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REPORTS

DATE:

8/21/2000

WHOLE EARTH

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AUG 28

August 21, 2000

New Mexico Oil Conservation Division
2040 South Pacheco
Sante Fe, NM 87505

Attn: Wayne Price

Dear Wayne:
Enclosed please find a copy of our new protocol PR-35A relating to the Ocean Energy Carlisle Remediation Project – Reserve Pit Brine segment. In our proposal, we seek to extend the encapsulation program employed in the remediation of the east and west emergency pit areas by first excavating and then lining the salt impacted areas south of the reserve pits.

We believe that this method is appropriate remediation technique at this site for the following reasons:

- The excavation will be in close proximity to the west emergency pit closed using the same techniques.
- The salt impacted area lies immediately to the southwest of the west emergency pit monitor well and approximately 50' northeast of an existing windmill. Thus the groundwater quality may be easily and accurately assessed and monitored.
- Salt contaminated soils cannot be remediated. All known remediation methods involve either dilution, solidification or transport to either geologic zones within the project area or offsite disposal facilities in which chloride concentrations will prove to be no threat to groundwater or surface crops.

I would appreciate your evaluating our proposal and advising us of your thinking as soon as it fits your schedule.

Warmest regards,

Mike Griffin
President
Whole Earth Environmental, Inc.

CC: Kent Weissling / Ocean Energy Corporation
Mike Matusch / New Mexico State Land Office

Brine Remediation Protocol
Ocean Energy Corporation
Carlisle State COM # 1

1.0 Purpose

This protocol is provide a detailed outline of the steps to be employed in the remediation of the salt contaminated soils adjacent to reserve pits at the above location.

2.0 Scope

This protocol is site specific for the Ocean Energy site.

3.0 Preliminary

Prior to any field operations, Whole Earth Environmental shall conduct the following activities:

3.1 Client Review

3.1.1 Whole Earth shall meet with cognizant personnel within Ocean Energy to review this protocol and make any requested modifications or alterations prior to submittal to the State of New Mexico Oil Conservation Division.

3.1.2 Changes to this protocol will be documented and submitted for final review by Ocean Energy prior to submittal to the Oil Conservation Division.

3.2 Oil Conservation Division Review

3.2.1 Upon client approval, this procedure will be submitted to the New Mexico Oil Conservation Division for review and comment. Recommended changes will be reviewed by the client prior to implementation.

3.2.2 Any recommended changes effecting costs will require a revised quotation to be issued to the client for approval prior to the commencement of any on-site remediation activity.

4.0 Safety

4.1 Prior to work on the site, Whole Earth shall obtain the location and phone numbers of the nearest emergency medical treatment facility. We will review all safety related issues with the appropriate Ocean Energy personnel, sub-contractors and exchange phone numbers.

4.2 A tailgate safety meeting shall be held and documented each day. All sub-contractors must attend and sign the daily log in sheet.

4.3 Anyone allowed on to location must be wearing sleeved shirts, hard hats, steel-toed boots, and long pants. Each vehicle must be equipped with two-way communication capabilities.

4.4 Prior to any excavation, the area shall be surveyed with a line finder. If lines are discovered within the area to be excavated they shall be marked with pin flags on either side of the line at maximum five-foot intervals.

5.0 Excavation & Encapsulation

5.1 The site shall be excavated to a depth sufficient to get below contaminant concentrations specified within section 5.2 of this protocol. All excavated material will be deposited immediately adjacent to the pit site.

5.2 The bottom of the spread zone and all but the north wall will be tested for chloride concentrations using WEQP-30. Excavation will continue until the side walls and bottom of the excavation show average chloride concentrations of <250 ppm as averaged on a 10' grid point basis. The Hobbs office of the NMOCD will be notified of the sampling event at least forty-eight hours in advance.

5.3 The excavated area will then be smoothed and a 20 mil polyethylene liner placed atop a layer of soft topsoil. The liner will be re-filled with the excavated materials and a new liner placed atop the filled excavation. A minimum of 2' of fresh soils will be placed atop the upper liner and the area re-contoured to generally match the surrounding topography. The lined excavation area will be slightly raised above the background elevations and sloped to promote positive drainage.

6.0 Water Quality

6.1 The three monitor wells presently existing at the site and the water contained within the nearby windmill will be sampled in accordance with WEQP-76 and tested for the presence and concentration of BTEX. Such testing will continue on a

quarterly basis until each of the four sampling points meet the water quality standards for BTEX as outlined within the NMWQCC regulations. A final sampling will be conducted from each of the four sampling points and the waters tested for the presence and concentrations of volatiles, semi-volatiles, WQCC metals and major cations / anions in accordance with NMWQCC standards. If such concentrations fall within the standards, Ocean Energy will request final closure of the site.

7.0 Documentation & Reporting

7.1 At the conclusion of the pit remediation project, Whole Earth will prepare a closure report to include the following information:

- A plat map of the location showing the exact location of the salt impacted area, and the actual excavated dimensions.
- Photographs of the impact area at the point of maximum excavation.
- Field analysis of the chloride concentrations at the bottom of the impact area excavation.
- Photographs of the site at the point of final contouring
- Laboratory analyses of the water within the three monitoring wells and stock tank.