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Alameda County Environmental Health

Area of Concern #1
Additional Soil Investigation Report
ACEH Case #RO0002941 and
Geotracker Global ID #SLT19719376
Former Hanson Aggregates Radum Facility
3000 Busch Road
Pleasanton, Alameda County, California

February 12, 2010 EM009567.0010

Prepared for Lehigh Hanson West Region 12667 Alcosta Boulevard, Suite 400 San Ramon, California 94583

Prepared by LFR Inc. an ARCADIS Company 1900 Powell Street, 12<sup>th</sup> Floor Emeryville, California 94608



February 12, 2010

Mr. Jerry Wickham Alameda County Health Care Services Environmental Health Services 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

Subject: Area of Concern #1 Additional Soil Investigation Report, ACEH Case

#RO0002941 and Geotracker Global ID #SLT19719376, Former Hanson Aggregates Radum Facility, 3000 Busch Road, Pleasanton, California

Dear Mr. Wickham:

The attached Area of Concern #1 Additional Soil Investigation Report was prepared by LFR Inc. an ARCADIS company (LFR) on behalf of Lehigh Hanson West Region ("Hanson") for the former hot mix asphalt plant area of the former Hanson Aggregates Radum Facility located at 3000 Busch Road, Pleasanton, California.

The additional investigation was conducted in accordance with the "Work Plan for the Excavation of Petroleum Hydrocarbon-Affected Soil at the Former Hot Mix Asphalt Plant Area (AOC #1)" submitted to Alameda County Environmental Health (ACEH) on March 21, 2008 and approved by ACEH on October 14, 2009. On January 25 and 26, 2010, six temporary soil borings were advanced to depths ranging approximately from 8 to 11.5 feet below ground surface (bgs) to screen for the potential presence of petroleum hydrocarbons and to collect soil samples for laboratory analyses. Results from the investigation showed that elevated total petroleum hydrocarbons (TPH) concentrations were detected in three soil samples. Based on these results, three new soil excavation areas were defined to remove TPH-affected soil to a maximum depth of 8 feet bgs to be protective of human health.

This report presents the methods and findings of this most recent subsurface characterization investigation, and presents a summary of the proposed soil excavation areas for AOC #1, based on this and previous characterizations.

I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Area of Concern #1 Additional Soil Investigation Report, ACEH Case #RO0002941 and Geotracker Global ID #SLT19719376, Former Hanson Aggregates Radum Facility, 3000 Busch Road, Pleasanton, California February, 2010 Page 2

If you have any questions or comments concerning this Additional Soil Investigation Report, please call me at (925) 244-6584 or Katrin Schliewen of LFR at (510) 652-4500.

Sincerely,

Lee W. Cover

**Environmental Manager** 

Lee W. Lan

Hanson Aggregates Northern California

Attachment

cc: John Rigter, Livermore-Pleasanton Fire Department

Bill Butler, Hanson Aggregates

Katrin Schliewen, LFR



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# **APPENDICES**

- A Soil Boring Permit
- B Soil Boring Logs
- C Laboratory Certified Analytical Report

## **CERTIFICATIONS**

ARCADIS U.S., Inc., has prepared this Additional Soil Investigation Report for Area of Concern #1 of the Former Hanson Aggregates Radum Facility, located at 3000 Busch Road, Pleasanton, California, on behalf of Lehigh Hanson West Region in a manner consistent with the level of care and skill ordinarily exercised by professional geologists and environmental scientists. This report was prepared under the technical direction of the undersigned California Professional Geologists.



KATRIN M.
SCHLIEWEN
No.7808

Expires Feb. 28, 2011

February 12, 2010

Date

Date

Katrin Schliewen, P.G.

Senior Hydrogeologist

California Professional Geologist No. 7808

RONALD CON TO THE OF CALIFORNIA

February 12, 2010

Expires Nov. 30, 2011

Ron Goloubow, P.G.

Senior Associate Geologist

California Professional Geologist No. 8655

## **EXECUTIVE SUMMARY**

This Additional Soil Investigation Report presents the methods and findings of subsurface characterization activities conducted by LFR Inc. an ARCADIS company (LFR) in the former hot mix asphalt plant area of the former Hanson Aggregates Radum Facility ("the Site") during January 2010. The primary objective of the subsurface investigation was to further characterize the lateral and/or vertical extent of petroleum hydrocarbons in soil in the southeast and northeast of the former hot mix asphalt plant area. The investigation was conducted in accordance with the scope of work described in the "Work Plan for the Excavation of Petroleum Hydrocarbon-Affected Soil at the Former Hot Mix Asphalt Plant Area (AOC #1)" submitted to Alameda County Environmental Health (ACEH) on March 21, 2008 (LFR 2008c) and subsequently approved by ACEH on October 14, 2009 (ACEH 2009c).

Six temporary soil borings (B26 through B41) were advanced on January 25 and 26, 2010 to depths ranging approximately from 8 to 11.5 feet below ground surface (bgs) to collect depth-discrete soil samples for laboratory analyses. Analytical results for three soil samples indicate that total petroleum hydrocarbons (TPH) as diesel and TPH as motor oil are present at concentrations that exceeded San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels. Based on these results, three new soil excavation areas are proposed to remove TPH-affected soil. In accordance with the Revised Closure Plan, confirmation soil sampling will be conducted during soil excavation activities to confirm that TPH-affected soil has been effectively removed.

No additional subsurface characterization activities are necessary or are proposed; the Site has been sufficiently characterized. Based on results from this and all previous investigations, twelve areas have been identified for soil excavation to depths ranging approximately from 2 to 8 feet bgs. As described in more detail in the Revised Closure Plan, in addition to soil excavation, selected surface features are proposed to be removed; confirmation soil sampling will also be conducted beneath features that will be removed.

After soil excavation and surface features removal activities are completed, the property will be available to Legacy Partners for acquisition consideration. The property is currently zoned for commercial and light industrial land use. As noted by ACEH, if appropriate, a land use covenant may be added to the deed of this property to prohibit the use of shallow groundwater immediately beneath the Site.

## 1.0 INTRODUCTION

This Additional Soil Investigation Report presents the methods and findings of subsurface investigations conducted by LFR Inc. an ARCADIS company (LFR) on behalf of Hanson Aggregates Northern California in the former hot mix asphalt plant area of the Hanson Aggregates Radum Facility located at 3000 Busch Road, Pleasanton, California ("the Site"; Figure 1). The former hot mix asphalt plant area has been designated as Area of Concern #1 (AOC #1; Figure 2).

The subsurface investigation was conducted in accordance with the scope of work described in the "Work Plan for the Excavation of Petroleum Hydrocarbon-Affected Soil at the Former Hot Mix Asphalt Plant Area (AOC #1)" submitted to Alameda County Environmental Health (ACEH) on March 21, 2008 (LFR 2008c). The ACEH, as the regulatory agency overseeing the environmental characterization of the Site under ACEH case number #RO0002941 (Geotracker Global ID #SLT19719376), approved the work plan on October 14, 2009 (ACEH 2009c).

The primary objective of the subsurface investigation was to further characterize the lateral and/or vertical extent of petroleum hydrocarbons in soil in the southeast and northeast of the former hot mix asphalt plant area to determine whether additional soil excavation areas will be required to remove affected soil. On January 25 and 26, 2010, LFR advanced six temporary soil borings (B36 though B41) to depths ranging approximately from 8 to 11.5 feet below ground surface (bgs) to collect depth-discrete soil samples for laboratory analyses (Figure 3).

This report summarizes field activities performed at the Site during January 2010, presents and discusses the results of the field activities, and proposes additional soil remediation activities to remove shallow soil affected by total petroleum hydrocarbons (TPH).

## 2.0 INVESTIGATION METHODOLOGY

## 2.1 Pre-Field Activities

LFR applied for and received the appropriate soil boring drilling permit from Zone 7. Based on the drilling locations, no other permits were required for the proposed activities. A copy of the approved soil boring permit is included in Appendix A.

LFR notified Underground Service Alert (USA) to identify any public underground utilities located in the vicinity of the proposed drilling locations; no utility alerts were received. LFR also subcontracted a private underground utility locator to clear all proposed drilling locations using geophysical location methods. All proposed drilling locations were cleared satisfactorily; proposed location B40 was moved north approximately 15 feet based on the private utility clearance findings. Where soil

conditions permitted, the upper 5 feet of soil borings were advanced using a handauger as an additional precaution against encountering underground utilities.

The existing site-specific Health and Safety Plan (HSP) previously prepared by LFR for subsurface investigations was updated to address health and safety concerns specific to the planned field activities. A health and safety tailgate meeting was conducted prior to beginning fieldwork, and fieldwork was monitored to ensure that appropriate health and safety procedures were followed during the field investigations.

# 2.2 Drilling

LFR subcontracted PeneCore Drilling, of Woodland, California, a state-certified drilling subcontractor, to advance six temporary soil borings on January 25 and 26, 2010, to depths of approximately 8 to 11.5 feet bgs using direct-push drilling technology. The locations of soil borings B36 through B41 are shown on Figure 3.

During drilling, continuous soil cores were collected for lithologic evaluation, field screening using a portable photoionization detector (PID), and visual evaluation for the potential presence of petroleum hydrocarbons. Field boring logs were prepared by an LFR field geologist for each soil boring location. Lithologic descriptions were based on the Unified Soil Classification System (American Society for Testing and Materials [ASTM] D2488-00). Soils encountered during drilling consisted predominantly of coarse-grained sediments, generally ranging from silty sands to sandy gravels. Field observations and PID readings were recorded on the lithologic boring logs, copies of which are included in Appendix B.

Depth-discrete soil samples were collected for laboratory analyses from intervals selected based on field screening results for the possible presence of TPH. Where no indication of contamination was observed in the soil cores, depth-discrete soil samples were collected as requested by the ACEH from approximately 1.5, 3, 5, and 8 feet bgs. Soil sample intervals also were dependent on soil core availability because less than 100% of the continuous cores were retrieved at each location.

Downhole drilling and soil sampling equipment was appropriately cleaned with high-pressure hot water (steam cleaned) before use at each new drilling location. After soil samples were collected, each borehole was abandoned by sealing it with a mixture of cement and bentonite ("grout") from the bottom up to the ground surface poured directly into the borehole because groundwater was not present. A grout inspector from the Zone 7 Water Agency witnessed the soil boring abandonment activities at two locations. No waste soil was generated as a result of using the the direct-push drilling method; waste wash water generated during the cleaning of downhole equipment was placed in a properly labeled 55-gallon drum temporarily stored on site for future disposal.

# 2.3 Soil Sample Collection

Soil samples were collected by driving an acetate tube lined soil sampler into undisturbed soil at each soil boring location. Depth-discrete soil samples were collected from each target interval by cutting the acetate liners that lined the core barrels to the appropriate sample interval and capping and sealing the ends of the liners. The samples were properly labeled and stored in ice-chilled coolers for transport to the analytical laboratory under chain-of-custody protocol.

# 2.4 Laboratory Analyses

All soil samples were submitted to Test America, a California-certified analytical laboratory located in Pleasanton, California. All soil samples were analyzed for the following parameters (note that the deepest soil samples from each location were placed on hold pending analytical results of the shallower samples):

- TPH as diesel (TPHd) and motor oil (TPHmo) by U.S. Environmental Protection Agency (EPA) Method 8015B (after undergoing silica gel cleanup)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260B

#### 2.5 Field Documentation

Field activities were documented using the appropriate forms for HSP tailgate meetings, daily field reports, field boring logs, sample labels, and chain-of-custody forms. Field forms will be kept on file at LFR and will be available upon request.

# 2.6 Soil Boring and Well Location Survey

LFR subcontracted Kier & Wright Civil Engineers & Surveyors, Inc., a licensed land surveyor to survey the location of temporary soil borings. The soil boring locations presented on Figures 3 and 4 are based on the land survey results.

## 3.0 RESULTS OF ADDITIONAL CHARACTERIZATION INVESTIGATION

# 3.1 Analytical Results

Analytical results for soil samples collected in January 2010 at the Site are summarized in Table 1 and presented on Figure 3. The data presented is based on the certified analytical report included in Appendix C. Analytical results were compared to the May 2008 San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (ESLs) for shallow soils beneath commercial/industrial land use areas where water is a current or potential source of drinking water (RWQCB 2008). Compounds detected at concentrations that exceed the ESLs are highlighted in Table 1 and on Figure 3.

The results of the January 2010 soil investigation confirm that the primary compounds of concern detected in soil at this Site are TPHd and TPHmo; BTEX compounds were not present above laboratory reporting limits in any of the soil samples collected. Only results that exceeded the ESLs are discussed further. Three soil samples contained TPHd and/or TPHmo at concentrations that exceeded the ESLs:

- B37 (soil sample collected from 1 to 1.5 feet bgs);
- B39 (soil sample collected from 2.5 to 2 feet bgs); and,
- B40 (soil sample collected from 5 to 5.5 feet bgs).

Based on these results, none of the soil samples initially put on hold were analyzed. In the case of soil borings B37 and B39, deeper soil samples were originally analyzed and did not contain TPHd/mo concentrations that exceeded the ESLs, therefore no additional refinement of future soil excavation plans was needed at these locations. In the case of soil boring B40, the next deeper soil sample was collected from approximately 10 to 10.5 feet bgs, which was deeper than the maximum depth that would be excavated for soil remediation at this Site (e.g., 8 feet bgs); no refinement in the proposal soil excavation depth would be forthcoming from analyzing the 10.5-foot sample. No soil sample was collected between 5.5 and 10 feet bgs from soil boring B40 because of insufficient soil core recovery during drilling and soil sampling.

## 3.2 Proposed Soil Excavation Areas

Based on the results of soil samples collected from soil borings B36 through B41, three new areas are proposed to be excavated to remove TPH-affected soil to a maximum depth of 8 feet bgs. The proposed areas for soil excavation throughout the Site, including the three new areas identified based on results from the January 2010 soil characterization activities, are shown of Figure 4.

The three new areas are located approximately surrounding former soil borings B37, B39, and B40. The proposed depth of each excavation is based on the analytical results. The proposed lateral extent of each excavation at this Site has been estimated to be approximately 20 by 20 feet. For the areas at former borings B37, B39, and B40, the proposed lateral extents were modified somewhat to accommodate adjacent surface features that currently are proposed to remain in place (outlined in green on Figure 4). As discussed in more detail in the Revised Closure Plan submitted on January 29, 2010 (LFR 2010), confirmation sampling will be conducted in each excavation to confirm the lateral and vertical extents of the excavations. The analytical results of the confirmation soil samples will be used to determine if excavations need to be expanded or if the limits of the excavations are adequate.

## 4.0 CONCLUSIONS AND RECOMMENDATIONS

Six temporary soil borings were advanced approximately in the southeast and northeast of the former hot mix asphalt plant area. Laboratory analysis results of soil samples collected from former soil borings B36 through B41 indicate TPHd and TPHmo concentrations exceeded ESLs in three soil samples collected from borings B37, B39, and B40. Based on results from this additional soil characterization, three new areas are proposed to be excavated to remove TPH-affected soil. In accordance with the Revised Closure Plan, confirmation soil sampling will be conducted during soil excavation activities to confirm that TPH-affected soil has been effectively removed.

No additional subsurface characterization activities are necessary or are proposed; the Site has been sufficiently characterized. Based on results from this and all previous investigations, twelve areas have been identified for soil excavation to depths ranging approximately from 2 to 8 feet bgs. The proposed soil remediation activities through soil excavation to approximately 8 feet bgs are designed to be protective of the human health of workers both during construction and after land development. As described in more detail in the Revised Closure Plan, selected surface features are proposed to be removed. Confirmation soil sampling will be conducted during the localized soil excavation activities to serve as confirmation that TPH-affected soil is properly removed from the Site. Confirmation soil sampling will be conducted beneath surface features removed as part of site closure to confirm that no additional soil excavation is required.

After soil excavation and surface features removal activities are completed, the property will be available to Legacy Partners for acquisition consideration. The property is currently zoned for commercial and light industrial land use. As noted by ACEH, if appropriate, a land use covenant may be added to the deed of this property to prohibit the use of shallow groundwater immediately beneath the Site.

## 5.0 LIMITATIONS

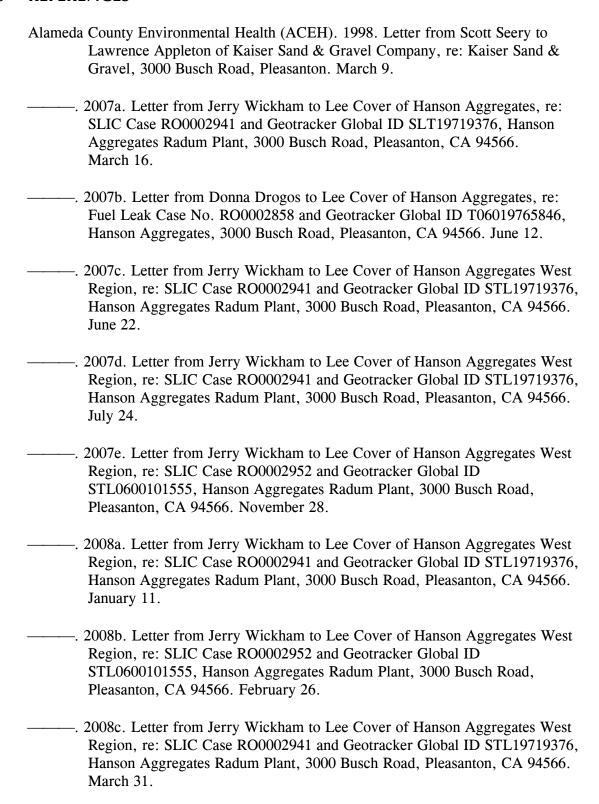
The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by LFR and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, expressed or implied, is intended or given. To the extent that LFR relied upon any information prepared by other parties not under contract to LFR, LFR makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared for a particular purpose. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this

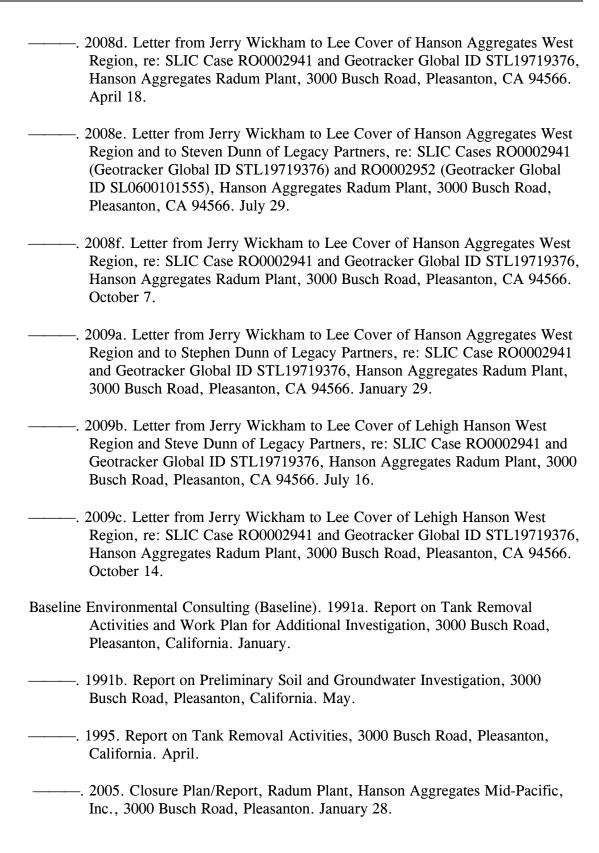
report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

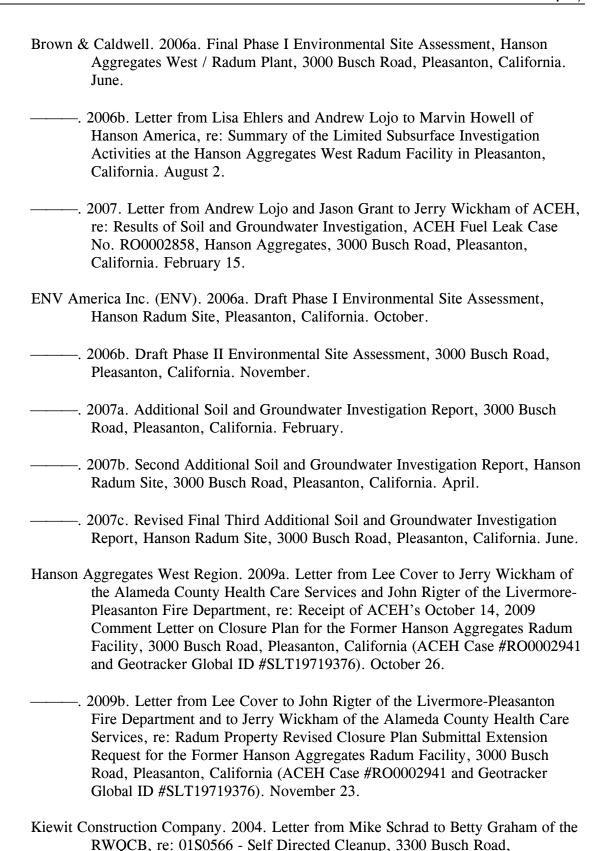
Results of any investigations or testing and any findings presented in this report apply solely to conditions existing at the time when LFR's investigative work was performed. It must be recognized that any such investigative or testing activities are inherently limited and do not represent a conclusive or complete characterization. Conditions in other parts of the Site may vary from those at the locations where data were collected. LFR's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100 percent confidence in environmental investigation conclusions cannot reasonably be achieved.

LFR, therefore, does not provide any guarantees, certifications, or warranties regarding any conclusions regarding environmental contamination of any such property. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

## 6.0 REFERENCES

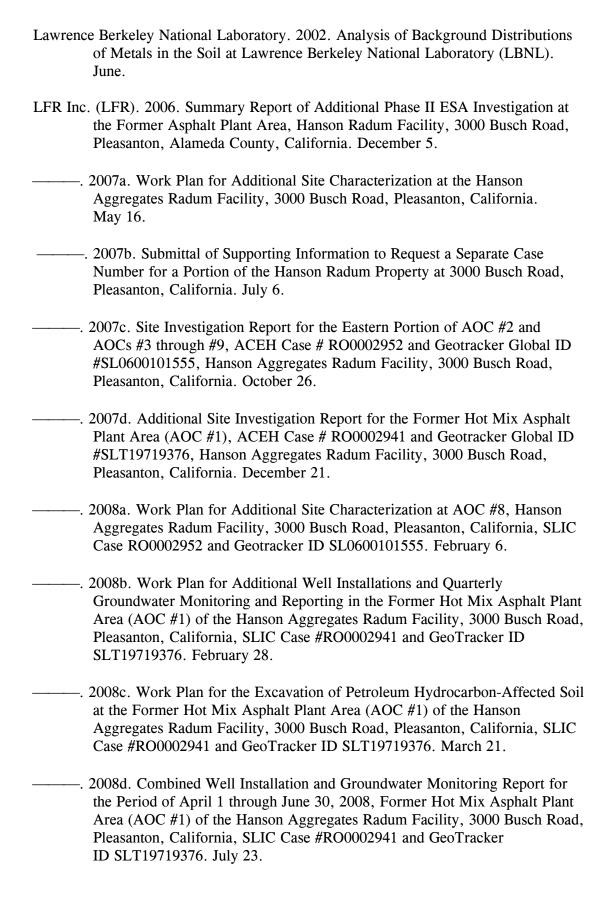


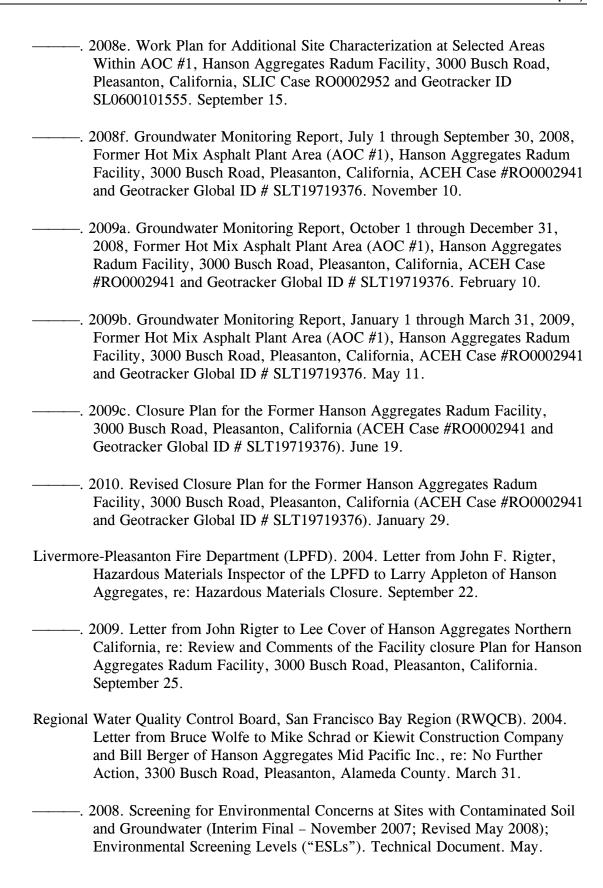




Page 9

Pleasanton, California 94566. February 3.





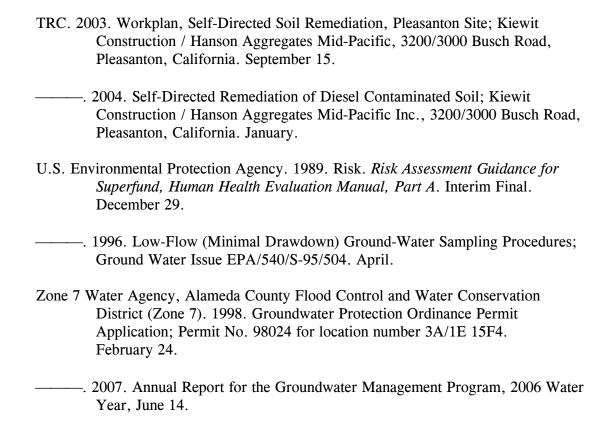


Table 1
Petroleum Hydrocarbons and Associated Compounds Detected in Soil Samples (January 2010)
Former Hot Mix Asphalt Plant Area
Hanson Radum Facility, 3000 Busch Road, Pleasanton, California

(Concentrations reported in milligrams per kilogram [mg/kg] or micrograms per kilogram [ug/kg], as noted)

| Sample ID | Date    | •                 | Interval             | Matrix    | TPHd    | TPHmo   | В       | T          | E       | Х       |
|-----------|---------|-------------------|----------------------|-----------|---------|---------|---------|------------|---------|---------|
|           | Sampled | top<br>(feet bgs) | bottom<br>(feet bgs) |           | (mg/kg) | (mg/kg) | (ug/kg) | (ug/kg)    | (ug/kg) | (ug/kg) |
| B36-1.5   | 1/26/10 | 1                 | 1.5                  | soil      | 3.7     | < 50    | < 4.9   | < 4.9      | < 4.9   | < 9.8   |
| B36-3     | 1/26/10 | 2.5               | 3                    | soil      | 1.1     | <49     | < 4.7   | <b>5.1</b> | < 4.7   | < 9.4   |
| B36-5.5   | 1/26/10 | 5                 | 5.5                  | soil      | 1.2     | < 50    | < 4.6   | < 4.6      | < 4.6   | < 9.1   |
| B36-7     | 1/26/10 | 6.5               | 7                    | soil      | -       | -       | -       | -          | -       |         |
| B37-1.5   | 1/26/10 | 1                 | 1.5                  | soil      | 160     | 290     | < 4.7   | < 4.7      | < 4.7   | < 9.4   |
| B37-2.5   | 1/26/10 | 2                 | 2.5                  | soil      | < 0.99  | < 50    | < 4.7   | < 4.7      | < 4.7   | < 9.4   |
| B37-5.5   | 1/26/10 | 5                 | 5.5                  | soil      | 3.6     | < 50    | < 5     | < 5        | < 5     | < 9.9   |
| B37-8     | 1/26/10 | 7.5               | 8                    | soil      | -       | -       | -       | -          | -       |         |
| B38-1.5   | 1/26/10 | 1                 | 1.5                  | soil      | 4.2     | < 50    | < 4.6   | < 4.6      | < 4.6   | < 9.1   |
| B38-3     | 1/26/10 | 2.5               | 3                    | soil      | 2.2     | < 50    | < 4.2   | < 4.2      | < 4.2   | < 8.4   |
| B38-5.5   | 1/26/10 | 5                 | 5.5                  | soil      | <1      | < 50    | < 4.6   | < 4.6      | < 4.6   | < 9.3   |
| B38-7.5   | 1/26/10 | 7                 | 7.5                  | soil      | -       | -       | -       | -          | -       |         |
| B39-1.5   | 1/26/10 | 1                 | 1.5                  | soil      | <1      | < 50    | < 4.5   | < 4.5      | < 4.5   | < 8.9   |
| B39-3     | 1/26/10 | 2.5               | 3                    | soil      | 920     | 2,600   | < 4.4   | < 4.4      | < 4.5   | < 8.8   |
| B39-5.5   | 1/26/10 | 5                 | 5.5                  | soil      | 42      | 220     | < 4.7   | < 4.7      | < 4.7   | < 9.4   |
| B39-7     | 1/26/10 | 6.5               | 7                    | soil      | -       | -       | -       | -          | -       |         |
| B40-1.5   | 1/25/10 | 1                 | 1.5                  | soil      | 8.4     | < 50    | < 4.3   | < 4.3      | < 4.3   | < 8.7   |
| B40-3     | 1/25/10 | 2.5               | 3                    | soil      | <1      | < 50    | < 4.8   | < 4.8      | < 4.8   | < 9.6   |
| B40-5.5   | 1/25/10 | 5                 | 5.5                  | soil      | 450     | 960     | < 4.7   | < 4.7      | < 4.7   | < 9.4   |
| B40-10.5  | 1/25/10 | 10                | 10.5                 | soil      | -       | -       | -       | -          | -       |         |
| B41-1.5   | 1/26/10 | 1                 | 1.5                  | soil      | 1.3     | < 50    | < 4.6   | < 4.6      | < 4.6   | < 9.2   |
| B41-3     | 1/26/10 | 2.5               | 3                    | soil      | <1      | < 50    | < 4.5   | < 4.5      | < 4.5   | < 9.0   |
| B41-5.5   | 1/26/10 | 5                 | 5.5                  | soil      | < 0.99  | < 49    | < 4.6   | < 4.6      | < 4.6   | < 9.1   |
| B41-7     | 1/26/10 | 6.5               | 7                    | soil      | -       | -       | -       | -          | -       |         |
| ESLs      |         | shallow soi       | ls (less than        | 3 meters) | 83      | 2,500   | 44      | 2,900      | 3,300   | 2,300   |

#### **Notes:**

feet bgs = feet below ground surface

mg/kg = milligrams per kilogram

ug/kg = micrograms per kilogram

TPHd = total petroleum hydrocarbons as diesel

TPHmo = total petroleum hydrocarbons as motor oil

bold indicates that the compound was detected above the laboratory reporting limit.

boxed values exceed the respective ESL.

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, May 2008, for Shallow Soils beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

B = benzene

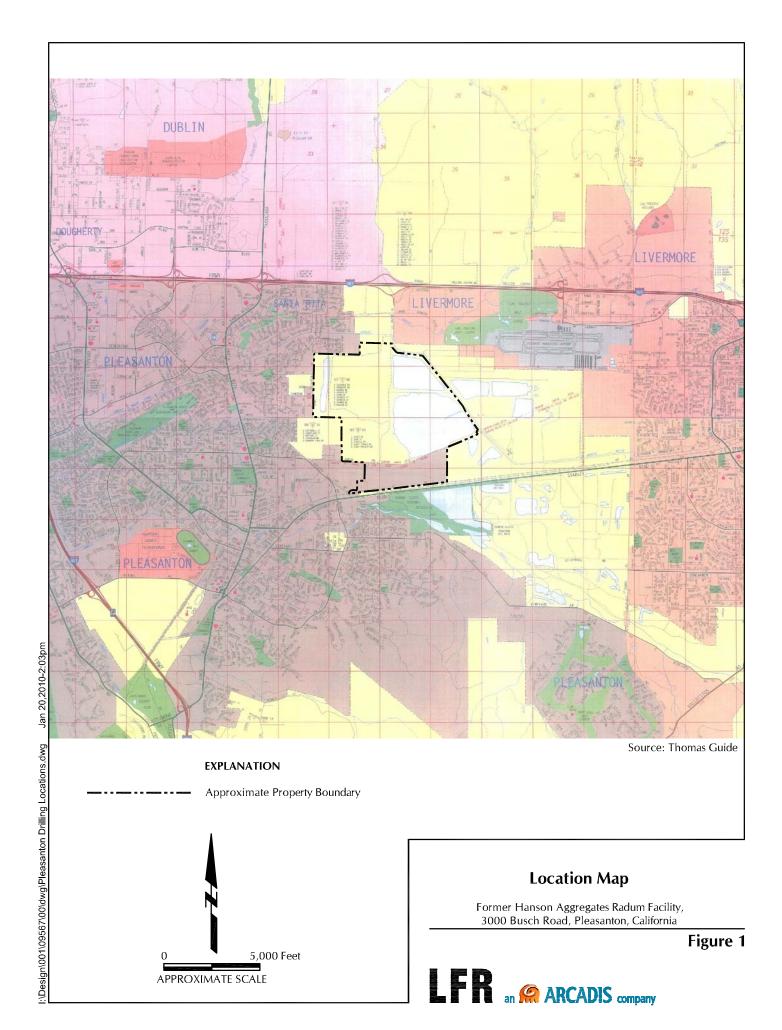
T = toluene

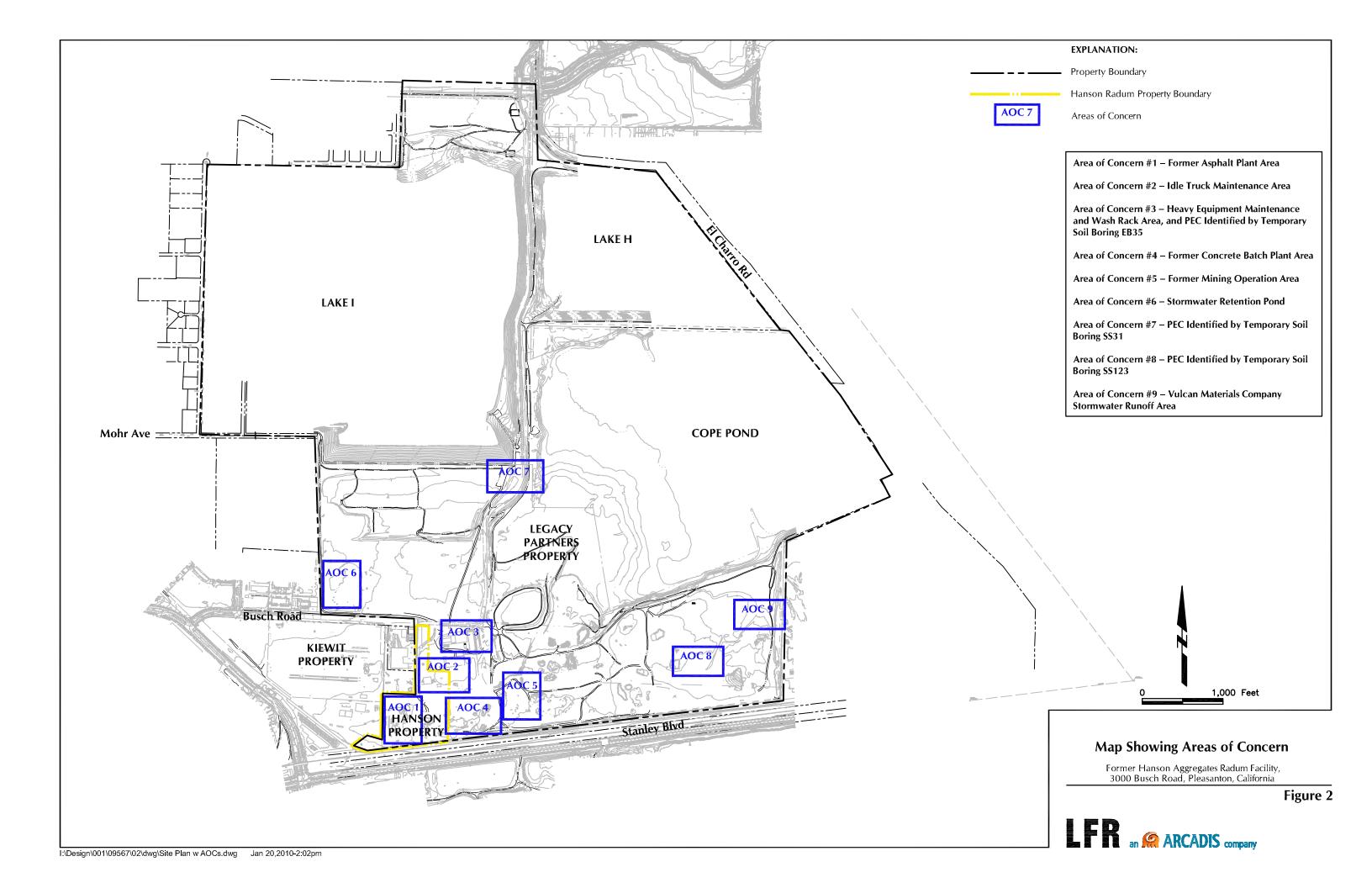
E = ethylbenzene

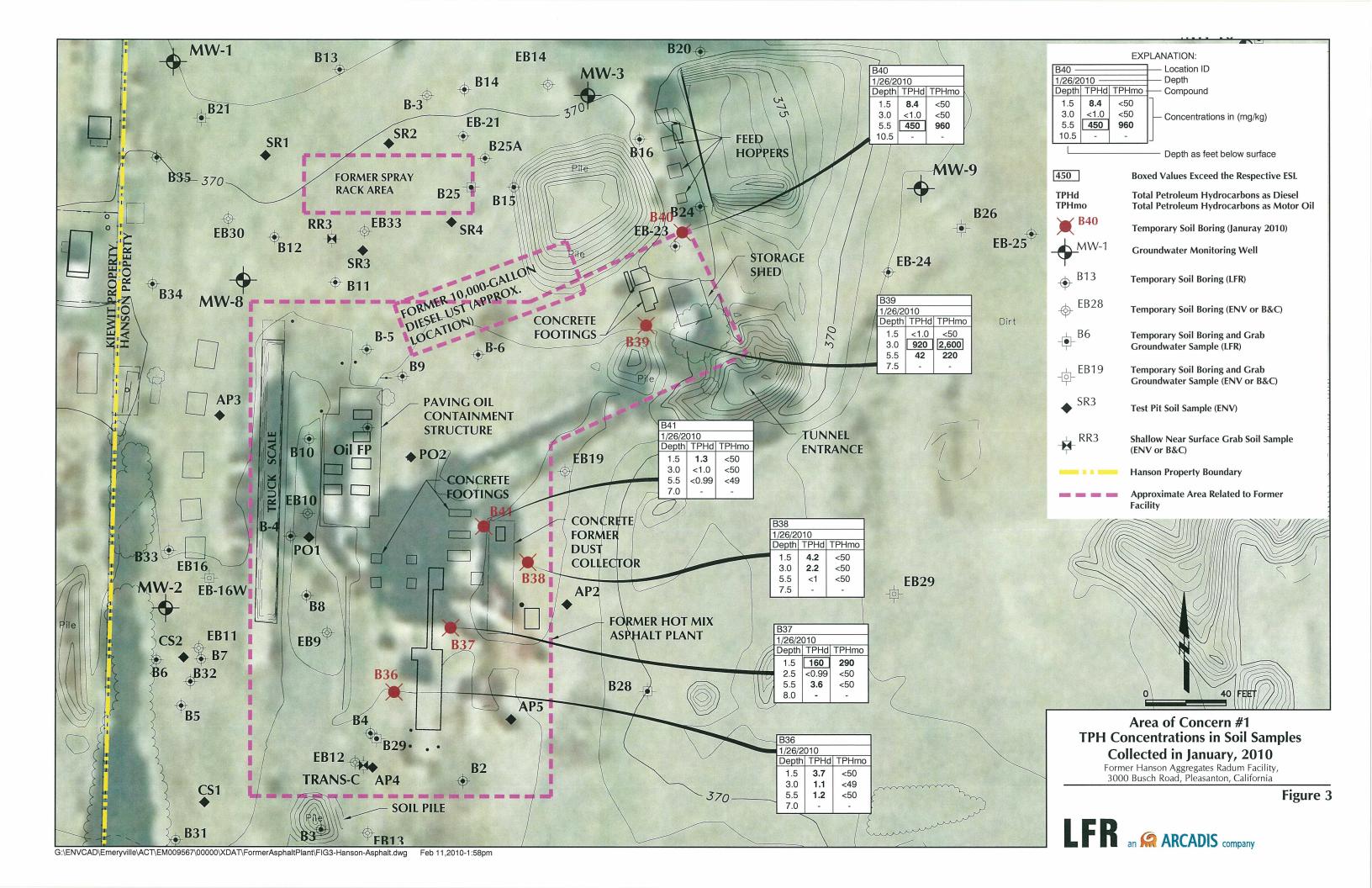
X = total xylenes

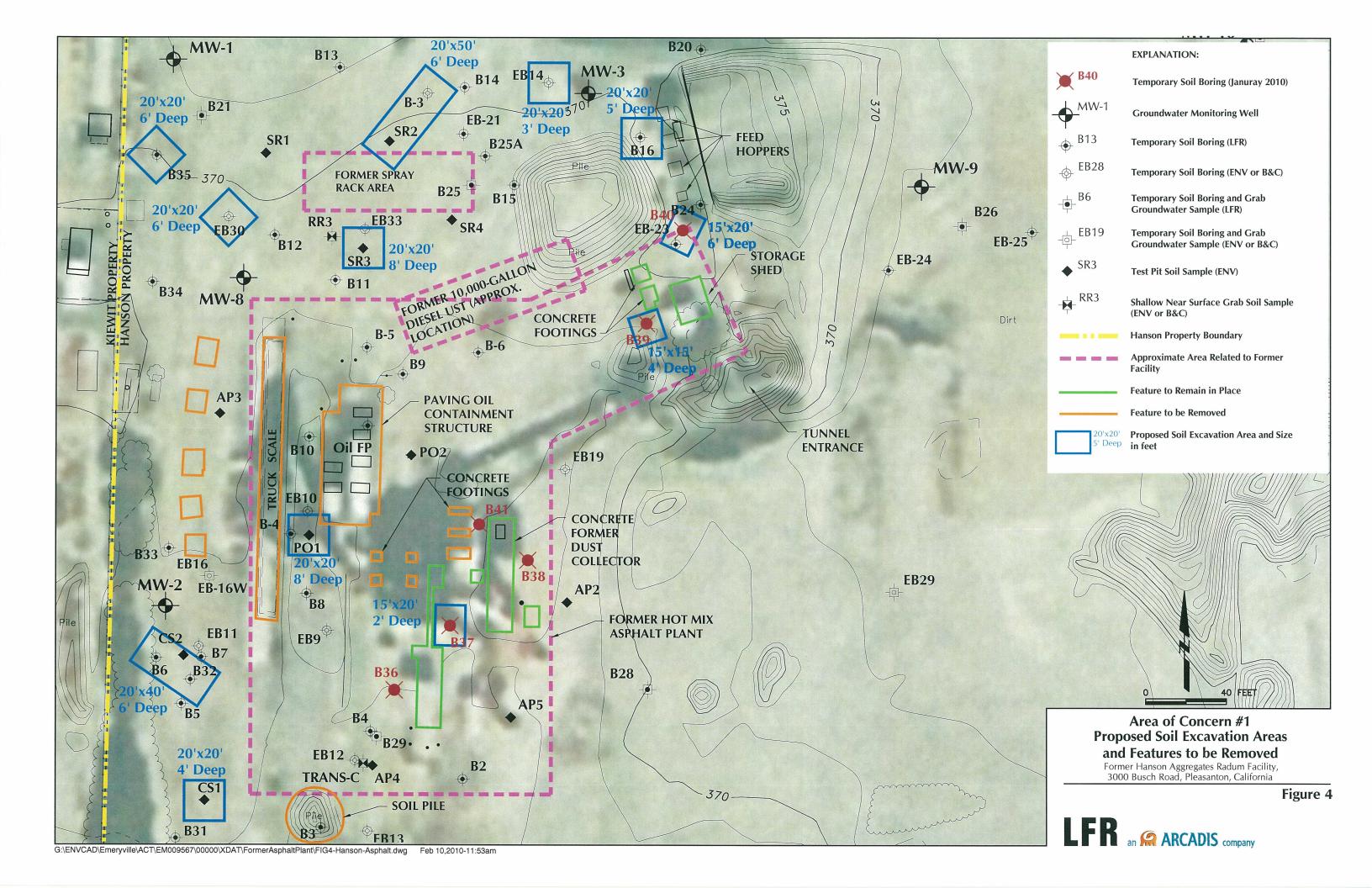
<sup>&</sup>quot;<" = not detected above the laboratory report given

<sup>&</sup>quot;-" = sample not analyzed









# **APPENDIX A**

**Soil Boring Permit** 

Revised: January 4, 2010



# **ZONE 7 WATER AGENCY**

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306 E-MAIL whong@zone7water.com

# DRILLING PERMIT APPLICATION

| FOR APPLICANT TO COMPLETE   | FOR OFFICE USE   |
|---|--|
| LOCATION OF PROJECT Former hot Mix Asphalt Plant, Hanson Radum - Area of Concern 1  | PERMIT NUMBER 7010006  WELL NUMBER APN 946-1250-019-01   |
| Coordinates Source ft. Accuracy∀ ft. LAT: ft. LONG: ft. APN ft.   | PERMIT CONDITIONS (Circled Permit Requirements Apply)  |
| CLIENT  Name Hanson Aggregates  Address 3000 Busch Real Phone (925) 426-4170  City Pleasanten Zip 94566-0808  APPLICANT  Name ARCADTS  Email michael, Sullivane LFR, Com Fax(570) 632-2146  Address 1900 Powell of 12th floor Phone (510) 652-4500  City Emeryville Zip 94603   | A. GENERAL  1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.  2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Wall Drillers Report (DWR Form 188), signed by the driller.  3. Permit is void if project not begun within 90 days of approval date.  4. Notify Zone 7 at least 24 hours before the start of work.  B. WATER SUPPLY WELLS |
| TYPE OF PROJECT:  Well Construction   | <ol> <li>Minimum surface seal diameter is four inches greater than the well casing diameter.</li> <li>Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.</li> </ol>  |
| PROPOSED WELL USE:  Domestic  | <ol> <li>Grout placed by tremie.</li> <li>An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.</li> <li>A sample port is required on the discharge pipe near the wellhead.</li> </ol>  |
| DRILLING METHOD:  Mud Rotary Air Rotary Hollow Stem Auger  Cable Tool Direct Push Cther  DRILLING COMPANYPere Core Drilling  DRILLER'S LICENSE NO 406899  | <ul> <li>C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS</li> <li>1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.</li> <li>2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.</li> <li>3. Grout placed by tremie.</li> </ul>   |
| WELL SPECIFICATIONS:  Drill Hole Diameter in. Maximum  Casing Diameter in. Depth ft.  Surface Seal Depth ft. Number   | D. GEOTECHNICAL. Backfill bore hole with compacted cuttings or<br>heavy bentonite and upper two feet with compacted material. In<br>areas of known or suspected contamination, tremied cement<br>grout shall be used in place of compacted cuttings.   |
| SOIL BORINGS: B-34 Through B-41  Number of Borings 6 Maximum  Hole Diameter in. Depth 8 ft.   | E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.  |
| ESTIMATED STARTING DATE 1/25/2010 ESTIMATED COMPLETION DATE 1-25-2010   | F. WELL DESTRUCTION. See attached.  G. SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after   |
| APPLICANT'S SIGNATURE  A large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of this permit and Alameda  Large to comply with all requirements of | completion of permitted work the well installation report including all soil and water laboratory analysis results.  Approved  Date 1-19-10  |
| ATTACH SITE PLAN OR SKETCH  | JETH JONES   |

# **APPENDIX B**

**Soil Boring Logs** 

| PROJECT NAI<br>CLIENT  | /IE                | tons<br>ARC                         |                          | 5                       | LOG OF BORING / WELL PAGE  | 1 OF             |              |  |  |
|--|--------------------|-------------------------------------|--------------------------|-------------------------|--|------------------|--------------|--|--|
| PROJECT LOC  | ATION              | Ple                                 | Sar                      | vlov                    |  | 4.               |              |  |  |
| PROJECT NUM  | -                  |                                     | -                        |                         | DRILLING METHOD Direct Push  |                  |              |  |  |
| LOCATION _   | A-G                | o C I                               |                          |                         | STAMP (IF APPLICABLE) AND/OR NOTES   |                  |              |  |  |
| OVA EQUIPME  | NT $\sqrt{\Sigma}$ | 1                                   | D                        |                         |  |                  |              |  |  |
| GROUND ELE   | VATION _           |                                     | MARKET IN                |                         | HOLE DIAMETER _\(\frac{\chi'}{}_{}\)   |                  |              |  |  |
| TOP OF CASIN   | IG ELEVA           | TION _                              | "SCHOOL                  | **                      | HOLE DEPTH 6   |                  |              |  |  |
| FIRST ENC  | OUNTERE            | D WAT                               | ER _                     | province and the second |  |                  |              |  |  |
| STABILIZEI   | ) WATER            |                                     | Pilling                  | Godelancov.             |  |                  |              |  |  |
| LOGGED BY  | M.Su               | 11:va                               | 1_                       | DA                      | TE <u>1-26-10</u>  |                  |              |  |  |
| et)  |                    | STZ<br>(Se                          |                          |                         |  |                  | -            |  |  |
| H (fe  | SAMPLE             | RECOVERY BLOW COUNTS (per 6 inches) | U.S.C.S.                 | GRAPHIC                 | UTHOLOGIC DESCRIPTION  | PID or OVA (ppm) | ) /fac       |  |  |
| PROJECT NUM PROJECT NUM OCATION DVA EQUIPME GROUND ELE TOP OF CASIN FIRST ENC STABILIZE DOGGED BY 10 10 10 10 10 11 10 11 10 11 10 11 10 11 11 | SAN                | SECC<br>OW (                        | U.S                      | GRA                     |  | 0 di<br>qq)      | OFPTH (feet) |  |  |
| S,   |                    | 199                                 | *                        |                         |  |                  | ٥            |  |  |
|  |                    | X                                   |                          | يات را<br>توريد         | 0-2' (3M) silty Sand (104R3/2) Dark Greyith Brown  | 0.0              |              |  |  |
| 136  | ***                |                                     | SM                       | e 2                     | Silfs - Nonflastic, moist, Soft<br>ands - fine to course grained, Moist, Loose, Sub orgular  | +                | ļ            |  |  |
|  | 1 /                | <u> </u>                            | 6M                       | 6                       |  | 1                | <b>-</b>     |  |  |
| 1/6  | >0 /               | <b>\</b>                            |                          | 40                      | 2-3(GM) silly sondy Gravels (104R 4/41) Durk Yellows   | Bro              | ٥٧           |  |  |
|  |                    | <u> </u>                            |                          | -00                     | silfo Non Plastic, Moist, Soft   |                  | L            |  |  |
| 5  |                    |                                     |                          |                         | Sand - fine - course grained, Moist, loose<br>sub angular, sub roudes  |                  | 5            |  |  |
| B-36"  |                    | 7                                   |                          | 0,5                     | sub angular, sub roudes  | 6,0              | ~            |  |  |
|  | ) 5                |                                     | 610                      | ر<br>ان<br>ان           | Gravels - 0.5-2" diameter, Loose, Sub agular   |                  | <b>-</b>     |  |  |
| **   |                    | }                                   |                          | 0                       | sub rounded  | 0.0              |              |  |  |
|  |                    | and the second name of              | - marked ministration is | Commence of the last of | ***************************************  |                  |              |  |  |
|  |                    |                                     |                          |                         |  |                  |              |  |  |
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| 15   |                    |                                     |                          |                         |  | ļ                | 1:           |  |  |
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|  |                    |                                     |                          |                         | (Continued Next Page)  |                  |              |  |  |
| APPROVED BY  | /:                 |                                     |                          |                         | DATE:  |                  | M            |  |  |

| BORING+WELL 2006 FIELD BLANK LFR TEST PROJ AUG2006.GPJ LFR SEPT 2006.GDT | APPR       | OVED BY:                                |            |                               |             |  | DATE:   | - 5                 | K            |
|--|------------|---|------------|-------------------------------|-------------|--|---|---------------------|--------------|
| +WELL  | 20         |   |            | L                             |             |  | (Continued Next Page)   |                     | 20           |
| . 2006   |            |   |            |                               |             |  |   |                     | <u> </u>     |
| FIELD B  |            |   |            |                               |             |  |   |                     | <u> </u>     |
| 3LANK  |            |   |            |                               |             |  |   |                     | <u> </u>     |
| LFR TE   |            |   |            |                               |             |  |   |                     | <u> </u>     |
| STPR   | : <u>-</u> |   |            |                               |             |  |   |                     | 15           |
| DU AUG   | 15         |   |            |                               |             |  |   |                     | 15           |
| 2006.G   |            |   |            |                               |             |  |   |                     | Ī            |
| PJ LFR   |            |   |            |                               |             |  |   |                     |              |
| SEPT.  |            |   |            |                               |             |  |   |                     |              |
| 2006.G   | ,          |   | ļ          |                               |             |  |   |                     |              |
| DT 9/7/06  | 10         |   | ļ          |                               |             |  | Sub angulary Sub rounded  | ,                   | 10           |
| 90,  |            | 10 HD                                   |            |                               |             |  | sands - fine - coarse grained, Moist, Louse,  |                     | <u></u>      |
| -  |            | B-37-20                                 | 4          | ļ                             |             |  | brown<br>5.115 - Low plasticity, Moist, Medium Soft   | 9.0                 | <u></u>      |
| -  |            |   | $ \Lambda$ |                               | 5M          | through the same of the same o | silly sand (SM) (1042 4/4) Park Yellowish   |                     | <u></u>      |
|  |            | 1935                                    | V          |                               | 6. No       | 00   | same as above withour times   | , c                 | <u> </u>     |
|  | 5          | B-37-515                                | 1          |                               | ļ           | 8  |   | 2.5                 | 5            |
| -  | -····-     |   | ļ          |                               |             |  | 5: 16 - Moist, Northestic, soft<br>sand five to coarsegrained, moist, loose, subangular, subsp<br>oravels - 05% frameter, Loose, subangular, subsphericul | lutica              | <u> </u>     |
| -  |            | 1033                                    | -          | <b>†</b>                      |             |  | 015-6 (GM) silty sandy gravel (1042 4/4) Dark rellavish   |                     | <b>_</b>     |
| -  | د<br>(آ    | B-37-2.5                                | ĮĂ.        | ļ                             | 6.00        | (0)  |   |                     | <u> </u>     |
| ŀ  |            | 8-37-15                                 | W          |                               | 6m          | 100  | sout - fire to coarse grained, Moist, 1005e, Sub-ourgular Sub-officer   | 0.0                 | ļ            |
| ł  |            | Ø.                                      |            |                               | 52          | , account and a second   | 0-0,5 SMI SILTY Sould 10 YL VETY dow't ground Boows   | -                   |              |
|  | ОЕРТН (f   | SAMPLE TYPE<br>NUMBER                   | SAMPLE     | BLOW COUNTS<br>(per 6 inches) | U.S.C.S.    | GRAPHIC<br>LOG   | UNITHOLOGIC DESCRIPTION UNITHOLOGIC DESCRIPTION   | PID or OVA<br>(ppm) | DEPTH (feet) |
|  | (feet)     | YPE                                     | ш 2        | JNTS<br>hes)                  | (i)         | ೨  | ω   | <b> </b>            | eet)         |
|  |            | SED BY M                                |            | lliva                         |             | DA   | TE_1-26-10  |                     |              |
|  |            | RST ENCOUNT<br>ABILIZED WA <sup>-</sup> |            | JWAI                          | EK          | State,   |   |                     |              |
|  |            | OF CASING EL                            |            |                               |             | CONTRACT.  | HOLE DEPTHS   |                     |              |
|  |            | JND ELEVATIO                            |            |                               | - ACCORDING |  | HOLE DIAMETER 21  |                     |              |
|  | OVA        | EQUIPMENT _                             | P          | II                            |             |  |   |                     |              |
|  | LOCA       | TION                                    | 4          | 60                            |             |  | STAMP (IF APPLICABLE) AND/OR NOTES  |                     |              |
|  | PROJ       | ECT NUMBER                              |            |                               |             |  | DRILLING METHOD Direct Pusy   |                     |              |
|  | PROJ       | ECT LOCATIO                             | N          | Rle                           | 0.50        | ndor   | DRILLING CONTRACTOR Pene Cone   | I OF                |              |
|  | PROJ       | IECT NAME<br>NT                         | AG         | 2015<br>201                   | DIC         | •  | LOG OF BORING / WELL  | -37<br>1 OF         | ,<br>        |

|              | PROJECT LOCATION PLASSIFIED AND PROJECT NUMBER  PROJECT NUMBER  DRILLING METHOD DISTAMP (IF APPLICABLE) AND PROJECT NUMBER  PROJECT NUMBER  DRILLING METHOD DISTAMP (IF APPLICABLE) AND PROJECT NUMBER STAMP (IF APPLICABLE) AND PROJECT NUMBER ST | LOG OF BORING / WELL B | PAGE 1 OF L                   |  |                              |   |   |                  |              |
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| PROJ         | JECT LOCATIO   | N                      |                               |  |                              | - John  | DRILLING CONTRACTOR REALCOST            | = 1 OF           | 4            |
| PROJ         | IECT NUMBER  |                        |                               |  |                              |   | DRILLING METHOD Direct Pash             |                  |              |
| LOCA         | ATION  | 1                      | 40                            | c 1  |                              |   | STAMP (IF APPLICABLE) AND/OR NOTES      |                  |              |
| OVA          | EQUIPMENT _  |                        | P -                           | I  | T                            | )   |   |                  |              |
| GROU         | JND ELEVATIO   | N                      |                               | Month (10 to 10 to | - January                    | HOLE DIAMETER し川  |   |                  |              |
| TOP          | OF CASING EL   | EVAT                   | ION _                         | gilling.   |                              | HOLE DEPTH 100  |   |                  |              |
|              |  |                        |                               |  | ***                          | lidate to the constant of the |   |                  |              |
| ST           | ABILIZED WA  | ΓER _                  |                               |  | January Contraction (No. 17) | (Patronau, , ,  |   |                  |              |
| LOGG         | SED BY MW  | 5                      |                               | -  | DA                           | ATE 1-26-10   |   |                  |              |
| DEPTH (feet) | SAMPLE TYPE<br>NUMBER  | SAMPLE                 | BLOW COUNTS<br>(per 6 inches) | U.S.C.S.   |                              |   | •                                       | PID or OVA (ppm) | DEPTH (feet) |
|              |  | 1                      |                               |  |                              | 0-3,5 (SM) 5: 1/y   | Soud (10 YR 4/4) Dark Yellowish Braum   | 0,0              |              |
| Ø            | B38-1.3  | 1/                     |                               | 5M   |                              | Silfs - Low P   | lustic, Most, Soft                      |                  | <b>-</b>     |
| Γ            |  | N/                     |                               |  | 00                           |   |   | 6,0              | <u> </u>     |
| L/           | 1  | <b>Д</b> Д             |                               |  | 1. E.                        | - (c)   |   |                  | <u> </u>     |
| L            | 930  | 1                      |                               | GW   | 00                           | 35-65 (60)  | Kine Gravels (10 YK 9/4) Dark Yellowish |                  | <u></u>      |
| 5            |  |                        |                               |  | 0                            | Gravels   | 0,5-Diameter or less, well stateded     |                  | 5            |
| A            | 1  | 1                      |                               |  | 30                           | Loose   | , Sub angular, sub rounded .            | 610              |              |
| ļ            | V.4  | I X                    |                               | Star - respective  | 7                            |   |   |                  | <b>-</b>     |
| Ø,           | B-38 P-5   | 1                      |                               | 5M.  | 0/                           | 6,5- (SM)   | Sume as 0-3,5                           | 6,0              | <b>-</b>     |
| <b></b>      | 940  |                        |                               |  | ļ                            |   | ······                                  |                  | <u> </u>     |
|              |  |                        |                               |  |                              |   | ·······                                 |                  | <u>_</u>     |
| 10           |  |                        |                               | -canners of the  |                              |   |   |                  | 10           |
|              |  |                        |                               | 2^   |                              |   | •                                       |                  |              |
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|              |  |                        |                               |  |                              |   | ·                                       |                  | <u> </u>     |
|              |  |                        |                               |  |                              | ***************************************   |   |                  | <b>_</b>     |
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|              |  |                        |                               |  |                              |   |   | ļ                | L            |
|              |  |                        |                               |  |                              |   |   |                  | <u>_</u>     |
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| 20<br>APPR   | ROVED BY:  |                        |                               |  |                              | DATE:   | (Continued Next Page)                   |                  |              |

|   | PROJ<br>CLIEN | ECT NAME<br>IT  |                    | uSo<br>LCC/                   |   |                | DRILLING CONTRACT  DRILLING METHOD  STAMP (IF APPLICA  B-M  B-M  B-M  B-M  B-M  B-M  B-M  B-   | LOG OF BORING / WELL   | 3°               |              |
|---|---------------|---|--------------------|-------------------------------|---|----------------|--|--|------------------|--------------|
|   | PROJ          | ECT LOCATION  |                    |                               |   |                | , (  |  | . 1 01           |              |
|   | PROJ          | ECT NUMBER  |                    |                               |   |                | •  | DRILLING METHOD Direct Push  |                  |              |
|   | LOCA          | TION  | Ac                 | ) L 1                         |   |                |  | STAMP (IF APPLICABLE) AND/OR NOTES   |                  |              |
|   | OVA E         | QUIPMENT  |                    | P                             |   | )              |  |  |                  |              |
|   | GROU          | IND ELEVATIO  | N                  | p*                            | -                                       |                | HOL  |  |                  |              |
|   | TOP C         | F CASING ELE  | EVAT               | ION _                         | *************************************** | 6/m,           | HOL  |  |                  |              |
|   | FIR           | ST ENCOUNTE   | EREC               | ) WAT                         | ER                                      |                | Andrew Street, Square, | B-39   |                  |              |
|   | ST.           | ABILIZED WAT  | ER                 |                               |   |                |  |  |                  |              |
|   | LOGG          | ED BY   | ulli               |                               |   | DA             | TE _   | 1/26/10  |                  |              |
|   | DEPTH (feet)  | SAMPLE TYPE<br>NUMBER                                     | SAMPLE<br>RECOVERY | BLOW COUNTS<br>(per 6 inches) | U.S.C.S.                                | GRAPHIC<br>LOG | DEPTHS   | LITHOLOGIC DESCRIPTION   | PID or OVA (ppm) | DEPTH (feet) |
|   | 5             | B-39-15<br>8-39-15<br>8-39-31-5<br>840<br>8-31-7.0<br>900 |                    | ed)                           | 5M<br>5M                                |                | 7,3  | some as above but different colorand silfs how a plashic Trace gravels 0.5" diamater  (GM) Silfy Sandy marchs (10 yr 4/4) Dark yellowish Brown | 9,0              | 5            |
| BORING+WELL 2006 FIELD BLANK LFR TEST PROJ AUG2006.GPJ LFR SEPT 2006.GDT 9/7/06 | 15            | B32-08  | X                  |                               | SA                                      |                |  | (Continued Next Page)  | 0,0              | 15           |
| ORING+M   | APPR          | OVED BY:  |                    |                               |   |                | W-0-10-10-10-10-10-10-10-10-10-10-10-10-1  |  | . E              |              |

|  |  | ROJECT LOCATION PLEASANTON (A)  ROJECT NUMBER  OCATION AOC 1  WA EQUIPMENT PID  ROUND ELEVATION HOLE DIAMETER Z'  FIRST ENCOUNTERED WATER  STABILIZED WATER  OGGED BY M. Sulvey DATE I-NS-10  (100) AND BELEVATION DATE I-NS-10  ( |  | LOG OF BORING / WELL PAGE 1 OF |                                    |                |  |                     |              |
|--|--|--|--|--------------------------------|------------------------------------|----------------|--|---------------------|--------------|
| PROJECT LOCATION Pleciscution, CA  |  |  |  |                                |                                    | 7              |  |                     |              |
| PROJECT NUMBER  LOCATION ACCI  OVA EQUIPMENT PID  GROUND ELEVATION HOLE DIAMETER Z  TOP OF CASING ELEVATION HOLE DEPTH (1,5)  FIRST ENCOUNTERED WATER  STABILIZED WATER  |  |  |  |                                |                                    |                | DRILLING METHOD Direct Push  |                     |              |
| OVA EQUIPMENT HOLE DIAMETER  |  |  |  |                                | STAMP (IF APPLICABLE) AND/OR NOTES |                |  |                     |              |
|  | OVA I  | EQUIPMENT _  | P  | PII                            | >                                  |                |  |                     |              |
|  | GROL   | JND ELEVATIO   | N  | , page series                  | *OKA*                              |                | HOLE DIAMETER _ Z *(   |                     |              |
|  | TOP (  | OF CASING EL   | EVAT   | ION _                          |                                    |                |  |                     |              |
|  | CLIENT ACCEPTS  PROJECT LOCATION PLEASENTON (A)  PROJECT NUMBER  LOCATION ACCI  OVA EQUIPMENT PIP  GROUND ELEVATION HOLE DIAMETER Z'  FIRST ENCOUNTERED WATER  STABILIZED WATER  LOGGED BY M. Sullive DATE I-X5-10  SWAND SUBJECT OF STABLES OF SUBJECT OF SU | **************************************   |  |                                |                                    |                |  |                     |              |
|  |  |  |  |                                |                                    |                |  |                     |              |
|  | LOGG   |  | CT LOCATION Pleasanton, CA  CT NUMBER  TION ACC 1  QUIPMENT PID  ND ELEVATION HOLE DIAMETER Z'  F CASING ELEVATION DATE  BILIZED WATER  ED BY M. Sallivan DATE  ST ENCOUNTERED WATER  ED BY M. Sallivan DATE  SO ON SO O | TE 1-25-10                     |                                    |                |  |                     |              |
| NG+WELL 2006 FIELD BLANK LFR TEST PROJ AUG2006 GPJ LFR SEPT 2006 GDT 9/706   | DEPTH (feet)   | SAMPLE TYPE<br>NUMBER  | SAMPLE<br>RECOVERY   | BLOW COUNTS<br>(per 6 inches)  | U.S.C.S.                           | GRAPHIC<br>LOG | S<br>H<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L | PID or OVA<br>(ppm) | DEPTH (feet) |
|  |  |  | \ /  |                                |                                    | 2 2            | 0-25 (SM) Silty Soud (10 YR 3/2) Very Dark grayish   | 0.0                 |              |
|  | - Gr   |  | l V  |                                | ļ                                  | io i           | - silts, Nonflastic, Moist, Soft   |                     | <u> </u>     |
|  |  |  | $\mathbb{N}$   |                                |                                    | . W. C.        | - 5 and 5, five coarse grained, Moist, loose, Sub angular  |                     | <b>-</b>     |
| I  | <u>/</u>   | 978  | 41   |                                | 6.11                               | 0.0            | July 5 Phosical  |                     | <b></b>      |
|  |  |  |  |                                |                                    |                | 2.15 GM Soudy gravel (10 yr 4/4) Dark Yellavish  |                     | <u></u>      |
|  | 5  |  |  |                                |                                    |                | Brown  | 010                 | 5            |
|  | Ø  | -70  | V  |                                | 6-M                                | 9:00           |  |                     |              |
|  |  | 930  | $\triangle$  |                                |                                    | t w.           | - Sond, fine - Coarse grained, Moist, loose, Sub-  |                     |              |
|  |  |  |  |                                |                                    |                | angular, sub spherical   |                     | <u> </u>     |
| and the same of th |  |  |  |                                |                                    |                | sub ansular, sub spherical   |                     | <u> </u>     |
| 90.  |  |  |  |                                |                                    |                | Say argulary sur spour c c .   | Ø-10                |              |
|  | 10   |  |  |                                |                                    |                |  |                     | 10           |
|  |  |  | V  |                                | on                                 | (A) 1          |  |                     |              |
| EPT 20   |  | 18910  | $\triangle$  |                                |                                    | 20             |  | 1                   |              |
| FR SE  |  |  |  |                                |                                    |                |  |                     | <u> </u>     |
| .GPJ I   |  |  |  |                                | :                                  |                |  |                     | ļ            |
| 32006  |  |  |  |                                |                                    |                |  |                     | <u></u>      |
| ON AU  | 15   |  |  |                                |                                    |                |  |                     | 15           |
| ST PR  |  |  |  |                                |                                    |                |  |                     |              |
| FR TE  |  | •••••  |  |                                |                                    |                |  |                     | <u> </u>     |
| ANK L  |  |  |  |                                |                                    |                |  |                     | <u> </u>     |
| LD BL  | <u> </u>   |  |  |                                |                                    |                |  |                     | <u> </u>     |
| OG FIE   |  |  |  |                                |                                    | ļ              | ······································   |                     | <u> </u>     |
| ELL 20   | _20  |  |  |                                |                                    |                |  |                     | 20           |
| NG+WE  | PROJECT NUMBER  LOCATION ACCI  OVA EQUIPMENT PID  GROUND ELEVATION HOLE DIAMETER Z'  FIRST ENCOUNTERED WATER  STABILIZED WATER  LOGGED BY M. J. (VM DATE 1-X5-10)  (1999) H. L. G. (1990) J. (1990)  | (Continued Next Page)  |  | D                              |                                    |                |  |                     |              |
| BORI   | APPR   | ROVED BY:  |  |                                |                                    |                | DATE:  |                     |              |

| ROJECT LOCATION ROJECT NUMBER  POCATION ACC  VA EQUIPMENT PL  ROUND ELEVATION HOLE DIAMETER 2"  OP OF CASING ELEVATION HOLE DEPTH 8  FIRST ENCOUNTERED WATER | DRILLING CONTRACTOR PENECORE  DRILLING METHOD Pinect PUSh  STAMP (IF APPLICABLE) AND/OR NOTES | E 1 OF .                         |        |
|--|---|----------------------------------|--------|
| OCATION ACC VA EQUIPMENT PTL  ROUND ELEVATION HOLE DIAMETER 2 1  OP OF CASING ELEVATION HOLE DEPTH 8   | DRILLING METHOD Pinect Push   |                                  |        |
| ROUND ELEVATION HOLE DIAMETER 2"  OP OF CASING ELEVATION HOLE DEPTH 8  |   |                                  |        |
| ROUND ELEVATION HOLE DIAMETER 2"  OP OF CASING ELEVATION HOLE DEPTH 8  |   |                                  |        |
| ROUND ELEVATION HOLE DIAMETER 2 1  | ——————————————————————————————————————  |                                  |        |
| OP OF CASING ELEVATION HOLE DEPTH  | <del></del>   |                                  |        |
| (Partition)  | <del></del> ,   |                                  |        |
| FIRST ENCOUNTERED WATER  |   |                                  |        |
| STABILIZED WATER   | <del>_</del>  |                                  |        |
| DGGED BY M. Sullivan DATE 1-26-10  |   |                                  |        |
| F  |   |                                  |        |
| SAMPLE TYPE NUMBER SAMPLE RECOVERY BLOW COUNTS (per 6 inches) U.S.C.S. GRAPHIC LOG DEPTHS  | LITHOLOGIC DESCRIPTION  | PID or OVA<br>(ppm)              | (faat) |
| MPLI NUM CECO SAM CECO LO SI LO SI LO SI LO DEPI DE  | · · · · · · · · · · · · · · · · · · ·   | D or                             | H      |
| S S S S S S S S S S S S S S S S S S S  | Mus   |                                  | C      |
| B-41-15   3M 35 0-105 (SM) 511/  | y Sand with trace gravels (1042 414)  | 0.0                              |        |
| 955 Silfs - None   | lastic - Low Plastic, Moist, Soft   | Ø10                              |        |
| Bull-3.0 Sonds - Ands angu   | - Course grained, Moist, Loose, sub-<br>lar, sub romber                                       |                                  |        |
| Trace  | fine gravels, Jub angular, Sub-10m  | 2010                             |        |
| 5 B41-515 -0- 1-5-2 (6M)   | 5114 Sauly gravels (107R 4/4)   |                                  | 5      |
| (605 V   | Yellowish brown   | 0.0                              |        |
| B-41-70 / 50 51115- 6  | ow Plasticity, Moist, Soft  | l                                |        |
| 5 and - 6  | The grained - Coarse, Moist, Loose,<br>angulary Sub rounded                                   | 0.0                              |        |
|  | · · · · · · · · · · · · · · · · · · ·   |                                  |        |
| a  | Ois-2" Dianeler, Loose, sub-  |                                  |        |
| 0  |   | <u>-</u>                         | 1(     |
|  |   | ļ <u>-</u>                       |        |
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| ··· <del>·</del>   |   | <u>-</u> -                       |        |
| 0  |   |                                  | 20     |
|  | (Continued Next Page)   |                                  | D      |

# **APPENDIX C**

**Laboratory Certified Analytical Report** 



THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories Inc.

TestAmerica San Francisco 1220 Quarry Lane Pleasanton, CA 94566 Tel: (925)484-1919

TestAmerica Job ID: 720-25537-1 Client Project/Site: Hanson Radum

#### For:

ARCADIS U.S., Inc Formerly LFR, Inc. 1900 Powell St 12th Floor Emeryville, California 94608-1827

Attn: Katrin Schliewen



Authorized for release by: 2/3/2010 4:23 PM Surinder Sidhu Customer Service Manager surinder.sidhu@testamericainc.com

Designee for
Afsaneh Salimpour
Project Manager I
afsaneh.salimpour@testamericainc.com

Ask—The Expert

·····LINKS ······

Review your project results through

Total Access

Visit us at: www.testamericainc.com This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Page 1 of 24 02/03/2010

# **Qualifier Definition/Glossary**

Client: ARCADIS U.S., Inc Formerly LFR, Inc.

TestAmerica Job ID: 720-25537-1

Project/Site: Hanson Radum

**Qualifiers** 

**GC/MS VOA** 

 Qualifier
 Qualifier Description

 F
 MS or MSD exceeds the control limits

F RPD of the MS and MSD exceeds the control limits

GC Semi VOA

Qualifier Description

X Surrogate exceeds the control limits

**Glossary** 

Glossary Description

Listed under the "D" column to designate that the result is reported on a dry weight basis.

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# Job Narrative 720-25537-1

#### Comments

No additional comments.

#### Receip

All samples were received in good condition within temperature requirements.

#### GC/MS VOA

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for batch #65066 was outside control limits. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision met acceptance ciriteria.

Method(s) 8260B: Internal standard responses were outside of acceptance limits for the following sample(s): B-39-3.0' (720-25537-6), B-40-5.5' (720-25537-3). The sample(s) shows evidence of matrix interference and confirmed by reanalysis.

Method(s) 8260B: Internal standard responses were lower outside of acceptance limits for the following sample(s): B-39-5.5' (720-25537-7). The sample(s) shows evidence of matrix interference and surrogate was higher outside control limits and confirmed by reanalysis.

Method(s) 8260B: Internal standard responses were outside of acceptance limits for the following sample(s): B-36-1.5' (720-25537-21), B-37-2.5' (720-25537-18). The sample(s) shows evidence of matrix interference and confirmed by reanalysis.

Method(s) 8260B: Surrogate recovery for the following sample(s) was outside the upper control limit: B-37-2.5' (720-25537-18). This sample did not contain any target analytes; re-analysis was performed.

No other analytical or quality issues were noted.

#### GC VOA

No analytical or quality issues were noted.

#### GC Semi VOA

Method(s) 8015B: Due to the level of dilution required for the following sample(s), surrogate recoveries are not reported: (720-25537-3 MS), (720-25537-3 MSD), B-39-3.0' (720-25537-6), B-40-5.5' (720-25537-3).

No other analytical or quality issues were noted.

#### **Organic Prep**

No analytical or quality issues were noted.

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Client: ARCADIS U.S., Inc Formerly LFR, Inc.

TestAmerica Job ID: 720-25537-1

Project/Site: Hanson Radum

| Client Sample ID: B-40-1.5'        |        |           |      |     |       | La      | ab  | Sample II | D: 720-25537-1                   |
|------------------------------------|--------|-----------|------|-----|-------|---------|-----|-----------|----------------------------------|
| Analyte                            | Result | Qualifier | RL   | MDL | Unit  | Dil Fac | D   | Method    | Prep Type                        |
| Diesel Range Organics [C10-C28]    | 8.4    |           | 1.0  |     | mg/Kg | 1       | _   | 8015B     | Silica Gel<br>Cleanup            |
| Client Sample ID: B-40-3.0'        |        |           |      |     |       | La      | ab  | Sample II | D: 720-25537-2                   |
| Analyte                            | Result | Qualifier |      |     | Unit  | Dil Fac | D   | Method    | Prep Type                        |
| No Detections.                     |        |           |      |     |       |         | _   |           |                                  |
| Client Sample ID: B-40-5.5'        |        |           |      |     |       | La      | ab  | Sample II | D: 720-25537-3                   |
| Analyte                            | Result | Qualifier | RL   | MDL | Unit  | Dil Fac | D   | Method    | Prep Type                        |
| Diesel Range Organics [C10-C28]    | 450    |           | 3.0  |     | mg/Kg | 3       | _   | 8015B     | Silica Gel                       |
| Motor Oil Range Organics [C24-C36] | 960    |           | 150  |     | mg/Kg | 3       |     | 8015B     | Cleanup<br>Silica Gel<br>Cleanup |
| Client Sample ID: B-39-1.5'        |        |           |      |     |       | La      | ab  | Sample II | D: 720-25537-5                   |
| Analyte                            | Result | Qualifier |      |     | Unit  | Dil Fac | D   | Method    | Prep Type                        |
| No Detections.                     |        |           |      |     |       |         | _   |           |                                  |
| Client Sample ID: B-39-3.0'        |        |           |      |     |       | La      | ab  | Sample II | D: 720-25537-6                   |
| Analyte                            | Result | Qualifier | RL   | MDL | Unit  | Dil Fac | D   | Method    | Prep Type                        |
| Diesel Range Organics [C10-C28]    | 920    |           | 9.9  |     | mg/Kg | 10      | _   | 8015B     | Silica Gel                       |
| Motor Oil Range Organics [C24-C36] | 2600   |           | 500  |     | mg/Kg | 10      |     | 8015B     | Cleanup<br>Silica Gel<br>Cleanup |
| Client Sample ID: B-39-5.5'        |        |           |      |     |       | La      | ab  | Sample II | D: 720-25537-7                   |
| Analyte                            | Result | Qualifier | RL   | MDL | Unit  | Dil Fac | D   | Method    | Prep Type                        |
| Diesel Range Organics [C10-C28]    | 42     |           | 0.99 |     | mg/Kg | 1       | _   | 8015B     | Silica Gel                       |
| Motor Oil Range Organics [C24-C36] | 220    |           | 49   |     | mg/Kg | 1       |     | 8015B     | Cleanup<br>Silica Gel<br>Cleanup |
| Client Sample ID: B-38-1.5'        |        |           |      |     |       | La      | ab  | Sample II | D: 720-25537-9                   |
| Analyte                            | Result | Qualifier | RL   | MDL | Unit  | Dil Fac | D   | Method    | Prep Type                        |
| Diesel Range Organics [C10-C28]    | 4.2    |           | 0.99 |     | mg/Kg | 1       | _   | 8015B     | Silica Gel<br>Cleanup            |
| Client Sample ID: B-38-3.0'        |        |           |      |     |       | Lal     | b S | Sample ID | : 720-25537-10                   |
| Analyte                            | Result | Qualifier | RL   | MDL | Unit  | Dil Fac | D   | Method    | Prep Type                        |
| Diesel Range Organics [C10-C28]    | 2.2    |           | 0.99 |     | mg/Kg | 1       | _   | 8015B     | Silica Gel<br>Cleanup            |
| Client Sample ID: B-38-5.5'        |        |           |      |     |       | Lal     | b S | Sample ID | 720-25537-11                     |
| Analyte                            | Result | Qualifier |      |     | Unit  | Dil Fac | D   | Method    | Prep Type                        |
| No Detections.                     |        |           |      |     |       |         |     |           |                                  |
| Client Sample ID: B-41-1.5'        |        |           |      |     |       | Lal     | b S | Sample ID | 720-25537-13                     |
| Analyte                            | Result | Qualifier | RL   | MDL | Unit  | Dil Fac | D   | Method    | Prep Type                        |
| Diesel Range Organics [C10-C28]    | 1.3    |           | 0.99 |     | mg/Kg | 1       | _   | 8015B     | Silica Gel<br>Cleanup            |

Project/Site: Hanson Radum

Analyte

Diesel Range Organics [C10-C28]

| Client Sample ID: B-41-3.0'        |        |           |      |     |       | Lal     | b S | Sample ID: | 720-25537-1                      |
|------------------------------------|--------|-----------|------|-----|-------|---------|-----|------------|----------------------------------|
| Analyte                            | Result | Qualifier |      |     | Unit  | Dil Fac | D   | Method     | Prep Type                        |
| No Detections.                     |        |           |      |     |       |         | _   |            |                                  |
| Client Sample ID: B-41-5.5'        |        |           |      |     |       | Lal     | b S | Sample ID: | 720-25537-1                      |
| Analyte                            | Result | Qualifier |      |     | Unit  | Dil Fac | D   | Method     | Prep Type                        |
| No Detections.                     |        |           |      |     |       |         |     |            |                                  |
| Client Sample ID: B-37-1.5'        |        |           |      |     |       | Lal     | b S | Sample ID: | 720-25537-1                      |
| -<br>Analyte                       | Result | Qualifier | RL   | MDL | Unit  | Dil Fac | D   | Method     | Prep Type                        |
| Diesel Range Organics [C10-C28]    | 160    |           | 0.99 |     | mg/Kg | 1       | _   | 8015B      | Silica Gel                       |
| Motor Oil Range Organics [C24-C36] | 290    |           | 49   |     | mg/Kg | 1       |     | 8015B      | Cleanup<br>Silica Gel<br>Cleanup |
| Client Sample ID: B-37-2.5'        |        |           |      |     |       | Lal     | b S | Sample ID: | 720-25537-1                      |
| Analyte                            | Result | Qualifier |      |     | Unit  | Dil Fac | D   | Method     | Prep Type                        |
| Client Sample ID: B-37-5.5'        |        |           |      |     |       | Lal     | b S | Sample ID: | 720-25537-1                      |
| Analyte                            | Result | Qualifier | RL   | MDL | Unit  | Dil Fac | D   | Method     | Prep Type                        |
| Diesel Range Organics [C10-C28]    | 3.6    |           | 1.0  |     | mg/Kg | 1       | _   | 8015B      | Silica Gel<br>Cleanup            |
| Client Sample ID: B-36-1.5'        |        |           |      |     |       | Lal     | b S | Sample ID: | 720-25537-2                      |
| -<br>Analyte                       | Result | Qualifier | RL   | MDL | Unit  | Dil Fac | D   | Method     | Prep Type                        |
| Diesel Range Organics [C10-C28]    | 3.7    |           | 1.0  |     | mg/Kg | 1       | _   | 8015B      | Silica Gel<br>Cleanup            |
| Client Sample ID: B-36-3.0'        |        |           |      |     |       | Lal     | b S | Sample ID: | 720-25537-2                      |
| –<br>Analyte                       | Result | Qualifier | RL   | MDL | Unit  | Dil Fac | D   | Method     | Prep Type                        |
| Toluene                            | 5.1    |           | 4.7  |     | ug/Kg | 1       | _   | 8260B      | Total/NA                         |
| Diesel Range Organics [C10-C28]    | 1.1    |           | 0.99 |     | mg/Kg | 1       |     | 8015B      | Silica Gel<br>Cleanup            |
| Client Sample ID: B-36-5.5'        |        |           |      |     |       |         |     | Sample ID: |                                  |

Prep Type

Silica Gel Cleanup

RL

0.99

MDL

Unit

mg/Kg

Dil Fac D Method

8015B

Result Qualifier

1.2

Project/Site: Hanson Radum

Client Sample ID: B-40-1.5'
Date Collected: 01/25/10 09:25

Lab Sample ID: 720-25537-1

Matrix: Solid

Date Received: 01/26/10 13:40

| Organic Compounds ( | GC/MS)          |          |   |  |   |   |   |   |
|---------------------|-----------------|----------|---|--|---|---|---|---|
| Result              | Qualifier       | RL       | MDL   | Unit   | D   | Prepared  | Analyzed  | Dil Fac   |
| ND                  |                 | 4.3      |   | ug/Kg  | _   | 01/27/10 12:00  | 01/27/10 22:27  | 1   |
| ND                  |                 | 4.3      |   | ug/Kg  |   | 01/27/10 12:00  | 01/27/10 22:27  | 1   |
| ND                  |                 | 4.3      |   | ug/Kg  |   | 01/27/10 12:00  | 01/27/10 22:27  | 1   |
| ND                  |                 | 8.7      |   | ug/Kg  |   | 01/27/10 12:00  | 01/27/10 22:27  | 1   |
|                     | Result ND ND ND | ND<br>ND | Result         Qualifier         RL           ND         4.3           ND         4.3           ND         4.3           ND         4.3 | Result         Qualifier         RL         MDL           ND         4.3           ND         4.3           ND         4.3 | Result         Qualifier         RL         MDL         Unit           ND         4.3         ug/Kg           ND         4.3         ug/Kg           ND         4.3         ug/Kg | Result         Qualifier         RL         MDL         Unit         D           ND         4.3         ug/Kg           ND         4.3         ug/Kg           ND         4.3         ug/Kg | Result         Qualifier         RL         MDL         Unit         D         Prepared           ND         4.3         ug/Kg         01/27/10 12:00           ND         4.3         ug/Kg         01/27/10 12:00           ND         4.3         ug/Kg         01/27/10 12:00 | Result         Qualifier         RL         MDL         Unit         D         Prepared         Analyzed           ND         4.3         ug/Kg         01/27/10 12:00         01/27/10 22:27           ND         4.3         ug/Kg         01/27/10 12:00         01/27/10 22:27           ND         4.3         ug/Kg         01/27/10 12:00         01/27/10 22:27 |

| Analyte                            | Result     | Qualifier | RL       | MDL | Unit  | D Prepared     | Analyzed       | Dil Fac |
|------------------------------------|------------|-----------|----------|-----|-------|----------------|----------------|---------|
| Diesel Range Organics [C10-C28]    | 8.4        |           | 1.0      |     | mg/Kg | 01/28/10 11:36 | 01/28/10 21:22 | 1       |
| Motor Oil Range Organics [C24-C36] | ND         |           | 50       |     | mg/Kg | 01/28/10 11:36 | 01/28/10 21:22 | 1       |
| Surrogate                          | % Recovery | Qualifier | Limits   |     |       | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                 |            |           | 0 - 5    |     |       | 01/28/10 11:36 | 01/28/10 21:22 | 1       |
| p-Terphenyl                        | 87         |           | 46 - 115 |     |       | 01/28/10 11:36 | 01/28/10 21:22 | 1       |

Client Sample ID: B-40-3.0'

Lab Sample ID: 720-25537-2

Date Collected: 01/25/10 09:28

Date Received: 01/26/10 13:40

| Method: 8260B - Volatile Organic Compounds (GC/MS) |        |           |     |     |       |   |                |                |         |
|--|--------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Analyte  | Result | Qualifier | RL  | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene  | ND     |           | 4.8 |     | ug/Kg | _ | 01/27/10 12:00 | 01/27/10 23:42 | 1       |
| Ethylbenzene                                       | ND     |           | 4.8 |     | ug/Kg |   | 01/27/10 12:00 | 01/27/10 23:42 | 1       |
| Toluene  | ND     |           | 4.8 |     | ug/Kg |   | 01/27/10 12:00 | 01/27/10 23:42 | 1       |
| Xylenes, Total                                     | ND     |           | 9.6 |     | ug/Kg |   | 01/27/10 12:00 | 01/27/10 23:42 | 1       |

| Method: 8015B - Diesel Range O     | rganics (DRO) (GC) - Sil | ica Gel Cleanup |     |        |                |                |         |
|------------------------------------|--------------------------|-----------------|-----|--------|----------------|----------------|---------|
| Analyte                            | Result Qualifier         | RL              | MDL | Unit D | Prepared       | Analyzed       | Dil Fac |
| Diesel Range Organics [C10-C28]    | ND ND                    | 1.0             |     | mg/Kg  | 01/28/10 13:25 | 01/29/10 08:05 | 1       |
| Motor Oil Range Organics [C24-C36] | ND                       | 50              |     | mg/Kg  | 01/28/10 13:25 | 01/29/10 08:05 | 1       |
| Surrogate                          | % Recovery Qualifier     | Limits          |     |        | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                 | 0                        | 0 - 5           |     |        | 01/28/10 13:25 | 01/29/10 08:05 | 1       |
| p-Terphenyl                        | 98                       | 46 - 115        |     |        | 01/28/10 13:25 | 01/29/10 08:05 | 1       |

Client Sample ID: B-40-5.5'

Lab Sample ID: 720-25537-3

Date Collected: 01/25/10 09:35 Date Received: 01/26/10 13:40

| Method: 8260B - Volatile O | Method: 8260B - Volatile Organic Compounds (GC/MS) |     |     |        |                |                |         |  |  |
|----------------------------|--|-----|-----|--------|----------------|----------------|---------|--|--|
| Analyte                    | Result Qualifier                                   | RL  | MDL | Unit D | Prepared       | Analyzed       | Dil Fac |  |  |
| Benzene                    | ND ND  | 4.7 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 19:45 | 1       |  |  |
| Ethylbenzene               | ND   | 4.7 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 19:45 | 1       |  |  |
| Toluene                    | ND   | 4.7 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 19:45 | 1       |  |  |
| Xylenes, Total             | ND   | 9.4 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 19:45 | 1       |  |  |

| Xylenes, Total                        | ND                       | 9.4              |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 19:45 | 1       |
|---------------------------------------|--------------------------|------------------|-----|--------|----------------|----------------|---------|
| Method: 8015B - Diesel Range O        | rganics (DRO) (GC) - Sil | lica Gel Cleanup |     |        |                |                |         |
| Analyte                               | Result Qualifier         | RL               | MDL | Unit D | Prepared       | Analyzed       | Dil Fac |
| Diesel Range Organics [C10-C28]       | 450                      | 3.0              |     | mg/Kg  | 01/28/10 13:25 | 01/29/10 08:30 | 3       |
| Motor Oil Range Organics<br>[C24-C36] | 960                      | 150              |     | mg/Kg  | 01/28/10 13:25 | 01/29/10 08:30 | 3       |
| Surrogate                             | % Recovery Qualifier     | Limits           |     |        | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                    | 2                        | 0 - 5            |     |        | 01/28/10 13:25 | 01/29/10 08:30 | 3       |

TestAmerica San Francisco

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1'

Matrix: Solid

Matrix: Solid

02/03/2010

Project/Site: Hanson Radum

Client Sample ID: B-40-5.5' Date Collected: 01/25/10 09:35

Lab Sample ID: 720-25537-3

Matrix: Solid

Date Received: 01/26/10 13:40

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup (Continued)

| Surrogate   | % Recovery Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------|----------------------|----------|----------------|----------------|---------|
| p-Terphenyl | 53                   | 46 - 115 | 01/28/10 13:25 | 01/29/10 08:30 | 3       |

Client Sample ID: B-39-1.5' Lab Sample ID: 720-25537-5

Date Collected: 01/26/10 08:30 **Matrix: Solid** 

Date Received: 01/26/10 13:40

| Method: 8260B - Volatile Organic Compounds (GC/MS) |        |           |     |     |       |                |                |         |
|--|--------|-----------|-----|-----|-------|----------------|----------------|---------|
| Analyte  | Result | Qualifier | RL  | MDL | Unit  | D Prepared     | Analyzed       | Dil Fac |
| Benzene  | ND     |           | 4.5 |     | ug/Kg | 01/27/10 12:00 | 01/28/10 00:58 | 1       |
| Ethylbenzene                                       | ND     |           | 4.5 |     | ug/Kg | 01/27/10 12:00 | 01/28/10 00:58 | 1       |
| Toluene  | ND     |           | 4.5 |     | ug/Kg | 01/27/10 12:00 | 01/28/10 00:58 | 1       |
| Xylenes, Total                                     | ND     |           | 8.9 |     | ug/Kg | 01/27/10 12:00 | 01/28/10 00:58 | 1       |

| Method: 8015B - Diesel Range O     | rganics (DRO) | (GC) - Silic | a Gel Cleanup |     |       |   |                |                |         |
|------------------------------------|---------------|--------------|---------------|-----|-------|---|----------------|----------------|---------|
| Analyte                            | Result        | Qualifier    | RL            | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Diesel Range Organics [C10-C28]    | ND            |              | 1.0           |     | mg/Kg | _ | 01/28/10 11:36 | 01/28/10 21:47 | 1       |
| Motor Oil Range Organics [C24-C36] | ND            |              | 50            |     | mg/Kg |   | 01/28/10 11:36 | 01/28/10 21:47 | 1       |
| Surrogate                          | % Recovery    | Qualifier    | Limits        |     |       |   | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                 |               |              | 0 - 5         |     |       |   | 01/28/10 11:36 | 01/28/10 21:47 | 1       |
| p-Terphenyl                        | 90            |              | 46 - 115      |     |       |   | 01/28/10 11:36 | 01/28/10 21:47 | 1       |

Client Sample ID: B-39-3.0' Lab Sample ID: 720-25537-6 Matrix: Solid

Date Collected: 01/26/10 08:40 Date Received: 01/26/10 13:40

| Method: 8260B - Volatile Organic Compounds (GC/MS) |                  |     |     |        |                |                |         |
|--|------------------|-----|-----|--------|----------------|----------------|---------|
| Analyte  | Result Qualifier | RL  | MDL | Unit D | Prepared       | Analyzed       | Dil Fac |
| Benzene  | ND ND            | 4.4 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 20:11 | 1       |
| Ethylbenzene                                       | ND               | 4.4 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 20:11 | 1       |
| Toluene  | ND               | 4.4 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 20:11 | 1       |
| Xvlenes. Total                                     | ND               | 8.8 |     | ua/Ka  | 01/28/10 10:00 | 01/28/10 20:11 | 1       |

| Analyte                               | Result     | Qualifier | RL     | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------------------|------------|-----------|--------|-----|-------|---|----------------|----------------|---------|
| Diesel Range Organics [C10-C28]       | 920        |           | 9.9    |     | mg/Kg |   | 01/28/10 11:36 | 01/28/10 22:12 | 10      |
| Motor Oil Range Organics<br>[C24-C36] | 2600       |           | 500    |     | mg/Kg |   | 01/28/10 11:36 | 01/28/10 22:12 | 10      |
| Surrogate                             | % Recovery | Qualifier | Limits |     |       |   | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                    |            |           | 0 - 5  |     |       | _ | 01/28/10 11:36 | 01/28/10 22:12 | 10      |

Client Sample ID: B-39-5.5' Lab Sample ID: 720-25537-7

46 - 115

0 X

ND

Date Collected: 01/26/10 08:50 Date Received: 01/26/10 13:40

p-Terphenyl

Toluene

| Method: 8260B - Volatile Organic | Compounds ( | GC/MS)    |     |             |       |   |                |                |         |
|----------------------------------|-------------|-----------|-----|-------------|-------|---|----------------|----------------|---------|
| Analyte                          | Result      | Qualifier | RL  | MDL         | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                          | ND          |           | 4.7 | <del></del> | ug/Kg | _ | 01/28/10 10:00 | 01/28/10 20:36 | 1       |
| Ethylhenzene                     | ND          |           | 17  |             | ua/Ka |   | 01/28/10 10:00 | 01/28/10 20:36 | 1       |

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4.7

ug/Kg

Matrix: Solid

Project/Site: Hanson Radum

Client Sample ID: B-39-5.5'
Date Collected: 01/26/10 08:50

Lab Sample ID: 720-25537-7

Matrix: Solid

Matrix: Solid

Date Received: 01/26/10 13:40

| Method: 8260B - Volatile Organ      | ic Compounds ( | (GC/MS) (C   | ontinued)     |     |       |   |                |                |         |
|-------------------------------------|----------------|--------------|---------------|-----|-------|---|----------------|----------------|---------|
| Analyte                             | Result         | Qualifier    | RL            | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Xylenes, Total                      | ND             |              | 9.4           |     | ug/Kg | _ | 01/28/10 10:00 | 01/28/10 20:36 | 1       |
| -<br>Method: 8015B - Diesel Range ( | Organics (DRO) | (GC) - Silic | a Gel Cleanup |     |       |   |                |                |         |
| Analyte                             | Result         | Qualifier    | RL            | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Diesel Range Organics [C10-C28]     | 42             |              | 0.99          |     | mg/Kg | _ | 01/28/10 11:36 | 01/28/10 22:36 | 1       |
| Motor Oil Range Organics            | 220            |              | 49            |     | mg/Kg |   | 01/28/10 11:36 | 01/28/10 22:36 | 1       |
| [C24-C36]                           |                |              |               |     |       |   |                |                |         |
| Surrogate                           | % Recovery     | Qualifier    | Limits        |     |       |   | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                  |                | -            | 0 - 5         |     |       |   | 01/28/10 11:36 | 01/28/10 22:36 | 1       |
| p-Terphenyl                         | 60             |              | 46 - 115      |     |       |   | 01/28/10 11:36 | 01/28/10 22:36 | 1       |

Client Sample ID: B-38-1.5'

Lab Sample ID: 720-25537-9

Date Collected: 01/26/10 09:25
Date Received: 01/26/10 13:40

| Analyte  | Result        | Qualifier                 | RL            | MDL | Unit  | D        | Prepared       | Analyzed       | Dil Fac                |
|--|---------------|---------------------------|---------------|-----|-------|----------|----------------|----------------|------------------------|
| Benzene  | ND            |                           | 4.6           |     | ug/Kg | _        | 01/27/10 12:00 | 01/28/10 02:39 | 1                      |
| Ethylbenzene   | ND            |                           | 4.6           |     | ug/Kg |          | 01/27/10 12:00 | 01/28/10 02:39 | 1                      |
| Toluene  | ND            |                           | 4.6           |     | ug/Kg |          | 01/27/10 12:00 | 01/28/10 02:39 | 1                      |
| Xylenes, Total   | ND            |                           | 9.1           |     | ug/Kg |          | 01/27/10 12:00 | 01/28/10 02:39 | 1                      |
| Method: 8015B - Diesel Bange (   | rganice (DPO) | (GC) - Silic              | a Gol Cleanun |     |       |          |                |                |                        |
| •  | • , ,         | . ,                       | •             | MDI | Unit  | n        | Propared       | Analyzad       | Dil Fac                |
| Analyte  | Result        | (GC) - Silic<br>Qualifier | RL            | MDL | Unit  | <b>D</b> | Prepared       | Analyzed       | Dil Fac                |
| Analyte Diesel Range Organics [C10-C28]  | Result 4.2    | . ,                       |               | MDL | mg/Kg | <u>D</u> | 01/28/10 11:36 | 01/29/10 13:06 | Dil Fac                |
| Method: 8015B - Diesel Range C<br>Analyte Diesel Range Organics [C10-C28] Motor Oil Range Organics [C24-C36] | Result        | . ,                       | RL            | MDL |       | <u>D</u> |                |                | <b>Dil Fac</b> 1       |
| Analyte Diesel Range Organics [C10-C28]  | Result 4.2    | Qualifier                 |               | MDL | mg/Kg | <u>D</u> | 01/28/10 11:36 | 01/29/10 13:06 | Dil Fac  1  1  Dil Fac |

Client Sample ID: B-38-3.0'

Date Collected: 01/26/10 09:30

Lab Sample ID: 720-25537-10

Matrix: Solid

46 - 115

Date Received: 01/26/10 13:40

p-Terphenyl

| Analyte  | Result              | Qualifier    | RL            | MDL | Unit          | D        | Prepared                         | Analyzed                         | Dil Fac                  |
|--|---------------------|--------------|---------------|-----|---------------|----------|----------------------------------|----------------------------------|--------------------------|
| Benzene  | ND                  |              | 4.2           |     | ug/Kg         | _        | 01/27/10 12:00                   | 01/28/10 03:05                   | 1                        |
| Ethylbenzene   | ND                  |              | 4.2           |     | ug/Kg         |          | 01/27/10 12:00                   | 01/28/10 03:05                   | 1                        |
| Toluene  | ND                  |              | 4.2           |     | ug/Kg         |          | 01/27/10 12:00                   | 01/28/10 03:05                   | 1                        |
| Xylenes, Total   | ND                  |              | 8.4           |     | ug/Kg         |          | 01/27/10 12:00                   | 01/28/10 03:05                   | 1                        |
| Method: 8015B - Diesel Range C   |                     |              |               | MDI | llait         |          | Duamanad                         | Analysed                         | Dil Fac                  |
|  |                     | (GC) - Silic | a Gel Cleanup | MDL | Unit          | D        | Prepared                         | Analyzed                         | Dil Fac                  |
| Analyte  |                     |              |               | MDL | Unit<br>mg/Kg | <u>D</u> | <b>Prepared</b> 01/28/10 11:36   | Analyzed 01/29/10 13:31          | Dil Fac                  |
| Method: 8015B - Diesel Range C<br>Analyte<br>Diesel Range Organics [C10-C28]<br>Motor Oil Range Organics [C24-C36] | Result              |              | RL            | MDL |               | <b>D</b> |                                  |                                  | Dil Fac                  |
| Analyte Diesel Range Organics [C10-C28]  | Result 2.2          | Qualifier    | RL<br>0.99    | MDL | mg/Kg         | <u>D</u> | 01/28/10 11:36                   | 01/29/10 13:31                   | 1                        |
| Analyte  Diesel Range Organics [C10-C28]  Motor Oil Range Organics [C24-C36]                                       | Result<br>2.2<br>ND | Qualifier    | 0.99<br>50    | MDL | mg/Kg         | <u>D</u> | 01/28/10 11:36<br>01/28/10 11:36 | 01/29/10 13:31<br>01/29/10 13:31 | Dil Fac  1 1 1 Dil Fac 1 |

Project/Site: Hanson Radum

Client Sample ID: B-38-5.5' Date Collected: 01/26/10 09:35

Date Received: 01/26/10 13:40

Lab Sample ID: 720-25537-11

Matrix: Solid

| Method: 8260B - Volatile Org | anic Compounds (GC/MS) |     |     |       |   |                |                |         |
|------------------------------|------------------------|-----|-----|-------|---|----------------|----------------|---------|
| Analyte                      | Result Qualifier       | RL  | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                      | ND ND                  | 4.6 |     | ug/Kg | _ | 01/27/10 12:00 | 01/28/10 03:34 | 1       |
| Ethylbenzene                 | ND                     | 4.6 |     | ug/Kg |   | 01/27/10 12:00 | 01/28/10 03:34 | 1       |
| Toluene                      | ND                     | 4.6 |     | ug/Kg |   | 01/27/10 12:00 | 01/28/10 03:34 | 1       |
| Xylenes, Total               | ND                     | 9.3 |     | ug/Kg |   | 01/27/10 12:00 | 01/28/10 03:34 | 1       |

| Analyte                            | Result     | Qualifier | RL       | MDL | Unit  | D Prepared     | l Analyzed     | Dil Fac |
|------------------------------------|------------|-----------|----------|-----|-------|----------------|----------------|---------|
| Diesel Range Organics [C10-C28]    | ND         |           | 1.0      |     | mg/Kg | 01/28/10 11:36 | 01/28/10 23:51 | 1       |
| Motor Oil Range Organics [C24-C36] | ND         |           | 50       |     | mg/Kg | 01/28/10 11:36 | 01/28/10 23:51 | 1       |
| Surrogate                          | % Recovery | Qualifier | Limits   |     |       | Prepared       | l Analyzed     | Dil Fac |
| Capric Acid (Surr)                 |            |           | 0 - 5    |     |       | 01/28/10 11:36 | 01/28/10 23:51 | 1       |
| p-Terphenyl                        | 93         |           | 46 - 115 |     |       | 01/28/10 11:36 | 01/28/10 23:51 | 1       |

Lab Sample ID: 720-25537-13 Client Sample ID: B-41-1.5'

Date Collected: 01/26/10 09:55 **Matrix: Solid** 

Date Received: 01/26/10 13:40

| Method: 8260B - Volatile C | Organic Compounds ( | GC/MS)    |     |     |       |                |                |         |
|----------------------------|---------------------|-----------|-----|-----|-------|----------------|----------------|---------|
| Analyte                    | Result              | Qualifier | RL  | MDL | Unit  | D Prepared     | Analyzed       | Dil Fac |
| Benzene                    | ND                  |           | 4.6 | -   | ug/Kg | 01/27/10 12:00 | 01/28/10 04:25 | 1       |
| Ethylbenzene               | ND                  |           | 4.6 |     | ug/Kg | 01/27/10 12:00 | 01/28/10 04:25 | 1       |
| Toluene                    | ND                  |           | 4.6 |     | ug/Kg | 01/27/10 12:00 | 01/28/10 04:25 | 1       |
| Xylenes, Total             | ND                  |           | 9.2 |     | ug/Kg | 01/27/10 12:00 | 01/28/10 04:25 | 1       |

| Analyte                            | Result     | Qualifier | RL       | MDL | Unit  | D Prepared     | Analyzed       | Dil Fac |
|------------------------------------|------------|-----------|----------|-----|-------|----------------|----------------|---------|
| Diesel Range Organics [C10-C28]    | 1.3        |           | 0.99     |     | mg/Kg | 01/28/10 11:36 | 01/29/10 00:16 | 1       |
| Motor Oil Range Organics [C24-C36] | ND         |           | 50       |     | mg/Kg | 01/28/10 11:36 | 01/29/10 00:16 | 1       |
| Surrogate                          | % Recovery | Qualifier | Limits   |     |       | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                 |            |           | 0 - 5    |     |       | 01/28/10 11:36 | 01/29/10 00:16 | 1       |
| p-Terphenyl                        | 95         |           | 46 - 115 |     |       | 01/28/10 11:36 | 01/29/10 00:16 | 1       |

Client Sample ID: B-41-3.0' Lab Sample ID: 720-25537-14 **Matrix: Solid** 

Date Collected: 01/26/10 10:00 Date Received: 01/26/10 13:40

| Method: 8260B - Volatile Org | janic Compounds (GC/MS) |     |     |        |                |                |         |
|------------------------------|-------------------------|-----|-----|--------|----------------|----------------|---------|
| Analyte                      | Result Qualifier        | RL  | MDL | Unit D | Prepared       | Analyzed       | Dil Fac |
| Benzene                      | ND ND                   | 4.5 |     | ug/Kg  | 01/27/10 12:00 | 01/28/10 00:33 | 1       |
| Ethylbenzene                 | ND                      | 4.5 |     | ug/Kg  | 01/27/10 12:00 | 01/28/10 00:33 | 1       |
| Toluene                      | ND                      | 4.5 |     | ug/Kg  | 01/27/10 12:00 | 01/28/10 00:33 | 1       |
| Xylenes, Total               | ND                      | 9.0 |     | ug/Kg  | 01/27/10 12:00 | 01/28/10 00:33 | 1       |

| Ayleries, Total                    | ND            |              | 9.0           |     | ug/Kg  | 01/2//10 12.00 | 01/20/10 00.33 | '       |
|------------------------------------|---------------|--------------|---------------|-----|--------|----------------|----------------|---------|
| Method: 8015B - Diesel Range O     | rganics (DRO) | (GC) - Silic | a Gel Cleanup |     |        |                |                |         |
| Analyte                            | Result        | Qualifier    | RL            | MDL | Unit D | Prepared       | Analyzed       | Dil Fac |
| Diesel Range Organics [C10-C28]    | ND            |              | 1.0           |     | mg/Kg  | 01/28/10 11:36 | 01/29/10 00:40 | 1       |
| Motor Oil Range Organics [C24-C36] | ND            |              | 50            |     | mg/Kg  | 01/28/10 11:36 | 01/29/10 00:40 | 1       |
| Surrogate                          | % Recovery    | Qualifier    | Limits        |     |        | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                 | 0             |              | 0 - 5         |     |        | 01/28/10 11:36 | 01/29/10 00:40 | 1       |

Project/Site: Hanson Radum

Client Sample ID: B-41-3.0'

Lab Sample ID: 720-25537-14 Date Collected: 01/26/10 10:00

Matrix: Solid

01/28/10 02:14

01/29/10 01:05

Date Received: 01/26/10 13:40

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup (Continued)

ND

96

| Surrogate   | % Recovery Quar | alifier Limits | Prepared       | Analyzed       | Dil Fac |
|-------------|-----------------|----------------|----------------|----------------|---------|
| p-Terphenyl | 92              | 46 - 115       | 01/28/10 11:36 | 01/29/10 00:40 | 1       |

Client Sample ID: B-41-5.5' Lab Sample ID: 720-25537-15

Date Collected: 01/26/10 10:05 **Matrix: Solid** 

Date Received: 01/26/10 13:40

Xylenes, Total

p-Terphenyl

| Method: 8260B - Volatile Organic | Compounds | (GC/MS)   |     |     |       |   |                |                |         |
|----------------------------------|-----------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Analyte                          | Result    | Qualifier | RL  | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                          | ND        |           | 4.6 |     | ug/Kg | _ | 01/27/10 12:00 | 01/28/10 02:14 | 1       |
| Ethylbenzene                     | ND        |           | 4.6 |     | ug/Kg |   | 01/27/10 12:00 | 01/28/10 02:14 | 1       |
| Toluene                          | ND        |           | 4.6 |     | ug/Kg |   | 01/27/10 12:00 | 01/28/10 02:14 | 1       |

ug/Kg

01/27/10 12:00

01/28/10 11:36

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup Result Qualifier MDL Unit D Dil Fac Prepared Analyzed Diesel Range Organics [C10-C28] ND 0.99 01/29/10 01:05 mg/Kg 01/28/10 11:36 Motor Oil Range Organics [C24-C36] ND 49 mg/Kg 01/28/10 11:36 01/29/10 01:05 Surrogate % Recovery Qualifier Limits Prepared Analyzed Dil Fac Capric Acid (Surr) 0 0 - 5 01/28/10 11:36 01/29/10 01:05

Client Sample ID: B-37-1.5' Lab Sample ID: 720-25537-17 Date Collected: 01/26/10 10:25 Matrix: Solid

46 - 115

Date Received: 01/26/10 13:40

| Analyte        | Result | Qualifier | RL  | MDL | Unit I | Prepared       | Analyzed       | Dil Fac |
|----------------|--------|-----------|-----|-----|--------|----------------|----------------|---------|
| Benzene        | ND     |           | 4.7 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 17:28 | 1       |
| Ethylbenzene   | ND     |           | 4.7 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 17:28 | 1       |
| Toluene        | ND     |           | 4.7 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 17:28 | 1       |
| Xylenes, Total | ND     |           | 9.4 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 17:28 | 1       |

| Analyte                               | Result     | Qualifier | RL     | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------------------|------------|-----------|--------|-----|-------|---|----------------|----------------|---------|
| Diesel Range Organics [C10-C28]       | 160        |           | 0.99   |     | mg/Kg | _ | 01/28/10 11:36 | 01/29/10 02:19 | 1       |
| Motor Oil Range Organics<br>[C24-C36] | 290        |           | 49     |     | mg/Kg |   | 01/28/10 11:36 | 01/29/10 02:19 | 1       |
| Surrogate                             | % Recovery | Qualifier | Limits |     |       |   | Prepared       | Analyzed       | Dil Fac |

Capric Acid (Surr) 0 - 5 01/28/10 11:36 01/29/10 02:19 1 1 p-Terphenyl 57 46 - 115 01/28/10 11:36 01/29/10 02:19

Client Sample ID: B-37-2.5' Lab Sample ID: 720-25537-18 Date Collected: 01/26/10 10:30 Matrix: Solid

Date Received: 01/26/10 13:40

| Method: 8260B - Volatile Or | ganic Compounds ( | GC/MS)    |     |     |       |   |                |                |         |
|-----------------------------|-------------------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Analyte                     | Result            | Qualifier | RL  | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                     | ND                |           | 4.7 |     | ug/Kg | _ | 01/29/10 08:00 | 01/29/10 15:04 | 1       |
| Ethylbenzene                | ND                |           | 4.7 |     | ug/Kg |   | 01/29/10 08:00 | 01/29/10 15:04 | 1       |
| Toluene                     | ND                |           | 47  |     | ua/Ka |   | 01/29/10 08:00 | 01/29/10 15:04 | 1       |

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1

02/03/2010

Analyzed

Dil Fac

Prepared

Client: ARCADIS U.S., Inc Formerly LFR, Inc.

Project/Site: Hanson Radum

Lab Sample ID: 720-25537-18 Client Sample ID: B-37-2.5'

Date Collected: 01/26/10 10:30 Matrix: Solid

Date Received: 01/26/10 13:40

| Method: 8260B - Volatile Organic C<br>Analyte | Result Qualifier                              | RL                | MDL | Unit          | D        | Prepared                | Analyzed                | Dil Fac |
|---|---|-------------------|-----|---------------|----------|-------------------------|-------------------------|---------|
| Xylenes, Total                                | ND  | 9.4               |     | ug/Kg         |          | 01/29/10 08:00          | 01/29/10 15:04          | 1       |
|   |   |                   |     |               |          |                         |                         |         |
| _<br>Method: 8015B - Diesel Range Org         | anics (DRO) (GC) - Silica                     | Gel Cleanun       |     |               |          |                         |                         |         |
| Method: 8015B - Diesel Range Org<br>Analyte   | anics (DRO) (GC) - Silica<br>Result Qualifier | Gel Cleanup<br>RL | MDL | Unit          | D        | Prepared                | Analyzed                | Dil Fac |
|   | , , , ,                                       | •                 | MDL | Unit<br>mg/Kg | <b>D</b> | Prepared 01/28/10 11:36 | Analyzed 01/29/10 14:22 | Dil Fac |

Capric Acid (Surr) 0 0 - 5 01/28/10 11:36 01/29/10 14:22 p-Terphenyl 94 46 - 115

Limits

% Recovery Qualifier

Client Sample ID: B-37-5.5'

Surrogate

Lab Sample ID: 720-25537-19 Date Collected: 01/26/10 10:35 **Matrix: Solid** 

Date Received: 01/26/10 13:40

| Method: 8260B - Volatile Organ | ic Compounds (GC/MS) |     |     |        |                |                |         |
|--------------------------------|----------------------|-----|-----|--------|----------------|----------------|---------|
| Analyte                        | Result Qualifier     | RL  | MDL | Unit D | Prepared       | Analyzed       | Dil Fac |
| Benzene                        | ND ND                | 5.0 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 17:57 | 1       |
| Ethylbenzene                   | ND                   | 5.0 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 17:57 | 1       |
| Toluene                        | ND                   | 5.0 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 17:57 | 1       |
| Xylenes, Total                 | ND                   | 9.9 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 17:57 | 1       |

| Analyte                            | Result     | Qualifier | RL       | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------|------------|-----------|----------|-----|-------|---|----------------|----------------|---------|
| Diesel Range Organics [C10-C28]    | 3.6        |           | 1.0      |     | mg/Kg |   | 01/28/10 11:36 | 01/29/10 03:08 | 1       |
| Motor Oil Range Organics [C24-C36] | ND         |           | 50       |     | mg/Kg |   | 01/28/10 11:36 | 01/29/10 03:08 | 1       |
| Surrogate                          | % Recovery | Qualifier | Limits   |     |       |   | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                 | 0          |           | 0 - 5    |     |       | _ | 01/28/10 11:36 | 01/29/10 03:08 | 1       |
| p-Terphenvl                        | 95         |           | 46 - 115 |     |       |   | 01/28/10 11:36 | 01/29/10 03:08 | 1       |

Client Sample ID: B-36-1.5' Lab Sample ID: 720-25537-21 Date Collected: 01/26/10 10:55 **Matrix: Solid** 

Date Received: 01/26/10 13:40

| Method: 8260B - Volatile Organic     | Compounds (G    | SC/MS)         |             |     |       |   |                |                |         |
|--------------------------------------|-----------------|----------------|-------------|-----|-------|---|----------------|----------------|---------|
| Analyte                              | Result C        | Qualifier      | RL          | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                              | ND              |                | 4.9         |     | ug/Kg | _ | 01/29/10 08:00 | 01/29/10 15:29 | 1       |
| Ethylbenzene                         | ND              |                | 4.9         |     | ug/Kg |   | 01/29/10 08:00 | 01/29/10 15:29 | 1       |
| Toluene                              | ND              |                | 4.9         |     | ug/Kg |   | 01/29/10 08:00 | 01/29/10 15:29 | 1       |
| Xylenes, Total                       | ND              |                | 9.8         |     | ug/Kg |   | 01/29/10 08:00 | 01/29/10 15:29 | 1       |
| -<br>Method: 8015B - Diesel Range Or | ganics (DRO) (0 | GC) - Silica G | Sel Cleanup |     |       |   |                |                |         |
| Analyte                              | Result C        | Qualifier      | RL          | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Diesel Range Organics [C10-C28]      | 3.7             |                | 1.0         |     | mg/Kg | _ | 01/28/10 11:36 | 01/29/10 03:33 | 1       |

| Motor Oil Range Organics [C24-C36] | ND         |           | 50       | mg/Kg | 01/28/10 11:36 | 01/29/10 03:33 | 1       |
|------------------------------------|------------|-----------|----------|-------|----------------|----------------|---------|
| Surrogate                          | % Recovery | Qualifier | Limits   |       | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                 | 0          |           | 0 - 5    |       | 01/28/10 11:36 | 01/29/10 03:33 | 1       |
| p-Terphenyl                        | 100        |           | 46 - 115 |       | 01/28/10 11:36 | 01/29/10 03:33 | 1       |

Project/Site: Hanson Radum

Client Sample ID: B-36-3.0' Lab Sample ID: 720-25537-22 Date Collected: 01/26/10 11:00

Matrix: Solid

Date Received: 01/26/10 13:40

| Method: 8260B - Volatile Or | ganic Compounds ( | GC/MS)    |     |     |       |   |                |                |         |
|-----------------------------|-------------------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Analyte                     | Result            | Qualifier | RL  | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                     | ND                |           | 4.7 |     | ug/Kg | _ | 01/28/10 10:00 | 01/28/10 16:01 | 1       |
| Ethylbenzene                | ND                |           | 4.7 |     | ug/Kg |   | 01/28/10 10:00 | 01/28/10 16:01 | 1       |
| Toluene                     | 5.1               |           | 4.7 |     | ug/Kg |   | 01/28/10 10:00 | 01/28/10 16:01 | 1       |
| Xylenes, Total              | ND                |           | 9.4 |     | ug/Kg |   | 01/28/10 10:00 | 01/28/10 16:01 | 1       |

| Analyte                            | Result     | Qualifier | RL       | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------|------------|-----------|----------|-----|-------|---|----------------|----------------|---------|
| Diesel Range Organics [C10-C28]    | 1.1        |           | 0.99     |     | mg/Kg | _ | 01/28/10 11:36 | 01/29/10 03:58 | 1       |
| Motor Oil Range Organics [C24-C36] | ND         |           | 49       |     | mg/Kg |   | 01/28/10 11:36 | 01/29/10 03:58 | 1       |
| Surrogate                          | % Recovery | Qualifier | Limits   |     |       |   | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                 |            |           | 0 - 5    |     |       |   | 01/28/10 11:36 | 01/29/10 03:58 | 1       |
| p-Terphenyl                        | 92         |           | 46 - 115 |     |       |   | 01/28/10 11:36 | 01/29/10 03:58 | 1       |

Client Sample ID: B-36-5.5' **Lab Sample ID: 720-25537-23** 

Date Collected: 01/26/10 11:05 Matrix: Solid

Date Received: 01/26/10 13:40

| Method: 8260B - Volatile C | Organic Compounds (GC/MS) |     |     |        |                |                |         |
|----------------------------|---------------------------|-----|-----|--------|----------------|----------------|---------|
| Analyte                    | Result Qualifier          | RL  | MDL | Unit D | Prepared       | Analyzed       | Dil Fac |
| Benzene                    | ND                        | 4.6 |     | ug/Kg  | 01/29/10 18:30 | 01/29/10 20:07 | 1       |
| Ethylbenzene               | ND                        | 4.6 |     | ug/Kg  | 01/29/10 18:30 | 01/29/10 20:07 | 1       |
| Toluene                    | ND                        | 4.6 |     | ug/Kg  | 01/29/10 18:30 | 01/29/10 20:07 | 1       |
| Xylenes, Total             | ND                        | 9.1 |     | ug/Kg  | 01/29/10 18:30 | 01/29/10 20:07 | 1       |

| Method: 8015B - Diesel Range O     | rganics (DRO) | (GC) - Silic | a Gel Cleanup |     |        |                |                |         |
|------------------------------------|---------------|--------------|---------------|-----|--------|----------------|----------------|---------|
| Analyte                            | Result        | Qualifier    | RL            | MDL | Unit [ | Prepared       | Analyzed       | Dil Fac |
| Diesel Range Organics [C10-C28]    | 1.2           |              | 0.99          |     | mg/Kg  | 01/28/10 11:36 | 01/29/10 07:40 | 1       |
| Motor Oil Range Organics [C24-C36] | ND            |              | 50            |     | mg/Kg  | 01/28/10 11:36 | 01/29/10 07:40 | 1       |
| Surrogate                          | % Recovery    | Qualifier    | Limits        |     |        | Prepared       | Analyzed       | Dil Fac |
| Capric Acid (Surr)                 |               |              | 0 - 5         |     |        | 01/28/10 11:36 | 01/29/10 07:40 | 1       |
| p-Terphenyl                        | 100           |              | 46 - 115      |     |        | 01/28/10 11:36 | 01/29/10 07:40 | 1       |

TestAmerica Job ID: 720-25537-1

Project/Site: Hanson Radum

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 720-65096/1-A

Client: ARCADIS U.S., Inc Formerly LFR, Inc.

Matrix: Solid

Analysis Batch: 65040

Client Sample ID: MB 720-65096/1-A

Prep Type: Total/NA

Prep Batch: 65096

| _                   | MB     | MB        |     |     |       |   |                | •              |         |
|---------------------|--------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Analyte             | Result | Qualifier | RL  | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene             | ND     |           | 5.0 |     | ug/Kg | _ | 01/27/10 12:00 | 01/27/10 18:11 | 1       |
| Ethylbenzene        | ND     |           | 5.0 |     | ug/Kg |   | 01/27/10 12:00 | 01/27/10 18:11 | 1       |
| Toluene             | ND     |           | 5.0 |     | ug/Kg |   | 01/27/10 12:00 | 01/27/10 18:11 | 1       |
| m-Xylene & p-Xylene | ND     |           | 5.0 |     | ug/Kg |   | 01/27/10 12:00 | 01/27/10 18:11 | 1       |
| o-Xylene            | ND     |           | 5.0 |     | ug/Kg |   | 01/27/10 12:00 | 01/27/10 18:11 | 1       |
| Xylenes, Total      | ND     |           | 10  |     | ug/Kg |   | 01/27/10 12:00 | 01/27/10 18:11 | 1       |

Lab Sample ID: LCS 720-65096/2-A

**Matrix: Solid** 

Analysis Batch: 65040

Client Sample ID: LCS 720-65096/2-A

Prep Type: Total/NA Prep Batch: 65096

|                     | Spike | LCS    | LCS       |       |        | % Rec.   |  |
|---------------------|-------|--------|-----------|-------|--------|----------|--|
| Analyte             | Added | Result | Qualifier | Unit  | % Rec. | Limits   |  |
| Benzene             | 20.0  | 21.9   |           | ug/Kg | 109    | 82 - 124 |  |
| Ethylbenzene        | 20.0  | 21.6   |           | ug/Kg | 108    | 80 - 137 |  |
| Toluene             | 20.0  | 25.4   |           | ug/Kg | 127    | 83 - 128 |  |
| m-Xylene & p-Xylene | 40.0  | 44.8   |           | ug/Kg | 112    | 79 - 146 |  |
| o-Xylene            | 20.0  | 23.4   |           | ug/Kg | 117    | 84 - 140 |  |

Lab Sample ID: LCSD 720-65096/3-A

**Matrix: Solid** 

**Analysis Batch: 65040** 

Client Sample ID: LCSD 720-65096/3-A

Prep Type: Total/NA

Prep Batch: 65096

|                     | Spike | LCSD   | LCSD      |       |        | % Rec.   |     | RPD   |
|---------------------|-------|--------|-----------|-------|--------|----------|-----|-------|
| Analyte             | Added | Result | Qualifier | Unit  | % Rec. | Limits   | RPD | Limit |
| Benzene             | 20.0  | 20.6   |           | ug/Kg | 103    | 82 - 124 | 6   | 20    |
| Ethylbenzene        | 20.0  | 21.9   |           | ug/Kg | 110    | 80 - 137 | 1   | 20    |
| Toluene             | 20.0  | 21.7   |           | ug/Kg | 109    | 83 - 128 | 15  | 20    |
| m-Xylene & p-Xylene | 40.0  | 45.1   |           | ug/Kg | 113    | 79 - 146 | 1   | 20    |
| o-Xylene            | 20.0  | 23.8   |           | ug/Kg | 119    | 84 - 140 | 2   | 20    |

Lab Sample ID: 720-25537-1 MS

**Matrix: Solid** 

Analysis Batch: 65040

Client Sample ID: B-40-1.5'

Prep Type: Total/NA

Prep Batch: 65096

|   | Analysis Baton, 50040 |        |           |       |        |           |       |        | Trop Batom 000 | •• |
|---|-----------------------|--------|-----------|-------|--------|-----------|-------|--------|----------------|----|
|   |                       | Sample | Sample    | Spike | MS     | MS        |       |        | % Rec.         |    |
|   | Analyte               | Result | Qualifier | Added | Result | Qualifier | Unit  | % Rec. | Limits         |    |
|   | Benzene               | ND     |           | 18.0  | 16.8   |           | ug/Kg | 94     | 70 - 130       |    |
|   | Ethylbenzene          | ND     |           | 18.0  | 16.1   |           | ug/Kg | 90     | 65 - 130       |    |
|   | Toluene               | ND     |           | 18.0  | 17.5   |           | ug/Kg | 96     | 70 - 130       |    |
|   | m-Xylene & p-Xylene   |        |           | 35.9  | 30.5   |           | ug/Kg | 85     | 70 - 130       |    |
|   | o-Xylene              |        |           | 18.0  | 15.5   |           | ug/Kg | 86     | 68 - 130       |    |
| ı |                       |        |           |       |        |           |       |        |                |    |

Lab Sample ID: 720-25537-1 MSD

**Matrix: Solid** 

Analysis Batch: 65040

Client Sample ID: B-40-1.5'
Prep Type: Total/NA

Prep Batch: 65096

| Allalysis Datell. 00040 |        |           |       |        |           |       |        | 1 ICP    | Dateii. | 00000 |
|-------------------------|--------|-----------|-------|--------|-----------|-------|--------|----------|---------|-------|
|                         | Sample | Sample    | Spike | MSD    | MSD       |       |        | % Rec.   |         | RPD   |
| Analyte                 | Result | Qualifier | Added | Result | Qualifier | Unit  | % Rec. | Limits   | RPD     | Limit |
| Benzene                 | ND     |           | 17.2  | 16.9   |           | ug/Kg | 98     | 70 - 130 | 0       | 20    |
| Ethylbenzene            | ND     |           | 17.2  | 15.2   |           | ug/Kg | 89     | 65 - 130 | 6       | 20    |
| Toluene                 | ND     |           | 17.2  | 17.2   |           | ug/Kg | 99     | 70 - 130 | 2       | 20    |
| m-Xylene & p-Xylene     |        |           | 34.3  | 31.2   |           | ug/Kg | 91     | 70 - 130 | 2       | 20    |
| o-Xylene                |        |           | 17.2  | 15.8   |           | ug/Kg | 92     | 68 - 130 | 2       | 20    |

TestAmerica San Francisco

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Project/Site: Hanson Radum

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 720-65196/1-A

Matrix: Solid

Analysis Batch: 65151

Client Sample ID: MB 720-65196/1-A

TestAmerica Job ID: 720-25537-1

Prep Type: Total/NA

Prep Batch: 65196

|                     | MB     | MB        |     |     |       |   |                |                |         |
|---------------------|--------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Analyte             | Result | Qualifier | RL  | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene             | ND     |           | 5.0 |     | ug/Kg | _ | 01/29/10 08:00 | 01/29/10 09:49 | 1       |
| Ethylbenzene        | ND     |           | 5.0 |     | ug/Kg |   | 01/29/10 08:00 | 01/29/10 09:49 | 1       |
| Toluene             | ND     |           | 5.0 |     | ug/Kg |   | 01/29/10 08:00 | 01/29/10 09:49 | 1       |
| m-Xylene & p-Xylene | ND     |           | 5.0 |     | ug/Kg |   | 01/29/10 08:00 | 01/29/10 09:49 | 1       |
| o-Xylene            | ND     |           | 5.0 |     | ug/Kg |   | 01/29/10 08:00 | 01/29/10 09:49 | 1       |
| Xylenes, Total      | ND     |           | 10  |     | ug/Kg |   | 01/29/10 08:00 | 01/29/10 09:49 | 1       |
|                     |        |           |     |     |       |   |                |                |         |

Lab Sample ID: LCS 720-65196/2-A

**Matrix: Solid** 

**Analysis Batch: 65151** 

Client Sample ID: LCS 720-65196/2-A

Prep Type: Total/NA

Prep Batch: 65196

|                     | Spike | LCS    | LCS       |       |        | % Rec.   |  |
|---------------------|-------|--------|-----------|-------|--------|----------|--|
| Analyte             | Added | Result | Qualifier | Unit  | % Rec. | Limits   |  |
| Benzene             | 20.0  | 20.2   |           | ug/Kg | 101    | 82 - 124 |  |
| Ethylbenzene        | 20.0  | 19.6   |           | ug/Kg | 98     | 80 - 137 |  |
| Toluene             | 20.0  | 18.9   |           | ug/Kg | 94     | 83 - 128 |  |
| m-Xylene & p-Xylene | 40.0  | 38.8   |           | ug/Kg | 97     | 79 - 146 |  |
| o-Xylene            | 20.0  | 20.2   |           | ug/Kg | 101    | 84 - 140 |  |

Lab Sample ID: LCSD 720-65196/3-A

**Matrix: Solid** 

**Analysis Batch: 65151** 

Client Sample ID: LCSD 720-65196/3-A

Prep Type: Total/NA

Prep Batch: 65196

|                     | Spike | LCSD   | LCSD      |       |        | % Rec.   |     | RPD   |
|---------------------|-------|--------|-----------|-------|--------|----------|-----|-------|
| Analyte             | Added | Result | Qualifier | Unit  | % Rec. | Limits   | RPD | Limit |
| Benzene             | 20.0  | 19.4   |           | ug/Kg | 97     | 82 - 124 | 4   | 20    |
| Ethylbenzene        | 20.0  | 18.4   |           | ug/Kg | 92     | 80 - 137 | 7   | 20    |
| Toluene             | 20.0  | 18.9   |           | ug/Kg | 94     | 83 - 128 | 0   | 20    |
| m-Xylene & p-Xylene | 40.0  | 36.5   |           | ug/Kg | 91     | 79 - 146 | 6   | 20    |
| o-Xylene            | 20.0  | 20.2   |           | ug/Kg | 101    | 84 - 140 | 0   | 20    |

Lab Sample ID: MB 720-65282/1-A

Matrix: Solid

Analysis Batch: 65066

Client Sample ID: MB 720-65282/1-A

Prep Type: Total/NA

Prep Batch: 65282

|                     | IVID   | IVID      |     |     |        |                |                |         |
|---------------------|--------|-----------|-----|-----|--------|----------------|----------------|---------|
| Analyte             | Result | Qualifier | RL  | MDL | Unit [ | ) Prepared     | Analyzed       | Dil Fac |
| Benzene             | ND     |           | 5.0 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 12:38 | 1       |
| Ethylbenzene        | ND     |           | 5.0 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 12:38 | 1       |
| Toluene             | ND     |           | 5.0 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 12:38 | 1       |
| m-Xylene & p-Xylene | ND     |           | 5.0 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 12:38 | 1       |
| o-Xylene            | ND     |           | 5.0 |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 12:38 | 1       |
| Xylenes, Total      | ND     |           | 10  |     | ug/Kg  | 01/28/10 10:00 | 01/28/10 12:38 | 1       |
|                     |        |           |     |     |        |                |                |         |

Lab Sample ID: LCS 720-65282/2-A

**Matrix: Solid** 

Analysis Batch: 65066

Client Sample ID: LCS 720-65282/2-A Prep Type: Total/NA

Prep Batch: 65282

|                     | Spike | LCS    | LCS       |       |        | % Rec.   |  |
|---------------------|-------|--------|-----------|-------|--------|----------|--|
| Analyte             | Added | Result | Qualifier | Unit  | % Rec. | Limits   |  |
| Benzene             | 20.0  | 18.2   |           | ug/Kg | 91     | 82 - 124 |  |
| Ethylbenzene        | 20.0  | 17.9   |           | ug/Kg | 89     | 80 - 137 |  |
| Toluene             | 20.0  | 19.6   |           | ug/Kg | 98     | 83 - 128 |  |
| m-Xylene & p-Xylene | 40.0  | 37.3   |           | ug/Kg | 93     | 79 - 146 |  |
| o-Xylene            | 20.0  | 19.3   |           | ug/Kg | 97     | 84 - 140 |  |

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TestAmerica Job ID: 720-25537-1

Client: ARCADIS U.S., Inc Formerly LFR, Inc.

Project/Site: Hanson Radum

Lab Sample ID: LCSD 720-65282/3-A

Matrix: Solid

Analysis Batch: 65066

Client Sample ID: LCSD 720-65282/3-A

**Prep Type: Total/NA** 

Prep Batch: 65282

Prep Batch: 65282

|                     | Spike | LCSD   | LCSD      |       |        | % Rec.   |     | RPD   |
|---------------------|-------|--------|-----------|-------|--------|----------|-----|-------|
| Analyte             | Added | Result | Qualifier | Unit  | % Rec. | Limits   | RPD | Limit |
| Benzene             | 20.0  | 20.3   |           | ug/Kg | 101    | 82 - 124 | 11  | 20    |
| Ethylbenzene        | 20.0  | 19.1   |           | ug/Kg | 96     | 80 - 137 | 7   | 20    |
| Toluene             | 20.0  | 18.0   |           | ug/Kg | 90     | 83 - 128 | 8   | 20    |
| m-Xylene & p-Xylene | 40.0  | 37.0   |           | ug/Kg | 92     | 79 - 146 | 1   | 20    |
| o-Xylene            | 20.0  | 19.4   |           | ug/Kg | 97     | 84 - 140 | 0   | 20    |

Lab Sample ID: 720-25537-22 MS Client Sample ID: B-36-3.0' **Prep Type: Total/NA** 

Matrix: Solid

Analysis Batch: 65066

|                     | Sample | Sample    | Spike | MS     | MS        |       |        | % Rec.   |  |
|---------------------|--------|-----------|-------|--------|-----------|-------|--------|----------|--|
| Analyte             | Result | Qualifier | Added | Result | Qualifier | Unit  | % Rec. | Limits   |  |
| Benzene             | ND     |           | 19.2  | 17.5   |           | ug/Kg | 87     | 70 - 130 |  |
| Ethylbenzene        | ND     |           | 19.2  | 16.4   |           | ug/Kg | 79     | 65 - 130 |  |
| Toluene             | 5.1    |           | 19.2  | 17.0   | F         | ug/Kg | 62     | 70 - 130 |  |
| m-Xylene & p-Xylene |        |           | 38.4  | 33.6   |           | ug/Kg | 76     | 70 - 130 |  |
| o-Xylene            |        |           | 19.2  | 17.2   |           | ug/Kg | 81     | 68 - 130 |  |

Lab Sample ID: 720-25537-22 MSD Client Sample ID: B-36-3.0' **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 65066

| Analysis Batch: 65066 |        |           |       |        |           |       |        | Prep     | Batch: | 65282 |
|-----------------------|--------|-----------|-------|--------|-----------|-------|--------|----------|--------|-------|
|                       | Sample | Sample    | Spike | MSD    | MSD       |       |        | % Rec.   |        | RPD   |
| Analyte               | Result | Qualifier | Added | Result | Qualifier | Unit  | % Rec. | Limits   | RPD    | Limit |
| Benzene               | ND     |           | 19.1  | 20.2   |           | ug/Kg | 102    | 70 - 130 | 14     | 20    |
| Ethylbenzene          | ND     |           | 19.1  | 22.1   | F         | ug/Kg | 110    | 65 - 130 | 30     | 20    |
| Toluene               | 5.1    |           | 19.1  | 20.1   |           | ug/Kg | 79     | 70 - 130 | 17     | 20    |
| m-Xylene & p-Xylene   |        |           | 38.2  | 43.1   | F         | ug/Kg | 102    | 70 - 130 | 25     | 20    |
| o-Xylene              |        |           | 19.1  | 22.9   | F         | ug/Kg | 111    | 68 - 130 | 28     | 20    |

Method: 8015B - Diesel Range Organics (DRO) (GC)

| Lab Sample ID: MB 720-65081/1-A | Client Sample ID: MB 720-65081/1-A |
|---------------------------------|------------------------------------|
| Matrix: Solid                   | Prep Type: Silica Gel Cleanup      |
| Analysis Batch: 65062           | Prep Batch: 65081                  |
| MB MB                           |                                    |

| Analyte                            | Result | Qualifier | RL   | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------|--------|-----------|------|-----|-------|---|----------------|----------------|---------|
| Diesel Range Organics [C10-C28]    | ND     |           | 0.99 |     | mg/Kg | _ | 01/28/10 11:36 | 01/29/10 05:13 | 1       |
| Motor Oil Range Organics [C24-C36] | ND     |           | 50   |     | mg/Kg |   | 01/28/10 11:36 | 01/29/10 05:13 | 1       |
|                                    | MR     | MR        |      |     |       |   |                |                |         |

| Surrogate          | % Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------------|------------|-----------|----------|----------------|----------------|---------|
| Capric Acid (Surr) | 0          |           | 0 - 5    | 01/28/10 11:36 | 01/29/10 05:13 | 1       |
| p-Terphenyl        | 91         |           | 46 - 115 | 01/28/10 11:36 | 01/29/10 05:13 | 1       |

| Lab Sample ID: LCS 720-65081/2-A |       |         | Client Sample ID: LCS 720-65081/2-A |
|----------------------------------|-------|---------|-------------------------------------|
| Matrix: Solid                    |       |         | Prep Type: Silica Gel Cleanup       |
| Analysis Batch: 65062            |       |         | Prep Batch: 65081                   |
|                                  | Spike | LCS LCS | % Rec.                              |
|                                  |       |         |                                     |

|                       | Spike | LCS    | LCS       |       |        | % Rec.   |  |
|-----------------------|-------|--------|-----------|-------|--------|----------|--|
| Analyte               | Added | Result | Qualifier | Unit  | % Rec. | Limits   |  |
| Diesel Range Organics | 166   | 163    |           | mg/Kg | 98     | 45 - 115 |  |
| [C10-C28]             |       |        |           |       |        |          |  |

LCS LCS % Recovery Qualifier Surrogate Limits 46 - 115 102 p-Terphenyl

# **Quality Control Data**

Client: ARCADIS U.S., Inc Formerly LFR, Inc.

Project/Site: Hanson Radum

TestAmerica Job ID: 720-25537-1

Prep Type: Silica Gel Cleanup

Client Sample ID: B-41-5.5'

Client Sample ID: B-41-5.5'

TestAmerica San Francisco

02/03/2010

Prep Type: Silica Gel Cleanup

50 - 130

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Client Sample ID: LCSD 720-65081/3-A

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

| Lab Sample ID: LCSD 720-65081/3- | A |
|----------------------------------|---|
| Matrix: Solid                    |   |

| Analysis Batch: 65062              |       |        |           |       |        | Prep     | Batch: | 65081 |
|------------------------------------|-------|--------|-----------|-------|--------|----------|--------|-------|
|                                    | Spike | LCSD   | LCSD      |       |        | % Rec.   |        | RPD   |
| Analyte                            | Added | Result | Qualifier | Unit  | % Rec. | Limits   | RPD    | Limit |
| Diesel Range Organics<br>[C10-C28] | 166   | 167    |           | mg/Kg | 101    | 45 - 115 | 2      | 35    |

LCSD LCSD Surrogate % Recovery Qualifier Limits p-Terphenyl 106 46 - 115

Lab Sample ID: 720-25537-15 MS

| Matrix: Solid         |                  |       |                  |      | Prep Ty | pe: Silica Gel Cleanup |
|-----------------------|------------------|-------|------------------|------|---------|------------------------|
| Analysis Batch: 65062 |                  |       |                  |      |         | Prep Batch: 65081      |
| -                     | Sample Sample    | Spike | MS MS            |      |         | % Rec.                 |
| Analyte               | Result Qualifier | Added | Result Qualifier | Unit | % Rec.  | Limits                 |

148

mg/Kg

Diesel Range Organics ND 166 [C10-C28] MS MS Surrogate % Recovery Qualifier Limits p-Terphenyl 99 46 - 115

Lab Sample ID: 720-25537-15 MSD

**Matrix: Solid** 

[C10-C28]

| Analysis Batch: 65062 |        |           |       |        |           |       |       | Prep     | Batch: | 65081 |
|-----------------------|--------|-----------|-------|--------|-----------|-------|-------|----------|--------|-------|
|                       | Sample | Sample    | Spike | MSD    | MSD       |       |       | % Rec.   |        | RPD   |
| Analyte               | Result | Qualifier | Added | Result | Qualifier | Unit  | % Rec | Limits   | RPD    | Limit |
| Diesel Range Organics | ND     |           | 166   | 158    |           | mg/Kg | 95    | 50 - 130 | 6      | 30    |

MSD MSD Surrogate % Recovery Qualifier Limits

46 - 115 p-Terphenyl 103

# **QC Association Summary**

Client: ARCADIS U.S., Inc Formerly LFR, Inc.

Project/Site: Hanson Radum

TestAmerica Job ID: 720-25537-1

### **GC/MS VOA**

### Analysis Batch: 65040

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| MB 720-65096/1-A   | MB 720-65096/1-A   | Total/NA  | Solid  | 8260B  | 65096      |
| LCS 720-65096/2-A  | LCS 720-65096/2-A  | Total/NA  | Solid  | 8260B  | 65096      |
| LCSD 720-65096/3-A | LCSD 720-65096/3-A | Total/NA  | Solid  | 8260B  | 65096      |
| 720-25537-1        | B-40-1.5'          | Total/NA  | Solid  | 8260B  | 65096      |
| 720-25537-1 MS     | B-40-1.5'          | Total/NA  | Solid  | 8260B  | 65096      |
| 720-25537-1 MSD    | B-40-1.5'          | Total/NA  | Solid  | 8260B  | 65096      |
| 720-25537-2        | B-40-3.0'          | Total/NA  | Solid  | 8260B  | 65096      |
| 720-25537-14       | B-41-3.0'          | Total/NA  | Solid  | 8260B  | 65096      |
| 720-25537-5        | B-39-1.5'          | Total/NA  | Solid  | 8260B  | 65096      |
| 720-25537-15       | B-41-5.5'          | Total/NA  | Solid  | 8260B  | 65096      |
| 720-25537-9        | B-38-1.5'          | Total/NA  | Solid  | 8260B  | 65096      |
| 720-25537-10       | B-38-3.0'          | Total/NA  | Solid  | 8260B  | 65096      |
| 720-25537-11       | B-38-5.5'          | Total/NA  | Solid  | 8260B  | 65096      |
| 720-25537-13       | B-41-1.5'          | Total/NA  | Solid  | 8260B  | 65096      |

### Analysis Batch: 65066

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| MB 720-65282/1-A   | MB 720-65282/1-A   | Total/NA  | Solid  | 8260B  | 65282      |
| LCS 720-65282/2-A  | LCS 720-65282/2-A  | Total/NA  | Solid  | 8260B  | 65282      |
| LCSD 720-65282/3-A | LCSD 720-65282/3-A | Total/NA  | Solid  | 8260B  | 65282      |
| 720-25537-22       | B-36-3.0'          | Total/NA  | Solid  | 8260B  | 65282      |
| 720-25537-22 MS    | B-36-3.0'          | Total/NA  | Solid  | 8260B  | 65282      |
| 720-25537-22 MSD   | B-36-3.0'          | Total/NA  | Solid  | 8260B  | 65282      |
| 720-25537-17       | B-37-1.5'          | Total/NA  | Solid  | 8260B  | 65282      |
| 720-25537-19       | B-37-5.5'          | Total/NA  | Solid  | 8260B  | 65282      |
| 720-25537-3        | B-40-5.5'          | Total/NA  | Solid  | 8260B  | 65282      |
| 720-25537-6        | B-39-3.0'          | Total/NA  | Solid  | 8260B  | 65282      |
| 720-25537-7        | B-39-5.5'          | Total/NA  | Solid  | 8260B  | 65282      |

#### Prep Batch: 65096

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| MB 720-65096/1-A   | MB 720-65096/1-A   | Total/NA  | Solid  | 5030B  |            |
| LCS 720-65096/2-A  | LCS 720-65096/2-A  | Total/NA  | Solid  | 5030B  |            |
| _CSD 720-65096/3-A | LCSD 720-65096/3-A | Total/NA  | Solid  | 5030B  |            |
| 720-25537-1        | B-40-1.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-1 MS     | B-40-1.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-1 MSD    | B-40-1.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-2        | B-40-3.0'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-14       | B-41-3.0'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-5        | B-39-1.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-15       | B-41-5.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-9        | B-38-1.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-10       | B-38-3.0'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-11       | B-38-5.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-13       | B-41-1.5'          | Total/NA  | Solid  | 5030B  |            |

### Analysis Batch: 65151

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| MB 720-65196/1-A   | MB 720-65196/1-A   | Total/NA  | Solid  | 8260B  | 65196      |
| LCS 720-65196/2-A  | LCS 720-65196/2-A  | Total/NA  | Solid  | 8260B  | 65196      |
| LCSD 720-65196/3-A | LCSD 720-65196/3-A | Total/NA  | Solid  | 8260B  | 65196      |
| 720-25537-18       | B-37-2.5'          | Total/NA  | Solid  | 8260B  | 65196      |

TestAmerica San Francisco 02/03/2010

# **QC Association Summary**

Client: ARCADIS U.S., Inc Formerly LFR, Inc.

Project/Site: Hanson Radum

TestAmerica Job ID: 720-25537-1

### **GC/MS VOA (Continued)**

### Analysis Batch: 65151 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 720-25537-21  | B-36-1.5'        | Total/NA  | Solid  | 8260B  | 65196      |
| 720-25537-23  | B-36-5.5'        | Total/NA  | Solid  | 8260B  | 65196      |

### Prep Batch: 65196

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| MB 720-65196/1-A   | MB 720-65196/1-A   | Total/NA  | Solid  | 5030B  |            |
| LCS 720-65196/2-A  | LCS 720-65196/2-A  | Total/NA  | Solid  | 5030B  |            |
| LCSD 720-65196/3-A | LCSD 720-65196/3-A | Total/NA  | Solid  | 5030B  |            |
| 720-25537-18       | B-37-2.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-21       | B-36-1.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-23       | B-36-5.5'          | Total/NA  | Solid  | 5030B  |            |

#### Prep Batch: 65282

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| MB 720-65282/1-A   | MB 720-65282/1-A   | Total/NA  | Solid  | 5030B  |            |
| LCS 720-65282/2-A  | LCS 720-65282/2-A  | Total/NA  | Solid  | 5030B  |            |
| LCSD 720-65282/3-A | LCSD 720-65282/3-A | Total/NA  | Solid  | 5030B  |            |
| 720-25537-22       | B-36-3.0'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-22 MS    | B-36-3.0'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-22 MSD   | B-36-3.0'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-17       | B-37-1.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-19       | B-37-5.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-3        | B-40-5.5'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-6        | B-39-3.0'          | Total/NA  | Solid  | 5030B  |            |
| 720-25537-7        | B-39-5.5'          | Total/NA  | Solid  | 5030B  |            |

### GC Semi VOA

#### Analysis Batch: 65062

| Lab Sample ID      | Client Sample ID   | Prep Type          | Matrix | Method | Prep Batch |
|--------------------|--------------------|--------------------|--------|--------|------------|
| 720-25537-1        | B-40-1.5'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-5        | B-39-1.5'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-6        | B-39-3.0'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-7        | B-39-5.5'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-11       | B-38-5.5'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-13       | B-41-1.5'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-14       | B-41-3.0'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-15       | B-41-5.5'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-15 MS    | B-41-5.5'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-15 MSD   | B-41-5.5'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-17       | B-37-1.5'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-19       | B-37-5.5'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-21       | B-36-1.5'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-22       | B-36-3.0'          | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| LCS 720-65081/2-A  | LCS 720-65081/2-A  | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| LCSD 720-65081/3-A | LCSD 720-65081/3-A | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| MB 720-65081/1-A   | MB 720-65081/1-A   | Silica Gel Cleanup | Solid  | 8015B  | 65081      |

#### Prep Batch: 65081

| Lab Sample ID     | Client Sample ID  | Prep Type          | Matrix | Method | Prep Batch |
|-------------------|-------------------|--------------------|--------|--------|------------|
| MB 720-65081/1-A  | MB 720-65081/1-A  | Silica Gel Cleanup | Solid  | 3550B  |            |
| LCS 720-65081/2-A | LCS 720-65081/2-A | Silica Gel Cleanup | Solid  | 3550B  |            |

# **QC Association Summary**

Client: ARCADIS U.S., Inc Formerly LFR, Inc.

Project/Site: Hanson Radum

TestAmerica Job ID: 720-25537-1

### **GC Semi VOA (Continued)**

### Prep Batch: 65081 (Continued)

| Lab Sample ID      | Client Sample ID   | Prep Type          | Matrix | Method | Prep Batch |
|--------------------|--------------------|--------------------|--------|--------|------------|
| LCSD 720-65081/3-A | LCSD 720-65081/3-A | Silica Gel Cleanup | Solid  | 3550B  | _          |
| 720-25537-1        | B-40-1.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-5        | B-39-1.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-6        | B-39-3.0'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-7        | B-39-5.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-9        | B-38-1.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-10       | B-38-3.0'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-11       | B-38-5.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-13       | B-41-1.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-14       | B-41-3.0'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-15       | B-41-5.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-15 MS    | B-41-5.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-15 MSD   | B-41-5.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-17       | B-37-1.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-18       | B-37-2.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-19       | B-37-5.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-21       | B-36-1.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-22       | B-36-3.0'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-23       | B-36-5.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-2        | B-40-3.0'          | Silica Gel Cleanup | Solid  | 3550B  |            |
| 720-25537-3        | B-40-5.5'          | Silica Gel Cleanup | Solid  | 3550B  |            |

### Analysis Batch: 65132

| Lab Sample ID | Client Sample ID | Prep Type          | Matrix | Method | Prep Batch |
|---------------|------------------|--------------------|--------|--------|------------|
| 720-25537-23  | B-36-5.5'        | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-2   | B-40-3.0'        | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-3   | B-40-5.5'        | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-9   | B-38-1.5'        | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-10  | B-38-3.0'        | Silica Gel Cleanup | Solid  | 8015B  | 65081      |
| 720-25537-18  | B-37-2.5'        | Silica Gel Cleanup | Solid  | 8015B  | 65081      |

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# **Method Summary**

Client: ARCADIS U.S., Inc Formerly LFR, Inc.

Project/Site: Hanson Radum

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TestAmerica Job ID: 720-25537-1

| Method | Method Description                 | Protocol | Laboratory |
|--------|------------------------------------|----------|------------|
| 8260B  | Volatile Organic Compounds (GC/MS) | SW846    | TAL SF     |
| 8015B  | Diesel Range Organics (DRO) (GC)   | SW846    | TAL SF     |

#### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL SF = TestAmerica San Francisco, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

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# **Sample Summary**

Client: ARCADIS U.S., Inc Formerly LFR, Inc.

Project/Site: Hanson Radum

TestAmerica Job ID: 720-25537-1

| Lab Sample ID | Client Sample ID | Matrix | Sampled        | Received       |
|---------------|------------------|--------|----------------|----------------|
| 720-25537-1   | B-40-1.5'        | Solid  | 01/25/10 09:25 | 01/26/10 13:40 |
| 720-25537-2   | B-40-3.0'        | Solid  | 01/25/10 09:28 | 01/26/10 13:40 |
| 720-25537-3   | B-40-5.5'        | Solid  | 01/25/10 09:35 | 01/26/10 13:40 |
| 720-25537-5   | B-39-1.5'        | Solid  | 01/26/10 08:30 | 01/26/10 13:40 |
| 720-25537-6   | B-39-3.0'        | Solid  | 01/26/10 08:40 | 01/26/10 13:40 |
| 720-25537-7   | B-39-5.5'        | Solid  | 01/26/10 08:50 | 01/26/10 13:40 |
| 720-25537-9   | B-38-1.5'        | Solid  | 01/26/10 09:25 | 01/26/10 13:40 |
| 720-25537-10  | B-38-3.0'        | Solid  | 01/26/10 09:30 | 01/26/10 13:40 |
| 720-25537-11  | B-38-5.5'        | Solid  | 01/26/10 09:35 | 01/26/10 13:40 |
| 720-25537-13  | B-41-1.5'        | Solid  | 01/26/10 09:55 | 01/26/10 13:40 |
| 720-25537-14  | B-41-3.0'        | Solid  | 01/26/10 10:00 | 01/26/10 13:40 |
| 720-25537-15  | B-41-5.5'        | Solid  | 01/26/10 10:05 | 01/26/10 13:40 |
| 720-25537-17  | B-37-1.5'        | Solid  | 01/26/10 10:25 | 01/26/10 13:40 |
| 720-25537-18  | B-37-2.5'        | Solid  | 01/26/10 10:30 | 01/26/10 13:40 |
| 720-25537-19  | B-37-5.5'        | Solid  | 01/26/10 10:35 | 01/26/10 13:40 |
| 720-25537-21  | B-36-1.5'        | Solid  | 01/26/10 10:55 | 01/26/10 13:40 |
| 720-25537-22  | B-36-3.0'        | Solid  | 01/26/10 11:00 | 01/26/10 13:40 |
| 720-25537-23  | B-36-5.5'        | Solid  | 01/26/10 11:05 | 01/26/10 13:40 |

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CHAIN OF CUSTODY / ANALYSES REQUEST FORM

02/03/2010

720-2553/ 2 of 2/21960 CHAIN OF CUSTODY / ANALYSES REQUEST FORM SAMPLER'S INITIALS: SERIAL NO .: SECTION NO.: PROJECT NO .: SAMPLE COLLECTOR: Nº 204176 SAMPLER (Signature): Sel 1900 Powell Street, 12th Floor Emeryville, California 94608-(510) 652-4500 Fax: (510) 652-2246 PROJECT NAME: REMARKS ANALYSES DTEX depression 2260 SAMPLE VOCs tern species a To hino les sousse \*VOCs: \*\*Metals: TYPE TAHO Eak Stan Mo. of Confidences ☐ 8260 List ☐ CAM17 ☐ 8240 List ☐ RCRA RUSH. HOLD ☐ 8010 List ☐ LUFT Soil Water ☐ 624 List TIME DATE SAMPLE ID. Silica Gel Cleanul Y 21 1-26-10 on all TPH samples 1055 x 22 1100 × 23 1105 24 1110 Pending Analysis Page 23 of 24 2 RELINQUISHED BY: (SIGNATURE)

(SIGNATURE)

(SIGNATURE)

(SIGNATURE)

(SIGNATURE) METHOD OF SHIPMENT: SAMPLE RECEIPT: Cooler Temp: (DATE) (SIGNATURE) ☐ Intact ☐ Cold LAB REPORT NO.: Cooler No: On Ice Ambient (TIME) (PRINTED NAME) (PRINTED NAME) FAX COC CONFIRMATION TO: ARCADIS (COMPANY) (COMPANY) Preservative Correct? RECEIVED BY (LABORATORY): Yes No NA RECEIVED BY: RECEIVED BY: FAX RESULTS TO: ANALYTICAL LABORATORY: (DATE) (SIGNATURE) 02/03/2010 (DATE) (SIGNATURE) (DATE) (SIGNATURE) SEND HARDCOPY TO: (TIME) (PRINTED NAME) (TIME) (PRINTED NAME) (TIME) (PRINTED NAME) SEND EDD TO: (COMPANY) EMV.LABEDDS.COM CHAIN of CUSTODY - ANALYSES FORM.CDR 5/2003 (COMPANY) (COMPANY) Field Copy (Pink) File Copy (Yellow) Shipping Copy (White)

# **Login Sample Receipt Check List**

Client: ARCADIS U.S., Inc Formerly LFR, Inc.

Job Number: 720-25537-1

Login Number: 25537 List Source: TestAmerica San Francisco

Creator: Hoang, Julie List Number: 1

| Question   | T / F/ NA Comment |
|--|-------------------|
| Radioactivity either was not measured or, if measured, is at or below background | N/A               |
| The cooler's custody seal, if present, is intact.                                | N/A               |
| The cooler or samples do not appear to have been compromised or tampered with.   | True              |
| Samples were received on ice.  | True              |
| Cooler Temperature is acceptable.  | True              |
| Cooler Temperature is recorded.  | True              |
| COC is present.  | True              |
| COC is filled out in ink and legible.  | True              |
| COC is filled out with all pertinent information.                                | True              |
| There are no discrepancies between the sample IDs on the containers and the COC. | True              |
| Samples are received within Holding Time.  | True              |
| Sample containers have legible labels.   | True              |
| Containers are not broken or leaking.  | True              |
| Sample collection date/times are provided.                                       | True              |
| Appropriate sample containers are used.  | True              |
| Sample bottles are completely filled.  | True              |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True              |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.     | True              |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True              |
| Multiphasic samples are not present.   | True              |
| Samples do not require splitting or compositing.                                 | True              |
| Is the Field Sampler's name present on COC?                                      | True              |
| Sample Preservation Verified   | True              |
|  |                   |

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