# AP - 015

# STAGE 1 & 2 WORKPLANS

# DATE: Nov. 2, 2000



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ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

### Stage 2 Abatement Plan for Groundwater Abatement

### East Hobbs Junction Site Phillips Pipe Line Company Hobbs, New Mexico

Prepared For:

Mr. Anthony "Tony" C. Walker Staff Environmental Scientist Phillips Pipe Line Company 3B11 Adams Building Bartlesville, Oklahoma 74004 Prepared By:

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inggins una Associates,

November 2, 2000

Mr. Tony Walker Phillips Pipe Line Company 3B10 Adams Building Bartlesville, OK 74004

RE: Stage II Abatement Plan - East Hobbs Junction

Dear Mr. Walker:

Enclosed please find one original and five copies of the Stage II Abatement Plan for the East Hobbs Junction Release Site in Hobbs, New Mexico.

Should you have any questions or comments please contact me at 303/708-9846.

Sincerely, Higgins and Associates, L.L.C.

Chris Higgins Project Manager

8200 South Akron Street, Suite 120 • Englewood, Colorado 80112 Phone 303-708-9846 • Fax 303-708-9848

#### **Table of Contents**

| 1.0 | escription and Current Situation of Project Site                    | 1          |
|-----|---|------------|
|     | .1 Initial Abatement Summary  |            |
|     | 2 Stage 1 Abatement Summary   | 1          |
|     | 3 Chronology of Reports Submitted to OCD                            |            |
|     | .4 Current Soil and Groundwater Analytical Data                     |            |
|     | 1.4.1 Adsorbed Phase Hydrocarbons                                   | 3          |
|     | 1.4.2 Liquid Phase Hydrocarbons                                     | 4          |
|     | 1.4.3 Dissolved Phase Hydrocarbons                                  | 5          |
|     | 1.4.4 Dissolved Phase Polynuclear Aromatic Hydrocarbons             | 7          |
|     | 1.4.5 Other Groundwater Analytical Data                             | 7          |
|     | .5 Summary of Geology and Hydrogeology                              | 8          |
|     | 1.5.1 Regional Setting  | 8          |
|     | 1.5.2 Local Setting   | 8          |
|     | 1.5.3 Land Ownership and Well Records Search                        | 9          |
|     |   |            |
| 2.0 | evelopment and Assessment of Abatement Options                      |            |
|     | .1 Technical Feasibility of Remediation Technologies                | 10         |
|     | 2.1.1 Soil and Groundwater Remediation Goals                        | 10         |
|     | 2.1.2 Evaluation of Remediation Techniques                          | 10         |
|     | 2.1.3 Excavation  | 11         |
|     |   | 11         |
|     | 2.1.5 Aerobic and Anaerobic Bioremediation                          | 12         |
|     | 2.1.6 Aquifer Sparging  |            |
|     | 2.1.7 Groundwater Pumping   | 13         |
|     |   |            |
| 3.0 | referred Abatement Options  |            |
|     | .1 Soil Vapor Extraction Pilot Testing at Site NM-1-1               |            |
|     | 3.1.1 Soil Vapor Extraction Pilot Test Results                      |            |
|     |   | 15         |
|     | ······································                              | 18         |
|     |   | 18         |
|     | 3.2.2 Product Skimming System                                       |            |
|     | 3.2.3 Permitting  | 19         |
| 4.0 | Ionitoring Program  | 20         |
| 4.0 | .1 Groundwater Monitoring and Sampling                              |            |
|     | .2 Quality Assurance Plan   |            |
|     |   | 20         |
| 5.0 | ite Maintenance Activities  | 21         |
|     | .1 Soil Vapor Extraction/Biovent and Air Sparging System Monitoring |            |
|     | .2 Product Skimming Monitoring                                      |            |
|     | .3 Equipment Maintenance  |            |
|     | .4 Closure Plan   |            |
|     |   |            |
| 6.0 | chedule of Abatement Activities                                     | 23         |
| 7.0 | Public Notification Proposal  | <b>ว</b> ⊿ |
| 7.0 | ruphe nouncation Proposal   | 24         |



1

J

#### Tables

Table 1 - Soil Analytical Results

Table 2 - Groundwater Analytical Results

Table 3 - SVE Pilot Test Data @ SVE-1 (NM-1-1)

Table 4 - SVE Pilot Test Data @ SVE-2 (NM-1-1)

Table 5 - Air Sparge Pilot Test Data @ SP-1

#### Appendices

Appendix A - Figures

Appendix B - Well Logs Appendix C - Analytical Data

Appendix D - Groundwater Elevation Data

Appendix E - Aquifer Test Data

Appendix F - Well Records



#### 1.0 Description and Current Situation of Project Site

#### 1.1 Initial Abatement Summary

The subject site is located in Unit N, NE 1/4, NE 1/4, Section 8, Township 19 South, Range 68 East, N.M.P.M., Lea County, New Mexico. The property on which the release occurred is largely undeveloped arid land. The primary land use is grazing land for cattle. There are no surface bodies of water within 0.5 miles of the site. Several pipelines and crude oil production wells are located near the release.

On March 23, 1999, Phillips Pipe Line Company (Phillips) personnel discovered a release of unrefined petroleum products (crude oil) associated with a local well field gathering pipeline located near the town of Hobbs, New Mexico. This area consists of several gathering lines which meet in one locality. The failed line was a six inch diameter line. This line reportedly carried both condensate and crude oil. The line leak was identified by the detection of oil impacts on the ground surface in the area of the release. The volume of the release is not known.

Phillips excavated approximately 200 cubic yards of petroleum impacted soil from around and below the release location. The limits of the excavation were approximately 10 feet wide by 60 feet long and averaged approximately 6-8 feet deep with the deepest extent around 12 feet. Excavation activities were halted because of the potential for damage to other active petroleum pipelines in the release area and continuation of petroleum impacts in the bottom and side walls of the excavation.

On April 27, 1999, Higgins and Associates personnel supervised the installation of three soil borings to 40 feet to investigate the extent of petroleum impacts. The borings were located to the north and south of the excavation. Groundwater was noted at approximately 27 feet. Based upon the soil analytical results of the soil borings, monitoring wells were installed and completed on July 12, 1999. Approximately 3 feet of crude oil was detected on the water table in each monitoring well.

Phillips initiated a LPH recovery program from the three monitoring wells on July 19, 1999. The program consisted of hand bailing LPH daily from each well for one week. Approximately 54 gallons of LPH were recovered.

Based on the presence of petroleum impacts in the three wells, additional assessment activities were conducted to complete the definition of the vertical and horizontal extent of petroleum impacts. This report summaries the activities and results of the assessment activities and presents proposed corrective measures to address the subsurface hydrocarbon impacts. Details of the assessment activities are presented in the Comprehensive Report dated July 5, 2000.

#### 1.2 Stage 1 Abatement Summary

Three drilling events were conducted to define the extent of petroleum impacts. The first event occurred on January 11, 2000 through January 12, 2000 and consisted of the drilling and installation of monitoring



| Mr. Tony Walker - Phillips Pipe Line Company            | November 2, 2000 |
|---|------------------|
| Stage 2 Abatement Plan - East Hobbs Junction, Hobbs, NM | Page 2           |

wells MW-4 through MW-10. The second drilling event occurred on April 6, 2000 and consisted of the installation of monitoring wells MW-11 and MW-12. The third drilling event occurred on May 30, 2000 through June 1, 2000 and consisted of the installation of wells MW-13 through MW-20 and well SP-1. The drilling activities were accomplished utilizing a truck mounted air rotary drill rig. Figure 1 (Appendix A) illustrates the monitoring well locations.

During the drilling activities, grab soil samples were collected at a minimum of five foot intervals. The samples were logged by a geologist and split into representative portions. One portion was placed in the appropriate laboratory container(s) and placed on ice for possible analysis. The remaining portion of the sample was placed in a container, allowed to equilibrate and screened with a photoionization detector (PID). One to two soil samples from each boring (except MW-9 and SP-1) were submitted for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8021, and total petroleum hydrocarbons (TPH) by EPA Method 8015 Modified. The soil samples were shipped or transported on ice to a certified New Mexico laboratory under chain-of-custody.

Monitoring wells MW-4 through MW-8 and MW-10 through MW-20 were constructed to depths ranging from 30 to 35 feet utilizing 2-inch diameter schedule 40 PVC screen and casing. A minimum of 15 feet of 0.020 inch slot screen was utilized in the construction of wells MW-4 through MW-20. Three feet of screen was utilized in the construction of well SP-1. The annulus of each well was backfilled with 10/20 silica sand to 0.5 to two feet above the screen. Bentonite and cement was placed above the sand pack in the well annulus. A locking steel protective riser was installed on each monitoring well to a height of three feet above ground surface. Each well was fitted with a J-plug water tight cap and secured with a brass lock. Monitoring well MW-9 was constructed as above except that 4-inch diameter well materials were utilized. Well logs depicting the well construction details are included in Appendix A.

Following installation, each well absent of liquid phase hydrocarbons (LPH) was developed by bailing and surging with a bailer.

Four groundwater sampling events have been conducted at the site. The first sampling event occurred on January 13, 2000 and consisted of wells MW-4 through MW-6, MW-8, and MW-10. The second sampling event was conducted on April 6, 2000 and consisted of the above wells plus MW-11 and MW-12. The third sampling event occurred on June 2, 2000 and consisted of wells MW-13 through MW-20 and SP-1. The latest sampling event occurred on August 2, 2000 and consisted of all wells except MW-1 through MW-3, MW-6, MW-7, MW-9 and SP-1. Prior to collection of groundwater samples, a minimum of three well volumes of groundwater were purged from each well with a bailer. The groundwater samples were analyzed for BTEX by EPA Method 8021, TPH by EPA Method 8015 Modified and chloride. Groundwater samples from monitoring wells MW-4, MW-5, MW-6, MW-8, and MW-10 were also analyzed for polyaromatic hydrocarbons (PAHs) by EPA Method 8270, heavy metals (including uranium) by EPA Method 6010/6020, alkalinity, chloride, fluoride, sulfate, and total dissolved solids by EPA series 300, bromide by method 4500B, and mercury by EPA Method 7470. The groundwater samples were placed on ice and shipped or transported under chain-of-custody to a certified New Mexico laboratory. The results of the groundwater analytical data will be discussed later in this report.



Industry accepted standard operating practices were followed for all field activities to insure the quality of the data obtained. A quality assurance plan was included in the Stage I Abatement Plan dated August 25, 1999.

On January 13, 2000, rising head permeability tests (slug out tests) were conducted in wells MW-4, MW-5, and MW-6. The tests were conducted by instantaneous removal of a volume of water from the wells and measuring the rate of groundwater recharge into the well. The data was evaluated using the Graphical Well Analysis Package (GWAP). The data from the slug out tests will be discussed in the Hydrogeology section of this report.

- 1.3 Chronology of Reports Submitted to OCD
- Stage 1 Abatement Plan dated August 25, 1999
- Comprehensive Report dated July 5, 2000

#### 1.4 Current Soil and Groundwater Analytical Data

The known phases of petroleum impacts associated with this site are adsorbed phase, dissolved phase, and liquid phase hydrocarbons. The lateral extent of petroleum impacts to the soil and groundwater associated with the subject release have been defined. The following is a summary of each of these phases as defined by the assessment activities.

#### 1.4.1 Adsorbed Phase Hydrocarbons

Petroleum impacts were apparent throughout the limits of the excavation from near surface to the total depth. Results of the Stage I assessment activities detected petroleum hydrocarbon impacts exceeding the New Mexico action level of 100 mg/kg TPH for soil in borings MW-1, MW-2, and MW-3. Soil samples from wells MW-9 and SP-1 were not submitted to the laboratory for analysis due their proximity to wells MW-1 and MW-3. The following table summarizes the soil analytical data during the assessment activities.

#### Table 1 Soil Analytical Results for East Hobbs Junction Hobbs, New Mexico

All results reported in mg/kg.

| Well ID             | Date     | Depth (ft) | PID<br>reading<br>(ppmv) | Benzene | Toluene | Ethyl<br>benzene | Total<br>Xylenes | ТРН   |
|---------------------|----------|------------|--------------------------|---------|---------|------------------|------------------|-------|
| NM Action<br>Levels |          |            | 100                      | 10      |         |                  |                  | 100   |
| MW-1                | 04/27/99 | 22 - 24    | 264                      | 0.071   | 1.202   | 1.014            | 3.487            | 5,420 |
| MW-1                | 04/27/99 | 35 - 36    | 13                       | <0.002  | 0.008   | 0.007            | 0.024            | 372   |



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|---|
| Stage 2 Abatement Plan - East Hobbs Junction, Hobbs, NM |

November 2, 2000 Page 4

| Well ID             | Date     | Depth (ft) | PID<br>reading<br>(ppmv) | Benzene | Toluene | Ethyl<br>benzene | Total<br>Xylenes | ТРН   |
|---------------------|----------|------------|--------------------------|---------|---------|------------------|------------------|-------|
| NM Action<br>Levels |          |            | 100                      | 10      |         |                  |                  | 100   |
| MW-2                | 04/27/99 | 20 - 22    | >2,000                   | 0.082   | 1.589   | 1.369            | 5.002            | 7,930 |
| MW-2                | 04/27/99 | 36 - 40    | 21                       | 0.002   | 0.023   | 0.018            | 0.061            | 801   |
| MW-3                | 04/27/99 | 18 - 20    | >2,000                   | 0.448   | 4.767   | 2.338            | 7.485            | 5,790 |
| MW-3                | 04/27/99 | 36 - 38    | 12                       | <0.002  | 0.002   | <0.002           | 0.006            | 293   |
| MW-4                | 01/14/00 | 14 - 16    | 0.8                      | <0.025  | <0.025  | <0.025           | <0.025           | <10   |
| MW-4                | 01/14/00 | 24 - 26    | 2.8                      | <0.025  | <0.025  | <0.025           | <0.025           | <10   |
| MW-5                | 01/11/00 | 14 - 16    | 0.8                      | <0.025  | <0.025  | <0.025           | <0.025           | <10   |
| MW-5                | 01/11/00 | 24 - 26    | 1.6                      | <0.025  | <0.025  | <0.025           | <0.025           | <10   |
| MW-6                | 01/11/00 | 14 - 16    | 1.7                      | <0.025  | <0.025  | <0.025           | <0.025           | <10   |
| MW-6                | 01/11/00 | 24 - 26    | 20                       | <0.025  | <0.025  | <0.025           | <0.025           | 12    |
| MW-7                | 01/12/00 | 14 - 16    | 1.1                      | <0.025  | <0.025  | <0.025           | <0.025           | <10   |
| MW-7                | 01/12/00 | 24 - 26    | 177                      | <0.025  | <0.025  | <0.025           | <0.025           | 32.7  |
| MW-8                | 01/12/00 | 14 - 16    | 0.8                      | <0.025  | <0.025  | <0.025           | <0.025           | <10   |
| MW-8                | 01/11/00 | 24 - 26    | 3.3                      | <0.025  | <0.025  | <0.025           | <0.025           | <10   |
| MW-9                | 01/12/00 | 14 - 16    | 66                       | -       | -       | -                | -                | -     |
| MW-9                | 01/12/00 | 24 - 26    | 462                      | -       | · -     | -                |                  |       |
| MW-10               | 01/12/00 | 14 - 16    | 13                       | <0.025  | <0.025  | <0.025           | <0.025           | <10   |
| MW-10               | 01/12/00 | 24 - 26    | 39                       | <0.025  | <0.025  | <0.025           | <0.025           | <10   |
| MW-11               | 04/06/00 | 22         | 1                        | <0.002  | <0.002  | <0.002           | <0.002           | <9.8  |
| MW-11               | 04/06/00 | 24 - 26    | 1.4                      | <0.002  | <0.002  | <0.002           | <0.002           | <9.8  |
| MW-12               | 04/06/00 | 14 - 16    | 0                        | <0.002  | <0.002  | <0.002           | <0.002           | <9.9  |
| MW-12               | 04/06/00 | 20 - 22    | 1.1                      | <0.002  | <0.002  | <0.002           | <0.002           | <9.7  |
| MW-13               | 05/31/00 | 20-22      | 0                        | <0.002  | <0.002  | <0.002           | <0.002           | <9.9  |
| MW-14               | 05/31/00 | 20-22      | 0                        | <0.002  | <0.002  | <0.002           | <0.002           | <9.8  |
| MW-15               | 05/31/00 | 5          | 0                        | <0.002  | <0.002  | <0.002           | <0.002           | <9.8  |
| MW-15               | 05/31/00 | 24-26      | 37                       | <0.002  | <0.002  | <0.002           | <0.002           | <9.7  |
| MW-15               | 05/31/00 | 28-30      | 68                       | <0.002  | <0.002  | <0.002           | <0.002           | <9.8  |



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| Well ID               | Date     | Depth (ft) | PID<br>reading<br>(ppmv) | Benzene | Toluene | Ethyl<br>benzene | Total<br>Xylenes | ТРН  |
|-----------------------|----------|------------|--------------------------|---------|---------|------------------|------------------|------|
| NM Action<br>. Levels |          |            | 100                      | 10      |         |                  |                  | 100  |
| MW-16                 | 05/31/00 | 20-22      | 0                        | <0.002  | <0.002  | <0.002           | <0.002           | <9.7 |
| MW-17                 | 06/01/00 | 22-24      | 0                        | <0.002  | <0.002  | <0.002           | <0.002           | <9.9 |
| MW-18                 | 06/01/00 | 22-24      | 0                        | <0.002  | <0.002  | <0.002           | <0.002           | <9.9 |
| MW-19                 | 06/01/00 | 20-22      | 0                        | <0.002  | <0.002  | <0.002           | <0.002           | <9.8 |
| MW-20                 | 06/01/00 | 22-24      | 0                        | <0.002  | <0.002  | <0.002           | <0.002           | <9.9 |

The migration of petroleum through the vadose zone appears to have limited lateral extent prior to reaching the water table. The analytical data shows soil impacts are defined to the north by MW-4, to the east by borings MW-5 and MW-8, to the south by MW-10 and MW-11, and to the west by MW-15. Away from the release area, the zone of hydrocarbon impact is isolated to the water table interface. The soil analytical data was submitted with the Comprehensive Report.

#### 1.4.2 Liquid Phase Hydrocarbons

On August 1, 2000 liquid phase hydrocarbons (LPH) were detected in wells MW-1, MW-2, MW-3, MW-6, MW-7, MW-9, and SP-1. The LPH thickness ranged from 0.12 feet in MW-6 to 3.06 feet in MW-9.

#### 1.4.3 Dissolved Phase Hydrocarbons

Four groundwater sampling events have been conducted at the site. The first sampling event occurred on January 13, 2000 and consisted of wells MW-4 through MW-6, MW-8, and MW-10. The second sampling event was conducted on April 6, 2000 and consisted of the above wells plus MW-11 and MW-12. The third sampling event occurred on June 2, 2000 and consisted of wells MW-13 through MW-20 and SP-1. The most recent sampling event occurred on August 2, 2000 and consisted of monitoring wells MW-4, MW-5, MW-8 and MW-10 through MW-20. The following table summarizes the groundwater analytical data for BTEX and TPH during the assessment activities.





## Table 2 Groundwater Analytical Results for East Hobbs Junction Hobbs, New Mexico

All results reported in ug/L.

| Well ID             | Date     | Benzene | Toluene | Ethyl<br>benzene | Total<br>Xylenes | ТРН    |
|---------------------|----------|---------|---------|------------------|------------------|--------|
| NM Action<br>Levels |          | 10      | 750     | 750              | 620              |        |
| MW-4                | 01/13/00 | <0.5    | <0.5    | <0.5             | <0.5             | <2,000 |
| MW-4                | 04/06/00 | 19      | 0.83    | 1.2              | 3.2              | <1,000 |
| MW-4                | 08/02/00 | 2       | <0.5    | <0.5             | <2               | <980   |
| MW-5                | 01/13/00 | <0.5    | <0.5    | <0.5             | <0.5             | <2,000 |
| MW-5                | 04/06/00 | <0.5    | <0.5    | <0.5             | <2               | <1,000 |
| MW-5                | 08/02/00 | <0.5    | <0.5    | <0.5             | <2               | <990   |
| MW-6                | 01/13/00 | 3,300   | 2,000   | 240              | 580              | <2,000 |
| MW-6                | 04/06/00 | 3,900   | 1,100   | 270              | 540              | <1,000 |
| MW-8                | 01/13/00 | <0.5    | <0.5    | <0.5             | <0.5             | <2,000 |
| MW-8                | 04/06/00 | <0.5    | <0.5    | <0.5             | <2               | <1,000 |
| MW-8                | 08/02/00 | <0.5    | <0.5    | <0.5             | <2               | <940   |
| MW-10               | 01/13/00 | 4,100   | 490     | 440              | 720              | <2,000 |
| MW-10               | 04/06/00 | 400     | 53      | 66               | 98               | <1,000 |
| MW-10               | 08/02/00 | 220     | 12      | 27               | 55               | <1,100 |
| MW-11               | 04/06/00 | 4,100   | 2,400   | 290              | 420              | 1,600  |
| MW-11               | 08/02/00 | 3,900   | 2,100   | 260              | 510              | 2,500  |
| MW-12               | 04/06/00 | 2,000   | 200     | 110              | 200              | <1,200 |
| MW-12               | 08/02/00 | 2,900   | 22      | 97               | 160              | <970   |
| MW-13               | 06/02/00 | <0.5    | <0.5    | <0.5             | <2               | <1,000 |
| MW-13               | 08/02/00 | <0.5    | <0.5    | <0.5             | <2               | <990   |
| MW-14               | 06/02/00 | 370     | 5.3     | 1.7              | 11               | <1,000 |
| MW-14               | 08/02/00 | 760     | 1.9     | 2.9              | 13               | <1,000 |
| MW-15               | 06/02/00 | 830     | 770     | 130              | 170              | 2,100  |
| MW-15               | 08/02/00 | 330     | 250     | 42               | 52               | 2,800  |
| MW-16               | 06/02/00 | 0.94    | 0.96    | 21               | 6.9              | <1,000 |



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|---|
| Stage 2 Abatement Plan - East Hobbs Junction, Hobbs, NM |

November 2, 2000 Page 7

| Well ID             | Date     | Benzene | Toluene | Ethyl<br>benzene | Total<br>Xylenes | TPH    |
|---------------------|----------|---------|---------|------------------|------------------|--------|
| NM Action<br>Levels |          | 10      | 750     | 750              | 620              |        |
| MW-16               | 08/02/00 | <0.5    | <0.5    | 13               | <2               | <1,000 |
| MW-17               | 06/02/00 | <0.5    | <0.5    | <0.5             | <2.0             | <1,000 |
| MW-17               | 08/02/00 | 6       | <0.5    | 9.3              | <2               | <970   |
| MW-18               | 06/02/00 | 600     | 0.66    | 120              | 45               | <1,000 |
| MW-18               | 08/02/00 | 780     | <0.5    | 150              | 46               | <990   |
| MW-19               | 06/02/00 | <0.5    | <0.5    | <0.5             | <2.0             | <1,000 |
| MW-19               | 08/02/00 | 1.8     | 6.3     | <0.5             | 11.2             | <1,000 |
| MW-20               | 06/02/00 | <0.5    | <0.5    | <0.5             | <2.0             | <1,000 |
| MW-20               | 08/02/00 | 4       | 3.8     | 4.1              | 12.7             | <1,000 |
| SP-1                | 06/02/00 | 9.4     | 7.4     | 2.5              | 7                | <1,000 |

As summarized in the above table, wells MW-6, MW-10 through MW-12, MW-14, MW-15, and MW-18 contain dissolved phase benzene above the New Mexico action level of 10 ug/l. Figure 2 (Appendix A) illustrates the lateral distribution of BTEX and TPH beneath the site. As illustrated by Figure 2, the lateral extent of petroleum hydrocarbon impacts associated with the Phillips release have been defined. The dissolved phase impacts are defined to the north by MW-4, to the west/southwest by MW-16, MW-17, and MW-20, to the south by MW-19 and to the east/southeast by MW-8 and MW-13. Dissolved phase benzene and toluene above state groundwater standards were also detected in well MW-15. Monitoring well MW-15 is located approximately 500 feet cross gradient of the release point near a GPM pipeline and a production well. Shallow petroleum impacts to soil were noted during the drilling of this well. The shallow impacts combined with the direction of groundwater flow in this area indicate that the petroleum impacts in this area are not associated with the release from the Phillips pipeline. The groundwater analytical data for the August 2000 sampling event is included in Appendix C.

#### 1.4.4 Dissolved Phase Polynuclear Aromatic Hydrocarbons

Groundwater samples collected from wells MW-4, MW-5, MW-6, MW-8, and MW-10 were analyzed for polynuclear aromatic hydrocarbons (PAHs). PAHs were not detected in the above referenced wells. The analytical data is included in Appendix C.

#### 1.4.5 Other Groundwater Analytical Data

Inorganic groundwater analytical data is summarized on the Inorganic Data Table in Appendix C. The analytical data presented on the table includes the major anion and cations, total dissolved solids (TDS), and the New Mexico Water Quality Control Commission (NMWQCC) metals. Included on the table are



field measurements of pH and conductivity.

Total dissolved solids ranged from 560 mg/L to 750 mg/L. Chloride ranged from 130 mg/L to 310 mg/L. The NMWQCC standard for Chloride in groundwater with less than 10,000 mg/L TDS is 250 mg/L. Barium was detected above the State Groundwater Standard of 1 mg/L in well MW-4 (2.89 mg/L) and MW-10 (5.48 mg/L). Well MW-4 is located upgradient of the release point and contains low levels of hydrocarbon impacts. Chromium was detected above the State Groundwater Standard of 0.05 mg/L in well MW-4 (0.13 mg/L). Fluoride was detected above the State Groundwater Standard of 1.6 mg/L for wells MW-4 (2.3 mg/L), MW-5 (2.6 mg/L), and MW-8 (2.4 mg/L). Monitoring wells MW-5 and MW-8 are located outside of the area of petroleum impact and may represent background concentrations for these analytes. No other analyte was detected above the NMWQCC standards for groundwater with TDS <10,000 mg/L.

#### 1.5 Summary of Geology and Hydrogeology

#### 1.5.1 Regional Setting

The regional geology surrounding the site is alluvium (unconsolidated) overlaying the Ogalalla Formation. The Ogalalla is also known as the High Plains aquifer which extends north to south from South Dakota to New Mexico and Texas. The Ogalalla was formed during the formation of the Rocky Mountains (Larimide orogeny - late Cretaceous to end of Paleocene). The Ogalalla Formation primarily consists of outwash alluvium deposited by the streams draining the newly formed Rocky Mountains. Caliche deposits are encountered in semiarid to arid conditions. The caliche was (and continues to be) formed as a result of the vertical movement of water through the unconsolidated alluvium from rainfall recharge (downward) and evaporation (upward). The calcium carbonate and/or calcium sulfate forms out of solution and creates a cementation effect. The origin of the calcareous material is either eolian (wind blown dust) or eroded limestone within the alluvium of the Ogalalla.

The hydrogeology of the Ogalalla aquifer can vary tremendously on a relatively small scale due to the wide grain-size distribution of the alluvial sediments. The regional water table slopes from west to east. The saturated thickness of the Ogalalla ranges from 0 feet to the west to upwards of 1,000 feet to the east. In the area of Hobbs, New Mexico, the saturated thickness may be 10 to 150 feet. Depth to groundwater is shallower to the west and gradually gets deeper to the east. Aquifer recharge is primarily rainfall; aquifer discharge is a combination of streams or springs and evapotranspiration.

#### 1.5.2 Local Setting

Based on information obtained from the drilling activities, the site specific geology consists primarily of caliche mixed with sands, limestone and some gravel. The caliche was encountered from ground surface to approximately 6 to 15 feet below ground surface. The sands and gravels were encountered below the caliche to total depth. The drilling logs for each well are presented in Appendix B.



The monitoring wells were gauged for depth to groundwater/depth to product on each of the four sampling events discussed in Section 1.4.3. Groundwater was encountered in the monitoring wells at approximately 20 to 26 feet below ground surface. The groundwater elevation and LPH thickness data for the gauging events are included in Appendix D. Figure 3 (Appendix A) depicts the groundwater potentiometric surface map for the August 1, 2000 data. The groundwater flow direction beneath the area is varied. The groundwater flow is predominantly to the south/southeast which is consistent with the regional groundwater flow direction. However in the northeastern portion of the site a southwest component of groundwater gradient is approximately 0.002 ft/ft. Based on the rising head permeability test data from wells MW-4, MW-5, and MW-9, the site specific hydraulic conductivity ranges from  $1.6 \times 10^{-3}$  cm/sec to  $4.2 \times 10^{-3}$  cm/sec. Based on an estimated porosity of 30%, average hydraulic conductivity of  $2.7 \times 10^{-3}$  cm/sec, and a gradient of 0.002 ft/ft, the average groundwater velocity is approximately 18 feet per year. This data is consistent with the lithology encountered during the drilling activities. The test data is included in Appendix E.

#### 1.5.3 Land Ownership and Well Records Search

A record search for area landownership and water wells within a minimum of 1 mile radius of the site was performed. The New Mexico registered wells are shown in the Baker Water Well record search.

There are 18 New Mexico registered wells within the search area. The installation dates are unknown. Some of the wells are designated domestic/stock or unused. Most of the wells are located upgradient of the project site and all the wells listed are outside the immediate area of the dissolved hydrocarbon plume. The Baker record search with associated maps are in Appendix F.



#### 2.0 Development and Assessment of Abatement Options

The Stage II Abatement Plan for the East Hobbs Junction site is based on experience with various remedial technologies, experience with projects associated with the Ogalalla Aquifer, and knowledge of the regulatory compliance and cleanup goals of the OCD. The following conclusions were also incorporated during the development of the abatement options under consideration.

- The lateral extent of petroleum impacts in the caliche appears to be limited. The analytical data shows soil impacts are defined to the north by borings MW-4 and MW-5, to the south and east by borings MW-8 and MW-13, and to the south and west by borings MW-16, MW-19, and MW-20.
- On August 1, 2000, liquid phase hydrocarbons (LPH) were detected in wells MW-1, MW-2, MW-3, MW-7, MW-9 and SP-1. The LPH plume has been defined.
- The crude oil associated with the release appears to be a mixture of condensate and crude oil.
- The lateral extent of the dissolved phase hydrocarbons has been defined to the north (MW-4 and MW-5), to the east (MW-8), to the south/southeast (MW-13 and MW-19), and to the west/southwest (MW-16 and MW-20).

#### 2.1 Technical Feasibility of Remediation Technologies

#### 2.1.1 Soil and Groundwater Remediation Goals

The remedial approach is designed to address the adsorbed phase, liquid phase and dissolved phase petroleum impacts. The petroleum hydrocarbons released at the site consist of both volatile light end and semi volatile heavy end hydrocarbons. The remedial approach is being designed to reduce benzene concentrations in the soil to the OCD Guidance Document remedial goals of 10 mg/kg benzene. The system is also being designed to treat groundwater to the State Groundwater Standards of 10 ug/L benzene, 750 ug/L toluene, 750 ug/L ethylbenzene, and 620 ug/L xylenes. Residual hydrocarbons which may remain in the soils at the completion of remedial activities may consist of heavy end non-mobile hydrocarbons. The residual hydrocarbons may result in a TPH concentration of higher than 100 mg/kg but would represent low risk to human health or the environment.

#### 2.1.2 Evaluation of Remediation Techniques

Many technologies are available to facilitate the remediation of petroleum hydrocarbon-affected soils and groundwater. These range from traditional excavation and hauling of affected soils to aquifer air sparging and aerobic/anaerobic bioremediation. Most technologies are well suited to high permeability conditions, and only a few work well in low permeability conditions. The following technologies, alone or in combination, were considered for incorporation in the Stage II Abatement Plan for this site:



- Excavation,
- Soil vapor extraction,
- Aerobic and anaerobic bioremediation,
- Aquifer sparging, and
- Groundwater pumping.

#### 2.1.3 Excavation

Excavation is typically considered in three general circumstances: 1) when there are relatively small volumes of affected soils, 2) when the affected soils have a very low permeability, 3) if removal of relatively small quantities of soil will facilitate other remediation technologies by eliminating the concentrated source of petroleum hydrocarbons.

Excavation is not a practical solution at present due to the depth of the petroleum impacted soil combined with the presence of LPH and dissolved phase hydrocarbons.

#### 2.1.4 Soil Vapor Extraction/Biovent System

Soil vapor extraction is a good mechanism for *in situ* reduction of petroleum hydrocarbon concentrations in the unsaturated zone through volatilization of petroleum hydrocarbon constituents and by increasing the oxygen content within the soil, thereby facilitating the natural biodegradation of petroleum hydrocarbons.

Advantages for incorporation of a soil vapor extraction system at this site are:

- Disruption to the current use of the property as grazing land would be minimal. Excavation
  activities will be limited to trenches for installation of system piping from the vapor recovery wells
  to the equipment compound.
- Excavation of contaminated soil will be minimal, reducing potential exposure to the petroleum hydrocarbons. Remediation of contaminated soils will be accomplished *in situ*, reducing long term liabilities associated with off-site treatment and disposal of contaminated soil.
- The consistency of the LPH, being a mixture of crude oil and condensate is conducive to mass removal by soil vapor extraction.
- The biodegradability of the petroleum hydrocarbon components are also conducive to mass removal by soil vapor extraction.

Disadvantages of soil vapor extraction are:

• Off gas treatment cost, if required.



#### This technology primarily addresses the vadose zone.

Soil vapor extraction has practical applications at this site.

#### 2.1.5 <u>Aerobic and Anaerobic Bioremediation</u>

*In situ* bioremediation is effective for saturated and unsaturated zone soils affected by petroleum hydrocarbons. Bioremediation technologies considered for this site enhance the populations of naturally occurring hydrocarbon utilizing bacteria. This process can be accomplished by simply increasing the oxygen content in the vadose zone by soil vapor extraction or by inducing nutrients and/or alternative electron acceptors into the subsurface to facilitate anaerobic bioremediation. If anaerobic bioremediation were implemented to address dissolved phase hydrocarbons, the process would consist of the addition of nitrate, sulfate, and/or other electron acceptors and nutrients to the subsurface through injection wells.

Advantages for bioremediation are:

- Bioremediation is an effective technology for addressing crude oil impacts and is a byproduct of soil vapor extraction.
- If necessary, nutrient addition may enhance biodegradation reducing remediation time frames.

Disadvantages to bioremediation are as follows:

 Permitting and additional monitoring requirements if injection of nutrients or electron acceptors is required.

Bioremediation has practical application at this site. The *in situ* bioremediation can be applied through the use of the soil vapor extraction system.

#### 2.1.6 Aquifer Sparging

Aquifer sparging is a technology used to reduce concentrations of petroleum hydrocarbons in the saturated zone. Aquifer sparging is the injection of air, under pressure, at a point beneath the contamination within the saturated zone. This removes petroleum hydrocarbons directly from the saturated zone soils through volatilization and enhanced bioremediation. The air rises to the vadose zone, where it is collected and removed by a soil vapor extraction system.

Advantages of aquifer sparging are:

- Removal rates of dissolved and adsorbed hydrocarbons are rapid.
- Operation and maintenance of the remediation equipment is low.



 Removal efficiencies of volatile hydrocarbons from the saturated zone are high, resulting in reduced residual hydrocarbon concentrations at closure.

Disadvantages of aquifer sparging are:

• Improper application of an aquifer sparge system can result in spreading of the contaminant (especially with the presence of LPH) instead of removal.

Aquifer sparging has practical application at this site.

2.1.7 Groundwater Pumping

Groundwater pumping is the removal of groundwater from the subsurface with either surface mounted or submersible electric pumps, or total fluid pneumatic pumps. Groundwater pumping provides hydraulic control of dissolved phase and liquid phase petroleum hydrocarbons, but often does not efficiently remove petroleum contamination when employed as the only remedial technology.

Advantages for groundwater pumping are:

Migration of dissolved phase and liquid phase hydrocarbons are controlled.

Disadvantages to groundwater pumping are as follows:

- Groundwater removed from the subsurface will require treatment prior to disposal.
- Groundwater from the pumping system would be re-injected following treatment. The time period for obtaining the reinjection permit can be long, delaying implementation of remedial measures.
- Remediation rates of groundwater by pump and treat technologies are slow.

Due to the physical properties of the petroleum hydrocarbons released to the subsurface, and the anticipated effectiveness of the soil vapor extraction system in removing the hydrocarbons, groundwater pumping is not considered necessary for control of LPH migration.



#### 3.0 Preferred Abatement Options

The following remedial technologies were selected to address the adsorbed phase, dissolved phase, and liquid phase petroleum hydrocarbons. The remedial technologies proposed are a soil vapor extraction system, a product skimming system for wells with LPH, and an air sparge system to address the areal extent of the dissolved hydrocarbon plume.

#### 3.1 Soil Vapor Extraction Pilot Testing at Site NM-1-1

Phillips Pipe Line site NM-1-1 is located approximately 3/4 of a mile south of the East Hobbs Junction site. The two sites have similar geology and hydrogeology. The conceptual soil vapor extraction system for East Hobbs Junction is based on the pilot testing conducted at the NM-1-1 site on October 20, 1999 through October 25, 1999. The following section summarizes the results of the pilot tests.

#### 3.1.1 Soil Vapor Extraction Pilot Test Results

On October 20, 1999, a soil vapor extraction pilot test was performed on well SVE-1 (completed in the caliche). On October 23, 1999, a second soil vapor extraction pilot test was conducted on well SVE-2 (completed in both the caliche and the sand). A 4.5 hp regenerative blower was utilized to apply vacuum to each SVE well. Influent and effluent measurements of air flow, VOCs, and vacuum were obtained. Surrounding wells were measured for induced vacuum. The results of the tests are summarized in the following tables.

| Time<br>(min.) | Effluent<br>Air Flow<br>(cfm) | Effluent<br>PID<br>(ppm) | Vacuum<br>@ SVE-2<br>(50 ft)* | Vacuum<br>@ MP-1<br>(23 ft) | Vacuum<br>@ MP-2<br>(35 ft) | Vacuum<br>@ MW-4<br>(95 ft) | Vacuum<br>@ MW-5<br>(60 ft) | Vacuum<br>@ MW-<br>6<br>(160 ft) |
|----------------|-------------------------------|--------------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------------|
| 5              | 85                            | 145                      | 0.4                           | 1                           | 0.03                        | 0.28                        | 0.01                        | 0                                |
| 15             | 85                            | 885                      | 0.4                           | 1                           | 0.03                        | 0.28                        | 0.01                        | 0                                |
| 30             | 88                            | 888                      | 0.4                           | 1                           | 0.04                        | 0.28                        | 0.01                        | 0                                |

#### Table 3 SVE Pilot Test at SVE-1 Applied Vacuum @ SVE-1 = 66 inches H2O

\*Distance from SVE-1.



| Time<br>(min.) | Effluent<br>Air<br>Flow<br>(cfm) | Effluent<br>PID<br>(ppm) | Vac. @<br>SVE-1<br>(50 ft)* | Vac. @<br>MP-1<br>(45 ft) | Vac. @<br>MP-2<br>(30 ft) | Vac. @<br>MW-4<br>(95 ft) | Vac. @<br>MW-5<br>(30 ft) | Vac. @<br>MW-6<br>(120 ft) | Vac. @<br>MW-11<br>(200 ft) |
|----------------|----------------------------------|--------------------------|-----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|-----------------------------|
| 5              | 83                               | 844                      | 0.5                         | 0.8                       | 1.5                       | 0.32                      | 1                         | 0.18                       | 0.1                         |
| 30             | - 80                             | 747                      | 0.5                         | 0.76                      | 1.4                       | 0.32                      | 1.2                       | 0.18                       | 0.1                         |
| 60             | 82                               | 595                      | 0.6                         | 0.78                      | 1.4                       | 0.32                      | 1.2                       | 0.18                       | 0.1                         |

Table 4 SVE Pilot Test at SVE-2 Applied Vacuum @ SVE-2 = 68 inches H2O

stance from SVE-2.

Based on the results of the pilot tests, the vacuum and flow from the caliche and sand are similar. The sand unit exhibited a more uniform and larger radius of influence than the caliche unit, which is most likely due to the fractured nature of the caliche. The radius of influence of an individual SVE well completed in the sand unit is up to approximately 200 feet at an applied vacuum of 68 inches of water and a flow of 80 cfm.

A biovent test was also conducted at the NM1-1 project site. Due to the volatile nature of the condensate, a biovent program is currently not proposed for the East Hobbs Junction project. If bioventing is determined to be necessary to address residual heavy end hydrocarbons, then the NM1-1 system performance data will be used to modify the East Hobbs system.

#### 3.1.2 Air Sparge Pilot Testing

On September 6, 2000, an air sparge pilot test was performed at the East Hobbs Junction site. During the air sparge pilot test, an air compressor was used to inject air at well SP-1 into the saturated zone at specific flows and pressures. Changes in pressures were measured at wells MW-1 through MW-5, MW-8, and MW-9 utilizing magnehelic gauges. Dissolved oxygen was measured at wells MW-4, MW-5, and MW-9. Results of the air sparge pilot test are summarized in the following table:

| All Sparge Flot Test |                      |                   |                                     |                           |                           |   |  |  |  |  |  |  |  |
|----------------------|----------------------|-------------------|-------------------------------------|---------------------------|---------------------------|---|--|--|--|--|--|--|--|
| Well ID              | Feet<br>from<br>SP-1 | Time<br>(minutes) | Air<br>Pressure<br>at SP-1<br>(PSI) | Air Flow at<br>SP-1 (cfm) | Dissolved Oxygen<br>(ppm) | Positive Pressure<br>(" H <sub>2</sub> O) |  |  |  |  |  |  |  |
| MW-1                 | 80                   | 0                 | 0                                   | 0                         | NM                        | 0   |  |  |  |  |  |  |  |
| MW-2                 | 80                   | 0                 | 0                                   | 0                         | NM                        | 0   |  |  |  |  |  |  |  |

Table 5 Air Sparge Pilot Test



Mr. Tony Walker - Phillips Pipe Line Company Stage 2 Abatement Plan - East Hobbs Junction, Hobbs, NM

November 2, 2000 Page 16

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| Well ID | Feet<br>from<br>SP-1 | Time<br>(minutes) | Air<br>Pressure<br>at SP-1<br>(PSI) | Air Flow at<br>SP-1 (cfm) | Dissolved Oxygen<br>(ppm) | Positive Pressure<br>(" H <sub>2</sub> O) |
|---------|----------------------|-------------------|-------------------------------------|---------------------------|---------------------------|---|
| MW-3    | 30                   | 0                 | 0                                   | 0                         | NM                        | 0   |
| MW-4    | 240                  | 0                 | 0                                   | 0                         | 3.64                      | 0   |
| MW-5    | 120                  | 0                 | · 0                                 | 0                         | 5.02                      | 0   |
| MW-8    | . 300                | 0                 | 0                                   | 0                         | 4.61                      | 0   |
| MVV-9   | 75                   | 0                 | 0                                   | 0                         | NM                        | 0   |
| MW-1    | 80                   | 15                | 16                                  | 4                         | NM                        | NM  |
| MW-2    | 80                   | 15                | 16                                  | 4                         | NM                        | NM  |
| MW-3    | 30                   | 15                | 16                                  | 4                         | NM                        | NM  |
| MW-4    | 240                  | 15                | 16                                  | 4                         | 3.01                      | 0.04                                      |
| MW-5    | 120                  | 15                | 16                                  | 4                         | 5.52                      | 0.04                                      |
| MW-8    | 300                  | 15                | 16                                  | 4                         | 4.00                      | 0   |
| MW-9    | 75                   | 15                | 16                                  | 4                         | NM                        | NM  |
| MW-1    | 80                   | 30                | 11                                  | 4                         | NM                        | 0   |
| MW-2    | 80                   | 30                | 11                                  | 4                         | NM                        | 0   |
| MW-3    | 30                   | 30                | 11                                  | 4                         | NM                        | 0   |
| MW-4    | 240                  | 30                | 11                                  | 4                         | NM                        | NM  |
| MW-5    | 120                  | 30                | 11                                  | 4                         | NM                        | NM  |
| MW-8    | 300                  | 30                | 11                                  | 4                         | NM                        | NM  |
| MW-9    | 75                   | 30                | 11                                  | 4                         | NM                        | NM  |
| MW-1    | 80                   | 75                | 17                                  | 7                         | NM                        | 0.04                                      |
| MW-2    | 80                   | 75                | 17                                  | 7                         | NM                        | 0   |
| MW-3    | 30                   | 75                | 17                                  | 7                         | NM                        | 0   |
| MW-4    | 240                  | 75                | 17                                  | 7                         | 3.01                      | 0.06                                      |
| MW-5    | 120                  | 75                | 17                                  | 7                         | 5.60                      | 0.04                                      |



Mr. Tony Walker - Phillips Pipe Line Company Stage 2 Abatement Plan - East Hobbs Junction, Hobbs, NM

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November 2, 2000 Page 17

| Well ID | Feet<br>from<br>SP-1 | Time<br>(minutes) | Air<br>Pressure<br>at SP-1<br>(PSI) | Air Flow at<br>SP-1 (cfm) | Dissolved Oxygen<br>(ppm) | Positive Pressure<br>(" H <sub>2</sub> O) |
|---------|----------------------|-------------------|-------------------------------------|---------------------------|---------------------------|---|
| MW-8    | 300                  | 75                | 17                                  | 7                         | 4.40                      | 0   |
| MW-9    | 75                   | 75                | 17                                  | 7                         | NM                        | NM  |
|         |                      |                   |                                     |                           |                           |   |
| MW-1    | . 80                 | 135               | 15                                  | 7                         | NM                        | 0.02                                      |
| MW-2    | 80                   | 135               | 15                                  | 7                         | NM                        | 0   |
| MW-3    | 30                   | 135               | 15                                  | 7                         | NM                        | 0   |
| MW-4    | 240                  | 135               | 15                                  | 7                         | 3.20                      | 0.04                                      |
| MW-5    | 120                  | 135               | 15                                  | 7                         | 5.14                      | 0.02                                      |
| MW-8    | 300                  | 135               | 15                                  | 7                         | 5.40                      | 0   |
| MW-9    | 75                   | 135               | 15                                  | 7                         | NM                        | NM  |
|         |                      |                   |                                     |                           |                           |   |
| MW-1    | 80                   | 195               | 16.5                                | 7.5                       | NM                        | 0.02                                      |
| MW-2    | 80                   | 195               | 16.5                                | 7.5                       | NM                        | 0   |
| MW-3    | 30                   | 195               | 16.5                                | 7.5                       | NM                        | 0   |
| MW-4    | 240                  | 195               | 16.5                                | 7.5                       | 3.03                      | 0.02                                      |
| MW-5    | 120                  | 195               | 16.5                                | 7.5                       | 5.85                      | 0.02                                      |
| MW-8    | 300                  | 195               | 16.5                                | 7.5                       | 5.23                      | 0   |
| MW-9    | 75                   | 195               | 16.5                                | 7.5                       | NM                        | 0.04                                      |
|         |                      |                   |                                     |                           |                           |   |
| MW-1    | 80                   | 255               | 16                                  | 8                         | NM                        | 0.02                                      |
| MW-2    | 80                   | 255               | 16                                  | 8                         | NM                        | 0   |
| MW-3    | 30                   | 255               | 16                                  | 8                         | NM                        | 0   |
| MW-4    | 240                  | 255               | 16                                  | 8                         | 3.12                      | 0.02                                      |
| MW-5    | 120                  | 255               | 16                                  | 8                         | 5.11                      | 0.01                                      |
| MW-8    | 300                  | 255               | 16                                  | 8                         | NM                        | NM  |
| MW-9    | 75                   | 255               | 16                                  | 8                         | NM                        | 0.04                                      |



During the test, slight increases in dissolved oxygen levels were noted in wells MW-4, MW-5, and MW-8. Dissolved oxygen was not measured in wells MW-1, MW-2, MW-3, and MW-9 due to the presence of LPH. Liquid level measurements were obtained from MW-1 through MW-3 and MW-9 during the pilot test. Groundwater mounding up to 0.10 feet was recorded indicating that this area was being influenced by the air sparge test. During the test, positive pressures were observed at MW-1, MW-4, MW-5, and MW-9. No pressures were observed in wells MW-2, MW-3, and MW-8 which may be due to the presence of LPH in MW-2 and MW-3. Based on the air sparge pilot test, air sparging is applicable for the site. Based on the results of the test, a conservative effective radius of influence of an air sparge point is approximately 100 feet at an injection pressure of 16 psi and an air flow rate of 7cfm.

#### 3.2 Conceptual System Design

The conceptual system design will incorporate three major components: a soil vapor extraction system, an air sparging system, and a product recovery system. The overall proposed conceptual system layout is presented in Figure 4 (Appendix A). Included on the figure is the proposed trench locations (for manifolded piping) and equipment compound.

#### 3.2.1 Soil Vapor Extraction/Air Sparging System Design

The remedial approach is designed to address the adsorbed phase, liquid phase and dissolved phase hydrocarbons. Based on the results of the pilot testing, the system is proposed to consist of 12 vapor extraction wells and 20 air sparge wells. The vapor extraction wells will be manifolded to a vacuum blower located in the equipment compound. The system will be sized based on the pilot test data to account for pressure loss from the system piping and equipment components. Each vapor extraction well will be individually valved to allow for balancing the system for optimum performance. The air sparge wells will be individually manifolded to a blower/air compressor located in the equipment compound. The blower will be sized to account for pressure loss from the system piping and components. Each well will be equipped with a pressure regulator and a flow meter to balance and optimize the system. Based on the results of the air sparge pilot test, the radius of influence of the air sparge point appeared to be slowly collapsing after two to three hours of operation. This is typical for air sparge systems due to preferential channeling of the air flow. Based on the results of the air sparge test, the system will be pulsed to maximize the radius of influence. The air sparge system wells will be divided into zones. Initially pressurized air will be injected into the first zone for a period of four hours, then the system will automatically switch to the next zone. The actual injection times for each zone will be modified based on site specific data collected during the monitoring events.

Air sparge wells SP-1 through SP-8 will not be operated at startup of the remedial system due to the presence of LPH. These wells will be brought on line following removal of the majority of the LPH by the skimmer and SVE systems.



#### 3.2.2 Product Skimming System

Product recovery pumps will be deployed in wells MW-2, MW-3, MW-7 and MW-9. System piping will also be run to wells MW-1 and MW-6 to allow for future deployment of pumps if necessary. However, due to the close proximity of MW-1 to MW-9 and the small thickness of LPH in MW-6, product recovery pumps are not proposed to be deployed at this time. The equipment specifications are currently being obtained from the equipment manufactures and will be presented in the Stage 2 Implementation Report following system installation.

#### 3.2.3 Permitting

All necessary permits for construction and operation of the system will be obtained as required by local state and federal requirements.



#### 4.0 Monitoring Program

#### 4.1 Groundwater Monitoring and Sampling

Groundwater samples will continue to be collected from all wells absent of LPH on a quarterly basis. The sampling scope of work will be as follows:

- All wells will be gauged for depth to water, depth to product (if any), and total depth.
- All wells absent of liquid phase hydrocarbons will be purged a minimum of three well volumes.
   Measurements of temperature, pH, and conductivity will be collected during well development to insure the water sampled is from the surrounding aquifer.
- Groundwater samples will be collected from all wells absent of liquid phase hydrocarbons. The groundwater samples will be analyzed for BTEX and TPH by EPA Method 8021/8015 Modified and chloride.

#### 4.2 Quality Assurance Plan

Industry accepted standard operating practices will be followed for all field activities to insure the quality of the data obtained. These procedures are summarized as follows:

- Well development and purging activities for the monitoring wells will be conducted from the cleanest well (based on past data and field observations) to the most contaminated well to minimize potential cross contamination between wells.
- All reusable groundwater sampling equipment will be decontaminated utilizing a detergent wash and distilled water rinse prior to sampling activities and between each well.
- Groundwater samples will be collected utilizing new disposable bailers. One duplicate sample will be collected during the sampling activities.
- The groundwater samples will be collected in the appropriate sample containers, labeled, sealed with custody seals, and placed on ice. The samples will be logged on a chain-of-custody form and submitted to the laboratory for analysis.
- New disposable gloves will be utilized for all sampling activities and will be discarded between samples.



Mr. Tony Walker - Phillips Pipe Line Company Stage 2 Abatement Plan - East Hobbs Junction, Hobbs, NM

#### 5.0 Site Maintenance Activities

#### 5.1 Soil Vapor Extraction/Biovent and Air Sparging System Monitoring

Volatile organic compound emissions will be monitored using a PID at system activation. Air flow rates will be measured and used to calculate the mass of total hydrocarbons recovered and emitted. Once the remediation system is in place, monitoring will occur daily for one week and monthly thereafter. Oxygen and carbon dioxide will also be monitored to track hydrocarbon biodegradation processes. The data gathered from the air monitoring will help track the progress of the remediation system. During quarterly groundwater sampling events, dissolved oxygen measurements will be collected to evaluate the effectiveness of the air sparging system. Quarterly reports will present the remedial system performance data.

#### 5.2 Product Skimming Monitoring

During each site visit, the product skimming system will be checked for proper operation. The product skimming system will be tracked for specific LPH volume. The above ground storage tank will be checked and emptied on an as needed basis. The recovered crude oil will be transported to the Phillips Pipe Line - Gaines Pump Station.

#### 5.3 Equipment Maintenance

The remediation system will be monitored and maintained as per manufacture specifications. This will ensure that the system is operating as designed. Checking control panel operation, fail safe alarms, and equipment cleaning will be an integral part of the routine maintenance. Emergency contact list with phone numbers will be posted outside of the equipment compound.

#### 5.4 Closure Plan

The system will be operated until the criteria for closure has been achieved or until asymptotic conditions are reached for dissolved hydrocarbon concentrations and the effluent from the soil vapor extraction system. At this point in the project, a petition for system shut down will be prepared and submitted to the OCD for approval. This petition will contain system performance data and hydrocarbon removal results, and will outline the closure monitoring plan.

Confirmatory soil borings will be completed within the historical plume to track the remedial progress. The soil samples collected will be analyzed for BTEX and TPH.

The anticipated closure monitoring program will include collecting groundwater samples quarterly from the monitoring wells, for a total of four quarters. The groundwater samples will be analyzed for concentrations of BTEX and TPH. If the concentrations of dissolved BTEX exceed New Mexico Water Quality Standards in any compliance well, recommendations will be prepared. The proposed compliance



wells are MW-4, MW-13, MW-19, and MW-20.

When closure monitoring has been successfully completed, the closure monitoring data will be submitted to OCD and a request for official closure will be made. At this time the remediation equipment will be dismantled and the site wells will be properly abandoned.



#### 6.0 Schedule of Abatement Activities

Implementation of the Stage 2 Abatement Plan will commence within 30 to 60 days upon approval of the OCD. The remediation system installation is anticipated to take 3 to 4 weeks. Remediation equipment such as the SVE/air sparging and product recovery pumps will require 8 to 10 weeks for delivery.

Regular quarterly reports will be sent to the OCD. The first quarterly report will include a summary of the remediation system startup and list specific equipment specifications. The quarterly reports will include a summary of groundwater analytical data, remediation equipment efficiency, and LPH recovery to date. A map of the current groundwater potentiometric surface, LPH thickness, and dissolved hydrocarbon concentrations will be attached to the quarterly reports. Any changes to the scope of work or sampling schedule will be made in the quarterly reports as necessary. Additional reporting will be completed on an as needed or as requested basis. Routine database management will commence throughout the project.



Mr. Tony Walker - Phillips Pipe Line Company Stage 2 Abatement Plan - East Hobbs Junction, Hobbs, NM

#### 7.0 Public Notification Proposal

The following public notification proposal is based on OCD requirements from 19 NMAC 15.A.19.

Phillips Pipe Line will distribute the Public Notice written and provided by the OCD to the following persons by certified mail prior to publishing the Public Notice:

- land owners of record within a one-mile radius,
- the Lea County commission,
- appropriate City of Hobbs officials,
- and the New Mexico Trustee for Natural Resources.

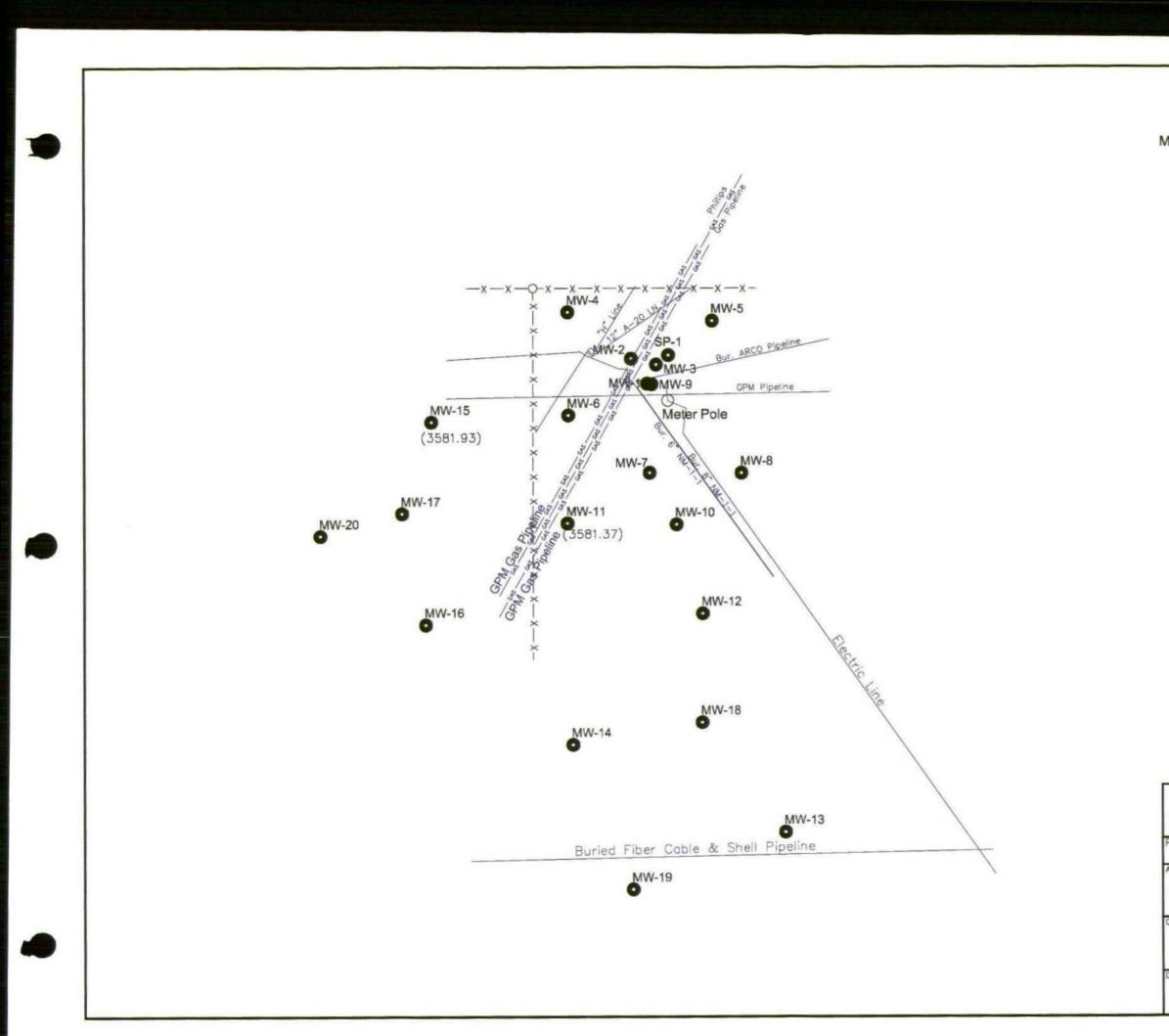
The Public Notice will be provided via the United States Postal Service to other persons identified by the OCD. After distributing the aforementioned Public Notice to the persons indicated, Phillips Pipe Line will publish the Notice in the following newspapers by the deadline indicated in the OCD's Stage 2 Abatement Plan approval letter: The Hobbs News-Sun, The Lovington Daily Leader, and The Albuquerque Journal.

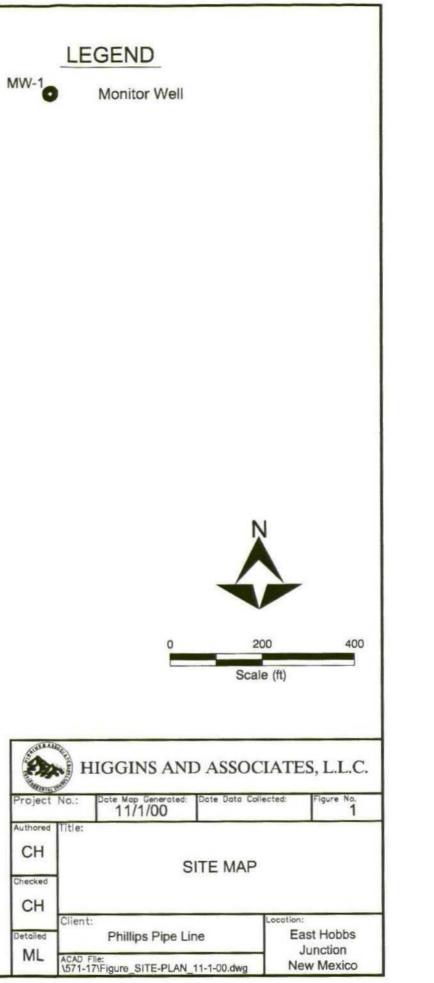


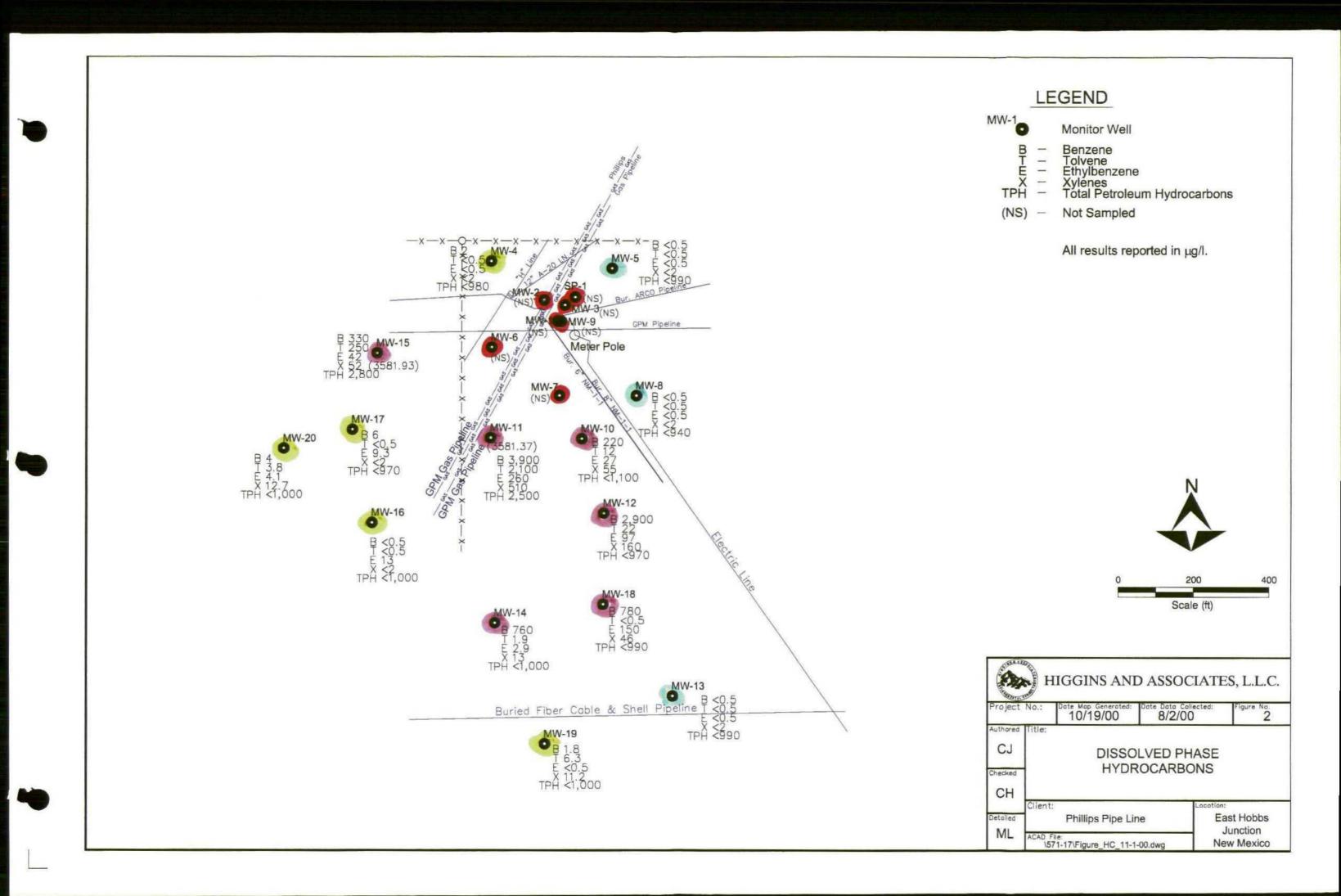
Appendix A

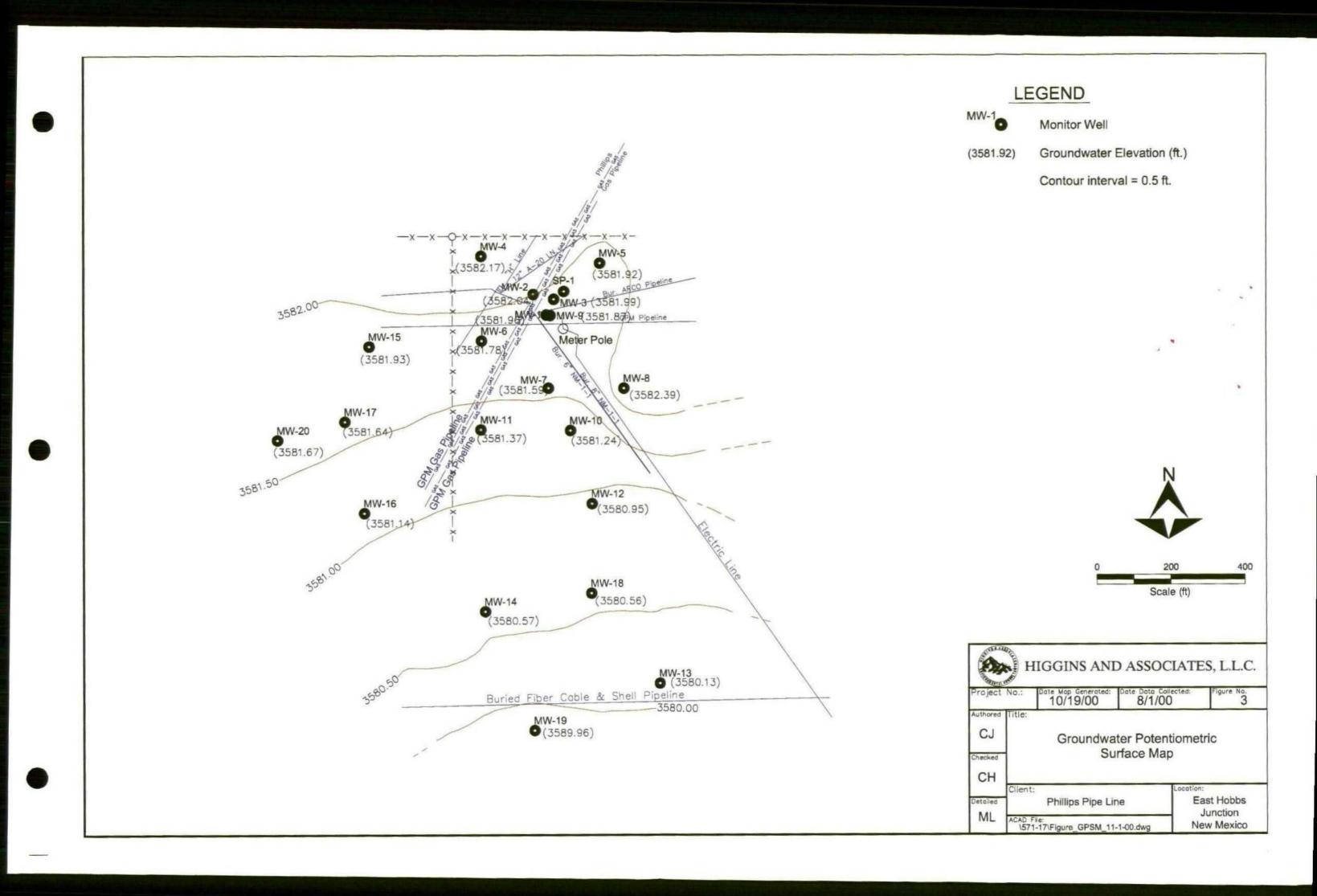
Figures

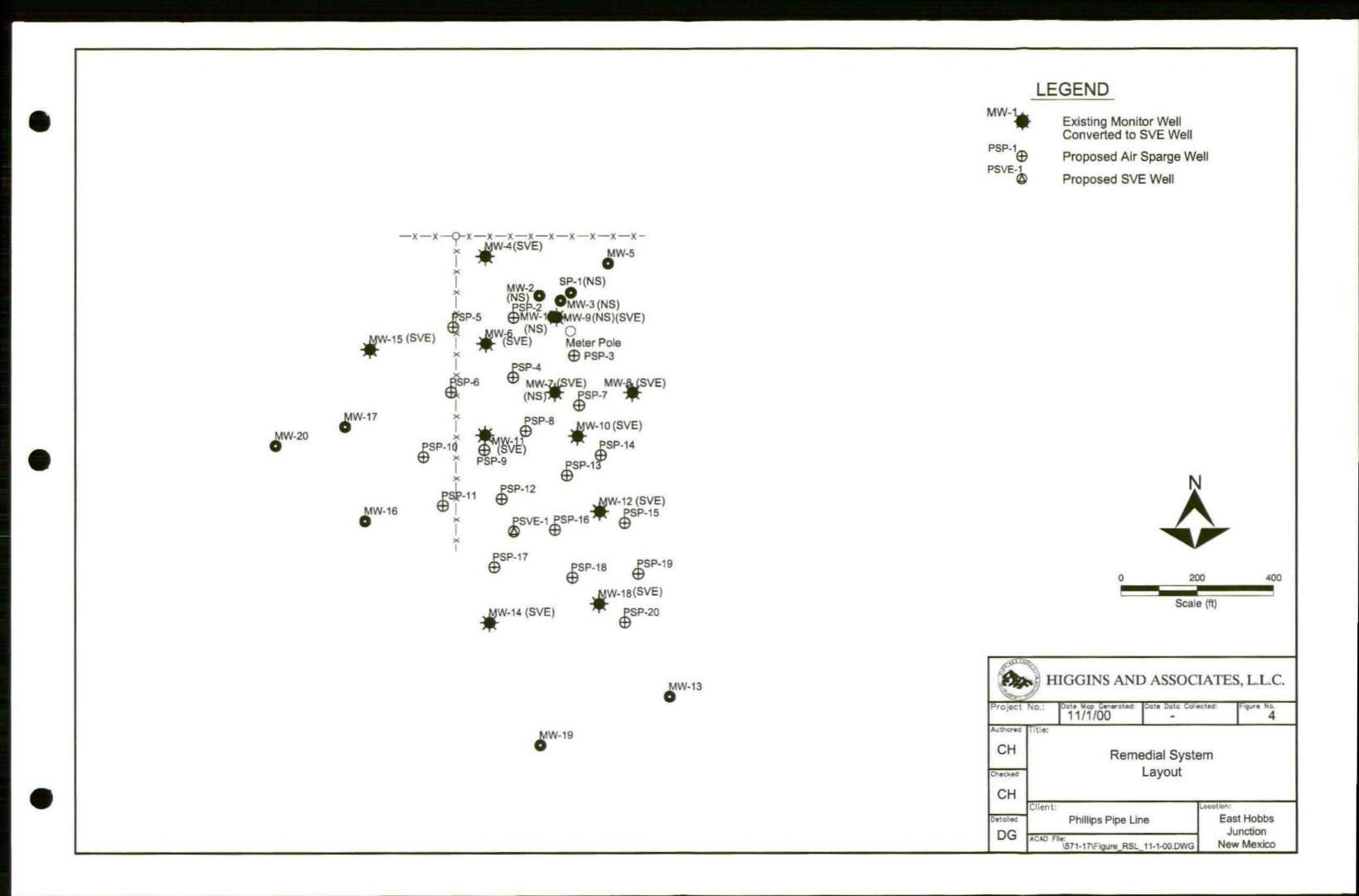












Appendix B

Well Logs



### Lithologic/Drilling Log Well Information

÷.

|  | dos(d)   |  | Borehole completed a  | as well? YES  | (NO)   | Well Casing Interv  | val:  |  |
|--|--|--|---|---|--|---|---|--|
| Project Numb   | per:   |  | Well Name: <b- <="" th=""><th></th><th></th><th>Well Screen Interv</th><th>/a]:</th><th></th></b->  |   |  | Well Screen Interv  | /a]:  |  |
|  | . Hobbs J  | The second second  |   | 38'   |  | Sand Pack Interva   | l:  |  |
| Date Drilled:  |  |  | Borehole Diameter:  | 6   |  | Bentonite Interval  |   |  |
| lient: PPL   |  | <u> </u>   | Well Elevation:   |   |  | Cement/Grout Inte   |   |  |
| Rig/Core Typ   |  |  | Water Level Initial:  | 36  |  |   |   |  |
| Drilling Com   | nany M. D.   |  | Water Level Static:   |   |  | Comments/Notes:   | ···· <u></u> ····   | ··   |
| Driller: ' <b>T</b>  | Me Den   |  | Well Type:  | PVC Sch 40  |  |   | I with sa   |  |
| Drilling Meth  | me Len   | alo  | wen Type.   | PVC Sch 80  |  |   |   |  |
|  |  |  | •   |   |  | una oen   | tonite chi  | p3   |
| Field Notes B  | y: <u>C.</u> J.  | nun  | 11/-11 Diamatan   | Low Carbon Steel  | <u>_</u>   |   |   |  |
| Time Start:  |  |  | Well Diameter:  | 2 inch  |  | Later re-   | d-illed and   | Comp   |
| Time Stop:   |  |  |   | 4 inch  |  | as mw-1   |   | <u> </u>   |
|  | Primary  | Subordinate  |   | Other:  |  |   |   | · · · · · · · · · · · · · · · · · · ·  |
|  | Lithology  | Lithology  |   | Grain Size  | Angularity   | Induration  | Induration  | Plastic  |
| Depth/Interval   | Gravel   | Gravelly   | Color   | (sand/gravel)   | (sand/gravel)  | (sand/gravel)   | (silt/clay)   | (silt/cla  |
| Sample ID  | Silt   | Sandy<br>Silty   | Sorting (sand/gravel)   | very fine<br>fine   | well rounded   | very loose (<4 blows/ft)<br>loose (4-10)  | very soft (<2)<br>soft (2-4)  | very plas  |
|  | Clay   | Clayey   | very well   | medium  | subrounded   | m.chum dense (4-10)   | medium stiff (4-8)  | slightly pl  |
| Brow Counts  | Bedrock  | Pebbly   | weil  | Soutie  | subangular   | dense (30-50)   | stiff (8-15)  | nonpias  |
| PID/FID  | (Weathered?<br>USCS:   | Caliche %  |   | copples/boulders  | anguiar  | very dense (>50)  | very stiff (15-30)<br>hard (>30)  | Moistu   |
| 2.5  |  | - incred %   | very pooriy   | COUNTES DOULAETS  |  | . <u> </u>  | 1/3U)   | damp   |
| NOTES:   | -4 top   |  |   |   |  |   |   | moist  |
|  |  |  | ۱   |   |  |   |   | wet<br>jaturau   |
|  | Primary  | Subordinate  |   |   |  |   | ·····   | 36(111411  |
|  | Lithology  | Lithology  |   | Grain Size  | Angularity   | Induration  | Induration  | Plastici   |
| Depth/Interval   | Gravel   | Gravelly<br>Sandy  | Color   | (sand/gravel)<br>verv tine  | (sand/gravel)<br>weil rounded  | (sand/gravel)<br>verv loose (<4 biows/ft)   | (silt/clay)<br>verv soft (<2)   | (silt/cla  |
| <u>IC-i2'</u><br>Sample ID   | Silt   | Salidy   | Sorting (sand/gravel)   | fine  | rounded  | loose (4-10)  | sort (2-4)  | Diastic  |
|  | Clay   | Clayey   | very well   | Cincenting  | albrounded   | Decidum sense (10-30)   | medium stiff (4-8)  | siightiy pl  |
| Blow Counts  | Bedrock<br>(Weathered?)  | Pebbly   | mogerately  | Very coarse   | subanguiar   | very dense (>50)  | stiff (8-15)<br>verv stiff (15-30)  | nonplast<br>Moistu   |
| PID/FID  | USCS:  |  | zooriv  | coobles/bouiders  | ការខ្វីលេខា  | very deuse (>30)  | · · · · · · · · · · · · · · · · · · ·   |  |
| NOTES:   |  | Calicue 3%   | very poorly   |   |  |   | hard (>30)  | Jamp<br>moist<br>wet   |
|  | Primary  | Subordinate  | very pooriy   |   |  |   |   | Jamp<br>moist  |
| NOTES:   | Primary<br>Lithology   | Subordinate<br>Lithology   |   | Grain Size  | Angularity   | Induration  | Induration  | Jamo<br>moist<br>wet<br>saturate<br>Plastici   |
| NOTES:   | Primary<br>Lithology<br>Gravei   | Subordinate<br>Lithology<br>Graveily   | Color   | Grain Size<br>(sand/gravel)   | (sand/gravei)  | (sand/gravei)   | Induration<br>(silt/clay)   | Jamo<br>moist<br>wet<br>saturate<br>Plastici<br>(silt/cla  |
| NOTES:   | Primary<br>Lithology   | Subordinate<br>Lithology   |   | Grain Size  |  |   | Induration  | Jamo<br>moist<br>wet<br>saturate<br>Plastici   |
| Depth/Interval   | Primary<br>Lithology<br>Gravei<br>Silt<br>Clay   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clavey  | Color<br><u> Tan - Whate</u><br>Sorring (sandyravel)<br>very weil   | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(metium)  | (sand/gravei)<br>weil rounded  | (sand/gravei)<br>verv loose (<4 biows/ft)<br>ioose (4-10)<br>medium tense (10-30)   | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-8)  | Jamp<br>moist<br>vet<br>saturate<br>Plasticia<br>(silt/cla<br>very plas<br>plastic<br>slightly pla   |
| NOTES:<br>Depth/Interval   | Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock  | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clavey<br>Pebbly  | Color<br><u> <u> </u> </u>  | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(methath)<br>(parket)   | (sand/gravel)<br>weil rounded<br>withrounded<br>utbrounded<br>subanguiar   | (sand/gravei)<br>verv loose (<4 biows/ft)<br>ioose (4-10)<br>medium lense (10-30)<br>tense (10-30)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)   | Jamp<br>moist<br>wet<br>saturate<br>Plastici<br>(silt/cla<br>very plas<br>plastic<br>siighty pla<br>nopplast   |
| Depth/Interval   | Primary<br>Lithology<br>Gravei<br>Silt<br>Clay   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>2007 %  | Color<br><u> Tan - Whate</u><br>Sorring (sandyravel)<br>very weil   | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(metium)  | (sand/gravei)<br>weil rounded  | (sand/gravei)<br>verv loose (<4 biows/ft)<br>ioose (4-10)<br>medium tense (10-30)   | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-8)  | Jamp<br>moist<br>wet<br>saturate<br>Plastici<br>(silt/cla<br>very plas<br>plastic<br>slightly pla<br>nopplast  |
| NOTES:<br>Depth/Interval<br>/4-16<br>Sample (D<br>Blow Counts<br>P(D/F(D<br>13)  | Primary<br>Lithology<br>Gravel<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)  | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayev<br>Pebbly<br>202 %   | Color<br>Tan - Whate<br>Sorting (sand/gravei)<br>very weil<br>well<br>modernes  | Grain Size<br>(sand/gravel)<br>very tine<br>fine<br>(methodin)<br>Coarse<br>very coarse   | (sand/gravel)<br>weil rounded<br>withrounded<br>utbrounded<br>subanguiar   | (sand/gravei)<br>verv loose (<4 biows/ft)<br>ioose (4-10)<br>medium lense (10-30)<br>tense (10-30)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-8)<br>suff (8-15)<br>very suff (15-30)  | Jamp<br>moist<br>wet<br>saturate<br>Plastici<br>(silt/cla<br>very pias<br>piastic<br>siighty pia<br>nopplast<br>Moistuu<br>Jamp  |
| NOTES:<br>Depth/Interval<br>/4-16<br>Sample (D<br>Blow Counts  | Primary<br>Lithology<br>Gravel<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)  | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>2007 %  | Color<br>Tan - White<br>Sorting (sand/gravel)<br>very weil<br>well<br>Tooorting   | Grain Size<br>(sand/gravel)<br>very tine<br>fine<br>(methodin)<br>Coarse<br>very coarse   | (sand/gravel)<br>weil rounded<br>withrounded<br>utbrounded<br>subanguiar   | (sand/gravei)<br>verv loose (<4 biows/ft)<br>ioose (4-10)<br>medium lense (10-30)<br>tense (10-30)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-8)<br>suff (8-15)<br>very suff (15-30)  | Jamp<br>moist<br>wet<br>saturate<br>Plasticii<br>(silt/cla<br>very pias<br>piastic<br>siighty pla<br>nonplast<br>Moistun   |
| NOTES:<br>Depth/Interval<br>/4-16<br>Sample (D<br>Blow Counts<br>P(D/F(D<br>13)  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>EV %<br>Clayey  | Color<br>Tan - White<br>Sorting (sand/gravel)<br>very weil<br>well<br>Tooorting   | Grain Size<br>(sand/gravel)<br>very tine<br>fine<br>(methodin)<br>Coarse<br>very coarse   | (sand/gravel)<br>weil rounded<br>withrounded<br>utbroundes<br>subanguiar   | (sand/gravei)<br>verv loose (<4 biows/ft)<br>ioose (4-10)<br>medium lense (10-30)<br>tense (10-30)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-8)<br>suff (8-15)<br>very suff (15-30)  | Jamp<br>moist<br>wet<br>saturate<br>Plasticit<br>(silt/cla<br>very plas<br>plastic<br>siighty pla<br>nonplast<br>Moistur<br>damp<br>moist  |
| NOTES:<br>Depth/Interval<br>/4-16<br>Sample (D<br>Blow Counts<br>P(D/F(D<br>13)  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?<br>USCS:<br>Primary   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clavey<br>Pebbly<br>247 2%<br>Clavey<br>Subordinate   | Color<br>Tan - White<br>Sorting (sand/gravel)<br>very weil<br>well<br>Tooorting   | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(methafin)<br>ioars<br>very coarse<br>coobles/boulders  | (sand/gravel)<br>weil rounded<br>Subsol-<br>subronnee<br>subangular<br>angular   | (sand/gravei)<br>very !oose (<4 biows/ft)<br>ioose (4-10)<br>medium 1ense (10-30)<br>Verse (30-30)<br>very dense (>50)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (3-15)<br>very stiff (15-30)<br>hard (>30)   | Jamp<br>moist<br>wet<br>saturate<br>Plasticia<br>(silt/cla<br>very pias<br>piastic<br>siighty pli<br>nonplast<br>Moistur<br>damp<br>moist<br>vet<br>saturate   |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>113<br>NOTES:<br>Depth/Interval  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>EV %<br>Clayey  | Color<br>Tan - White<br>Sorting (sand/gravel)<br>very weil<br>well<br>Tooorting   | Grain Size<br>(sand/gravel)<br>very tine<br>fine<br>(methodin)<br>coarse<br>very coarse   | (sand/gravel)<br>weil rounded<br>withrounded<br>utbroundes<br>subanguiar   | (sand/gravei)<br>verv loose (<4 biows/ft)<br>ioose (4-10)<br>medium lense (10-30)<br>tense (10-30)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-8)<br>suff (8-15)<br>very suff (15-30)  | Jamp<br>moist<br>wet<br>saturate<br>Plastici<br>(silt/cla<br>very pias<br>piasto<br>siignuy pli<br>nobplast<br>Moistur<br>damp<br>moist<br>vet<br>saturate<br>Plasticit<br>Plasticit<br>Plasticit  |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>1 3<br>NOTES:<br>Depth/Interval<br>-70 - 22  | Primary<br>Litbology<br>Gravel<br>Silt<br>Clav<br>Bedrock<br>(Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel  | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>24<br>24<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26  | Color<br>Jan - Juliutz<br>Sorring (sand/gravel)<br>very weil<br>well<br>Cooorriv<br>very pooriv<br>Color<br>Tan - 4/2, 72   | Grain Size<br>(saad/gravel)<br>very fine<br>fine<br>(methodin)<br>very coarse<br>coobles/bouiders<br>Grain Size<br>(saad/gravel)<br>very fine   | (sand/gravel)<br>weil rounded<br>Kunssel<br>subangular<br>angular<br>angular<br>Angularity<br>(sand/gravel)<br>weil rounded  | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium sense (10-30)<br>very dense (>50)<br>linduration<br>(sand/gravei)<br>very loose (<4 biows/ft)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-3)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(silt/clay)<br>very soft (<2)  | Jamp<br>moist<br>wet<br>saturate<br>Plasticii<br>(silt/cla<br>very pias<br>piastic<br>siightly pla<br>nonplasti<br>Moistuu<br>21<br>Jamp<br>moist<br>vet<br>saturate<br>Plasticii<br>(silt/clay<br>very pias   |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>113<br>NOTES:<br>Depth/Interval  | Primary<br>Lithology<br>Gravel<br>Silt<br>Clay<br>Bedrock<br>(Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silt  | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>24<br>26<br>4<br>26<br>4<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26  | Color<br>Jan - Whate<br>Sorring (sand/gravel)<br>very weil<br>well<br>Googenity<br>very pooriv<br>Color<br>Jan - 4/4.172<br>Sorring (sand/gravel)   | Grain Size<br>(saad/gravel)<br>very fine<br>fine<br>methoda<br>very coarse<br>coobles/boulders<br>Grain Size<br>(saad/gravel)<br>very fine<br>fine  | (sand/gravel)<br>weil rounded<br>Subassi<br>subangular<br>angular<br>Angularity<br>(sand/gravel)<br>weil rounded   | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium lense (10-30)<br>very dense (>50)<br>very dense (>50)<br>linduration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)   | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>suff (8-15)<br>very stiff (15-30)<br>bard (>30)<br>Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)   | Jamp<br>moist<br>wet<br>saturate<br>Plasticii<br>(silt/cla<br>very plas<br>plastic<br>siighty pla<br>nonplast<br>Moistun<br>tonplast<br>uamp<br>moist<br>vet<br>saturate<br>Plasticii<br>(silt/cla<br>very plas<br>plastic<br>vet<br>saturate  |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>1 3<br>NOTES:<br>Depth/Interval<br>-70 - 22  | Primary<br>Litbology<br>Gravel<br>Silt<br>Clav<br>Bedrock<br>(Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel  | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>24<br>24<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26  | Color<br>Jan - Juliutz<br>Sorring (sand/gravel)<br>very weil<br>well<br>Cooorriv<br>very pooriv<br>Color<br>Tan - 4/2, 72   | Grain Size<br>(saad/gravel)<br>very fine<br>fine<br>(methodin)<br>very coarse<br>coobles/bouiders<br>Grain Size<br>(saad/gravel)<br>very fine   | (sand/gravel)<br>weil rounded<br>Kunssel<br>subangular<br>angular<br>angular<br>Angularity<br>(sand/gravel)<br>weil rounded  | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium sense (10-30)<br>very dense (>50)<br>linduration<br>(sand/gravei)<br>very loose (<4 biows/ft)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-3)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(silt/clay)<br>very soft (<2)  | Jamp<br>moist<br>wet<br>saturate<br>Plasticit<br>(silt/cla<br>very plas<br>plastic<br>siighty pla<br>nonplast<br>Moistur<br>damp<br>moist  |
| NOTES:<br>Depth/Interval<br>/4 - /4<br>Sample ID<br>Blow Counts<br>PID/FID<br>1 3<br>NOTES:<br>Depth/Interval<br>-70 - 23<br>Sample ID<br>Blow Counts  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Pebbly<br>Clayey<br>Pebbly<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>2007 210<br>210<br>210<br>210<br>210<br>210<br>210<br>210<br>210<br>210  | Color<br>Tan - Julier<br>Sorting (sand/gravei)<br>very weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color  | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(metstin)<br>very coarse<br>cobbles/boulders<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>fine<br>coarse<br>coarse  | (sand/gravel)<br>weil rounded<br>Subassi<br>subangular<br>angular<br>angular<br>Angularity<br>(sand/gravel)<br>weil rounded<br>consists<br>subangularity   | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium zense (10-30)<br>verse (30-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)   | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)  | Jamp<br>moist<br>wet<br>saturate<br>Plasticit<br>(silt/cla<br>very pias<br>piastic<br>siighty pias<br>damp<br>moistu<br>vet<br>saturate<br>Plasticit<br>(silt/cla)<br>very pias<br>piastic<br>siighty pias<br>piastic<br>siighty pias<br>piastic<br>siighty pias<br>piastic<br>siighty pias<br>nonpiast<br>Moistur   |
| NOTES:<br>Depth/Interval<br>/4 - 16<br>Sample ID<br>Blow Counts<br>PID/FID<br>1 3<br>NOTES:<br>Depth/Interval<br>-70 - 22<br>Sample ID<br>Blow Counts<br>PID/FID<br>PID/FID  | Primary<br>Lithology<br>Gravel<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silt<br>Clay<br>Bedrock  | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayev<br>Pebbly<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>S | Color<br>Tan - Whate<br>Sorting (sand/gravel)<br>very weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Very weil<br>very weil<br>weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color  | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(metricin<br>coals)<br>very coarse<br>coobles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>metricin<br>(sand/gravel)   | (sand/gravel)<br>weil rounded<br>subarguiar<br>subanguiar<br>anguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>subanguiar   | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium 2ense (10-30)<br>very dense (10-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>Verse 10-30)  | Induration           (silt/clay)           very soft (<2)   | Jamp<br>moist<br>wet<br>saturate<br>Plasticit<br>(silt/cla<br>very pias<br>piastic<br>siighty pla<br>nopplast<br>damp<br>moist<br>vet<br>saturate<br>Plasticit<br>(silt/cla<br>very pias<br>piastic<br>siighty pla<br>nopplast<br>cla<br>saturate  |
| NOTES:<br>Depth/Interval<br>/4 - /4<br>Sample ID<br>Blow Counts<br>PID/FID<br>1 3<br>NOTES:<br>Depth/Interval<br>-70 - 23<br>Sample ID<br>Blow Counts  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Pebbly<br>Clayey<br>Pebbly<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>2007 210<br>210<br>210<br>210<br>210<br>210<br>210<br>210<br>210<br>210  | Color<br>Tan - Julier<br>Sorting (sand/gravei)<br>very weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color  | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(metstin)<br>very coarse<br>cobbles/boulders<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>fine<br>coarse<br>coarse  | (sand/gravel)<br>weil rounded<br>subarguiar<br>subanguiar<br>anguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>subanguiar   | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium 2ense (10-30)<br>very dense (10-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>Verse 10-30)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)  | Jamp<br>moist<br>wet<br>saturate<br>Plasticit<br>(silt/cla<br>very pias<br>piastic<br>siighty pias<br>damp<br>moistu<br>vet<br>saturate<br>Plasticit<br>(silt/cla)<br>very pias<br>piastic<br>siighty pias<br>piastic<br>siighty pias<br>piastic<br>siighty pias<br>piastic<br>siighty pias<br>nonpiast<br>Moistur   |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>11 3<br>NOTES:<br>Depth/Interval<br>-20 - 22<br>Sample ID<br>Blow Counts<br>PID/FID<br>//6 - 22<br>Sample ID   | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayev<br>Pebbly<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>S | Color<br>Tan - Whate<br>Sorting (sand/gravel)<br>very weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Very weil<br>very weil<br>weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color  | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(metstin)<br>very coarse<br>cobbles/boulders<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>fine<br>coarse<br>coarse  | (sand/gravel)<br>weil rounded<br>subarguiar<br>subanguiar<br>anguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>subanguiar   | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium 2ense (10-30)<br>very dense (10-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>Verse 10-30)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)  | Jamp<br>moist<br>wet<br>saturate<br>Plastici<br>(silt/cla<br>very plas<br>plastic<br>silghtly pla<br>nonplast<br>Moistum<br>moist<br>vet<br>saturate<br>Plasticit<br>(silt/cla)<br>very plas<br>plastic<br>saturate<br>saturate<br>saturate<br>saturate<br>silghtly pla<br>nonplast<br>very plas<br>plastic<br>silghtly pla<br>nonplast<br>monplast<br>very plas<br>plastic<br>silghtly pla<br>nonplast<br>monplast<br>very plas<br>plastic<br>silghtly pla  |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>11 3<br>NOTES:<br>Depth/Interval<br>-20 - 22<br>Sample ID<br>Blow Counts<br>PID/FID<br>//6 - 22<br>Sample JD   | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayev<br>Pebbly<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>Sandy<br>S | Color<br>Tan - Whate<br>Sorting (sand/gravel)<br>very weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Very weil<br>very weil<br>weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color  | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(metstin)<br>very coarse<br>cobbles/boulders<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>fine<br>coarse<br>coarse  | (sand/gravel)<br>weil rounded<br>subarguiar<br>subanguiar<br>anguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>subanguiar   | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium 2ense (10-30)<br>very dense (10-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>Verse 10-30)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)  | Jamp<br>moist<br>wet<br>saturate<br>Plastici<br>(silt/cla<br>very plas<br>plastic<br>siightly pla<br>nonplast<br>Moistur<br>damp<br>moist<br>vet<br>saturate<br>Plasticit<br>(silt/clay<br>very plas<br>plastic<br>saturate<br>Plasticit<br>(silt/clay<br>very plas<br>plastic<br>siightly pla<br>nonplast<br>Moistur<br>Moistur<br>Moistur<br>Moistur<br>damp<br>moist  |
| NOTES:<br>Depth/Interval<br>/4 - 16<br>Sample ID<br>Blow Counts<br>PID/FID<br>113<br>NOTES:<br>Depth/Interval<br>-70 - 22<br>Sample ID<br>Blow Counts<br>PID/FID<br>165<br>NOTES:  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Lithology<br>Bedrock<br>(Weathered?)<br>LiscS:  | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayev<br>Pebbly<br>Clayev<br>Pebbly<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Subordinate<br>Lithology<br>06.<br>06.<br>06.<br>06.<br>06.<br>06.<br>06.<br>06.<br>06.<br>06.   | Color<br>Jan - Juliuste<br>Sorring (sand/gravei)<br>very weil<br>well<br>Color<br>Color<br>Jan - 4/4.7<br>Sorring (sand/gravei)<br>very weil<br>well<br>well<br>Sorring (sand/gravei)<br>very weil<br>very weil<br>very poorly  | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(methefin)<br>very coarse<br>coobles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(sand/gravel)<br>very coarse<br>cobbles/boulders   | (sand/gravel)<br>weil rounded<br>Subarguiar<br>subanguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Subanguiar<br>anguiar<br>Angularity   | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium lense (10-30)<br>very dense (10-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>very dense (>50)<br>very dense (>50)  | Induration<br>(sill/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(sill/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-3)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration   | Jamp<br>moist<br>wet<br>saturate<br>Plasticit<br>(silt/cla<br>very pias<br>piastic<br>siighty pla<br>not stur<br>damp<br>moist<br>very pias<br>aturate<br>Plasticit<br>(silt/cla)<br>very pias<br>piastic<br>saturate<br>Plasticit<br>(silt/cla)<br>very pias<br>piastic<br>siighty pla<br>not stur<br>cla)<br>Plasticit<br>(silt/cla)<br>very pias<br>piastic<br>siighty pla<br>tamp<br>moist<br>very pias<br>piastic<br>saturate<br>Plasticit<br>Moistur<br>Saturate<br>Plasticit<br>Plasticit<br>Plasticit<br>Plasticit<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Siighty pla<br>not stur<br>Saturate<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Plastic<br>Pla |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>1 3<br>NOTES:<br>Depth/Interval<br>-20 - 22<br>Sample ID<br>Blow Counts<br>PID/FID<br>/(6 5<br>NOTES:<br>Depth/Interval  | Primary<br>Lithology<br>Gravel<br>Silt<br>Clav<br>Bedrock<br>(Weathered?'<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clavey<br>Pebbly<br>24<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Subordinate<br>Lithology<br>96<br>96<br>96<br>96<br>96<br>96<br>96<br>96<br>96<br>96<br>96<br>96<br>96   | Color<br>Jan - Juliut 2<br>Sorring (sand/gravel)<br>very weil<br>well<br>Color<br>Color<br>Tan - 4 Juliut<br>Sorring (sand/gravel)<br>very weil<br>well<br>well<br>Color<br>Tan - 4 Juliut<br>Sorring (sand/gravel)<br>very poorly<br>very poorly   | Grain Size<br>(saad/gravel)<br>very fine<br>fine<br>(methodin)<br>very coarse<br>coobles/boulders<br>Grain Size<br>(saad/gravel)<br>very coarse<br>cobbles/boulders<br>very coarse<br>cobbles/boulders  | (sand/gravel)<br>weil rounded<br>Subanguiar<br>subanguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Subanguiar<br>anguiar<br>anguiar<br>Angularity<br>(sand/gravel)   | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium lense (10-30)<br>very dense (10-30)<br>very dense (>50)<br>induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>very dense (>50)<br>very dense (>50)<br>Induration<br>(sand/gravei)   | Induration<br>(sill/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (3-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(sill/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-3)<br>suff (3-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(sill/clay)   | Jamp<br>moist<br>wet<br>saturate<br>Plasticit<br>(silt/cla<br>very pias<br>piastic<br>siighty pla<br>nonpiast<br>Moistur<br>saturate<br>Plasticit<br>(silt/cla<br>very pias<br>piastic<br>siighty pla<br>nonpiast<br>vet<br>saturate<br>Moistur<br>jastic<br>siighty pla<br>nonpiast<br>nonpiast<br>sighty pla<br>jastic<br>siighty pla<br>piastic<br>siighty pla<br>nonpiast<br>Moistur<br>Jamp<br>moist<br>vet<br>saturate<br>Moistur<br>Jamp  |
| NOTES:<br>Depth/Interval<br>/4 - 16<br>Sample ID<br>Blow Counts<br>PID/FID<br>113<br>NOTES:<br>Depth/Interval<br>-70 - 22<br>Sample ID<br>Blow Counts<br>PID/FID<br>165<br>NOTES:  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Lithology<br>Bedrock<br>(Weathered?)<br>LiscS:  | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayev<br>Pebbly<br>Clayev<br>Pebbly<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Subordinate<br>Lithology<br>06.<br>06.<br>06.<br>06.<br>06.<br>06.<br>06.<br>06.<br>06.<br>06.   | Color<br>Jan - Juliuste<br>Sorring (sand/gravei)<br>very weil<br>well<br>Color<br>Color<br>Jan - 4/4.7<br>Sorring (sand/gravei)<br>very weil<br>well<br>well<br>Sorring (sand/gravei)<br>very weil<br>very weil<br>very poorly  | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(methefin)<br>very coarse<br>coobles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(sand/gravel)<br>very coarse<br>cobbles/boulders   | (sand/gravel)<br>weil rounded<br>Subarguiar<br>subanguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Subanguiar<br>anguiar<br>Angularity   | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium lense (10-30)<br>very dense (10-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>very dense (>50)<br>very dense (>50)  | Induration<br>(sill/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(sill/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-3)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration   | Jamp<br>moist<br>wet<br>saturate<br>Plastici<br>(silt/cla<br>very plas<br>plastic<br>siighty pla<br>nonplast<br>Moistuu<br>Plasticit<br>(silt/cla<br>very plas<br>plastic<br>saturate<br>Plasticit<br>(silt/cla<br>moistur<br>jamp<br>moist<br>saturate<br>saturate<br>Plasticit<br>(silt/cla<br>monst<br>wet<br>saturate<br>Plasticit<br>(silt/cla<br>monst   |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>113<br>NOTES:<br>Depth/Interval<br>20 - 23<br>Sample ID<br>Blow Counts<br>PID/FID<br>/(6 5)<br>NOTES:<br>Depth/Interval<br>Sample ID<br>Sample ID  | Primary<br>Lithology<br>Gravel<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Pebbly<br>Clayey<br>Pebbly<br>Gravelly<br>Sandy<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>°6<br>°6<br>°6<br>°6<br>°6<br>°6<br>°6<br>°6<br>°6<br>°6<br>°6<br>°6<br>°6  | Color<br>Tan - fullette<br>Sorting (sand/gravei)<br>very weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Very weil<br>weil<br>weil<br>weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Very pooriv<br>very pooriv  | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(metsrift)<br>very coarse<br>coobles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(sand/gravel)<br>very coarse<br>coobles/boulders<br>Coalse<br>very coarse<br>coobles/boulders                      | (sand/gravel)<br>weil rounded<br>Subarguiar<br>subanguiar<br>inguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>subanguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>construction<br>subanguiar<br>anguiar   | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium lense (10-30)<br>very dense (>50)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8) | Jamp<br>moist<br>wei<br>saturate<br>Plastici<br>(silt/cla<br>very pias<br>piasto<br>siighuy pia<br>moistur<br>damp<br>moist<br>moistur<br>saturate<br>Plasticii<br>(silt/cla<br>very pias<br>piasto<br>siighty pia<br>saturate<br>Plasticii<br>(silt/cla<br>very pias<br>piasto<br>siighty pia<br>moistur<br>yei<br>moistur<br>function<br>moistur<br>saturate<br>piasto<br>siighty pia<br>saturate<br>piasto<br>siighty pia   |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>1 3<br>NOTES:<br>Depth/Interval<br>JO - 22<br>Sample ID<br>Blow Counts<br>PID/FID<br>/(65)<br>NOTES:<br>Depth/Interval<br>24 - 765   | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>Silt<br>Clay<br>Bedrock | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayev<br>Pebbly<br>Clayev<br>Gravelly<br>Sandy<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%   | Color<br>Tan - Whate<br>Sorting (sand/gravel)<br>very weil<br>weil<br>Color<br>Color<br>Color,<br>Tan - whate<br>Sorting (sand/gravel)<br>very poorly<br>Color.<br>(An - whate<br>Color.<br>(An - whate<br>Sorting (sand/gravel)<br>very well<br>well<br>Very well<br>Very well<br>Very well  | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(methefin)<br>very coarse<br>cobbles/boulders<br>(sand/gravel)<br>very fine<br>fine<br>(sand/gravel)<br>very coarse<br>cobbles/boulders<br>Carse<br>very coarse<br>cobbles/boulders                                     | (sand/gravel)<br>weil rounded<br>Subarguiar<br>subanguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Constant<br>subanguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Constant<br>Subanguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Subanguiar | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium iense (10-30)<br>very dense (10-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>very dense (>50)<br>Very loose (<4 biows/ft)<br>loose (<10)<br>very loose (<4 biows/ft)<br>loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>very loose (<4 biows/ft)<br>loose (4-10)<br>medium dense (10-30)<br>vers (30-59) | Induration           (sill/clay)           verv soft (<2)   | Jamp<br>moist<br>wei<br>saturate<br>Plastici<br>(silt/cla<br>very pias<br>piastic<br>sightly pla<br>novplast<br>Moistur<br>UTV<br>Jamp<br>moist<br>very pias<br>piastic<br>(silt/cla<br>very pias<br>jastic<br>slightly pla<br>nonplast<br>Moistur<br>UTV<br>Jamp<br>moist<br>very pias<br>piastic<br>slightly pla<br>nonplast   |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>113<br>NOTES:<br>Depth/Interval<br>20 - 23<br>Sample ID<br>Blow Counts<br>PID/FID<br>/(6 5)<br>NOTES:<br>Depth/Interval<br>Sample ID<br>Sample ID  | Primary<br>Lithology<br>Gravel<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clavey<br>Pebbly<br>Clavey<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clavey<br>Pebbly<br>Clavey<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Clavey<br>Subordinate<br>Subordinate<br>Clavey<br>Subordinate<br>Subordinate<br>Subordinate<br>Clavey<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Sub   | Color<br>Tan - fullette<br>Sorting (sand/gravei)<br>very weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Very weil<br>weil<br>weil<br>weil<br>weil<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Very pooriv<br>very pooriv  | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(metsrift)<br>very coarse<br>coobles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(sand/gravel)<br>very coarse<br>coobles/boulders<br>Coalse<br>very coarse<br>coobles/boulders                      | (sand/gravel)<br>weil rounded<br>Subarguiar<br>subanguiar<br>inguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>subanguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>construction<br>subanguiar<br>anguiar   | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium lense (10-30)<br>very dense (>50)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)  | Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8)<br>stiff (8-15)<br>very stiff (15-30)<br>hard (>30)<br>Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium stiff (4-8) | Jamp<br>moist<br>wei<br>saturate<br>Plastici<br>(silt/cla<br>very pias<br>piastic<br>sightly pla<br>novplast<br>Moistur<br>UTV<br>Jamp<br>moist<br>very pias<br>plasticit<br>(silt/cla<br>very pias<br>jastic<br>slightly pla<br>nonplast<br>Moistur<br>UTV<br>Jamp<br>moist<br>very pias<br>plasticit<br>(silt/cla<br>very pias<br>jamp<br>moist<br>Moistur<br>Saturate   |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>1 3<br>NOTES:<br>Depth/Interval<br>-20 - 22<br>Sample ID<br>Blow Counts<br>PID/FID<br>/6 - 5<br>NOTES:<br>Depth/Interval<br>-20 - 22<br>Sample ID<br>Blow Counts<br>PID/FID<br>-26 - 5<br>Sample ID<br>Blow Counts<br>-20 - 22<br>Sample ID<br>-20 - 22<br>-20 - 22<br>Sample ID<br>-20 - 22<br>Sample ID<br>-20 - 22<br>Sample ID<br>-20 - 22<br>-20 - 22<br>Sample ID<br>-20 - 22<br>-20 - 20 - 20<br>-20 - 20 | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clayev<br>Pebbly<br>Clayev<br>Gravelly<br>Sandy<br>Gravelly<br>Sandy<br>Clayey<br>Pebbly<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%<br>%   | Color<br>Tan - Whate<br>Sorting (sand/gravei)<br>very weil<br>well<br>Color<br>Color<br>Jan - Whate<br>Sorting (sand/gravei)<br>very weil<br>well<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color.<br>Color. | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(methefin)<br>very coarse<br>coobles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(sand/gravel)<br>very coarse<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>very coarse<br>cobbles/boulders | (sand/gravel)<br>weil rounded<br>Subarguiar<br>subanguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Constant<br>subanguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Constant<br>Subanguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Subanguiar | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium iense (10-30)<br>very dense (10-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>very dense (>50)<br>Very loose (<4 biows/ft)<br>loose (<10)<br>very loose (<4 biows/ft)<br>loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>very loose (<4 biows/ft)<br>loose (4-10)<br>medium dense (10-30)<br>vers (30-59) | Induration           (sill/clay)           very soft (<2)   | Jamp<br>moist<br>wei<br>saturate<br>Plasticii<br>(silt/cla<br>very pias<br>piastic<br>siighty pla<br>monist<br>ver<br>plasticii<br>(silt/clay<br>very pias<br>piastic<br>siighty pla<br>nonplastic<br>(silt/clay<br>very pias<br>piastic<br>siighty pla<br>nonplastic<br>Moistur<br>Moistur<br>Plasticii<br>(silt/clay<br>very plas<br>plastic<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>saturate<br>sighty pla   |
| NOTES:<br>Depth/Interval<br>/4 - /6<br>Sample ID<br>Blow Counts<br>PID/FID<br>/1 3<br>NOTES:<br>Depth/Interval<br>20 - 22<br>Sample ID<br>Blow Counts<br>PID/FID<br>/6 - 5<br>NOTES:<br>Depth/Interval<br>910/FID<br>16 - 5<br>NOTES:<br>Depth/Interval<br>910/FID<br>Blow Counts<br>PID/FID<br>Blow Counts<br>PID/FID   | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:   | Subordinate<br>Lithology<br>Gravelly<br>Sandy<br>Clavey<br>Pebbly<br>Clavey<br>Pebbly<br>Gravelly<br>Sandy<br>Clavey<br>Pebbly<br>Ofavelly<br>Sandy<br>Clavey<br>Pebbly<br>Ofavelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Gravelly<br>Subordinate<br>Lithology<br>Clavey<br>Subordinate<br>Lithology<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate<br>Subordinate  | Color<br>Jan - Juliusto<br>Sorring (sand/gravel)<br>very weil<br>well<br>Color<br>Color<br>Tan - 4/4, Ta<br>Sorring (sand/gravel)<br>very weil<br>well<br>well<br>Well<br>Well<br>Color.<br>Color.<br>Color<br>Very weil<br>very poorly<br>Very poorly<br>Very well<br>very well   | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(methefin)<br>very coarse<br>coobles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>(sand/gravel)<br>very coarse<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>very coarse<br>cobbles/boulders | (sand/gravel)<br>weil rounded<br>Subarguiar<br>subanguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Constant<br>subanguiar<br>anguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Constant<br>Subanguiar<br>Angularity<br>(sand/gravel)<br>weil rounded<br>Subanguiar | (sand/gravei)<br>very loose (<4 biows/ft)<br>ioose (+10)<br>medium iense (10-30)<br>very dense (10-30)<br>very dense (>50)<br>Induration<br>(sand/gravei)<br>very loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>very dense (>50)<br>Very loose (<4 biows/ft)<br>loose (<10)<br>very loose (<4 biows/ft)<br>loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>very loose (<4 biows/ft)<br>loose (4-10)<br>medium dense (10-30)<br>vers (30-59) | Induration           (sill/clay)           very soft (<2)   | Jamp<br>moist<br>wei<br>saturate<br>Plasticii<br>(silt/cla<br>very pias<br>piastic<br>siighty pla<br>nonpiast<br>Moistur<br>Plasticii<br>(silt/cla<br>very pias<br>piastic<br>siighty pla<br>nonpiast<br>Plasticii<br>(silt/cla<br>very pias<br>piastic<br>saturate<br>Plasticii<br>(silt/cla<br>very pias<br>piastic<br>saturate<br>Plasticii<br>(silt/cla<br>very pias<br>piastic<br>saturate<br>Plasticii<br>(silt/cla<br>very pias<br>piastic<br>saturate<br>Plasticii<br>(silt/cla<br>very pias<br>piastic<br>saturate<br>(silt/cla<br>very pias<br>piastic<br>saturate<br>Plasticii<br>(silt/cla<br>very pias<br>piastic<br>saturate<br>(silt/cla<br>very pias<br>piastic<br>saturate<br>(silt/cla<br>very pias<br>piastic<br>(silt/cla<br>very pias<br>piastic<br>siighty pia<br>nonpiast   |

| roject: PP  | L/Hobb:   | 5(2)   | Borehole completed  | as well? YES  | NO  | Well Casing Inter   | val:   |   |
|---|---|--|---|---|---|---|--|---|
| roject Numb   | · · · · · · · · · · · · · · · · · · ·   | <u></u>  | Well Name: SG-1   |   |   | Well Screen Inter   |  |   |
| ocation:  |   |  | Total Depth:  | continued.  |   | Sand Pack Interva   |  |   |
| Date Drilled:   | ill das   | •  | Borehole Diameter:  | ······  |   |   |  |   |
|   | 4/27/99   | · · · · · · · · · · · · · · · · · · ·  |   |   |   | Bentonite Interval  |  |   |
| lient:  |   |  | Well Elevation:   |   |   | Cement/Grout Inte   | erval:   | <u> </u>  |
| ig/Core Typ   |   |  | Water Level Initial:  |   |   |   |  |   |
| rilling Com   | pany:   |  | Water Level Static:   |   |   | Comments/Notes:   |  |   |
| riller:   |   | - <u>-</u>   | Well Type:  | PVC Sch 40  |   |   |  |   |
| rilling Meth  |   |  | -   | PVC Sch 80  |   |   |  |   |
| ield Notes B  | y:  |  | !<br>   | Low Carbon Steel  |   |   |  |   |
| ime Start:  |   |  | Well Diameter:  | 2 inch  |   |   |  |   |
| ime Stop:   |   |  |   | 4 inch  |   |   |  |   |
|   |   |  | -<br>1  | Other:  |   |   |  |   |
|   | Primary   | Subordiaate  | · · · · · · · · · · · · · · · · · · ·   | ······································  |   |   |  |   |
| Destablished  | Lithology   | Lithology  |   | Grain Size  | Angularity  | Induration  | Induration   | Plasticit   |
| Depth/Interval  | Gravel  | Gravelly<br>Sandy  | Color<br>TAN-White  | (sand/gravel)<br>verv fine  | (sand/gravei)<br>well rounded   | (sand/gravel)<br>verv loose (<4 blows/ft)   | (silt/ciay)<br>verv soft (<2)  | (silt/clay<br>verv piasi  |
| Sample ID   | Silt  | <u>Saud</u>  | Sorting (sand/gravel)   | very time   | ven rounded   | ioose (4-10)  | soft (2-4)   | piastic   |
|   | Clav  | Clavey   | very weil   | VIGUIND   | abrounded   | CITCUIN IN 100 (10-30)  | medium suff (4-3)  | slightly pla  |
| Blow Counts   | Bearock<br>(Weathered?)   | Pebbly   | weil  | verv coarse   | subanguiar  | dense (30-50)<br>Verv dense (>50)   | suff (S-15)<br>very suff (15-30)   | Moistur   |
| PID/FID   | USCS:   | 141.00 3%  |   | copples/boulders  | Inguiar   | · ELY UELISE (>30)  | Jard (>30)   | VIOISCUT  |
| NOTES   |   | ?6   | the second s  |   |   |   |  |   |
| NOTES   |   |  |   |   |   |   |  | moist   |
|   |   | ·  |   |   |   |   |  | saturated   |
|   | Primary   | Subordinate  |   |   |   |   |  | 34,000 445  |
|   | Lithology   | Lithology  |   | Grain Size  | Angularity  | Induration  | Induration   | Plasticit   |
| Bench/Interval  | Gravei  | Graveily<br>Sandy  | Color<br>an-achite  | (sand/gravel)   | (sand/gravei)<br>veil rounded   | (Sand/gravel)   | silt/ciav)   | (silt/clay  |
| Sample ID   | Silt  |  | Sorting (sand/gravei)   |   | Cunded  | .oose (+-10)  | soft (2-4)   | Diastic   |
|   | Clay  | Clavev   | very weil   | medium  | (ubrolmaea)   | medium 2015e (20-30)  | medium staff : 4-81  | singotiv pla  |
| Blow Counts   | Bearock<br>Weathered?   | Pebbiv   | weil  | Very coarse   | anganguar<br>Sunanguar  |   | saif (S-15)<br>verv saif (15-30)   | Moistur   |
| PID/FID   | USCS:   | Julicat "  | ZOORIV  | coobies/bouiders  |   |   | ) (5: said</td <td></td>   |   |
| /3  |   | *61  | VETY DOOTLY   |   |   |   |  | 213000  |
| NOTES:  |   |  |   |   |   |   |  | moist   |
|   |   |  | ** <u>******</u>  | ······································  |   |   |  | anirated  |
|   | Primary   | Subordinate  |   |   |   |   |  |   |
| Depth/Interval  | Gravei  | Lithology<br>Graveily  | Color   | Grain Size<br>(sand/gravel)   | Angularity<br>sand/gravel)  | induration<br>(sand/gravei)   | Induration<br>Silt/clay)   | Plasticity<br>(silt/ctay  |
| Constant, and   |   |  |   |   | Sautur gi avei)   | (34HW (147CI)   |  | erv plasp   |
|   | Sand  | Sabov  |   | very fine   | veil rounded  | verv loose 1<4 blows/tt)  | verv soft (<2)   |   |
| Sample ID   | Sand<br>Silt  | Sütv   | Sorting (sand/gravet)   | ine   | veil rounded  | :00se (+- i0)   | 301° 2-41  | 31 <b>250C</b>  |
|   | Sand<br>Silt<br>Clav  | Siltv<br>Clavev  | very weil   | ine   | counded<br>subrounded   | ioose (4-10)<br>medium cense (10-30)  | sor 2-4)<br>meaium satī (4-3)  | sightly Dias  |
| Sample ID<br>Blow Counts  | Sand<br>Silt<br>Clav<br>Bedrock   | Siltv<br>Clavev<br>Pebbiv  | very weil<br>weil   | ine<br>meaium<br>coarse   | rounded<br>subrounded<br>subanguiar   | (005e (4-10)<br>medium dense (10-30)<br>dense (30-50)   | 3017 2-4)<br>meaium saff (4-3)<br>saff (3-(5)  | sugntly Dias  |
|   | Sand<br>Silt<br>Clav  | Siity<br>Clavey<br>Pebbiy<br>?%.<br>*%   | very weil   | ine   | counded<br>subrounded   | ioose (4-10)<br>medium cense (10-30)  | sor 2-4)<br>meaium satī (4-3)  | siightiy bias<br>nonpiasho<br>Vioisture<br>dry  |
| Blow Counts<br>PID/FID  | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)   | Siitv<br>Clavey<br>Pebbiy<br>?%:   | verv weil<br>veil<br>moderaterv   | ine<br>meaium<br>coarse<br>verv coarse  | rounded<br>subrounded<br>subanguiar   | (005e (4-10)<br>medium dense (10-30)<br>dense (30-50)   | 3017 (2-4)<br>meaium suff (4-3)<br>suff (3-15)<br>verv suff (15-30)  | inghtly bias<br>nonplash<br>Moisture<br>dry<br>Lamp   |
| Blow Counts   | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)   | Siity<br>Clavey<br>Pebbiy<br>?%.<br>*%   | very wei]<br>veil<br>moderatery<br>poorty   | ine<br>meaium<br>coarse<br>verv coarse  | rounded<br>subrounded<br>subanguiar   | (005e (4-10)<br>medium dense (10-30)<br>dense (30-50)   | 3017 (2-4)<br>meaium suff (4-3)<br>suff (3-15)<br>verv suff (15-30)  | nonplash<br>Vioisture   |
| Blow Counts<br>PID/FID  | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)   | Siitv<br>Clavev<br>Pebbiv<br>?6<br>?6<br>?6<br>?6  | very wei]<br>veil<br>moderatery<br>poorty   | ine<br>meaium<br>coarse<br>verv coarse  | rounded<br>subrounded<br>subanguiar   | (005e (4-10)<br>medium dense (10-30)<br>dense (30-50)   | 3017 (2-4)<br>meaium suff (4-3)<br>suff (3-15)<br>verv suff (15-30)  | Singhtly blas<br>Ronplash<br>Vioisture<br>dry<br>Lamb<br>Thoist   |
| Blow Counts<br>PID/FID  | Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary   | Siitv<br>Clavev<br>Pebbiv<br>?6.<br>?6.<br>?6.<br>?6.<br>?6.<br>Subordinate  | very wei]<br>veil<br>moderatery<br>poorty   | ine<br>meaium<br>coarse<br>verv coarse<br>coobles/bouiders  | rounded<br>subrounded<br>subanguiar<br>anguar   | :00se (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>verv dense (>50)   | sor 2-4)<br>meaium suff (4-3)<br>suff (3-15)<br>verv suff (3-30)<br>hard (>30)   | singhtiv bias<br>nonbiash<br>Vioisture<br>dry<br>lamb<br>moist<br>vet<br>saturated  |
| Blow Counts<br>P1D/F1D<br>NOTES:  | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:  | Siitv<br>Clavev<br>Pebbiv<br>?6<br>?6<br>?6<br>?6  | very wei]<br>veil<br>moderatery<br>poorty   | ine<br>meaium<br>coarse<br>verv coarse<br>coobles/bouiders  | rounded<br>subrounded<br>subangular<br>angular<br>Angularity  | :0058 (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>linguration  | 3017 (2-4)<br>meaium suff (4-3)<br>suff (3-15)<br>verv suff (15-30)  | Silghtly Dias<br>Ronblash<br>Vioisture<br>dry<br>Lamp<br>moist<br>wet<br>Saourated<br>Plasnicity  |
| Blow Counts<br>P1D/F1D<br>NOTES:  | Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Litbology  | Siitv<br>Clavev<br>Pebbiy<br>?60<br>?60<br>?60<br>?60<br>?60<br>?60<br>?60<br>?60<br>?60<br>?60  | very weil<br>weil<br>moderatery<br>poorty<br>very poorty  | ine<br>meaium<br>coarse<br>verv coarse<br>coobles/bouiders  | rounded<br>subrounded<br>subanguiar<br>anguar   | ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>induration<br>(sand gravel)<br>very toose (<4 blows/ft)  | sor: 2-41<br>meatum suff (4-3)<br>suff (3-(5)<br>verv suff (3-30)<br>hard (>30)<br>induration<br>(silt/clav)<br>verv soft (<2)   | Silghtiy Dia<br>cooplash<br>Vioisture<br>dry<br>samp<br>moist<br>vet<br>Sanuated<br>Plasneity<br>(silt/clay)<br>very plash  |
| Blow Counts<br>PID/FID<br>NOTES:  | Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt  | Siltv<br>Clavey<br>Pebbiv<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?????   | Color<br>Sorting (sand/gravel)  | ine<br>meauum<br>coarse<br>verv coarse<br>coobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>fine  | rounded<br>subrounded<br>subanguiar<br>angular<br>Angularity<br>(sand, gravel)<br>well rounded<br>rounded   | ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>verv dense (>50)<br>Induration<br>(sand/gravel)<br>verv toose (<4 blows/ft)<br>loose (4-10)  | sor 2-41<br>meatum suf (4-3)<br>suff (3-(5)<br>verv suff (3-30)<br>hard (>30)<br>induration<br>(sil/clav)<br>verv soft (<2)<br>soft (2-4)  | Silghtiy Dia<br>nonplash<br>Vioisture<br>dry<br>amp<br>moist<br>wet<br>saturated<br>Plasticity<br>(silt/clay)<br>very plastic<br>plastic  |
| Blow Counts<br>PID/FID<br>NOTES:<br>PID/FID<br>NOTES:<br>PEDID/Interval<br>Sample ID  | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav  | Siltv<br>Clavev<br>Pebbiv<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>????????  | Color<br>Sorting (sand/gravel)  | ine<br>meaium<br>coarse<br>verv coarse<br>coobles/bouiders<br>Grain Size<br>(saad/gravel)<br>verv fine<br>fine<br>meaium  | rounded<br>subrounded<br>subanguiar<br>anguiar<br>anguiar<br>Anguiarity<br>(sand.gravel)<br>well rounded<br>rounded   | ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>Induration<br>(sand/gravel)<br>very loose (<4 blows/ft)<br>loose (4-10)<br>medium dense (10-30)  | sor: 2-41<br>meatum suff (4-3)<br>suff (3-(5)<br>verv suff (3-30)<br>hard (>30)<br>induration<br>(silt/clav)<br>verv soft (<2)   | Silghtiv Dias<br>Complashi<br>Moisture<br>Lrv<br>Lamb<br>Tiolst<br>wet<br>Saturated<br>Plasticity<br>(silt/clay)<br>very Diasti<br>Diastic<br>Silghtiv Diasti   |
| Blow Counts<br>PID/FID<br>NOTES:<br>eDth/Interval<br>Sample ID  | Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt  | Siltv<br>Clavey<br>Pebbiv<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?????   | Color<br>Sorting (sand/gravel)  | ine<br>meauum<br>coarse<br>verv coarse<br>coobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>fine  | rounded<br>subrounded<br>subanguiar<br>anguar<br>Angularity<br>(sand, gravel)<br>well rounded<br>rounded  | ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>verv dense (>50)<br>Induration<br>(sand/gravel)<br>verv toose (<4 blows/ft)<br>loose (4-10)  | sor 2-4)<br>meatum suff (4-3)<br>suff (3-(5)<br>verv suff (5-30)<br>lard (>30)<br>lard (>30)<br>soft (2-4)<br>meatum suff (4-8)  | Silghtiv Dias<br>Complashi<br>Moisture<br>Lrv<br>Lamb<br>Tiolst<br>wet<br>Saturated<br>Plasticity<br>(silt/clay)<br>very Diasti<br>Diastic<br>Silghtiv Diasti   |
| Blow Counts<br>PID/FID<br>NOTES:<br>eDth/Interval<br>Sample ID  | Sand<br>Silt<br>Clav<br>Bearock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bearock   | Siitv<br>Clavev<br>Pebbiv<br>?60<br>?60<br>?60<br>?60<br>?60<br>Subordinate<br>Lithology<br>Graveuv<br>Sandv<br>Siitv<br>Clavev<br>?ebbiv<br>?60<br>?60  | Verv weil<br>veil<br>moderateiv<br>pooriv<br>Verv pooriv<br>Color<br>Sorting (sand/gravel)<br>Verv well<br>weil<br>moderateiv<br>pooriy   | ine<br>meaium<br>coarse<br>verv coarse<br>coobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>meaium<br>coarse  | rounded<br>subrounded<br>subanguiar<br>anguiar<br>anguar<br>Angularify<br>(sand.gravel)<br>well rounded<br>rounded<br>subrounded<br>subrounded  | ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>induration<br>(sand/gravel)<br>very loose (<4 blows/ft)<br>loose (4+10)<br>medium dense (10-30)<br>dense (30-50)   | sor 2-4)<br>meaum suff (4-3)<br>suff (3-(5)<br>verv suff (3-30)<br>hard (>30)<br>induration<br>(silt/clav)<br>verv soft (<2)<br>soft (2-4)<br>meaum suff (4-3)<br>suff (3-(5)  | silghtiv Dias<br>nonpiasta<br>Vioisture<br>Lrv<br>Lamp<br>moist<br>wet<br>saturatea<br>Plasticity<br>(silf/clay)<br>very Diasti<br>piastic<br>silghtiv Dias<br>nonpiastic<br>Moisture<br>Lrv  |
| Blow Counts<br>PID/FID<br>NOTES:<br>eptt/Interval<br>Sample ID<br>Blow Counts<br>PID/FID  | Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?   | Siitv<br>Clavev<br>Pebbiv<br>You<br>You<br>You<br>Pebbiv<br>Subordinate<br>Litbology<br>Graveliv<br>Sanov<br>Siitv<br>Clavev<br>Pebbiv<br>You<br>You   | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>well<br>moderatery  | ine<br>meaium<br>coarse<br>verv coarse<br>cobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>meaium<br>coarse<br>verv coarse  | rounded<br>subrounded<br>subanguiar<br>anguiar<br>anguar<br>Angularify<br>(sand.gravel)<br>well rounded<br>rounded<br>subrounded<br>subrounded  | ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>induration<br>(sand/gravel)<br>very loose (<4 blows/ft)<br>loose (4+10)<br>medium dense (10-30)<br>dense (30-50)   | sor 2-41<br>meaum suff (4-3)<br>suff (3-15)<br>verv suff (3-30)<br>hard (>30)<br>linduration<br>(silt/clav)<br>verv suff (2-2)<br>soft (2-4)<br>meaum suff (4-3)<br>suff (3-12)<br>very suff (15-30)   | Silghtiy Das<br>Complasho<br>Moisture<br>Lrv<br>Samu<br>moist<br>wet<br>Saurated<br>Plasneity<br>(silt/clay)<br>very Dlasne<br>Silghtly Dlas<br>Silghtly Dlas<br>Silghtly Dlasne<br>Moisture  |
| Blow Counts<br>PID/FID<br>NOTES:<br>ept2/Interval<br>Sample ID<br>Blow Counts   | Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?   | Siitv<br>Clavev<br>Pebbiv<br>?60<br>?60<br>?60<br>?60<br>?60<br>Subordinate<br>Lithology<br>Graveuv<br>Sandv<br>Siitv<br>Clavev<br>?ebbiv<br>?60<br>?60  | Verv weil<br>veil<br>moderateiv<br>pooriv<br>Verv pooriv<br>Color<br>Sorting (sand/gravel)<br>Verv well<br>weil<br>moderateiv<br>pooriy   | ine<br>meaium<br>coarse<br>verv coarse<br>cobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>meaium<br>coarse<br>verv coarse  | rounded<br>subrounded<br>subanguiar<br>anguiar<br>anguar<br>Angularify<br>(sand.gravel)<br>well rounded<br>rounded<br>subrounded<br>subrounded  | ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>induration<br>(sand/gravel)<br>very loose (<4 blows/ft)<br>loose (4+10)<br>medium dense (10-30)<br>dense (30-50)   | sor 2-41<br>meaum suff (4-3)<br>suff (3-15)<br>verv suff (3-30)<br>hard (>30)<br>linduration<br>(silt/clav)<br>verv suff (2-2)<br>soft (2-4)<br>meaum suff (4-3)<br>suff (3-12)<br>very suff (15-30)   | silghtiv Dias<br>complasho<br>Vioisture<br>dry<br>aamb<br>moist<br>vet<br>saourated<br>Plasneity<br>(silt/clav)<br>very Diasto<br>Dight/y Dias<br>nonplasho<br>Moisture<br>dry<br>damp  |
| Blow Counts<br>PID/FID<br>NOTES:<br>PID/Interval<br>Sample ID<br>Blow Counts<br>PID/FID   | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:   | Siltv<br>Clavev<br>Pebbiv<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>Subordinate<br>Lithology<br>Graveulv<br>Sanov<br>Siltv<br>Clavev<br>Pebbiv<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?7<br>?6<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>????????  | Verv weil<br>veil<br>moderateiv<br>pooriv<br>Verv pooriv<br>Color<br>Sorting (sand/gravel)<br>Verv well<br>weil<br>moderateiv<br>pooriy   | ine<br>meaium<br>coarse<br>verv coarse<br>cobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>meaium<br>coarse<br>verv coarse  | rounded<br>subrounded<br>subanguiar<br>anguiar<br>anguar<br>Angularify<br>(sand.gravel)<br>well rounded<br>rounded<br>subrounded<br>subrounded  | ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>induration<br>(sand/gravel)<br>very loose (<4 blows/ft)<br>loose (4+10)<br>medium dense (10-30)<br>dense (30-50)   | sor 2-4)<br>meaum suff (4-3)<br>suff (3-15)<br>verv suff (3-30)<br>hard (>30)<br>linduration<br>(silt/clav)<br>verv suff (2-2)<br>soft (2-4)<br>meaum suff (4-3)<br>suff (3-12)<br>very suff (15-30)   | silghtiy Dias<br>Conplashed<br>Yoosture<br>Lrv<br>Lamb<br>Toolst<br>vet<br>Saturated<br>Plasneity<br>(silt/clay)<br>very Jlasn<br>plashed<br>Silghtiy Dias<br>nonplashed<br>Moisture<br>Liy<br>damb<br>moist  |
| Blow Counts<br>PID/FID<br>NOTES:<br>PID/Interval<br>Sample ID<br>Blow Counts<br>PID/FID   | Sand<br>Silt<br>Clav<br>Bearock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>USCS:<br>Primary   | Siitv<br>Clavev<br>Pebbiv<br>?6<br>?6<br>?6<br>?6<br>?6<br>Subordinate<br>Litbology<br>Graveilv<br>Sandv<br>Süitv<br>Clavev<br>Pebbiv<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?7<br>?6<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>??  | Verv weil<br>veil<br>moderateiv<br>pooriv<br>Verv pooriv<br>Color<br>Sorting (sand/gravel)<br>Verv well<br>weil<br>moderateiv<br>pooriy   | ine<br>meaium<br>coarse<br>verv coarse<br>cobbles/bouiders<br>Grain Size<br>(saad/gravel)<br>verv fine<br>fine<br>meaium<br>coarse<br>verv coarse<br>cobbles/bouiders   | rounded<br>subrounded<br>subanguiar<br>anguiar<br>anguiar<br>Anguiarity<br>(sand, gravel)<br>weil rounded<br>subrounded<br>subrounded<br>subrounded<br>subranguiar  | ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>induration<br>(sand/gravel)<br>very loose (<4 blows/ft)<br>loose (4+10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)   | sor 2-4)<br>meatum suff (4-3)<br>suff (3-(5)<br>verv suff (3-30)<br>hard (>30)<br>induration<br>(silt/clav)<br>verv soft (2-2)<br>soft (2-4)<br>meatum suff (4-3)<br>suff (3-(5)<br>very suff (15-30)<br>hard (>30)  | silghtiy Das<br>complashed<br>Vioisture<br>Lrv<br>Lamb<br>Toosti<br>wet<br>Saturated<br>Plasticity<br>(silt/clay)<br>very plashe<br>plashe<br>plashe<br>silghtiy plas<br>nonplashe<br>Vioisture<br>Lry<br>damp<br>moist<br>wet  |
| Blow Counts<br>PID/FID<br>NOTES:<br>PID/Interval<br>Sample ID<br>Blow Counts<br>PID/FID   | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:   | Siltv<br>Clavev<br>Pebbiv<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>Subordinate<br>Lithology<br>Graveulv<br>Sanov<br>Siltv<br>Clavev<br>Pebbiv<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?7<br>?6<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>????????  | Verv weil<br>veil<br>moderateiv<br>pooriv<br>Verv pooriv<br>Color<br>Sorting (sand/gravel)<br>Verv well<br>weil<br>moderateiv<br>pooriy   | ine<br>meaium<br>coarse<br>verv coarse<br>cobbles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv ine<br>fine<br>meaium<br>coarse<br>verv coarse<br>cobbles/bouiders  | Tounded<br>Subrounded<br>Subanguiar<br>Inguiar<br>Angularity<br>(sandygravel)<br>weil rounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subanguiar<br>Inguiar  | ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>induration<br>(sand/gravel)<br>very loose (<4 blows/ft)<br>loose (4+10)<br>medium dense (10-30)<br>dense (30-50)   | sor 2-4)<br>meaum suff (4-3)<br>suff (3-15)<br>verv suff (3-30)<br>hard (>30)<br>linduration<br>(silt/clav)<br>verv suff (2-2)<br>soft (2-4)<br>meaum suff (4-3)<br>suff (3-12)<br>very suff (15-30)   | silghtiy Dias<br>complashed<br>Moisture<br>drv<br>Lrv<br>Lamb<br>moist<br>wet<br>Saturated<br>Plasticity<br>(silt/clay)<br>very plash<br>plastic<br>silghtiy blas<br>nonplastic<br>Moisture<br>Jry<br>damp<br>moist<br>wet  |
| Blow Counts<br>PID/FID<br>NOTES:<br>PID/FID<br>Blow Counts<br>PID/FID<br>NOTES:   | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology   | Siltv<br>Clavev<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Subordinate<br>Litbology<br>Graveilv<br>Sandv<br>Siltv<br>Clavev<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Subordinate<br>Litbology  | Very weil<br>veil<br>moderatery<br>poorty<br>Very poorty<br>Color<br>Sorting (sand/gravel)<br>Very well<br>well<br>moderatery<br>poorty<br>very poorty  | ine<br>meaium<br>coarse<br>verv coarse<br>cobbles/bouiders<br>Grain Size<br>(saad/gravel)<br>verv fine<br>fine<br>meaium<br>coarse<br>verv coarse<br>cobbles/bouiders   | rounded<br>subrounded<br>subanguiar<br>anguiar<br>anguiar<br>Anguiarity<br>(sand, gravel)<br>weil rounded<br>subrounded<br>subrounded<br>subrounded<br>subranguiar  | ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>induration<br>(sandyravel)<br>very loose (<4 blows/th)<br>ioose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>linduration<br>linduration  | sor' 2-41<br>meatum suff (4-3)<br>suff (3-(5)<br>verv suff (3-30)<br>hard (>30)<br>Induration<br>(sit/clav)<br>verv soft (<2)<br>soft (2-4)<br>meatum suff (4-3)<br>suff (3-(2)<br>verv suff (15-30)<br>hard (>30)<br>Induration<br>(sit/clav)<br>verv suff (15-30)<br>hard (>30)  | singhtiy blas<br>complashi<br>Moisture<br>Lry<br>Lamp<br>Tiolst<br>wet<br>Saturated<br>Plasmeity<br>(silt/clay)<br>very blash<br>piastec<br>Slightly blas<br>Topplastec<br>Moisture<br>Jry<br>damp<br>moist<br>wet<br>Saturated<br>Plasticity<br>(silt/clay)<br>very plashi<br>wet  |
| Blow Counts<br>PID/FID<br>NOTES:<br>PID/FID<br>Blow Counts<br>PID/FID<br>NOTES:   | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt                                   | Siltv<br>Clavev<br>Pebbiv<br>'6<br>'50<br>'6<br>'6<br>'6<br>'6<br>'6<br>'6<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7                         | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color   | ine<br>meaium<br>coarse<br>corv coarse<br>coobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>medium<br>coarse<br>verv coarse<br>coobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>coarse         | Counced<br>Subrounded<br>Subanguiar<br>Inguiar<br>Angularity<br>(sandygravel)<br>weil rounded<br>Subrounded<br>Subrounded<br>Subanguiar<br>Inguiar<br>Angularity<br>(sandygravel)<br>weil rounded   | iose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>Induration<br>(sand/gravel)<br>very (cose (<4 blows/ft))<br>dense (30-50)<br>very dense (>50)<br>linduration<br>(sand/gravel)<br>very dense (>50)<br>linduration<br>(sand/gravel)<br>very dense (>50)   | sor' 2-41<br>meatum suff (3-43)<br>suff (3-43)<br>verv suff (3-30)<br>hard (>30)<br>iard (>30)<br>iard (>30)<br>soft (2-4)<br>medium suff (4-43)<br>suff (3-43)<br>verv suff (15-30)<br>hard (>30)<br>induration<br>(sil/clav)<br>verv suff (15-30)<br>hard (>30)<br>induration<br>(sil/clav)<br>verv suff (15-30)<br>hard (>30)   | silghtiy Dias<br>complashed<br>Yoosture<br>Lrv<br>Lamp<br>moist<br>wet<br>Saturated<br>Plasticity<br>(silt/clay)<br>very plashe<br>plastic<br>Silghtiy blas<br>nonplashe<br>Moisture<br>Jry<br>damp<br>moist<br>wet<br>Saturated<br>Plasticity<br>(silt/clay)<br>very plashe<br>plashe<br>Moisture<br>Jry<br>Saturated<br>Plasticity<br>(silt/clay)<br>very plashe<br>plashe<br>plashe<br>Moisture<br>Jry<br>Saturated<br>Plasticity<br>(silt/clay) |
| Blow Counts<br>PID/FID<br>NOTES:<br>PID/Interval<br>Sample ID<br>NOTES:<br>PID/FID<br>NOTES:<br>PID/FID<br>Sample ID                  | Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?'<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?'<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clay<br>Bedrock                 | Siltv<br>Clavev<br>Pebbiv<br>?6<br>?5<br>?5<br>?5<br>?5<br>Subordinate<br>Lithology<br>?4<br>?4<br>?4<br>?4<br>?5<br>Subordinate<br>Lithology<br>Graveulv<br>Sandv<br>Siltv<br>Clavev<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5<br>?5. | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Sorting (sand/gravel)<br>very poorly   | ine<br>meaium<br>coarse<br>verv coarse<br>coobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv rine<br>rine<br>meaium<br>coarse<br>verv coarse<br>coobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>rine<br>meaium | Tounded<br>Subrounded<br>Subanguiar<br>Inguiar<br>Inguiar<br>Angularity<br>(Sandygravel)<br>weil rounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Angularity<br>Sand/gravel)<br>veil rounded<br>Subrounded<br>Subrounded  | iose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)  | sor 2-4)<br>meatum suff (4-3)<br>suff (3-(5)<br>verv suff (3-30)<br>lard (>30)<br>lard (>30)<br>suff (2-3)<br>soft (2-4)<br>meatum suff (4-3)<br>verv suff (15-30)<br>hard (>30)<br>linduration<br>(silt/clav)<br>verv suff (15-30)<br>hard (>30)<br>linduration<br>(silt/clav)<br>verv suff (2-4)<br>meatum suff (4-3)  | silghtiy Dias<br>Complasho<br>Moisture<br>Lrv<br>Lamb<br>moist<br>vet<br>Saturated<br>Plasticity<br>(silt/clay)<br>very Diastic<br>Silghtly Dias<br>Topplastic<br>Moisture<br>Lrv<br>damp<br>moist<br>vet<br>Saturated<br>Plasticity<br>(silt/clay)<br>very plastic<br>Plasticity<br>(silt/clay)<br>very plastic<br>plasticity<br>(silt/clay)   |
| Blow Counts<br>PID/FID<br>NOTES:<br>PID/Interval<br>Sample ID<br>NOTES:<br>PID/FID<br>NOTES:<br>PID/FID<br>Sample ID                  | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt                                   | Siltv<br>Clavev<br>Pebbiv<br>'6<br>'50<br>'6<br>'6<br>'6<br>'6<br>'6<br>'6<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7<br>'7                         | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color   | ine<br>meaium<br>coarse<br>corv coarse<br>coobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>medium<br>coarse<br>verv coarse<br>coobles/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>coarse         | Counced<br>Subrounded<br>Subanguiar<br>Inguiar<br>Angularity<br>(sandygravel)<br>weil rounded<br>Subrounded<br>Subrounded<br>Subanguiar<br>Inguiar<br>Angularity<br>(sandygravel)<br>weil rounded   | iose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>Induration<br>(sand/gravel)<br>very (cose (<4 blows/ft))<br>dense (30-50)<br>very dense (>50)<br>linduration<br>(sand/gravel)<br>very dense (>50)<br>linduration<br>(sand/gravel)<br>very dense (>50)   | sor' 2-41<br>meatum suff (3-43)<br>suff (3-43)<br>verv suff (3-30)<br>hard (>30)<br>iard (>30)<br>iard (>30)<br>soft (2-4)<br>medium suff (4-43)<br>suff (3-43)<br>verv suff (15-30)<br>hard (>30)<br>induration<br>(sil/clav)<br>verv suff (15-30)<br>hard (>30)<br>induration<br>(sil/clav)<br>verv suff (15-30)<br>hard (>30)   | silghtiy Dias<br>complashed<br>Yoosture<br>Lrv<br>Lamp<br>moist<br>wet<br>Saturated<br>Plasticity<br>(silt/clay)<br>very plashe<br>plastic<br>Silghtiy blas<br>nonplashe<br>Moisture<br>Jry<br>damp<br>moist<br>wet<br>Saturated<br>Plasticity<br>(silt/clay)<br>very plashe<br>plashe<br>Moisture<br>Jry<br>Saturated<br>Plasticity<br>(silt/clay)<br>very plashe<br>plashe<br>plashe<br>Moisture<br>Jry<br>Saturated<br>Plasticity<br>(silt/clay) |
| Blow Counts<br>P1D/F1D<br>NOTES:<br>P1D/Interval<br>Sample 1D<br>Blow Counts<br>P1D/F1D<br>NOTES:<br>P1D/F1D                          | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Sand<br>Silt<br>Clav<br>Bedrock                | Siltv<br>Clavey<br>PebDiv<br>2625<br>2625<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>26<br>27<br>26<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27<br>27  | Color<br>Color<br>Sorting (sand/gravel)<br>very poorly<br>very well<br>well<br>moderately<br>soorly<br>very poorly<br>very poorly<br>very poorly<br>very poorly<br>very poorly<br>very poorly<br>very well<br>moderately<br>sooriy<br>very well<br>moderately<br>poorly | ine<br>meaium<br>coarse<br>coraia Size<br>(sand/gravel)<br>verv rine<br>rine<br>meaium<br>coarse<br>verv coarse<br>coobles/bouiders<br>drain Size<br>(sand/gravel)<br>verv ine<br>coarse<br>verv coarse<br>coobles/bouiders         | Tounded<br>Subrounded<br>Subanguiar<br>Inguiar<br>Angularify<br>(Sandygravel)<br>well rounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Sandygravel)<br>veil rounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded | iose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>very dense (>50)<br>induration<br>(sand/gravel)<br>very loose (<4 blows/ft)<br>cose (4-10)<br>medium dense (10-30)<br>dense (<30-50)<br>very dense (>50)<br>very dense (>50)<br>induration<br>(sand/gravel)<br>cose (4-10)<br>medium dense (10-30)<br>dense (30-50) | sor 2-4)<br>meatum suff (4-3)<br>suff (3-(5)<br>verv suff (3-(30)<br>hard (>3-(30)<br>suff (>3-(30)<br>suff (>3-(30)<br>suff (>3-(30)<br>very suff (>3-(30)<br>hard (>30)<br>induration<br>(sil/clay)<br>very suff (>3-(30)<br>hard (>30)<br>induration<br>(sil/clay)<br>very suff (<2-(30)<br>hard (>30)<br>induration<br>(sil/clay)<br>very suff (<2-(30)<br>hard (>30)<br>induration<br>(sil/clay)<br>very suff (<2-(30)<br>hard (>30)<br>induration<br>(sil/clay)<br>very suff (<2-(30)<br>suff (<2-(30))<br>medium suff (4-(3))<br>suff (<2-(30)) | silghtly Dias<br>complashed<br>Vioisture<br>Lrv<br>Lamp<br>moist<br>vet<br>saturated<br>Plasticity<br>(silt/clav)<br>very plashe<br>Moisture<br>Lrv<br>saturated<br>Plasticity<br>(silt/clav)<br>very plashe<br>Plasticity<br>(silt/clav)<br>very plashe<br>Plasticity<br>(silt/clav)<br>very plashe<br>plashe<br>plashe<br>plashe<br>Moisture  |
| Blow Counts<br>PID/FID<br>NOTES:<br>PID/FID<br>Blow Counts<br>PID/FID<br>NOTES:<br>PID/FID<br>Sample ID<br>Blow Counts<br>Blow Counts | Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?) | Siltv<br>Clavey<br>Pebbiv<br>?6<br>?6<br>?6<br>?6<br>?6<br>Subordinate<br>Litbology<br>Graveilv<br>Sandv<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?6<br>?7<br>?6<br>?6<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>?7<br>????????   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>well<br>Color<br>Sorting (sand/gravel)<br>very poorly<br>very poorly  | ine<br>meaium<br>coarse<br>coobles/bouiders<br>Grain Size<br>(saad/gravel)<br>verv fine<br>fine<br>meaium<br>coarse<br>coobles/bouiders<br>Grain Size<br>(saad/gravel)<br>verv fine<br>coarse<br>coobles/bouiders                   | Tounded<br>Subrounded<br>Subanguiar<br>Inguiar<br>Angularify<br>(Sandygravel)<br>well rounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Sandygravel)<br>veil rounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded | iose (4-10)<br>medium dense (10-30)<br>dense (30-50)<br>very dense (>50)<br>very dense (>50)<br>induration<br>(sand/gravel)<br>very loose (<4 blows/ft)<br>cose (4-10)<br>medium dense (10-30)<br>dense (<30-50)<br>very dense (>50)<br>very dense (>50)<br>induration<br>(sand/gravel)<br>cose (4-10)<br>medium dense (10-30)<br>dense (30-50) | sor' 2-41<br>meaum suff (4-3)<br>suff (3-(5)<br>verv suff (3-30)<br>liard (>30)<br>linduration<br>(silt/clav)<br>verv soft (2-2)<br>soft (2-4)<br>meaum suff (4-3)<br>verv suff (15-30)<br>hard (>30)<br>linduration<br>(silt/clav)<br>verv suff (15-30)<br>soft (2-4)<br>meaum suff (4-3)<br>suff (3-(5))<br>verv suff (15-30)  | silghtty Dias<br>compliastic<br>Vioisture<br>Lrv<br>Lamp<br>moist<br>wet<br>saturated<br>Plasticity<br>(silt/clav)<br>very plastic<br>silightly plastic<br>Moisture<br>Lrv<br>damp<br>moist<br>wet<br>saturated<br>Plasticity<br>(silt/clav)<br>very plastic<br>silightly plastic<br>plasticity<br>(silt/clav)<br>very plastic<br>plasticity<br>plasticity<br>complastic<br>Moisture  |

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**Project Information** 

|                  |                                       |   | Water Level Static:                        | PVC Sch 40                  |                             | Durchile                                 |                                  | 1                                     |
|------------------|---------------------------------------|---|--|-----------------------------|-----------------------------|--|----------------------------------|---------------------------------------|
|                  | Millono                               |   | Well Type:                                 | PVC Sch 40                  |                             | Backfille                                | d w/sand                         | <u>d</u>                              |
| Drilling Metho   | d: Air                                | Rotary_                                 | •  | PVC Sch 80                  |                             | and ber                                  | tonite ch                        | ips.                                  |
| ield Notes By    | : c.Jen                               | isen <sup>0</sup>                       |  | Low Carbon Stee             | <u>I</u>                    |  |                                  |                                       |
| ime Start:       |                                       |   | Well Diameter:                             | 2 inch                      |                             | Later is d.                              | alled and                        | comple.                               |
| ime Stop:        |                                       |   |  | 4 inch                      |                             | as mw-                                   | 2                                | ·                                     |
|                  |                                       |   |  | Other:                      |                             |  |                                  |                                       |
|                  | Primary<br>Lithology                  | Subordinate<br>Lithology                |  | Grain Size                  | Angularity                  | Induration                               | Induration                       | Plasticity                            |
| Depth/Interval   | Ciperto                               | Gravelly                                | Color                                      | (sand/gravel)               | (sand/gravel)               | (sand/gravel)                            | (silt/clay)                      | (silt/clay)                           |
| Jampie ID        | Silt                                  | Sandy                                   | Tax- white                                 | very fine                   | well rounded                | very loose (<4 blows/ft)<br>loose (4-10) | very soft (<2)                   | very plastic                          |
| Sample ID        | Cay                                   | Clayev                                  | Sorting (sand/gravel)<br>verv weil         | diredition?                 | rounded                     |  | sort (2-4)<br>meaium suff (4-3)  | siigntly plasm                        |
| Blow Counts      | Bearock                               | Pebbiy                                  | weil                                       | 0000                        | sucanguiar                  | Jense (30-50)                            | surf (8-15)                      | LODDIASDC                             |
| PID/FID          | Weathered?"<br>USCS:                  |   | Coorty C                                   | cobles/bouiders             | Inguiar                     | very dense (>50)                         | verv suff (15-30)                | Moisture                              |
| FOCC             |                                       | w/calidad                               | very pooriv                                | .audies/ ooulders           |                             |  | 12rd (>30)                       | <br>12000                             |
| NOTES:           | · · · · · · · · · · · · · · · · · · · |   |  |                             |                             |  |                                  | 20151                                 |
| <u> </u>         |                                       |   |  |                             |                             | <u></u>                                  |                                  | saturated                             |
| <u></u>          | Primary                               | Subordinate                             |  |                             |                             |  |                                  | 3840 4050                             |
| Depth/Interval   | Lithology<br>Gravei                   | Lithology<br>Graveily                   | Color                                      | Grain Size                  | Angularity<br>(sand/gravel) | Induration<br>(sand/gravei)              | induration<br>(silt/ciav)        | Plasticity                            |
| 1/ - 13          |                                       | Sandy                                   | LAN ~ Why th                               | (sand/gravei)               | weil rounded                | erv ioose (<+ blows/ft)                  | verv soft (<2)                   | Silt/clay)                            |
| Sample ID        | Suit                                  | Citry                                   | Sorting (sand/gravel)                      |                             | rounded                     | loose (+10)                              | soft (2-4)                       | 71 <b>250</b> C                       |
| Blow Counts      | Clav<br>Bearock                       | Pebbiv                                  | very weil veil                             | :02/50                      | supangular                  | medicani dease, 10-30)                   | meaium stiff (3)<br>; aff (8-15  | Silgntiy Diaso                        |
|                  | Weathered?                            | · • • • • • • • • • • • • • • • • • • • | 2000CTALLETV >                             | very coarse                 | mguiar                      | ery cense (>50)                          | verv suff (15-30)                | Moisture                              |
| PID/FID          | USCS:                                 | Hatiche 3%                              | Doorly                                     | cobbies/bouiders            |                             |  | Lard (>30)                       | 6                                     |
| > ACCC<br>NOTES: |                                       |   | very pooriy                                |                             |                             |  |                                  | moist                                 |
|                  |                                       |   |  |                             |                             |  |                                  | vet                                   |
|                  | Primary                               | Suborginate                             |  |                             |                             |  |                                  | aturated                              |
|                  | Lithology                             | Lithology                               |  | Grain Size                  | Augularity                  | Induration                               | induration                       | Plasticity                            |
| Depth/Interval   | Gravei                                | Graveliv                                | Color                                      | (sand/gravel)               | (sand/gravei)               | (sand/gravel)                            | silt/clavi                       | silt/clay)                            |
| Sample ID        | Siit                                  | Sandy                                   | Jezel-Tah . Whate<br>Sorting (sand/gravei) | verv tine                   | veil rounded                | verv loose (<4 blows/ft)                 | soft (24)                        | Diastic                               |
|                  | Clav                                  | Clavey                                  | verv weil                                  | CHICONDITO                  | Gabrounder                  | arctinini cense 10-30)                   | megium surf (4-3)                | Signuy plastic                        |
| Blow Counts      | Bedrock<br>Weathered?)                | Pebbiv '6                               | weil                                       | Joarse                      | subangular<br>Ingular       | verv aense (>50)                         | suff (3-15)<br>verv suff (15-30) | Moisture                              |
| PID/FID          | USCS:                                 | alcolice "s.                            | DOOLIA                                     | cobies boulders             |                             |  | ard (>30)                        |                                       |
| 72000            |                                       | · · · · · · · · · · · · · · · · · · ·   | very poorly                                |                             |                             |  |                                  |                                       |
| NOTES:           |                                       |   |  |                             |                             |  |                                  | wet                                   |
|                  |                                       |   |  |                             | ······                      |  |                                  | saturated                             |
|                  | Primary<br>Lithology                  | Supordinate<br>Lithology                |  | Grain Size                  | Anguiarity                  | Induration                               | Induration                       | Plasticity                            |
| epth/intervai    | Gravei                                | Graveily                                | Color                                      | (sand/gravei)               | (sand/gravel)               | (sand/gravei)                            | silt/cizy                        | silt/clay)                            |
| -0-33            |                                       | Sandv                                   | Jome brown                                 | verv tine                   | weil rounaea                | verv loose (<4 blows/ft)                 | erv son (<2)                     | erv plasne                            |
| Sample ID        | Tav                                   | Clavev                                  | Sorting (sand/gravei)<br>very weil         |                             | SHIPTOP COL                 |  | soft (2-4)<br>meaium saff (4-3)  | riastic<br>siigntiv biastic           |
| Blow Counts      | Bearock                               | Pebbly                                  | weil                                       |                             | suDangular                  | 50)                                      | satt (3-15)                      | rondiasac                             |
| PID/FID          | Veathered?)                           | 24 17 ha "3"                            |  | very coarse                 | ngmsi                       | very dense (>50)                         | very suff (15-30)                | Moisture                              |
| >2000            |                                       |   | very pooriv                                | coobies bouiders            | <u> </u>                    | <u></u>                                  |                                  |                                       |
| NOTES:           | - Com                                 | whinor s                                | taming                                     |                             |                             |  |                                  | moist                                 |
|                  |                                       |   |  |                             |                             |  |                                  | saturated                             |
|                  | Primary                               | Subordinate                             | ······                                     | - <u></u>                   |                             |  |                                  |                                       |
| epth/Interval    | Lithology<br>Gravel                   | Lithology<br>Graveily                   | Color                                      | Grain Size<br>(sand/gravel) | Angularity<br>(sand/gravei) | Induration<br>(sand/gravel)              | induration<br>(silt/clav)        | Plasticity<br>(silt/clay)             |
| 74-36            |                                       | Sandy                                   | Tin-wh.Tr                                  | very fine                   | weil rounded                | verv ioose (<1 blows/tt)                 | very soft (<2)                   | erv plastic                           |
| Sample ID        | Silt                                  | Silly                                   | Sornng (sand/gravel)                       |                             |                             | 100se : +- 10)                           | sort (2-4)                       | Diastic                               |
| Blow Counts      | Clav<br>Bearock                       | Clavey<br>Pebbly                        | very weil<br>weil                          | coarse                      | subrounded                  | medium dense (10-30)                     | meaium suff (4-3)<br>suff (8-15) | stigntiv plastic                      |
|                  | Weathered?)                           | · · · · · · · · · · · · · · · · · · ·   | ACTURA CONTRACT                            | very coarse                 | ingular                     | verv dense (>\$0)                        | verv suff (15-30)                | Moisture                              |
|                  | weathered.                            |   |  |                             |                             |  |                                  | · · · · · · · · · · · · · · · · · · · |
| PID/FID          | SCS:                                  | Wheel The "                             | pooriy<br>very pooriy                      | cobles bouiders             |                             |  | aard (>30)                       | drv                                   |

Î.

|  | rmation  |  | Well Information   |  |   |  |   |  |
|--|--|--|--|--|---|--|---|--|
| Project: P   | PL/Hobe  | 65   | Borehole completed a   | s well? YES  | NO  | Well Casing Inter  | val:  |  |
| roject Numb  |  |  | Well Name: 55  | -2 continued   |   | Well Screen Inter  |   |  |
| ocation:   | · · · · · · · · · · · · · · · · · · ·  |  | Total Depth:   | e Louining   | <u></u>   | Sand Pack Interve  |   |  |
| Date Drilled:  | 4/27/9   | d  | Borehole Diameter:   | *************************************  |   | Bentonite Interva  |   |  |
| Client:  | -1/2/11  | <u>/</u>   | Well Elevation:  | ······   | ·····   | Cement/Grout Int   |   |  |
| Rig/Core Typ   |  |  | Water Level Initial:   | ······································   |   | Cement Grout Int   |   |  |
|  |  |  | *******  |  |   |  |   |  |
| Drilling Com   | pany:  |  | Water Level Static:  |  | ····-   | Comments/Notes   |   |  |
| Driller:   | - <u>-</u>   |  | Well Type:   | PVC Sch 40   |   |  |   |  |
| Drilling Meth  |  |  | •  | PVC Sch 80   |   |  |   |  |
| ield Notes B   | ly:  |  | ·<br>  | Low Carbon Steel   | · · · · · · · · · · · · · · · · · · ·   |  |   |  |
| Time Start:  |  |  | Well Diameter:   | 2 inch   |   |  |   |  |
| Time Stop:   |  |  | -  | 4 inch   |   |  |   |  |
|  |  |  | -  | Other:   |   |  | <u></u>   |  |
|  | Primary  | Subordinate  | · · · · · · · · · · · · · · · · · · ·  |  |   |  |   |  |
| Depth/Interval   | Litbology<br>Gravei  | <u>Lithology</u><br>Gravelly   | Color  | Grain Size<br>(sand/gravel)  | Angularity<br>(sand/gravel)   | índuration<br>(saud/gravel)  | Induration<br>(silt/clav)   | Plastici   |
| 30-22  | Sinc   | Sandy  | lui-Tun  | verv fine  | well rounded  | verv ioose (<4 blows/ft)   |   | (silt/cla  |
| Sample ID  | Silt   | C31177   | Sorting (sand/gravel)  |  | rounded   | loose (+10)  | sont (2-4)  | Diastic  |
| Blass Canada   | Clay<br>Bedrock  | <u>Clavey</u><br>Pebbly  | verv weil  | Aledium .  | Supromaca   | medium dense (10-30)   | measum suff (4-3)   |  |
| Blow Counts  | (Weathered?)   | PEDDIV   | well   | coarse   | suoanguiar<br>inguiar   | (dense (30-50)<br>ver√ dense (>50)   | suff (8-15)<br>verv suff (15-30)  | Noistu   |
| PID/FID  | USCS:  | %.   | virooc   | coobies/bouiders   |   |  | 2ard (>30)  |  |
| NOTES:   |  |  | very pooriy  |  |   |  |   | < stime  |
| NOTES:   |  | ·····  |  |  | ······  |  |   | wet  |
|  |  |  | ······································   |  |   |  |   | saturate   |
|  | Primary<br>Lithology   | Subordinate<br>Lithology   |  | Grain Size   |   | Induration   | Induration  | Plastici   |
| Depth/laterval   | Gravel   | Graveily   | Color  | (sand/gravei)  | Anguiarity<br>(sand/gravei)   | (sand/gravel)  | silt/ciay)  | silt/cia   |
| 4.34   | 5205   | Sandy  | Red-Tan  | verv fine  | weil rounded  | verv loose (<4 blows/ft)   | verv sont (<2)  | erv bias   |
| Sample ID  | Silt   |  | Sorting (sand/gravei)  |  | annded >  | loose (+-10)   | soft (2-4)  | JIASBC   |
| Blow Counts  | Clay<br>Bedrock  | <u>Ciavev</u><br>Pebbiv  | very well<br>well  | coarse   | sucanguiar  | medium cense : 10-30)  | meaium suff (4-3)<br>suff (8-15)  | siig vitagiis  |
|  | Weathered?)  | ×  | QUOCETALEN   | Verv COarse  | remou   | verv dense (>50)   | verv surf (15-30)   | Hoistur  |
| PID/FID  | USCS:  | ***  | pooriv   | cobbies/bouiders   |   |  | 2 <b>210</b> (>50)  | VIL.   |
| NOTES:   | ······   |  | Very Dooriy  | <u> </u>   |   |  |   | moist  |
|  |  |  |  |  |   |  |   | wet  |
|  |  | 2  |  |  | ······  | · · · · · · · · · · · · · · · · · · ·  |   | antrater   |
|  | Primary<br>Lithology   | Supordinate<br>Lithology   |  | Grain Size   | Angularity  | Induration   | Induration  | Plasticit  |
| Depth/Intervat   | Gravei   | Traveliv   | Calor  | (sand/gravei)  | (sand/gravei)   | (sand/gravel)  | sut/ciay)   | silt/clay  |
| Sample (D  | Silt   | Sanav  | fiel-Tan   | verv tine  | weil rounded  | verv ioose i <4 blows/ft)  | verv sort (<2)  | ETV DIAS   |
| Sample ID  | Clay   |  | Sorting (sand/gravei)<br>verv weil   |  | Comara  | (oose (+-10)   | soft (2-4)  |  |
|  |  | Clavev   |  | Vest-letiture  | suprounded  | megium dense (10-30)   | meaum suff (4-8)  | inghuv dia   |
| Blow Counts  | Bedrock  | Clavey<br>Pebbly   | veil   | catedura   | suorounded  | neaium aense ( (0-30)  | medium saif (4-8)<br>हवर्ग (8-15)   | ngnuv pia  |
|  | Bedrock<br>Veathered?  | Pebbiv<br>"a   | veil<br>Moderateis   | coarse<br>Verv coarse  | ·   |  | saff (8-15)<br>Verv saff (15-30)  | Moistur  |
| PID/FID  | Bedrock  | Pebbiv   | veil<br>Chodratelu<br>cooriv   | coarse   | supangular  | conse  | ±¤n (8-15)  | ronpiaso   |
|  | Bedrock<br>Veathered?  | ?ebbiv<br>   | veil<br>Moderateis   | coarse<br>Verv coarse  | supangular  | conse  | saff (8-15)<br>Verv saff (15-30)  | Tonpiasti<br>Moistur<br>Lrv  |
| PID/FID  | Bedrock<br>Veathered?  | ?ebbiv<br>   | veil<br>Chodratelu<br>cooriv   | coarse<br>Verv coarse  | supangular  | conse  | saff (8-15)<br>Verv saff (15-30)  | Conpiasti<br>Moistur<br>Irv<br>Confist<br>Votest<br>vet  |
| PID/FID  | 3edrocx<br>Veathered?<br>USCS:   | ?ebbiv<br>   | veil<br>Chodratelu<br>cooriv   | coarse<br>Verv coarse  | supangular  | conse  | saff (8-15)<br>Verv saff (15-30)  | Tonpiasti<br>Mosstur<br>Iry<br>Cardo<br>Abist  |
| PID/FID<br>2/<br>NOTES:  | Bedrock<br>Veathered?  | ?ebbiv<br>**3.<br>**6.<br>**5.   | veil<br>Chodratelu<br>cooriv   | coarse<br>Verv coarse  | supangular  | conse  | :aff 9-151<br>verv sal? (15-30)<br>:ara (>30)<br>/nduration   | Toupiasu<br>Moistur<br>Irv<br>Moistur<br>Vet<br>Must<br>Vet  |
| PID/FID<br>2/<br>NOTES:  | Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei  | Pebbiv<br>Vo.<br>Po.<br>Po.<br>Po.<br>Po.<br>Po.<br>Po.<br>Po.<br>Po.<br>Po.<br>P  | veil<br>Chodratelu<br>cooriv   | Crain Size   | subangular<br>ingular<br>Angularity<br>(sand/gravel)  | induration<br>(sand/gravei)  | : cri 3-15<br>:erv stil (15-30)<br>:ard (>30)<br>/bduration<br>silvclav)  | Toupiast<br>Noistur<br>Jry<br>Koistur<br>Vet<br>Janirateo<br>Plasticit<br>Isil/clav  |
| PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID/FID<br>PID/FID/FID<br>PID/FID/FID<br>PID/FID/FID/FID/FID<br>PID/FID/FID/FID/FID/FID/FID/FID/FID/FID/F  | 3edrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand  | 2ebbiv<br>Va.<br>Va.<br>Va.<br>Va.<br>Va.<br>Va.<br>Va.<br>Va.<br>Va.<br>Va.   | veil<br>cooriv<br>erv pooriv<br>Color  | coarse<br>verv coarse<br>coobles boulders<br>Grain Size<br>(sand/gravel)<br>verv fine  | supangular<br>Ingular<br>Angularity<br>(sand/gravel)<br>well rounded  | induration<br>(sandygravel)  | :enf 9-15<br>verv suif (15-30)<br>:arg (>30)<br>:bauration<br>-sulvclay)<br>verv soft (<2)  | Toupiast<br>Moistur<br>Jry<br>Moistur<br>Jry<br>Moistur<br>Saturate<br>Plasticit<br>silt/clay  |
| PID/FID<br>2/<br>NOTES:  | Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei  | Pebbiv<br>Vo.<br>Po.<br>Po.<br>Po.<br>Po.<br>Po.<br>Po.<br>Po.<br>Po.<br>Po.<br>P  | veil<br>veil<br>sooriv<br>erv pooriv   | Crain Size   | subangular<br>ingular<br>Angularity<br>(sand/gravel)  | induration<br>(sand/gravei)  | : cri 3-151<br>:erv still (15-30)<br>:ard (>30)<br>/bduration<br>-silvclav)   | Toupiast<br>Noistur<br>Jry<br>Koistur<br>Vet<br>Janirateo<br>Plasticit<br>Isil/clav  |
| PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID/FID<br>PID/FID/FID<br>PID/FID/FID<br>PID/FID/FID/FID/FID<br>PID/FID/FID/FID/FID/FID/FID/FID/FID/FID/F  | Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Litbology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock   | Pebbiv<br>Van<br>Van<br>Van<br>Van<br>Van<br>Van<br>Van<br>Van   | Color<br>Color<br>Sorting (sand/gravei)<br>very weil<br>weil   | Coarse<br>verv coarse<br>coobles/boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>tine<br>medium<br>coarse  | Subangular<br>Ingular<br>Angularity<br>Isandygraveli<br>well rounded<br>subrounded<br>Subrounded<br>Subrounded  | induration<br>induration<br>isandygravel)<br>very cose (<4 biows/ft)<br>icose (+(0)<br>medium dense (10-30)<br>dense (30-50)   | ::aff (3-15)<br>::erv sat; (15-30)<br>::ara (>50)<br>(nauration<br>::silv(:av)<br>::erv sat (<2)<br>::sott (2-4)<br>::araf (3-15)   | Condiasti<br>Mostur<br>Jry<br>Catholic<br>vet<br>Saniratec<br>Plasticit<br>Siluciay<br>Very Diasti<br>Silucity plastic<br>Silucity plastic   |
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| PID/FID<br>2/<br>NOTES:<br>Depttv/interv i<br>Sample ID  | Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Litbology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock   | Pebbiv<br>Van<br>Van<br>Van<br>Van<br>Van<br>Van<br>Van<br>Van   | Color<br>Color<br>Sorting (sand/gravei)<br>very weil<br>weil   | Coarse<br>verv coarse<br>coobles/boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>tine<br>medium<br>coarse  | Subangular<br>Ingular<br>Angularity<br>Isandygraveli<br>well rounded<br>subrounded<br>Subrounded<br>Subrounded  | induration<br>induration<br>isandygravel)<br>very cose (<4 biows/ft)<br>icose (+(0)<br>medium dense (10-30)<br>dense (30-50)   | ::aff (3-15)<br>::erv sat; (15-30)<br>::ara (>50)<br>(nauration<br>::silv(:av)<br>::erv sat (<2)<br>::sott (2-4)<br>::araf (3-15)   | Condiasti<br>Mostur<br>Jry<br>Catholic<br>vet<br>Saniratec<br>Plasticit<br>Siluciay<br>Very Diasti<br>Silucity plastic<br>Silucity plastic   |
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| Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Litbology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)   | 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| PID/FID<br>PID/FID<br>NOTES:<br>Depth/Intery 1<br>Sample ID<br>Blow Counts<br>PID/FID  | Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Jravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)   | Pebbiv<br>V5.<br>V6.<br>Provide a set of the set o   | veil<br>Color<br>Color<br>Sorting (sand/gravel)<br>verv weil<br>weil<br>moderateiv<br>pooriy   | Coarse<br>Verv coarse<br>Coobles/boulders<br>Grain Size<br>(sand/gravel)<br>Verv fine<br>The<br>medium<br>Coarse<br>Verv coarse  | Subangular<br>Ingular<br>Angularity<br>Isandygraveli<br>well rounded<br>subrounded<br>Subrounded<br>Subrounded  | induration<br>induration<br>isandygravel)<br>very cose (<4 biows/ft)<br>icose (+(0)<br>medium dense (10-30)<br>dense (30-50)   | ::::::::::::::::::::::::::::::::::::::  | Tonpiash<br>Moistur<br>Jry<br>Catholic<br>vet<br>ianiratec<br>Plasticit<br>isiluciay<br>Very Diast<br>Silucity pla<br>Dopplash<br>Moistur<br>dry<br>damp<br>Thoist<br>wet  |
| PID/FID<br>NOTES:<br>Deptiv/interv i<br>Sampie ID<br>Blow Counts<br>PID/FID<br>NOTES:  | Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology   | Pebbiv<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb   | veil<br>veil<br>very pooriv<br>ery pooriv<br>Color<br>Color<br>Sorting (sand/gravel)<br>very weil<br>very weil<br>very weil<br>very pooriy<br>very pooriy  | Coarse<br>Verv coarse<br>Coobles/ boulders<br>Grain Size<br>(sand/gravel)<br>Verv fine<br>The<br>The<br>The<br>The<br>The<br>Coarse<br>Verv coarse<br>Coobles/ boulders<br>Grain Size  | SUDANGULAR<br>Ingular<br>Angularnty<br>(sand/gravei)<br>weil rounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrunded<br>Angular  | induration<br>isand/gravel)<br>ery dense (>50)<br>induration<br>(sand/gravel)<br>ery (bose (<4) biows/ft)<br>bioose (<4) biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>bi | ::::::::::::::::::::::::::::::::::::::  | Tonpiash<br>Moistur<br>Jry<br>Calify<br>Vet<br>Salurated<br>Plasticity<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Contact<br>Silyclay<br>Cry Cry Cry Cry Cry Cry<br>Cry Cry Cry Cry Cry Cry<br>Cry Cry Cry Cry Cry Cry Cry Cry Cry Cry  |
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| PID/FID<br>NOTES:<br>Deptiv/interv i<br>Sampie ID<br>Blow Counts<br>PID/FID<br>NOTES:  | Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology   | Pebbiv<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb   | veil<br>veil<br>very pooriv<br>ery pooriv<br>Color<br>Color<br>Sorting (sand/gravel)<br>very weil<br>very weil<br>very weil<br>very pooriy<br>very pooriy  | Coarse<br>Verv coarse<br>Coobles/ boulders<br>Grain Size<br>(sand/gravel)<br>Verv fine<br>The<br>The<br>The<br>The<br>The<br>Coarse<br>Verv coarse<br>Coobles/ boulders<br>Grain Size  | SUDANGULAR<br>Ingular<br>Angularnty<br>(sand/gravei)<br>weil rounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrounded<br>Subrunded<br>Angular  | induration<br>isand/gravel)<br>ery dense (>50)<br>induration<br>(sand/gravel)<br>ery (bose (<4) biows/ft)<br>bioose (<4) biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>biows/ft)<br>bi | ::::::::::::::::::::::::::::::::::::::  | Tonpiash<br>Moistur<br>Jry<br>Calify<br>Vet<br>Salurated<br>Plasticity<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Silyclay<br>Cry Diast<br>Contact<br>Silyclay<br>Cry Cry Cry Cry Cry Cry<br>Cry Cry Cry Cry Cry Cry<br>Cry Cry Cry Cry Cry Cry Cry Cry Cry Cry  |
| PID/FID<br>PID/FID<br>PID/VINTERY 1<br>Sample ID<br>Blow Counts<br>PID/FID<br>NOTES:<br>Depth/Interval<br>Samble ID  | Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clay                           | Pebbiv<br>"5-<br>"6-<br>25-<br>25-<br>Subordinate<br>Lithology<br>Graveily<br>Sallty<br>Clayey<br>Pebbly<br>26-<br>26-<br>26-<br>26-<br>26-<br>26-<br>26-<br>26-   | veil<br>veil<br>veil<br>verv pooriv<br>verv pooriv<br>Color<br>Sorting (sand/gravei)<br>verv weil<br>moderateiv<br>sooriy<br>Verv pooriy<br>Verv pooriy<br>Verv pooriy<br>Verv pooriy<br>verv weil<br>Sorting (sand/gravei)<br>verv well   | Crain Size<br>Corbies boulders<br>Grain Size<br>(sand/gravei)<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correctio | SUDARQUIAT<br>Inguiar<br>Anguiarity<br>(sand/gravel)<br>weil rounded<br>SUDFOUNDED<br>SUDFOUNDED<br>Anguiarity<br>(sand/gravel)<br>weil rounded<br>SUDFOUNDED<br>SUDFOUNDED   | Induration<br>(sandygravel)<br>very dense (>50)<br>(sandygravel)<br>very (cose (<4) biows/ft)<br>(cose (+(0))<br>medium dense (10-30)<br>very dense (>50)<br>(sandygravel)<br>very (cose (<4) biows/ft)<br>(cose (<4) biows/ft)  | ::uff (3-15)<br>::erv:suff (15-30)<br>::ard (>30)<br>::ard (>30)<br>::uduration<br>::suff(2x)<br>::erv:suff (2)<br>::suff (3-15)<br>::erv:suff (15-30)<br>::ard (>30)<br>::suff (15-30)<br>::ard (>30)<br>::suff (15-30)<br>::suff (15-30)<br>::suff (2-4)<br>::suff (2-4)<br>::suff (2-4)<br>::suff (2-4)<br>::suff (4-3)  | Condiasti<br>Mostur<br>Jry<br>Conditional<br>Plasticity<br>vet<br>Saturated<br>Plasticity<br>Sobblasti<br>Mostur<br>Jastic<br>Silyntiv plast<br>Condiasti<br>Mostur<br>Jarop<br>Toost<br>Plasticity<br>Saturated<br>Plasticity<br>Saturated<br>Plasticity<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Satura 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| PID/FID<br>NOTES:<br>Depth/Interv 1<br>Sample ID<br>Blow Counts<br>PID/FID<br>NOTES:<br>Depth/Interval   | Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Litbology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Litbology<br>Gravei<br>Sand<br>Silt<br>Clay<br>Bedrock                | Pebbiv<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume<br>Volume   | veil<br>veil<br>veil<br>verv pooriv<br>verv pooriv<br>Color<br>Sorting (sand/gravei)<br>verv weil<br>weil<br>moderateiv<br>pooriy<br>verv pooriv<br>verv pooriv<br>verv veil<br>verv weil<br>verv weil | Crain Size<br>Corbies boulders<br>Cobies boulders<br>Construction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Corre | SUDANGULAR<br>Ingular<br>Angularnty<br>(sand/gravel)<br>well rounded<br>SUDFOUNDEE<br>SUDFOUNDEE<br>Angularity<br>(sand/gravel)<br>well rounded<br>SUDFOUNDEE<br>SUDFOUNDEE<br>SUDFOUNDEE<br>SUDFOUNDEE<br>SUDFOUNDEE<br>SUDFOUNDEE | Induration<br>induration<br>isandytravel)<br>very dense (>50)<br>very dense (>50)<br>very dense (>10-30)<br>very dense (>50)<br>very dense (>50)<br>very dense (>50)<br>very dense (>50)<br>very dense (>10-30)<br>very dense (>10-30)<br>isandytravel<br>very loose (<4 blows/ft)<br>isose (+10)<br>medium dense (10-30)<br>iense (20-50)   | ::uff (3-15)<br>::erv suff (15-30)<br>::ard (>50)<br>::ard (>50)<br>::uduration<br>::silv(:av)<br>::erv suff (<2)<br>::soft (2-4)<br>::soft (2-4)<br>::soft (3-15)<br>::soft (3-15)<br>::silv(:av)<br>::erv suff (15-30)<br>::ard (>30)<br>::ard (>30)<br>::silv(:av)<br>::erv suff (15-30)<br>::ard (>30)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av)<br>::silv(:av) | Tonpiasti<br>Moistur<br>Jry<br>Moistur<br>vet<br>iaturatec<br>Plasticit<br>isiluciay<br>Corpolasti<br>Moistur<br>Jry<br>Jann<br>Moistur<br>Jry<br>Jann<br>Toolst<br>yet<br>isturatec<br>Plasticity<br>isiluciay<br>Plasticity<br>isiluciay<br>Corpolasti<br>Saturatec<br>Signdy olastic  |
| PID/FID<br>PID/FID<br>PID/FID<br>Blow Counts<br>PID/FID<br>NOTES:<br>Depth/Interval<br>Samble (D   | Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clay                           | Pebbiv<br>"5-<br>"6-<br>25-<br>25-<br>Subordinate<br>Lithology<br>Graveily<br>Sallty<br>Clayey<br>Pebbly<br>26-<br>26-<br>26-<br>26-<br>26-<br>26-<br>26-<br>26-   | veil<br>veil<br>veil<br>verv pooriv<br>verv pooriv<br>Color<br>Sorting (sand/gravei)<br>verv weil<br>moderateiv<br>sooriy<br>Verv pooriy<br>Verv pooriy<br>Verv pooriy<br>Verv pooriy<br>verv weil<br>Sorting (sand/gravei)<br>verv well   | Crain Size<br>Corbies boulders<br>Grain Size<br>(sand/gravei)<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correction<br>Correctio | SUDARQUIAT<br>Inguiar<br>Anguiarity<br>(sand/gravel)<br>weil rounded<br>SUDFOUNDED<br>SUDFOUNDED<br>Anguiarity<br>(sand/gravel)<br>weil rounded<br>SUDFOUNDED<br>SUDFOUNDED   | Induration<br>(sandygravel)<br>very dense (>50)<br>(sandygravel)<br>very (cose (<4) biows/ft)<br>(cose (+(0))<br>medium dense (10-30)<br>very dense (>50)<br>(sandygravel)<br>very (cose (<4) biows/ft)<br>(cose (<4) biows/ft)  | ::uff (3-15)<br>::erv:suff (15-30)<br>::ard (>30)<br>::ard (>30)<br>::uduration<br>::suff(2x)<br>::erv:suff (2)<br>::suff (3-15)<br>::erv:suff (15-30)<br>::ard (>30)<br>::suff (15-30)<br>::ard (>30)<br>::suff (15-30)<br>::suff (15-30)<br>::suff (2-4)<br>::suff (2-4)<br>::suff (2-4)<br>::suff (2-4)<br>::suff (4-3)  | Condiasti<br>Mostur<br>Jry<br>Conditional<br>Plasticity<br>vet<br>Saturated<br>Plasticity<br>Sobblasti<br>Mostur<br>Jastic<br>Silyntiv plast<br>Condiasti<br>Mostur<br>Jarop<br>Toost<br>Plasticity<br>Saturated<br>Plasticity<br>Saturated<br>Plasticity<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Satura |
| PID/FID<br>NOTES:<br>Depth/Interv 1<br>Sample ID<br>Blow Counts<br>PID/FID<br>NOTES:<br>Depth/Interval<br>Sample ID<br>Sample ID<br>Sample ID  | Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Litbology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Litbology<br>Gravei<br>Sand<br>Silt<br>Clay<br>Bedrock<br>Weathered?) | Pebbiv<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb<br>Vb   | veil<br>veil<br>very pooriv<br>very pooriv<br>Color<br>Sorting (sand/gravel)<br>very weil<br>weil<br>moderately<br>pooriy<br>very pooriy<br>Color<br>Sorting (sand/gravel)<br>very weil<br>weil<br>moderately<br>very weil<br>very weil<br>very weil<br>very weil<br>very weil<br>very weil<br>very weil<br>very weil                    | Coarse<br>Cobbies/boulders<br>Cobbies/boulders<br>Cobbies/boulders<br>Crain Size<br>(sand/gravel)<br>Coarse<br>Coarse<br>Coarse<br>Cobbies/boulders<br>Coarse<br>Cobbies/boulders<br>Coarse<br>Cobbies/boulders<br>Coarse<br>Coarse<br>Coarse<br>Coarse<br>Coarse<br>Coarse<br>Coarse<br>Coarse<br>Coarse<br>Coarse<br>Coarse<br>Coarse<br>Coarse<br>Coarse  | SUDANGULAR<br>Ingular<br>Angularnty<br>(sand/gravel)<br>well rounded<br>SUDFOUNDEE<br>SUDFOUNDEE<br>Angularity<br>(sand/gravel)<br>well rounded<br>SUDFOUNDEE<br>SUDFOUNDEE<br>SUDFOUNDEE<br>SUDFOUNDEE<br>SUDFOUNDEE<br>SUDFOUNDEE | Induration<br>induration<br>isandytravel)<br>very dense (>50)<br>very dense (>50)<br>very dense (>10-30)<br>very dense (>50)<br>very dense (>50)<br>very dense (>50)<br>very dense (>50)<br>very dense (>10-30)<br>very dense (>10-30)<br>isandytravel<br>very loose (<4 blows/ft)<br>isose (+10)<br>medium dense (10-30)<br>iense (20-50)   | ::::::::::::::::::::::::::::::::::::::  | Conplash<br>Moistur<br>Jry<br>Calify<br>wet<br>Salurated<br>Plasticity<br>Silucitay<br>Cry Diast<br>Silucity plat<br>Sonplash<br>Moistur<br>Jry<br>Jarop<br>Moistur<br>Moistur<br>Salurated<br>Plasticity<br>Salurated<br>Plasticity<br>Silucitay<br>Cry plash<br>Silucitay<br>Cry Plash<br>Silucitay<br>Silucitay<br>Cry Plash<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay<br>Silucitay  |

**Project Information** 

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|   | 14.1.1.17   | - }   | Dozobolo completed  | is well? YES   | $- \alpha \alpha$  | Wall Casing Inter  | /nl·   |   |
|---|---|---|---|--|--|--|--|---|
| roject: PPL   |   |   | Borehole completed a  | the second s   | ØD   | Well Casing Interv   |  |   |
| Project Numb  | er:   | -   | Well Name: SE   | 3-3  |  | Well Screen Interv   | val:   |   |
| ocation: Ex   | st Hottos.  | Tunction  | Total Depth:  | 38   |  | Sand Pack Interva  | l:   |   |
| Date Drilled:   |   | <u></u>   | Borehole Diameter:  |  |  | Bentonite Interval   |  |   |
|   |   |   |   | <u>le</u>  |  |  |  |   |
| lient: PPL  |   | · · · · · · · · · · · · · · · · · · ·   | Well Elevation:   |  |  | Cement/Grout Inte  | rvai:  |   |
| lig/Core Type   | e: Air Ro   | tary  | Water Level Initial:  | 36   |  |  |  |   |
| Drilling Comp   | anv: M.   | oneld   | Water Level Static:   |  |  | Comments/Notes:  |  |   |
| Driller: T.   | McDo  |   | Well Type:  | PVC Sch 40   |  | Backfilled   | with s   | and   |
|   | meuo  |   | wen Type:   | -  |  |  |  |   |
| Drilling Metho  | Da: MIR   | Rotary_   | -   | PVC Sch 80   |  | _ and bent   | onite chip   | <u> </u>  |
| ield Notes By   | V: C. Je  | isen  |   | Low Carbon Steel   |  |  | ,  |   |
| ime Start:  |   |   | Well Diameter:  | 2 inch   |  |  |  |   |
| ime Stop:   |   |   | •   | 4 inch   |  | 1.1  | 1 11 1   | /   |
| ine stop.   |   |   | -   |  |  |  | cilled and   | comp  |
|   |   |   |   | Other:   |  | as MW-3  |  |   |
|   | Primary   | Subordinate   |   |  |  |  |  |   |
| Depth/Interval  | Lithology<br>Gravei   | Lithology   | Culton  | Grain Size   | Angularity   | Induration   | Induration   | Plasticit   |
| Depth/interval  | Gravei  | Gravelly<br>Sandv   | Wh. Te  | (sand/gravel)<br>verv fine   | (sand/gravel)<br>well rounded  | (sand/gravel)<br>verv ioose (<4 blows/ft)  | (silt/clay)<br>verv soft (<2)  | (silt/ciay  |
| Sample ID   | Silt  | Silty   | Sorbag (sand/gravel)  | tine   | rounded  | 100se (410)  | soft (2-4)   | piasoc  |
|   | Clay  | Clavev  | verv well   | medium   | subrounded   | medium dense (10-30)   | medium suff (4-3)  | sirently pia  |
| Blow Counts   | Bearock   | Pebbly  | weil  | coarse   | subangular   | dense (30-50)  | sañ (8-15)   | 30001250  |
|   | Weathered?  |   |   | VETV COARSE  | inguiar  | Erv dense >>0)   | very suff (15-30)  | Moistur   |
| PID/FID   | USCS:   | 1 03  | 20010   | cobbies/bouiders   |  |  | 3ard (>30)   | CT7   |
|   | Petrick   | ×   | very pooriy   | <u></u>  |  |  |  |   |
| NOTES:  |   | <u> </u>  |   |  | <u> </u>   |  | ······   | wet   |
|   |   |   |   |  | ·····  |  |  | saturated   |
|   | Primary   | Supordinate   |   |  |  | <u></u>  |  | Juni 8151   |
|   | Lithology   | Lithology   |   | Grain Size   | Anguiarity   | Induration   | inguration   | Plasticit   |
| Depth/Interval  | Gravel  | Gravelly  | Color   | (sand/gravei)  | (sand/gravel)  | (sand/gravel)  | silt/clay)   | silt/ciay   |
| 3-10  |   | Sanav   | Ton - white   | very fine  | weil rounded   | verv.oose (<4 biows/tt)  | Very soft (<2)   | Verv plast  |
| Sample ID   | Silt  |   | Sorting (sand/gravei)   | ine  | Comiged  | ioose (+10)  | sort (2-4)   | Diasoc  |
|   | Clav  | Clayey  | verv weil   | Singerstation  | Suprovides.  | meaium acase (10-30)   | mecium snif(4-8)   | siigntiv pia  |
| Blow Counts   | Bearock   | Pebbiv  | veil  | coarse   | Bubangular   | Cente 30 501   | saif (8-15)  | Moisture  |
|   | (Wearberga?)  | 20  |   |  |  |  |  |   |
| PID/FID   | Weatherea?  | 13.<br>Andre 1 - 1441   | - DCertien  | verv coarse  | mgular   | very dense (>50)   | verv suff (15-30)  |   |
| PID/FID   | (Weatherea?)<br>USCS:   | W/cclicke   | Ciocair>  | cobbles/boulders   | INGULAR  |  | 2ara (>30)   | Jamp  |
| PID/FID<br>O<br>NOTES:  |   | WILL ICK  |   | the second s   | ingular  | ··erv dense (>>0)  |  | - 0   |
| 0   |   | W/LC ICLES  | Ciocair>  | the second s   | TL KULL  |  |  | Lamp  |
| 0   | USCS:   | ÷.,   | Ciocair>  | the second s   |  |  |  | Jamp<br>Thoist  |
| 0   | USCS:<br>Primary  | Subordinate   | Ciocair>  | cobbles boulders   |  |  | (0:<<) <b>DIE</b>  | Lamp<br>Thoisi<br>Vet   |
| O<br>NOTES:   | Primary<br>Lithology  | Subordinate<br>Lithology  |   | cobbles boulders   | Angularity   | (aduration   | (0364) מעבב<br>ומערצנוסס   | Jamp<br>Toisi<br>Vet<br>Saturated   |
| Deptb/Interval  | USCS:<br>Primary<br>Lithology<br>Gravei   | Subordinate<br>Lithology<br>Graveily  |   | Grain Size<br>(sand/gravel)  | Angularity<br>Sabd/gravel)   | (aduration<br>(sand/gravel)  | induration   | Jamp<br>Toisi<br>Vet<br>Saturated<br>Plasticity<br>Silt/clay  |
| O<br>NOTES:   | Primary<br>Lithology  | Subordinate<br>Lithology  |   | cobbles boulders   | Angularity   | (aduration   | (0364) מעבב<br>ומערצנוסס   | Jamp<br>Toisi<br>Vet<br>Saturated<br>Plasticity<br>Silt/clay  |
| DeottyInterval  | USCS:<br>Primary<br>Lithology<br>Gravei   | Subordinate<br>Litbology<br>Graveily<br>Sandy   | Color<br>Color  | Cobbies/bouiders<br>Grain Size<br>(sand/gravel)<br>verv fine   | Angularity<br>sand/gravei)<br>weil rounded   | (aduration<br>(sand/gravel)<br>Verv 100se (<4 biows/tt)  | induration<br>sül/clay)  | Plasucing<br>Silvelay<br>Server plasu   |
| DepttyInterval  | Primary<br>Lithology<br>Gravel<br>Silt<br>Clav<br>Bedrock   | Subordinate<br>Litbology<br>Graveily<br>Sanov<br>Cilty<br>Clavey<br>Pebbiy  | Color<br>Color<br>Sorrig (sand/gravel) <sup>1</sup><br>veri<br>veil   | Grain Size<br>(sand/gravel)<br>verv fine   | Angularity<br>sand/gravel)<br>weil rounded   | (aduration<br>(satd/gravel)<br>Verv 100se (<4 biows/ft)<br>Coose (4-10)<br>meatum dense : (0-30)<br>Consection (0-30)  | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soff (3-(5)   | Plasuciny<br>silvclay<br>serv plast<br>signdy plast<br>signdy plast   |
| Deptb/Interval<br>14/-16<br>Sample ID<br>Blow Counts  | VSCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)  | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Cilly<br>Clavey<br>Pebbiy  | Color<br>Color<br>Sornag (sand/gravel)<br>very weil<br>veil   | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse  | Angularity<br>sand/gravel)<br>weil rounded<br>Sunder<br>sunder   | (aduration<br>(sand/gravel)<br>verv 100se (<4 biows/ft)<br>:00se (+10)<br>:neaium dense : :0-30)   | induration<br>sil/clay)<br>very soft (<2)<br>soft (2-4)<br>metum soft (+-3)<br>soff (3-15)<br>very soft (15-30)  | Jamp<br>Toist<br>wet<br>saturated<br>Plasticity<br>silt/clay<br>werv plast<br>Diastic<br>siltynuv plast<br>Dopplasti<br>Ktoisture   |
| Deotb/Interval  | Primary<br>Lithology<br>Gravel<br>Silt<br>Clav<br>Bedrock   | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Cilly<br>Clavey<br>Pebbiy  | Color<br>Color<br>Sorrag (sagd/gravel)<br>very well<br>veri<br>veri<br>Soorry   | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse   | Angularity<br>sand/gravel)<br>weil rounded<br>sunder<br>sunder<br>sunder<br>sunder   | (aduration<br>(satd/gravel)<br>Verv 100se (<4 biows/ft)<br>Coose (4-10)<br>meatum dense : (0-30)<br>Consection (0-30)  | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soff (3-(5)   | Jamp<br>Toist<br>wet<br>saturated<br>Plasticity<br>silt/clay<br>werv plast<br>plastic<br>siltgatuv plast<br>complasti<br>Monsture   |
| Deptb/Interval<br>14/-16<br>Sample ID<br>Slow Counts<br>21D/FID<br>5. (   | VSCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)  | Subordinate<br>Litbology<br>Graveily<br>Sanov<br>Cilty<br>Clavey<br>Pebbiy  | Color<br>Color<br>Sornag (sand/gravel)<br>very weil<br>veil   | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse  | Angularity<br>sand/gravel)<br>weil rounded<br>sunder<br>sunder<br>sunder<br>sunder   | (aduration<br>(satd/gravel)<br>Verv 100se (<4 biows/ft)<br>Coose (4-10)<br>meatum dense : (0-30)<br>Consection (0-30)  | induration<br>sil/clay)<br>very soft (<2)<br>soft (2-4)<br>metum soft (+-3)<br>soff (3-15)<br>very soft (15-30)  | Jamp<br>Jamp<br>Toist<br>vet<br>Janratec<br>Plasticity<br>silt/clay<br>very plast<br>plastic<br>silt/clay<br>very plast<br>plastic<br>silt/clay<br>very plast<br>complast<br>Moisture   |
| Deptb/Interval<br>14/-16<br>Sample ID<br>Blow Counts  | VSCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)  | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Cilly<br>Clavey<br>Pebbiy  | Color<br>Color<br>Sorrag (sagd/gravel)<br>very well<br>veri<br>veri<br>Soorry   | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse  | Angularity<br>sand/gravel)<br>weil rounded<br>sunder<br>sunder<br>sunder<br>sunder   | (aduration<br>(satd/gravel)<br>Verv 100se (<4 biows/ft)<br>Coose (4-10)<br>meatum dense : (0-30)<br>Consection (0-30)  | induration<br>sil/clay)<br>very soft (<2)<br>soft (2-4)<br>metum soft (+-3)<br>soff (3-15)<br>very soft (15-30)  | Jamb<br>Jamb<br>Toist<br>vet<br>saturated<br>Plasticity<br>very plast<br>very very plast<br>very very plast<br>very very very very very very very very  |
| Deptb/Interval<br>14/-16<br>Sample ID<br>Slow Counts<br>21D/FID<br>5. (   | VSCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)  | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Cilly<br>Clavey<br>Pebbiy  | Color<br>Color<br>Sorrag (sagd/gravel)<br>very well<br>veri<br>veri<br>Soorry   | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse  | Angularity<br>sand/gravel)<br>weil rounded<br>sunder<br>sunder<br>sunder<br>sunder   | (aduration<br>(satd/gravel)<br>Verv 100se (<4 biows/ft)<br>Coose (4-10)<br>meatum dense : (0-30)<br>Consection (0-30)  | induration<br>sil/clay)<br>very soft (<2)<br>soft (2-4)<br>metum soft (+-3)<br>soff (3-15)<br>very soft (15-30)  | Jamp<br>Jamp<br>Toist<br>vet<br>saturated<br>Plasticity<br>silt/clay<br>verv plast<br>plastic<br>silgndv plast<br>zonplastic<br>Moisture  |
| Deptb/Interval<br>14 - 15<br>Sample ID<br>Slow Counts<br>PID/FID<br>5. (.   | VSCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)  | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Cilly<br>Clavey<br>Pebbiy  | Color<br>Color<br>Sorrag (sagd/gravel)<br>very well<br>veri<br>veri<br>Soorry   | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse  | Angularity<br>sand/gravel)<br>weil rounded<br>sunder<br>sunder<br>sunder<br>sunder   | (aduration<br>(satd/gravel)<br>Verv 100se (<4 biows/ft)<br>Coose (4-10)<br>meatum dense : (0-30)<br>Consection (0-30)  | induration<br>sil/clay)<br>very soft (<2)<br>soft (2-4)<br>metum soft (+-3)<br>soff (3-15)<br>very soft (15-30)  | Jamp<br>Jamp<br>Toist<br>vet<br>jaturated<br>Plasticity<br>verv plast<br>verv verv<br>verv plast<br>verv verv<br>verv verv<br>verv verv<br>verv verv<br>verv verv<br>verv verv<br>verv verv<br>verv verv<br>verv  |
| Deptb/Interval<br>I-4 - 16<br>Sample ID<br>Blow Counts<br>PID/FID<br>S. (<br>NOTES:   | Primary<br>Lithology<br>Gravel<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology  | Subordinate<br>Lithology<br>Graveily<br>Sanov<br>Elifty<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Subordinate<br>Lithology   | Color<br>Color<br>Sorrag (sagd/gravel)<br>very well<br>veri<br>veri<br>Soorry   | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse  | Angularity<br>sand/gravei)<br>weit rounded<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder | (Induration<br>(Sand/gravet)<br>Verv 10052 (<4 biows/ft)<br>ioose (+10)<br>meanum dense (0-30)<br>(Inseligion)<br>verv dense (>50)<br>induration   | induration<br>sil/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soft (3-15)<br>very soft (15-30)<br>lard (>30)   | Jamp<br>Toist<br>wet<br>saturated<br>Plasticity<br>silvelay<br>verv plast<br>plastic<br>silvelay<br>verv plast<br>plastic<br>silvelay<br>verv<br>plastic<br>silvelay<br>verv<br>plastic<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvelay<br>verv<br>silvel |
| Deptb/Interval<br>/// - //<br>Sample ID<br>Slow Counts<br>PID/FID<br>S. (_<br>NOTES:<br>Deptb/Interval  | Primary<br>Lithology<br>Gravei<br>Silit<br>Clav<br>Bedrock<br>(Weatnered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei   | Subordinate<br>Litbology<br>Gravelly<br>Sanay<br>Ellip<br>Clavey<br>Pebbly<br>Pebbly<br>Pebbly<br>Pebbly<br>Pebbly<br>Pebbly<br>Pebbly<br>Pebbly<br>Pebbly<br>Pebbly<br>Subordinate<br>Litbology<br>Gravelly  | Calor<br>Calor<br>Calor<br>Sorring (sand/gravel)<br>werv weil<br>weil<br>costributo<br>soorry<br>verv pooriv  | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)   | Angularity<br>sand/gravei)<br>weil rounded<br>Sunder<br>Surfounded<br>subangular<br>ingular<br>Angularity<br>sand/gravei)  | induration<br>(sand/gravel)<br>Verv 1005e (<4 biows/ft)<br>1005e (4-10)<br>meatum aense (10-30)<br>Conseliation<br>verv dense (>50)<br>induration<br>(sand/gravel)   | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium soft (+3)<br>soft (2-4)<br>very soft (15-30)<br>lard (>30)<br>lard (>30)  | Jamp<br>Jamp<br>Roisi<br>vet<br>saturated<br>Plasticity<br>silt/clay<br>verv plast<br>plastic<br>silgndv plas<br>plastic<br>silgndv plas<br>plastic<br>silgndv plas<br>plastic<br>silt/clay   |
| Depttb/Interval<br>/4/-/6<br>Sample ID<br>Slow Counts<br>PID/FID<br>S. (.<br>NOTES:<br>Depttb/Interval<br>X - 20  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei  | Subordinate<br>Litbology<br>Graveilv<br>Sanav<br>Cilly<br>Ciavev<br>Pebblv<br>Sanav<br>Subordinate<br>Litbology<br>Graveilv<br>Sanav  | Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor<br>Calor | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>verv fine  | Angularity<br>sand/gravei)<br>*eil rounded<br>Sunder<br>uorounded<br>iuoangular<br>ingular<br>Angularity<br>(sand/gravei)<br>*eil rounded  | induration<br>(sand/gravel)<br>Verv 100se (<4 biows/ft)<br>100se (+10)<br>meatum dense : (0-30)<br>Cense(  | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>metium suff (4-3)<br>very soft (15-30)<br>lard (>30)<br>lard (>30)<br>lard (>30)<br>very soft (15-20)<br>silt/clay)<br>very soft (<2)  | Jamb<br>Jamb<br>Toist<br>wet<br>Jamiated<br>Plasticity<br>Siluciay<br>Very plast<br>Siluciay<br>Viastic<br>Siluciay<br>Moisture<br>Toist<br>wet<br>Saturated<br>Plasticity<br>Siluciay<br>Plasticity  |
| Deptb/Interval<br>/// - //<br>Sample ID<br>Slow Counts<br>PID/FID<br>S. (_<br>NOTES:<br>Deptb/Interval  | Primary<br>Lithology<br>Gravel<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silt  | Subordinate<br>Litbology<br>Graveilv<br>Sanav<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Sanav<br>Subordinate<br>Litbology<br>Graveily<br>Sanav   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color  | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>verv coarse<br>cobbles boulders<br>cobbles boulders<br>cobbles boulders   | Angularity<br>sad/gravei)<br>*eil rounded<br>Sungular<br>unangular<br>ingular<br>ingular<br>Angularity<br>sand/gravei)<br>*eil rounded   | (aduration<br>(sand/gravel)<br>Verv 100se (<4 biows/ft)<br>Dose (+i0)<br>meatum dense : 10-30)<br>Cense1   | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>metium suff (4-3)<br>suff (3-15)<br>very suff (15-30)<br>iard (>30)<br>iard (>30)<br>induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)  | Jamb<br>Jamb<br>Toist<br>vet<br>saturated<br>Plasticity<br>verv plast<br>verv plast   |
| Deptb/Interval<br>/4/ - /2<br>Sample ID<br>Slow Counts<br>PID/FID<br>5 (<br>NOTES:<br>Deptb/Interval<br>\$ - 70'<br>Sample ID   | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay  | Subordinate<br>Litbology<br>Graveilv<br>Sanav<br>Clavey<br>Pebbiv<br>26<br>25<br>26<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color   | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>very coarse<br>very coarse<br>cobbles boulders<br>cobbles boulders<br>cobbles boulders<br>cobbles boulders   | Angularity<br>sadd/gravel)<br>weil rounded<br>Sunder<br>subangular<br>ingular<br>ingular<br>subangular<br>subangular<br>subangular<br>subangularity<br>isand/gravel)<br>weil rounded<br>condunce   | (aduration<br>(sand/gravel)<br>verv 10055 (<4 biows/ft)<br>ioose (+ i0)<br>meatum dense (0-30)<br>cerv dense (>50)<br>verv dense (>50)<br>induration<br>(sand/gravel)<br>verv 10055 (<4 biows/ft)<br>ioose (+ i0)<br>meatum dense ((0-30)  | lnduration<br>sil/clay)<br>very soft (<2)<br>soft (2-4)<br>medium soff (15-30)<br>iard (3-15)<br>very soft (15-30)<br>iard (3-15)<br>very soft (15-30)<br>iard (2-3)<br>soft (2-4)<br>medium soff (4-3)  | Jamp<br>Jamp<br>Roisi<br>Vet<br>Saturated<br>Plasticity<br>Very plast<br>Diastic<br>Silyndy plast<br>Complastic<br>Silyndy plast<br>Complastic<br>Moisture<br>Saturated<br>Plasticity<br>Siluctay<br>Very Slastic<br>Silghty plastic<br>Silghty plastic   |
| Deptb/Interval<br>/4/ - /2<br>Sample ID<br>Slow Counts<br>PID/FID<br>5 (<br>NOTES:<br>Deptb/Interval<br>\$ - 70'<br>Sample ID   | Primary<br>Lithology<br>Gravel<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silt  | Subordinate<br>Lithology<br>Graveilv<br>Sanav<br>Pebbiv<br>Vary<br>Pebbiv<br>Vary<br>Pebbiv<br>Vary<br>Vary<br>Vary<br>Vary<br>Vary<br>Vary<br>Vary<br>Vary   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color   | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>verv coarse<br>cobbles boulders<br>cobbles boulders<br>cobbles boulders   | Angularity<br>sad/gravei)<br>*eil rounded<br>Sungular<br>unangular<br>ingular<br>ingular<br>Angularity<br>sand/gravei)<br>*eil rounded   | (aduration<br>(sand/gravel)<br>Verv 100se (<4 biows/ft)<br>Dose (+i0)<br>meatum dense : 10-30)<br>Cense1   | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>metium suff (4-3)<br>suff (3-15)<br>very suff (15-30)<br>iard (>30)<br>iard (>30)<br>induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)  | Jamp<br>Jamp<br>Toist<br>vet<br>saturated<br>Plasticity<br>verv plast<br>plastic<br>siluciay<br>complastic<br>siluciay<br>moist<br>vet<br>saturated<br>Plasticity<br>siluciay<br>erv plast<br>plastic<br>saturated<br>plasticity<br>siluciay  |
| Depttb/Interval<br>/4/-/6<br>Sample ID<br>Slow Counts<br>PID/FID<br>Support Interval<br>Sample ID<br>Sample ID<br>Blow Counts<br>PID/FID<br>Blow Counts   | Primary<br>Litbology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Litbology<br>Gravei<br>Silt<br>Clay<br>Bedrock   | Subordinate<br>Litbology<br>Graveilv<br>Sanav<br>Clavey<br>Pebbiv<br>26<br>25<br>26<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color   | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>very coarse<br>cobbles boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>coarse  | Angularity<br>sand/gravei)<br>weil rounded<br>Surdeling<br>Surdeling<br>Subangular<br>Ingular<br>Angularity<br>(sand/gravei)<br>weil rounded<br>certosunce<br>subangular   | (aduration<br>(satd/gravel)<br>Verv 10055 (<4 biows/ft)<br>ioose (+i0)<br>metuum dense (:0-30)<br>(induration<br>(satd/gravel)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>induration<br>(satd/gravel)<br>ioose (+i0)<br>metuum dense (10-30)<br>(cataloge=0)   | Lara (>30)<br>Induration<br>sil/(clay)<br>very soft (<2)<br>coft (2-4)<br>medium suff (4-3)<br>soft (3-15)<br>very soft (3-15)<br>very soft (3-15)<br>laduration<br>sil/(clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>coft (3-(5)   | Jamp<br>Toist<br>vet<br>saturated<br>Plasticity<br>silt/clay<br>verv plast<br>corplastd<br>Moisture<br>moist<br>vet<br>saturated<br>Plasticity<br>silt/clay<br>vet<br>saturated<br>plasticity<br>silt/clay<br>vet<br>saturated<br>plasticity<br>silt/clay<br>vet<br>saturated<br>plasticity<br>silt/clay  |
| Depttb/Interval<br>/4/-/6<br>Sample ID<br>Slow Counts<br>PID/FID<br>Support Interval<br>X-20<br>Sample ID<br>Blow Counts<br>PID/FID<br>Blow Counts  | Primary<br>Lithology<br>Gravel<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silt<br>Clay<br>Bedrock<br>i Weathered?   | Subordinate<br>Lithology<br>Gravelly<br>Sanav<br>Ellfy<br>Clavey<br>Pebbly<br>25<br>Subordinate<br>Lithology<br>Gravelly<br>Sanav<br>Clavey<br>Pebbly<br>25   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color   | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>cobbles boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>verv coarse<br>verv coarse<br>verv fine<br>verv fine   | Angularity<br>sand/gravei)<br>weil rounded<br>Surdeling<br>Surdeling<br>Subangular<br>Ingular<br>Angularity<br>(sand/gravei)<br>weil rounded<br>certosunce<br>subangular   | (aduration<br>(satd/gravel)<br>Verv 10055 (<4 biows/ft)<br>ioose (+i0)<br>metuum dense (:0-30)<br>(induration<br>(satd/gravel)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>induration<br>(satd/gravel)<br>ioose (+i0)<br>metuum dense (10-30)<br>(cataloge=0)   | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>isoft (3-15)<br>very suff (15-30)<br>lard (>30)<br>lard (>30)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soft (3-15)<br>very suff (15-30)  | Jamb<br>Jamb<br>Toist<br>vet<br>Jaurated<br>Plasticity<br>Silt/clay<br>Verv plast<br>Diastic<br>Silt/clay<br>Toist<br>Verv Silt/clay<br>Plasticity<br>Saturated<br>Plasticity<br>Silt/clay<br>erv Silt/clay<br>Jastic<br>Silt/clay<br>Compastic   |
| Deptb/Interval<br>I/4/ - 1/5<br>Sample ID<br>Blow Counts<br>PID/FID<br>S. (<br>NOTES:<br>Deptb/Interval<br>S AD<br>Sample ID<br>Blow Counts   | Primary<br>Lithology<br>Gravel<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silt<br>Clay<br>Bedrock<br>i Weathered?   | Subordinate<br>Litbology<br>Graveilv<br>Sanav<br>Elifo<br>Clavey<br>Pebbiv<br>25<br>Subordinate<br>Litbology<br>Graveily<br>Sanav<br>Clavey<br>Pebbiy<br>26<br>25   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color  | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>cobbles boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>verv coarse<br>verv coarse<br>verv fine<br>verv fine   | Angularity<br>sand/gravei)<br>weil rounded<br>Surdeling<br>Surdeling<br>Subangular<br>Ingular<br>Angularity<br>(sand/gravei)<br>weil rounded<br>certosunce<br>subangular   | (aduration<br>(satd/gravel)<br>Verv 10055 (<4 biows/ft)<br>ioose (+i0)<br>metuum dense (:0-30)<br>(induration<br>(satd/gravel)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>induration<br>(satd/gravel)<br>ioose (+i0)<br>metuum dense (10-30)<br>(cataloge=0)   | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>isoft (3-15)<br>very suff (15-30)<br>lard (>30)<br>lard (>30)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soft (3-15)<br>very suff (15-30)  | Jamp<br>Jamp<br>Toist<br>vet<br>saturated<br>Plasticity<br>silt/clay<br>very plast<br>2000jaStu<br>Moisture<br>Plasticity<br>saturated<br>Plasticity<br>silt/clay<br>ery plast<br>Siight/y plas<br>plasticity<br>saturated<br>Plasticity<br>silt/clay<br>ery plast<br>Siight/y plast<br>silt/clay<br>cery plast<br>Silt/clay  |
| Deptb/Interval<br>/4/ - /2<br>Sample ID<br>Slow Counts<br>PID/FID<br>S (  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>i Weathered?<br>USCS:  | Subordinate<br>Litbology<br>Graveilv<br>Sanav<br>Elifo<br>Clavey<br>Pebbiv<br>25<br>Subordinate<br>Litbology<br>Graveily<br>Sanav<br>Clavey<br>Pebbiy<br>26<br>25   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color  | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>cobbles boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>verv coarse<br>verv coarse<br>verv fine<br>verv fine   | Angularity<br>sand/gravei)<br>weil rounded<br>Surdeling<br>Surdeling<br>Subangular<br>Ingular<br>Angularity<br>(sand/gravei)<br>weil rounded<br>certosunce<br>subangular   | (aduration<br>(satd/gravel)<br>Verv 10055 (<4 biows/ft)<br>ioose (+i0)<br>metuum dense (:0-30)<br>(induration<br>(satd/gravel)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>induration<br>(satd/gravel)<br>ioose (+i0)<br>metuum dense (10-30)<br>(cataloge=0)   | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>isoft (3-15)<br>very suff (15-30)<br>lard (>30)<br>lard (>30)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soft (3-15)<br>very suff (15-30)  | Jamp<br>Torst<br>Wet<br>Saturated<br>Plasticity<br>Silvelay<br>Verv plast<br>District<br>Silvelay<br>District<br>Torst<br>Torst<br>Woisture<br>Plasticity<br>Saturated<br>Plasticity<br>Saturated<br>Saturated<br>Silvelay<br>Verv plast<br>Saturated<br>Districtay<br>Saturated<br>District<br>Silvelay<br>Saturated<br>District<br>Saturated<br>Saturated<br>District<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Sat   |
| Deptb/Interval<br>/4/ - /2<br>Sample ID<br>Slow Counts<br>PID/FID<br>S (  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>iWeathered?<br>USCS:   | Subordinate<br>Lichology<br>Graveily<br>Sandy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Subordinate<br>Lichology<br>Graveily<br>Sandy<br>Clavey<br>Pebbiy<br>26.<br>24,<br>25.   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color  | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>cobbles boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>verv coarse<br>verv coarse<br>verv fine<br>verv fine   | Angularity<br>sand/gravei)<br>weil rounded<br>Surdeling<br>Surdeling<br>Subangular<br>Ingular<br>Angularity<br>(sand/gravei)<br>weil rounded<br>certosunce<br>subangular   | (aduration<br>(satd/gravel)<br>Verv 10055 (<4 biows/ft)<br>ioose (+i0)<br>metuum dense (:0-30)<br>(induration<br>(satd/gravel)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>induration<br>(satd/gravel)<br>ioose (+i0)<br>metuum dense (10-30)<br>(cataloge=0)   | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>isoft (3-15)<br>very suff (15-30)<br>lard (>30)<br>lard (>30)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soft (3-15)<br>very suff (15-30)  | Jamp<br>Jamp<br>Toist<br>vet<br>saturated<br>Plasticity<br>silt/clay<br>very plast<br>2000jaStu<br>Moisture<br>Plasticity<br>saturated<br>Plasticity<br>silt/clay<br>ery plast<br>Siight/y plas<br>plasticity<br>saturated<br>Plasticity<br>silt/clay<br>ery plast<br>Siight/y plast<br>silt/clay<br>cery plast<br>Silt/clay  |
| Depth/Interval<br>/4/-/2<br>Sample ID<br>Slow Counts<br>PID/FID<br>Sources<br>PID/FID<br>Blow Counts<br>PID/FID<br>PID/FID<br>NOTES:  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>Silt   | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Clavey<br>Pebbiy<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%  | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color  | Grain Size<br>(sand/gravel)<br>verv fine<br>Coarse<br>Cobbles/boulders<br>Corain Size<br>(sand/gravel)<br>verv fine<br>Coarse<br>coarse<br>coarse<br>verv coarse<br>coarse<br>verv coarse<br>coarse  | Angularity<br>sand/gravei)<br>weit rounded<br>Sunder<br>Sunder<br>Sunder<br>Sundangular<br>ingular<br>ingular<br>Angularity<br>isand/gravei)<br>weit rounded<br>conseque<br>derfounded<br>iuoangular<br>ingular  | induration<br>(sand/gravel)<br>verv 10052 (<4 biows/ft)<br>ioose (+10)<br>meanum dense (0-30)<br>verv dense (>50)<br>verv dense (>50)<br>verv ioose (<4 biows/ft)<br>ioose (+10)<br>meanum dense (10-30)<br>dense (>50)<br>verv dense (>50)  | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>isoft (3-15)<br>very suff (15-30)<br>lard (>30)<br>lard (>30)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soft (3-15)<br>very suff (15-30)  | Jamp<br>Torst<br>Wet<br>Saturated<br>Plasticity<br>Silvelay<br>Verv plast<br>District<br>Silvelay<br>District<br>Torst<br>Torst<br>Woisture<br>Plasticity<br>Saturated<br>Plasticity<br>Saturated<br>Saturated<br>Silvelay<br>Verv plast<br>Saturated<br>Districtay<br>Saturated<br>District<br>Silvelay<br>Saturated<br>District<br>Saturated<br>Saturated<br>District<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Saturated<br>Sat 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| Depth/Interval<br>/// - /L<br>Sample ID<br>Slow Counts<br>PID/FID<br>S. (_<br>NOTES:<br>Depth/Interval<br>X - 30<br>Sample ID<br>Blow Counts<br>PID/FID<br>SJCCD<br>NOTES:<br>0 - 30<br>- | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>iWeathered?<br>USCS:   | Subordinate<br>Lichology<br>Graveily<br>Sandy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Pebbiy<br>Subordinate<br>Lichology<br>Graveily<br>Sandy<br>Clavey<br>Pebbiy<br>26.<br>24,<br>25.   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Very well<br>very well<br>very poorty<br>Very poorty<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Very poorty<br>very poorty  | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>cobbles boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>verv coarse<br>verv coarse<br>verv fine<br>verv fine   | Angularity<br>sand/gravei)<br>weil rounded<br>Surdeling<br>Surdeling<br>Subangular<br>Ingular<br>Angularity<br>(sand/gravei)<br>weil rounded<br>certosunce<br>subangular   | (aduration<br>(satd/gravel)<br>Verv 10055 (<4 biows/ft)<br>ioose (+i0)<br>metuum dense (:0-30)<br>(induration<br>(satd/gravel)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>induration<br>(satd/gravel)<br>ioose (+i0)<br>metuum dense (10-30)<br>(cataloge=0)   | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soft (3-15)<br>very suff (15-30)<br>lard (>30)<br>lard (>30)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soft (3-15)<br>very suff (15-30)<br>hard (>30)<br>hard (>30)   | Jamp<br>Torst<br>vet<br>saturated<br>Plasticity<br>silvelay<br>rerv plast<br>Diastic<br>Silvelay<br>rerv plast<br>Doplastic<br>Moisture<br>saturated<br>Plasticity<br>silvelay<br>erv plasticity<br>silvelay<br>erv plasticity<br>silvelay<br>rerv plasticity<br>silvelay<br>rerv plasticity<br>silvelay<br>erv plasticity<br>silvelay<br>erv plasticity<br>silvelay<br>erv plasticity<br>silvelay<br>erv plasticity<br>silvelay<br>erv plasticity<br>silvelay<br>erv plasticity<br>silvelay<br>erv plasticity<br>plasticity<br>plasticity<br>plasticity<br>silvelay<br>erv plasticity<br>silvelay<br>erv plasticity<br>plasticity<br>plasticity<br>silvelay<br>erv plasticity<br>plasticity<br>silvelay<br>erv plasticity<br>plasticity<br>silvelay<br>erv plasticity<br>silvelay<br>erv plasticity<br>silvelay<br>erv plasticity<br>silvelay  |
| Depth/Interval<br>14/-16<br>Sample ID<br>Slow Counts<br>PID/FID<br>S. (.<br>NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>Sample ID<br>Blow Counts<br>PID/FID<br>Sample ID<br>Blow Counts<br>PID/FID<br>Sample ID<br>Sample ID<br>Sample ID<br>Sample ID<br>Sample ID<br>South Sample ID<br>Sample ID<br>South Sample ID<br>South Sa  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>Weathered?<br>USCS:<br>SS<br>Primary<br>Lithology  | Subordinate<br>Litbology<br>Gravelly<br>Sanay<br>Pebbiy<br>Pebbiy<br>Subordinate<br>Litbology<br>Gravelly<br>Sanay<br>Clavey<br>Pebbiy<br>20,<br>25,<br>26,<br>26,<br>26,<br>26,<br>26,<br>26,<br>26,<br>26,<br>26,<br>26   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Very pooriv<br>Very pooriv<br>Very pooriv<br>Very pooriv<br>Very pooriv<br>Very pooriv<br>Very pooriv<br>Very pooriv  | Grain Size<br>(sand/gravel)<br>verv 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     | induration<br>(sand/gravel)<br>verv 1005c (<4 biows/ft)<br>1005c (+10)<br>meatum dense (0-30)<br>verv dense (>50)<br>verv dense (>50)<br>induration<br>(sand/gravel)<br>verv 1005c (<4 biows/ft)<br>1005c (+10)<br>meatum dense (0-30)<br>dense (>50)<br>verv dense (>50)<br>induration  | 22rc (>30)<br>induration<br>sit/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>20ff (3-15)<br>very soft (15-30)<br>22rd (>30)<br>22rd (>30) | Jamp<br>Jamp<br>Roisi<br>Vet<br>Saturated<br>Plasticity<br>Silt/clay<br>Verv plast<br>Signdv plas<br>Somplastic<br>Vetv Saturated<br>Plasticity<br>Saturated<br>Plasticity<br>Silt/clay<br>Complastic<br>Silt/clay<br>Silt/clay<br>Silt/clay<br>Silt/clay<br>Silt/clay<br>Silt/clay<br>Silt/clay<br>Silt/clay<br>Silt/clay<br>Silt/clay<br>Silt/clay<br>Silt/clay   |
| Depth/Interval<br>14/-16<br>Sample ID<br>Slow Counts<br>PID/FID<br>S. (.<br>NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>Sample ID<br>Blow Counts<br>PID/FID<br>Sample ID<br>Blow Counts<br>PID/FID<br>Sample ID<br>Sample ID<br>Sample ID<br>Sample ID<br>Sample ID<br>South Sample ID<br>Sample ID<br>South Sample ID<br>South Sa  | USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>Silt<br>USCS:<br>Silt<br>USCS:<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>Silt<br>Clay<br>Bedrock<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Silt<br>USCS:<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>Clay<br>Bedrock<br>(Weathered?)<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>Silt<br>USCS:<br>Silt<br>USCS:<br>Silt<br>USCS:<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>Silt<br>Clay<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Primary<br>Lithology<br>Gravei | Subordinate<br>Litbology<br>Graveilv<br>Sandv<br>Elify<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Clavey<br>Pebbiv<br>Clavey<br>Pebbiv<br>Clavey<br>Pebbiv<br>Pebbiv<br>Sandv<br>Clavey<br>Pebbiv<br>Pebbiv<br>Sandv<br>Clavey<br>Pebbiv<br>Sandv<br>Clavey<br>Pebbiv<br>Sandv<br>Clavey<br>Pebbiv<br>Sandv<br>Clavey<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Sandv<br>Clavey<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Craveily<br>Cra 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 | Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>coarse<br>verv coarse<br>cobbles/boulders<br>Coarse<br>verv coarse<br>cobbles/boulders  | Angularity<br>sand/gravel)<br>weil rounded<br>Sunder<br>Sunder<br>Subangular<br>ingular<br>ingular<br>Angularity<br>(sand/gravel)<br>weil rounded<br>configure<br>subangular<br>ingular<br>subangular<br>ingular<br>subangular<br>ingularity<br>(sand/gravel)  | (aduration<br>(satd/gravel)<br>Verv 10055 (<4 biows/ft)<br>ioose (+i0)<br>metaum dense (:0-30)<br>(induration<br>(satd/gravel)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (<4 biows/ft)<br>ioose (++i0)<br>metaum dense (10-30)<br>dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)  | 22rc (>30)<br>Induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium soff (4-3)<br>soft (3-15)<br>very soft (<2)<br>iard (3-15)<br>very soft (<2)<br>soft (2-4)<br>medium soff (4-3)<br>soft (2-4)<br>medium soff (4-3)<br>iard (3-15)<br>very soft (<2)<br>soft (2-4)<br>Induration<br>(silt/clay)<br>very soft (<2)<br>soft (2-4)  | Jamp<br>Toost<br>vet<br>saturated<br>Plasticity<br>silvelay<br>verv plast<br>complastic<br>Moisture<br>Plasticity<br>Plasticity<br>Plasticity<br>silvelay<br>vet<br>saturated<br>Moisture<br>Plasticity<br>silvelay<br>vet<br>saturated<br>Plasticity<br>silvelay<br>vet<br>saturated<br>Plasticity<br>vet<br>saturated   |
| Depth/Interval<br>PID/FID<br>Sample ID<br>Sov Counts<br>PID/FID<br>C.<br>NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>Sample ID<br>Depth/Interval<br>PID/FID<br>Sample ID<br>Sample ID  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>iWeathered?<br>USCS:<br>Silt<br>Clay<br>Bedrock<br>iWeathered?<br>USCS:<br>Silt<br>Clay<br>Silt<br>Clay<br>Silt<br>Clay<br>Silt<br>Clay  | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Pebbiv<br>Sanav<br>Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Clavev<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Pebbiv<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev<br>Clavev 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 | Grain Size<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine   | Angularity<br>sand/gravei)<br>weit rounded<br>sunder:<br>yurofugibd<br>subangular<br>ingular<br>Angularity<br>(sand/gravei)<br>weit rounded<br>subangular<br>subangular<br>subangular<br>subangular<br>yugilarity<br>(sand/gravei)<br>weil rounded<br>conunded   | (Induration<br>(Sand/gravel)<br>Verv 10052 (<4 biows/ft)<br>ioose (+10)<br>metaum dense (0-30)<br>Verv dense (>50)<br>Verv dense (>50)<br>Verv dense (>50)<br>Verv dense (<4 biows/ft)<br>ioose (+10)<br>metaum dense (10-30)<br>Verv dense (>50)<br>Verv dense (>50)<br>Verv dense (>50)<br>Verv dense (>50)<br>Verv dense (>50)  | 22rc (>30)<br>induration<br>sil/(24y)<br>very soft (<2)<br>coft (2-4)<br>medium suff (4-3)<br>cerv suff (15-20)<br>iard (3-15)<br>verv suff (15-20)<br>iard (3-15)<br>verv suff (15-20)<br>iard (2-4)<br>medium suff (4-3)<br>cerv suff (15-30)<br>iard (2-4)<br>medium suff (4-8)   | Jamp<br>Torst<br>vet<br>saturated<br>Plasticity<br>silt/clay<br>verv plast<br>complastic<br>Moisture<br>aturated<br>Plasticity<br>silt/clay<br>erv plast<br>complastic<br>Moisture<br>Plasticity<br>silt/clay<br>vet<br>saturated<br>Plasticity<br>silt/clay<br>vet<br>saturated<br>Plasticity<br>silt/clay<br>vet<br>saturated<br>Plasticity<br>plastic<br>silt/clay<br>vet<br>saturated<br>plasticity<br>silt/clay<br>vet<br>saturated  |
| Depth/Interval<br>14/-16<br>Sample ID<br>Blow Counts<br>PID/FID<br>S. (   | Primary<br>Lithology<br>Gravel<br>Silit<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silit<br>Clay<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silit<br>Clay<br>Bedrock  | Subordinate<br>Lithology<br>Cravelly<br>Sanav<br>Clavey<br>Pebbly<br>Subordinate<br>Lithology<br>Gravelly<br>Sanav<br>Clavey<br>Pebbly<br>2%<br>2%<br>3%<br>3%<br>5%<br>5%<br>5%<br>5%<br>5%<br>5%<br>5%<br>5%<br>5%<br>5%<br>5%<br>5%<br>5%  | 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 | Grain Size<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine   | Angularity<br>sand/gravei)<br>weit rounded<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Angularity<br>Isand/gravei)<br>weit rounded<br>Consequer<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>S      | induration<br>(sand/gravel)<br>verv 1005c (<4 biows/ft)<br>1005c (+10)<br>meatum dense (0-30)<br>(sand/gravel)<br>verv dense (>50)<br>verv dense (<50)<br>verv dense (<50)<br>(sand/gravel)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>(sand/gravel)<br>verv loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>dense (+10)<br>medium dense (10-30)<br>dense (+10)<br>medium dense (10-30)<br>dense (+10-30)<br>dense (-10-30)<br>dense (-10-30)<br>dense (-10-30)<br>(sand/gravel) | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (+-3)<br>soft (2-4)<br>isoft (3-15)<br>very suff (15-30)<br>lard (>30)<br>lard (>30)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soft (3-15)<br>very suff (15-30)<br>hard (>30)<br>lard (>30)<br>lard (>30)<br>hard (>30)<br>hard (>30)<br>lard (>30)<br>hard (>30)<br>har | Jamp<br>Torst<br>Saturated<br>Plasticity<br>Silvelay<br>Verv plast<br>Silvelay<br>Verv plast<br>Sorplastic<br>Moisture<br>Saturated<br>Plasticity<br>Silvelay<br>Verv Staturated<br>Plasticity<br>Silvelay<br>Verv Staturated<br>Plasticity<br>Silvelay<br>Verv Staturated<br>Plasticity<br>Silvelay<br>Verv Staturated<br>Moisture<br>Moisture<br>Saturated<br>Plasticity<br>Silvelay<br>Verv Staturated<br>Moisture<br>Saturated<br>Plasticity<br>Silvelay<br>Verv Staturated<br>Saturated<br>Saturated<br>Silvelay<br>Verv Staturated<br>Saturated<br>Silvelay<br>Verv Staturated<br>Saturated<br>Silvelay<br>Verv Staturated<br>Saturated<br>Silvelay<br>Verv Staturated<br>Saturated<br>Silvelay<br>Verv Staturated<br>Silvelay<br>Verv Staturated<br>Silvelay   |
| Depth/Interval<br>14 - 14<br>Sample ID<br>Blow Counts<br>PID/FID<br>S. (<br>NOTES:<br>Depth/Interval<br>X - 30<br>Sample ID<br>Blow Counts<br>PID/FID<br>S. (<br>NOTES:<br>Depth/Interval<br>PID/FID<br>Sample ID<br>Blow Counts<br>PID/FID<br>Sample ID<br>Sample ID  | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>Weathered?   | Subordinate<br>Litbology<br>Graveilv<br>Sandv<br>Sandv<br>Sandv<br>Sandv<br>Sandv<br>Sandv<br>Subordinate<br>Litbology<br>Clavey<br>Pebbly<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25  | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Co  | Grain Size<br>(sand/gravel)<br>verv fine<br>Coarse<br>verv coarse<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>Coarse<br>verv coarse<br>cobbles/boulders<br>Coarse<br>verv coarse<br>cobbles/boulders<br>coarse<br>verv coarse<br>verv coarse<br>cobbles/boulders  | Angularity<br>sand/gravei)<br>weit rounded<br>sunder:<br>yurofugibd<br>subangular<br>ingular<br>Angularity<br>(sand/gravei)<br>weit rounded<br>subangular<br>subangular<br>subangular<br>subangular<br>yugilarity<br>(sand/gravei)<br>weil rounded<br>conunded   | (Induration<br>(Sand/gravel)<br>Verv 10052 (<4 biows/ft)<br>ioose (+10)<br>metaum dense (0-30)<br>Verv dense (>50)<br>Verv dense (>50)<br>Verv dense (>50)<br>Verv dense (<4 biows/ft)<br>ioose (+10)<br>metaum dense (10-30)<br>Verv dense (>50)<br>Verv dense (>50)<br>Verv dense (>50)<br>Verv dense (>50)<br>Verv dense (>50)  | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-3)<br>isoft (2-4)<br>very soft (<2)<br>soft (2-4)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-3)<br>soft (2-4)<br>medium soff (+-3)<br>soft (2-4)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-30)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-30)<br>very soft (<2-)<br>soft (2-4)<br>medium soff (+-30)<br>very soft (3-15)<br>very soff (15-30)   | Jamp<br>Toist<br>Saturated<br>Plasticity<br>Silvelay<br>Verv plasto<br>Diastic<br>Silvelay<br>Verv plasto<br>Diastic<br>Solution<br>Moisture<br>Saturated<br>Plasticity<br>Silvelay<br>Verv Diastic<br>Saturated<br>Plasticity<br>Silvelay<br>Verv Diastic<br>Diastic<br>Silvelay<br>Verv Diastic<br>Diastic<br>Silvelay<br>Verv Diastic<br>Silvelay<br>Verv Diastic<br>Silvelay  |
| Depth/Interval<br>/// - //<br>Sample ID<br>Slow Counts<br>PID/FID<br>S. (<br>NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>Source<br>PID/FID<br>PID/FID<br>Source<br>PID  | Primary<br>Lithology<br>Gravel<br>Silit<br>Clav<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silit<br>Clay<br>Bedrock<br>Weathered?<br>USCS:<br>Primary<br>Lithology<br>Gravel<br>Silit<br>Clay<br>Bedrock  | Subordinate<br>Litbology<br>Graveilv<br>Sanav<br>Elito<br>Clavey<br>Pebbiv<br>Pebbiv<br>Subordinate<br>Litbology<br>Graveily<br>Sanav<br>Pebbiy<br>Pebbiy<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%   | 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  | Grain Size<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine<br>(sand/gravel)<br>verv fine   | Angularity<br>sand/gravei)<br>weit rounded<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Angularity<br>Isand/gravei)<br>weit rounded<br>Consequer<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>S      | induration<br>(sand/gravel)<br>verv 1005c (<4 biows/ft)<br>1005c (+10)<br>meatum dense (0-30)<br>(sand/gravel)<br>verv dense (>50)<br>verv dense (<50)<br>verv dense (<50)<br>(sand/gravel)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>(sand/gravel)<br>verv loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>dense (+10)<br>medium dense (10-30)<br>dense (+10)<br>medium dense (10-30)<br>dense (+10-30)<br>dense (-10-30)<br>dense (-10-30)<br>dense (-10-30)<br>(sand/gravel) | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium suff (+-3)<br>soft (2-4)<br>isoft (3-15)<br>very suff (15-30)<br>lard (>30)<br>lard (>30)<br>very soft (<2)<br>soft (2-4)<br>medium suff (4-3)<br>soft (3-15)<br>very suff (15-30)<br>hard (>30)<br>lard (>30)<br>lard (>30)<br>hard (>30)<br>hard (>30)<br>lard (>30)<br>hard (>30)<br>har | Jamp<br>Jamp<br>Toist<br>Vet<br>Saturated<br>Plasticity<br>Silvelay<br>Very plast<br>2000 Jastic<br>Moisture<br>Plasticity<br>Saturated<br>Plasticity<br>Silvelay<br>Very plast<br>Silvelay<br>Very plast<br>Silvelay<br>Very plast<br>Camp<br>Toost<br>Very plast<br>Saturated<br>Plasticity<br>Silvelay<br>Very plast<br>Camp<br>Toost<br>Very plast<br>Silvelay<br>Very plast<br>Saturated<br>Plasticity<br>Silvelay<br>Very plast<br>Saturated<br>Plasticity<br>Silvelay<br>Very plast<br>Saturated<br>Saturated<br>Silvelay<br>Very plast<br>Silvelay<br>Very plast<br>Silvelay<br>Very plast<br>Silvelay<br>Very plast<br>Silvelay<br>Very plast<br>Silvelay<br>Very plast<br>Silvelay<br>Very plast<br>Silvelay<br>Very plast<br>Silvelay<br>Very plast<br>Silvelay  |
| Depth/Interval<br>14/-16<br>Sample ID<br>Slow Counts<br>PID/FID<br>S. ()<br>NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>D. ()<br>PID/FID<br>D. ()<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID<br>PID/FID   | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>SSS<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>SSS<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:  | Subordinate<br>Litbology<br>Graveilv<br>Sandv<br>Sandv<br>Sandv<br>Sandv<br>Sandv<br>Sandv<br>Subordinate<br>Litbology<br>Clavey<br>Pebbly<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25<br>25  | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Co  | Grain Size<br>(sand/gravel)<br>verv fine<br>Coarse<br>verv coarse<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>Coarse<br>verv coarse<br>cobbles/boulders<br>Coarse<br>verv coarse<br>cobbles/boulders<br>coarse<br>verv coarse<br>verv coarse<br>cobbles/boulders  | Angularity<br>sand/gravei)<br>weit rounded<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Angularity<br>Isand/gravei)<br>weit rounded<br>Consequer<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>S      | induration<br>(sand/gravel)<br>verv 1005c (<4 biows/ft)<br>1005c (+10)<br>meatum dense (0-30)<br>(sand/gravel)<br>verv dense (>50)<br>verv dense (<50)<br>verv dense (<50)<br>(sand/gravel)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>(sand/gravel)<br>verv loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>dense (+10)<br>medium dense (10-30)<br>dense (+10)<br>medium dense (10-30)<br>dense (+10-30)<br>dense (-10-30)<br>dense (-10-30)<br>dense (-10-30)<br>(sand/gravel) | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-3)<br>isoft (2-4)<br>very soft (<2)<br>soft (2-4)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-3)<br>soft (2-4)<br>medium soff (+-3)<br>soft (2-4)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-30)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-30)<br>very soft (<2-)<br>soft (2-4)<br>medium soff (+-30)<br>very soft (-30)  | Jamp<br>Torist<br>vet<br>saturated<br>Plasticity<br>silvclay)<br>very plast<br>plastic<br>singuly plast<br>complastic<br>Moisture<br>Saturated<br>Plasticity<br>silvclay)<br>ery plastic<br>plasticity<br>silvclay)<br>ery plastic<br>plasticity<br>silvclay)<br>ery plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic  |
| Deptb/Interval<br>/// - //<br>Sample ID<br>Slow Counts<br>PID/FID<br>S. (<br>NOTES:<br>Deptb/Interval<br>X - M<br>Sample ID<br>Blow Counts<br>PID/FID<br>NOTES:<br>D-JJ =<br>PID/FID<br>Sample ID<br>Sample ID   | Primary<br>Lithology<br>Gravei<br>Silt<br>Clav<br>Bedrock<br>(Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>SSS<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:<br>SSS<br>Primary<br>Lithology<br>Gravei<br>Silt<br>Clay<br>Bedrock<br>(Weathered?)<br>USCS:  | Subordinate<br>Litbology<br>Graveilv<br>Sanav<br>Elito<br>Clavey<br>Pebbiv<br>Pebbiv<br>Subordinate<br>Litbology<br>Graveily<br>Sanav<br>Pebbiy<br>Pebbiy<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%<br>2%   | Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color<br>Color   | Grain Size<br>(sand/gravel)<br>verv fine<br>Coarse<br>verv coarse<br>cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>Coarse<br>verv coarse<br>cobbles/boulders<br>Coarse<br>verv coarse<br>cobbles/boulders<br>coarse<br>verv coarse<br>verv coarse<br>cobbles/boulders  | Angularity<br>sand/gravei)<br>weit rounded<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Angularity<br>Isand/gravei)<br>weit rounded<br>Consequer<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>Sunder<br>S      | induration<br>(sand/gravel)<br>verv 1005c (<4 biows/ft)<br>1005c (+10)<br>meatum dense (0-30)<br>(sand/gravel)<br>verv dense (>50)<br>verv dense (<50)<br>verv dense (<50)<br>(sand/gravel)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>verv dense (>50)<br>(sand/gravel)<br>verv loose (<4 biows/ft)<br>loose (+10)<br>medium dense (10-30)<br>dense (+10)<br>medium dense (10-30)<br>dense (+10)<br>medium dense (10-30)<br>dense (+10-30)<br>dense (-10-30)<br>dense (-10-30)<br>dense (-10-30)<br>(sand/gravel) | induration<br>silt/clay)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-3)<br>isoft (2-4)<br>very soft (<2)<br>soft (2-4)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-3)<br>soft (2-4)<br>medium soff (+-3)<br>soft (2-4)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-30)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>hard (>-50)<br>very soft (<2)<br>soft (2-4)<br>medium soff (+-30)<br>very soft (<2-)<br>soft (2-4)<br>medium soff (+-30)<br>very soft (-30)  | Jamp<br>Torst<br>vet<br>saturated<br>Plasticity<br>silvelay<br>very plast<br>plastic<br>silvelay<br>very plast<br>plastic<br>silvelay<br>moist<br>vet<br>saturated<br>Plasticity<br>silvelay<br>very plast<br>vet<br>saturated<br>Plasticity<br>silvelay<br>very plast<br>organistic<br>vet<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic<br>plastic  |

| roject: PP  | Hobbis  | 72)   | Borehole completed a   | as well? YES  | NO   | Well Casing Inter   | val:   |  |
|---|---|---|--|---|--|---|--|--|
| roject Numbe  |   |   | Well Name:   | 3-3 continued   |  | Well Screen Interv  | the second s   |  |
| ocation:  |   |   | Total Depth:   | P3 continued  |  | Sand Pack Interva   |  |  |
| ate Drilled:  | 4/27/4  | 0   | Borehole Diameter:   |   |  | Bentonite Interval  |  |  |
|   | 7/27/7  | <u>Y</u>  |  |   |  |   |  |  |
| lent:   | <u></u>   |   | Well Elevation:  | ······  |  | Cement/Grout Inte   | rval:  |  |
| ig/Core Type  |   |   | Water Level Initial:   |   |  |   |  |  |
| rilling Comp  | any:  |   | Water Level Static:  |   | ·  | Comments/Notes:   |  | ·  |
| Driller:  |   |   | Well Type:   | PVC Sch 40  |  |   |  |  |
| Drilling Metho  | od:   |   |  | PVC Sch 80  |  |   |  |  |
| ield Notes By   | /:  |   | -  | Low Carbon Steel  |  |   | · · · · · · · · · · · · · · · · · · ·  |  |
| Time Start:   |   |   | Well Diameter:   | 2 inch  |  |   | ·····  |  |
| ime Stop:   | <u> </u>  |   | -  | 4 inch  |  | · · · · · · · · · · · · · · · · · · ·   |  |  |
|   |   |   | -  | Other:  |  | ·   | <u>.</u>   |  |
|   | Primary   | Subordinate   | •••  |   |  |   |  |  |
|   | Lithology   | Lithology   |  | Grain Size  | Angularity   | Induration  | Induration   | Plastici   |
| Depth/Interval  | Gravel  | Gravelly  | Color  | (sand/gravel)   | (sand/gravel)  | (sand/gravel)   | (silt/clay)  | (silt/cia  |
| 30-32   | Cin.  | Sandy   | Tan-White  | very fine   | weil rounded   | verv loose (<4 blows/ft)  | verv soft (<2)   | very plas  |
| Sampie ID   | Silt<br>Clav  | Clavev  | Sorting (sand/gravel)<br>verv well   | Cheduum   | Cupicondero  | :00se (4-10)<br>medium dense (10-30)  | :ott (2-4)<br>meaium suff (4-3)  | sligntly ol  |
| Blow Counts   | Bedrock   | Pebbly  | weil   | coarse  | Subangular   | (05 <del>66236136</del>   | szif (8-15)  | DODDIAS  |
|   | (Weathered?)  | 3/3   |  | very coarse   | angular  | (Cr- (Jenty - 50)   | verv suff (15-30)  | Moistu   |
| PID/FID   | USČS:   | 3/0   | · ····································   | cobbles/bouiders  |  |   | zarg (>30)   | Simp   |
| NOTES:  |   | **  | very pooriy  |   |  |   |  |  |
|   |   | <u> </u>  |  |   |  |   | ·····  | wet  |
|   |   |   |  | ······································  | ······································   |   |  | Saturate   |
|   | Primary   | Subordinate   |  |   |  |   |  |  |
| Depth/Interval  | Lithology<br>Gravei   | Graveijv  | Color  | Grain Size<br>(sand/gravel)   | Angularity<br>(sand/gravel)  | induration<br>(sand/gravel)   | lnouration<br>sult/clav)   | Plastici<br>(silt/cla)   |
| 34-36   | Gine  | Sandy   | Tangline   | verv fine   | weil rounded   | verv loose (<4 blows/ft)  | very soft (<2)   | Jerv bias  |
| Sample ID   | Silt  |   | Sorting (sand/gravel)  |   | -unded .   | .oose (+ (0)  | soft (2-4)   | 7125BC   |
|   | Clav  | Clavey  | verv weil  | Carcolinas  | (strorounder)  | meaium aense (10-30)  | meaium suff (4-3)  | siightiv pia   |
| Blow Counts   | Зеагоск   | Pebbly  | weil   | coarse  | supanguar  | aense (30-50)   | sañ (8-15)   | BOBDIASE   |
| PID/FID   | Veathered?)<br>USCS:  | ······································  |  | cobbles/boulders  | angular  | Cerr deuse (>201  |  | Moistur  |
| 13  |   |   |  |   |  |   |  | Camp   |
| NOTES:  |   |   |  |   |  |   |  | TIOIST   |
|   |   |   |  |   |  |   |  | vet  |
|   | Primary   | Subordinate   | - <u></u>  | <u></u>   |  | _ <u></u>   |  | saturate   |
|   | Lithology   | Lithology   |  | Grain Size  | Angalarity   | Induration  | Induration   | Plasticit  |
| Depth/Interval  | Gravei  | Graveily  | Coior  | (sand/gravei)   | (sand/gravei)  | sand/gravel)  | sut/clay)  | silt/clay  |
|   | 5100  | Sandy   |  | very fine   | weil rounded   | verv loose (<4 blows/ft)  | verv soft (<2)   | very plas  |
| Sample ID   | Silt  | Siity   | Sornng (sand/gravel)   |   | rounded  | ())<br>())<br>())<br>())<br>())<br>())<br>())<br>())<br>())<br>())  | son (2-4)  | CIASUC   |
| Blow Counts   |   | <u>Clavey</u><br>Pebbiy   | very weil<br>weil  | coarse  | suprounded   | neaium aense (10-30)<br>iense (30-50)   | <u>mecuum smif (4-3)</u><br>suff (3-15)  | slightly pia   |
|   | Weathered?)   |   |  |   | inguiar  | erv dense (>50)   |  | Moistur  |
| PID/FID   |   | ·   |  | verv coarse   |  | · erv deuse (>30)   | verv saif (15-30)  |  |
| PIDIFID   | USCS:   | "ai-  |  | coobles/boulders  |  |   | 2aru (>30)   | vrد.   |
|   |   |   | VITOOC   |   |  |   | · · · · · · · · · · · · · · · · · · ·  | jamp   |
| NOTES:  |   |   | VITOOC   |   |  |   | · · · · · · · · · · · · · · · · · · ·  | iamp<br>moist  |
|   |   |   | VITOOC   |   |  |   | · · · · · · · · · · · · · · · · · · ·  | jamp   |
|   |   |   | VITOOC   |   |  |   | · · · · · · · · · · · · · · · · · · ·  | iamp<br>moist<br>wet<br>saturated  |
| NOTES:  | USCS:<br>Primary<br>Lithology   | Subordinate<br>Lithology  | V1100C   | Grain Size  | Anguiarity   | Induration  | 00012000   | iamp<br>moist<br>wet<br>saturated<br>Plasticit   |
| NOTES:  | USCS:<br>Primary<br>Lithology<br>Gravei   | Subordinate<br>Lithology<br>Gravelly  | VITOOC   | Grain Size<br>(sand/gravei)   | (sand/gravei)  | induration<br>(sand/gravei)   | inourstion<br>subclay)   | jamp<br>moist<br>wet<br>saturated<br>Plasticit<br>(silt/clay   |
| NOTES:  | Primary<br>Lithology<br>Gravei<br>Sand  | Subordinate<br>Lithology<br>Jravelly<br>Sangy   | Doorly<br>VETY DOORLY<br>Color   | Grain Size<br>(sand/gravel)<br>very fine  | (sand/gravei)<br>weil rounded  | induration<br>(sand/gravet)<br>::erv ::oose (<4 blowsyft)   | induration<br>subvelay)  | iamp<br>moist<br>wet<br>saturated<br>Plasticit   |
| NOTES:  | USCS:<br>Primary<br>Lithology<br>Gravei   | Subordinate<br>Lithology<br>Gravelly  | V1100C   | Grain Size<br>(sand/gravei)   | (sand/gravei)  | induration<br>(sand/gravei)   | inourstion<br>subclay)   | Jamp<br>moist<br>wet<br>saturated<br>Plasticit<br>(silt/clay<br>very blast   |
| NOTES:  | Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrocx   | Subordinate<br>Lithology<br>Gravelly<br>Sanay<br>Silty<br>Clavey<br>Pebbly  | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil   | Grain Size<br>(sand/gravel)<br>very fine<br>fine  | (sand/gravet)<br>weil rounded<br>rounded<br>suorounded<br>subanguiar   | Induration<br>(sand/gravei)<br>::erv :oose (<4 blows/ft)<br>::oose (4-i0)<br>:meaum dense (10-30)<br>:eense (30-50)   | inouration<br>silvclay)<br>verv sott (<2)<br>sott (2-4)<br>meanum soff (4-3)<br>sott (8-15)  | iamp<br>moist<br>wet<br>saurated<br>Plasticit<br>(silt/clay<br>very blast<br>plastic<br>singntly plast<br>popplasti  |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts  | USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrocx<br>Weathered?)   | Subordinate<br>Lithology<br>Graveilv<br>Sanav<br>Silty<br>Clavev<br>Pebbly<br>2611  | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately   | Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>medium<br>coarse<br>very coarse   | (sand/gravei)<br>weil rounded<br>rounded<br>suprounded   | Induration<br>(sand/gravel)<br>::etv.:oose (<4 blows/ft)<br>::oose (4-i0)<br>:medium dense (10-30)  | lnouration<br>subclay)<br>verv soft (<2)<br>iott (2-4)<br>metum soft (4-3)<br>iott (3-15)<br>verv soff (15-30)   | jamp<br>moist<br>wet<br>saturated<br>Plasticit<br>(silt/clay<br>verv blast<br>plastic<br>slightly plast<br>slightly plast<br>Moistur   |
| NOTES:<br>Depth/Interval<br>Sample ID   | Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrocx   | Subordinate<br>Lithology<br>Gravelly<br>Sanay<br>Silty<br>Clavey<br>Pebbly  | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly   | Grain Size<br>(sand/gravei)<br>verv fine<br>fine<br>medium<br>coarse  | (sand/gravet)<br>weil rounded<br>rounded<br>suorounded<br>subanguiar   | Induration<br>(sand/gravei)<br>::erv :oose (<4 blows/ft)<br>::oose (4-i0)<br>:meaum dense (10-30)<br>:eense (30-50)   | inouration<br>silvclay)<br>verv sott (<2)<br>sott (2-4)<br>meanum soff (4-3)<br>sott (8-15)  | iamp<br>moist<br>wet<br>saurated<br>Plasticit<br>(silt/clay<br>very blast<br>plastic<br>sligntly pla<br>sopplasti  |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts  | USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrocx<br>Weathered?)   | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Silty<br>Clavey<br>Pebbly<br>2500<br>2500<br>2500  | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately   | Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>medium<br>coarse<br>very coarse   | (sand/gravet)<br>weil rounded<br>rounded<br>suorounded<br>subanguiar   | Induration<br>(sand/gravei)<br>::erv :oose (<4 blows/ft)<br>::oose (4-i0)<br>:meaum dense (10-30)<br>:eense (30-50)   | lnouration<br>subclay)<br>verv soft (<2)<br>iott (2-4)<br>metum soft (4-3)<br>iott (3-15)<br>verv soff (15-30)   | jamp<br>moist<br>wet<br>saturated<br>Plasticit<br>(silt/clay<br>very blast<br>plastic<br>plastic<br>plastic<br>siigntly plast<br>mointurt<br>iry   |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID   | USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrocx<br>Weathered?)   | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Silty<br>Clavey<br>Pebbly<br>2500<br>2500<br>2500  | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly   | Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>medium<br>coarse<br>very coarse   | (sand/gravet)<br>weil rounded<br>rounded<br>suorounded<br>subanguiar   | Induration<br>(sand/gravei)<br>::erv :oose (<4 blows/ft)<br>::oose (4-i0)<br>:meaum dense (10-30)<br>:eense (30-50)   | lnouration<br>subclay)<br>verv soft (<2)<br>iott (2-4)<br>metum soft (4-3)<br>iott (3-15)<br>verv soff (15-30)   | iamp<br>moist<br>wet<br>sanirated<br>Plasticitr<br>sit/clay<br>verv blast<br>blastic<br>sitgnt/y plast<br>nonplasti<br>Moisturr<br>dry<br>jamp<br>moist<br>wet   |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID   | USCS:<br>Primary<br>Litbology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrocx<br>Weathered?)<br>USCS:  | Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.  | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly   | Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>medium<br>coarse<br>very coarse   | (sand/gravet)<br>weil rounded<br>rounded<br>suorounded<br>subanguiar   | Induration<br>(sand/gravei)<br>::erv :oose (<4 blows/ft)<br>::oose (4-i0)<br>:meaum dense (10-30)<br>:eense (30-50)   | lnouration<br>subclay)<br>verv soft (<2)<br>iott (2-4)<br>metum soft (4-3)<br>iott (3-15)<br>verv soff (15-30)   | iamp<br>moist<br>wet<br>saturated<br>Plasticit<br>silt/clay<br>erv blast<br>blastic<br>singnt/v plast<br>blastic<br>singnt/v plast<br>moistur<br>damp<br>moist   |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID   | VSCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrocx<br>Weathered?)<br>USCS:<br>Primary   | Subordinate<br>Lithology<br>Gravelly<br>Sanav<br>Silty<br>Clavev<br>Pebbly<br>2600<br>2600<br>2600<br>2600<br>2600<br>2600<br>2600<br>260   | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly   | Coobles bourders  | (sand/gravei)<br>weil rounded<br>rounded<br>subrounded<br>subangular<br>ingular  | Induration<br>(sand/grave()<br>   | lnouration<br>subclay)<br>verv sort (<2)<br>iott (2-4)<br>medium sorf (4-3)<br>i art (3-15)<br>verv sorf (15-30)<br>i arg (>30)  | iamp<br>moist<br>wet<br>sanirated<br>Plasticit<br>(silt/clay<br>very blast<br>bisgndy plas<br>bingndy bingndy bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingndy<br>bingn |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>NOTES:   | USCS:<br>Primary<br>Litbology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrocx<br>Weathered?)<br>USCS:  | Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.<br>Vo.  | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly   | Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>medium<br>coarse<br>very coarse   | (sand/gravet)<br>weil rounded<br>rounded<br>suorounded<br>subanguiar   | Induration<br>(sand/gravei)<br>::erv :oose (<4 blows/ft)<br>::oose (4-i0)<br>:meaum dense (10-30)<br>:eense (30-50)   | lnouration<br>subclay)<br>verv soft (<2)<br>iott (2-4)<br>metum soft (4-3)<br>iott (3-15)<br>verv soff (15-30)   | iamp<br>moist<br>wet<br>sanirated<br>Plasticitr<br>sit/clay<br>verv blast<br>blastic<br>sitgnt/y plast<br>nonplasti<br>Moisturr<br>dry<br>jamp<br>moist<br>wet   |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID   | Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology   | Subordinate<br>Lithology<br>Gravelly<br>Sanav<br>Silty<br>Clavev<br>Pebbly<br><sup>26</sup> 11<br><sup>26</sup> 111<br><sup>26</sup> 11<br><sup>26</sup> 11               | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly<br>very poorly  | Coobles bourders  | (sand/gravei)<br>weil rounded<br>rounded<br>suorounded<br>suorounded<br>subangular<br>ingular<br>Angularity  | Induration<br>(sand/gravel)<br>(cerv (cose (<4 blows/ft))<br>(cose (+i0))<br>(cose (+i0))<br>(cose (+i0))<br>(cerv dense (10-30))<br>(cerv dense (10-30))<br>(cerv dense (>50))<br>(cerv dense (  | induration<br>subclay)<br>verv sont (<2)<br>soft (2-4)<br>menum soft (4-3)<br>soft (3-15)<br>verv soft (15-30)<br>sart (5-15)<br>sart (15-30)<br>sart (>30)  | iamp<br>moist<br>wet<br>saturated<br>Plasticit<br>(silt/clay<br>verv blast<br>blastic<br>blastic<br>blastic<br>blastic<br>blastic<br>blastic<br>blastic<br>blastic<br>inguly pla<br>moist<br>wet<br>saturated<br>Plasticit<br>Plasticit<br>Plasticit   |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>NOTES:   | USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt                                    | Subordinate<br>Lithology<br>Graveilv<br>Sandv<br>Silty<br>Clavev<br>Pebblv<br>2561<br>2561<br>2561<br>2561<br>2561<br>2561<br>2561<br>2561  | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly<br>very poorly<br>Color<br>Sorting (sand/gravel)  | Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>medium<br>coarse<br>verv coarse<br>combles/bouiders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine   | (sand/gravei)<br>weil rounded<br>rounded<br>suorounded<br>suoangular<br>ingular<br>Angularity<br>(sand/gravei)<br>weil rounded<br>rounded                  | induration<br>(sand/gravel)<br>(cerv (cose (<4 blows/ft))<br>(cose (+4 (0))<br>(cose (+4 (0)))<br>(cense (30-50))<br>(cerv dense (10-30))<br>(cerv dense (10-30))<br>(cerv dense (10-30)<br>(cerv dense (10-30))<br>(cose (+10))  | 22rg (>30)<br>induration<br>subvelay)<br>very soft (<2)<br>soft (2-4)<br>medium soft (4-3)<br>soft (3-15)<br>very soft (15-30)<br>22rg (>30)<br>induration<br>subvelay)<br>very soft (<2)<br>soft (2-4)  | iamp<br>moist<br>wet<br>sanarated<br>Plasticit<br>silt/clay<br>verv plast<br>plastic<br>sligndy plas<br>nonplast<br>Moistur<br>diry<br>jamp<br>moist<br>wet<br>sanarated<br>Plasticit<br>(silt/clay<br>verv plast  |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>NOTES:<br>Depth/Interval<br>Sample ID                | USCS:<br>Primary<br>Lithology<br>Jravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav                            | Subordinate<br>Lithology<br>Graveilv<br>Sanav<br>Silty<br>Clavev<br>Pebbiv<br><sup>26</sup> 01<br><sup>26</sup> 01<br><sup></sup> | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly<br>very poorly<br>Color<br>Sorting (sand/gravel)<br>very weil   | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>medium<br>coarse<br>very coarse<br>cobbles/bouiders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>medium   | (sand/gravei)<br>weil rounded<br>rounded<br>suorounded<br>suorounded<br>suorounded<br>angular<br>Angularnty<br>(sand/gravei)<br>weil rounded<br>subrounded | induration<br>(sand/gravei)<br>(cerv (cose (<4 blowsyft))<br>(cose (-4 (0))<br>(cose (-4 (0))<br>(cerv dense (10-30))<br>(cerv dense (>50))<br>(cerv dense (>50))<br>(cerv dense (>50))<br>(cose (-4 blowsyft))<br>(cose (-4 (-10))<br>(cose (-4 (-10)))  | inouration<br>subclay)<br>verv soft (<2)<br>ioft (2-4)<br>medium soft (4-3)<br>verv soft (15-30)<br>ioft (15-30)<br>ioft (15-30)<br>ioft (15-30)<br>ioft (15-30)<br>ioft (2-4)<br>soft (<2)<br>soft (2-4)<br>medium soft (4-3)   | iamp<br>moist<br>wet<br>sanirated<br>Plasticitr<br>silt/clay<br>verv blast<br>blastic<br>slignt/y plast<br>moipiasti<br>Moisturr<br>dry<br>jamp<br>moist<br>wet<br>sanirated<br>Plasticitr<br>(silt/clay<br>verv plasti<br>blastic<br>slignt/y plastic   |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>NOTES:<br>Depth/Interval                             | USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock                 | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Silty<br>Clavey<br>Pebbly<br>2261<br>2261<br>2261<br>2261<br>2261<br>2261<br>2261<br>226   | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly<br>very poorly<br>very poorly<br>very poorly<br>very well<br>sorting (sand/gravel)<br>very well<br>well                   | Coobles boulders<br>Grain Size<br>(sand/gravel)<br>verv fine<br>fine<br>medium<br>coarse<br>very coarse<br>cobbles/boulders<br>Cobbles/boulders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>fine<br>medium<br>coarse   | (sand/gravei)<br>weil rounded<br>rounded<br>subangular<br>ingular<br>Angularity<br>(sand/gravei)<br>weil rounded<br>subrounded<br>subrounded               | Induration<br>(sand/gravel)<br>(cerv (cose (<4 blows/ft))<br>(cose (+10)<br>(cose (+10))<br>(cerv (cerve (>50))<br>(cerv (cerve (>50))<br>(cerv (cerve (>50))<br>(cerve (<4 blows/ft))<br>(cose (<4 blows/ft))<br>(cose (<4 blows/ft))<br>(cose (=10)<br>(cose (=10))<br>(cose (=10)) | incuration<br>siluciay)<br>verv soft (<2)<br>ioft (2-4)<br>meaning soft (4-3)<br>ioft (3-15)<br>verv soft (15-30)<br>iont (3-15)<br>iont (3-15)<br>iont (2-4)<br>iont (<2)<br>iont (<2) | iamp<br>moist<br>wet<br>sanarated<br>Plasticitr<br>(silt/clay<br>verv blast<br>bilt/clay<br>verv blast<br>bilt/clay<br>Moistur/<br>damp<br>moist<br>wet<br>sanarated<br>Plasticity<br>(silt/clay<br>verv plast<br>blastic<br>(silt/clay<br>verv plast<br>blastic<br>signtly plast  |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>NOTES:<br>Depth/Interval<br>Sample ID                | USCS:<br>Primary<br>Lithology<br>Jravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav                            | Subordinate<br>Lithology<br>Graveilv<br>Sanav<br>Silty<br>Clavev<br>Pebbiv<br><sup>26</sup> 01<br><sup>26</sup> 01<br><sup></sup> | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly<br>very poorly<br>Color<br>Sorting (sand/gravel)<br>very weil   | Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>medium<br>coarse<br>very coarse<br>cobbles/bouiders<br>Grain Size<br>(sand/gravel)<br>very fine<br>fine<br>medium   | (sand/gravei)<br>weil rounded<br>rounded<br>suorounded<br>suorounded<br>suorounded<br>angular<br>Angularnty<br>(sand/gravei)<br>weil rounded<br>subrounded | induration<br>(sand/gravei)<br>(cerv (cose (<4 blowsyft))<br>(cose (-4 (0))<br>(cose (-4 (0))<br>(cerv dense (10-30))<br>(cerv dense (>50))<br>(cerv dense (>50))<br>(cerv dense (>50))<br>(cose (-4 blowsyft))<br>(cose (-4 (-10))<br>(cose (-4 (-10)))  | inouration<br>subclay)<br>verv soft (<2)<br>ioft (2-4)<br>medium soft (4-3)<br>verv soft (15-30)<br>ioft (15-30)<br>ioft (15-30)<br>ioft (15-30)<br>ioft (15-30)<br>ioft (2-4)<br>soft (<2)<br>soft (2-4)<br>medium soft (4-3)   | iamp<br>moist<br>wet<br>sanirated<br>Plasticitr<br>silt/clay<br>verv blast<br>blastic<br>slignt/y plast<br>moipiasti<br>Moisturr<br>dry<br>jamp<br>moist<br>wet<br>sanirated<br>Plasticitr<br>(silt/clay<br>verv plasti<br>blastic<br>slignt/y plastic   |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>NOTES:<br>Depth/Interval<br>Sample ID                | USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>(Veathered?) | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Silty<br>Clavev<br>Pebbly<br>2401<br>2401<br>2401<br>2401<br>2401<br>2401<br>2401<br>2401  | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly<br>very poorly<br>very poorly<br>very ent<br>sorting (sand/gravel)<br>very well<br>moderately                             | Coobles bourders<br>Grain Size<br>(sand/gravei)<br>verv fine<br>fine<br>medium<br>coarse<br>verv coarse<br>coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders | (sand/gravei)<br>weil rounded<br>rounded<br>subangular<br>ingular<br>Angularity<br>(sand/gravei)<br>weil rounded<br>subrounded<br>subrounded               | Induration<br>(sand/gravel)<br>(cerv (cose (<4 blows/ft))<br>(cose (+10)<br>(cose (+10))<br>(cerv (cerve (>50))<br>(cerv (cerve (>50))<br>(cerv (cerve (>50))<br>(cerve (<4 blows/ft))<br>(cose (<4 blows/ft))<br>(cose (<4 blows/ft))<br>(cose (=10)<br>(cose (=10))<br>(cose (=10)) | incuration<br>silv(lay)<br>verv soft (<2)<br>soft (2-4)<br>medium soft (4-3)<br>soft (3-15)<br>verv soft (15-30)<br>sart (3-15)<br>verv soft (15-30)<br>soft (2-4)<br>medium soft (4-3)<br>soft (2-15)<br>verv soft (4-3)<br>soft (3-15)<br>verv soft (15-30)  | iamp<br>moist<br>wet<br>saturated<br>Plasticit<br>(silt/clay<br>verv blast<br>blastic<br>blastic<br>blastic<br>blastic<br>digndy plas<br>moist<br>wet<br>saturated<br>Plasticit<br>(silt/clay<br>verv plast<br>blastic<br>(silt/clay<br>verv plast<br>blastic<br>(silt/clay<br>verv blast<br>moist<br>wet<br>saturated<br>Plasticit<br>(silt/clay<br>verv plast<br>blastic<br>(silt/clay<br>verv blast<br>digndy plast<br>blastic<br>slight/v plast<br>blastic<br>slight/v plast<br>blastic<br>slight/v plast  |
| NOTES:<br>Depth/Interval<br>Sample ID<br>Blow Counts<br>PID/FID<br>NOTES:<br>Depth/Interval<br>Sample ID<br>slow Counts | USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>Weathered?)<br>USCS:<br>Primary<br>Lithology<br>Gravei<br>Sand<br>Silt<br>Clav<br>Bedrock<br>(Veathered?) | Subordinate<br>Lithology<br>Graveily<br>Sanav<br>Silty<br>Clavev<br>Pebbly<br>2611<br>2611<br>2611<br>2611<br>2611<br>2611<br>2611<br>261   | Color<br>Color<br>Sorting (sand/gravel)<br>very well<br>weil<br>moderately<br>poorly<br>very poorly<br>very poorly<br>very weil<br>color<br>Sorting (sand/gravel)<br>very weil<br>weil<br>moderately<br>poorly | Coobles bourders<br>Grain Size<br>(sand/gravei)<br>verv fine<br>fine<br>medium<br>coarse<br>verv coarse<br>coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders<br>Coobles/bourders | (sand/gravei)<br>weil rounded<br>rounded<br>subangular<br>ingular<br>Angularity<br>(sand/gravei)<br>weil rounded<br>subrounded<br>subrounded               | Induration<br>(sand/gravel)<br>(cerv (cose (<4 blows/ft))<br>(cose (+10)<br>(cose (+10))<br>(cerv (cerve (>50))<br>(cerv (cerve (>50))<br>(cerv (cerve (>50))<br>(cerve (<4 blows/ft))<br>(cose (<4 blows/ft))<br>(cose (<4 blows/ft))<br>(cose (=10)<br>(cose (=10))<br>(cose (=10)) | incuration<br>silv(lay)<br>verv soft (<2)<br>soft (2-4)<br>medium soft (4-3)<br>soft (3-15)<br>verv soft (15-30)<br>sart (3-15)<br>verv soft (15-30)<br>soft (2-4)<br>medium soft (4-3)<br>soft (2-15)<br>verv soft (4-3)<br>soft (3-15)<br>verv soft (15-30)  | iamp<br>moist<br>wet<br>samrated<br>Plasticit<br>(silt/clay<br>verv blast<br>blastic<br>siigndly pla<br>moistur<br>itry<br>jamp<br>moist<br>wet<br>samrated<br>Plasticit<br>(silt/clay<br>verv plast<br>blastic<br>siigndly pla<br>siigndly pla<br>siigndly pla<br>siigndly pla  |

Well No. MW-4 4 Sheton Nap Projuct PPL/East Hobbs Client Phillips Pipe Line 5 •3 Hobbs, NM Project Numb Location 8 1/11/00 33' Total Depth Diam Date Drilled • 8 7 24' Water depth (init.) 24.35 24-hrs. ace Elevation Sur 10 15 0.020 Screen: Dia. Length 2" 20 Type Sch 40 PVC Casing: Dia. Length Well Locations are Schuing Company Scarborough Drilling Drilling Method Air Rotary Notes approximate. Source L. Scarborand ung by C. Jensen Samoling Nethod GRAB Count Gruphic Log Constructio Description/Soil Classification Ξ lloles Blow Cou Recovery PBD (ppen) Well Sumple (Caler, Texture, Structure) Depth Concrete 2 4 Caliche, gray, tan to white, very dense, dry. 6 Bentonite 8 Silica .70 Sand Sarvid, brown, moderately to well sorted, medium ground, 24 Subrounded, dense, moist to wit. 28 30 - 22 - 34 -- 36 - 38 - 40-. 43 - 44 -46 48 -- 52-Page 1 of -

Well No. MW-5 Project PPL/East Hobbs client Phillips Pipe Line TSKetch Nap 5 •3 1 -%-1.9 Location Hobbs NM Project Number 8" 33 Diam • 8 11100 Total Depth 7 Sate Drilled 24 23.62 Water cepth (init.) 24-hrs. Survey Elevation 10 Stor Size 0.020 Length Screen: Dia. Sch 40 PVC 0 Length Casing: Sie. Well Locations are Notes Air Rotary Oming Company Scarborough Drilling Drilling Nethod approximate. GRAB sour L. Seathered us a C. Jenen Samaling Nethod Description/Soil Classification Constructio Hules Ξ (11-64) (Color, Texture, Structure) Recovery Well Graphic Depth Concrete Silty, sandy CALICHE, tan to white, very dense, dry. <u>}</u>X% Bentonite 3 3 Silica Sand SAND, some sitt and gravel, brown, fine to course grained, subrounded to rounded, dense to very dense, moist to wet. 30 -3- -- 34 -- 56 -- 38 -- 40--12 -. 44 -46--43 -- 50 -Page Lof 1

| Project <u>PPL/East Hobbs</u> Client <u>Phillip</u><br>Location <u>Hobbs</u> , <u>NM</u> Project Number<br>Bate Drilled <u>1/11/DO</u> Total Depth <u>33'</u><br>Surface Elevation <u>Water cepth (init.)</u> <u>24'</u><br>Screen: Dia. <u>2''</u> Length <u>15'</u><br>Casing: Dia. <u>2''</u> Length <u>20'</u><br>Bailing Company <u>Scarborough Drilling</u> Drilling Method | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |
|---|---|
| Date Drilled $1/11/00$ Total Depth $33'$<br>Surface Elevation Water cepth (init.) $24'$<br>Sarsen: Dia. $2''$ Length $15'$<br>Dasing: Dia. $2''$ Length $20'$   | 24-nre. <u>24.59</u><br>Sion Size <u>0.020</u><br>Type <u>Sch 40 PVC</u><br>Air Rotary Notes Well Locations are   |
| Screen: Dia. $2''$ Length $15'$<br>Dasing: Dia. $2''$ Length $20'$  |   |
| Casing: Dia. <u>2."</u> Langth <u>20</u> '  | Type Sch 40 PVC   |
|   | Air Rotary Notes Well Locations are   |
| Sound Company Scarborough Drilling Sound Method   |   |
|   |   |
| Stater L. Starboraud Log by C. Jenson Samaling Metho  | GRAB  |
| Nephi (II)<br>Welt<br>Welt<br>Construction<br>Sumple No.<br>Sumple No.<br>Sumple No.<br>(onth<br>Recovery<br>(10 (14m)<br>(19 (14m)   | Description/Soil Diassification<br>(Color, Texture, Structure)  |
| - 3 - Bentonite<br>- 10   | Caliche, gray to tan, very dense, dry.<br>red-brown to brown, medium to coarse grained,<br>ounded to rounded, dense, moist to wet.<br>Page $\perp$ of $\perp$ |

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Well No. <u>mw-7</u> Projuce PPL/East Hobbs client Phillips Pipe Line TSARCT NOD 5 •3 1 -%-Location Hobbs NM Project Number 8" ł 33' 1/12/00 Diameter Total Depth Sate Drilled • 8 7 24' 24-hrs. 24.57 Water cepth (init.) Surface Elevation 10 Sion Size 0.020 Langth Screen: Dia. 20 Type Sch 40 PVC Casing: Sia. Length Well Locations are Notes Scurborough Drilling Oriting Nethod Air Rotary Orising Company approximate. Some L. Searborned ing by C. Jensen GRAB Sampling Nethod Construction 3 Description/Soil Classification lilow Connl Ξ Hules Recovery FID (1440) Well Graphic (Caler, Texture, Structure) Sumple Concrete 3 X 0 - Caliche, tan to white, very dense, dry. 3 Bentonite <u>ک</u> ژ 1.2 14-16 - 13 Silica I SAND, some gravel, light brown to brown, moderately to ୍ଚଧ Sand well sorted, fine to medium grained, subrounded to rounded, very dense, moist to wet. - ;2 - 24 - 36 - 23 -- 30 -- چذ -÷., - 34 -- 36 -- 38 -- 40 -. 43 -. 44 -- 76 --43 -- 50-Page 1 of

Well No. MW-8 Project PPL/East Hobbs client Phillips Pipe Line TSARCT NOD 5 •3 <u>|</u> -%-•1•7 Location Hobos NM Project Number Å 8" 33 1<u>11/00</u> Diameter Total Depth • 8 7 Date Drilled <u> 24</u>' 2431 Water depth (init.) 24-hrs. Surface Elevation 10 0.020 15 Siot Size Length Screen: Dia. Type Sch 40 PVC 20 Langth Jasing: Dia. Well Locations are Notes Scarborough Drilling Orising Nethod Air Rotary approximate. Stilling Company GRAB Source L. Starborand Log of C. Jenson Nethod Sampling Description/Soli Classification 3 Construction Holes (11-1-1) Ξ (Color, Texture, Structure) Woll Graphic Depth HUW Concrete Sandy Caliche, tan to white, very dense, dry. 3 Bentonite 10 1.1 16 /3 Silica SAND, some silt and gravel, light brown to brown, moderately sorted, fine to medium grained, subrounded, very dense, moist to wet. .30 Sand ージン - .24 کاثر سے - 72 - 30 -÷., \_ - 52 -- 34 -- 36 -- 38 -- 40--13 -- 44 --- 46 --43 -- 52 -Page 1 of

| ·  |   | Well No. MW-9  |
|--|---|--|
| Project <u>PPL/East</u> A<br>Location <u>Hobbs</u> , NM            |   | TSWORCT NOD 3 5  |
| Date Drilled 1/11/00   | Total Depth <u>33' Diameter 8"</u>                              | · · · · · · · · · · · · · · · · · · ·                          |
| Surface Elevation  | Water cepth (init.) _ 24 <sup>1</sup> 24-hrs 26.82 <sup>1</sup> |  |
| Screen: Dig.   |   | 10   |
| Casing: Dia.   | Longth Type Sch 40 PVC  | Hours Well Locations are                                       |
| Sour L. Starborand ing by C  | Dugh Drilling Stilling Nethod Air Rotary                        | approximate.   |
|  |   |  |
| AL (II)<br>Well<br>Istructic                                       | - ' 듣' 곳' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '                       | n/Soil Classification<br>Pexture: Structure)                   |
| Dept.  | Sample<br>Sample<br>Grief<br>Grief<br>Grief<br>Grief<br>Grief   |  |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$             |   | vel, brown, moderately sorted,<br>ubrounded to rounded, dense, |
| - 36 -<br>- 38 -<br>- 40 -<br>- 42 -<br>- 44 -<br>- 46 -<br>- 43 - |   |  |

Well No. <u>MW-10</u> Project PPL/East Hobbs Client Phillips Pipe Line TSHERET NOD 5 •3 •1•9 Hebbs NM Project Number Location 8" <u>33</u>' Diameter • 8 12/00 Total Depth 7 Sale Grilled Water cepth (init.) <u>34'</u> 23.55 24-015. Surface Elevation 10 Sion Size 0.020 15 Length Screen: Dis. Sch 40 PVC 20 Туре Length Casing: Sia. Well Locations are Notes Orilling Method Air Rotary Scarborough Drilling approximate. Company Conting GRAB Sampling Vernod = C. Jenzn Some L. Scarporeus Log Description/Soli Classification Chapthic Log How Conn Hules Sumple H Ξ (11-1-1) (Color, Texture, Structure) Construct Recovery Wall Depth Â Xicnate Silty, surdy Caliche, white, very dense, dry. Bentonite 3 16 SAND, some silt and gravel, light brown to brown, moderately sorted, fine to medium grand, subrounded, very dense, moist. 13 Silica Sand -5 - 30 --- چيز -- 34 -- 36 -- 38 -- 40-- - -, 44 ----46-43 -.52-Page 1 of

| · · · · ·  | Well No. <u>MW-11</u>                                       |
|--|---|
| Project PPL/East Hobbs Client Phillips Pipe Line   | Sketch Map  |
| Location Hobbs NM Project Number   | -N-   |
| Date Drilled 4/6/00 Total Depth 30' Diameter 518"  | o mu-4<br>excevation  |
| Surface Elevation Water depth (init.) 24-hrs. 24-hrs. 26.74  | arca  |
| Screen: Dia. $2^{\prime\prime}$ Length $20^{\prime}$ Slot Size $0.020^{\prime\prime}$  | • mw-10 • mw-3  |
| Casing: Dia. <u>2"</u> Length <u>13</u> Type <u>PVC 5C640</u>  | mw-11 mw-12   |
| Drilling Company Scarborough Drilling Drilling Nethod Air Rotary   | Notes   |
| Driller L. Scarboragebog by C. Jensen Sampling Nethod Grab   |   |
|  |   |
| vuolistication (tri (tri (tri (tri (tri (tri (tri (tri   | Soil Classification   |
| ✓ Uepth (11)<br>Depth (11)<br>Constructio<br>Constructio<br>Constructio<br>Constructio<br>Constructio<br>Constructio<br>Constructio<br>Constructio<br>Constructio<br>Constructio | xture, Structure)   |
|  |   |
| -2-3 Concrete  |   |
| -2-m Concrete<br>-4-m X0-0 Caliche, white to tan, ver  | ydense, dry.  |
| - 6  |   |
|  | tal socied fine to medium                                   |
| - 12   | ately sorted, fine to medium<br>1. Subangularto subrounded, |
| -16- Silica Sond XO loose, dry to damp.  |   |
|  |   |
|  | 1   |
| -22-<br>-24-<br>-24-<br>-26-<br>-28-<br>-28-   | ie, moist.  |
|  |   |
|  |   |
|  |   |
| - 36   |   |
|  |   |
|  |   |
|  |   |
| - 478  |   |
|  |   |
|  | Page Lef 1  |

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|  |  | Well No. <u>MW-12</u>  |
|--|--|--|
| Project PPL/East H   | obbs Client Phillips Pipe Line                       | Sketch Nap   |
| Location <u>Hobbs</u> , NM   | Project Number                                       |  |
| Date Drilled 4/6/00  | Total Depth 35' Diameter 5%                          | o imul-4<br>excessation  |
| Surface Elevation  | Water depth (init.) 24-hrs. <u>33.58'</u>            | arce   |
| Screen: Dia  | Length <u>35'</u> Slot Size <u>0,030"</u>            | • mw-10 • mw-53  |
| Casing: Dia?   | Length 13' Type PVC 5ch 40                           | mw-11 mw-12  |
| Drilling Company <u>Scarboro</u>   | Dugh Drilling Drilling Nethod Air Rotary             | Notes  |
| Driller <u>L. Scarboraughog</u> by   | C. Jensen Sampling Method Grab                       |  |
| lon lon  |  | Soii Classification  |
| Depth (ft)<br>Well<br>Construction<br>Notes  |  | xture, Structure)  |
| Depth<br>K<br>N  | Sample<br>Sample<br>Recovery<br>Color. Le<br>Graphic |  |
| $ \begin{array}{c}         0 \\         -2 \\         -4 \\         -8 \\         -10 \\         -12 \\         -14 \\$ | Pebbly SAND, tan to light                            | densedry - some interbedded<br>tbrown, Moderately sorted,<br>subangular to subsounded, |

Page Lef -

| Well No. MW-13   |       |
|--|-------|
| Project PPL/East Hobbs Client Phillips PipeLine Sketch Nap   |       |
| Location East Hobbs Junction Project Number  |       |
| Date Drilled 5/31/00 Total Depth 34 Diameter 5" nw-6 o mw-9  |       |
| Surface Elevation Water depth (init.) Z4-hrs / / / /////////////////////////   |       |
| Screen: Dia. 2" Length 20 Stor Size 0,020" MW-18<br>Casing: Dia. 2" Length 17' Type Sch 40 PVC MW to MW-13   |       |
|  |       |
|  |       |
| Sources 5. Scarboraughing sy C. Higgins Samoling Nothed <u>GRAB</u>  | :     |
|  |       |
| (I)     Image: Structure       (I)     Image: Structure <td></td> |       |
|  |       |
|  |       |
| - 4 - X Concrete = - Caliche, white to light gray, very dense, dry   |       |
| $-s \rightarrow \chi$  |       |
| - 12 - 12<br>- 12 - 14 - : Bentonite XO- :-<br>- 14 - : SAND, pebbly, white to light gray, well screed, fine grain.  | ed,   |
| -14-15-15 Subrounded, loose, damp.   |       |
|  | (<br> |
|  |       |
| -24  |       |
|  |       |
| $\begin{array}{c} -30 - 4 \\ -32 - 4 \\ -32 \end{array} = \begin{array}{c} -32 \\ -32 \end{array}$   |       |
| $-34 - \frac{1}{2}$  |       |
|  |       |
| <i>40</i>  |       |
| _ 44 _<br>_ 46 _   |       |
| - 45 -   | 1     |
| -50-<br>Page 1 of 1  |       |
| Page _ A _   | 1     |

| Location <u>East Hobbs</u><br>Date Driked <u>5/31/00</u><br>Surface Elevation<br>Screen: Dia. <u>21</u>   | Tatal Depth <u>33</u> Diameter<br>Water depth (init.) <u>24-hrs.</u><br>Length <u>20</u> Stot Size <u>0</u> , | x - x - x - x - x - x - x - x - x - x -  |
|---|---|--|
| Smilling Company <u>Scarbor</u><br>Smiller <u>S. Scarboroug</u> ling sy <u>(</u>  | Dugh Drilling Drilling Nethod <u>Air Rota</u><br><u>Higgins</u> sameling Nethod <u>GRAB</u>                   | ry Notes inw-19  |
| $ \begin{array}{c} (1) \\ (1) $ | XO<br>XO<br>XO  | Calor. Texture. Structure)<br>stone, some sand, dense, dry.<br>maderately to will sorted, fine to wars<br>pular to subrounded, loose, moist to wit |
| - 36 -<br>- 36 -<br>40 -<br>42 -<br>- 44 -<br>- 44 -<br>- 48 -<br>- 50 -  |   |  |

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|  | Well No. MW-15   |
|--|--|
| Projuct PPL/East   | Hobbs client Phillips Pipe Line Skarch Nop   |
| Location East Hobbs  |  |
| Date Drilled <u>5/31/00</u>  | Total Depth 34 Diameter 5" nw-6 onw-9  |
| Surface Elevation  | Water depth (init.) 24-hrs aw 36 mw-10   |
| Screen: Dia  | Length   |
| Ossing: Dia  | Length Type Sch 40 PVC muse a mw-13  |
| stilling company <u>Scarbor</u>  | -ough Drilling Stilling Nethod Air Rotary Notes .nw-19   |
| Sinder S. Scarboroughing ov C  | C. Higgins Sampling Nethod <u>GRAB</u>   |
|  | 2 E S Description/Soil Classification  |
| b (II)<br>Well<br>Annch<br>Notes   | Color, Texture, Structure)   |
| Depth<br>Const   |  |
| $ \begin{array}{c} -6 \\ -8 \\ -8 \\ -78 \\ -78 \\ -74 \\ -74 \\ -76 \\ -78 \\ -78 \\ -78 \\ -78 \\ -78 \\ -78 \\ -78 \\ -78 \\ -78 \\ -78 \\ -78 \\ -78 \\ -78 \\ -78 \\ -74 \\ -$ | XO Rebbely SAND, tan to Lightboreun, moderately to wells<br>finegrained, Subrounded, loose, dry te damp.<br>XO = -<br>XO = - |
| - 50-  | proje_L °  |

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|  |   | Well No. <u>MW-16</u>  |
|--|---|--|
| - 1 - 1 - 1                                    | lobbs client Phillips Pipel   | ine Sketch Map   |
| Location <u>East Hobbs Ju</u>                  |   |  |
| Date Jrilled 5/31/00                           |   | 5" mu-15; mu-6 omw-9<br>   |
| Surface Elevation                              | Water depth (init.) 24-hrs  | amu-20 mu-12   |
| Screen: Dia. <u>2</u><br>Sasing: Dia. <u>2</u> | Length <u>20</u> Stot Size <u>0</u><br>Length <u>18</u> <sup>L</sup> Type Sch | ×₩-14  |
|  |   | HO FUC MUT I MUTIS   |
|  | ugh Drilling Drilling Notinos Air Rata  |  |
| Source 5. Scarboroughios or <u>C.</u>          | Higgins Sampling Nethod   | <u>3</u> <u></u>   |
| (), ())<br>Well<br>Struction<br>Hotes          |   | escription/Soil Classification   |
| no (n)<br>Mell<br>Notes<br>Notes               | Simple 1<br>Now Com<br>Recovery<br>Simplific 1                                | (Color, Texture, Structure)  |
|  | <u>, 7 € 2 € 5</u>  |  |
| -2   |   | gray, verydense, dry.<br>D, lightgrag to brown, fine to inedium<br>gular, boose, moist to wet. |
|  |   | Page 1L  |

DRILLING LOG

|  | Well No. MW-17   |
|--|--|
| Project PPL/East                         | Hobbs client Phillips Pipe Line Sketch Nop   |
| Location East Hobbs J                    | Tunction Project Number  |
| Date Drilled 6/1/00                      | Total Depth 34 Diameter 5" MW-6 mW-9   |
| Surface Elevation                        | Water depth (init.) 24-hrs aww-26 MW-12  |
| Screen: Dia                              | Length <u>20</u> Slot Size <u>0,020</u><br>Length <u>17</u> Type Sch 40 PVC MW 40 MW-18<br>MW-13   |
| Casing: Dia.                             |  |
| Sciller <u>S. Scarboray</u> Log by C     | ough Grining   |
|  |  |
| h. (H.)<br>Well<br>Struction<br>Hotes    | Operation     Solution       Image: Structure     Image: Structure       Image: Structure     Image: Structure   |
| Depth (1<br>Well<br>Construc             | (Color, Texture, Structure)<br>(Color, Texture, Structure)   |
| -2 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - | Caliche, light gray, dense, dry. X0 X0< |
|  | page 1 of 1  |

| Projuce <u>PPL/East</u> ,<br>Location <u>East Hobbs</u>  | Hobbs Client Phillip<br>Tunction Project Number | s PipeLine             |   |
|--|---|------------------------|---|
| Date Sriked (6/1/80  | Total Depth <u>34'</u>                          | Diameter 5"            | mu-15; mu-6 mw-9<br>mu-7 mw-8   |
| Surface Elevation  | Water depth (init.)                             | 24-hrs.                | mw-20 mw-10 mw-12   |
| Screen: Dia.   |   | Slot Size <u>0,070</u> | NW-18   |
| Casing: Dia  | Longth17  | Tro Sch 40 PVC         | muto nw-14 , nw-13  |
| Schling Semsony Scarbor  | ough Drilling Orilling Method _                 | Air Rotary             | Notes   |
| Driver 5, Scarboroughing av C  | Higgins Samoling Nothod                         | GRAB                   | · · · · · · · · · · · · · · · · · · ·   |
| (IL)<br>IL<br>ICHAN<br>IL  | Lib.  |                        | (Soil Classification  |
| Jejdi, (II)<br>Veli<br>Veli<br>Jonshuch<br>Hofey   | Sumple<br>Sumple<br>Recovery<br>Supplic         | (Calor, Te             | xture. Structure)   |
| $ \begin{array}{c} -6 \\ -8 \\ -8 \\ -70 \\ -70 \\ -70 \\ -74 \\ -76 \\ -76 \\ -77 \\ -76 \\ -77 \\ -76 \\ -77 \\ -76 \\ -77 \\ -76 \\ -77 \\ -76 \\ -77 \\ -76 \\ -77 \\ -76 \\ -77 \\ -76 \\ -77 \\ -77 \\ -76 \\ -77 \\ -$ | X0  | sebbly SAND, tan t     | lightgray, ucrydense, dry.<br>To brown, moderately to peerly s<br>Subangular to subrounded, m |

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| Survey Brootion were apply (min) $24 - mr.$<br>Survey Dia. $2^{"}$ Largin $20'$ Son Size $0.020'$ $mu'd$ $mu'd$ $mu'd'$  | Projuct <u>PPL/East</u><br>Location <u>East Hobbs</u><br>Date Drilled <u>6/1/00</u>  | Hobbs Client <u>Phillips Pipe Lin</u><br><u>Junction</u> Project Number<br> |  |
|--|--|---|--|
| Cealing Dec.<br>Cealing Dec.<br>Cealing Dec.<br>Cealing Decision Starborough Dilling Onling Venues Air Retary<br>Prints Ceanborough Scarborough Villing Onling Venues Air Retary<br>Prints Ceanborough Scarborough Villing Onling Venues<br>Cealing Decision/Soil Dessification (Court. Texture)<br>Court S. Scarborough Scarborough Venues (Court. Texture)<br>Court S. Scarborough Scarborough Venues (Court. Texture)<br>Court S. Scarborough Scarborough Venues (Court. Texture)<br>Court S. Scarborough Venues (Court Texture)<br>Court (Court Texture)  | 2"   |   | 0.00 - 10 - 12<br>mw-20 mw-11 0 mw-12<br>mw-18 |
| Drang Correction $\sum Carboraugh Criticity raining values \frac{1}{2} \frac{1}{2}$  | Casing: Dia.   | Length 17 Type Sch 40   | PVC muto mu-14 , mu-13                         |
| $ \begin{array}{c} (1) \\ (2) \\ (2) \\ (3) $  |  |   | <u>}</u>                                       |
| $= \frac{1}{2} - \frac{1}{2}$ $= \frac{1}{2} - \frac{1}{2} - \frac{1}{2}$ $= \frac{1}{2} - \frac{1}{2} - \frac{1}{2} - \frac{1}{2}$ $= \frac{1}{2} - \frac{1}{2} $ | Nepth (N)<br>Well<br>Construction  |   |  |
|  | $ \begin{array}{c} -6 \\ -8 \\ -8 \\ -72 \\ -72 \\ -74 \\ -76 \\ -78 \\ -78 \\ -78 \\ -77 \\ -78 \\ -77 \\ -78 \\ -77 \\ -78 \\ -77 \\ -78 \\ -77 \\ -78 \\ -77 \\ -78 \\ -77 \\ -78 \\ -77 \\ -78 \\ -77 \\ -78 \\ -77 \\ -78 \\ -77 \\ -78 \\ -77 \\ -77 \\ -78 \\ -77 \\ -$ |   |  |

Well No. MW-20 Project PPL/East Hobbs client Phillips Pipe Line Sketch Nop Location East Hobbs Junction Project Number 11/00 35 Diameter Date Drilled Total Depth mu-10 Water depth (init.) Surface Elevation 12 mw-12 20' 2 0.020 Slot Size Length Screen: Dia. MW-18 Sch 40 PVC mu to mw-13 Casing: Dia. .nw-19 Notes Scarborough Drilling Stilling Nothod Air Rot Criticing Company Smiler S. Scarborny Log ov C. Higgins GRAB Sampling Hethod Description/Soli Classification Huley Ξ nshucti Recovery (1111) Well (Calor, Texture, Structure) Heleft Ę Caliche Willimestane, light gray, dense, dry. Concrete Z0 Σo bentonite Xo-- Silty, pebbly SAND, tanto brown, moderately to poorly sorted  $\Sigma$  $X \circ z$ fine to medium grained, subangular to subrounded, losse to dense, moist to wet. Silica Sand x ° - 36 - 28  $\Sigma \circ \overline{}$ - 30 - 32 -34-3412 Xº-- 36 -- 38 -- 40 \_ .42-44-46 -- 43 -- 50page \_ l of \_

Well No. <u>SP-1</u> PPL/East Hobbs client Phillips Pipe Line Project Sketch Map East Hobbs Junction Project Number Location 5" <u>33.5'</u> 131/00 15; MW-6 Diameter Total Depth Date Drilled \* mw-8 qH-10 Water depth (init.) Surface Elevation 3 1mw-12 2 0.020 Slor Size Screen: Dia. MW-18 33.5 Sch 40 PVC mu io mw-13 Casing: Dia. Type Stilling Company Scarborough Drilling Oniling Nethod Notes Air Rotary .nw-19 Somer S. Scarboroughing on C. Higgins GRAB Sampling Hethod Sumple No. Blow Cound Graphic Log Description/Soil Classification Constructio Ξ Huley Recovery FID (ppm) Well (Calor, Texture, Structure) Depth Ο 2 = Caliche, some limestore, light gray, dense, day. Z1 8 concrete X٥ 10 D 14  $\mathbf{X}^{\mathbf{4}}$ 18 Pebbly SAND, tan to brown, fine to medium grained, will te poorly serted, subangular to subrounded, loose, with - 20 22 - 24 bentonite ماز. – - 28 - 30 E J. Silica - 32 --34 X  $\mu$  . - 36 -- 38 -\_ 40 \_ 42 -- 44 \_ - 46 -- 48 -- 50page 1 of 1

Appendix C

### Analytical Data



Higgins and Associates, 110

| ····           |                      |                   | l                 |                        |                   |               |
|----------------|----------------------|-------------------|-------------------|------------------------|-------------------|---------------|
| Well           | Date                 | Benzene<br>(ug/L) | Toluene<br>(ug/L) | Ethylbenzene<br>(ug/L) | Xylenes<br>(ug/L) | TPH<br>(ug/L) |
| MW-4           | 01/13/00             | <0.5              | <0.5              | <0.5                   | <0.5              | <2,000        |
| MW-4           | 04/06/00             | 19                | 0.83              | 1.2                    | 3.2               | <1,000        |
| MW-4           | 08/02/00             | 2                 | < 0.5             | <0.5                   | <2                | <980          |
|                |                      | _                 |                   |                        |                   |               |
| <b>MW-5</b>    | 01/13/00             | <0.5              | <0.5              | <0.5                   | <0.5              | <2,000        |
| <b>MW-5</b>    | 04/06/00             | <0.5              | <0.5              | <0.5                   | <2                | <1,000        |
| <b>MW-5</b>    | 08/02/00             | <0.5              | <0.5              | <0.5                   | <2                | <990          |
| MW-6           | 01/13/00             | 3,300             | 2,000             | 240                    | <b>58</b> 0       | <2,000        |
| MW-6           | 04/06/00             | 3,900             | 1,100             | 270                    | 540               | <1,000        |
| 141 44 -0      | 04/00/00             | 5,900             | 1,100             | 270                    | 540               | 1,000         |
| <b>MW-8</b>    | 01/13/00             | <0.5              | <0.5              | <0.5                   | <0.5              | <2,000        |
| <b>MW-8</b>    | 04/06/00             | <0.5              | <0.5              | <0.5                   | <2                | <1,000        |
| <b>MW-8</b>    | 08/02/00             | <0.5              | <0.5              | <0.5                   | <2                | <940          |
| <b>MW-1</b> 0  | 01/13/00             | 4,100             | 490               | 440                    | 720               | <2,000        |
| MW-10<br>MW-10 | 04/06/00             | 400               | 53                | 66                     | 98                | <1,000        |
| MW-10          | 08/02/00             | 220               | 12                | 27                     | 55                | <1100         |
|                | 00/02/00             | 220               |                   | 27                     |                   | 100           |
| <b>MW-11</b>   | 04/06/00             | 4,100             | 2,400             | 290                    | 420               | 1,600         |
| <b>MW-11</b>   | 08/02/00             | 3,900             | 2,100             | 260                    | 510               | 2,500         |
|                |                      | ,                 |                   |                        |                   |               |
| <b>MW-12</b>   | 04/06/00             | 2,000             | 200               | 110                    | 200               | <1,200        |
| <b>MW-12</b>   | 08/02/00             | 2,900             | 22                | 97                     | 160               | <970          |
| N. (XXX 1 2    | (12/00)              | -0.5              | <0.5              | <0.5                   | <2                | <1000         |
| MW-13<br>MW-13 | 6/2/00<br>8/2/00     | <0.5<br><0.5      | <0.5<br><0.5      | <0.5                   | <2<2              | <1000<br><990 |
| IVI VV-13      | 8/2/00               | <0.5              | <0.5              | <0.5                   | ~2                | ~990          |
| <b>MW-14</b>   | 6/2/00               | 370               | 5.3               | 1.7                    | 11                | <1000         |
| <b>MW-14</b>   | 8/2/00               | 760               | 1.9               | 2.9                    | 13                | <1000         |
|                |                      |                   |                   |                        |                   |               |
| MW-15          | 06/02/00             | 830               | 770               | 130                    | 170               | 2,100         |
| <b>MW-15</b>   | 08/02/00             | 330               | 250               | 42                     | 52                | 2,800         |
| <b>MW-16</b>   | 06/02/00             | 0.94              | 0.96              | 21                     | 6.9               | <1000         |
| MW-16          | 08/02/00             | <0.5              | <0.5              | 13                     | <2                | <1000         |
|                | 00,00,00             | 10,0              | 010               |                        | -                 |               |
| <b>MW-17</b>   | 06/02/00             | <0.5              | <0.5              | <0.5                   | <2                | <1000         |
| <b>MW-17</b>   | 08/02/00             | 6                 | <0.5              | 9.3                    | <2                | <970          |
| MAX 10         | 06/02/00             | 600               | 0.44              | 120                    | 45                | <1000         |
| MW-18<br>MW-18 | 06/02/00<br>08/02/00 | 600<br>780        | 0.66<br><0.5      | 120                    | 43<br>46          | <1000<br><990 |
| 141 44 - TO    | 06/02/00             | 700               | ~U.J              | 150                    | -10               | -770          |
| <b>MW-19</b>   | 06/02/00             | < 0.5             | <0.5              | <0.5                   | <2                | <1000         |
| <b>MW-19</b>   | 08/02/00             | 1.8               | 6.3               | < 0.5                  | 11.2              | <1000         |
|                |                      |                   |                   |                        |                   |               |

| Well           | Date                 | Benzene<br>(ug/L) | Toluene<br>(ug/L) | Ethylbenzene<br>(ug/L) | Xylenes<br>(ug/L) | TPH<br>(ug/L)  |
|----------------|----------------------|-------------------|-------------------|------------------------|-------------------|----------------|
| MW-20<br>MW-20 | 06/02/00<br>08/02/00 | <0.5<br>4         | <0.5<br>3.8       | <0.5<br>4.1            | <2<br>12.7        | <1000<br><1000 |
| <b>SP-1</b>    | 06/02/00             | 9.4               | 7.4               | 2.5                    | 7                 | <1000          |

| Well           | Date                 | Chloride<br>(mg/L) |
|----------------|----------------------|--------------------|
|                | 01/10/00             | •10                |
| MW-4           | 01/13/00             | 210                |
| MW-4           | 04/06/00             | 180                |
| MW-4           | 08/02/00             | 140                |
| MW-5           | 01/13/00             | 130                |
| MW-5           | 04/06/00             | 130                |
| <b>MW-5</b>    | 08/02/00             | 130                |
| 3.6337         | 01/12/00             | 220                |
| MW-6           | 01/13/00             | 230                |
| <b>MW-6</b>    | 04/06/00             | 200                |
| <b>MW-8</b>    | 01/13/00             | 160                |
| <b>MW-8</b>    | 04/06/00             | 90                 |
| <b>MW-8</b>    | 08/02/00             | 84                 |
| MAX 10         | 01/12/00             | 190                |
| MW-10          | 01/13/00<br>04/06/00 | 180<br>180         |
| MW-10          | 04/06/00             | 140                |
| <b>MW-10</b>   | 08/02/00             | 140                |
| <b>MW-11</b>   | 04/06/00             | 310                |
| <b>MW-11</b>   | 08/02/00             | 270                |
| MW-12          | 04/06/00             | 190                |
| MW-12<br>MW-12 | 08/02/00             | 150                |
| 111 11 - 12    | 00/02/00             | 150                |
| <b>MW-13</b>   | 6/2/00               | 91                 |
| <b>MW-13</b>   | 8/2/00               | 61                 |
|                | < 1 <b>0</b> 100     | 100                |
| MW-14          | 6/2/00               | 180                |
| <b>MW-14</b>   | 8/2/00               | 170                |
| <b>MW-15</b>   | 06/02/00             | 170                |
| <b>MW-15</b>   | 08/02/00             | 160                |
|                | 06/02/00             | 220                |
| MW-16<br>MW-16 | 06/02/00<br>08/02/00 | 220<br>210         |
| IVI VV-10      | 08/02/00             | 210                |
| <b>MW-17</b>   | 06/02/00             | 140                |
| <b>MW-17</b>   | 08/02/00             | 110                |
| <b>MW-18</b>   | 06/02/00             | 190                |
| MW-18          | 08/02/00             | 160                |
| TAT AA - 10    | 00/02/00             | 100                |
| <b>MW-19</b>   | 06/02/00             | 140                |
| <b>MW-19</b>   | 08/02/00             | 110                |
|                |                      |                    |

| Well          | Date     | Chloride<br>(mg/L) |  |  |
|---------------|----------|--------------------|--|--|
| <b>MW-2</b> 0 | 06/02/00 | 83                 |  |  |
| MW-20         | 08/02/00 | 66                 |  |  |
| SP-1          | 06/02/00 | 180                |  |  |

#### PPL/East Hobbs Hobbs, NM Inorganic Data

(Results in mg/L unless otherwise noted)

|                        | NM Standards for                  |          |          |          |          |               |
|------------------------|-----------------------------------|----------|----------|----------|----------|---------------|
| Analyte                | Groundwater with <10,000 mg/L TDS | MW-4     | MW-5     | MW-6     | MW-8     | <b>MW-1</b> 0 |
| Date                   |                                   | 01/13/00 | 01/13/00 | 01/13/00 | 01/13/00 | 01/13/00      |
| Lithium (ug/L)         |                                   | <100     | <100     | <100     | <100     | <100          |
| Silicon                |                                   | 103      | 44       | 34       | 32       | 80            |
| Strontium              |                                   | 1.7      | 1.3      | 1.3      | 1.1      | 2.5           |
| Uranium (ug/L)         | 5,000 ug/L                        | <20.0    | <20.0    | <20.0    | <20.0    | <20.0         |
| Mercury                | 0.002                             | <0.0002  | <0.0002  | < 0.0002 | <0.0002  | <0.0002       |
| Arsenic                | 0.1                               | 0.016    | 0.01     | 0.0085   | 0.0085   | 0.015         |
| Barium                 | 1                                 | 2.89     | 0.185    | 0.841    | 0.119    | 5.48          |
| Boron                  | 0.75                              | 0.18     | 0.15     | 0.14     | 0.16     | 0.19          |
| Cadmium                | 0.01                              | <0.0005  | <0.0005  | <0.0005  | <0.0005  | <0.002        |
| Calcium                |                                   | 710      | 120      | 170      | 89       | 540           |
| Chromium               | 0.05                              | 0.13     | <0.02    | <0.02    | <0.02    | 0.036         |
| Lead                   | 0.05                              | 0.0099   | <0.002   | <0.002   | <0.002   | 0.0065        |
| Magnesium              |                                   | 44       | 23       | 28       | 22       | 54            |
| Potassium              |                                   | 12       | 6.4      | 5.8      | 6.3      | 6,5           |
| Selenium               | 0.05                              | < 0.015  | < 0.003  | <0.003   | < 0.003  | < 0.015       |
| Silver                 | 0.05                              | <0.01    | < 0.01   | < 0.01   | < 0.01   | < 0.01        |
| Sodium                 |                                   | 170      | 43       | 93       | 58       | 62            |
| Alkalinity             |                                   | 660      | 170      | 230      | 110      | 400           |
| Bromide                |                                   |          |          |          |          |               |
| Chloride               | 0.1                               | 210      | 130      | 230      | 160      | 180           |
| Fluoride               | 1.6                               | 2.3      | 2.6      | 1.5      | 2.40     | 1.3           |
| Sulfate                | 600                               | 140      | 82       | <5.0     | 84       | 14            |
| Total Dissolved Solids | 1,000                             | 750      | 560      | 730      | 570      | 750           |
| pН                     | Between 6 and 9                   | 7.70     | 7.70     | 7.60     | 7.90     | 7.40          |
| Conductivity           |                                   | 1,090    | 840      | 1,160    | 980      | 1,040         |

### PPL/East Hobbs Hobbs, New Mexico

### Soil Analytical Data

|       |               |            | PID     |         |          |             |         |         |
|-------|---------------|------------|---------|---------|----------|-------------|---------|---------|
|       |               |            | Reading | Benzene | Toluene  | Ethylbenzen | Xylenes | ТРН     |
| Well  | Date          | Depth (ft) | (ppm)   | (mg/Kg) | (mg/Kg)  | e (mg/Kg)   | (mg/Kg) | (mg/Kg) |
| MW-1  | 04/27/99      | 22 - 24    | 264     | 0.071   | 1.202    | 1.014       | 3.487   | 5420    |
| MW-1  | 04/27/99      | 35 - 36    | 13      | < 0.002 | 0.008    | 0.007       | 0.024   | 372     |
|       |               |            |         |         |          |             |         |         |
| MW-2  | 04/27/99      | 20 - 22    | >2,000  | 0.082   | 1.589    | 1.369       | 5.002   | 7930    |
| MW-2  | 04/27/99      | 36 - 40    | 21      | 0.002   | 0.023    | 0.018       | 0.061   | 801     |
|       |               |            |         | i       |          |             |         |         |
| MW-3  | 07/15/99      | 18 - 20    | >2,000  | 0.448   | 4.767    | 2.338       | 7.485   | 5790    |
| MW-3  | 07/15/99      | 36 - 38    | 12      | < 0.002 | 0.002    | < 0.002     | 0.006   | 293     |
|       |               |            |         |         |          |             |         |         |
| MW-4  | 01/11/00      | 14 - 16    | 0.8     | < 0.025 | < 0.025  | < 0.025     | < 0.025 | <10     |
| MW-4  | 01/11/00      | 24 - 26    | 2.8     | < 0.025 | < 0.025  | < 0.025     | < 0.025 | <10     |
|       |               |            |         |         |          |             |         |         |
| MW-5  | 01/11/00      | 14 - 16    | 0.8     | < 0.025 | < 0.025  | < 0.025     | <0.025  | <10     |
| MW-5  | 01/11/00      | 24 - 26    | 1.6     | < 0.025 | < 0.025  | < 0.025     | <0.025  | <10     |
|       |               |            |         |         |          |             |         |         |
| MW-6  | 01/11/00      | 14 - 16    | 1.7     | < 0.025 | < 0.025  | < 0.025     | < 0.025 | <10     |
| MW-6  | 01/11/00      | 24 - 26    | 20      | < 0.025 | <0.025   | < 0.025     | < 0.025 | 12      |
|       |               |            |         |         |          |             |         |         |
| MW-7  | 01/12/00      | 14 - 16    | 1.1     | < 0.025 | <0.025   | < 0.025     | <0.025  | <10     |
| MW-7  | 01/12/00      | 24 - 26    | 177     | < 0.025 | < 0.025  | < 0.025     | < 0.025 | 32.7    |
|       |               |            |         |         |          |             |         |         |
| MW-8  | 01/11/00      | 14 - 16    | 0.8     | <0.025  | <0.025   | < 0.025     | <0.025  | <10     |
| MW-8  | 01/11/00      | 24 - 26    | 3,3     | <0.025  | <0.025   | <0.025      | < 0.025 | <10     |
|       |               |            |         |         |          |             |         |         |
| MW-10 | 01/12/00      | 14 - 16    | 13      | <0.025  | <0.025   | < 0.025     | <0.025  | <10     |
| MW-10 | 01/12/00      | 24 - 26    | 39      | < 0.025 | <0.025   | < 0.025     | <0.025  | <10     |
|       |               |            |         |         |          |             |         |         |
| MW-11 | 04/06/00      | 22         | 1       | <0.002  | <0.002   | <0.002      | < 0.002 | <9.8    |
| MW-11 | 04/06/00      | 24 - 26    | 1.4     | <0.002  | <0.002   | < 0.002     | <0.002  | <9.8    |
|       |               |            |         |         |          |             |         |         |
| MW-12 | 04/06/00      | 14 - 16    | 0       | <0,002  | < 0.002  | < 0.002     | <0.002  | <9.9    |
| MW-12 | 04/06/00      | 20 - 22    | 1.1     | <0.002  | <0.002   | <0.002      | <0.002  | <9.7    |
|       |               |            |         |         |          |             |         |         |
| MW-13 | 05/31/00      | 20-22      |         | <0.002  | <0.002   | <0.002      | <0.002  | <9.9    |
|       |               |            |         |         |          |             |         |         |
| MW-14 | 05/31/00      | 20-22      |         | < 0.002 | <0.002   | <0.002      | <0.002  | <9.8    |
|       |               |            |         |         |          |             |         |         |
| MW-15 | 05/31/00      | 5          |         | < 0.002 | <0.002   | <0.002      | <0.002  | <9.8    |
| MW-15 | 05/31/00      | 24-26      |         | <0.002  | < 0.002  | <0.002      | <0.002  | <9.7    |
| MW-15 | 05/31/00      | 28-30      | l       | <0.002  | <0.002   | <0.002      | <0.002  | <9.8    |
|       | 0.5 (0.5 10.5 |            |         |         |          |             |         |         |
| MW-16 | 05/31/00      | 20-22      |         | <0.002  | <0.002   | <0.002      | <0.002  | <9.7    |
|       | 0.6 10 4 10 5 |            |         |         | 10.000   |             |         |         |
| MW-17 | 06/01/00      | 22-24      | 0       | <0.002  | <0.002   | <0.002      | <0.002  | <9.9    |
| L     | . <u>.</u>    |            | L       |         | <u> </u> | l           | l       |         |



### PPL/East Hobbs Hobbs, New Mexico

### Soil Analytical Data

|

| MW-18 | 06/01/00 | 22-24 | 0 | < 0.002 | <0.002 | < 0.002 | < 0.002 | <9.9 |
|-------|----------|-------|---|---------|--------|---------|---------|------|
| MW-19 | 06/01/00 | 20-22 | 0 | < 0.002 | <0.002 | < 0.002 | < 0.002 | <9.8 |
| MW-20 | 06/01/00 | 22-24 | 0 | <0.002  | <0.002 | <0.002  | <0.002  | <9.9 |

Page 2 of 2

Appendix D

**Groundwater Elevation Data** 



CLIENT: FACILITY: LOCATION:

DATE:

Phillips Pipe Line East Hobbs Junction, NM Section 8, Township 19 S, Range 38 E Hobbs, New Mexico January 12, 2000

| WELL  |         |       |       |      | PT   | ADJ   |         |          |
|-------|---------|-------|-------|------|------|-------|---------|----------|
| ID    | ETC     | DTW   | DTP   | PT   | X.8  | DTW   | WTE     | COMMENTS |
| MW-1  | 3606.28 | 27.15 | 23.48 | 3.67 | 2.94 | 24.21 | 3582.07 |          |
| MW-2  | 3606.45 | 26.73 | 23.61 | 3.12 | 2.50 | 24.23 | 3582.22 | ·        |
| MW-3  | 3606.33 | 26.85 | 23.49 | 3.36 | 2.69 | 24.16 | 3582.17 |          |
| MW-4  | 3606.69 | 24.35 |       | 0.00 | 0.00 | 24.35 | 3582.34 |          |
| MW-5  | 3605.52 | 23.46 |       | 0.00 | 0.00 | 23.46 | 3582.06 |          |
| MW-6  | 3606.14 | 24.17 |       | 0.00 | 0.00 | 24.17 | 3581.97 |          |
| MW-7  | 3605.50 | 23.87 | 23.85 | 0.02 | 0.02 | 23.85 | 3581.65 |          |
| MW-8  | 3606.25 | 23.72 |       | 0.00 | 0.00 | 23.72 | 3582.53 |          |
| MW-9  | 3605.75 | 26.82 | 22.94 | 3.88 | 3.10 | 23.72 | 3582.03 |          |
| MW-10 | 3604.94 | 23.55 |       | 0.00 | 0.00 | 23.55 | 3581.39 |          |

ETC = Elevation Top of Casing DTW = Depth to water DTP = Depth to Petroleum Hydrocarbons

PT = Measured Petroleum Thickness ADJ. DTW = Adjusted Depth to Water WTE = Water Table Elevation PTE = Elevation Top of Petroleum N.A. = Not Applicable All measurements in linear feet



Higgins and Associates, LLC

CLIENT: FACILITY: LOCATION: DATE: Phillips Pipe Line East Hobbs Junction, NM Section 8, Township 19 S, Range 38 E Hobbs, New Mexico April 6, 2000

| WELL  |         |       |       |      | PT   | ADJ   |         |          |
|-------|---------|-------|-------|------|------|-------|---------|----------|
| ID    | ETC     | DTW   | DTP   | PT   | X.8  | DTW   | WTE     | COMMENTS |
| MW-1  | 3606.28 | 27.14 | 23.73 | 3.41 | 2.73 | 24.41 | 3581.87 |          |
| MW-2  | 3606.45 | 26.83 | 23.84 | 2.99 | 2.39 | 24.44 | 3582.01 |          |
| MW-3  | 3606.33 | 26.90 | 23.73 | 3.17 | 2.54 | 24.36 | 3581.97 |          |
| MW-4  | 3606.69 | 24.53 |       | 0.00 | 0.00 | 24.53 | 3582.16 |          |
| MW-5  | 3605.52 | 23.67 |       | 0.00 | 0.00 | 23.67 | 3581.85 |          |
| MW-6  | 3606.14 | 24.42 |       | 0.00 | 0.00 | 24.42 | 3581.72 |          |
| MW-7  | 3605.50 | 26.08 | 23.46 | 2.62 | 2.10 | 23.98 | 3581.52 | -        |
| MW-8  | 3606.25 | 24.01 |       | 0.00 | 0.00 | 24.01 | 3582.24 |          |
| MW-9  | 3605.75 | 26.72 | 23.19 | 3.53 | 2.82 | 23.90 | 3581.85 |          |
| MW-10 | 3604.94 | 23.78 |       | 0.00 | 0.00 | 23.78 | 3581.16 |          |
| MW-11 | 3608.06 | 26.74 |       | 0.00 | 0.00 | 26.74 | 3581.32 |          |
| MW-12 | 3604.40 | 23.58 |       | 0.00 | 0.00 | 23.58 | 3580.82 |          |

ETC = Elevation Top of Casing DTW = Depth to water DTP = Depth to Petroleum Hydrocarbons PT = Measured Petroleum Thickness ADJ. DTW = Adjusted Depth to Water WTE = Water Table Elevation PTE = Elevation Top of Petroleum N.A. = Not Applicable All measurements in linear feet



Higgins and Associates, LLC

CLIENT: FACILITY: LOCATION: DATE: Phillips Pipe Line East Hobbs Junction, NM Section 8, Township 19 S, Range 38 E Hobbs, New Mexico June 1, 2000

| WELL  |         |       |  |      | PT   | ADJ   |         |          |
|-------|---------|-------|--|------|------|-------|---------|----------|
| ID    | ETC     | DTW   | DTP                                    | PT   | X.8  | DTW   | WTE     | COMMENTS |
| MW-1  | 3606.28 | 27.16 | 23.85                                  | 3.31 | 2.65 | 24.51 | 3581.77 |          |
| MW-2  | 3606.45 | 26.85 | 23.95                                  | 2.90 | 2.32 | 24.53 | 3581.92 |          |
| MW-3  | 3606.33 | 26.90 | 23.85                                  | 3.05 | 2.44 | 24.46 | 3581.87 |          |
| MW-4  | 3606.69 | 24.63 |  | 0.00 | 0.00 | 24.63 | 3582.06 |          |
| MW-5  | 3605.52 | 23.76 |  | 0.00 | 0.00 | 23.76 | 3581.76 |          |
| MW-6  | 3606.14 | 24.47 |  | 0.00 | 0.00 | 24.47 | 3581.67 |          |
| MW-7  | 3605.50 | 26.25 | 23.49                                  | 2.76 | 2.21 | 24.04 | 3581.46 |          |
| MW-8  | 3606.25 | 24.06 |  | 0.00 | 0.00 | 24.06 | 3582.19 |          |
| MW-9  | 3605.75 | 26.68 | 23.32                                  | 3.36 | 2.69 | 23.99 | 3581.76 |          |
| MW-10 | 3604.94 | 23.84 | ······································ | 0.00 | 0.00 | 23.84 | 3581.10 |          |
| MW-11 | 3608.06 | 26.82 |  | 0.00 | 0.00 | 26.82 | 3581.24 |          |
| MW-12 | 3604.40 | 23.63 |  | 0.00 | 0.00 | 23.63 | 3580.77 |          |
| MW-13 | 3604.31 | 24.45 |  | 0.00 | 0.00 | 24.45 | 3579.86 |          |
| MW-14 | 3604.11 | 23.71 |  | 0.00 | 0.00 | 23.71 | 3580.40 |          |
| MW-15 | 3609.78 | 27.91 |  | 0.00 | 0.00 | 27.91 | 3581.87 |          |
| MW-16 | 3606.31 | 25.28 |  | 0.00 | 0.00 | 25.28 | 3581.03 |          |
| MW-17 | 3609.03 | 27.48 |  | 0.00 | 0.00 | 27.48 | 3581.55 |          |
| MW-18 | 3605.71 | 25.34 |  | 0.00 | 0.00 | 25.34 | 3580.37 |          |
| MW-19 | 3606.69 | 26.93 |  | 0.00 | 0.00 | 26.93 | 3579.76 | -        |
| MW-20 | 3611.50 | 29.30 |  | 0.00 | 0.00 | 29.30 | 3582.20 | · · ·    |
| SP-1  | 3606.21 |       |  | 0.00 | 0.00 | 0.00  |         |          |

ETC = Elevation Top of Casing

DTW = Depth to water

DTP = Depth to Petroleum

Hydrocarbons

PT = Measured Petroleum Thickness ADJ. DTW = Adjusted Depth to Water WTE = Water Table Elevation PTE ≈ Elevation Top of Petroleum N.A. ≈ Not Applicable All measurements in linear feet



Higgins and Associates, uc

CLIENT: FACILITY: LOCATION: DATE:

Phillips Pipe Line East Hobbs Junction, NM Section 8, Township 19 S, Range 38 E Hobbs, New Mexico August 2, 2000

| WELL  |         |       |       |      | PT   | ADJ   |         |           |
|-------|---------|-------|-------|------|------|-------|---------|-----------|
| ID    | ETC     | DTW   | DTP   | РТ   | X.8  | DTW   | WTE     | COMMENTS  |
| MW-1  | 3606.28 | 26.81 | 23.77 | 3.04 | 2.43 | 24.38 | 3581.90 |           |
| MW-2  | 3606.45 | 26.54 | 23.88 | 2.66 | 2.13 | 24.41 | 3582.04 |           |
| MW-3  | 3606.33 | 26.54 | 23.79 | 2.75 | 2.20 | 24.34 | 3581.99 |           |
| MW-4  | 3606.69 | 24.52 |       | 0.00 | 0.00 | 24.52 | 3582.17 |           |
| MW-5  | 3605.52 | 23.60 |       | 0.00 | 0.00 | 23.60 | 3581.92 |           |
| MW-6  | 3606.14 | 24.46 | 24.34 | 0.12 | 0.10 | 24.36 | 3581.78 |           |
| MW-7  | 3605.50 | 26.23 | 23.33 | 2.90 | 2.32 | 23.91 | 3581.59 |           |
| MW-8  | 3606.25 | 23.88 |       | 0.00 | 0.00 | 23.88 | 3582.37 |           |
| MW-9  | 3605.75 | 26.33 | 23.27 | 3.06 | 2.45 | 23.88 | 3581.87 |           |
| MW-10 | 3604.94 | 23.70 |       | 0.00 | 0.00 | 23.70 | 3581.24 |           |
| MW-11 | 3608.06 | 26.69 |       | 0.00 | 0.00 | 26.69 | 3581.37 |           |
| MW-12 | 3604.40 | 23.45 |       | 0.00 | 0.00 | 23.45 | 3580.95 |           |
| MW-13 | 3604.31 | 24.18 |       | 0.00 | 0.00 | 24.18 | 3580.13 |           |
| MW-14 | 3604.11 | 23.54 |       | 0.00 | 0.00 | 23.54 | 3580.57 | ········· |
| MW-15 | 3609.78 | 27.85 |       | 0.00 | 0.00 | 27.85 | 3581.93 |           |
| MW-16 | 3606.31 | 25.17 |       | 0.00 | 0.00 | 25.17 | 3581.14 |           |
| MW-17 | 3609.03 | 27.39 |       | 0.00 | 0.00 | 27.39 | 3581.64 |           |
| MW-18 | 3605.71 | 25.15 |       | 0.00 | 0.00 | 25.15 | 3580.56 |           |
| MW-19 | 3606.69 | 26.73 |       | 0.00 | 0.00 | 26.73 | 3579.96 |           |
| MW-20 | 3611.50 | 29.83 |       | 0.00 | 0.00 | 29.83 | 3581.67 |           |
| SP-1  | 3606.21 | 26.15 |       | 0.00 | 0.00 | 26.15 | 3580.06 |           |

ETC = Elevation Top of Casing

DTW = Depth to water

DTP = Depth to Petroleum

Hydrocarbons

PT = Measured Petroleum Thickness

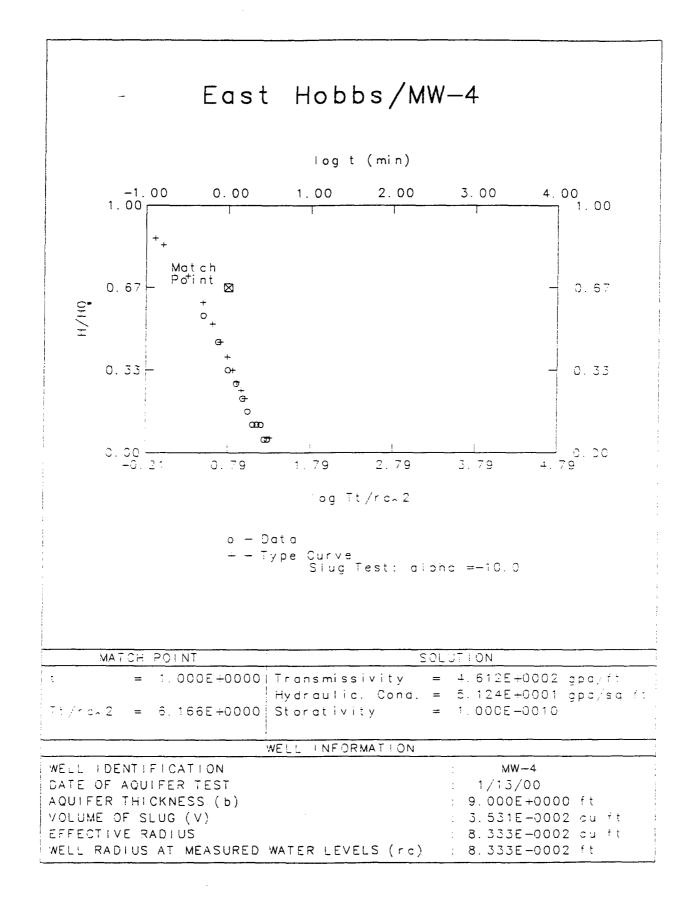
ADJ. DTW = Adjusted Depth to Water WTE = Water Table Elevation PTE = Elevation Top of Petroleum N.A. = Not Applicable All measurements in linear feet

Appendix E

Aquifer Test Data



Higgins and Associates, LLC

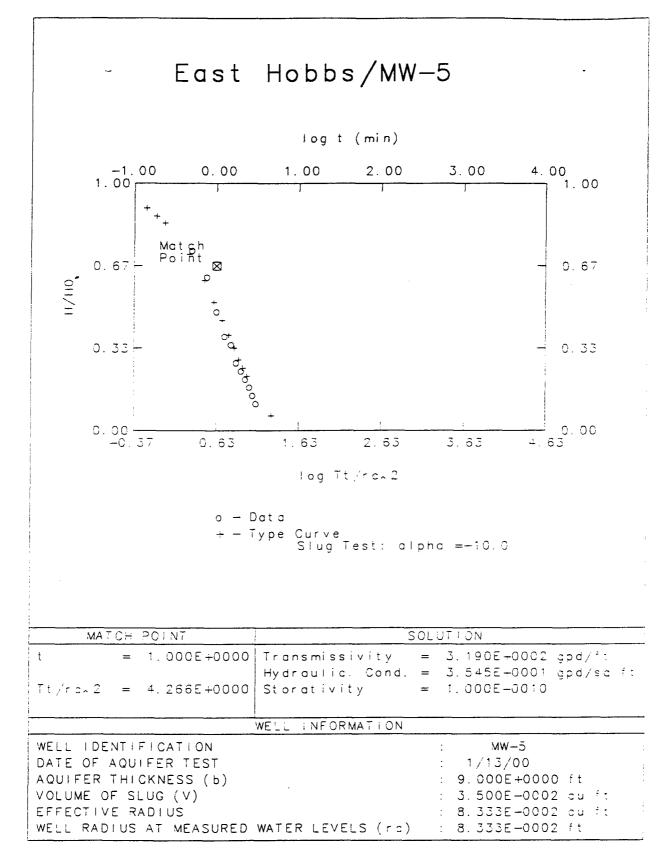


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### Data for Slug Injection/Withdrawal Test

Well Name:MW-4Date of Test:1/13/00Aquifer Thickness (b):9.000 ftChange in Vol.of Water =0.035 cu ftEffective Radius of Well =0.083 ftRadius of Casing(rc) over Water Level Decline =0.083 ft

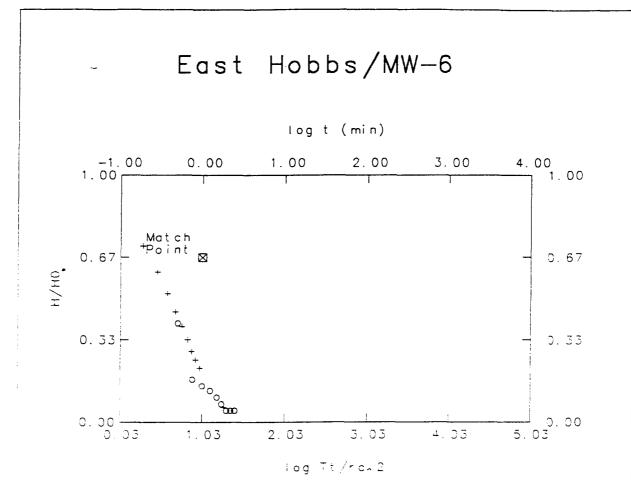
| Entry<br>No. | Time(t)<br>(min) | Head<br>(ft) | H<br>(ft) | н/но                    |
|--------------|------------------|--------------|-----------|-------------------------|
| *******      | *****            | ****         | ****      | * * * * * * * * * * * * |
| 1            | 0.000            | 24.370       |           |                         |
| 2            | 0.250            | 24.550       | 0.180     | 1.000                   |
| 3            | 0.500            | 24.470       | 0.100     | 0.556                   |
| 4            | 0.750            | 24.450       | 0.080     | 0.444                   |
| 5            | 1.000            | 24.430       | 0.060     | 0.333                   |
| 6            | 1.250            | 24.420       | 0.050     | 0.278                   |
| 7            | 1.500            | 24.410       | 0.040     | 0.222                   |
| 8            | 1.750            | 24.400       | 0.030     | 0.167                   |
| 9            | 2.000            | 24.390       | 0.020     | 0.111                   |
| 10           | 2.250            | 24.390       | 0.020     | 0.111                   |
| 11           | 2.500            | 24.390       | 0.020     | 0.111                   |
| 12           | 2.750            | 24.380       | 0.010     | 0.056                   |
| 13           | 3.000            | 24.380       | 0.010     | 0.056                   |



#### Data for Slug Injection/Withdrawal Test

Well Name: MW-5 Date of Test: 1/13/00
Aquifer Thickness (b): 9.000 ft
Change in Vol.of Water = 0.035 cu ft
Effective Radius of Well = 0.083 ft
Radius of Casing(rc) over Water Level Decline = 0.083 ft

| Entry<br>No. | Time(t)<br>(min) | Head<br>(ft) | H<br>(ft) | н/но  |
|--------------|------------------|--------------|-----------|-------|
| ******       | ****             | ****         | ****      | ***** |
| 1            | 0.000            | 23.420       |           |       |
| 2            | 0.250            | 23.710       | 0.290     | 1.000 |
| 3            | 0.500            | 23.630       | 0.210     | 0.724 |
| 4            | 0.750            | 23.600       | 0.180     | 0.621 |
| 5            | 1.000            | 23.560       | 0.140     | 0.483 |
| 6            | 1.250            | 23.530       | 0.110     | 0.379 |
| 7            | 1.500            | 23.520       | 0.100     | 0.345 |
| 8            | 1.750            | 23.500       | 0.080     | 0.276 |
| 9            | 2.000            | 23.490       | 0.070     | 0.241 |
| 10           | 2.250            | 23.480       | 0.060     | 0.207 |
| 11           | 2.500            | 23.470       | 0.050     | 0.172 |
| 12           | 2.750            | 23.460       | 0.040     | 0.138 |
| 13           | 3.000            | 23.450       | 0.030     | 0.103 |



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o — Data + — Type Curve Slug Test: alpha =-10.0

| MAT  | CH POINT      | C C C C C C C C C C C C C C C C C C C | SOLUT ON  |
|--|---------------|---------------------------------------|---|
|  | = 1.000E+0000 | -                                     | = 3.014£+0002 gpd/ft<br>= 3.904£+0001 gpd/sd it   |
| Tt /r ch 2                                 | = 1.072E+0001 | Storativity                           | = 1.000E-0010   |
|  |               | WELL INFORMATION                      |   |
| DATE OF<br>AQUIFER<br>VOLUME O<br>EFFECTIV |               | WATER LEVELS (rc)                     | : MW-6<br>1/13/00<br>9.000E+0000 ft<br>3.500E+0002 cu ft<br>3.333E+0002 cu ft<br>8.333E+0002 ft |

### Data for Slug Injection/Withdrawal Test

Well Name: MW-6 Date of Test: 1/13/00
Aquifer Thickness (b): 9.000 ft
Change in Vol.of Water = 0.035 cu ft
Effective Radius of Well = 0.083 ft
Radius of Casing(rc) over Water Level Decline = 0.083 ft

| Entry<br>No. | Time(t)<br>(min) | Head<br>(ft)            | H<br>(ft) | H/H0                    |
|--------------|------------------|-------------------------|-----------|-------------------------|
| *****        | *****            | * * * * * * * * * * * * | *****     | * * * * * * * * * * * * |
| 1            | 0.000            | 24.200                  |           |                         |
| 2            | 0.250            | 24.600                  | 0.400     | 1.000                   |
| 3            | 0.500            | 24.360                  | 0.160     | 0.400                   |
| 4            | 0.750            | 24.270                  | 0.070     | 0.175                   |
| 5            | 1.000            | 24.260                  | 0.060     | 0.150                   |
| 6            | 1.250            | 24.250                  | 0.050     | 0.125                   |
| 7            | 1.500            | 24.240                  | 0.040     | 0.100                   |
| 8            | 1.750            | 24.230                  | 0.030     | 0.075                   |
| 9            | 2.000            | 24.220                  | 0.020     | 0.050                   |
| 10           | · 2.250          | 24.220                  | 0.020     | 0.050                   |
| 11           | 2.500            | 24.220                  | 0.020     | 0.050                   |
| 12           | 2.750            | 24.210                  | 0.010     | 0.025                   |
| 13           | 3.000            | 24.210                  | 0.010     | 0.025                   |

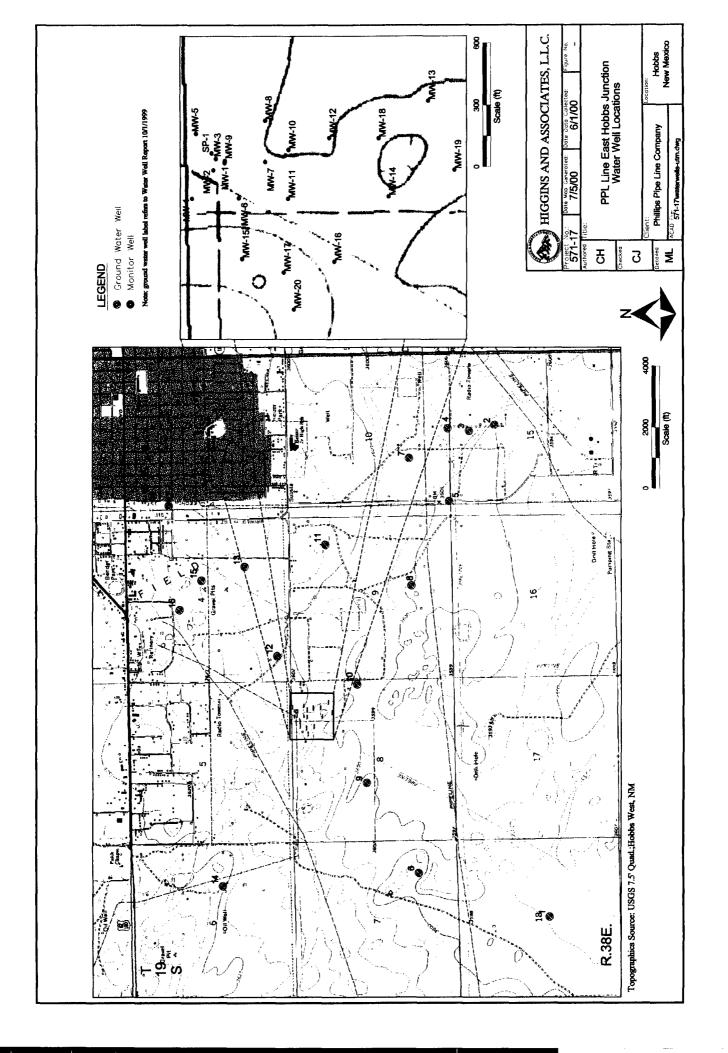
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Appendix F

Well Records



Higgins and Associates, LLC





Information

Solutions, Inc.

Banks

## Water Well Report<sup>™</sup>

October 1, 1999

CLIENT

Higgins and Associates

9940 East Costilla Avenue, Suite B

Englewood, CO 80112

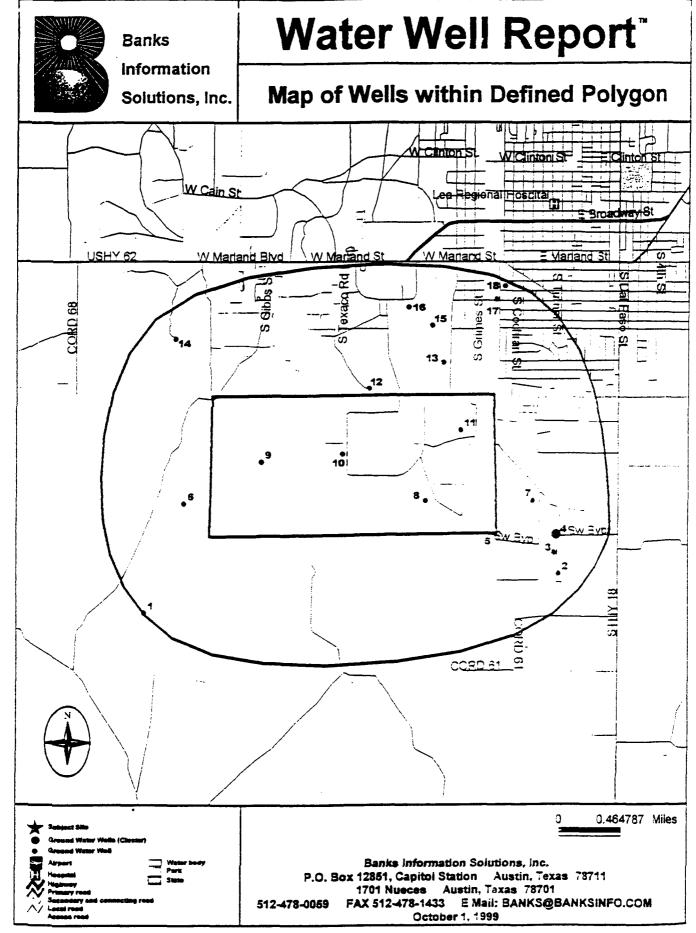
SITE

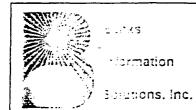
Hobbs and East Hobbs

Sections 8 & 9

Hobbs, New Mexico

100199-044





### DETAILS

| State ID        | 323933103111401  | MAP ID |
|-----------------|------------------|--------|
| Banks ID        | 3502501220       | 1      |
| Owner Of Well   | COCHRAN, C.B.    |        |
| Type Of Well    | Domestic         |        |
| Depth Drilled   | N/A '            |        |
| Completion Date | N/A              |        |
| Longitude       | -103.18722222    |        |
| Latitude        | 32.6591666667    |        |
| State ID        | 323948103080501  | MAP ID |
| Banks ID        | 3502501233       | 2      |
| Owner Of Well   | WALKER OIL CORP. |        |
| Type Of Well    | Unusea           |        |
| Depth Drilled   | 58'              |        |
| Completion Date | N/A              |        |
| Longitude       | -103.13472222    |        |
| Latitude        | 32.663333333     |        |
| State ID        | 323956103080701  | MAP ID |
| Banks ID        | 3502501238       | 3      |
| Owner Of Well   | MIDWEST OIL CO.  |        |
| Type Of Well    | Unused           |        |
| Depth Drilled   | N/A '            |        |
| Completion Date | N/A              |        |
| Longitude       | -103.13527778    |        |
| Latitude        | 32.665555556     |        |



### DETAILS

| State ID              | 324003103080601     | MAP ID |
|-----------------------|---------------------|--------|
| Banks ID              | Banks ID 3502501242 |        |
| Owner Of Well         | SHELL OIL CO.       |        |
| Type Of Well          | Unused              |        |
| Depth Drilled         | 37'                 |        |
| Completion Date       | N/A                 |        |
| Longitude             | -103.135            |        |
| Latitude              | 32.6675             |        |
| State ID              | 324003103080602     | MAP ID |
| Banks ID              | 3502501243          | 4      |
| Owner Of Well         | SHELL OIL CO.       |        |
| Type Of Well          | Unused              |        |
| Depth Drilled         | - 1ô ,              |        |
| Completion Date       | N/A                 |        |
| Longitude             | -103.135            |        |
| La <del>iit</del> ude | 32.6675             |        |
| State ID              | 324003103083401     | MAP ID |
| Banks ID              | 3502501244          | 5      |
| Owner Of Well         | PAN AMERICAN PET.   |        |
| Type Of Well          | Unused              |        |
| Decth Drilled         | N/A                 |        |
| Completion Date       | N/A                 |        |
| Longitude             | -103.14277778       |        |
| Latitude              | 32.6675             |        |



iormation

Junions, inc.

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## Water Well Report<sup>™</sup>

### DETAILS

| State ID        | 324015103105601 | MAP ID |
|-----------------|-----------------|--------|
| Banks ID        | 3502501249      | 6      |
| Owner Of Well   | COCHRAN,        |        |
| Type Of Well    | Stock           |        |
| Depth Drilled   | N/A '           |        |
| Completion Date | N/A             |        |
| Longitude       | -103.18222222   |        |
| Latitude        | 32.6708333333   |        |
| State ID        | 324016103081701 | MAP ID |
| Banks ID        | 3502501252      | 7      |
| Cwner Of Well   | THORP. D.C.     |        |
| Type Cf Well    | Irrigation      |        |
| Depth Drilled   | 125 '           |        |
| Completion Date | N/A             |        |
| Longitude       | -103.13805556   |        |
| Latitude        | 32.671111111    |        |
| State ID        | 324016103090601 | MAP ID |
| Banks ID        | 3502501253      | 8      |
| Owner Of Well   | TERRY, WILL     |        |
| Type Cf Well    | Stock           |        |
| Depih Drilled   | N/A '           |        |
| Completion Date | N/A             |        |
| Longitude       | -103.15166667   |        |
| Latitude        | 32.671111111    |        |

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### DETAILS

| State ID        | 324031103102101      | MAP ID |
|-----------------|----------------------|--------|
| Banks ID        | 3502501263           | 9      |
| Owner Of Well   | BYROM, W.K.          |        |
| Type Of Well    | Unused               |        |
| Depth Drilled   | N/A'                 |        |
| Completion Date | N/A                  |        |
| Longitude       | -103.1725            |        |
| Latitude        | 32.6752777778        |        |
| State ID        | 324034103094401      | MAP ID |
| Banks ID        | 3502501265           | 10     |
| Owner Cf Weil   | GACKLE, ALBERT       |        |
| Type Of Well    | Unused               |        |
| Depth Drilled   | N/A                  |        |
| Completion Date | N/A                  |        |
| Longitude       | -103.16222222        |        |
| Latitude        | 32.6761111111        |        |
| State ID        | 324043103085001      | MAP ID |
| Banks ID        | 3502501273           | 11     |
| Owner Of Well   | AMOCO PRODUCTION CO. | !      |
| Type Cf Well    | Unused               |        |
| Depth Drilled   | N/A '                |        |
| Completion Date | N/A                  |        |
| Longitude       | -103.14722222        |        |
| Latitude        | 32.6786111111        |        |

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### DETAILS

| <u> </u>        |                 |        |
|-----------------|-----------------|--------|
| State ID        | 324059103093201 | MAPID  |
| Banks ID        | 3502501282      | 12     |
| Owner Of Well   | TEXACO          |        |
| Type Of Well    | Unused          |        |
| Depth Drilled   | 35 '            |        |
| Completion Date | N/A             |        |
| Longitude       | -103.15888889   |        |
| Latitude        | 32.6830555556   |        |
| State ID        | 324109103085801 | MAP ID |
| Banks ID        | 3502501297      | 13     |
| Owner Of Well   | LAMBERT         |        |
| Type Cf Well    | Unused          |        |
| Depth Drilled   | N/A '           |        |
| Completion Date | N/A             |        |
| Longitude       | -103.14944444   |        |
| Latitude        | 32.6858333333   |        |
| State ID        | 324118103110001 | MAP ID |
| Banks ID        | 3502501303      | 14     |
| Owner Of Well   | FOWLER, CLARA   | ·      |
| Type Cf Well    | Stock           |        |
| Depth Drilled   | N/A             |        |
| Completion Date | N/A             |        |
| Longitude       | -103.18333333   |        |
| Latitude        | 32.6883333333   |        |



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### TM Water Well Report

### DETAILS

| State ID            | 324123103090301      | MAP ID |
|---------------------|----------------------|--------|
| Banks ID 3502501309 |                      | 15     |
| Owner Of Well       | STANOLIND OIL        |        |
| Type Of Well        | Unused               |        |
| Depth Drilled       | N/A'                 |        |
| Completion Date     | N/A                  |        |
| Longitude           | -103.15083333        |        |
| Latitude            | 32.6897222222        |        |
| State ID            | 324130103091401      | MAP ID |
| 3anks ID            | 3502501319           | 16     |
| Owner Of Well       | PECOS VALLEY OIL CO. |        |
| Type Of Well        | Domestic             |        |
| Depth Drilled       | N/A '                |        |
| Completion Date     | N/A                  |        |
| Longitude           | -103.15388889        |        |
| Latitude            | 32.6916666667        |        |
| State ID            | 324133103083401      | MAP ID |
| Banks ID            | 3502501324           | 17     |
| Owner Of Well       | N/A                  |        |
| Type Cf Well        | N/A                  |        |
| Depth Drilled       | N/A'                 |        |
| Completion Date     | N/A                  |        |
| Longitude           | -103.14277778        |        |
| Latitude            | 32.6925              |        |



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### TM Water Well Report<sup>™</sup>

### DETAILS

| State ID        | 324138103083001 | MAP ID |
|-----------------|-----------------|--------|
| Banks ID        | 3502501332      | 18     |
| Owner Of Well   | MR. PROLLACK    |        |
| Type Of Well    | Unused          |        |
| Depth Drilled   | 70 '            |        |
| Completion Date | N/A             |        |
| Longitude       | -103.14166667   |        |
| Latitude        | 32.6938888889   |        |



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### Water Well Report

SUMMARY

### Water Well Report<sup>TM</sup> Research Mapping Protocol

Banks Information Solutions, Inc. Water Well Report<sup>™</sup> is prepared from existing state water well databases and additional file data/records research conducted at the State Engineers Office located in Roswell, New Mexico. In New Mexico, water wells are located within a grid system using section, township, and range. The locations of these wells on the enclosed map were plotted using a GIS program, ArcView 3.0a, with the aid of the section, township, and range of the wells provided by the drillers logs.

Banks Information Solutions, Inc. has performed a thorough and diligent search of all groundwater well information provided and recorded with the New Mexico State Engineers Office. All mapped locations are based on information obtained from the NMSEC. Although Banks performs quality assurance and quality control on all research projects, we recognize that any inaccuracies of the records and mapped weil locations could possibly be traced to the appropriate regulatory authority or the actual driller. It may be possible that some water well schedules and logs have never been submitted to the regulatory authority by the water driller and, thus, may explain the possible unaccountability of privately drilled wells. It is uncertain if the above listing provides 100% of the existing wells within the area of review. Therefore, Banks Information Solutions, Inc. cannot fully guarantee the accuracy of the data or well location(s) of those maps and records maintained by the New Mexico State Engineer regulatory authorities.