

Richards & Nelson

Attorneys at Law

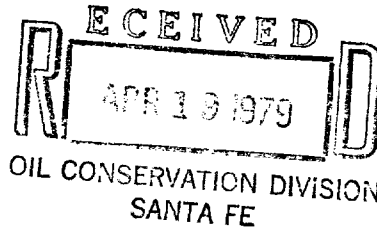
119 North Dalmont

HOBBS, NEW MEXICO 88240

P. O. Box 761  
(505) 393-7737

R. E. RICHARDS  
JAMES E. NELSON

April 17, 1979



Mr. Joe D. Ramey  
New Mexico Oil Conservation Commission  
Post Office Box 2088  
Santa Fe, New Mexico 87501

Re: Parabo, Inc.

Dear Joe:

Enclosed herewith please find two test results on monitor holes 26, 27, 28 and 30 at the captioned disposal pit, along with a transmittal letter from Ed Reed and Associates which is self explanatory.

I am by carbon copy of this letter furnishing this information to your district office in Hobbs so that they may include it in the file on the occasion that any of these monitor holes which had water at the time of drilling should require further testing.

Yours very truly,

RICHARDS & NELSON

  
R. E. Richards

RER:pm  
enclosure  
cc:

Mr. Jerry Sexton, District Supervisor  
Oil Conservation Commission  
1000 West Broadway  
Hobbs, New Mexico 88240 (w/enc)

Parabo, Inc.  
Post Office Box 1123  
Hobbs, New Mexico 88240 (w/enc)

# Ed L. Reed and Associates, Inc.

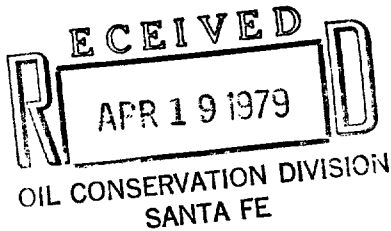
Consulting Hydrologists

1109 N. BIG SPRING  
MIDLAND, TEXAS 79701  
915 682-0556

ED L. REED, P.E.  
PRESIDENT

A. JOSEPH REED  
EXECUTIVE VICE PRESIDENT

CHESTER F. SKRABACZ  
VICE PRESIDENT FIELD OPERATIONS



V. STEVE REED  
VICE PRESIDENT GEOLOGY

1900 SHERWOOD WAY  
SAN ANGELO, TEXAS 76901  
915 944-2120

April 12, 1979

Mr. Robert E. Richards  
Richards & Nelson  
119 N. Dalmont  
P. O. Box 761  
Hobbs, New Mexico 88240

Re: Parabo, Inc.

Dear Bob:

Enclosed are chemical analyses for samples collected from monitor holes prior to discharging salt water into the new pit. The first set of samples were collected on March 8, 1979 using an open bailer. On March 26, 1979 the second set of samples were collected one foot off the bottom of each of the monitor holes. These analyses will serve as base line data for detection of salt water excursion from the pit.

Very truly yours,

V. Steve Reed

VSR:vjr

**SOUTHWESTERN LABORATORIES**  
FORT WORTH DALLAS HOUSTON MIDLAND BEAUMONT-TEXARKANA  
CONSULTING ANALYTICAL CHEMISTS  
AND TESTING ENGINEERS

Midland Texas 4-5-79 File No. C-1902-W

Report of tests on Water

To Ed L. Reed & Associates

Date Rec'd. 3-26-79

Received from

Identification Marks Lea County, New Mexico, Wallach, MH-26, 1' off bottom  
3-26-79, sampled by V. S. Reed

	<u>mg/L</u>
Calcium-----	90
Magnesium-----	15
Sodium (calc)-----	125
Carbonate-----	0
Bicarbonate-----	161
Sulfate-----	200
Chloride-----	156
TDS (Evap. @ 180°C)-----	698
pH - 7.62	

3cc Ed L. Reed & Associates

Lab. No. 30832

SOUTHWESTERN LABORATORIES  
*Jack H. Barton*

**SOUTHWESTERN LABORATORIES**  
FORT WORTH - DALLAS - HOUSTON - MIDLAND - BEAUMONT - TEXARKANA  
**CONSULTING, ANALYTICAL CHEMISTS**  
**AND TESTING ENGINEERS**

Midland, Texas      4-2-79      File No. C-1902-W

Report of tests on      Water

To      Ed L. Reed & Associates

Date Rec'd.    3-26-79

Received from

Identification Marks    Lea Co., New Mexico, Wallach MH-27  
1' off bottom, 3-26-79, sampled by V.S. Reed

	<u>mg/L</u>
Calcium -----	252
Magnesium -----	18
Sodium (Calc.) -----	7
Carbonate -----	0
Bicarbonate -----	440
Sulfate -----	21
Chloride -----	199
Total Dissolved Solids, (Evap. @ 180°C) ---	818
Hardness (as CaCO <sub>3</sub> ) -----	---
pH -----	7.52

3cc Ed L. Reed & Associates

SOUTHWESTERN LABORATORIES

*Jack H. Barton*

Lab. No. 30833

**SOUTHWESTERN LABORATORIES**  
FORT WORTH · DALLAS · HOUSTON · MIDLAND · BEAUMONT · TEXARKANA  
CONSULTING, ANALYTICAL CHEMISTS  
AND TESTING ENGINEERS

\_\_\_\_\_Midland Texas \_\_\_\_\_4-6-79\_\_\_\_\_ File No. C-1902-W

Report of tests on Water

To Ed L. Reed & Assoc.

Date Rec'd. 3-26-79

Received from

Identification Marks Lea County, New Mexico, Wallach M#28  
1' off bottom 3-26-79 V. S. Reed

	<u>mg/L</u>
Calcium-----	113
Magnesium-----	45
Sodium (calc)-----	63
Carbonate-----	0
Bicarbonate-----	146
Sulfate-----	122
Chloride-----	255
Total Dissolved Solids (evap @180°C--	902

Note: Solids do not give a normal balance  
Insufficient sample for investigation.

pH-----7.70

*Jack H. Barton*

Ed L. Reed & Assoc.

SOUTHWESTERN LABORATORIES

Lab. No. 30834

**SOUTHWESTERN LABORATORIES**  
FORT WORTH DALLAS HOUSTON MIDLAND BEAUMONT TEXARKANA  
CONSULTING ANALYTICAL CHEMISTS  
AND TESTING ENGINEERS

Midland, Texas 4-2-79 File No. C-1902-W

Report of tests on Water

To Ed L. Reed & Associates

Date Rec'd. 3-26-79

Received from

Identification Marks Lea Co., New Mexico, Wallach, MH-30  
1' off bottom, 3-26-79, sampled by V.S. Reed

	<u>mg/L</u>
Calcium -----	540
Magnesium -----	0.4
Sodium (Calc.) -----	31
Carbonate -----	93
Bicarbonate -----	225
Sulfate -----	556
Chloride -----	355
 Total Dissolved Solids, (Evap. @ 180°C)---	 1642
Hardness (as CaCO <sub>3</sub> ) -----	1350
pH -----	10.66

3cc Ed L. Reed & Associates

SOUTHWESTERN LABORATORIES

*Jack H. Wallach*

Lab. No. 30835

**SOUTHWESTERN LABORATORIES**  
FORT WORTH - DALLAS - HOUSTON - MIDLAND - BEAUMONT - TEXARKANA  
**CONSULTING ANALYTICAL CHEMISTS**  
**AND TESTING ENGINEERS**

Midland      Texas      3-15-79      File No. C-1902-W

Report of tests on      Water

To      Ed L. Reed & Associates

Date Rec'd. 3-9-79

Received from

Identification Marks      Lea County, NM, Wallach, 3-8-79, MH-26, Sampled by  
V.S. Reed

	<u>Mg/L</u>
Calcium -----	133
Magnesium -----	15
Sodium (calc.) -----	85
Carbonate -----	NONE
Bicarbonate -----	181
Sulfate -----	202
Chloride -----	156
Total Dissolved Solids (@ 180° C) -	740
Total Hardness -----	394
pH -----	7.51

Box Ed L. Reed & Associates - San Angelo  
Attn: Steve Reed

Lab. No. 30800

SOUTHWESTERN LABORATORIES

*Jack H. Reed*

**SOUTHWESTERN LABORATORIES**  
FORT WORTH - DALLAS - HOUSTON - MIDLAND - BEAUMONT - TEXARKANA  
**CONSULTING, ANALYTICAL CHEMISTS**  
**AND TESTING ENGINEERS**

Midland Texas 3-20-79 File No. C-1902-W

Report of tests on Water

To Ed L. Reed & Associates

Date Rec'd. 3-9-79

Received from

Identification Marks Lea City, NM, Wallach, 3-8-79, MH-27, Sampled by  
V.S. Reed

	<u>Mg/L</u>
Calcium -----	153
Magnesium -----	19
Sodium (calc.) -----	37
Carbonate -----	NONE
Bicarbonate -----	224
Sulfate -----	84
Chloride -----	191
Total Dissolved Solids @ 180° C --	754
Total Hardness -----	461
pH -----	7.52

3cc

Ed L. Reed & Associates - Midland

SOUTHWESTERN LABORATORIES

*ack H. V. Burt*

Lab. No. 30801



**SOUTHWESTERN LABORATORIES**  
FORT WORTH - DALLAS - HOUSTON - MIDLAND - BEAUMONT - TEXARKANA  
**CONSULTING ANALYTICAL CHEMISTS**  
**AND TESTING ENGINEERS**

Midland      Texas      3-15-79      File No. C-1902-W

Report of tests on      Water

To      Ed L. Reed & Associates

Date Rec'd. 3-9-79

Received from

Identification Marks      Lea County, NM, Wallach, 3-8-79, MH-28, Sampled by  
V.S. Reed

	<u>Mg/L</u>
Calcium -----	134
Magnesium -----	16
Sodium (calc.) -----	87
Carbonate -----	NONE
Bicarbonate -----	157
Sulfate -----	135
Chloride -----	227
Total Dissolved Solids (@ 180° C) -	704
Total Hardness -----	401
pH -----	7.57

3cc      Ed L. Reed & Associates - San Angelo  
Attn: Steve Reed

Lab. No. 30802

SOUTHWESTERN LABORATORIES

**SOUTHWESTERN LABORATORIES**  
FORT WORTH DALLAS HOUSTON MIDLAND BEAUMONT TEXARKANA

**CONSULTING ANALYTICAL CHEMISTS  
AND TESTING ENGINEERS**

Midland Texas 3-15-79 File No. C-1902-W

Report of tests on     Water

To                     Ed L. Reed & Associates

Date Rec'd. 3-9-79

Received from

Identification Marks     Lea Co., NM, Wallach, 3-8-79, MH-30, Sampled by V.S.  
Reed

	<u>Mg/L</u>
Calcium -----	316
Magnesium -----	0.2
Sodium (calc.) -----	288
Hydroxide -----	2
Carbonate -----	125
Bicarbonate -----	NONE
Sulfate -----	579
Chloride -----	333
Total Dissolved Solids (@ 180° C) -	1556
Total Hardness -----	791
pH -----	10.26

3cc Ed L. Reed & Associates - San Angelo  
Attn: Steve Reed

Lab. No. 30803

SOUTHWESTERN LABORATORIES

*Jack H. Wartin*

Richards & Nelson

Attorneys at Law

119 North Dalmont  
HOBBS, NEW MEXICO 88240

R. E. RICHARDS  
JAMES E. NELSON

P. O. Box 761  
(505) 393-7737

March 29, 1979

Mr. Joe D. Ramey, Director  
New Mexico Oil Conservation Commission  
Post Office Box 2088  
Santa Fe, New Mexico 87501

*File  
Case 5899*

Re: Parabo, Inc.  
Order No. R-5516

Dear Joe:

Pursuant to your recent authorization, Parabo, Inc. has undertaken to develop additional surface disposal pits adjacent to the existing pits near Eunice, New Mexico.

I enclose herewith a letter dated March 26, 1979, from Ed L. Reed and Associates concerning their supervision, testing and examination of the work, as well as a map which shows a heavy blue felt pen outlining the as-constructed pit No. 2. You will notice that there is some slight divergence from the previously described area which is described in paragraph 3 of Page Two of Mr. Reed's letter.

I am advised that Hobbs personnel did examine the project with my clients and with Mr. Reed on March 26, and have authorized that it be placed in use.

Thanking you for your assistance in this matter and looking forward to the time when we can begin construction on a third pit as soon the commercially usable materials have been marketed, I remain

Very truly yours,

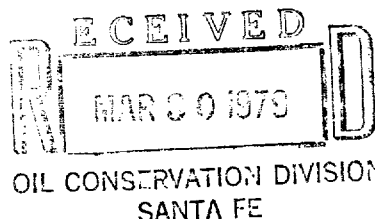
RICHARDS & NELSON

R. E. Richards

RER:pm  
enclosures

cc:

Parabo, Inc. (w/o enc)  
Mr. Steve Reed (w/o enc)



# Ed L. Reed and Associates, Inc.

Consulting Hydrologists

1109 N. BIG SPRING  
MIDLAND, TEXAS 79701  
915 682-0556

ED L. REED, P.E.  
PRESIDENT

A. JOSEPH REED  
EXECUTIVE VICE PRESIDENT

CHESTER F. SKRABACZ  
VICE PRESIDENT FIELD OPERATIONS

V. STEVE REED  
VICE PRESIDENT GEOLOGY

1900 SHERWOOD WAY  
SAN ANGELO, TEXAS 76901  
915 944-2120

March 26, 1979

Mr. Robert E. Richards  
119 North Dalmont  
Post Office Box 761  
Hobbs, New Mexico 88240

Re: Parabo, Inc.

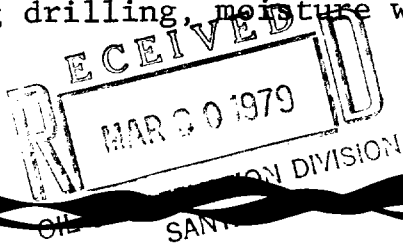
Dear Bob:

On February 22, 1979, ten monitor holes were drilled in anticipation of opening the new pit (referred to as pit #2 on the enclosed map). The map submitted February 2, 1979 shows only nine proposed monitor holes. Monitor hole 31 could not be drilled as proposed because this position was inaccessible to the drill rig. MH-31 was moved to the east about 240 feet and the tenth hole, MH-32, was drilled to fill the gap between the drilled location of MH-31 and MH-20. All monitor holes were drilled to an elevation of 3436. Three-inch PVC was installed with perforations from total depth to an elevation of 3461. All the holes were cemented at the surface and capped.

On March 8, 1979, these monitor holes were examined for fluids with the following results:

MH-#	Condition	Elev. Redbed	Elev. water level
23	Dry		
24	Dry		
25	Dry		
26	Water	3452.0	3453.8
27	Water	3453.3	3455.8
28	Water	3454.1	3454.0
29	Dry		
30	Water	3452.4	3448.7 (not yet fully recovered)
31	Dry		
32	Dry		

During drilling, moisture was encountered at the redbed-



Mr. Robert E. Richards  
March 26, 1979  
Page Two

overburden contact in monitor holes 26 and 27. All other holes appeared dry during drilling. The four monitor holes containing water are in low (excavated) areas where rain water can accumulate and percolate downward until it reaches the top of the redbed. Bailed samples were collected and analyzed for major minerals. On March 26, prior to discharging fluids into the pit, the monitor holes were re-examined with similar results. Samples were collected from within 1 foot of the bottom of each of the holes which contained water (MH-26, 27, 28 and 30). These samples will also be analyzed for major minerals. The results of both sets of analyses will be submitted as soon as they are available.

The dike was constructed to an elevation of 3461 and the elevation of the floor ranges between 3451 and 3454. The dike was constructed two feet higher than proposed primarily to utilize the red clay which was excavated from the floor to lower it to the design elevation. The additional height would provide additional storage in the future. The maximum water level elevation as approved is 3456, giving a 5-foot freeboard. We have been approved for a 3-foot freeboard; thus, should the need arise, we perhaps could obtain approval for a maximum water level elevation of 3458.

The dike as constructed is shown on the enclosed map. The western side of the dike was moved east of the proposed location. It was found, during foundation drilling for the dike, that a lense of Triassic consisting of silty green clay and clayey siltstone with interbedded red clay lies along the proposed location of the western dike. The silty green clay trends northwestward from the vicinity of MH-19 through MH-23 and 24. East and west of this line the silty green clay is thin or absent. The green silty clay and clayey siltstone ranges in permeability from  $5.7 \times 10^{-6}$  in the near-surface weathered zone to  $8.4 \times 10^{-10}$  in the non-weathered portions. Although the laboratory results show that the permeability of this material is certainly within tolerable limits, it was decided to move the dike eastward to avoid the silty green clay and key it into the silt-free red clay.

The dike was inspected March 26, 1979 and was found to be completed satisfactorily.

Very truly yours,

ED L. REED & ASSOCIATES, INC.

*V. Steve Reed*  
V. Steve Reed

VST:pm