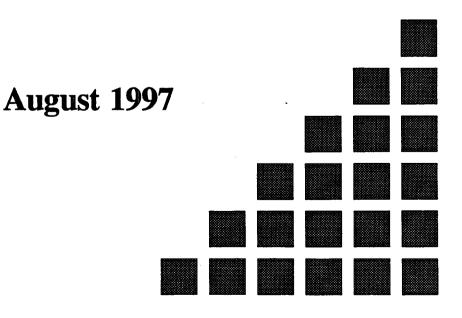
BURLINGTON RESOURCES

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Burlington Resources Oil & Gas Co. Data Summary Hampton 4M Production Location



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BURLINGTON RESOURCES

SAN JUAN DIVISION

July 30, 1997

Certified P 358 636 562

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Bill Olson New Mexico Oil Conservation Division 2040 S. Pacheco Santa Fe, NM 85704

RE: Hampton 4M - Groundwater Contamination Unit Letter N, Section 13, Township 30N, Range 11W

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Dear Mr. Olson

On December 16, 1996 PNM Gas Services (PNM) discovered contaminated groundwater at the Hampton 4M gas production location. This location is owned and operated by Burlington Resources Oil and Gas Inc. (Burlington). Since the discovery of contaminated groundwater, action has been taken to identify the source of hydrocarbon contamination.

The Hampton 4M gas production location is located approximately 3 miles East of Aztec, NM (Figure 1). Figure 2 illustrates all equipment and the orientation of that equipment on the pad surface. Burlington owns and operates the location and PNM Gas Services owns and operates two dehydrators with associated equipment on the Northern end of the location. Burlington's equipment is all situated to the South of the well head.

-Work Done To Date-

Beginning in December of 1996, actions have been taken to address the contamination at the Hampton 4M production location. Following is a chronological summary of the events at the Hampton 4M.

| December 16, 1996 Vertical Extent Drilling | To determine the vertical extent of hydrocarbon contamination in the former dehydrator discharge pit, PNM conducted vertical extent drilling. Beneath the center of the former discharge pit, PNM encountered groundwater at approximately 28 feet. At that time monitoring Well 2, MW-2, was installed (see Figure 2 for monitoring well location). Samples from the groundwater indicated total BTEX of 20,620 ppb v/v and a benzene concentration of 3,840 ppb v/v. |
|---|--|
| January 13, 1997 Notification | PNM notified NMOCD in writing of groundwater contamination at the site. |
| January 28, 1997 Sampling | PNM gauged MW-2 and approximately 4 feet of free phase floating product was discovered in the well. |
| January 31, 1997 MW-3 and MW-4 Installation | PNM installed two additional monitoring wells, MW-3 and MW-4. Water level, product measurements and groundwater samples were taken in all three monitoring wells at the time of the installation. All samples were analyzed for BTEX compounds (RM 8020). |
| February 4, 1997 On-site Meeting | PNM hosted an on-site meeting with the NMOCD, and Burlington to discuss remediation options at the site. |
| April 9, 1997 On-site Meeting | On site visit with Burlington and PNM |

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| April 14, 1997 Off-site Hydrocarbon Seep Discovered | During a site visit Burlington discovered a surface seep of hydrocarbons to the north of the well pad. Free phase hydrocarbons were found seeping from the ground surface into a small drainage area. Burlington notified both NMOCD and PNM about the hydrocarbon seep. |
|---|---|
| April 16, 1997 <i>On-site Meeting</i> | Burlington hosted an on-site meeting with PNM, and NMOCD to discuss the off-site hydrocarbon seep. NMOCD asked that immediate action be taken to contain the seep. The group agreed that a collection trench should be installed to slow or stop the hydrocarbons seep. |
| April 16, 1997 Archeological Clearance | Burlington Resources obtained archeological clearance to construct an off-site collection trench to the north of the well location (Figure 2). |
| April 17, 1997 Collection Trenck Construction | Burlington constructed a collection trench to the north of the well location. The trench was situated between the hydrocarbon seep and the well location. A sandstone shelf was encountered six to eight feet below the ground surface. Black to gray saturated soil with signs of hydrocarbons were found on top of the sandstone shelf. No analytical samples were taken. P.I.D. readings were in the 1,000 ppm to 2,000 ppm range. Water and a small amount of hydrocarbons began collecting in the trench. |
| April 30, 1997 Tank Discharge Pit Excavation | Burlington attempted to excavate the area of the former tank discharge pit. Sandstone was encountered at one foot below the bottom of the pit. The excavator could not penetrate the sandstone. A PID survey of the soil and sandstone revealed no volatile hydrocarbons. No visual signs of hydrocarbon contamination existed. To identify any hydrocarbon contaminated area, Burlington began excavating 9 to 10 test holes over the location. On the southern end of the location sandstone was encountered at 0 to 1 foot below the surface. Sandstone dipped sharply to the north to a depth of approximately 15 feet below the surface. No hydrocarbon contaminated areas were found in any of the test holes. |
| June 4, 1997 On-site Meeting | Burlington hosted an on-site meeting with PNM and NMOCD to discuss further investigation at the site. The group agreed to continue surveying using a soil boring rig. |
| June 5, 1997 Soil Boring | Three holes were bored on the site just to the south of PNM's dehydrators and discharge tank. Figure 2 shows the location of each borehole and the results of groundwater and soil samples. Information gathered during the boring was soil characteristics and soil vapor analysis every five feet to groundwater. A soil sample, for laboratory analysis, was taken just above the water level and a groundwater sample will be taken. |
| June 6, 1997 Soil Boring | Burlington continued soil boring on the location. A total of four more points were bored. These points are shown in Figure 2. |
| June 10, 199 Meeting - Discussion of Boring Results | Burlington and PNM met to discuss costs for other groundwater sites and to discuss the results of the soil boring at the Hampton 4M. |

-Sample Results-

The results of all analytical samples taken to date at the Hampton 4M are listed in Table 1. Provided with the results of the samples is supporting information about the depth to water in feet, the depth the sample was taken in feet, and the matrix of the sample. Water samples were only analyzed for Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) compounds. Each soil sample was analyzed for BTEX compounds and Total Petroleum Hydrocarbons (TPH). Associated backup for all analytical samples is located in Appendix A.

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-Monitoring Wells-

Three permanent groundwater monitoring wells were installed on location (Figure 2). Monitoring Well 2 (MW-2) was installed in the center of the former gas dehydrator discharge pit operated by PNM. MW-3 and MW-4 were installed to establish the groundwater gradient under the location. A contour map of the groundwater was developed from water level information in the monitoring wells (Figure 3). The contour surface map shows the groundwater flows northwest across the location.

Groundwater in the permanent monitoring wells has been sampled twice. Results of the sampling events are summarized in Table 1. Samples of groundwater in MW-3 and MW-4 for BTEX compounds revealed dissolved phase contamination in MW-4 but not in MW-3, indicating a contamination source upgradient of MW-4. Approximately 4 feet of a Non-Aqueous Phase Liquid (NAPL) was discovered on the top of the groundwater in MW-2.

Samples were taken of the NAPL in MW-2 and compared to samples of produced hydrocarbons stored on the location. Fingerprinting analysis revealed that the NAPL in MW-2 is similar to produced hydrocarbons from the Dakota formation stored on location. Copies of the analysis and results are provided in Appendix A - Sample Backup. Due to the NAPL, the groundwater from MW-2 well has not been analyzed for BTEX compounds.

It is thought that there are two separate sources of groundwater contamination at the Hampton 4M location. One source is the former discharge pit for the gas dehydrators operated by PNM and the second source being upgradient of MW-4 supplying a dissolved phase BTEX component. This is supported by the fact that a NAPL on the groundwater has only been found in the area directly around the dehydration equipment.

-Temporary Wells-

To identify the second contaminant source, Burlington initiated an investigation using a hollow stem auger and split spoon sampler. A total of seven Temporary Wells (TPW) were drilled at the location. While drilling each TPW, soil samples were taken every five feet and screened using a Photo Ionization Detector (PID). Results of the soil screening were recorded in drilling logs (Appendix B - Drilling Logs). Also in each well a soil sample was captured just above the groundwater interval to be analyzed, in a laboratory, for TPH and BTEX components.

In order to sample the groundwater in a TPW, screened PVC pipe was installed in the well and groundwater was allowed to flow in. Once the water level became static, a sample of the water was taken using a disposable Teffon bailer. The water sample was properly preserved and analyzed, in a a laboratory, for BTEX components.

TPW 1 through 3 were drilled in an east to west transect just to the south of PNM's gas dehydration equipment. TPW 4 was drilled midway between TPW 2 and MW-4. The remainder of the temporary wells were drilled to the south of MW-4 to locate the source of dissolved phase BTEX contamination. TPW 5 and 6 were drilled on the southern most boundary of the production location. The seventh temporary well (TPW 7) was drilled directly under the former location of the produced hydrocarbon storage tanks. Relative locations of the temporary wells can be seen in Figure 2.

-TPW Sampling Results-

Contamination to some degree was found in each groundwater sample from the temporary wells. The highest dissolved phase concentrations occurred in TPW 7 and TPW 5. This result may indicate a source that is off site, upgradient of TPW 5. A NAPL was found on top of the groundwater in TPW 2, therefore no groundwater sample was taken.

Soil screening while drilling the TPWs revealed no hydrocarbon contamination in the soil from the surface to several feet above the groundwater zone. For example, the TPW Record of Subsurface Exploration (Appendix B - Drilling Logs) shows no volatile contamination (using a PID) until just above the groundwater zone (see Air Monitoring column). Results are similar at each TPW.



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Since no contamination exists until just above the saturated zone this may indicate subsurface flow of contaminants to that particular sampling location. This result may or may not indicate contamination from an off site source. The geology of the location may cause a release on the surface to channel through fractures while traveling downward through the soil. This channeling effect may not leave a direct trail of contaminants in the soil directly under the release site. Leading to the possible conclusion that the soil auger did not penetrate the contaminant channels leading to the groundwater.

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-Location Geology-

Drilling logs were compiled from each Monitoring Well and Temporary Well that was drilled on the location. Copies of all the drilling logs are in Appendix B - Drilling Logs. Generally the logs show that a sandstone shelf underlies the entire site. The sandstone surfaces in the southern half of the site and dips northward to a depth of approximately 18 feet on the edge of the location. During construction, fill material was used to level the surface of the location on the northern half.

And generally groundwater was encountered just below the sandstone layer and above a green to gray clay material.

-Conclusions-

Based on the work done at the Hampton 4M, Burlington Resources firmly believes that contamination to the groundwater under the location is caused by at least two sources. Source No. 1 has been identified as PNM's unlined earthen dehydrator discharge pit. Source No. 2 is contributing dissolved BTEX to the groundwater upgradient to MW-4.

To identify Source No. 2, probable locations were investigated with the soil auger, but no on site source was identified. Groundwater contaminant levels from TPW 5 and TPW 6, on the southern most edge of the location, indicates the second source may be off site and upgradient of the well location. A survey of nearby facilities revealed a pipeline drip pot approximately 1/4 mile to the southeast of the well location.

Results of groundwater sampling over the location indicates a significant amount of NAPL on the top of the groundwater under the gas dehydration equipment operated by PNM. NAPL from the area under the dehydration equipment has migrated to the northwest and is the source of hydrocarbons surfacing in the seep.

-Plan of Action-

The most immediate concerns at the Hampton 4M are the hydrocarbon seep to the northwest and the NAPL on the groundwater in the area of the gas dehydration equipment. These two areas should be the focus of initial activities. NAPL recovery should be implemented in MW-2. Because the NAPLs found to date are located near the former dehydrator discharge pit, Burlington believes this initial action should be the responsibility of PNM Gas Services.

Burlington Resources will focus on identifying the source of groundwater contamination upgradient of MW-4. Burlington proposes constructing a small pad off site and upgradient of the well location to conduct an investigation of the groundwater. Results from the off site investigation will determine the background levels of contaminants in the groundwater flowing to the Hampton 4M location.

If through the off site investigation, Burlington discovers the influence of an off site source then Burlington will cease operations and consult with the NMOCD about other responsible parties. However, if Burlington discovers no contaminants in the groundwater flowing to the Hampton 4M location, then further investigation will be conducted on site.



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The unique characteristics of the Hampton 4M location pose challenges of site characterization and remediation. All parties working together will be the most efficient means to address the contamination at the Hampton 4M site. If further clarification is needed regarding this matter, please contact me at (505) 326-9537.

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Sincerely,

Craig

Environmental Representative

Enclosures: Figure 1: Area Map Figure 2: Hampton 4M Site Diagram Figure 3: Groundwater Contour Map Table 1: Sample Results Appendix A - Sample Back up Appendix B - Drilling Logs

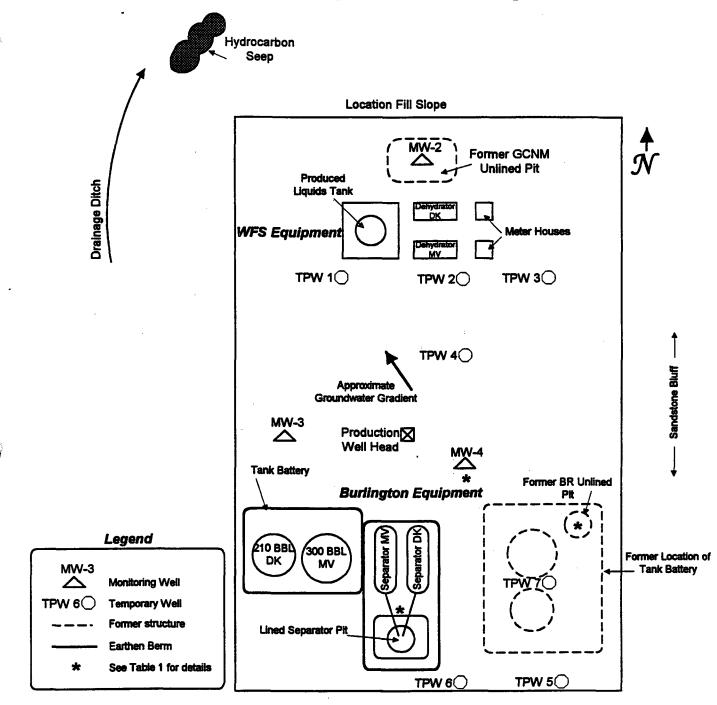
cc:

Denny Foust - NMOCD Aztec Johnny Ellis - BR Ken Raybon - BR Keith Baker - BR Denver Bearden - PNM Farmington Maurene Gannon - PNM Albuquerque

Figure 2: Hampton 4M Site Diagram

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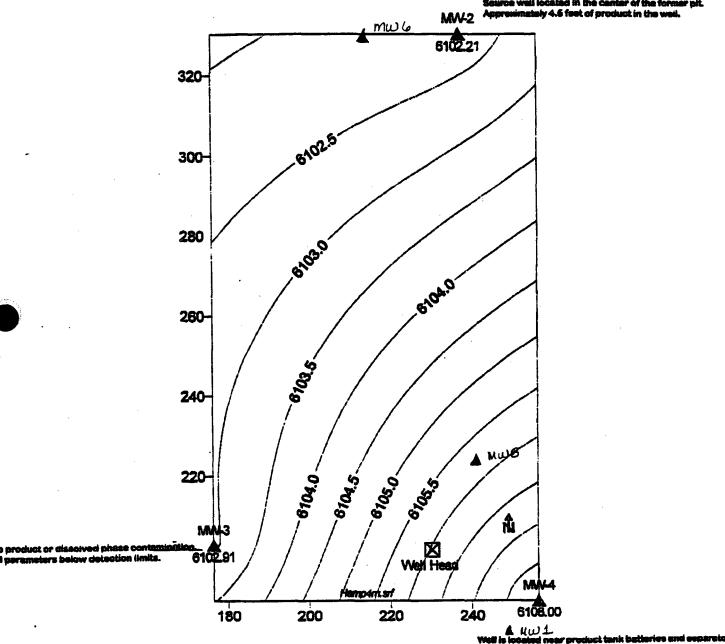
C+10716

| | <u>Groundwa</u> | ter Sampl | ing Summar | · y | |
|---------------------------|-----------------|--------------------|------------------------|------------------|------------------------|
| Location (SeeFigure 2) | Sample Date | B T E X (p p b) | Depth to Water (ft) | Sample Matrix | Comments |
| M W -2 | 12/16/96 | 20,620 | •• | water | Taken by PN M |
| M W -3 | 1/31/97 | ND | 20 | water | Taken by PN M |
| M ₩ -3 | 5/1/97 | ND | 20 | water | |
| M W -4 | 1/31/97 | 2,651 | 16.4 | water | Taken by PN M |
| M W -4 | 5/1/97 | 3,477 | 16.4 | water | |
| M W -4 | 5/1/97 | 3,470 | 16.4 | Water | Blind Duplicate Sample |
| TPW 1 | 6/5/97 | 20 | 22.75 | water | |
| TPW 4 | 6/6/97 | 5,967 | 19 | water | |
| TPW 5 | 6/6/97 | 29,260 | 15 | water | |
| TPW 6 | 6/6/97 | 5,738 | 15 | water | |
| TPW 7 | 6/6/97 | 33 2 2 0 | 14.6 | watar | |

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STANDPIPE Figure 3: Hampton 4M Groundwater Contour Map (January 1997)

A MWS



| *6102.208 6102.913 6103.002 | 25.28 20.03 16.37 | 20.75 N/A N/A |
|-----------------------------------|-------------------------|--------------------------------------|
| | | |
| 6103.002 | 16.37 | N/A |
| | | |
| | | |
| | | |
| | wity of 0.75. DTW | wity of 0.75. DTW - Depth to Wate |

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HAMSAMPL.XLS

* Refer to Figure 1: Hampton 4M Site Diagram

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| | Sample | | TPH | BTEX | Depth to | Sample | Sample | |
|-----------------------------|----------|----------------|-------|-----------|-----------|------------|--------|------------------------------|
| Location (SeeFigure 2) | Date | Sample Number | (ppm) | (ppb) | Water (R) | Depth (ft) | Matrix | Comments |
| MW-2 | 12/16/96 | TB #1 | N/A | 20,620 | 3 | 1 | water | Taken by PNM |
| MW-3 | 1/31/97 | MW-03 | N/A | QN | 20 | N/A | water | Taken by PNM |
| MW-3 | 5/1/97 | MW-03 | N/A | UN | 20 | N/A | water | |
| MW-4 | 1/31/97 | MW-04 | N/A | 2,651 | 16.4 | N/A | water | Taken by PNM |
| MW-4 | 5/1/97 | MW-04 | N/A | 3,477 | 16,4 | N/A | water | |
| MW-4 | 5/1/97 | MW-54 | N/A | 3,470 | 16,4 | N/A | water | Blind Duplicate Sample |
| TPW 1 | 6/5/97 | TPW-01-25-26 | ND | ND | 22.75 | 25 | soil | |
| TPW 1 | 6/5/97 | TPW-01 | N/A | 20 | 22.75 | N/A | water | |
| TPW 2 | 6/5/97 | TPW-02-25-26 | 600 | 59,600 | 23.38 | 25 | soil | Free hydrocarbons on water |
| TPW 3 | 6/5/97 | TPW-03-25-26 | 25 | ND | N/A | 25 | soil | Groundwater not encountered. |
| TPW 4 | 6/6/97 | TPW-04 | N/A | 5,967 | - 19 | N/A | water | |
| TPW 4 | 6/6/97 | TPW-04-20-21.5 | 52 | 148 | 19 | 20 | soil | |
| TPW 5 | 6/6/97 | TPW-05 | N/A | 29,260 | 15 | NVA | water | |
| TPW 5 | 6/6/97 | TPW-05-15-16 | 61 | 46,500 | 15 | 15 | soil | |
| TPW 6 | 6/6/97 | TPW-06 | N/A | 5,738 | 15 | N/A | water | |
| TPW 6 | 6/6/97 | TPW-06-15-16.5 | 11 | 8 | 15 | 15 | soil | |
| TPW 7 | 6/6/97 | TPW-07 | N/A | 33,220 | 14.6 | N/A | water | |
| TPW 7 | 6/6/97 | TPW-07-15-16 | 250 | 271,000 | 14.6 | 15 | soil | |
| N. of Lined Separator Pit * | 4/30/97 | APP-6.5-01 | ND | ND | N/A | 6.5 | soil | |
| Former BR Unlined Pit * | 4/30/97 | OP-3-01 | ND | 2 | N/A | ы | soil | |
| S. of MW 4 * | 4/30/97 | SSMW4-2-01 | 274 | 9 | N/A | 2 | soil | |

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TABLE 1: HAMPTON 4M Sample Results

APPENDIX A

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SAMPLE BACK UP

OFF: (SOS) 325-5667

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62388 Philip-Farm NM ON SITE TECHNOLOGIES



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LAB: (505) 325-1556

ANALYTICAL REPORT

| Attn: | Scott Po | 08 | | Date: | S-May-97 |
|--------------|-----------|----------------|--------------------|----------------|----------|
| Company: | Philip En | vironmental | | COC No.: | C3056 |
| Address: | 4000 M | onroe Road | | Sample No.: | 14429 |
| City, State: | Faming | ton, NM 87401 | • | Job Nn.: | 17877 |
| Project Nan | ne: | Philip Envirom | entel - Hampton 4M | , | |
| Project Loc | ation: | MW-4 | | | |
| Sampled by | r. | STP | Date: | 1-May-97 Time: | 15:30 |
| Analyzed b | v: | DC · | Date: | 2-May-97 | |
| Sample Ma | trix: | Liquid | | | |

| Peramotor | Hesuits as Received | Unit of Measure | Limit of Quentitation | Unit of Measure |
|--------------|------------------------|--------------------|--------------------------|--------------------|
| Renzente | 1162 | ug/L | 2 | ug/L |
| Toluene | 1797 | ug/L | 2 | ug/L |
| Ethylbenzene | 41 | up/L. | 2 | ug/L |
| m,p-Xylene | 373 | ug/L | 2 | ug/L |
| o-Xylene | 103 | ug/L | 2 | ug/L |
| TOTAL | 3477 | ug/L | | |

ND - Not Detected at Limit of Quantitation

Method - SW-244 RPA Method 2020A Aromatic Volatile Organics by Gas Chromotography

Approved By: Date:

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262388 Philip-Farm NM



LAB: (512) 322-1556

ANALYTICAL REPORT

| Attn: | Scott Po |) pe | | Date: | 5-May-87 |
|--------------|------------|-----------------|-------------------|----------------|----------|
| Company: | Philip En | vironmental | | COC No.: | C3056 |
| Address: | 4000 M | onroe Road | | Sample No.: | 14430 |
| City, State: | Farming | ton, NM 87401 | | Job No.: | 17877 |
| Project Nan | ne: | Philip Envirome | ntal - Hempton 4M | 1 | |
| Project Loca | ation: | MW-54 | | | |
| Sampled by | <i>r</i> ; | STP | Date: | 1-May-97 Time: | 15:35 |
| Analyzad by | y: | DC | Date: | 2-May-97 | |
| Sample Mat | trix: | Liquid | | | |
| | | | | | |

| Parameter | | Reputs on Received | Unit of Measure | Limit of Quantitation | Unit of Measure |
|--------------|-------|-----------------------|--------------------|--------------------------|--------------------|
| Benzene | | 1180 | ug/L | 2 | ug/L |
| Toluene | | 1755 | ug/L | 2 | ug/L |
| Ethylbenzene | | 43 | ug/L | 2 | ug/L |
| m,p-Xylene | | 387 | ug/L | 2 | ug/L |
| o-Xylene | | 105 | ug/L | 2 | ug/L |
| | TOTAL | 3470 | ug/L | | |

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Valadile Organics by Gas Chromougraphy

Approved By: Date: 515

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29 '97 10:08AM Ph PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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EPA METHOD 8020 AROMATIC VOLATILE ORGANIC

MW-2

P.2/2

| Client: | Public Service Co. of NM. | Project # | \$3108-0 2 |
|--------------------|---------------------------|---------------------|-------------------|
| Semple (D: | TB# 1 | Data Reported: | 12-18-95 |
| Chain of Custody: | \$035 | Data Sampled: | 12-15-56 |
| Laboratory Number: | AB42 | Date Received: | 12-16-96 |
| Sample Matric | Water | Data Analyzed: | 12-17-98 |
| Preservative: | HgC12 & Cool | Analysis Requested: | BTEX |
| Condition: | Cool & Intact | | |

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| Parameter | Concentration (ug/L) | Dilution Factor | De Lin (ug/l |
|--|---|----------------------------|----------------------|
| Benzene Toiuene Ethylbenzene p.m-Xylene o-Xylene | 3,840 7,960 896 5,600 2,320 | 10 10 10 10 10 | 7. 1. 7. 2. |
| Total BTEX | 20,620 | | |

ND - Persmeter not detected at the stated detection limit,

| Surrogate Re | covenes: | Parameter | Percent Recovery |
|--------------|---------------------------|--|--------------------------------------|
| | | Trifluorotoluene Bromofluorobenzene | 101 % 98 % |
| — . | | · · | |
| References: | Method 5030 July 1992. | I. Purge-and-Trap, Test Methods for Evalu | ating Solid Waste, SW-846, USEPA, |
| | Method 8020 USEPA, Sep | , Aromatic Volatile Organics, Test Method: 1. 1994. | s for Evaluating Solid Waste, SW-844 |
| | | | |

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600722 <u>acu lu tendler</u> Review



LAB: (505) 325-1556

ANALYTICAL REPORT

| Attn:DenverCompany:PNM GaAddress:603 W.City, State:Farmings | s Services Em | · · · | Date: COC No.; Sampis No.; Job No.; | 3-Feb-97 5735 13615 2-1000 |
|---|---|---|--|-------------------------------------|
| Project Name: Project Location: Sampled by: Analyzed by: Sample Matrix: | PNM Ges Sarvi 9701311500; MS DC Liquid | Ces - Hempton 4M MW-3 Date: Dete: | 31-Jan-97 Time: 3-Feb-97 | 15:00 |

: Laboratory Analysis

| Parameter | | Result | Unit of Measure | Detection Limit | Unit of Measure |
|--------------|-------|--------|--------------------|--------------------|--------------------|
| Benzene | ۰. | <0.2 | ug/L | 0.2 | u g/L |
| Toluene | | <0.2 | ug/L | 0.2 | ug/L |
| Ethylbenzene | | <0.2 | ug/L | 0.2 | u g/L |
| m,p-Xylene | | <0.2 | ug/L | 0.2 | ug/L |
| o-Xylene | | <0.2 | ug/L | 0.2 | ug/L |
| | TOTAL | < 0.2 | ug/L | | |

Method - 5W-246 EPA Method 8020 Aromene Volatile Organics by Gas Chrometography

Approved by: Date:

P.O. BOX 2606 • FARMINGTON, NM 87499 - TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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B2388 Philip-Farm NM ON SITE TECHNOLOGIES

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LAB: (505) 325-1558

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ANALYTICAL REPORT

| Attn: Scott Pope | | | Date: | 5-May-97 | |
|-----------------------------------|--------|----------------|--------------------|----------------|-------|
| Company: Philip Environmental | | | COC No.: | C3055 | |
| Address: 4000 Monroe Road | | | Sample No.: | 14428 | |
| City, State: Farmington, NM 87401 | | | | Job No.: | 17877 |
| Ргојест Nan | 18: | Philip Envirom | entsi - Hempton 4M | | |
| Project Loc | ation: | MW-3 | | | |
| Sampled by | | STP | Dare: | 1-May-97 Time: | 14:00 |
| Analyzed by | y: | DC | Date: | 2-May-97 | |
| Sample Mat | trix: | Liguid | | • • | |

| Foreme ter | Results as Received | Unit of Measure | Limit of Quantitation | Unit of Measure |
|--------------|------------------------|--------------------|--------------------------|--------------------|
| Banzena | ND | ug/L | 0.2 | ug/L |
| Toluene | ND | ug/L | 0.2 | ug/L |
| Elhylbenzene | ND | ug/L | 0.2 | ue/L |
| m.p-Xylene | ND | ug/L | 0.2 | ug/L |
| o-Xylene | ND | ug/L | 0.2 | ug/L |
| TOTAL | ND | ug/L | | |

ND - Not Detected at Limit of Quantitation

Mothod - SW 846 EPA Method 8020A Ammaile Volatile Organics by Gas Chromatography

Approved By: Date: 5/5

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N SITE

LAB: (505) 325-1556

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ANALYTICAL REPORT

| | | · . | Date: COC No.: Sampia No.: Job No.: | 3-Feb-97 5735 13617 2-1000 |
|---|--|-----|--|-------------------------------------|
| Project Name: Project Location: Sampled by: Analyzed by: Sample Matrix: | PMM Gas Servica 9701311530; N MS DC Liquid | | 31-Jan-97 Time: 3 -Fe b-97 | i 15:30 |

TECHNOLOGIES. LTD

Laboratory Analysis

| Parameter | | Result | Unit of Measure | Detection Limit | Unit of Meesure |
|--------------|-------|--------|--------------------|--------------------|--------------------|
| Benzene | · | 811.7 | ug/L_ | 0.2 | ug/L |
| Toluene | | 1420.5 | ug/L | 0.2 | ug/L |
| Ethylbenzene | | 31.0 | ug/L | 0.2 | ug/L |
| m,p-Xylene | | 303.B | ugl | 0.2 | ug/L |
| o-Xylene | | 84.3 | ug/L | 0.2 | ug/L: |
| | TOTAL | 2851.4 | | | |

Method - SW-846 EPA Method 8030 Aromatic Volatile Organics by Gas Chromeiography

Approved by: Date: 13/97

P.O. BOX 2606 • FARMINGTON, NM 87499 - TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

| 36/ 16/1997 | 07:29 | 505326255 2 | 2 | SPL FARMINGTON | 21 | F | PAGE | 10 |
|-------------------------------|------------------|---------------------|-----------------------------|-----------------------------|-----------------|--|----------|------|
| <u>J</u> | J. | Certifi | 7 icate of Analys | is No. F2-9706 | FARMINGTO PH | GTON LABOR, P.O. BOX 1289 N. NEW MEXICO 8 ONE (505) 328-258 | 7499-128 | 2 |
| 4000 Mon Farmingt | roe Rd on, NM | mental Cor 87401 | _ | | σρω-υ | | | |
| ATTN: Sc PROJECT: | | | | PROJEC | T NO: | DATE: | 06/1 | .6/9 |
| SITE: SAMPLED SAMPLE I | | | | MA Date Sam Date Rece | | 06/05/97 | | |
| | | | ANALYTICAL | | | | | |
| PARAMET | ER | | | RESULTS | Det. Lim | ECTION TT | U | NITS |
| Benzene Method Analyzo | 8020A ed by: | JN 06/11/97 | | 20 | | .0 | | ppł |
| Ethylben Method Analyzo | 8020A ed by: | JN 06/11/97 | · · · | ND | . 1 | .0 | | ppł |
| Toluene Method Analyze | ed by: | JN 06/11/97 | | ND | 1 | .0 | | ppb |
| Total Xy Method Analyze | 8020A | JN 06/11/97 | | ND | 1. | . 0 | | ppb |
| Total Vo Method Analyze | 8020A ed by: | | Hydrocarbons | 20 | | | | ppb |

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ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

| 6 | | P.O. BOX 1289 ARMINGTON, NEW MEXICO PHONE (508) 325-21 | |
|---|-------------------|--|-----------|
| Certificate of Analy | rsis No. F2-97060 | 040-01 | |
| Philip Environmental Corp. 4000 Monroe Rd. Farmington, NM 87401 | | | |
| ATTN: Scott Pope | | DATE | : 06/16/9 |
| PROJECT: Hampton 4M SITE: SAMPLED BY: STP SAMPLE ID: 004372/TPw-01.25-26 | DATE SAMP | NO: RIX: LED: 06/05/9 VED: 06/05/9 | |
| ANALYTICA | L DATA RESULTS | DETECTION | UNIT |
| Total Petroleum Hydrocarbons EPA 418.1 Analyzed by: MP Date: 06/12/97 | ND | LIMIT 10 | mg/kg |
| Benzene Method 8020A Analyzed by: FAB Date: 06/10/97 | ND | 1.0 | ug/ko |
| Ethylbenzene Method 8020A Analyzed by: FAB Date: 06/10/97 | ND | 1.0 | ug/ko |
| Toluene | ND | 1.0 | ug/kg |

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PAGE 03

FARMINGTON LABORATORY

SPL FARMINGTON

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Toluene Method 8020A Analyzed by: FAB Date: 06/10/97

ND - Not detected.

06/16/1997 07:29

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Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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SPL FARMINGTON

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FARMINGTON LABORATORY P.O. 80X 1289 FARMINGTON, NEW MEXICO 87499-1289 PHONE (505) 326-2568

Certificate of Analysis No. F2-9706040-01

Philip Environmental Corp. 4000 Monroe Rd. Farmington, NM 87401 ATTN: Scott Pope

DATE: 06/16/97

PROJECT: Hampton 4M SITE: SAMPLED BY: STP SAMPLE ID: 004372 7Pw _01- 25-26 PROJECT NO: MATRIX: DATE SAMPLED: 06/05/97 DATE RECEIVED: 06/05/97

| | | | ANALYTICAL | DATA | | | |
|--------|---|-----------------|--------------|------|---------|--------------------|-------|
| | PARAMETER | | | | RESULTS | DETECTION LIMIT | UNITS |
| | Total Xylene Method 8020A Analyzed by: Date: | FAB 06/10/97 | | | ND | 1.0 | ug/kg |
| , P | Total Volatile Method 8020A Analyzed by: Date: | | Hydrocarbons | | ND | | ug/kg |

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



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| 06/16/1997 07:29 5053262 | 2552 SPL | FARMINGTON | ÷ 1 | PAGE 05 |
|---|--------------------------|---------------|--|------------|
| Cert | ® ificate of Analysis | FAI | ARMINGTON LABOR P.O. BOX 1289 RMINGTON, NEW MEXICO PHONE (505) 326-250 10 - 02 | 87499-1289 |
| Philip Environmental 4000 Monroe Rd. Farmington, NM 87401 ATTN: Scott Pope | Corp. | | DATE : | 06/16/97 |
| PROJECT: Hampton 4M SITE: SAMPLED BY: STP SAMPLE ID: 004373 Tp | w -02.26.26 | | | |
| Parameter | ANALYTICAL DA | TA RESULTS | DETECTION | UNITS |
| Total Petroleum Hydr EPA 418.1 Analyzed by: MP Date: 06/12/ | | 600 | LIMIT 10 | mg/kg |
| Benzene Method 8020A Analyzed by: FAB Date: 06/11/ | 97 | 2000 | 500 | ug/kg |
| Ethylbenzene Method 8020A Analyzed by: FAB Date: 06/11/ | 97 | 4600 | 500 | ug/kg |
| Toluene Method 8020A Analyzed by: FAB Date: 06/11/ | 9 7 | 14000 | 500 | ug/kg |
| Total Xylene Method 8020A Analyzed by: FAB Date: 06/11/ | 97 | 39000 | 500 | ug/kg |

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Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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FARMINGTON LABORATORY P.O. BOX 1289 FARMINGTON, NEW MEXICO 87499-1289 PHONE (505) 326-2588

Certificate of Analysis No. F2-9706040-02

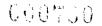
Philip Environmental Corp. 4000 Monroe Rd. Farmington, NM 87401 ATTN: Scott Pope

DATE: 06/16/97

PROJECT: Hampton 4M SITE: SAMPLED BY: STP SAMPLE ID: 004373 PROJECT NO: MATRIX: DATE SAMPLED: 06/05/97 DATE RECEIVED: 06/05/97

| | · . | ANALYTICAL | DATA | | | |
|--------------------------------|-----------------|--------------|------|---------|--------------------|-------|
| PARAMETER | | | | RESULTS | DETECTION LIMIT | UNITS |
| Total Volatile Method 8020A | Aromatic | Hydrocarbons | | 59600 | | ug/kg |
| Analyzed by: Date: | FAB 06/11/97 | | | | | |

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



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Philip Environmental Corp.

FARMINGTON LABORATORY P.O. BOX 1289 FARMINGTON, NEW MEXICO 87499-1289 PHONE (505) 326-2588

Certificate of Analysis No. F2-9706040-03

TPW-03-25.26

DATE: 06/16/97

PROJECT: Hampton 4M **SITE: SAMPLED BY:** STP **SAMPLE ID:** 004374

Farmington, NM 87401 ATTN: Scott Pope

4000 Monroe Rd.

PROJECT NO: MATRIX: DATE SAMPLED: 06/05/97 DATE RECEIVED: 06/05/97

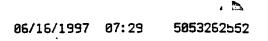
| | Ana | LYTICAL | DATA | | | |
|---|-------------------------|---------|------|-------|-----------|-------|
| PARAMETER | | | RI | SULTS | DETECTION | UNITS |
| Total Petroleum EPA 418.1 Analyzed by: M Date: C | - | | , | 25 | 10 | mg/kg |
| Benzene Method 8020A Analyzed by: H Date: 0 | 7 AB 06/10/97 | | | ND | 1.0 | ug/kg |
| Ethylbenzene Method 8020A Analyzed by: F Date: 0 | 'AB 06/10/97 | | | ND | 1.0 | ug/kg |
| Toluene Method 8020A Analyzed by: F Date: 0 | AB 96/10/97 | | | ND | 1.0 | ug/kg |

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

JUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.









FARMINGTON LABORATORY P.O. BOX 1289 FARMINGTON, NEW MEXICO 87499-1289 PHONE (505) 328-2588

Certificate of Analysis No. F2-9706040-03

Philip Environmental Corp. 4000 Monroe Rd. Farmington, NM 87401 ATTN: Scott Pope

DATE: 06/16/97

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PROJECT: Hampton 4M SITE: SAMPLED BY: STP SAMPLE ID: 004374 PROJECT NO: MATRIX: DATE SAMPLED: 06/05/97 DATE RECEIVED: 06/05/97

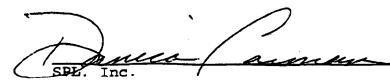
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| ANALYTICAL DA | ata | | |
|--|---------|--------------------|-------|
| PARAMETER | RESULTS | Detection Limit | UNITS |
| Total Xylene Method 8020A Analyzed by: FAB Date: 06/10/97 | ND | 1.0 | ug/kg |
| Total Volatile Aromatic Hydrocarbons Method 8020A Analyzed by: FAB Date: 06/10/97 | ND | | ug/kg |

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

2UALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



| 06/16/1997 | 07:29 | 5053262552 | SPL | FARMINGTON | 2 | F | PAGE | 12 |
|--|-------------------|----------------|--------------|--------------|------------|---|---------|-------|
| | P | | | | ARMINGT | IGTON LABOR, P.O. BOX 1289 DN. NEW MEXICO 8 IONE (505) 328-258 | 7499-12 | |
| | | Certificate | of Analysis | No. F2-97060 |)48-0 | 1. | | |
| Philip E: 4000 Mon: Farmingto ATTN: Sco | roe Rd. on, NM | 87401 | | TP | w.04 | DATE: | 06/ | 16/97 |
| PROJECT : | | | | PROJECT | ' NO - | | | |
| SITE: | | | | | RIX: | . Set | | |
| SAMPLED | BY: STR | | | DATE SAMP | | | | |
| SAMPLE I | D: 0043 | 76 | | DATE RECEI | | | | . ' |
| | | Ă | NALYTICAL DA | | | | <u></u> | |
| PARAMET | ER | | | RESULTS | det Lin | rection AIT | | UNITS |
| Benzene | | | | 2000 | 5 | 5.0 | | ppb |
| Method | - | | | | | | | |
| Analyze | | AA 06/12/97 | | | | | • | |
| Ethylber | nzene | | • | 57 | ç | 5.0 | | ppb |
| Manhand | | | | | | | | |

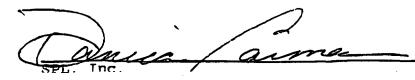
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| Method 8020A Analyzed by: Date: | AA 06/12/97 | | 5.0 | 64 5 |
|---|---|-------|------|-------------|
| Toluene Method 8020A Analyzed by: Date: | | 3100 | 25.0 | ppb |
| Total Xylene Method 8020A Analyzed by: Date: | AA 06/12/97 | . 810 | 5.0 | ddd |
| Method 8020A Analyzed by: | Aromatic Hydrocarbons AA 06/12/97 | 5967 | | ਰਰੁਰ |

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

JUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



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FARMINGTON LABORATORY P.O. BOX 1289 FARMINGTON, NEW MEXICO 87499-1289 PHONE (505) 326-2588

Certificate of Analysis No. F2-9706048-05

Philip Environmental Corp. 4000 Monroe Rd. Farmington, NM 87401 ATTN: Scott Pope

PROJECT: Hampton 4M

SAMPLED BY: STP

SAMPLE ID: 004380

SITE:

PROJECT NO: MATRIX: 501 DATE SAMPLED: 06/06/97 DATE RECEIVED: 06/09/97

TPW' 04-20-21.5

| | ANALYTICAL | DATA | | |
|---|-----------------|---------|--------------------|-------|
| PARAMETER | | RESULTS | DETECTION LIMIT | UNITS |
| EPA 418.1 | um Hydrocarbons | 52 | 10 | mg/kg |
| Analyzed by: Date: | MP 06/13/97 | | | |
| Benzene Method 8020A Analyzed by: | SB | 28 | 1.0 | ug/kg |
| | 06/11/97 | 3.4 | 1.0 | va/ka |
| Ethylbenzene Method 8020A Analyzed by: Date: | | 2.4 | 1.0 | ug/kg |
| Toluene Method 8020A Analyzed by: Date: | | 76 | 1.0 | ug/kg |
| Total Xylene Method 8020A | | 40 | 1.0 | ug/kg |
| Analyzed by: Date: | SB 06/11/97 | 117 | | |

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

DALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



DATE: 06/16/97

| | FARMINGTON LABORATORY P.O. BOX 1289 FARMINGTON, NEW MEXICO 87499-1289 PHONE (505) 326-2388 | |
|---|---|--|
| Philip Environmental Corp. 4000 Monroe Rd. Farmington, NM 87401 ATTN: Scott Pope | lysis No. F2-9706048-05 DATE: 06/16/9 | |
| PROJECT: Hampton 4M | PROJECT NO: | |
| SITE: | MATRIX: | |
| SAMPLED BY: STP | DATE SAMPLED: 06/06/97 | |
| SAMPLE ID: 004380 | DATE RECEIVED: 06/09/97 | |
| ANALYTIC | CAL DATA | |
| Parameter | RESULTS DETECTION UNIT | |
| Total Volatile Aromatic Hydrocarbor | us 147.4 ug/l | |

SPL FARMINGTON

PAGE 17

Analyzed by: SB Date: 06/11/97

Method 8020A

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QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



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DATE: 06/16/97



FARMINGTON LABORATORY P.O. BOX 1289 FARMINGTON, NEW MEXICO 87499-1289 PHONE (505) 326-2588

Certificate of Analysis No. F2-9706048-02

Philip Environmental Corp. 4000 Monroe Rd. Farmington, NM 87401 ATTN: Scott Pope TWP-05

PROJECT: Hampton 4M SITE: SAMPLED BY: STP SAMPLE ID: 004377 PROJECT NO: MATRIX: DATE SAMPLED: 06/06/97 DATE RECEIVED: 06/09/97

| | <u> </u> | NALYTICAL | DATA | | · · · · · |
|---|----------------------------------|-----------|---------|--------------------|-----------|
| PARAMETER | | | RESULTS | DETECTION LIMIT | UNITS |
| Benzene Method 8020A Analyzed by: Date: | AA 06/12/97 | | 5800 | 250 | dđđ |
| Ethylbenzene Method 8020A Analyzed by: Date: | AA 06/12/97 | | 460 | 250 | ppb |
| Toluene Method 8020A Analyzed by: Date: | AA 06/12/97 | | 16000 | 250 | ppb |
| Total Xylene Method 8020A Analyzed by: Date: | AA 06/12/97 . | | 7000 | 250 | đđđ |
| Method 8020A Analyzed by: | Aromatic Hydro AA 06/12/97 | ocarbons | 29260 | | ppb |

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

2UALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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FARMINGTON LABORATORY P.O. BOX 1289

FARMINGTON, NEW MEXICO 87499-1289 . PHONE (505) 326-2588

Certificate of Analysis No. F2-9706048-06

162-05-15.46

Philip Environmental Corp. 4000 Monroe Rd. Farmington, NM 87401 ATTN: Scott Pope

DATE: 06/16/97

PROJECT: Hampton 4M SITE: SAMPLED BY: STP SAMPLE ID: 004381

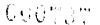
PROJECT NO: MATRIX: DATE SAMPLED: 06/06/97 DATE RECEIVED: 06/09/97

| | | ANAL | YTICAL DATA | · · · · · · · · · · · · · · · · · · · | | |
|-------|--|-----------------------------------|-------------|---------------------------------------|--------------------|-------|
| Paran | GETER | | | RESULTS | Detection Limit | UNITS |
| epa | 418.1 yzed by: | um Hydrocarbons MP 06/13/97 | | 61 | 10 | mg/kg |
| | od 8020A yzed by: | | | 4000 | 1000 | ug/kg |
| Meth | benzene od 8020A yzed by: Date: | SB 06/11/97 | | 4500 | 1000 | ug/kg |
| | od 8020A yzed by: | SB 06/11/97 | | 10000 | 1000 | ug/kg |
| Meth | Xylene od 8020A yzed by: Date: | SB 06/11/97 | | 28000 | 1000 | ug/kg |

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.





| 6/16/1997 07: | 29 5 05 32625 | 552 | SPL | FARMINGTON | ч' | F | PAGE | 19 |
|-------------------------|----------------------|----------------|-------|------------|---------------|---|-----------------------|-------|
| | Certi | ficate of Anal | ysis | No. F2-970 | FARMINGT P | NGTON LABOR P.O. BOX 1289 ON, NEW MEXICO 8 HONE (505) 326-258 6 | 1749 9 -12 | |
| | ironmental C | lorp. | | | | | | |
| 4000 Monroe | Rd. | | | | | | | |
| Farmington, | NM 87401 | | | | | | | |
| ATTN: Scott | : Pope | | | | | DATE: | 06/ | 16/97 |
| PROJECT : Ha | ampton 4M | | | PROJE | T NO: | | | |
| SITE: | | | | M | ATRIX: | | | |
| SAMPLED BY: | STP | | | DATE SAM | PLED: | 06/06/97 | | |
| SAMPLE ID: | 004381 | | | DATE RECI | EIVED: | 06/09/97 | | |
| <u></u> | | ANALYTIC | AL DA | | | <u></u> | | |
| PARAMETER | | | | RESULTS | | TECTION MIT | | UNITS |
| | | ic Widrocombon | a | 46500 | | | | ug/kg |
| Total Vola | tile Aromat | ic nyurocarbon | 0 | | | | | |
| Total Vola Method 80 | | ic nyurocarbon | 0 | | | | | |
| | 20A | ic hydrocarbon | 0 | | | | | |

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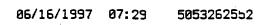
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stes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



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SPL FARMINGTON



FARMINGTON LABORATORY P.O. BOX 1289 FARMINGTON, NEW MEXICO 87499-1289 PHONE (505) 326-2588

Certificate of Analysis No. F2-9706048-03

TWP-06

Philip Environmental Corp. 4000 Monroe Rd. Farmington, NM 87401 ATTN: Scott Pope

DATE: 06/16/97

PROJECT: Hampton 4M SITE: SAMPLED BY: STP SAMPLE ID: 004378 PROJECT NO: MATRIX: John DATE SAMPLED: 06/06/97 DATE RECEIVED: 06/09/97

| • | | ANALYTICAL | DATA | | ······································ |
|---|-----------------------|--------------|---------|--------------------|--|
| PARAMETER | | | RESULTS | DETECTION LIMIT | UNITS |
| Benzene Method 8020A Analyzed by: Date: | AA 06/11/97 | | 1600 | 25 | ppb |
| Ethylbenzene Method 8020A Analyzed by: Date: | AA 06/11/97 | | 48 | 25 | ppb |
| Toluene Method 8020A Analyzed by: Date: | AA 06/11/97 | | 3400 | 25 | dqq |
| Total Xylene Method 8020A Analyzed by: Date: | AA 06/11/97 | | 690 | 25 | ppb |
| Total Volatile Method 8020A Analyzed by: Date: | | lydrocarbons | 5738 | 25 | ddd |

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

WALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



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FARMINGTON LABORATORY P.O. BOX 1289 FARMINGTON, NEW MEXICO 87499-1289 PHONE (505) 326-2568

Certificate of Analysis No. F2-9706048-07

-pw-06-16.-16.5'

Philip Environmental Corp. 4000 Monroe Rd. Farmington, NM 87401 ATTN: Scott Pope

DATE: 06/16/97

PROJECT: Hampton 4M SITE: SAMPLED BY: STP SAMPLE ID: 004382

06/16/1997 07:29

PROJECT NO: MATRIX: DATE SAMPLED: 06/06/97 DATE RECEIVED: 06/09/97

| - | ANALYTICAL DAT | 'A | | |
|---|-----------------------------------|---------|--------------------|-------|
| PARAMETER | | RESULTS | DETECTION LIMIT | UNITS |
| EPA 418.1 Analyzed by: | um Hydrocarbons MP 06/13/97 | 11 | 10 | mg/kg |
| Benzene Method 8020A Analyzed by: Date: | | ND | 1.0 | ug/kg |
| Ethylbenzene Method 8020A Analyzed by: Date: | | ND | 1.0 | ug/kg |
| Toluene Method 8020A Analyzed by: Date: | | 2.8 | 1.0 | ug/mg |
| Total Xylene Method 8020A Analyzed by: Date: | SB 06/11/97 | 4.8 | 1.0 | ug/kg |

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

UALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

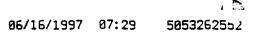
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|---------------------|---|---|---|---|---|--|
| 5 05 3262552 | SPL | FARMINGTON | 21 | F | PAGE | 21 |
| | , | | FARMINGT | P.O. BOX 1289 ON, NEW MEXICO 8 | 7499-12 | |
| Certific | ata of Analysis | No. F2-9706 | 048-0 | 7 | | |
| ld. | - | | | | | |
| ope | | | | DATE: | 06/ | 16/97 |
| ton 4M | · · · | PROJEC | T NO: | | | |
| | N | Ma | TRIX: | | | |
| | | DATE SAM | PLED: | 06/06/97 | | |
| 4382 | | DATE RECE | IVED: | 06/09/97 | | |
| | ANALYTICAL DA | TA | | | <u> </u> | <u> </u> |
| | | | | | | UNITS |
| | | RESULTS | | rection Mit | | ONTI. |
| | Certific onmental Corp d. M 87401 ope ton 4M | Certificate of Analysis onmental Corp. d. M 87401 ope ton 4M TP 4382 | Certificate of Analysis No. F2-9706 mmental Corp. d. M 87401 ope ton 4M PROJEC MA DATE SAM 4382 DATE RECE | FARMINGT FARMINGT FARMINGT P Certificate of Analysis No. F2-9706048-0 mmental Corp. d. M 87401 ope ton 4M PROJECT NO: MATRIX: DATE SAMPLED: 4382 DATE RECEIVED: | FARMINGTON LABOR P.O. BOX 1289 FARMINGTON, NEW MEXICO PHONE (505) 326-258 Certificate of Analysis No. F2-9706048-07 Inmental Corp. Id. M 87401 Iope DATE: ton 4M PROJECT NO: MATRIX: TP DATE SAMPLED: 06/06/97 4382 | FARMINGTON LABORATOR P.O. BOX 1289 FARMINGTON, NEW MEXICO 87498-12 PHONE (505) 326-2588 Certificate of Analysis No. F2-9706048-07 Inmental Corp. id. M 87401 ope DATE: 06/ ton 4M PROJECT NO: MATRIX: TP DATE SAMPLED: 06/06/97 4382 |

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**Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

UALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Philip Environmental Corp.

FARMINGTON: LABORATORY P.O. BOX 1289 FARMINGTON, NEW MEXICO 87499-1289 PHONE (505) 326-2588

Certificate of Analysis No. F2-9706048-04

TPW-07

DATE: 06/16/97

PAGE 15

PROJECT: Hampton 4M **SITE: SAMPLED BY:** STP **SAMPLE ID:** 004379

Farmington, NM 87401 ATTN: Scott Pope

4000 Monroe Rd.

| PROJECT NO: | |
|--------------------|----------|
| MATRIX: | |
| DATE SAMPLED: | 06/06/97 |
| DATE RECEIVED: | 06/09/97 |

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| - | . A | NALYTICAL | DATA | | |
|---|---------------------------------|-----------|---------|--------------------|-------|
| PARAMETER | | | RESULTS | DETECTION LIMIT | UNITS |
| Benzene Method 8020A Analyzed by: Date: | AA 06/11/97 | | 5300 | 100 | ppb |
| Ethylbenzene Method 8020A Analyzed by: Date: | AA 06/11/97 | | 620 | 100 | ddd |
| Toluene Method 8020A Analyzed by: Date: | AA 06/11/97 | | 18000 | 100 | ppb |
| Total Xylene Method 8020A Analyzed by: Date: | AA 06/11/97 | | 9300 | 100 | ppb |
| Method 8020A Analyzed by: | Aromatic Hydr AA 06/11/97 | ocarbons | 33220 | 100 | ppb |

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

WALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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FARMINGTON LABORATORY P.O. BOX 1289 FARMINGTON, NEW MEXICO 87499-1289 PHONE (505) 328-2588

Certificate of Analysis No. F2-9706048-08

TOP-07-15.16

DATE: 06/16/97

PROJECT: Hampton 4M SITE: SAMPLED BY: STP SAMPLE ID: 004383

Farmington, NM 87401 ATTN: Scott Pope

> PROJECT NO: MATRIX: DATE SAMPLED: 06/06/97 DATE RECEIVED: 06/09/97

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| ANALYTICAL DATA | | | | | | |
|---|-----------------------------------|---------|--------------------|-------|--|--|
| PARAMETER | | RESULTS | DETECTION LIMIT | UNITS | | |
| BPA 418.1 Analyzed by: | um Hydrocarbons MP 06/13/97 | 250 | 10 | mg/kg | | |
| Benzene Method 8020A Analyzed by: Date: | | 7000 | 1000 | ug/kg | | |
| Ethylbenzene Method 8020A Analyzed by: Date: | | 20000 | 1000 | ug/kg | | |
| Toluene Method 8020A Analyzed by: Date: | | 74000 | 1000 | ug/kg | | |
| Total Xylene Method 8020A Analyzed by: Date: | | 170000 | 1000 | ug/kg | | |

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

TALITY ASSURANCE: These analyses are performed in accordance with PA guidelines for quality assurance.



000713



Philip Environmental Corp.

06/16/1997 07:29

4000 Monroe Rd.

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| 06/16/1997 | 07:29 | 5053262552 | SPL | FARMINGTON | 2 | F | PAGE | 23 |
|----------------------|--------------------|------------------|---------------------------------------|------------|------------------|--|-----------------|------|
| I | | | | | FARMINGT | NGTON LABOR P.O. BOX 1289 ON. NEW MEXICO 8 HONE (505) 325-258 | 7499- 12 | |
| | | Certificate | of Analysis | No. F2-970 | 6048-0 | 8 | | |
| 4000 Mor Farmingt | roe Rd | 87401 | | | | | | |
| ATTN: So | cott Po | pe | · · · · · · · · · · · · · · · · · · · | | | DATE: | 06/ | 16/9 |
| PROJECT : SITE : | Hampt | on 4M | | | CT NO: ATRIX: | | | |
| SAMPLED | BY: ST | P | | DATE SAL | MPLED: | 06/06/97 | | |
| SAMPLE] | D: 004 | 383 | | | | 06/09/97 | | |
| 1 | | | | | | | | |
| | | الا | NALYTICAL DA | | | | | |
| PARAMET | ER | | | RESULTS | | TECTION MIT | | UNIT |
| | Volatil 1 8020A | e Aromatic Hydro | ocarbons | 271000 | ىلە <i>لە</i> | V& 2 4 | | ug/k |
| Analyz | ed by: Date: | SB 06/11/97 | | | -12 | | | |

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QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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2388 a

2388 Philip-Farm NM N SITE TECHNULULIES



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LAB: (305) 325-1556

008

ANALYTICAL REPORT

| Attn: | Scott Po | pe | | Dato: | 5-May-97 |
|--------------|-----------|------------------|-------------------|-----------------|----------|
| Company: | Philip Fn | vironmental | | COC No.: | C3056 |
| Address: | 4000 M | onroe Road | | Sample No.: | 14427 |
| City, State: | Farming | ton, NM 87401 | | Job No.: | 17877 |
| Project Nan | nø: | Philip Environme | ntel - Hempton 4N | 1, | |
| Project Loc | ation: | APP-5.5-01 - 1 | ctive Produce | loa Pit | |
| Sampled by | r: | STP | Detc: | 30.Apr-97 Tima: | 16:35 |
| Analyzed b | y: | DC | Date: | 6-May-97 | |
| Sample Ma | trix: | Soil | | : | |

Laboratory Analysis

| Paramoter | Results co Received | l imit of Quantitation | Unit of Measure | Method |
|-----------------------------------|------------------------|---------------------------|--------------------|------------------|
| Intal Petroleum Hydrocarbons, TPH | ND | 25 | mg/kg | EPA Method 418.1 |

ND - Not Contented at Limit of Quantitation

Quality Assurance Report

Laboratory Portified Blank/Spike Soil

| Laboratory Identification | Anelyzad Value | Acceptable Range | Unit of Measure |
|---|-------------------|---------------------|--------------------|
| Lubernevry Fordfied Blank Soft - QCRS2 | <25 | <25 | mg/kz |
| Laboratory Fartified Spike Soil - QCSSI | 872 | 828 - 1024 | mg/kg |

| Duplication | | _ |
|---------------------------|-------|----------------|
| Laboratory Identification | % RSD | Limit % RBD |
| 14425-C3056 | <100 | 15.0 |

Approved by: Date: 5/6/97



2388 C

Philip-Farm NM IN SITE TECHNULULIES



LAB: (305) 325-1556

ANALYTICAL REPORT

| Scott Pop | 8 | | Date: | 6-May-97 |
|------------|------------------------|--|--|--|
| Philip Env | ironmental | | COC No.: | C3055 |
| 4000 Mo | nroe Rosd | · | Sample No.: | 14427 |
| Fermingto | n, NM 81401 | | Job No.: | 17877 |
| ne: | Philip Environm | ental - Hampton 4M | | |
| ation: | APP-6.5-01 - | Active Production | Pite 6.51 | |
| r: | STP | Date: | 30-Apr-97 Time: | 16.35 |
| Y• | DC | Date: | 5-May-97 | |
| trix: | Soil | | : | |
| | Philip Env 4000 Mol | 4000 Monroe Road 5 Farmington, NM 8/401 me: Phillip Environm ation: APP-6.5-01 ~ (: STP y, DC | Philip Environmental 4000 Monroe Road 4000 Monroe Road Fermington, NM 8/401 ne: Philip Environmental - Hampton 4M ation: APP-6.5-01 - Active Production /: STP Date: y. DC Date: | Philip Environmental COC No.: 4000 Monroe Road Sample No.: 4000 Monroe Road Sample No.: 5: Fermington, NM 8/401 Job No.: ne: Philip Environmental - Hampton 4M ation: APP-6.5-01 - Active Production Pite C 6.5* r: STP y. DC Date: 5-May-97 |

Laboratory Analysis

| | 14 | Reculta | Unit of | Limit of | Unit of | |
|--------------|-------|-------------|---------|--------------|---------|--|
| Perameter | | as Received | Measure | Quantitation | Massure | |
| Benzene | | ND | uz/kg | 1.0 | ug/kg | |
| Toluene | | ND | ug/kg | 1.0 | uglicg | |
| Ethylbenzene | | ND | ugike | 1.0 | ug/kg | |
| m.p-Xylene | | ND | ug/kg | 1.0 | ug/kg | |
| o-Xylene | | ND | ug/kg | 1.0 | ug/kg | |
| | TOTAL | ND | ug/kg | | | |

ND - Not Detected at Limit of Quentitation

Method - SVI-345 CPA Method 8030A Arametic Unistile Organics by Gas Chromatography

Approved by: Date: 5/6/97

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-2388 Philip-Farm NM A N N SITE TECHNOLOGIES



LA8: (505) 325-1556

ANALYTICAL REPORT

| ATTA: | Scott Po | pe | | Date: | 6-May-87 |
|--------------|-----------|------------------|------------|-----------------|----------|
| Company: | Philip En | vironmentel | | COC No.: | C3055 |
| Address: | 4000 M | onros Road | | Sample No.: | 14426 |
| City, States | Farming | ton, NM 87401 | | Jeb No.: | 17877 |
| Project Nan | ne: | Philip Environme | | , | |
| Project Loc | ation: | SSMW4-2-01 | South nw-4 | e a' | |
| Sampled by | /: | STP | Data: | 30-Apr 97 Time: | 15:40 |
| Analyzed b | y: | DC | Date: | 6-May-97 | |
| Sample Ma | trix: | Soil | | : | |
| | | | | | |

Laboratory Analysis

| Perameter | Results as Received | Limit of Quantitation | Unit of Measure | Method |
|-----------------------------------|------------------------|--------------------------|--------------------|------------------|
| Total Petroleum Hydrocarbons, TPH | 274 | 25 | nig/kg | EPA Method 418.1 |

ND - Not Detected at Limit of Quantitation

Quality Assurance Report

Laboratory Fortified Blank/Spike Soil

| Laheratory Identification | Analyzed Value | Acceptable Range | Unit ct Messure |
|---|-------------------|---------------------|--------------------|
| Luburwary Forefied Blank Soil - QCRS2 | <25 | <25 | nig/kg |
| Laboratory Fortified Spile Sail - QCSSI | 872 | 828 - 1024 | ntg/kg |

Duplication

| Laboratory Identification | % RSD | Limit % RSD |
|---------------------------|-------|----------------|
| 14475-C3056 | <100 | 15.0 |

Approved by: 5/2/97 Duta:



2501 2388 JN SITE TECHNU



Philip-Farm NM

a 1

LAB: (503) 325-1556

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ANALYTICAL REPORT

| Attn: | Scott Po | pe - | | Date: | 6-May-87 |
|-----------------------------------|------------|--------------------|-----------------|-----------------|----------|
| Company: | Philip En | vironmental | | COC No.: | C3056 |
| Address: | | | | Sample No.: | 14425 |
| City, State: Farmington, NM 87401 | | | Job No.: | 17277 | |
| Project Nan | ne: | Philip Environment | al • Hampton 44 | 1 | |
| Project Loca | ation: | SSMW4-2-01 | · | | |
| Sampled by | / : | STP | Date: | 30-Apr-97 Time: | 15:40 |
| Analyzed by | y: | DC . | Date: | 5-May-87 | |
| Sample Mat | trix: | Soil | | : | |

Laboratory Analysis

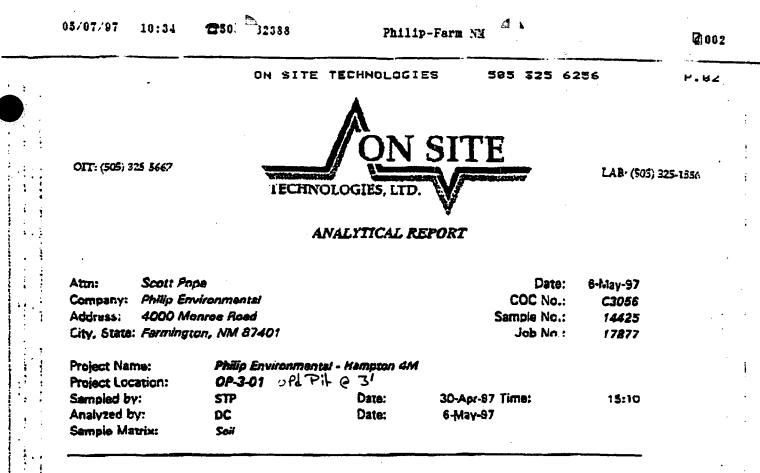
| Perameter | | | | Limit of Quantitation | Unit of Measure |
|--------------|-------|----------|-------|--------------------------|--------------------|
| | | ND UE/KE | usikg | 1.0 | Ug/ Kg |
| Toluena | | 2.1 | ug/kg | 1.0 | ug/kg |
| Ethylbenzene | | 1.3 | ug/kg | 1.0 | vg/kg |
| m,p-Xylene | | 5.8 | ug/kg | 1.0 | ug/kg |
| o-Xylene | | NO | ugikg | 1.0 | ug/kg |
| | TOTAL | 9.2 | ue/ke | | |

ND - Not Detected at Limit of Quantitation

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Method - SW-845 CFA Method 8020A Aremetic Volutile Organism by Gas Chromalography

Approved by: De C Date: 5/c (97



Laboratory Analysis

| Parameter | Results as Received | Limit of Quantitation | Unit of Measure | Method |
|-----------------------------------|------------------------|--------------------------|--------------------|------------------|
| Total Petroleum Hydrorarbons, TPH | ND | 25 | mg/kg | EPA Method 418.1 |

ND - Not Editated at Linuit of Quantitation

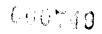
Quality Assurance Report

| Laboratory Portified Blan | trSpike Soil | | |
|---|--------------|------------|---------|
| | Analyzed | Acceptable | Unit of |
| Leboratory Identification | Velue | Renge | Moasure |
| Laboretory Fortified BLINK Soil - QCBSI | <25 | < 25 | avertes |
| Laboratory Fortified Spike Soll - QCSSI | 872 | 828 - 1024 | mg/kg |

Duplication

| Laboratory Identification | % RSD | Limit % RSD |
|---------------------------|----------------------------------|----------------|
| 14425-C3056 | <lcq< th=""><th>15,0</th></lcq<> | 15,0 |

Approved by: Date: 5/6/97



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P.83



ON SILL TECHNOLOGIES

LAB: (305) 325-1556

ANALYTICAL REPORT

| Attn: | Scott Po | pe | | Date: | 6-May-97 |
|-----------------------------------|------------|------------------|--------------------|-----------------|----------|
| Company: | Philip En | vironmental | | COC No.: | C3056 |
| Address: | 4000 M | onroc Rosd | | Sample No.: | 14425 |
| City, State: Farmington, NM 87401 | | | Job No.: | 1 787 7 | |
| Project Nan | ne: | Philip Environme | antal - Hempton 4N | (| |
| Project Loc | ation: | OP-3-01 | | | |
| Sampled by | <i>r</i> : | STP | Date: | 30-Apr-97 Time: | 15:10 |
| Analyzed b | y : | DC | Date: | 5-May-9/ | |
| Sample Ma | trix: | .Sall | | · | |

Laboratory Analytis

| Persmeter | | Results as Received | Unit of Measure | Lineit of Quantitation | Unit of Massure |
|--------------|-------|------------------------|--------------------|---------------------------|--------------------|
| Benzone | | ND | ug/kg | 1.0 | ນ g/icg |
| Toluene | | ND | ug/kg | 1.0 | ug/kg |
| Ethylbenzene | | ND | ug/ice | 1.0 | ug/kg |
| m,p-Xylere | | 1.6 | ug/kg | 1.0 | ugikg |
| o-Xylene | | ND | ug/kg | 1.0 | ug/kg |
| | TOTAL | 1.6 | UE/kg | | |

ND - Not Detected at Limit of Quantization

Method - SW-RAR FRA Method 8020A Atometic Valetile Organics by Gas Chrometography

Approved by: Octo Date: 5/6/47

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| | Ï | . 1 | · // | <u>ON S</u> | SITE | | • | |
|----------------|--------------------|---------------------------------------|--|--|--------------|----------------------------|--|-------------|
| OFF: (505) 32 | 5-5667 | | CHNOROG | 8 | \mathbf{V} | | LAB: (50 | 5) 325-1556 |
| | ţ | | OUALITY | ASSURANC | Y F PRPOR | r . | • • • | |
| | | • | | EPA Method 8 | | • | 5 J | · |
| Da | e Analyzed: | 3-Feb-97 | | Y · · · ` | | mal QC No.: ate QC No.: | 0527-STD 0528-STD | · . |
| | • | | | Refe | | ard QC No.: | 0417-20 | |
| | Method Bla | nk | 1 | | | | • | • . |
| Parameter | | | \$. | | Result | Unk of Measure | | |
| | nount of All | Analytes In I | Blank | | <0.2 | ppb | | |
| ŧ | 1 Calibration | Check + | | | | • | | |
| · i | 2 | | Unit of | Tree | Analyzad | | ÷. | ., * |
| Persever i | | · · · | Messure | Value | Value | <u>% DIM</u> | Limit | |
| Benzenel | 1 | 1 | ppb | 20.0 - | 19.2 | 4 | 15% | |
| Toluene | l | | 1 ppb | 20.0 | 19.6 | 2· | 15% | |
| Ethylbenzen | 0 | 1 1 | 1'ppb | 20.0 | 20.0 | 0 | 15% | |
| m,p-Xylene | <u> </u> | | . , , , , , , , , , , , , , , , , , , , | 40.0 | 39.0 | 3 | 15% | |
| o-Xylene | | 1 |) ppb | 20.0 | 19.7 | 1 | 15% | 1 |
| | Metrix Spik | | , · · | | · · | • | | |
| Personalar | i 🚺 | 7- Percent Recovered | 2 · Percent Recovered | Limit | %R8D | Limit | ••• | |
| | | · · · · · · · · · · · · · · · · · · · | | | | • • | ; · | |
| Benzene | | 92 | 90 · | (39-150) | 1 | 20% | | |
| Toluene | · · · · | 1 95 | 93 | (46-148) | 1 | 20% | | |
| Ethylbenzen | | 97 | <u>95</u> 92 | (32-160) | 1 | 20% | | |
| m.p-Xylene | | 95 | 94 | ¹ (35-145) 1 (35-145) | | 20% | | |
| • | | 1 | <u>l</u> | | | | k | |
| | <u>Surrogate i</u> | 1000 Verios | <u>82</u> | | | \$1 | 52 | • • |
| <u>ا</u> | • | Percent | Percent | 1 | | Percent | Percent | |
| ebaretory ide | | Recovered | Recovered | Laboratory Idea | | Appenvered | Assovered | |
| Imit Percent A | asovered | (70-130) | | Limit Percent R | ecovered | (70-130) | | |
| 13616-5735 | | 97 | | | | | | |
| 13617-5735 | | 96 | | | | | | |
| | | | • | | | | | • |
| : | | <u> </u> | | | | | | • |
| <u> </u> | | <u> </u> | ···· | | | | | |
| | | 1 | | Lange of the local sector of the land sector of the | | | Learning the second | (D) |

P.O. BOX 2606 + FARMINGTON, NM 87499

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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2388 CT

SITE TECHNOLUGIES



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT for EPA Method 8020

Date Analyzed: 5-May-97

Internal QC No.: 0527-575 Surrogate QC No.: 0528-575 Reference Standard QC No.: 0543/30-QC

a ,

Method Blank

| | 1 | Links of |
|---|--------|----------|
| Analyte | Result | Maasura |
| Average Amount of All Analytes in Blank | <1.0 | ppb |

Calibration Chock

| Acelvie | Units of Moostero | True Value | Analyzad Value | % DIH | Limit |
|--------------|----------------------|---------------|-------------------|-------|-------|
| Benzene | dąq | 20.0 | 18.7 | 7 | 15% |
| Toluene | ppb | 20.0 | 19.4 | 3 | 15% |
| Ethylbenzene | ppb | 20.0 | 19.7 | 1 | 15% |
| in,p-Xylenc | ppb | 40.0 | 38.1 | 5 | 15% |
| a-Xylene | opb | 20.0 | 19.7 | 2 | 15% |

Metrix Spike

| · · · · · | 1- Parcent | 2 - Percent | | | |
|--------------|------------|-------------|----------|------|-------|
| Analyte | Recovered | Recevered | Limit | %ASD | Limit |
| Benzene | 30 | 86 | (39-150) | 4 | 20% |
| Toluene | 92 | 88 | (46-148) | 4 | 20% |
| Ethylbenzene | 97 | 87 | (32-160) | 3 | 20% |
| m,p-Xylene | 88 | 83 | (35-145) | 3 | 20% |
| o-Xylene | 98 | 84 | (35-145) | 3 | 20% |

Surrogate Racoveries

| | S1 Percent | SZ Percent | | S1 Percent | S2 Pensent |
|--------------------------|---------------|---------------|---------------------------|---------------|---------------|
| Laboratory Mantification | Recovered | Resovered | Laboratory Identification | Recovered | Recovered |
| Limit Percent Recovery | (70-130) | | Limit Percent Recovery | (70-130) | |
| . 31; Maurabonzano | | | S1: Flourobenzene | | |
| 14425-03055 | 92 | | | | |
| 14426-C3056 | 92 | | | | |
| 14427-C3056 | 93 | | | | |
| | | | | | |
| | | | | | (re) |
| | | | | | 5/4/97 |



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2388 388 Philip-Farm NM SITE TECHNOLOGIES S **A** 1 32-ON.



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT for EPA Method 8020

Date Analyzed: 2-May-97

Internal QC No .: 0527-570 Surrogate QC No .: 0528-570 Reference Standard QC No.: 0529/30-0C

Method Blenk

| | | Unit of |
|---|--------|---------|
| Parameter | Annatz | Measure |
| Average Amount of All Analytes in Blank | <0.2 | ppb |

Calibration Check

| | Unit of | True | Analyzed | | |
|--------------|---------|-------|----------|--------|-------|
| Personator | Measure | Value | Value | % Diff | Limit |
| | | | | | |
| Senzerie | ppb | 20.0 | 18.8 | 6 | 15% |
| Toluene | ppb | 20.0 | 19.3 | 3 | 15% |
| Ethylbenzene | ppt | 20,0 | 19.8 | 2 | 15% |
| m,p-Xylene | ррб | 40.0 | 37.7 | 6 | 15% |
| o-Xylene | dqq | 20,0 | 19.5 | Z | 16% |

Metrix Spike

| | 1- Persont | 2 - Percant | | | |
|--------------|------------|-------------|----------|------|-------|
| Peremeter | Recovered | Recovered | Lîmit | %RSD | Limit |
| Benzene | 89 | 89 | (39-150) | 0 | 20% |
| Toluene | 93 | 91 | (46-148) | 1 | 20% |
| Ethylbenzene | 92 | 92 | (32-160) | 0 | 20% |
| m,p-Xylene | 93 | 92 | (35-145) | 0 | 20% |
| n-Xylene | 92 | 91 | (35-145) | 0 | 20% |

| Surregote | Receveries | | | | |
|---------------------------|---------------|---------------|---------------------------|---------------|---------------|
| | S1 Percont | S2 Percent | | ST Persont | S2 Persont |
| Leberstory Identification | Recovered | Recovered | Laboratory Identification | Autovered | Recovered |
| Limit Percent Recovered | (70-130) | | Lini: Percent Recovered | (70-130) | |
| 14428-C3056 | 94 | | | + | |
| 14429-03055 | 93 | | | | |
| 14430-C3056 | 92 | | | | |
| | + | | | | (m) |
| | | | | | 5/5/97 |

S1: Flourobenzene

| Carlos Financial Description NM 87499 Carlos Financial Constituents acroin across Financial Constituents across Taxic (565) 325 5605 - Fixic (565) 325 5205 across Fixic (565) 325 5407 across Fixic (565) 325 5407 a | | CHAIN OF CUSTONY RECORD | NY RI | ECORD | | | | |
|--|------------------------------------|--|----------------|------------------|--------------------|----------------|-----------------------------|----|
| OCIES LETIO EN Mare + 10. Den 2000 - Formangen MM Errol Constant - To the formation of the constant of th | / ON SITE | Date: | 1131 | 97 | | Page | | |
| Controls | OGIES, LTD. | 4apte - P. O. Box 2606 - Farmington NM 87499 18: (505) 325-5667 - FAX: (505) 325-6256 | | | | | | |
| Issue Description Description <thdescripion< th=""> <thdescription< th=""> <thdes< th=""><th></th><th>ob No.</th><th></th><th></th><th>en Gannon</th><th>Title</th><th></th><th></th></thdes<></thdescription<></thdescripion<> | | ob No. | | | en Gannon | Title | | |
| Commune PNM Care Services Desit Set-25783 Desit Set-25783 Desit Set-25783 Desit Set-25783 Desit Set-25783 Desite Set-25783 Desite Set-25783 Desite Set-25783 Desite Desite <thdesite< th=""> D</thdesite<> | Name | | 1 | | ias Services | | - | |
| Advine 603 W. Elm Street 203 204 Salue Jac C05.Shu: Jar Farmington, NM 37411 204 204 204 C05.Shu: Jar Muru VSI Salue Jar 204 204 C05.Shu: Jar Salue Jar Salue Jar 204 204 C05.Shu: Jar Salue Jar Salue Jar 204 204 Muru VSI Muru VSI Muru VSI 204 204 C05.Shu: Jar Muru VSI Muru VSI 204 204 C05.Shu: Jar Jar Jar 205 204 C1 Tur Jar 205 204 204 C1 Jar Jar 205 204 204 C | Company | | | | do Square, Mail St | op 0408 | | |
| Cold learning Cold learning Engineering Engineering Engineering Engineering Location Location Engineering Engineering Australistics Australistics Location Murk S: kLl tonO3 Engineering Engineering Engineering Australistics Lusitic Murk S: kLl tonO3 Engineering Engineering Engineering Engineering Engineering Swere contraction Engineering Engineering Engineering Engineering Lusitics -3 970e131150cs If/Min ILic 2 P P -1 970e131150cs If/Mi | Address | | | | Jerque, NM 87158 | | | |
| 401 HA 14 S:/LL/1003 14 S:/LL/1003 SWEEDERFECAUESTED SWEEDERFECAUE | City, State, Zip | | | | | letetax No. | | |
| Murk S: Nul I covo3 BER P SAME EDITIFICATION AMERIE AMMER | Sampting Location: H-GMD JON YM | | | | ANALYSIS REQU | ESTED | | |
| Murk S: UL (10x03 Entre Market contremention Entre Market contremention Lucitor -3 970-131150-c Internation Internation Internation Lucitor -3 970-131150-c Internation Internation Internation Lucitor -4 970-131150-c Internation Internation Internation -4 970-131150-c Internation Internation -4 970-131150-c Internation Internation -4 970-131150-c Internation Internation -4 970-131150-c Internation Internation -4 970-13150-c Internation Internation -4 970-14150-c Internation Internation -4 100-14150-c Internation Internation -4 100-14150-c Internation Internation -400-150-150-150-150-150-150-150-150 | • | | , rers | 1 100/ | | | | |
| Swerte Instruction Swerte Morrei Press Morrei 97 lo 131 1500 10 11 1000 10 10 100 10 10 100 97 lo 131 1500 10 11 1000 10 100 10 100 97 lo 131 1500 10 11 100 10 100 10 100 97 lo 131 1500 10 11 100 10 100 10 100 97 lo 131 1500 10 100 10 100 10 100 97 lo 131 1500 10 100 10 100 10 100 97 lo 131 1500 10 100 10 100 10 100 97 lo 131 1500 10 100 10 100 10 100 97 lo 131 1500 10 100 10 100 10 100 97 lo 131 100 10 100 10 100 10 100 10 lo 131 100 10 100 10 100 10 100 | | | istroj | + | | | | |
| 97a13115oc ME ME ME ME 97a13115oc (fh/h) Loc Loc Loc 97a131150oc (fh/h) Loc Loc Loc 10101110 Loc Loc Loc Loc 1010111 Loc Loc Loc Loc 101011 Loc Loc Loc Loc 101011 Loc Loc Loc Loc | SAMPLE IDENTIFICATION | NPLE MATERY |) | | | | LABID | |
| 97a1311Soc 13.870 13.870 13.870 97a1311Soc 11.870 1.2.2.2 1.4 97a1311Soc 1.2.32 1.2.2.2 1.4 11.8700 1.4 1.4 1.4 1.4 11.8700 1.4 1.4 1.4 1.4 11.8700 1.4 1.4 1.4 1.4 11.8700 1.4 1.4 1.4 1.4 11.8700 1.4 1.4 1.4 1.4 11.8700 1.4 1.4 1.4 1.4 11.81 1.4 1.4 1.4 1.4 11.81 1.4 1.4 1.4 1.4 11.81 1.4 1.4 1.4 1.4 11.81 1.4 1.4 1.4 1.4 11.81 1.4 1.4 1.4 1.4 11.81 1.4 1.4 1.4 1.4 11.81 1.4 1.4 1.4 1.4 | | JIME | 4 | | | | | |
| 47al 31 5300 1 4 2 1 1 1 1 1 1 | | Alla | 2 | | | | | ' |
| Clear Signalure East Accompany Processor Description Description Clear Signalure East Accompany Processor Description Description Clear Signalure East Accompany Processor Description Description | | | エレ | | | | | |
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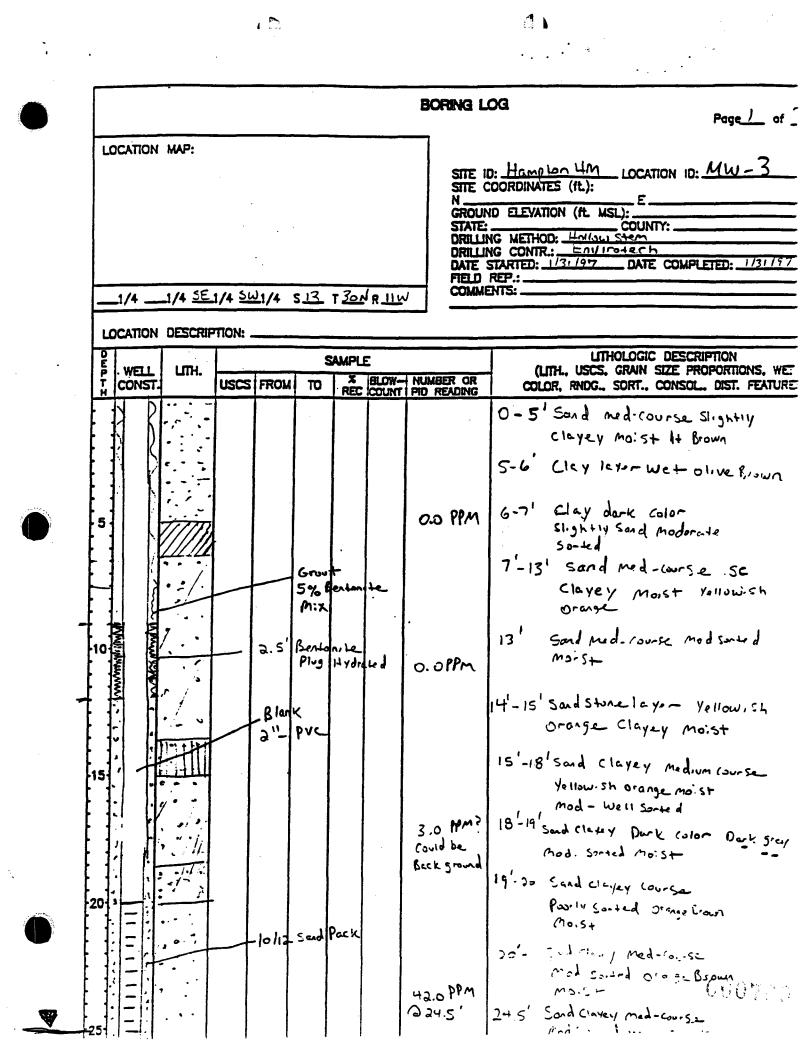
APPENDIX B

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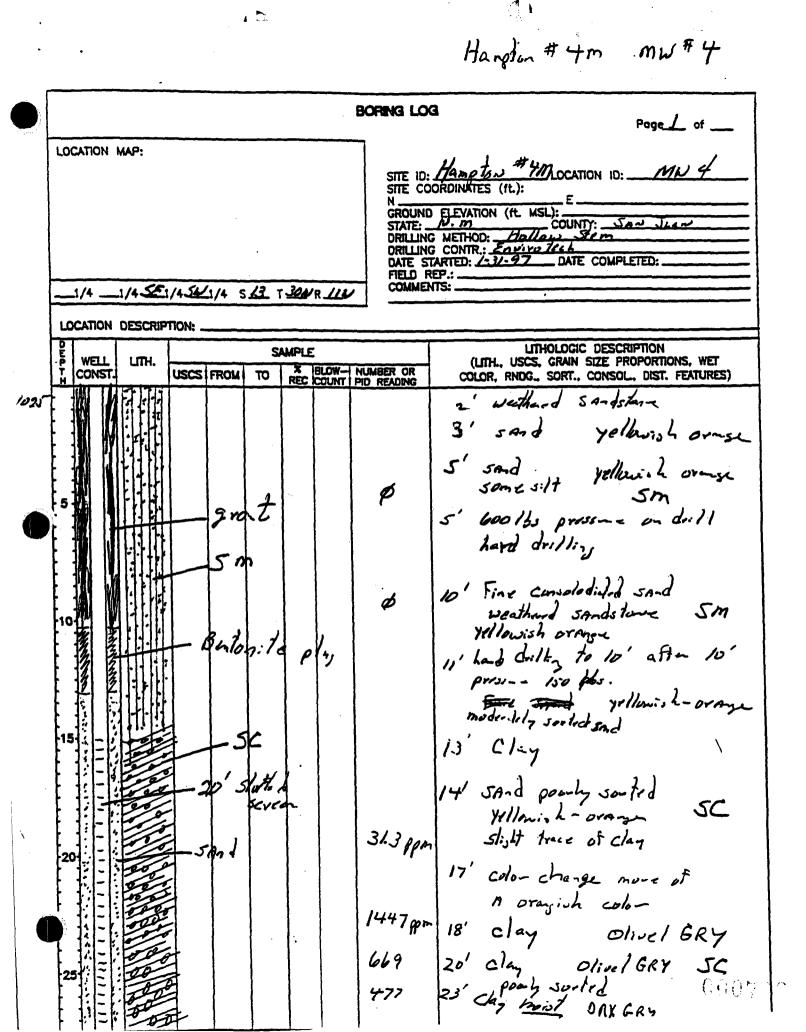
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DRILLING LOGS

| | 6 1 | |
|--|---------------|---|
| Envirotech | Ι | NC. FIELD BORING LOG |
| TEST BORING HAL MONITOR WELL HAL PROJECT H | •. | PROJECT NAME: |
| NEG. DESIGNATION OF DRILL | 108- | 02 PNM GAS SERVICES OF: |
| MOBIL DRILL | DRI | LLING SURFACE ELEVATION TOTAL DEPTH OF HOLE |
| | | ENUROTISCH INC. 45 PT. |
| COMPLETED AS MONITOR WELL | a | MS. /Bd |
| GRADED | USCS | LOG OF MATERIAL/COMMENTS |
| SURF. TYPE He DO PPU O DO | SM | LIGHT BROW SILTY SAND, SLIGHTLY MOIST MEDIUM - HARD, NO HYDROCARBON ODOR |
| 2 | | |
| 3 | | |
| | SM | SAME AS ABOUE PLUS STRONG H.C. ODOD (ASSESSMENT FROM SURFACE CUTTING , VISUM) QUE DAR BROWN STREAK OF SILT TO CLAYEY SAND |
| 7 | | |
| 8 | | C 16 ANDTHER STAFAR (THIN LAYER) OF SILTY SAND, DARK BROWN + STRONG H.C. ODDR |
| 20 | SM | STRONG H.C. ODOR, VISUAL |
| | | LIGHT GRAY TO GREENISH GRAY SILTY TO CLAYFY SAND WET, HARD, STRONG H-C ODDR (COULD BE PEDEULT SATURATED SOIL). |
| 3 | <u></u> | GROUND WATER THOLE (COLLECTED WATER SAMPLE FOR STER (BOD) |
| ō | sm | AND TPH(8015) N 2" PROVET DEFENSED IN THE BAILER SAME AS ABOUF |
| | | |
| 3 | | |
| | sm | SAME AS ABOVE |
| | Sm | SAME 45 HOUSE REMOVED CENTER OF BARE TO BEEN |



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| | | | - | | | | <u></u> | | BORING I (Continue | - 1 |
| | 0 | WELL CONST. | итн. | USCS | FROM | | MPLE REC | | NUMBER OR PID READING | LITHOLOGIC DESCRIPTION (LITH., USCS, GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SORT., CONSOL, DIST. FEATURES) |
| | -30- | 11111111 | | a Si | 11 - 0,0 0+1ed | 1 5 crea | | | No Reading With PID Cuting Very Wet t dissurbed | low-med Plasticity |
| - | -35 | | | E | lo/12 Pack | | | | (ALSTALES | Slightly (on solidated druling timed) 34-35 Clay olive Brown wet Plastic: ty |
| | 40 | | | | | | | | | 35' TD of Borehole 34'-35' Clay Olive grey Slight |
| | | | | | | | | - | | 34-35' cuttings Kerry Wet dark weter up From below looks like Motor 0;1? No Reading With PID 0.0 PPM |
| | 45 | | | | | | - | | | |
| | 50 | | | | | • | | | | |
| | 55 | | | | | | | | | d and be a m |
| | 60 | | | | | | | | | |



1 5 Hampton # 4m Mw# 4 BORING LOG Page 2 of (Continued) LOCATION ID: MW-4 LITHOLOGIC DESCRIPTION (LITH., USCS, GRAIN SIZE PROPORTIONS, WET SAMPLE WELL LITH. X BLOW- NUMBER OR REC COUNT PID READING COLOR, RNDC., SORT., CONSOL, DIST. FEATURES) USCS FROM CONST TO 80. Ten 27' oHH2D GRY color, moist clay slottid screen 30 20' Hand layou clay GRY Colan 700 fbs CH to dill the FANA 29' OH GATCOLO Clay 30' high plasteily Organic Silts 31' 900 lbs press. herd duilling 35' GRY Clay 0# hist plastitz hand dilling stopped doilling set 20' slott of screm Sand to 13.2' Bartaite 10.2' growt to surface 55 (()))))) 60

