



Industrial Services Group
Central Region

March 3, 1999

Project 20477

Mr. Ed Hasely
Burlington Resources
PO Box 4289
Farmington, NM 87499-4289

RE: Report for work performed at the Hampton #4M Well Site

Dear Mr. Hasely:

Philip Services Corporation (Philip) is pleased to submit to Burlington Resources Oil & Gas Company (Burlington) this report for work performed at the Hampton #4M well site on November 10, 1998 through February 2, 1999.

Philip appreciates the opportunity to provide Burlington with professional services and looks forward to providing additional services in the future. If you have any questions or require additional information, please contact Robert Thompson or Martin Nee at (505) 326-2262.

Respectfully submitted,
PHILIP SERVICES CORPORATION

Robert Thompson
Project Manager

Attachments – As stated

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Combining the Strengths of Philip Services Corp., Allwaste and Serv-Tech





Industrial Services Group
Central Region

March 3, 1999

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RE: Report for Work Performed at the Hampton #4M Well Site

On November 10, 1998 through February 2, 1999 Philip Services Corporation (Philip) initiated field work at the Hampton #4M well site for Burlington Resources Oil & Gas Company (Burlington). The Scope of Work was to delineate, excavate and remediate hydrocarbon-impacted soils at the site.

SCOPE OF WORK

On November 10, 1998 Philip mobilized to the Hampton #4M well site to begin excavation activities. Burlington contracted the services of Rosenbaum Construction to supply a dozer and operator to excavate the site. Excavation activities began at approximately 8:30 a.m. on the northern portion of the location in the area of Public Service Company of New Mexico's (PNM) former pit. Brush was cleared from an area on the west side of the location to make room for overburden to be stockpiled as it was removed from the area being excavated. Overburden was removed throughout the day and stockpiled. Traces of hydrocarbon impacted soil were encountered from approximately 6 feet below ground surface (bgs) to approximately 12 feet bgs. Heavier amounts of hydrocarbon impacted soil were encountered beyond 12 feet bgs. Heated headspace analyses were performed in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines; the results are recorded in Attachment A listed as Table 1 and the sample locations are plotted in Attachment B on a Plan View diagram. Visitors throughout the day included Ed Hasely and Johnny Ellis with Burlington; Ron Dedrick, Maureen Gannon and Mark Sikelianos with PNM; Robert Foley with Williams Field Services (Williams) and; Denny Foust and Bruce Martin with the NMOCD.

Excavation activities continued on November 11, 1998 through November 17, 1998. Efforts concentrated on excavating impacted soils from the northern section of the well pad in the area of PNM's former pit. Excavation proceeded to approximately 27 feet bgs in this area. Water was encountered at approximately 25 feet bgs. Soil samples were collected for heated headspace analysis throughout the excavation process; the results are recorded in Table 1 and the sample locations are plotted on the Plan View Diagram. A soil sample was also obtained from a natural seep northwest of the well pad and the results are recorded in the above mentioned attachments.

Combining the Strengths of Philip Services Corp., Allwaste and Serv-Tech



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Soil samples collected were sent to Southern Petroleum Laboratories, Inc. located in Farmington, NM and analyzed for Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) using U.S. Environmental Protection Agency (USEPA) method 8020 and Total Petroleum Hydrocarbons using U.S. EPA method 8015 modified.

Three cells were constructed using clean overburden in the bottom of the excavation. The cells were constructed from east to west to observe groundwater entering the different areas of the excavation. The project was temporarily shut down after November 17, 1998 so that the cells could be monitored. The cells were checked periodically by Burlington and then pumped out by Dawn Trucking using a vacuum truck and hauled off to Burlington's McGrath disposal well. Visual observation of the cells indicated that there was free phase hydrocarbons on the surface of the water in the east portion of the excavation. The center and western portions revealed no free phase hydrocarbons.

Excavation activities resumed on November 30, 1998 and continued through December 4, 1998. A trackhoe was used in place of a dozer during this phase of the project. Philip continued to excavate impacted soils from the north portion of the location. The remediation process was concentrated on impacted soils in the northern and western walls to complete the excavation work in these areas. Emphasis was then directed to following the plume of impacted soils into the eastern wall and removing the impacted soils from this area.

Approximately 77 cubic yards of additional material were also excavated from the northern wall of Burlington's former pit that was previously excavated and left open in December 1997. At this time the project was temporarily shut down at Burlington's request while pursuing approval to landfarm on nearby locations.

On January 21, 1999 the excavation activities resumed, using the dozer. The dozer and operator were provided to Burlington, this time, by Aztec Excavation. Excavation activities continued through February 2, 1999. The removal of impacted soils continued by following the plume of impacted soils into the access road to the location east of the former excavation and south toward Burlington's former pit excavation. As the excavation of impacted soils proceeded south toward Burlington's old excavation, the impacted soils ended. There was no connection of impacted soil from Burlington's old excavation in the south to the impacted soil that was being excavated in the north. The excavation also included stripping out a section of the location between the wellhead and the former excavation to determine if there was a connection of impacted soils between the two locations. The soil in the stripped out section between the wellhead and former excavation showed no signs of impacted soil, therefore eliminating concern for the well bore as a possible source.

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On February 2, 1999, the last day of the excavation process, MW-4 was exposed from ground surface to the bottom of the well without disturbing the well components. This was done to examine the layers of soil across MW-4 to see the extent of the impacted soil effecting this well. Sampling the soil around this well showed that there was a band of impacted soil approximately 5" thick between 16.5 feet and 17 feet bgs to the north of MW-4. Soils were clean to the south of MW-4. The monitor well was then removed and the band of impacted soil observed was excavated. The above mentioned activities was the extent of Philip's involvement in the project.

SUMMARY

Various soil samples and heated headspace analyses were collected throughout the excavation process. The sample analyses results are recorded in Table 1 and the sample locations are plotted on the Plan View Diagram. This report is based solely upon field notes received from Philip's supervisor on site during the excavation process.

Respectfully submitted,
PHILIP SERVICES CORPORATION



Robert Thompson
Project Manager

Attachment A

Table 1

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TABLE 1
SOIL SAMPLE ANALYSES

| NUMBER | DATE | SAMPLE TYPE | APPROXIMATE DEPTH | RESULT |
|--------|----------|------------------|-------------------|-------------------------------------|
| 1 | 11/10/98 | Heated Headspace | 10 feet | 1,677 ppm |
| 2 | 11/10/98 | Heated Headspace | 12 feet | 561 ppm |
| 3 | 11/11/98 | Heated Headspace | 7 feet | 19.5 ppm |
| 4 | 11/11/98 | Heated Headspace | 16 feet | 96.8 ppm |
| 5 | 11/11/98 | Soil Sample | 18 feet | BTEX - 102.4 ppm TPH - 2.510 ppm |
| 6 | 11/12/98 | Soil Sample | 21 feet | BTEX - 412 ppm TPH - 4,300 ppm |
| 7 | 11/13/98 | Heated Headspace | 25 feet | 431 ppm |
| 8 | 11/13/98 | Heated Headspace | 25 feet | 3,000 ppm |
| 9 | 11/13/98 | Heated Headspace | 25 feet | 101 ppm |
| 10 | 11/13/98 | Heated Headspace | 24 feet | > 3,000 ppm |
| 11 | 11/13/98 | Heated Headspace | 22 feet | 18.4 ppm |
| 12 | 11/16/98 | Heated Headspace | 25 feet | 21.5 ppm |
| 13 | 11/16/98 | Heated Headspace | 23.5 feet | 9.8 ppm |
| 14 | 11/16/98 | Heated Headspace | 25 feet | 207 ppm |
| 15 | 11/16/98 | Heated Headspace | 25 feet | 2,696 ppm |
| 16 | 11/17/98 | Soil Sample | Ground Surface | BTEX - 11.92 ppm TPH - 40 ppm |
| 17 | 11/30/98 | Heated Headspace | 16.7 feet | 794 ppm |
| 18 | 11/30/98 | Heated Headspace | 16.7 feet | 196 ppm |
| 19 | 11/30/98 | Heated Headspace | 1 foot | 19.4 ppm |
| 20 | 11/30/98 | Heated Headspace | 23 feet | 2,999 ppm |
| 21 | 11/30/98 | Heated Headspace | 20 feet | 1,946 ppm |
| 22 | 11/30/98 | Heated Headspace | 22 feet | 2,983 ppm |
| 23 | 11/30/98 | Heated Headspace | 20 feet | 6.9 ppm |

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|----|----------|------------------|-----------|-----------|
| 24 | 12/01/98 | Heated Headspace | 22 feet | 316 ppm |
| 25 | 12/01/98 | Heated Headspace | 24 feet | 3.5 ppm |
| 26 | 12/01/98 | Heated Headspace | 24 feet | 2,541 ppm |
| 27 | 12/01/98 | Heated Headspace | 28 feet | 7.8 ppm |
| 28 | 12/01/98 | Heated Headspace | 24 feet | 2,007 ppm |
| 29 | 12/03/98 | Heated Headspace | 16.4 feet | 2,999 ppm |
| 30 | 12/03/98 | Heated Headspace | 13.9 feet | 90.3 ppm |
| 31 | 12/03/98 | Heated Headspace | 13 feet | 9.2 ppm |
| 32 | 12/03/98 | Heated Headspace | 13.9 feet | 16.5 ppm |
| 33 | 12/03/98 | Heated Headspace | 18 feet | 35.3 ppm |
| 34 | 12/03/98 | Heated Headspace | 14.7 feet | 7.9 ppm |
| 35 | 12/03/98 | Heated Headspace | 17 feet | 1,825 ppm |
| 36 | 01/21/99 | Heated Headspace | 6 feet | 13.5 ppm |
| 37 | 01/22/99 | Heated Headspace | 18 feet | 883 ppm |
| 38 | 01/22/99 | Heated Headspace | 12 feet | 19.1 ppm |
| 39 | 01/22/99 | Heated Headspace | 10 feet | 15 ppm |
| 40 | 01/22/99 | Heated Headspace | 18 feet | 70.4 ppm |
| 41 | 01/22/99 | Heated Headspace | 18 feet | 45.5 ppm |
| 42 | 01/22/99 | Heated Headspace | 18 feet | 60.1 ppm |
| 43 | 01/22/99 | Heated Headspace | 18 feet | 9 ppm |
| 44 | 01/22/99 | Heated Headspace | 22 feet | 38.8 ppm |
| 45 | 01/22/99 | Heated Headspace | 20 feet | 2,999 ppm |
| 46 | 01/22/99 | Heated Headspace | 20 feet | 2,999 ppm |
| 47 | 01/25/99 | Heated Headspace | 15 feet | 9.7 ppm |
| 48 | 01/25/99 | Heated Headspace | 15 feet | 8.6 ppm |
| 49 | 01/25/99 | Heated Headspace | 18 feet | 27.9 ppm |
| 50 | 01/25/99 | Heated Headspace | 18 feet | 714 ppm |
| 51 | 01/25/99 | Heated Headspace | 18 feet | 20.9 ppm |
| 52 | 01/25/99 | Heated Headspace | 20 feet | 40 ppm |
| 53 | 01/25/99 | Heated Headspace | 15 feet | 38.7 ppm |
| 54 | 01/25/99 | Heated Headspace | 6 feet | 21.1 ppm |

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|----|-----------|------------------|-----------|-----------|
| 55 | 01/25/99 | Heated Headspace | 22 feet | 792 ppm |
| 56 | 01/25/99 | Heated Headspace | 15 feet | 25 ppm |
| 57 | 01/25/99 | Heated Headspace | 5 feet | 19.6 ppm |
| 58 | 01/26/99 | Heated Headspace | 5 feet | 12.7 ppm |
| 59 | 01/26/99 | Heated Headspace | 12 feet | 16.7 ppm |
| 60 | 01/26/99 | Heated Headspace | 15 feet | 13.9 ppm |
| 61 | 01/26/99 | Heated Headspace | 18 feet | 167 ppm |
| 62 | 01/26/99 | Heated Headspace | 22 feet | 452 ppm |
| 63 | 01/26/99 | Heated Headspace | 23 feet | 385 ppm |
| 64 | 01/26/99 | Heated Headspace | 15.4 feet | 27 ppm |
| 65 | 01/26/99 | Heated Headspace | 17.1 feet | 58.3 ppm |
| 66 | 01/26/99 | Heated Headspace | 24 feet | 2,999 ppm |
| 67 | 01/27/99 | Heated Headspace | 15 feet | 38.9 ppm |
| 68 | 01/27/99 | Heated Headspace | 16.6 feet | 2,999 ppm |
| 69 | 01/27/99 | Heated Headspace | 21 feet | 2,999 ppm |
| 70 | 01/27/999 | Heated Headspace | 20 feet | 1,121 ppm |
| 71 | 01/27/99 | Heated Headspace | 20.6 feet | 75.5 ppm |
| 72 | 02/02/99 | Heated Headspace | 17 feet | 14.5 ppm |
| 73 | 02/02/99 | Heated Headspace | 15 feet | 18.2 ppm |
| 74 | 02/02/99 | Heated Headspace | 15.6 feet | 22.8 ppm |
| 75 | 02/02/99 | Heated Headspace | 15.4 feet | 88.4 ppm |
| 76 | 02/02/99 | Heated Headspace | 16.4 feet | 2,999 ppm |
| 77 | 02/02/99 | Heated Headspace | 18.5 feet | 32.6 ppm |
| 78 | 02/02/99 | Heated Headspace | 20 feet | 43.6 ppm |
| 79 | 02/02/99 | Heated Headspace | 17 feet | 2,999 ppm |

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Attachment B

Plan View Diagram

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Drawing is not to scale.



Surface Drainage Flow

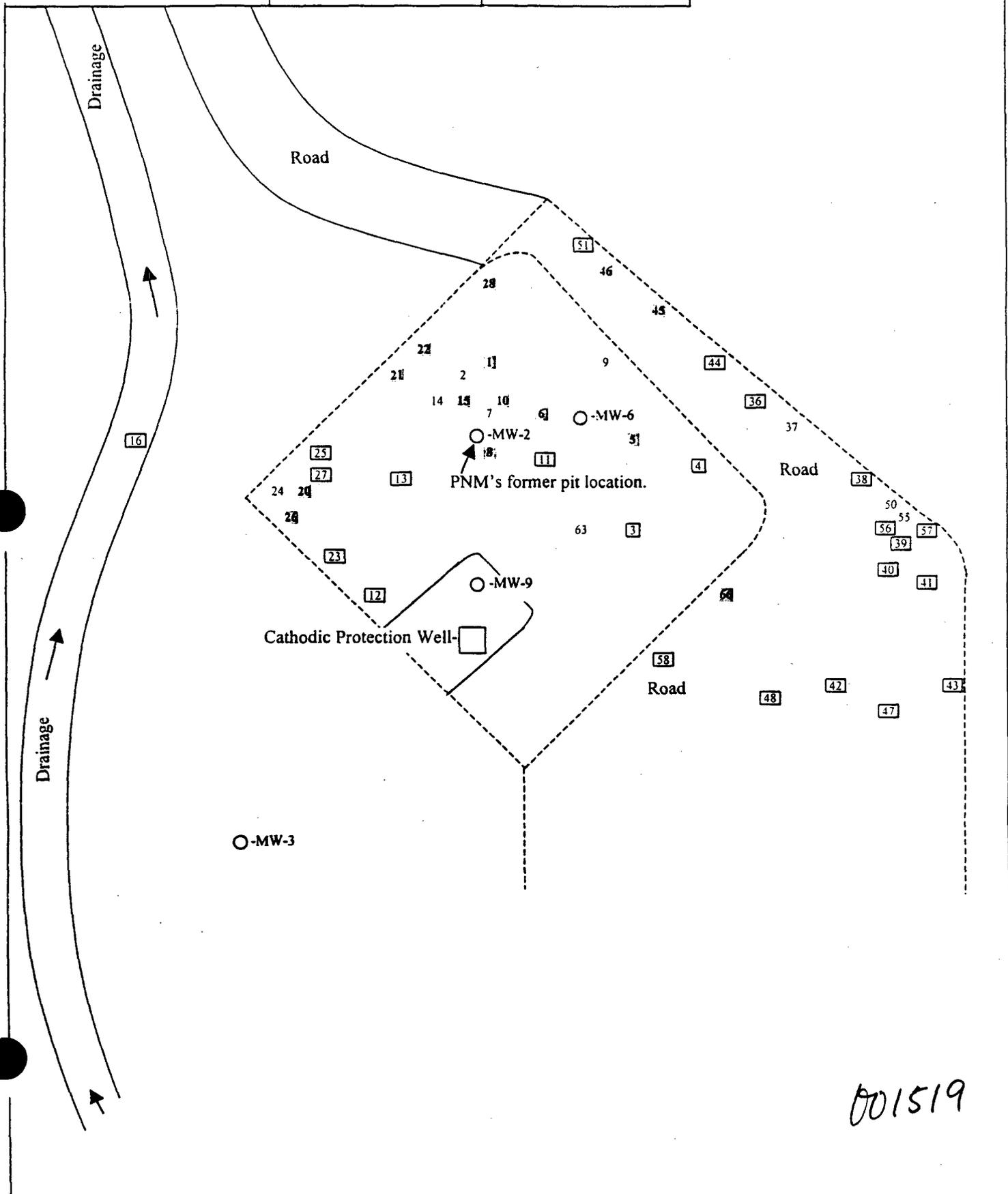


Over 1,000 ppm

Limits of the Excavation



Under 100 ppm



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