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APPROVALS

YEAR(S):



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

October 7, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. Z-274-520-566

Mr. John E. Rhoads
Northland Operating Company
3500 Oak Lawn, Suite 380, LB#31
Dallas, Texas 75219-4398

RE: NORTHLAND PLAYA SPILL
SE/4 NW/4, SECTION 30, T13S, R32E

Dear Mr. Rhoads:

The New Mexico Oil Conservation Division (OCD) has reviewed Northland Operating Co.'s (NOC) July 10, 1998 "NORTHLAND OPERATING PLAYA SPILL, SE/4 OF NW/4, SECTION 30, T13S, R32E". This document contains NOC's proposed work plan for installation of a borehole to determine the vertical extent of contamination from a produced water spill into a playa lake. The document also contains a proposal to pump water from the playa as a remedial action when the playa water quality exceeds 6,000 mg/l of total dissolved solids.

The OCD approves of the above referenced proposed work plan with the following conditions:

1. The OCD considers NOC's proposal to pump water from the playa as an interim remedial action while investigation actions are ongoing. Additional remedial actions may be necessary based upon the results of the site investigation activities.
2. Since the playa is currently dry, NOC will obtain 2 soil samples from middle of the playa. One sample will be obtained from the lowest point in the playa. The second sample will be obtained from a point midway between the lowest point of the playa and the high water mark. The samples from each location will be taken from 2-3 feet below the surface and will be obtained and analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), chlorides, and total petroleum hydrocarbons (TPH) using appropriate EPA approved methods and quality assurance/quality control (QA/QC) procedures.
3. The proposed borehole will be drilled to the ground water and will be completed as a ground water monitoring well.
4. Soil samples will be taken at 10 foot intervals during drilling. The soil samples will be obtained and analyzed for BTEX, chlorides and TPH using appropriate EPA approved methods and QA/QC procedures.

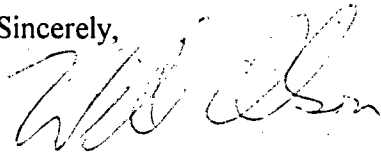
5. The monitor well will be constructed with an appropriate well screen and casing. Well construction will include:
 - a. A silt trap placed below the well screen.
 - b. At least 15 feet of well screen. The screen will be placed in the borehole such that 5 feet of well screen is above the water table and 10 feet of well screen is below the water table.
 - c. An appropriately sized gravel pack installed from the bottom of the hole up to 3-5 feet above the top of the well screen.
 - d. A 3-5 foot hydrated bentonite plug placed on top of the gravel pack.
 - e. The remainder of the annulus will be cemented to the surface with a cement grout containing 3-5% bentonite.
 - f. A locking well cover and cement pad placed at the surface.
 - g. Development of the well.
6. No less than 24 hours after well development, ground water from the monitor well will be sampled and analyzed for BTEX, total dissolved solids and major cations and anions using EPA approved methods and QA/QC procedures.
7. A report on the investigations will be submitted to the OCD by December 11, 1998. The report will be submitted to the OCD Santa Fe Office with a copy provided to the OCD Hobbs District Office. The report will contain:
 - a. A description of all investigation and sampling activities including conclusions and recommendations for remedial action.
 - b. A site map showing the location of the monitor well, all soil sample locations and other relevant site features.
 - c. Summary tables containing the laboratory analytic results of all soil and water sampling including copies of the laboratory data sheets and associated QA/QC data.
 - d. A geologic log and well completion diagram for the monitor well.
 - e. The disposition of all wastes generated.

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Please be advised that OCD approval does not relieve NOC of liability if the work plan fails to adequately investigate and remediate contamination related to NOC's facility. In addition, OCD approval does not relieve NOC of responsibility for compliance with any other federal, state or local laws and regulations.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

A handwritten signature in dark ink, appearing to read 'William C. Olson', written over a light background.

William C. Olson
Hydrologist
Environmental Bureau

xc: Chris Williams, OCD Hobbs District Supervisor