

AP - 001

**STAGE 1 & 2
WORKPLANS**

DATE:

Sept. 28, 1993

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Mr. Bill Olson
State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504

OIL CONSERVATION DIV.
SANTA FE

RE: INTERIM REMEDIAL ACTION PLAN FOR THE OLD BRICKLAND
REFINERY SITE

Dear Mr. Olson:

The purpose of this letter is to provide a preview of the interim remedial action plan (IRAP) H+GCL is preparing for the old Brickland Refinery site on behalf of the Rexene Corporation. The old Brickland Refinery site is located near Sunland Park, New Mexico. The IRAP is targeted for completion and transmittal to the New Mexico Oil Conservation Division (NMOCD) in early November, 1993.

The objective of the IRAP is to identify interim remedial measures that will significantly reduce potential threats to human health and the environment due to petroleum contamination at the site. The IRAP will focus on storm water management and recovery of free-phase floating product to mitigate the potential for off-site contaminant migration into the Rio Grande. The free-phase floating product removal system will also mitigate migration of contaminants from the site into the local groundwater regime. The IRAP will include construction drawings and specifications for storm water management systems and a pilot-scale floating product recovery system. Should the pilot-scale product recovery system prove to be effective for the old Brickland Refinery site, the IRAP will be amended to include construction drawings and specifications for full-scale implementation of the floating product recovery system.

The objectives of these interim remedial measures are as follows:

- The storm water management systems will reduce the potential for off-site contaminant migration induced by storm water runoff.
- The pilot-scale free-phase floating product recovery system will be constructed and operated to evaluate the effectiveness of product recovery trenches and their potential for full-scale implementation.

Detailed descriptions of each interim remedial measure are provided below.

Storm Water Management

The storm water management systems to be installed at the old Brickland Refinery site will preclude entry of off-site runoff onto the site, prevent on-site runoff from entering the Rio Grande, and mitigate storm water infiltration into on-site soils. The storm water management systems will consist of:

- **Diversion of Off-Site Storm Water Runoff**

A storm water diversion structure will be constructed along the east side of McNutt Road, adjacent to the western property boundary. This storm water diversion structure will collect and convey off-site storm water runoff into the Rio Grande. The diversion structure will route runoff to a low-point near the middle of the site, where it will be collected and conveyed eastward across the site in a closed conduit. This conduit will discharge into an existing culvert that extends through the International Boundary and Water Commission's (IBWC's) levee along the west bank of the Rio Grande. On-site runoff will be excluded from the storm water diversion structure, the closed conduit, the existing culvert, or any of the other existing culverts that extend through the levee along the eastern property boundary.

- **Total Retention of On-Site Storm Water Runoff**

On-site storm water runoff will be conveyed to lined on-site retention ponds located near each end of the elongated site. These ponds will be sized to facilitate evaporation of the total annual volume of precipitation intercepted.

Pilot-Scale Free-Phase Floating Product Recovery System

The pilot-scale free-phase floating product recovery system to be installed at the old Brickland Refinery site will facilitate evaluation of the effectiveness of product recovery trenches and system optimization for full-scale implementation. The conceptual design for the pilot-scale and full-scale systems is shown on Plate A. The pilot-scale and full-scale systems may be modified based on the findings of the preliminary site investigation. The pilot-scale system would be comprised of a product recovery trench, on the east edge of the site, a perforated interceptor pipe, skimmer ports, and multiple hydrophobic skimmers, as discussed below.

- **Passive Product Recovery Trench**

A product recovery trench is constructed to intercept the groundwater surface. Removal of floating product from this trench should create a small hydraulic gradient that would permit capture of upgradient free-phase floating product.

- **Perforated Interceptor Pipe**

This pipe would be centered in the trench and would collect and convey free-phase floating product to the skimmer ports. The perforated pipe would also maintain trench integrity.

- **Skimmer Ports**

Skimmer ports would be installed along the axial center-line of the perforated pipe for skimmer deployment, access to collected product, measurements of product thickness, trench ventilation, interception of volatile organic compounds, and visual observations. The skimmer ports would also facilitate monitoring of system performance.

- **Hydrophobic Skimmers**

The free-phase floating product within the interceptor pipe would be recovered with hydrophobic skimmers. Recovered product would be pumped to a storage tank and periodically removed from the tank by an oil recycling contractor.

A preliminary site investigation will be conducted prior to implementation of the pilot-scale system to acquire additional information needed for design development. This investigation is scheduled for the week of September 20, 1993 and will satisfy the following data gaps.

- **Data Gap #1:** Limited information on the location and thickness of free-phase floating product.

Problem/Impact: Uncertainty regarding the siting and alignment of the pilot-scale system and potential volume of product that may be recovered.

Solution: Probe limited area of site with well points to verify the location and occurrence of floating product. Measure product thickness in well points and existing monitor wells where product has been detected.

- **Data Gap #2:** Unknown viscosity and carbon range for free-phase floating product.

Problem/Impact: Uncertainties in product characteristics relative to skimmer selection and recycling potential.

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Solution: Collect several product samples for viscosity and carbon analyses.

- Data Gap #3: Limited data on seasonal water table fluctuation.

Problem/Impact: Uncertainties regarding appropriate recovery trench depth and size of interceptor pipe.

Solution: Monitor water table fluctuations with data loggers installed in monitor wells for an extended period of time.

The preliminary schedule for implementation of the IRAP is provided as an attachment to this letter.

Full-Scale Free-Phase Floating Product Recovery System Implementation

Should the pilot-scale product recovery system prove to be effective for the old Brickland Refinery site, the IRAP will be amended to include construction drawings and specifications for full-scale implementation of the floating product recovery system.

Should you have any questions regarding this matter, please contact me at (505) 842-0001.

Sincerely,
H⁺GCL



Trent Thomas
Program Manager

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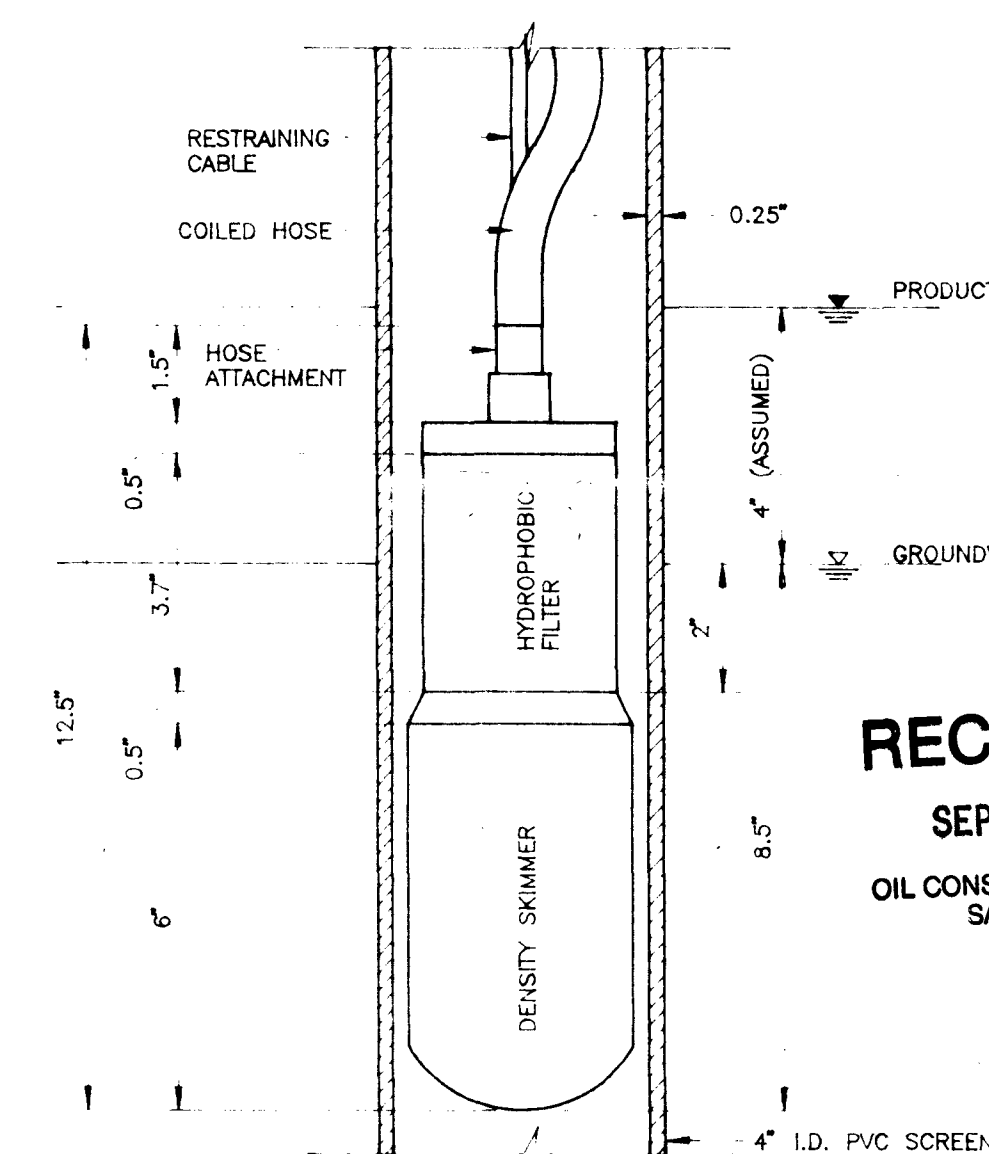
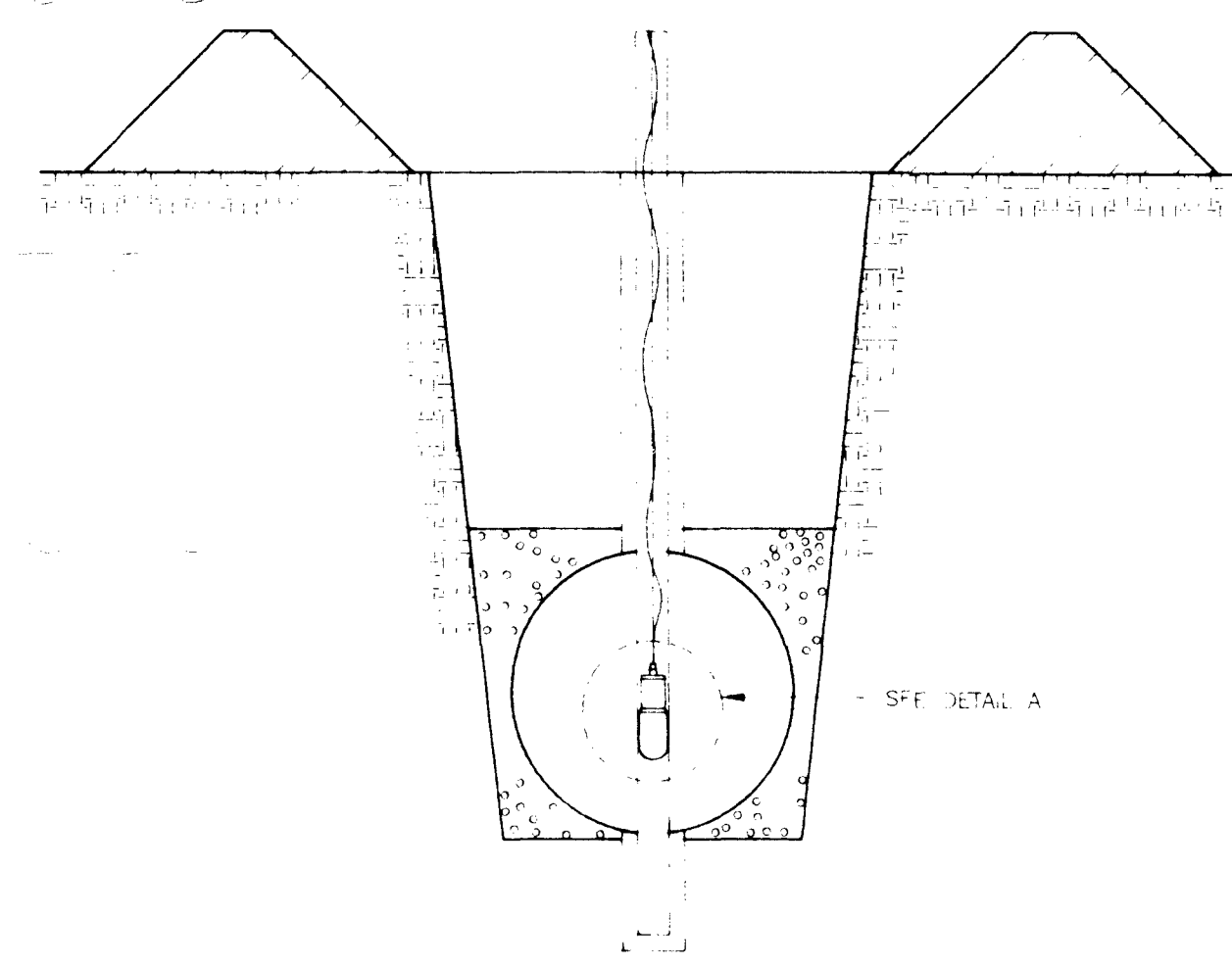
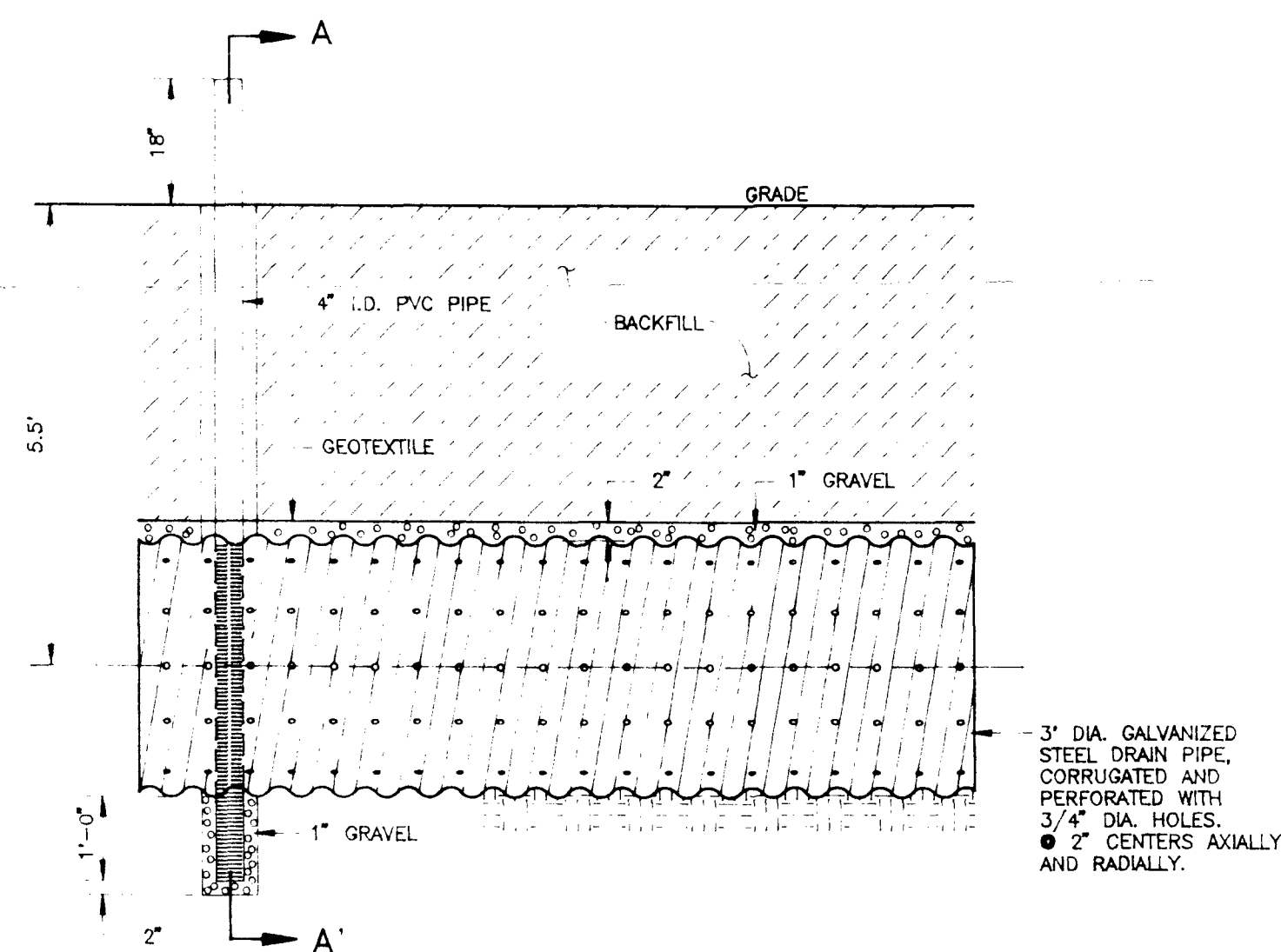
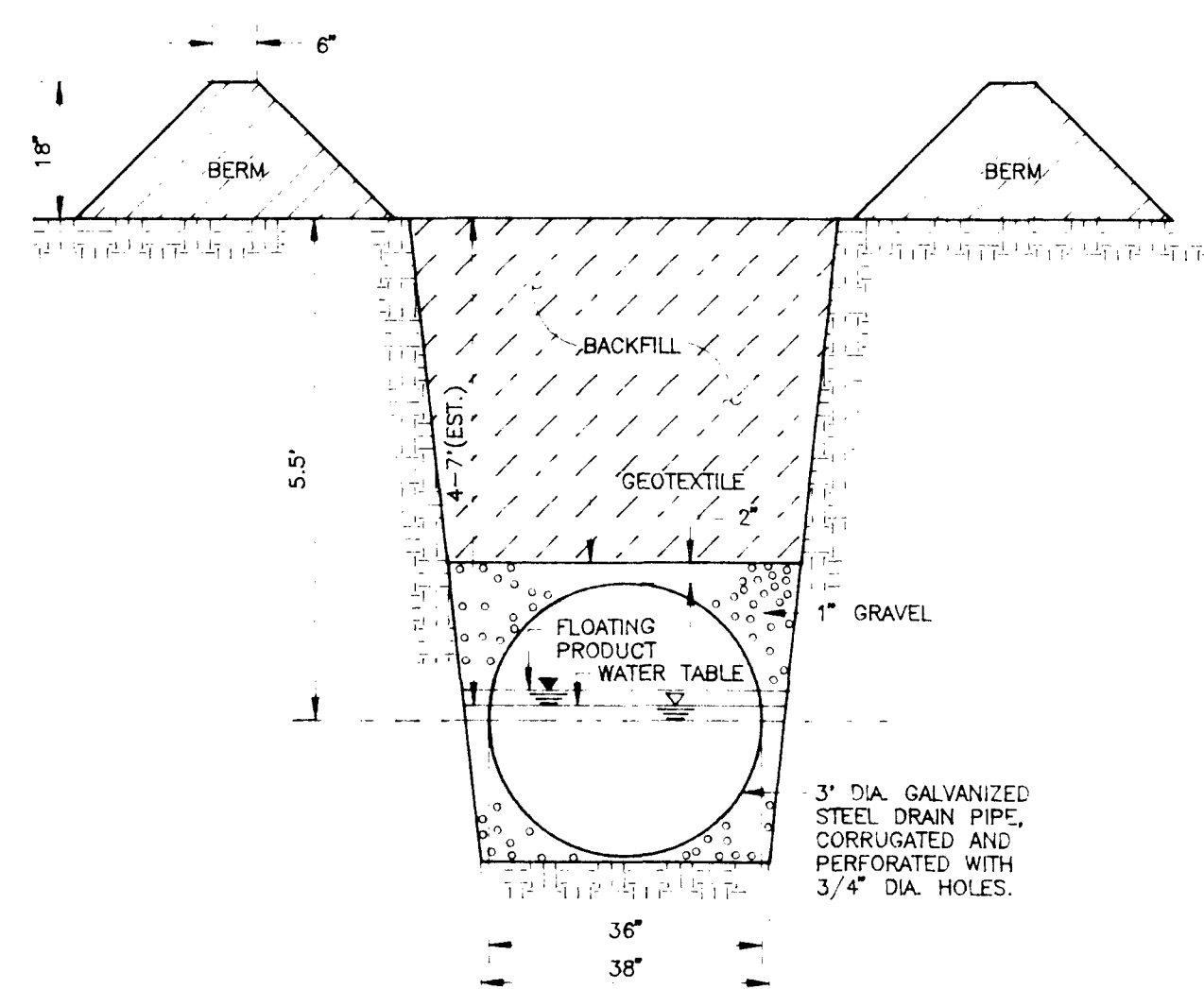
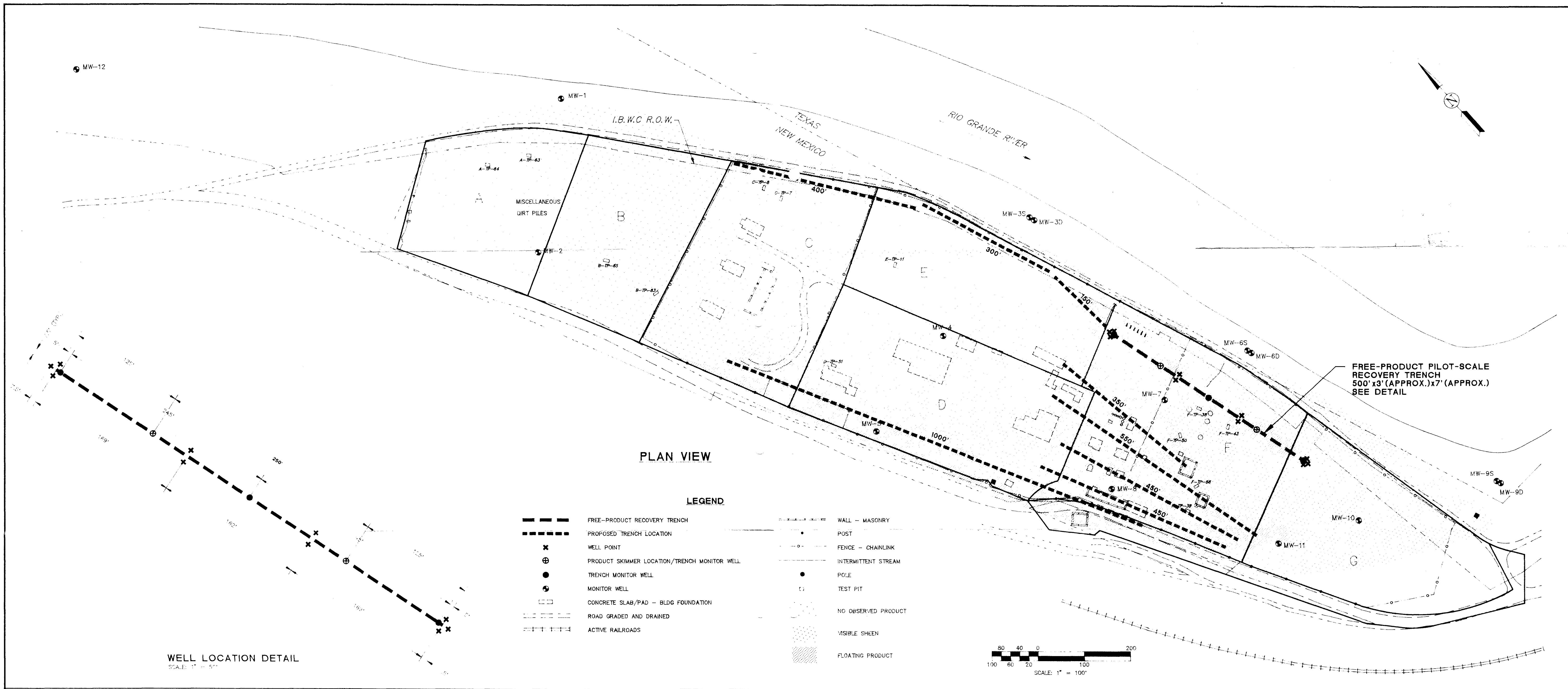
Attachment

cc: Todd Carver, Rexene
Rob Sutphen, Rexene
Roger Martin, Rexene
C. Schleyer, H⁺GCL
B. Schippers, H⁺GCL
J. Hewitt, H⁺GCL
N. Kendrick, Montgomery & Andrews

ATTACHMENT A

Preliminary Schedule for Brickland Refinery Site IRAP

| <u>Task/Item</u> | <u>Date</u> |
|--|-------------|
| Preliminary Site Investigation | 09/29/93 |
| IRAP Submittal to OCD | 11/93 |
| IRAP Request for Bids | 11/93 |
| Receive/Evaluate IRAP Bids | 12/93 |
| Storm Water Management Systems Construction | 01/94 |
| Sampling and Analysis Plan Implementation | 01/94 |
| Pilot-Scale Product Recovery System Implementation | 02/94 |
| Remedial Discharge Plan Submittal to OCD | 03/94 |



PRELIMINARY
WORKING DOCUMENT / NOT EDITED
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OIL CONSERVATION DIV.
SANTA FE



PILOT-SCALE FREE-PRODUCT TRENCH RECOVERY SYSTEM.
OLD BRICKLAND REFINERY SITE,
SUNLAND PARK, NEW MEXICO

CLIENT: REXENE
DATE: 7-8-93
DRAWN BY: JTN
CHECKED BY: BAS
DWG. NO.: \REXENE\TRTSYSTM.DWG