PHILIP SERVICES CORP.

Industrial Services Group
Central Region

February 27, 1998

Project 19099

Mr. Ed Hasely
Burlington Resources Oil and Gas Company
P.O. Box 4289
Farmington, New Mexico 87499-4289

RE: Report for sampling of the reserve pits at the Westland Development Corp. #1 located west of Albuquerque, New Mexico

Dear Mr. Hasely:

Philip Services Corporation (Philip) is pleased to submit to Burlington Resources Oil and Gas Company (Burlington) this report for the sampling of two reserve pits at the Westland Development Corp. #1 located west of Albuquerque, New Mexico.

SCOPE OF WORK

On January 26, 1998, Burlington requested Philip to perform the following scope of work at the Westland Development Corp. #1:

- Sample two reserve pits.
- Samples will be submitted for laboratory analysis of Toxicity Characteristic Leaching Procedure (TCLP) Metals, and for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by USEPA method 8020.

SUMMARY

All samples analyzed for this project were below the limits established by the Resource Conservation and Recovery Act (RCRA) and the New Mexico Oil Conservation Division (NMOCD).

RCRA regulates the management and disposal of hazardous materials and wastes. One of the methods used to determine if a solid waste is hazardous is the Toxicity Characteristic Leaching Procedure (TCLP). If analytical results from solid wastes are above the limits established by RCRA, then the waste is considered hazardous and must be managed per strict RCRA guidelines.

If the analytical results from solid wastes are below the limits established by RCRA, then the waste is considered to be non-hazardous. All samples collected from the subject location were below the limits established by RCRA.

The NMOCD regulates the remediation of soil associated with oil and gas operations in the state of New Mexico. One of the methods used to determine if remediation is necessary is a Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) analysis. If analytical results for soil are above the guidelines established by the NMOCD, then remediation may be required. If analytical results are below the guidelines established by the NMOCD, then remediation is not required. All samples collected from the subject location were below the limits established by the NMOCD.

RESULTS

On January 30, 1998, Philip mobilized to the Westland Development Corp. #1 west of Albuquerque, New Mexico to sample two reserve pits containing drill cuttings and mud. Philip was met on site by Burlington's representative. Burlington outlined the areas to be sampled and remained on site to make any decisions necessary to complete sampling. Philip utilized a crane with a man basket to gain access to the center of the pits. Sampling was conducted using a ten foot joint of two-inch PVC well casing with a length of quarter inch diameter nylon rope threaded through the well casing and attached at one end to an eye bolt inserted through a racquet ball. The first sample collected was located in the southeast section of the east pit and labeled Westland #1 - 1. The sample was collected by vertically extending the two-inch well casing with the racquet ball to the side of the casing and forcing the casing down through the material to be sampled. This sample location proved to be approximately three feet deep. The rope was pulled from the top of the casing to seat the racquet ball in the bottom opening of the casing to prevent the loss of the material collected. The casing was pulled from the pit and the bottom positioned over a clean stainless steel bowl. The racquet ball was removed and the captured material was released into the bowl. The consistency of the material collected was approximately eighty percent liquid. The material collected was mixed in the bowl with a clean stainless steel spoon to ensure an accurate composite. The material was placed in two sample jars for laboratory analysis and stored on ice. A Chain of Custody (COC) was completed and accompanied the samples to the laboratory. The sampling equipment was cleaned before reuse.

The second sample was collected from the mid-west section of the east pit and labeled Westland #1 - 2. This sample was collected using the same procedure as the first. The consistency of this material was approximately sixty-five percent liquid. This sample location proved to be approximately four feet deep. The sampling equipment was cleaned before reuse.

The third sample was collected from the mid-east section of the west pit and labeled Westland #1 - 3. This sample was collected using the same procedure as the previous two. The consistency of this material was approximately thirty percent liquid. This sample location proved to be approximately five feet deep. Burlington requested Philip to probe this area to check for varying depths. Philip did so, using a joint of one-inch PVC casing as a probe, sealed at one end

with duct tape, and found no differences in depth. Burlington's representative was satisfied that the depth of the pit was consistent. The sampling equipment was cleaned before reuse.
The fourth sample was collected from the mid-west section of the west pit and labeled Westland #1 - 4. This sample was collected using the same procedure as the previous three. The consistency of this material was approximately twenty percent liquid. This sample location proved to be approximately six feet deep. Burlington again requested Philip to probe around in this area to check for varying depths. Philip used the same procedure as in sample three to probe the bottom of this area. There were no differences in depth, and Burlington's representative was satisfied with the measurements.

The fifth sample collected was a background sample located on the south edge of the well pad and labeled Westland #1 South - Bkgnd. The sample was collected using a stainless steel hand auger. Soil samples were collected at one-foot intervals to a depth of five feet. The soil was placed in a stainless steel bowl and mixed with a stainless steel spoon to ensure an accurate composite. The soil collected was put in sample jars to be analyzed for TCLP Metals and BTEX 8020. The sampling equipment was cleaned before reuse.

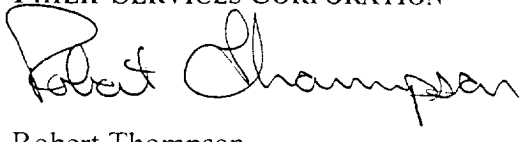
The sixth sample collected was a background sample located on the north side of the reserve pits, off of the well pad, and was labeled Westland #1 North - Bkgnd. This sample was collected using the same procedure as the fifth sample.

All samples collected were sent to SPL Laboratory located in Farmington, New Mexico. Results of laboratory analysis are included in Attachment A. A site diagram outlining the sample locations is included as Attachment B.

Philip cleaned and loaded all equipment, and demobilized from the site on January 30, 1998.

Philip appreciates the opportunity to provide Burlington with professional services and looks forward to providing additional services in the future. If you have any questions or require additional information, please contact Robert Thompson or Martin Nee at (505) 326-2262.

Respectfully submitted,
PHILIP SERVICES CORPORATION



Robert Thompson
Project Manager

J:\19099\PM\resvrprt.doc

Attachment A

Results of Laboratory Analysis

9802004

PHILIP

Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2175

Project Name BR- RESERVE PIT SAMPLING

Project Number Phase . Task 1000 . 77

Samplers R. THOMPSON

Laboratory Name SPL

Location FARMINGTON, NM

Sample Number (and depth)	Date	Time	Matrix	Total Number of Bottles	Type of Analysis and Bottle: BTEX 8020	TCLP METALS	Comments
WESTLAND #1 - 1	1.30.98	1030	SLUDGE	2	X	X	
WESTLAND #1 - 2	1.30.98	1050	SLUDGE	2	X	X	
WESTLAND #1 - 3	1.30.98	1135	SLUDGE	2	X	X	
WESTLAND #1 - 4	1.30.98	1225	SLUDGE	2	X	X	
WESTLAND #1 - SOUTH BKGND	1.30.98	1255	SOIL	2	X	X	
WESTLAND #1 - NORTH BKGND	1.30.98	1310	SOIL	2	X	X	

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Relinquished by:

Signature	Date	Time
Robert Thompson	2.2.98	9:55

Received By:

Signature	Date	Time
Monica Carmen	2/2/98	9:55

Samples Iced: ☒ Yes ☐ No

Preservatives (ONLY for Water Samples)

- ☐ Cyanide ..... Sodium hyroxide (NaOH)
- ☐ Volatile Organic Analysis ..... Hydrochloric acid (HCl)
- ☐ Metals ..... Nitric acid (HNO_3)
- ☐ TPH (418.1) ..... Sulfuric acid (H_2SO_4)
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

Carrier:

Airbill No.

Shipping and Lab Notes:

PE-176 4/95

FARMINGTON LABORATORY
P.O. BOX 1289
FARMINGTON, NEW MEXICO 87499-1289
PHONE (505) 326-2588

Certificate of Analysis No. 9802004-01

Philip Environmental
4000 Monroe Rd
Farmington, NM 87401
Attn: Robert Thompson

Date: 02/11/98

Project:	BR-Reserve Pit Sampling	Project No:	1000.77
Site:	Farmington	Matrix:	Soil
Sampled By:	R. Thompson	Date Sampled:	01/30/98
Sample ID:	Westland #1-1	Date Received:	02/02/98

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	1.0	µg/Kg
Toluene	ND	1.0	µg/Kg
Ethylbenzene	ND	1.0	µg/Kg
Total Xylene	4.9	1.0	µg/Kg
Total Volatile Aromatic Hydrocarbons	4.9		µg/Kg
Surrogate	% Recovery		
1,4,Difluorobenzene	103		
4-Bromofluorobenzene	147		
Method 8020			
Analyzed by: SB			
Date: 02/08/98			
Silver, TCLP Leachate	ND	0.02	mg/L
Arsenic, TCLP Leachate	ND	0.2	mg/L
Barium, TCLP Leachate	ND	1	mg/L
Cadmium, TCLP Leachate	ND	0.01	mg/L
Lead, TCLP Leachate	0.1	0.1	mg/L
Selenium, TCLP Leachate	ND	0.2	mg/L
Chromium, TCLP Leachate	ND	0.02	mg/L
Method 6010B ***			
Analyzed By PS			
Date: 02/05/98			
Mercury, TCLP Leachate	ND	0.0002	mg/L
Method 7470A ***			
Analyzed By AG			
Date: 02/09/98			

Notes:
*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th Ed
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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Danica Carman, Lab Manager

FARMINGTON LABORATORY
P.O. BOX 1289
FARMINGTON, NEW MEXICO 87499-1289
PHONE (505) 326-2588

Certificate of Analysis No. 9802004-02

Philip Environmental
4000 Monroe Rd
Farmington, NM 87401
Attn: Robert Thompson

Date: 02/11/98

Project:	BR-Reserve Pit Sampling	Project No:	1000.77
Site:	Farmington	Matrix:	Soil
Sampled By:	R. Thompson	Date Sampled:	01/30/98
Sample ID:	Westland #1-2	Date Received:	02/02/98

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	1.0	µg/Kg
Toluene	ND	1.0	µg/Kg
Ethylbenzene	ND	1.0	µg/Kg
Total Xylene	1.1	1.0	µg/Kg
Total Volatile Aromatic Hydrocarbons	1.1		µg/Kg
Surrogate	**% Recovery**		
1,4,Difluorobenzene	100		
4-Bromofluorobenzene	117		
Method 8020			
Analyzed by: SB			
Date: 02/08/98			
Silver, TCLP Leachate	ND	0.02	mg/L
Arsenic, TCLP Leachate	ND	0.2	mg/L
Barium, TCLP Leachate	ND	1	mg/L
Cadmium, TCLP Leachate	ND	0.01	mg/L
Lead, TCLP Leachate	0.1	0.1	mg/L
Selenium, TCLP Leachate	ND	0.2	mg/L
Chromium, TCLP Leachate	ND	0.02	mg/L
Method 6010B ***			
Analyzed By PS			
Date: 02/05/98			
Mercury, TCLP Leachate	ND	0.0002	mg/L
Method 7470A ***			
Analyzed By AG			
Date: 02/09/98			

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th Ed
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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Dánica Carman, Lab Manager

FARMINGTON LABORATORY
P.O. BOX 1289
FARMINGTON, NEW MEXICO 87499-1289
PHONE (505) 326-2588

Certificate of Analysis No. 9802004-03

Philip Environmental
4000 Monroe Rd
Farmington, NM 87401
Attn: Robert Thompson

Date: 02/11/98

Project:	BR-Reserve Pit Sampling	Project No:	1000.77
Site:	Farmington	Matrix:	Soil
Sampled By:	R. Thompson	Date Sampled:	01/30/98
Sample ID:	Westland #1-3	Date Received:	02/02/98

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	1.0	µg/Kg
Toluene	5.4	1.0	µg/Kg
Ethylbenzene	14	1.0	µg/Kg
Total Xylene	30	1.0	µg/Kg
Total Volatile Aromatic Hydrocarbons	49.4		µg/Kg
Surrogate	**% Recovery**		
1,4,Difluorobenzene	97		
4-Bromofluorobenzene	183MI		
Method 8020			
Analyzed by: SB			
Date: 02/08/98			
Silver, TCLP Leachate	ND	0.02	mg/L
Arsenic, TCLP Leachate	ND	0.2	mg/L
Barium, TCLP Leachate	ND	1	mg/L
Cadmium, TCLP Leachate	ND	0.01	mg/L
Lead, TCLP Leachate	0.8	0.1	mg/L
Selenium, TCLP Leachate	ND	0.2	mg/L
Chromium, TCLP Leachate	ND	0.02	mg/L
Method 6010B ***			
Analyzed By PS			
Date: 02/05/98			
Mercury, TCLP Leachate	ND	0.0002	mg/L
Method 7470A ***			
Analyzed By AG			
Date: 02/09/98			

MI - Matrix Interference

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
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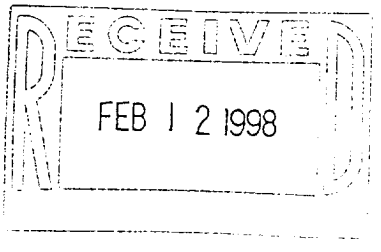

Danica Carman, Lab Manager

FARMINGTON LABORATORY
P.O. BOX 1289
FARMINGTON, NEW MEXICO 87499-1289
PHONE (505) 326-2588

Certificate of Analysis No. 9802004-04

Philip Environmental
4000 Monroe Rd
Farmington, NM 87401
Attn: Robert Thompson

Date: 02/11/98

Project:	BR-Reserve Pit Sampling	Project No:	1000.77
Site:	Farmington	Matrix:	Soil
Sampled By:	R. Thompson	Date Sampled:	01/30/98
Sample ID:	Westland #1-4	Date Received:	02/02/98

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	1.0	µg/Kg
Toluene	ND	1.0	µg/Kg
Ethylbenzene	ND	1.0	µg/Kg
Total Xylene	ND	1.0	µg/Kg
Total Volatile Aromatic Hydrocarbons	ND		µg/Kg
Surrogate	% Recovery		
1,4,Difluorobenzene	100		
4-Bromofluorobenzene	113		
Method 8020			
Analyzed by: SB			
Date: 02/05/98			
Silver, TCLP Leachate	ND	0.02	mg/L
Arsenic, TCLP Leachate	ND	0.2	mg/L
Barium, TCLP Leachate	2	1	mg/L
Cadmium, TCLP Leachate	ND	0.01	mg/L
Lead, TCLP Leachate	0.3	0.1	mg/L
Selenium, TCLP Leachate	ND	0.2	mg/L
Chromium, TCLP Leachate	0.10	0.02	mg/L
Method 6010B ***			
Analyzed By PS			
Date: 02/05/98			
Mercury, TCLP Leachate	ND	0.0002	mg/L
Method 7470A ***			
Analyzed By AG			
Date: 02/09/98			

Notes:
*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th Ed
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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Danica Carman, Lab Manager

FARMINGTON LABORATORY
P.O. BOX 1289
FARMINGTON, NEW MEXICO 87499-1289
PHONE (505) 326-2588

Certificate of Analysis No. 9802004-05

Philip Environmental
4000 Monroe Rd
Farmington, NM 87401
Attn: Robert Thompson

Date: 02/11/98

Project:	BR-Reserve Pit Sampling	Project No:	1000.77
Site:	Farmington	Matrix:	Soil
Sampled By:	R. Thompson	Date Sampled:	01/30/98
Sample ID:	Westland #1-South BKGRND	Date Received:	02/02/98

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	1.0	µg/Kg
Toluene	ND	1.0	µg/Kg
Ethylbenzene	ND	1.0	µg/Kg
Total Xylene	ND	1.0	µg/Kg
Total Volatile Aromatic Hydrocarbons	ND		µg/Kg
Surrogate	% Recovery		
1,4,Difluorobenzene	107		
4-Bromofluorobenzene	103		
Method 8020			
Analyzed by: SB			
Date: 02/05/98			
Silver, TCLP Leachate	ND	0.02	mg/L
Arsenic, TCLP Leachate	ND	0.2	mg/L
Barium, TCLP Leachate	2	1	mg/L
Cadmium, TCLP Leachate	ND	0.01	mg/L
Lead, TCLP Leachate	ND	0.1	mg/L
Selenium, TCLP Leachate	ND	0.2	mg/L
Chromium, TCLP Leachate	ND	0.02	mg/L
Method 6010B ***			
Analyzed By PS			
Date: 02/05/98			
Mercury, TCLP Leachate	ND	0.0002	mg/L
Method 7470A ***			
Analyzed By AG			
Date: 02/09/98			

Notes:
*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
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Daniea Carman, Lab Manager

FARMINGTON LABORATORY
P.O. BOX 1289
FARMINGTON, NEW MEXICO 87499-1289
PHONE (505) 326-2588

®Certificate of Analysis No. 9802004-06

Philip Environmental
4000 Monroe Rd
Farmington, NM 87401
Attn: Robert Thompson

Date: 02/11/98

Project:	BR-Reserve Pit Sampling	Project No:	1000.77
Site:	Farmington	Matrix:	Soil
Sampled By:	R. Thompson	Date Sampled:	01/30/98
Sample ID:	Westland #1-North BKGRND	Date Received:	02/02/98

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	1.0	µg/Kg
Toluene	ND	1.0	µg/Kg
Ethylbenzene	ND	1.0	µg/Kg
Total Xylene	ND	1.0	µg/Kg
Total Volatile Aromatic Hydrocarbons	ND		µg/Kg
Surrogate	**% Recovery**		
1,4,Difluorobenzene	100		
4-Bromofluorobenzene	97		
Method 8020			
Analyzed by: SB			
Date: 02/05/98			
Silver, TCLP Leachate	ND	0.02	mg/L
Arsenic, TCLP Leachate	ND	0.2	mg/L
Barium, TCLP Leachate	1	1	mg/L
Cadmium, TCLP Leachate	ND	0.01	mg/L
Lead, TCLP Leachate	ND	0.1	mg/L
Selenium, TCLP Leachate	ND	0.2	mg/L
Chromium, TCLP Leachate	ND	0.02	mg/L
Method 6010B ***			
Analyzed By PS			
Date: 02/05/98			
Mercury, TCLP Leachate	ND	0.0002	mg/L
Method 7470A ***			
Analyzed By AG			
Date: 02/09/98			

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th Ed
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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Danica Carman, Lab Manager

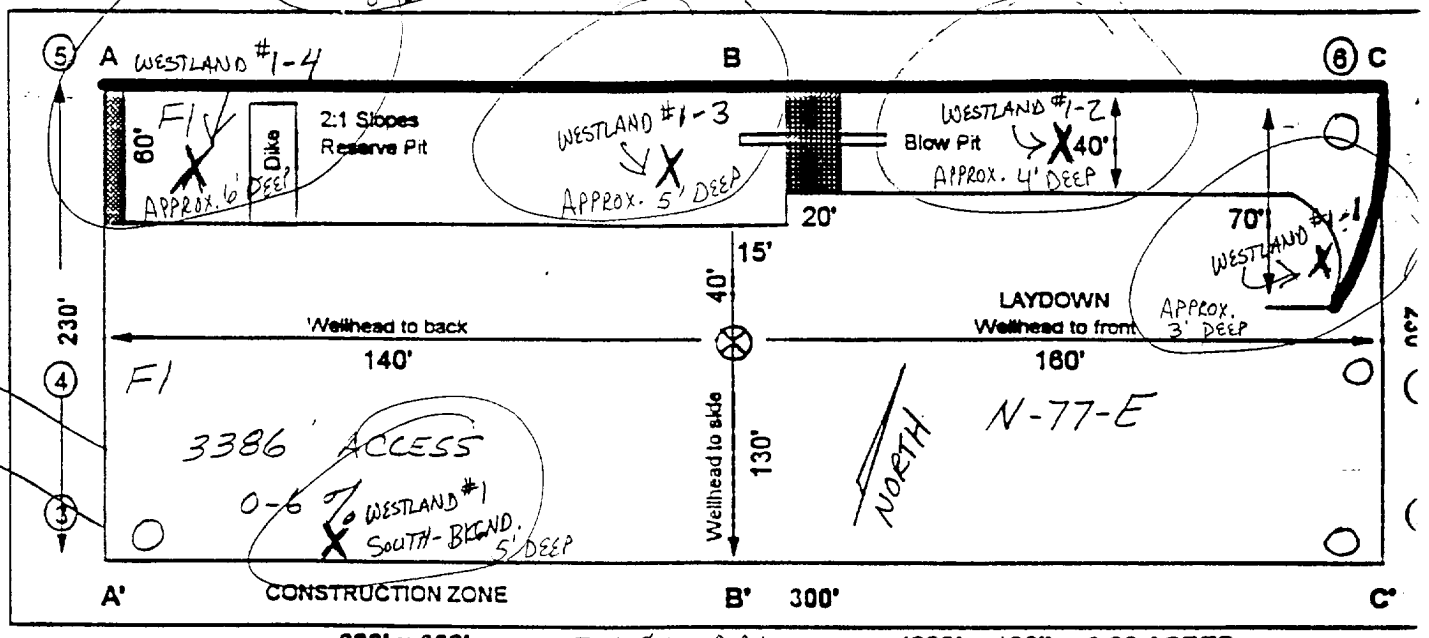
Attachment B

Site Diagram of Sample Locations

BURLINGTON RESOURCES

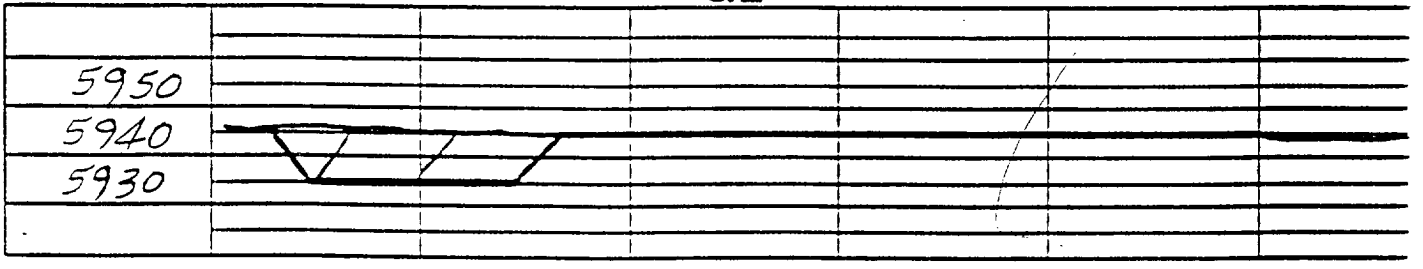
PLAT #1

NAME: WESTLAND DEVELOPMENT CORP. #1
FOOTAGE: 660 FSL 660 FWL
SEC 21 TWN 10 N.R 1 E. NMPM
CO: BERNALILLO ST: N.M.
ELEVATION: 5940 DATE: 6-24-97

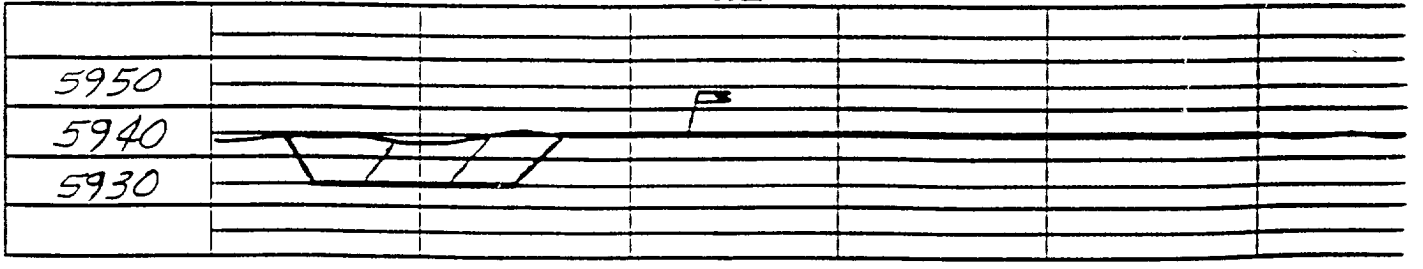


Reserve Pit Dike: to be 8' above Cedro side (overflow - 3' wide and 1' above shallow side).
Blow Pit: overflow pipe halfway between top and bottom and to extend over plastic liner and into blow pit.

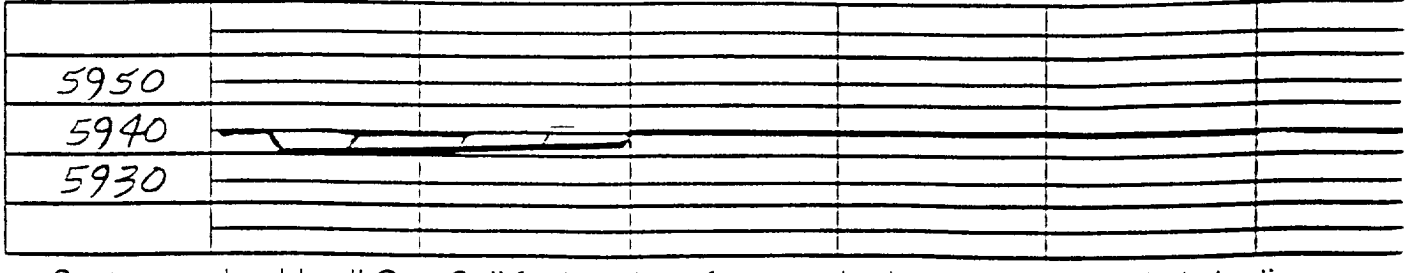
A - A'



B - B'



C- C'



Note: Contractor should call One-Call for location of any marked or unmarked buried pipelines or ca
on well pad and/or access road at least two (2) working days prior to construction.