

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-137
Revised June 10, 2003

Submit Original Plus 1
Copy to Santa Fe
1 Copy Appropriate
District Office

APPLICATION FOR WASTE MANAGEMENT FACILITY

(Refer to the OCD Guidelines for assistance in completing the application)

☒ Commercial

☐ Centralized

1. Type: ☐ Evaporation ☐ Injection ☐ Other

☒ Solids/Landfarm/Landfill ☐ Treating Plant

2. Operator: Gandy Marley Inc

Address: PO Box 1658 Roswell N Mex. 88203

Contact Person: Bill Marley or Larry Gandy Phone: 505-347-0434

3. Location: 14 / 14 Section 4, 5, 8 & 9 Township 11 S Range 3 E
Submit large scale topographic map showing exact location

4. Is this a modification of an existing facility? ☒ Yes ☐ No

5. Attach the name and address of the landowner of the facility site and landowners of record within one mile of the site.

6. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.

7. Attach designs prepared in accordance with Division guidelines for the construction/installation of the following: pits or ponds, leak-detection systems, aerations systems, enhanced evaporation (spray) systems, waste treating systems, security systems, and landfarm facilities.

8. Attach a contingency plan for reporting and clean-up for spills or releases.

9. Attach a routine inspection and maintenance plan to ensure permit compliance.

10. Attach a closure plan.

11. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact groundwater. Depth to and quality of ground water must be included.

12. Attach proof that the notice requirements of OCD Rule 711 have been met.

13. Attach a contingency plan in the event of a release of H₂S.

14. Attach such other information as necessary to demonstrate compliance with any other OCD rules, regulations and orders.

15. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

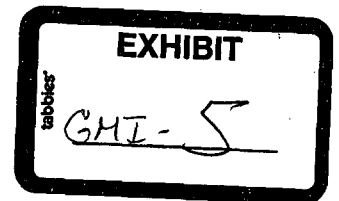
Name: Bill Marley

Title: VP

Signature: [Signature]

Date: 4-8-5

E-mail Address: _____



NEW MEXICO OIL CONSERVATION DIVISION
GROUND WATER DISCHARGE PERMIT AMENDMENT / MODIFICATION

I. Type of operation

The facility operates as a soil remediation, recycling and landfarm facility.

II. Operator

Gandy Marley, Inc.
Attn: Larry Gandy
1109 East Broadway
P.O. Box 827
Tatum, New Mexico 88267
(505) 398-4960

III. Location of Landfarm

The facility is located in Southeastern New Mexico, southeast of Roswell. The facility is situated on privately owned land in Chaves County, New Mexico, in sections 4, 5, 8 and 9 of T11S, R31E.

This location is approximately 39 miles east of Roswell and approximately 33 miles northwest of Tatum. The site is approximately 2.5 miles south of US 380 and 4 miles west of state highway 172.

IV. Modification Request

This permit modification request proposes to use landfill-type cells for the disposal of oilfield waste classified as non-hazardous by RCRA Subtitle C exemption or by characteristic testing including petroleum and chloride impacted debris, mud, soils, sludges, tankbottoms and filters associated with the drilling, operating and maintenance of oil and gas wells and related operations of the oil and gas industry. Cells will be constructed with a berm of no more than 10 feet and no less than 5 feet in height and no less than 8 feet in width at the top with a 1 ft. clay liner compacted to 90% standard density on the inside with a 3 to 1 slope. Excavation will be no more than 20 feet below ground level. Debris that may blow will be placed below ground level and be covered with sufficient soil to prevent blowing by the end of each workday. As a cell fills at one end, 2 feet of soil will be placed on top with a slight slope to prevent pooling of rainwater, but not steep enough to promote erosion.

We propose to build these cells in the same location as existing landfarm cells that have been remediated to the requirements of our existing permit to minimize surface disturbance. We also propose to place at least two 100 ft monitor wells on the east (down gradient) side of our facility that will be checked every 3 months for contamination.

V. Land and Ownership

The facility is situated on privately owned land. All other adjacent lands are owned by Robert W. (Bill) Marley, one of the owners of this facility.

VI. Facility Description

The facility currently operates as a commercial landfarm. The proposed landfill facility will be to contain oilfield waste including petroleum and chloride impacted debris, mud, soil, sludges, tankbottoms and filters associated with the drilling, operations and maintenance of oil and gas wells and related operations of the oil and gas industry.

VIII. Spill/Leak Prevention and Reporting (Contingency Plans)

The proposed cells are contained within the perimeter of the existing landfarm. Additionally each cell will be surrounded with a berm having minimum height of 5 feet above ground level. Equipment and machinery which could be used in the event of any storm water runoff will be at the facility at all times. Should a leak or spill occur at the OCD facility, notification to the OCD would be made immediately in accordance with OCD Rule 116 and WQCC Section 120.

IX. Inspecting, Maintenance and Reporting

The facility will be inspected on a regular basis and immediately following significant precipitation and/ or wind. Inspections will include examination of berms, fences, landfill, monitoring wells and the remediation area. Perimeter and interior berms will be maintained to prevent erosion. General maintenance will be routinely performed. Any necessary repairs will be made immediately.

X. Closure Plan

As each landfill cell fills from one end a minimum of 2 ft of clean soil will be placed on top for cover and sloped in a manner that promotes drainage but not erosion. Reseeding with indigenous grasses will be done at the same time. Upon closure, and following notification to the OCD that operations have ceased the cells will already have been closed during ongoing operations therefore closure cost will be minimal. The new cells will be built where existing cells are that have been remediated to NMOCD guidelines and already have closure bonds in place for closure expenses. Any additional requirements or conditions of the OCD will be met.

XI. Site Characteristics and Fresh Water Protection Demonstration

There are no drainages or water wells within one mile of the facility boundary. Approximately $\frac{3}{4}$ mile southeast of the site there is a seep at the base of the Mescalero Rim. This seep is located topographically higher (200 feet) than the facility and is a result of seepage from an overlying aquifer (Ogallala Fm.). The water is collected by the rancher and distributed through underground pipes to

stock tanks on the ranch property. There are three such stock tanks within one mile of the outside perimeter fence of the facility.

While there are no water wells within one mile of the facility, subsurface drilling has encountered groundwater saturation within Upper Triassic sediments. The depth to this groundwater is 150 feet. A sample of the groundwater was obtained from three drill holes. The samples were analyzed at Assaigai Analytical Laboratories in Albuquerque New Mexico. A copy of the analytical results is presented within this submittal. This groundwater flows eastward and is controlled by stratigraphic and structural features within the Triassic sediments.

This information was obtained from geologic data from a sub-surface drilling program conducted in the region in July 1994.

The surface geology consists entirely of Quaternary age alluvial deposits. This alluvium consists of fine yellow-brown sand and clays and contains abundant granitic and chert cobbles. This material was derived from the Tertiary age Ogallala Fm. Which is located topographically higher and east of the site. Thickness of the alluvial material varies from 5 to 25 feet thick.

Immediately underlying the alluvial deposits are Upper Triassic sediments. These sediments were deposited in a fluvial environment and consist of fine to very fine-grained sandstones, interbedded with siltstones and mudstones. The Upper Triassic sediments underlying the proposed site dip approximately one degree to the east. The thickness of these sediments varies from 25 to 150 feet. Groundwater saturation was encountered in sandstone lenses below depths of 150 feet.

The aquifer material consists of thin (10 – 30 feet), lenticular fine to very fine-grained sandstones. Due to the fluvial nature of these sands, individual sandstones lenses are discontinuous and difficult to correlate. The site consists of two soil types including Alma Loam and Franklin-Roswell Complex. These soils are typically well-drained with slopes of 0 to 15 percent.

Vegetation consists primarily of Tabossa, Bufffalo Grass, Vine-Mesquite, Cactus, Sand Dropseed, Little Bluestem, Sand Bluestem, Sandur, Three-Awn, Shinery Oak, Yucca and Sand Sagebrush. No rare or endangered plant species are located near the site or in the surrounding area.

The facility lies outside any 100-year floodplain boundary. The proposed site is in an area found on Federal Insurance Rate Map (FIRM) #3501250850. This map has not been printed because the National Flood Insurance Program has established that this is in an area of minimum flood hazards.

The perimeter berms have been designed to alleviate stormwater run-on and run-off during a 100 year stormwater event. Should such a storm event occur, the OCD will be notified immediately of any flooding or washout.

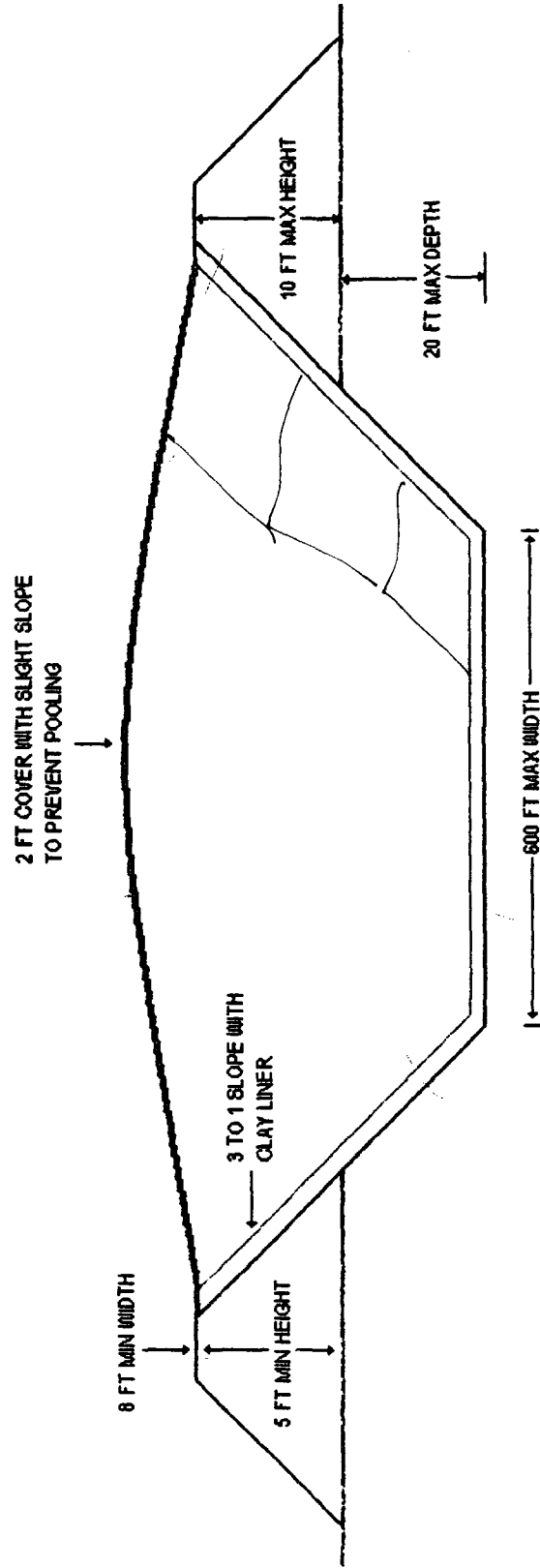
XII. H2S Contingency Plan

Hydrogen Sulfide can be expected at a solidification unit. Appropriate signs will be and H2S training will be provided to all personnel and all provisions set forth in OCD Rule 118 will be met.

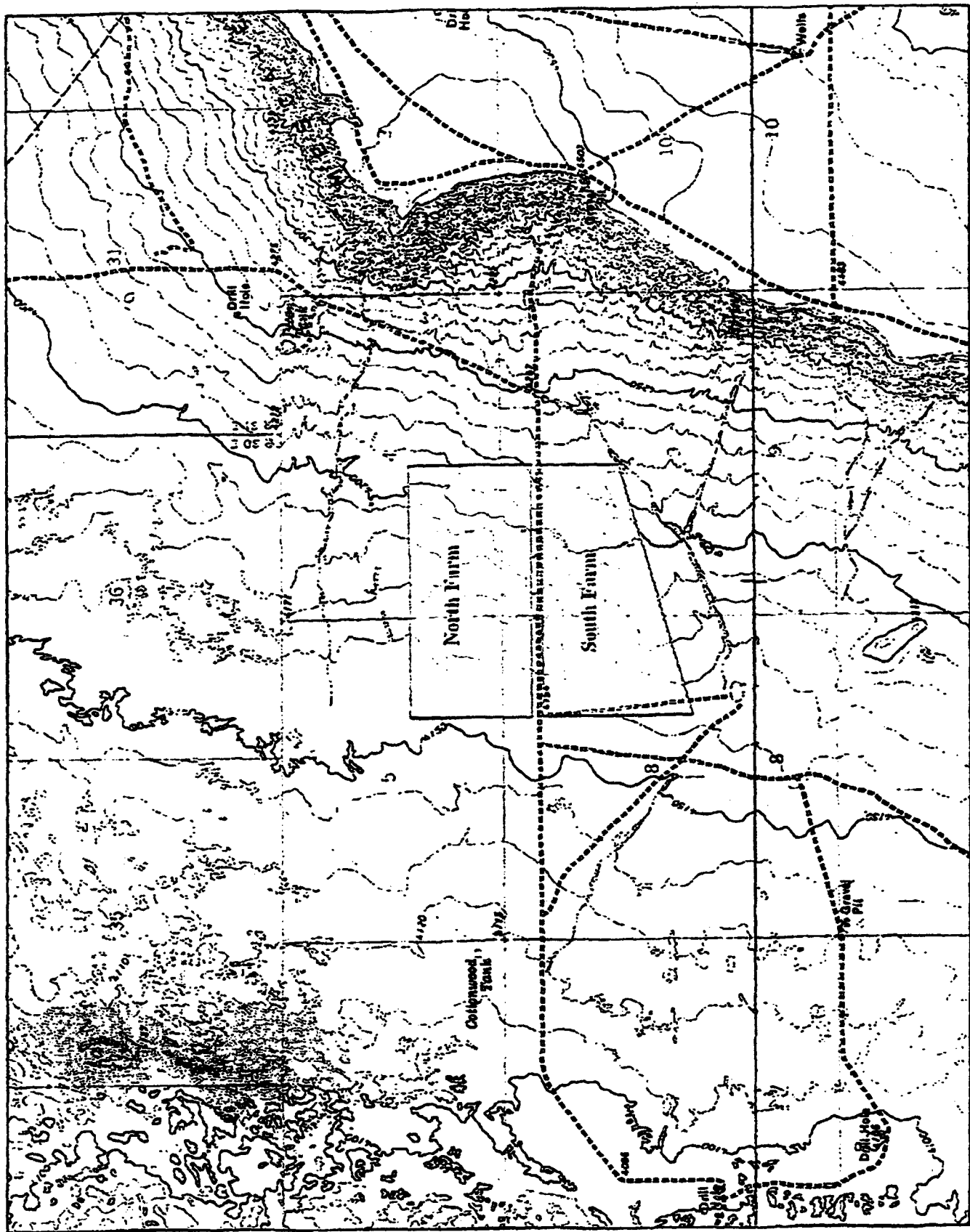
XIII. Additional Information

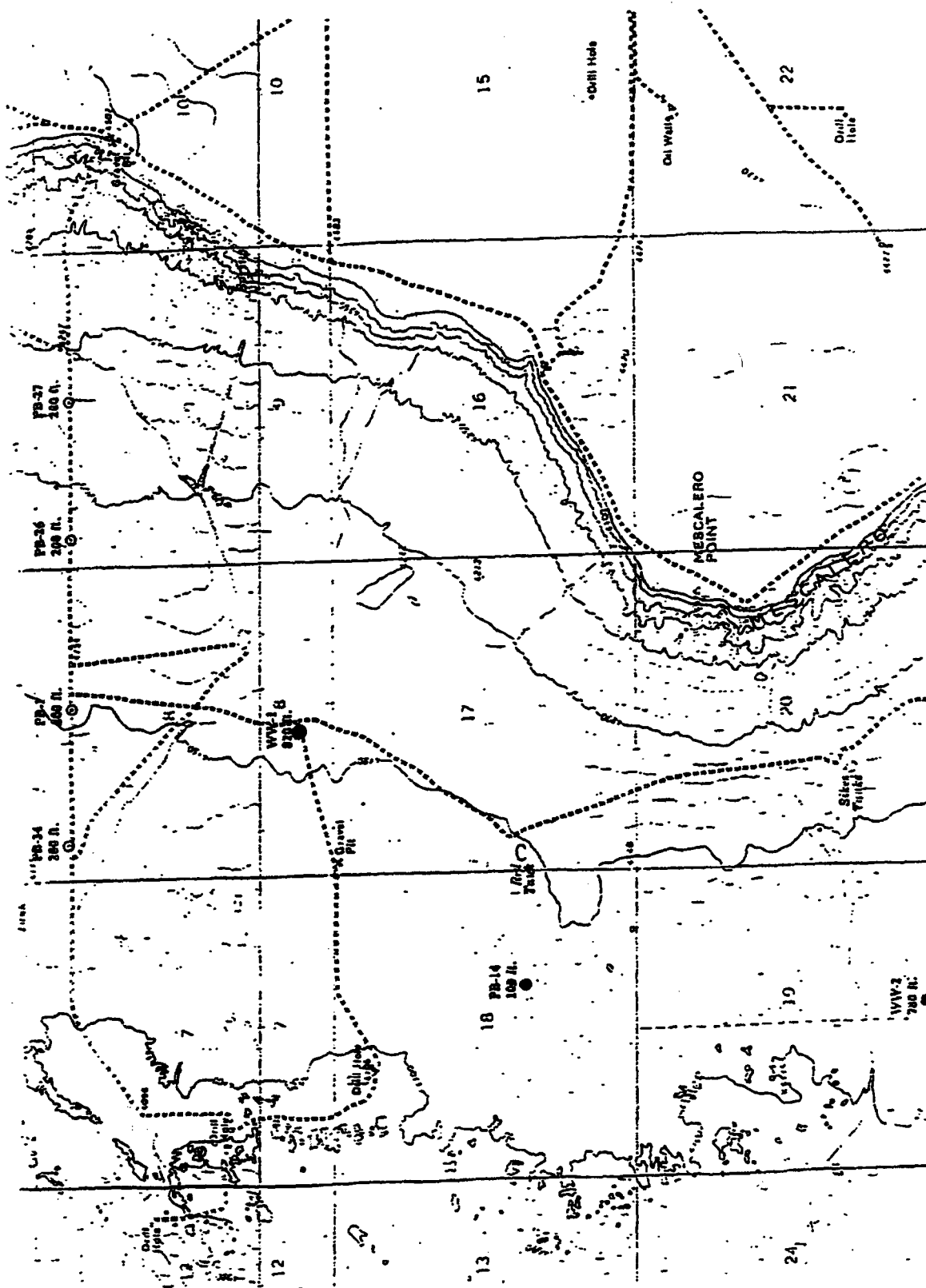
All WQCC regulatory requirements applicable to this facility and OCD rules applicable to the OCD facility will be fully complied with.

GMI CELL DESIGN



NOT TO SCALE





Quality Control Engineering, Inc.

1136 W. Hobbs Roswell, NM 88203
505-625-0005 Fax: 625-0555

700 E. First #725C, Alamogordo, NM 88310
505-439-1285 Fax: 439-1283

SOIL REPORT

ASTM D75, D698/1557, C127, C136, C117, D854, D2216, D2487, D4318, D4718

Project Marley Ranch, clay Job # 322 Lab # A19 Sample # 1

Client name & address Gaddy Marley, Inc., P.O. Box 827, Tatum, NM 88267 Phone: 505-398-4960 Fax: 398-6887

Material

source Marley Ranch, clay

Contractor NA

Date

sampld 2/15/05

By

JT (client)

Rec'd 2/15/05

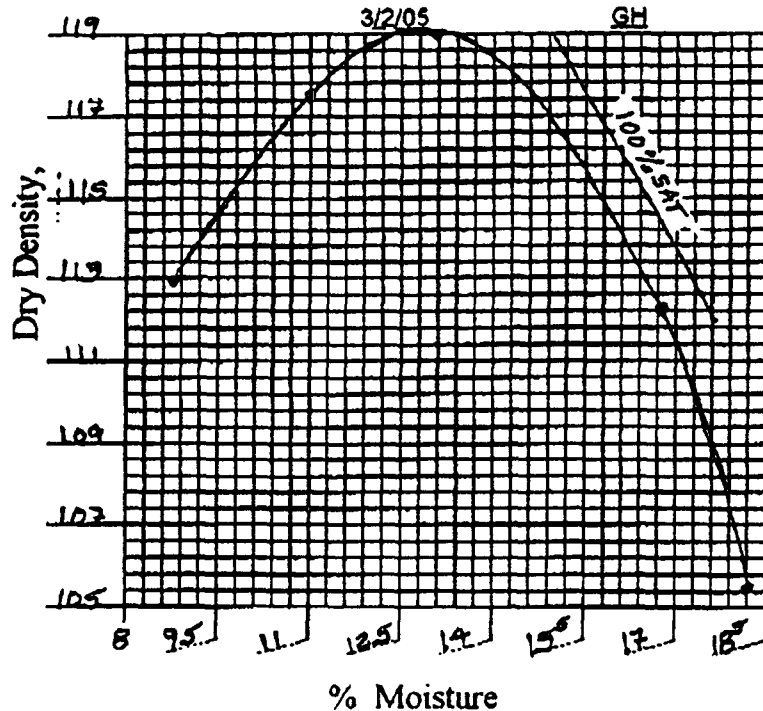
Tested

2/16-18/05

By

GH

U.S. Standard Sieve No.	Cumulative % Retained	Cumulative % Passing	Specs
3"	0%	100%	
1 1/2"	0%	100%	
1"	0%	100%	
3/4"	0%	100%	
3/8"	0%	100%	
#4	0%	100%	
#10	9%	91%	
#40	19%	81%	
#200	44.7%	55.3%	



Material Classification (field) Sandy Clay

0% Gravel

45% Sand

55% Fines

LL=30

PI=15

Coefficient of Permeability=1.7X10⁻⁷
(@ 89.5% compaction of D698A)
(See attached)

Submitted by:

K. Byrd-Humphreys

3/2/05

K. Byrd-Humphreys

Test Method	Max. Dry Density	Optimum Moisture
ASTM Manual		
D698	118.4 pcf	13.3%
Method A	uncorrected	uncorrected
Nat'l moist	11%	G _s = 2.859

Precision Engineering, Inc.
P.O. Box 422
Las Cruces, NM 88004
505-523-7674

Flexible Wall Hydraulic Conductivity
Falling Head

ATTN: Ms. Katy Byrd-Humphreys, PE
Quality Control Engineering, Inc.
1136 W. Hobbs St.
Roswell, NM 88203

Project: QCE Contract Testing File No.: 05-022
Soil Type: Clay Date: March 1, 2005 Lab No.: 46894
Sampled From: Marley Ranch, Job# 322, Lab# A19, Sample# 1 Performed By: GWG

TEST SPECIMEN CONDITIONS AT BEGINING OF TEST:

Wet Unit Weight: 122.1 pcf % Moisture: 14.9
Dry Unit Weight: 106.3 pcf % Compaction: 89.5
% Compaction Requested: 90.0

PROCTOR INFORMATION:

Proctor Method: ASTM D-698-A
Maximum Dry Density: 118.8 pcf
Optimum Moisture Content: 13.1 %

Coefficient of Permeability, k_{20} : 1.7×10^{-7} cm/sec.

Remarks: Sample compacted at 2.0% above optimum moisture content.

Reviewed By:

HLW

Reviewed By:

Certified By:
[Signature]

ASSAIGAI
ANALYTICAL
LABORATORIES

7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259

3332 Wedgewood, E-5 • El Paso, Texas 79925

1910 N. Big Springs • Midland, Texas 79705

STOLLER CORPORATION
1717 LOUISIANA BLVD.
ABQ., NM 87110

Attn: JIM BONNER
Invoice Number:

Order #: 94-08-072
Date: 08/19/94 16:28
Work ID: GANDY
Date Received: 08/05/94
Date Completed: 08/19/94
Client Code: ST001

SAMPLE IDENTIFICATION

<u>Sample Number</u>	<u>Sample Description</u>
01	WELL #1
02	WELL #2

<u>Sample Number</u>	<u>Sample Description</u>
03	WELL #3

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR


Certified By



Received: 08/05/94

Results by Sample

SAMPLE ID WELL 83 FRACTION 01B TEST CODE WFAA02 NAME SODIUM (FAA)/EPA 772.1
Date & Time Collected 07/20/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Sodium, Na	<u>1,640</u>	<u>1.0</u>	<u>200</u>	<u>08/09/94</u>	<u>08/19/94</u>

Notes and Definitions for this Report:

ANALYST KHUNITS mg/LBATCH_ID WFAA-181COMMENTS RESULTS REFLECT TOTAL METALS ANALYSIS

Received. 08/05/94

Results by Sample

SAMPLE ID WELL 83 FRACTION Q18 TEST CODE WFAAME NAME MAGNESIUM (PAA)/EPA 242.1
Date & Time Collected 07/20/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Magnesium, Mg	<u>101</u>	<u>1.0</u>	<u>20</u>	<u>08/09/94</u>	<u>08/29/94</u>

Notes and Definitions for this Report:

ANALYST KIUNITS mg/LBATCH_ID WFAA-181COMMENTS RESULTS REFLECT TOTAL METALS ANALYSIS

Received. 08/05/94

Results by Sample

SAMPLE ID WELL 83 FRACTION 03A TEST CODE WALK NAME ALKALINITY/EPA 310.1
Date & Time Collected 07/20/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Alkalinity	<u>196</u>	<u>2.0</u>	<u>1.0</u>	<u>08/09/94</u>

Notes and Definitions for this Report:

EXTRACTED _____
ANALYST DES
UNITS mg/L
BATCH_ID WALK-66
COMMENTS _____ N/A

Received: 08/05/94

Results by Sample

SAMPLE ID WELL 92 FRACTION 01A TEST CODE TDS NAME TDS/EPA 160.1
Date & Time Collected 07/20/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Dissolved Solids	<u>4920</u>	<u>1.0</u>	<u>1.0</u>	<u>08/09/94</u>

Notes and Definitions for this Report:

EXTRACTED _____

ANALYST JCBUNITS mg/LBATCH_ID WTDS-140

COMMENTS _____ N/A

Page 3

Received: 08/05/94

REPORT

Work Order # 94-08-072

Results by Sample

SAMPLE ID WELL 81 FRACTION Q1A TEST CODE WALK NAME ALKALINITY/EPA 110.1
Date & Time Collected 07/10/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Alkalinity	<u>3.8</u>	<u>2.0</u>	<u>1.0</u>	<u>08/09/94</u>

Notes and Definitions for this Report:

EXTRACTED _____
ANALYST DS
UNITS mg/L
BATCH_ID WALK-66
COMMENTS _____ N/A

Page 4

REPORT

Work Order # 94-08-072

Received: 08/05/94

Results by Sample

SAMPLE ID WELL #2 FRACTION 01B TEST CODE WPAANG NAME MAGNESIUM (TAA)/EPA 242.1
Date & Time Collected 07/29/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Magnesium, Mg	<u>51.4</u>	<u>1.0</u>	<u>10</u>	<u>08/09/94</u>	<u>08/19/94</u>

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID WFAA-181

COMMENTS RESULTS REFLECT TOTAL METALS ANALYSIS

Received: 08/05/94

Results by Sample

SAMPLE ID WELL 81 FRACTION 018 TEST CODE WFAA80 NAME SODIUM (FAA)/EPA 273.1
Date & Time Collected 07/29/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Sodium, Na	<u>4,600</u>	<u>1.0</u>	<u>500</u>	<u>08/09/94</u>	<u>08/19/94</u>

Notes and Definitions for this Report:

ANALYST KHUNITS mg/LBATCH_ID WFAA-181COMMENTS RESULTS REFLECT TOTAL METALS ANALYSIS

Received: 08/05/94

Results by Sample

SAMPLE ID WELL 02 FRACTION 02A TEST CODE TDS NAME TDS/EPA 160.1
Date & Time Collected 07/20/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Dissolved Solids	<u>18800</u>	<u>1.0</u>	<u>1.0</u>	<u>08/09/94</u>

Notes and Definitions for this Report:

EXTRACTED _____

ANALYST JCBUNITS mg/LBATCH_ID WTDS-140

COMMENTS _____ N/A

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REPORT

Work Order # 94-08-072

Received: 08/05/94

Results by Sample

SAMPLE ID WELL 82 FRACTION 02A TEST CODE WALK NAME ALKALINITY/EPA 310.1
Date & Time Collected 07/20/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Alkalinity	<u>83.0</u>	<u>7.0</u>	<u>1.0</u>	<u>08/09/94</u>

Notes and Definitions for this Report:

EXTRACTED _____
ANALYST DES
UNITS mg/L
BATCH_ID WALK-66
COMMENTS _____ N/A

Page 8

REPORT

Work Order # 94-08-072

Received: 08/05/94

Results by Sample

SAMPLE ID WELL #2 FRACTION 02B TEST CODE WFAAME NAME MAGNESIUM (TAA)/EPA 242.1
Date & Time Collected 07/20/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Magnesium, Mg	<u>87.8</u>	<u>1.0</u>	<u>15</u>	<u>08/09/94</u>	<u>08/19/94</u>

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID WFAA-181

COMMENTS RESULTS REFLECT TOTAL METALS ANALYSIS

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REPORT

Work Order # 94-08-072

Received: 08/05/94

Results by Sample

SAMPLE ID WELL #2 FRACTION 028 TEST CODE WFAA02 NAME SODIUM (PRA)/EPA 273.1
Date & Time Collected 07/20/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Sodium, Na	<u>7.030</u>	<u>2.0</u>	<u>2.000</u>	<u>08/09/94</u>	<u>08/19/94</u>

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH ID WFAA-181

COMMENTS RESULTS REFLECT TOTAL METALS ANALYSIS

Received: 08/05/94

Results by Sample

SAMPLE ID WELL #1 FRACTION 01A TEST CODE TDS NAME TDS/EPA 160.1
Date & Time Collected 07/26/94 Category WATER

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Dissolved Solids	<u>11900</u>	<u>1.0</u>	<u>2.0</u>	<u>08/09/94</u>

Notes and Definitions for this Report:

EXTRACTED _____

ANALYST JCBUNITS mg/LBATCH_ID WTDS-140

COMMENTS _____ N/A