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REPORTS

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Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

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ENVIRONMENTAL BUREAU
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April 5, 1999

Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

RE: 1999 SAN JUAN BASIN ANNUAL GROUNDWATER REPORT

Dear Bill:

PNM is pleased to submit the 1999 Annual Groundwater Report on Unlined Surface Impoundments in the San Juan Basin. Pursuant to PNM's Groundwater Management Program for Unlined Surface Impoundment Closures, the report details the ongoing investigation/remedial activities at unlined surface impoundments having groundwater contamination as identified by PNM. A list of groundwater sites reported in this document is provided below.

Blanco Wash Drip
Davis 1
Dogie East Pit
Dogie North Pit
Florance 124
Florance 32A
Florance 40
Florance 44
Florance M 47X
Hampton 4M
Honolulu Drip
Ice Canyon Drip
Jacques 2A
Jicarilla Contract 147-6
Linda 1A
Mangum 1E
McClanahan 22
McClanahan A 2E
McCoy Gas Com A1
Miles Federal 1E Drip
O' Shea 1M
Patterson A Com A1
Pritchard 2
Randleman 1
Reid 16 Drip
Turner 1A
Wilmerding 1M
Zachry 18E

Consistent with PNM's San Juan Basin Groundwater Management Plan, PNM will request closure of four of the above sites, the Florance 32A, Jacques 2A, Mangum 1E and the McClanahan A2E, with the submittal of the 1st Quarter 1999 Pit Closures Report. This request is based upon the analytical data collected over the last two years at each of the sites. BTEX concentrations have been consistently below WQCC standards for four consecutive quarters.

Upon approval of the groundwater closure report, PNM will plug and abandon all of the groundwater monitoring wells at each of the locations. The concrete pad and metal vault surrounding each well will be removed. The well casing will be cut to ground surface and each well will be plugged to the surface

with cement containing 5% bentonite. If you have any questions regarding the contents of the report, please contact me at (505) 241-2974.

Sincerely,

Maureen Gannon
Project Manager

Enclosure

cc: Colin Adams, Esq.
Ingrid Deklau, WFS
Denny Foust, OCD-Aztec Office
Ron Johnson
Mark Sikelianos
Bill VonDrehle, WFS

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Annual Groundwater Report

1999

Volume II

Unlined Surface Impoundments
San Juan Basin

PNMGS Well Site: O'Shea 1M

Groundwater Site Summary Report

Copies: WFS(1)
Operator (1)
NMOCD District Office (1)
NMOCD Santa Fe (1)

Quarter/Year: 2nd/98, 3rd/98, 4th/98 & 1st/99

Operator: Chateau
Sec: 3 **Twn:** 31N **R:** 13W **Unit:** F
Canyon: La Plata

Vulnerable Class: Original
OCD Ranking: 40
Lead Agency: NMOCD

Topo Map: previously submitted
Well Completion Diagram: NA (not applicable at this time)
Site Map with Analytical Results: NA
Groundwater Contour Map: NA
Hydrograph: NA
Full-suite of Groundwater Sampling Results: NA
Analytical Results: NA

Site Hydrology:

The O'Shea 1M site lies at an elevation of about 5825 ft. amsl, just west of the town of La Plata, New Mexico, just five miles south of the Colorado border. The site lies within the broad (more than one mile wide) alluvial plain of the south-flowing La Plata River, and is about one mile north of the Wilmerding 1M site, another PNM site discussed in this groundwater report. The O'Shea site lies about 90 feet higher in elevation than the La Plata River. Irrigation ditches divert water from the La Plata and carry water to fields on the alluvial plain throughout the growing season. The site lies only about one-half mile from the streambed of the La Plata River; however, there are three nearby ditches that exert strong control on the site's hydrology. The McDermott and Cunningham ditches lie east of the site (downhill, between the site and the river) and the Highland Park ditch lies just west of the site (uphill and away from the river). The site lies on the north side of Murphy Arroyo, which is an east-flowing intermittent stream that crosses the various ditches on its way to the La Plata River. There are several ponds covering 1 to 3 acres that are fed by the ditches, just upgradient (west) of the site.

In site excavations, about 6 feet of clay was encountered in the subsurface. Beyond this depth, cobbles and gravels were encountered. This is most likely the Jackson Lake Terrace deposits mapped by Pastuszak (1965) about three miles further south in his 1965 master's program study from UNM. Pastuszak reports that the Jackson Lake lies about 100 feet over the level of the La Plata River, and is composed of boulders, cobbles and sand materials, deposited during the last deglaciation about 10,000 to 20,000 years ago. Thickness of the unit is reportedly 8 feet, and it is composed of gravels, cobbles and pebbles. Outcrop patterns of the unit typically form discontinuous bands parallel to the modern San Juan and La Plata river systems.

Groundwater was found at about 6 feet deep, once the clay layer was breached and the cobble layer encountered. Water levels rose rapidly, and stabilized at about 2 feet below land surface. Temporary monitor wells were installed, and subsequent visits to the site revealed that the water levels fluctuated in direct relation to the presence or absence of water in the nearby ditch systems. In October, 1998 all four wells were dry, with the deepest well being 15 feet below land surface. In January, 1999 water was found from 9 to 13 feet below land surface. Sharp rises in water levels are anticipated in late spring of 1999. At this time, groundwater flow direction cannot be determined from the data currently available.

Activities for Previous Year:

PNM conducted soil remediation at the O'Shea 1M in June of 1998, removing approximately 800 cubic yards of soil. A backhoe was used to install 4-inch standpipes (which were slotted across the water table) in strategic locations for future groundwater monitoring wells. PNM then conducted quarterly measurements in the standpipes and did not detect the presence of groundwater until the fourth quarter of 1998. At this time, each standpipe had

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Environmental Services Division - Alvarado Square, MS-0408
Albuquerque, NM 87158

Contact: Maureen Gannon **Telephone: 505-241-2974**

approximately one foot in depth of water; in addition, MW-2 contained 0.04 feet of free phase product. PNM determined that the presence of free product was most likely caused by a new source and immediately contacted Chateau, the operator on site.

Results:

After a site investigation prompted by PNM, Chateau discovered that their 300 bbl production fluids tank was leaking. The tank was replaced and Chateau commenced remediation of the contaminated soil.

Future Actions:

PNM will refrain from further activity at the O'Shea 1M until Chateau has completed remediation of their source area(s). PNM will then work with Chateau to establish a monitoring well network and commence groundwater monitoring activities.

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