GROUNDWATER MONITORING REPORT
MEARS GRAMOR
CENTER SQUARE - SOUTH
NE 20th AVENUE & NE HIGHWAY 99
ASTRO #607 - TRAIL MART
ECOLOGY VCP #SW0821
VANCOUVER, WASHINGTON**

**KLEINFELDER PROJECT NO. 00102657
August 6, 2014**

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PROJECT FOR WHICH THIS REPORT WAS PREPARED.**



August 6, 2014
Kleinfelder Project No.: 102657

Mr. Ryan Cain
Mears Gramor, LLC
19767 SW 72nd Avenue, #100
Tualatin, Oregon 97062

**Subject: 2014 – Final Groundwater Monitoring Event
Groundwater Monitoring Report
Mears Gramor - Center Square - South
NE 20th Avenue & NE Highway 99
Astro #607 - Trail Mart
Ecology VCP #SW0821
Vancouver, Washington**

Dear Mr. Cain:

Kleinfelder is pleased to submit this report that summarizes the field activities and findings of the final groundwater monitoring event conducted at the above-referenced site in Vancouver, Washington. The monitoring schedule was on an 18-month frequency in accordance with the site's No Further Action determination. The Washington Department of Ecology (Ecology) conducted a Periodic Review and concluded there was sufficient information to support termination of the site's Environmental Covenant (EC). Ecology is preparing Periodic Review information and the notice to terminate the EC for public review. After public review and final Ecology approval, groundwater monitoring will no longer be required for the site. The No Further Action status will also continue to be in effect.

Kleinfelder appreciates the opportunity to be of service on this project. Should you require additional information or have any questions regarding this report, please contact this office at your convenience.

Sincerely,
KLEINFELDER, INC.

A handwritten signature in blue ink that reads "Peter L. Stroud".

Peter L. Stroud, L.E.G.
Principal Engineering Geologist

cc: Mr. Scott Rose and Mr. Panjini Balaraju, Washington Department of Ecology

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1 INTRODUCTION

This report summarizes the field activities and findings of the final groundwater monitoring event at the site. Groundwater monitoring has been conducted on an 18-month frequency. The groundwater monitoring event was conducted on April 30, 2014, at the Mears Gramor, LLC, Center Square – South property. The site consists of the southern half of two conjoined sites located between NE 20th Avenue and NE Highway 99 in Vancouver, Washington (Figure 1). Previous reports combined the two sites due to single ownership and subsequent development as a single property with multiple retail outlets. However, due to the nature of the two separate, and chemically different potential contaminant plumes, this report will only focus on what is now called Center Square - South. A groundwater monitoring program was reinstated at the site in April 2005 following installation of three groundwater monitoring wells (Kleinfelder, 2005). Groundwater monitoring was conducted to evaluate seasonal groundwater fluctuations and residual impacts to groundwater from previous petroleum hydrocarbons detected at the site in 2005. A No Further Action (NFA) determination dated December 17, 2009 was issued by the Washington Department of Ecology (Ecology). However, as part of the NFA an Environmental Covenant was recorded which required groundwater monitoring to be conducted at 18-month intervals starting with the August 2009 groundwater monitoring event. The groundwater monitoring protocol is described in a Sampling and Analysis Plan prepared by Kleinfelder, dated August 4, 2009, that is an enclosure to the Environmental Covenant.

Ecology's policy includes a Periodic Review on 5-year intervals to assess site conditions and evaluate if the monitoring scope can be changed or possibly terminated. A Periodic Review was conducted in 2014, and Ecology determined there was sufficient information to propose terminating the Environmental Covenant.

2 SITE DESCRIPTION

The site consists of the southern half of a triangular parcel of land bounded on the north by NE 134th Street, on the east by NE 20th Avenue, and on the west by NE Highway 99 (Figure 1). The property is situated in the southeast quarter of the northwest quarter of Section 26, Township 3 North, Range 1 East, Willamette Meridian, Clark County, Washington (U.S. Geological Survey, 1970).

Center Square – South consists of various new retail outlets constructed where the former Trail Mart convenience store / Astro #607 (Astro) was located in the southern portion of the property (previously referred to as Lot 24). Underground storage tanks (USTs) and associated piping and dispensers were completely removed in 2004. A site assessment was conducted in 2005 (Kleinfelder 2005), and a boring (KAB-01) drilled through the former UST nest encountered petroleum-impacted soil and groundwater (gasoline) at the soil/groundwater interface. A site location map is included as Figure 1.

Monitoring wells KMW-01 and KMW-02 (installed by Kleinfelder) and MW-3 (installed by others) were located on the former Astro site on the southern portion of the property. Monitoring well KMW-01 was apparently destroyed during site re-development. A multi-tenant retail building currently occupies Center Square - South. Monitoring wells MW-1 and MW-2 (previously located at Astro) were abandoned on March 7, 2006, according to Ecology well reports. Monitoring wells KMW-02 and MW-3 are still present on the site. The site features, including the current and former monitoring wells, are shown in Figure 2.

The property is located in the commercial district of greater Vancouver, Washington. The property elevation is approximately 200 feet above mean sea level. An unnamed creek is located approximately 1,200-feet northeast of the property.

The unnamed creek flows east to join Salmon Creek located approximately 3,000-feet east of the property. The property is essentially level, and topography in the property vicinity slopes gently to the northeast, towards the unnamed creek mentioned above (U.S. Geological Survey, 1970).

3 GROUNDWATER MONITORING AND ANALYTICAL METHODS

On April 30, 2014, groundwater levels were measured in monitoring wells KMW-02 and MW-3 using an electronic water level indicator. The monitoring wells were purged and sampled following the protocols outlined in Appendix A.

Groundwater samples were placed in an ice-chilled cooler and transported under chain-of-custody documentation to ESC Lab Sciences of Mount Juliet, Tennessee for analysis. Samples were analyzed for gasoline-range petroleum hydrocarbons by Northwest Test Method NWTPH-Gx in accordance with the Ecology NFA requirements. A copy of the laboratory report and chain-of-custody form are provided in Appendix B.

4 GROUNDWATER MONITORING RESULTS

On April 30, 2014, groundwater levels were measured in monitoring wells KMW-02 and MW-03. The groundwater levels were 20.4 to 20.1 feet below the top of the well casings, and the corresponding groundwater elevations were 175.21 to 175.43 feet above mean sea level, respectively.

A summary of the 2014 event and historic groundwater levels and elevations is presented in Table 1. The 2014 groundwater monitoring event groundwater elevations and non-detect petroleum hydrocarbon constituent concentrations are shown on Figure 2. The 2014 laboratory data is presented in Appendix B.

A summary of the 2014 event and historic groundwater sample analytical results is provided in Table 2. The non-detect petroleum hydrocarbon constituent laboratory analytical results from the 2014 monitoring event were compared to their respective MTCA Method A groundwater cleanup levels (Ecology, 2007). The MTCA Method A groundwater cleanup levels used for comparison are provided in Table 2.

Gasoline was not detected at or above the laboratory reporting limit in groundwater samples collected from monitoring wells KMW-02 and MW-3 for the 2014 event. Gasoline petroleum hydrocarbons have not been detected in monitoring wells KMW-02 and MW-3 since April 2005 when groundwater monitoring was initiated in these two wells.

5 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based on Kleinfelder's knowledge of the subject property from site observations, historical knowledge of site activities, site characterization, and groundwater monitoring. These conclusions and recommendations are subject to the limitations presented in this report, and may change if additional information becomes available.

Two groundwater monitoring wells (KMW-01 and KMW-02) were installed at the site by Kleinfelder for the purpose of evaluating groundwater quality. In addition, two previously existing monitoring wells, MW-1 (now abandoned) and MW-3 have also been utilized in conjunction with wells KMW-01 and KMW-02 to evaluate groundwater quality at the site. The groundwater data collected during monitoring events performed prior to February 2007 suggest that the near-surface groundwater flow direction is generally to the north-northeast, which is generally consistent with the flow direction on the adjacent site to the north. KMW-01 is inaccessible and has not been sampled since November 2005.

Based on the historic groundwater flow direction and potential onsite contaminant source areas, the monitoring well network appeared to be appropriately situated for the purposes intended. KMW-01 was previously used to evaluate the up-gradient extent of petroleum-impacted groundwater, and monitoring wells KMW-02 and MW-3 were used to evaluate the down-gradient extent of potential petroleum-impacted groundwater. Concentrations of petroleum hydrocarbon-related constituents have been non-detect in monitoring wells KMW-02 and MW-3 since 2005, which indicates that the downgradient extent of impacted groundwater has been delineated and impacted groundwater, if present, would appear to be limited to the immediate vicinity of 2005 boring KAB-01 and therefore, does not extend beyond the property boundary.

Kleinfelder prepared a Disproportionate Cost Analysis (DCA) to evaluate cost / benefits for potential remediation and proportionate reduction of risk to support site closure. The DCA was submitted to the Washington Department of Ecology for review on February 23, 2009 (Kleinfelder, 2009). Owner representatives and Kleinfelder met with Ecology project manager, Scott Rose, on April 16, 2009 to discuss site closure. Kleinfelder prepared a technical

memorandum for Ecology review that provided additional supporting information for site closure prior to the third quarter 2009 sampling event. Ecology approved site closure and issued a No Further Action (NFA) determination for the site on December 17, 2009. The NFA included an Environmental Covenant which required groundwater monitoring of the two site wells every 18 months. Ecology conducted a Periodic Review in 2014 and concluded there was sufficient information to support termination of the site's Environmental Covenant. Ecology is preparing Periodic Review information and the notice to terminate the Environmental Covenant for public review. After public review and final Ecology approval, groundwater monitoring will no longer be required for the site. Currently, a future sampling event is not anticipated.

6 REFERENCES

Kleinfelder, Inc., 2005. Supplemental Site Characterization Report, Gramor – Center Square, NE 20th Avenue & NE Highway 99, Lil Colonel Drive-In – Ecology Site #50743515, Astro #607 – Trail Mart – Ecology Facility #5995, Vancouver, Washington, May 12.

Kleinfelder, 2009, Feasibility Study and Disproportionate Cost Analysis, Gramor – Center Square – South: Former Astro #607 13117 NE Highway 99, Vancouver, Washington, Facility/Site No. 6943927, February 23.

Kleinfelder, 2012, Eighteen-Month Event 2012, Groundwater Monitoring Report, Mears Gramor – Center Square – South, NE 20th Avenue & NE Highway 99, Astro #607 – Trail Mart, Ecology VCP #SW0821, Vancouver, Washington, December 13.

U.S. Geological Survey, 1970. Vancouver, Washington, 7.5-Minute Topographic Quadrangle, Scale 1:24,000.

Washington State Department of Ecology (Ecology), 2007. Model Toxics Control Act Cleanup Regulations, Chapter 173-340-WAC: Toxics Cleanup Program, Publication No. 94-06, October 12.

7 LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions, and at the date the services are provided. Our conclusions, opinions, and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

This report may be used only by Mears Gramor, LLC, and the Washington Department of Ecology and only for the purposes stated for this specific engagement within a reasonable time from its issuance, but in no event later than one (1) year from the date of the report.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. Although risk can never be eliminated, more-detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will indicate that Mears Gramor, LLC, has reviewed the document and determined that it does not need or want a greater level of service than provided.

Kleinfelder assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Mears

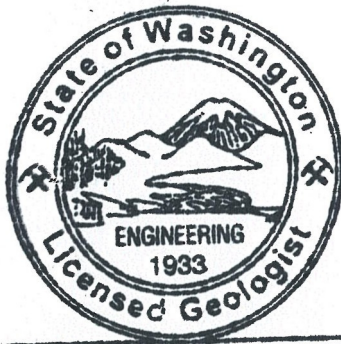
Gramor, LLC, is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services.

8 PROFESSIONAL AUTHENTICATION

This report has been prepared and reviewed by the undersigned. This report is void if original seal and signature are not present.



Reid F. Kenner
Project Professional



Peter L. Stroud

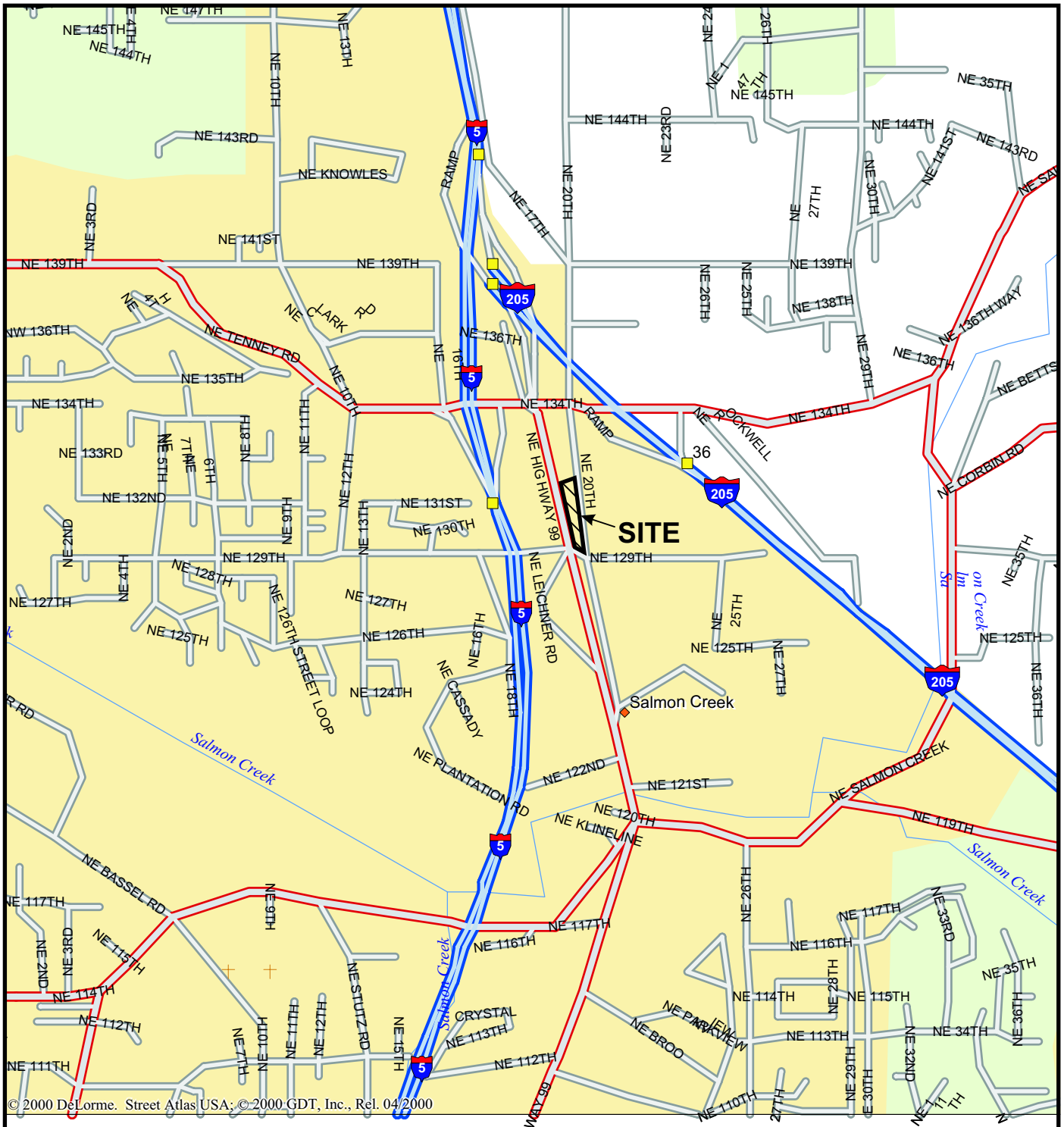


Peter L. Stroud, L.E.G
Principal Engineering Geologist



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Mag 15.00
 Tue May 03 10:41 2005
 Scale 1:15,625 (at center)
 1000 Feet
 500 Meters

- Local Road
- Major Connector
- Interstate/Limited Access
- Exit
- River/Canal
- Site

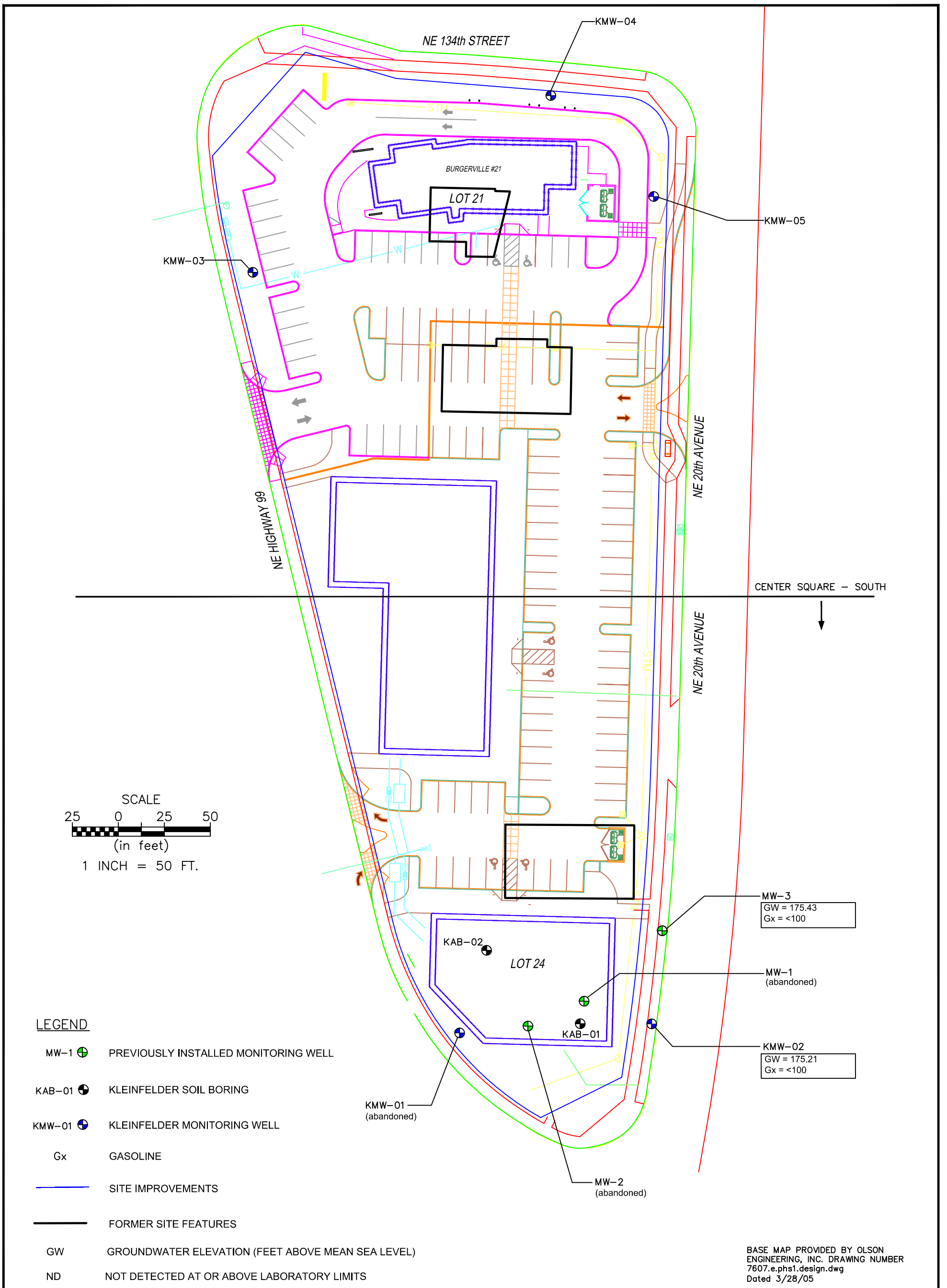


PROJECT NO.	102657
DRAWN:	10/09
DRAWN BY:	TLK
CHECKED BY:	CW
FILE NAME:	102657F1.cdr

SITE LOCATION MAP

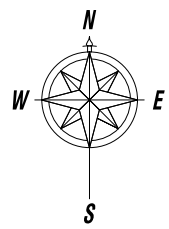
**MEARS GRAMOR CENTER SQUARE - SOUTH
 NE 20TH AVENUE AND NE HIGHWAY 99
 VANCOUVER, WASHINGTON**

FIGURE:
1



BASE MAP PROVIDED BY OLSON ENGINEERING, INC. DRAWING NUMBER 7607.e.phs1.design.dwg Dated 3/28/05

NOTE: ALL CONCENTRATIONS ARE IN MICROGRAMS PER LITER (µg/L)



PROJECT NO.	102657
DRAWN:	05/14
DRAWN BY:	JJS
CHECKED BY:	RFK
FILE NAME:	102657F2.dwg

<p>SITE PLAN WITH GROUNDWATER ELEVATION DATA AND SAMPLE RESULTS - APRIL 30, 2014</p> <p>MEARS GRAMOR CENTER SQUARE SOUTH NE 20th AVENUE & NE HIGHWAY 99 VANCOUVER, WASHINGTON</p>
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FIGURE	2
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TABLE 1
MONITORING WELL GROUNDWATER LEVEL AND ELEVATION DATA
FINAL 2014 GROUNDWATER MONITORING EVENT
MEARS GRAMOR CENTER SQUARE - SOUTH
NE 20TH STREET & NE HIGHWAY 99
VANCOUVER, WASHINGTON
PROJECT NO. 102657

Well Number Elevation [1] Screen Interval [2] Diameter [3] Well Depth [2]	Date Measured	Depth to Groundwater [2]	Groundwater Elevation [4]
ASTRO (Previously LOT # 24, Southern)			
KMW-01	04/14/2005	20.95	175.47
196.42	11/09/2005	21.33	175.09
(18-28)	02/07/2007	NM	NM
3/4	05/23/2007	NM	NM
28	11/29/2007	NM	NM
(Abandoned)	03/31/2008	NM	NM
	08/01/2008	NM	NM
	12/11/2008	NM	NM
	02/24/2009	NM	NM
	05/27/2009	NM	NM
	08/18/2009	NM	NM
KMW-02	04/14/2005	20.35	175.26
195.61	11/09/2005	20.60	175.01
(18-28)	02/07/2007	18.53	177.08
3/4	05/23/2007	19.36	176.25
28	11/29/2007	21.20	174.41
	03/31/2008	19.69	175.92
	08/01/2008	20.34	175.27
	12/11/2008	21.00	174.61
	02/24/2009	20.41	175.20
	05/27/2009	20.93	174.68
	08/18/2009	21.02	174.59
	03/04/2011	19.04	176.57
	10/31/2012	20.80	174.81
	04/30/2014	20.40	175.21
MW-01	04/14/2005	20.80	175.25
196.05	11/09/2005	21.16	174.89
NK	02/07/2007	NM	NM
4	05/23/2007	NM	NM
29.5	11/29/2007	NM	NM
(Abandoned)	03/31/2008	NM	NM
	08/01/2008	NM	NM
	12/11/2008	NM	NM
	02/24/2009	NM	NM
	05/27/2009	NM	NM
	08/18/2009	NM	NM
MW-3	04/14/2005	20.50	175.03
195.53	11/09/2005	21.16	174.37
NK	02/07/2007	19.35	176.18
2	05/23/2007	19.88	175.65
29	11/29/2007	21.41	174.12
	03/31/2008	19.90	175.63
	08/01/2008	20.61	174.92
	12/11/2008	21.28	174.25
	02/24/2009	20.65	174.88
	05/27/2009	21.18	174.35
	08/18/2009	21.33	174.20
	03/04/2011	19.30	176.23
	10/31/2012	21.18	174.35
	04/30/2014	20.10	175.43

1. Top of PVC well casing elevation in feet, surveyed above mean sea level
 2. Depth in feet, measured from top of PVC well casing.
 3. Diameter in inches.
 4. Groundwater elevation in feet, corrected for floating product, if applicable.
- NK Not Known
 NM Not Measured



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APPENDIX A

SITE ASSESSMENT METHODS

WATER LEVEL MEASUREMENTS

Water level measurements were referenced to the surveyed elevation at the top of each monitoring well casing. Static water levels were measured in each monitoring well to an accuracy of 0.01 foot using an electronic water level indicator. The instrument emits a steady tone when the probe encounters water. The probe was lowered into the well until the instrument detected water. The tape connected to the probe was used to measure the depth to water from the reference point to within 0.01 feet.

MONITORING WELL SAMPLING

Kleinfelder personnel sampled each groundwater monitoring well in accordance with the following protocol:

- The height of the water column within the well was calculated by subtracting the depth to water from the total depth of the well. The volume of this water column was calculated using the relationship $V = 3.142r^2h$, where V is the volume of water in cubic feet, r is the radius of the well in feet, and h is the height of the water column in feet.
- Prior to collecting groundwater samples, the monitoring wells were purged using the following equipment: 1) a peristaltic pump fitted with new, disposable PVC tubing replaced at each well location. Wells were purged using low-flow methods. Temperature, pH, specific conductivity, and dissolved oxygen were monitored using a pre-calibrated Horiba Multi Meter during well purging.
- The contract laboratory prepared sample containers to conform to EPA-recommended preservation techniques for the analytes of concern.
- Groundwater samples were collected with new, clean, peristaltic pump PVC tubing from each well (the same tubing used to purge the well). Sample containers were open only as long as necessary to collect the samples.

- Each sample container was labeled with a unique sample number, date, time, and project number, and stored in an ice-chilled cooler for shipment to the analytical laboratory. Chain-of-custody procedures documented sample handling.
- To reduce the potential for cross-contamination, non-disposable developing and sampling equipment were washed in a trisodium phosphate solution and rinsed with distilled water. New, disposable nitrile gloves were worn and replaced at each well location, and changed as often as necessary.



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APPENDIX B
LABORATORY REPORT AND CHAIN-OF-CUSTODY FORM



12065 Lebanon Rd.
Mt. Juliet, TN 37122
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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Pete Stroud
GSC/Kleinfelder - Beaverton, OR
9200 SW Nimbus Ave., Suite A
Beaverton, OR 97008

Report Summary

Tuesday May 06, 2014

Report Number: L696461


Samples Received: 05/01/14

Client Project:

Description: Routine GWM

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:


Jared Willis, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-IN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

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Est. 1970

REPORT OF ANALYSIS

Pete Stroud
GSC/Kleinfelder - Beaverton, OR
9200 SW Nimbus Ave., Suite A
Beaverton, OR 97008

May 06, 2014

Date Received : May 01, 2014
Description : Routine GWM
Sample ID : KMW-02
Collected By : Reid Kenner
Collection Date : 04/30/14 12:45

ESC Sample # : L696461-01

Site ID :

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Gasoline Range Organics-NWTPH	U	32.	100	ug/l		NWTPHGX	05/04/14	1
Surrogate Recovery a,a,a-Trifluorotoluene(FID)	97.7			% Rec.		NWTPHGX	05/04/14	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/05/14 15:59 Revised: 05/06/14 09:48



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Pete Stroud
 GSC/Kleinfelder - Beaverton, OR
 9200 SW Nimbus Ave., Suite A
 Beaverton, OR 97008

May 06, 2014

Date Received : May 01, 2014
 Description : Routine GWM
 Sample ID : MW-3
 Collected By : Reid Kenner
 Collection Date : 04/30/14 13:15

ESC Sample # : L696461-02

Site ID :

Project # :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Gasoline Range Organics-NWTPH	U	32.	100	ug/l		NWTPHGX	05/04/14	1
Surrogate Recovery a,a,a-Trifluorotoluene(FID)	97.5			% Rec.		NWTPHGX	05/04/14	1

U = ND (Not Detected)

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

MDL = Minimum Detection Limit = LOD = TRRP SDL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/05/14 15:59 Revised: 05/06/14 09:48



YOUR LAB OF CHOICE

GSC/Kleinfelder - Beaverton, OR
 Pete Stroud
 9200 SW Nimbus Ave., Suite A
 Beaverton, OR 97008

Quality Assurance Report
 Level II
 L696461

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May 06, 2014

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Gasoline Range Organics-NWTPH	< .1	mg/l			WG719116	05/04/14 14:26
a,a,a-Trifluorotoluene(FID)		% Rec.	97.70	62-128	WG719116	05/04/14 14:26

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Gasoline Range Organics-NWTPH	mg/l	5.5	4.81	87.5	66-123	WG719116
a,a,a-Trifluorotoluene(FID)				105.0	62-128	WG719116

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Gasoline Range Organics-NWTPH	mg/l	4.54	4.81	82.0	66-123	5.85	20	WG719116
a,a,a-Trifluorotoluene(FID)				105.0	62-128			WG719116

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Gasoline Range Organics-NWTPH	mg/l	5.27	0.906	5.5	79.0	47.5-136	L696474-01	WG719116
a,a,a-Trifluorotoluene(FID)					104.0	62-128		WG719116

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Gasoline Range Organics-NWTPH	mg/l	5.30	5.27	80.0	47.5-136	0.660	20	L696474-01	WG719116
a,a,a-Trifluorotoluene(FID)				104.0	62-128				WG719116

Batch number /Run number / Sample number cross reference

WG719116: R2915325: L696461-01 02

* * Calculations are performed prior to rounding of reported values.
 * Performance of this Analyte is outside of established criteria.
 For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

GSC/Kleinfelder - Beaverton, OR
Pete Stroud
9200 SW Nimbus Ave., Suite A
Beaverton, OR 97008

Quality Assurance Report
Level II

L696461

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
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Tax I.D. 62-0814289

Est. 1970

May 06, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Company Name/Address

Kleinfelder
9200 SW Nimbus Ave.,
Beaverton, OR 97008
Suite

Alternate Billing

Report to: *Pete Stroud*

E-mail to: *pstroud@kleinfelder.com*

Analysis/Container/Preservative

G149

Prepared by:



12065 Lebanon Road
Mt. Juliet TN 37122

Phone (615)758-5858
Phone (800) 767-5859
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Project Description: *Routine Kwm*

PHONE: *503-644-9447*
FAX: *503-645-1905*

Client Project No.

City/State: *Beaverton, OR*

Lab Project #

Collected by: *Reid Kenner*

Site/Facility ID#

P.O.#

Collected by (signature): *[Signature]*

Rush? (Lab MUST be Notified)
 Same Day.....200%
 Next Day.....100%
 Two Day.....50%

Date Results Needed
 No _____ of _____
 Email? No Yes
 FAX? No Yes

Packed on Ice N Y

Sample ID	Comp/Grab	Matrix	Depth	Date	Time	Cntrs							Remarks/contaminant	Sample # (lab only)
RAW <i>Rmw-02</i>	<i>Grab</i>	<i>Surface Water</i>	<i>N/A</i>	<i>4/30/14</i>	<i>1245</i>	<i>2</i>	X							<i>1696461-01</i>
<i>MW-3</i>	↓	↓	↓	↓	<i>1315</i>	<i>2</i>	X							<i>02</i>

*Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT-Other _____

pH _____ Temp _____

Remarks: *Copy rkenner@kleinfelder.com on results*

Flow _____ Other _____

Reinquirer by: (Signature) <i>[Signature]</i>	Date: <i>4/30/14</i>	Time: <i>1430</i>	Received by: (Signature) <i>[Signature]</i>	Samples returned via: FedEx ___ UPS ___ Other ___ <i>593916479864</i>	Condition <i>[Signature]</i> <i>JWS</i>
Reinquirer by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	Temp: <i>2.4</i>	Bottles Received: <i>4T</i>
Reinquirer by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: <i>5/1/14</i>	Time: <i>1000</i>
				pH Checked:	NCF:



KLEINFELDER

Bright People. Right Solutions.

Important Information About Your Geoenvironmental Report

Geoenvironmental studies are commissioned to gain information about environmental conditions on and beneath the surface of a site. The more comprehensive the study, the more reliable the assessment is likely to be. But remember: Any such assessment is to a greater or lesser extent based on professional opinions about conditions that cannot be seen or tested. Accordingly, no matter how many data are developed, risks created by unanticipated conditions will always remain. *Have realistic expectations.* Work with your geoenvironmental consultant to manage known and unknown risks. Part of that process should already have been accomplished, through the risk allocation provisions you and your geoenvironmental professional discussed and included in your contract's general terms and conditions. This document is intended to explain some of the concepts that may be included in your agreement, and to pass along information and suggestions to help you manage your risk.

Beware of Change; Keep Your Geoenvironmental Professional Advised

The design of a geoenvironmental study considers a variety of factors that are subject to change. Changes can undermine the applicability of a report's findings, conclusions, and recommendations. *Advise your geoenvironmental professional about any changes you become aware of.* Geoenvironmental professionals cannot accept responsibility or liability for problems that occur because a report fails to consider conditions that did not exist when the study was designed. Ask your geoenvironmental professional about the types of changes you should be particularly alert to. Some of the most common include:

- modification of the proposed development or ownership group,
- sale or other property transfer,
- replacement of or additions to the financing entity,
- amendment of existing regulations or introduction of new ones, or
- changes in the use or condition of adjacent property.

Should you become aware of any change, *do not rely on a geoenvironmental report.* Advise your geoenvironmental professional immediately; follow the professional's advice.

Recognize the Impact of Time

A geoenvironmental professional's findings, recommendations, and conclusions cannot remain valid indefinitely. The more time that passes, the more likely it is that important latent changes will occur. *Do not rely on a geoenvironmental report if too much time has elapsed since it was completed.* Ask your environmental professional to define "too much time." In the case of Phase I Environmental Site Assessments (ESAs), for example, more than 180 days after submission is generally considered "too much."

Prepare To Deal with Unanticipated Conditions

The findings, recommendations, and conclusions of a Phase I ESA report typically are based on a review of historical information, interviews, a site "walkover," and other forms of noninvasive research. When site subsurface conditions are not sampled in any way, the risk of unanticipated conditions is higher than it would otherwise be.

While borings, installation of monitoring wells, and similar invasive test methods can help reduce the risk of unanticipated conditions, *do not overvalue the effectiveness of testing.* Testing provides information about actual conditions only at the precise locations where samples are taken, and only when they are taken. Your geoenvironmental professional has applied that specific information to develop a general opinion about environmental conditions. *Actual conditions in areas not sampled may differ (sometimes sharply) from those predicted in a report.* For example, a site may contain an unregistered underground storage tank that shows no surface trace of its existence. *Even conditions in areas that were tested can change,* sometimes suddenly, due to any number of events, not the least of which include occurrences at

adjacent sites. Recognize, too, that *even some conditions in tested areas may go undiscovered*, because the tests or analytical methods used were designed to detect only those conditions assumed to exist.

Manage your risks by retaining your geoenvironmental professional to work with you as the project proceeds. Establish a contingency fund or other means to enable your geoenvironmental professional to respond rapidly, in order to limit the impact of unforeseen conditions. And to help prevent any misunderstanding, identify those empowered to authorize changes and the administrative procedures that should be followed.

Do Not Permit Any Other Party To Rely on the Report

Geoenvironmental professionals design their studies and prepare their reports to meet the specific needs of the clients who retain them, in light of the risk management methods that the client and geoenvironmental professional agree to, and the statutory, regulatory, or other requirements that apply. The study designed for a developer may differ sharply from one designed for a lender, insurer, public agency...or even another developer. *Unless the report specifically states otherwise, it was developed for you and only you.* Do not unilaterally permit any other party to rely on it. The report and the study underlying it may not be adequate for another party's needs, and you could be held liable for shortcomings your geoenvironmental professional was powerless to prevent or anticipate. Inform your geoenvironmental professional when you know or expect that someone else—a third-party—will want to use or rely on the report. *Do not permit third-party use or reliance until you first confer with the geoenvironmental professional who prepared the report.* Additional testing, analysis, or study may be required and, in any event, appropriate terms and conditions should be agreed to so both you and your geoenvironmental professional are protected from third-party risks. *Any party who relies on a geoenvironmental report without the express written permission of the professional who prepared it and the client for whom it was prepared may be solely liable for any problems that arise.*

Avoid Misinterpretation of the Report

Design professionals and other parties may want to rely on the report in developing plans and specifications. They need to be advised, in writing, that their needs may not have been considered when the study's scope was developed, and, even if their needs were considered, they might misinterpret geoenvironmental findings, conclusions, and recommendations. *Commission your geoenvironmental professional to explain pertinent elements of the report to others who are permitted to rely on it, and to review any plans, specifications or other instruments of professional service that incorporate any of the report's findings, conclusions, or recommendations.* Your geoenvironmental professional has the best understanding of the issues involved, including the fundamental assumptions that underpinned the study's scope.

Give Contractors Access to the Report

Reduce the risk of delays, claims, and disputes by giving contractors access to the full report, *providing that it is accompanied by a letter of transmittal that can protect you* by making it unquestionably clear that: 1) the study was not conducted and the report was not prepared for purposes of bid development, and 2) the findings, conclusions, and recommendations included in the report are based on a variety of opinions, inferences, and assumptions and are subject to interpretation. Use the letter to also advise contractors to consult with your geoenvironmental professional to obtain clarifications, interpretations, and guidance (a fee may be required for this service), and that—in any event—they should conduct additional studies to obtain the specific type and extent of information each prefers for preparing a bid or cost estimate. Providing access to the full report, with the appropriate caveats, helps prevent formation of adversarial attitudes and claims of concealed or differing conditions. If a contractor elects to ignore the warnings and advice in the letter of transmittal, it would do so at its own risk. Your geoenvironmental professional should be able to help you prepare an effective letter.

Do Not Separate Documentation from the Report

Geoenvironmental reports often include supplemental documentation, such as maps and copies of regulatory files, permits, registrations, citations, and correspondence with regulatory agencies. If subsurface explorations were performed, the report may contain final boring logs and copies of laboratory data. If remediation activities occurred on site, the report may include: copies of daily field reports; waste manifests; and information about the disturbance of subsurface materials, the type and thickness of any fill placed on site, and fill placement practices, among other types of documentation. *Do not separate supplemental documentation from the report. Do not, and do not permit any other party to redraw or modify any of the supplemental documentation for incorporation into other professionals' instruments of service.*

Understand the Role of Standards

Unless they are incorporated into statutes or regulations, standard practices and standard guides developed by the American Society for Testing and Materials (ASTM) and other recognized standards-developing organizations (SDOs) are little more than aspirational methods agreed to by a consensus of a committee. The committees that develop standards may not comprise those best-qualified to establish methods and, no matter what, no standard method can possibly consider the infinite client- and project-specific variables that fly in the face of the theoretical "standard conditions" to which standard practices and standard guides apply. In fact, these variables can be so pronounced that geoenvironmental professionals who comply with every directive of an ASTM or other standard procedure could run afoul of local custom and practice, thus violating the standard of care.

Accordingly, when geoenvironmental professionals indicate in their reports that they have performed a service "in general compliance" with one standard or another, it means they have applied professional judgement in creating and implementing a scope of service designed for the specific client and project involved, and which follows some of the general precepts laid out in the referenced standard. To the extent that a report indicates "general compliance" with a standard, you may wish to speak with your geoenvironmental professional to learn more about what was and was not done. *Do not assume a given standard was followed to the letter.* Research indicates that that seldom is the case.

Realize that Recommendations May Not Be Final

The technical recommendations included in a geoenvironmental report are based on assumptions about actual conditions, and so are preliminary or tentative. Final recommendations can be prepared only by observing actual conditions as they are exposed. For that reason, you should retain the geoenvironmental professional of record to observe construction and/or remediation activities on site, to permit rapid response to unanticipated conditions. *The geoenvironmental professional who prepared the report cannot assume responsibility or liability for the report's recommendations if that professional is not retained to observe relevant site operations.*

Understand That Geotechnical Issues Have Not Been Addressed

Unless geotechnical engineering was specifically included in the scope of professional service, a report is not likely to relate any findings, conclusions, or recommendations about the suitability of subsurface materials for construction purposes, especially when site remediation has been accomplished through the removal, replacement, encapsulation, or chemical treatment of on-site soils. The

equipment, techniques, and testing used by geotechnical engineers differ markedly from those used by geoenvironmental professionals; their education, training, and experience are also significantly different. If you plan to build on the subject site, but have not yet had a geotechnical engineering study conducted, your geoenvironmental professional should be able to provide guidance about the next steps you should take. The same firm may provide the services you need.

Read Responsibility Provisions Closely

Geoenvironmental studies cannot be exact; they are based on professional judgement and opinion. Nonetheless, some clients, contractors, and others assume geoenvironmental reports are or certainly should be unerringly precise. Such assumptions have created unrealistic expectations that have led to wholly unwarranted claims and disputes. To help prevent such problems, geoenvironmental professionals have developed a number of report provisions and contract terms that explain who is responsible for what, and how risks are to be allocated. Some people mistake these for "exculpatory clauses," that is, provisions whose purpose is to transfer one party's rightful responsibilities and liabilities to someone else. Read the responsibility provisions included in a report and in the contract you and your geoenvironmental professional agreed to. *Responsibility provisions are not "boilerplate."* They are important.

Rely on Your Geoenvironmental Professional for Additional Assistance

Membership in ASFE exposes geoenvironmental professionals to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a geoenvironmental project. Confer with your ASFE-member geoenvironmental professional for more information.

ASFE

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