

1- file (PDR) 3. 588

TEXAS DEPARTMENT OF HEALTH
AUSTIN TEXAS
INTER-OFFICE

Handwritten: Please hold for lab results.

THRU: Charles R. Meyer, Chief (PDR)
Uranium & Special Inspections Program

FROM Robert L. Green, Jr.

TO License File # 8-2485

SUBJECT Closeout surveys and soil sampling at Mobil Brelum Site

On November 28, 1984, members of the Bureau staff (Mr. Brad Caskey, Mr. C.D. Rao, Ms. Debbie Borden, Ms. Diana Henry, and Mr. Bob Green) met with Mr. Bennie DeLuna of Mobil concerning surveys and sampling at the Brelum facility. During the course of this meeting, copies of surveys and sampling performed by Mobil were presented. I had reviewed all of these documents during my previous visit on October 10, 1984, and they are included as Attachments #1-4. The two wellfields to be closed out are designated BOA I and BOA II.

Grid surveys (gamma scintillation) were performed in both wellfields and along the path of the pipeline which had run from BOA II to the plant site. In addition, random soil samples were collected. Results of the survey and locations of soil sampling are included as Attachments 5-11.

The grid surveys were performed by a team of four (4) individuals who took readings at intervals of about 27 feet (10 paces). This interval was derived by using the measured dimensions of the field and the number of readings obtained per pass. Prior to the survey, soil sampling sites were selected at random. A total of 24 samples were collected in the two wellfield areas, or approximately 1.7 samples per acre. A 5-point composite sampling technique was utilized.

Background radiation levels in the area averaged about 5,000 CPM. No areas were detected which exceeded 2x this level, with the exception of a natural outcrop located in the S.E. quadrant of BOA II.

Attachments

cc: Joe Thiel, Director
Environmental Programs

9801120018 841205
PDR WASTE
WM-43 PDR

SIGNED



DATE December 5, 1984

"WELLFIELD" BOA I

Mobil (BREM) CLOSFOUT

Lic. No. 8-2485

Survey performed 11/29/84

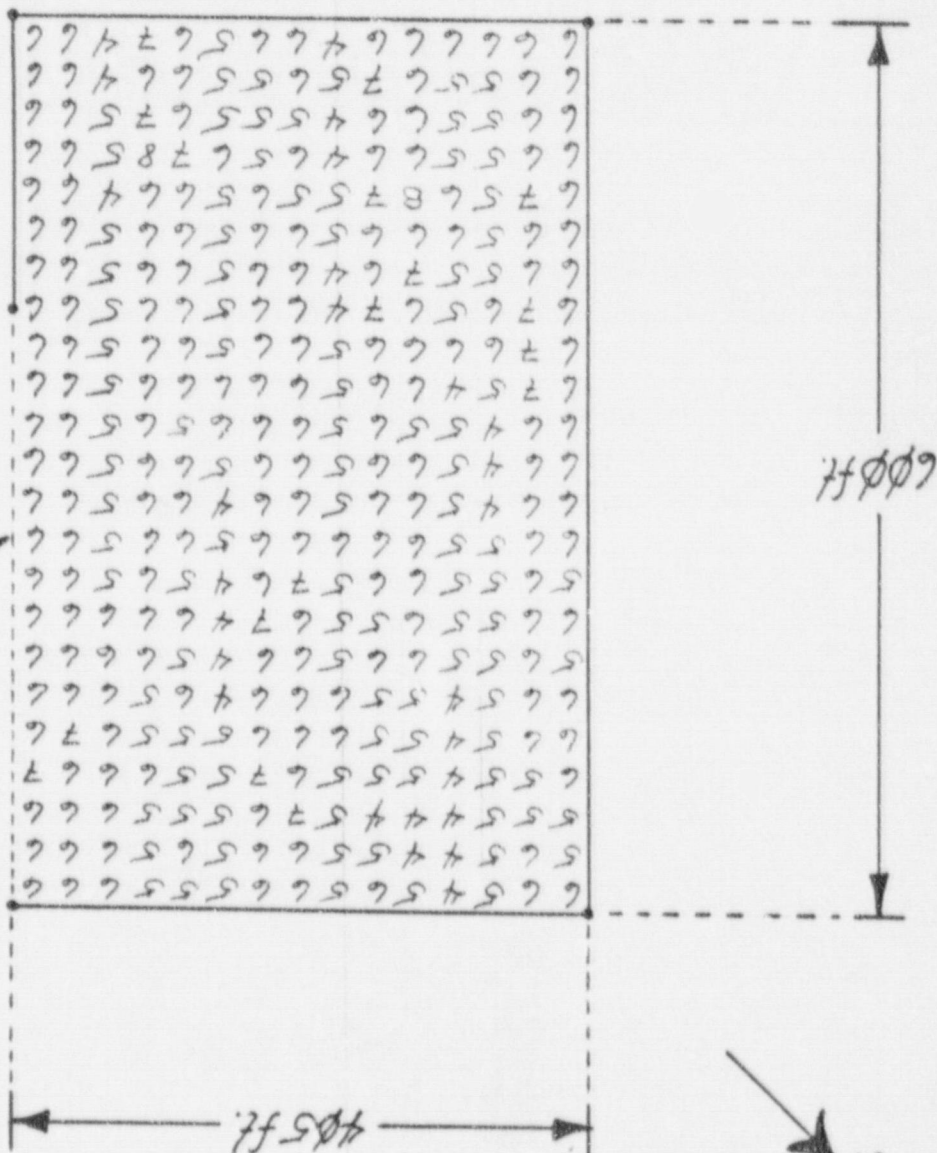
by David C. Coker, Jeffery D. Gordon
C.D. (Reg.) (Alabama) Henry, &
Bob Green

5/4 Well 14E #5 84970, 86303,
84966, 86295,
82640

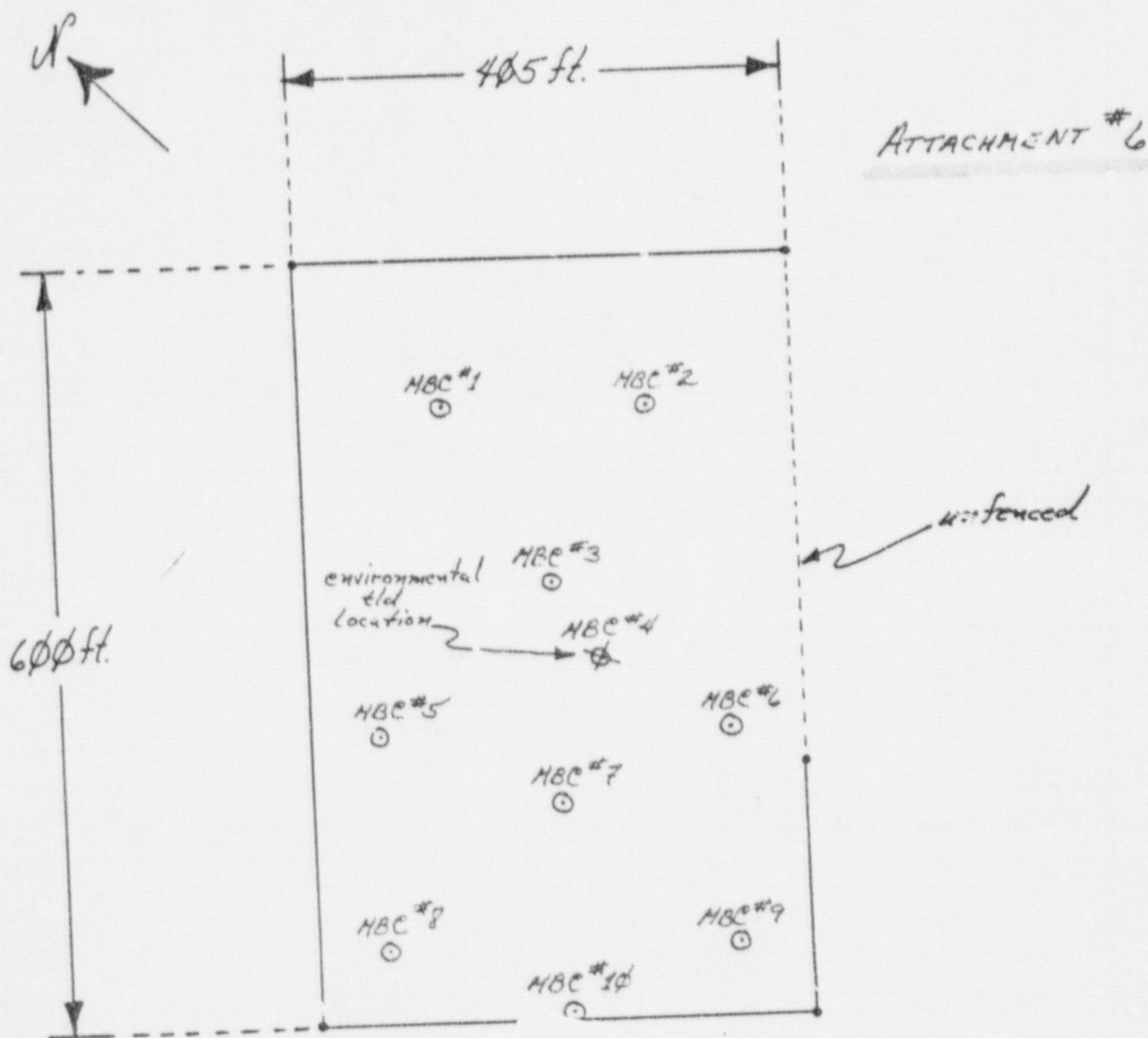
BKE: 4-LK CPM

Scale: 0.5cm = 27'

All readings were measured at 1" from
the surface, and all were recorded in
CPM X 1000. Meters were compatible
± 5% of rate.



ATTACHMENT #5



"WEL" BOA I

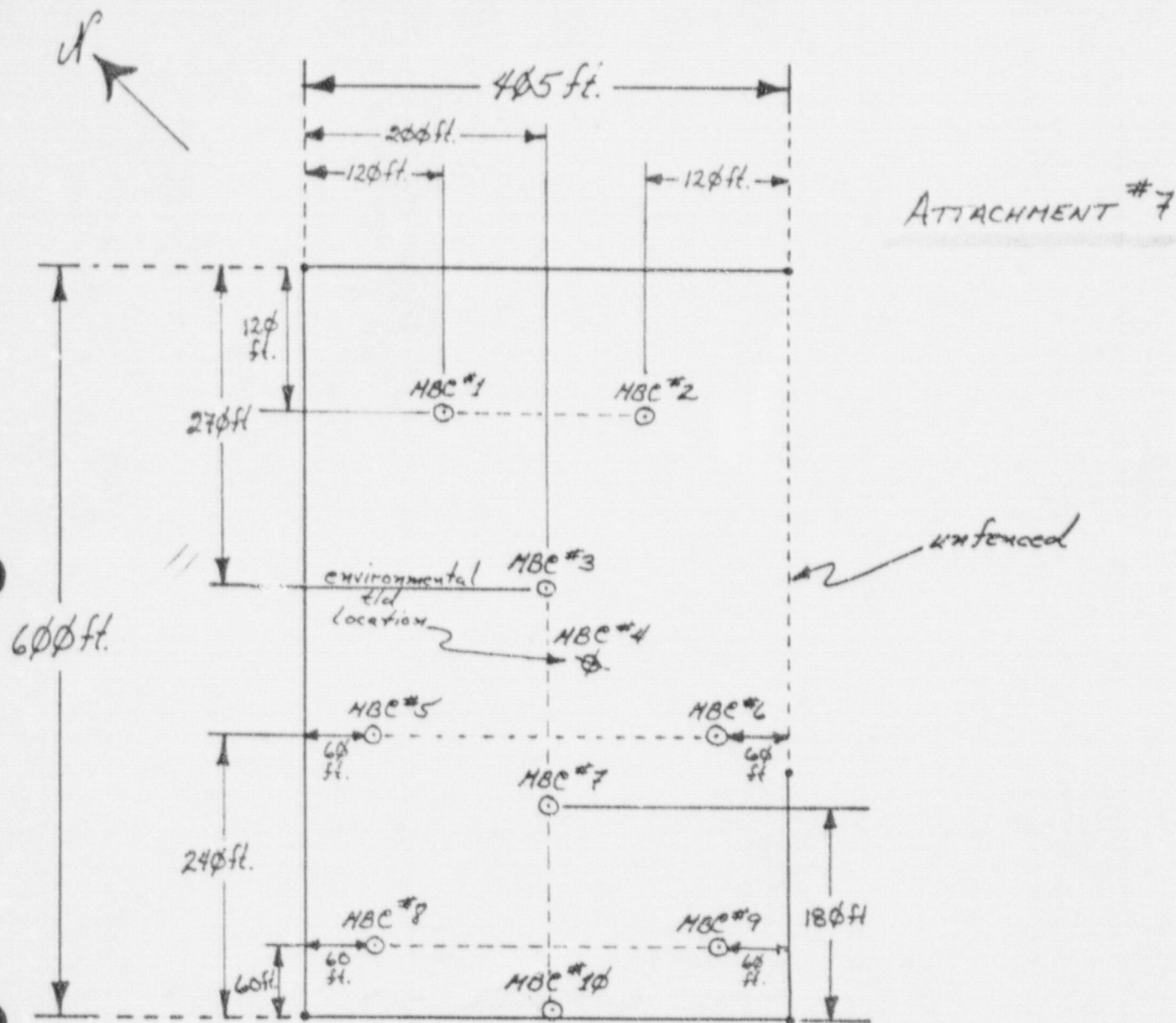
MOBIL (BRELUM) CLOSOUT 11/29/84

LIC. No. 8-2485

SOIL SAMPLE LOCATIONS AND NUMBERS
(5-point sample at each location)

Scale: 0.5 cm = 27'

[Signature] 12/1



"WELLFIELD" BOA I

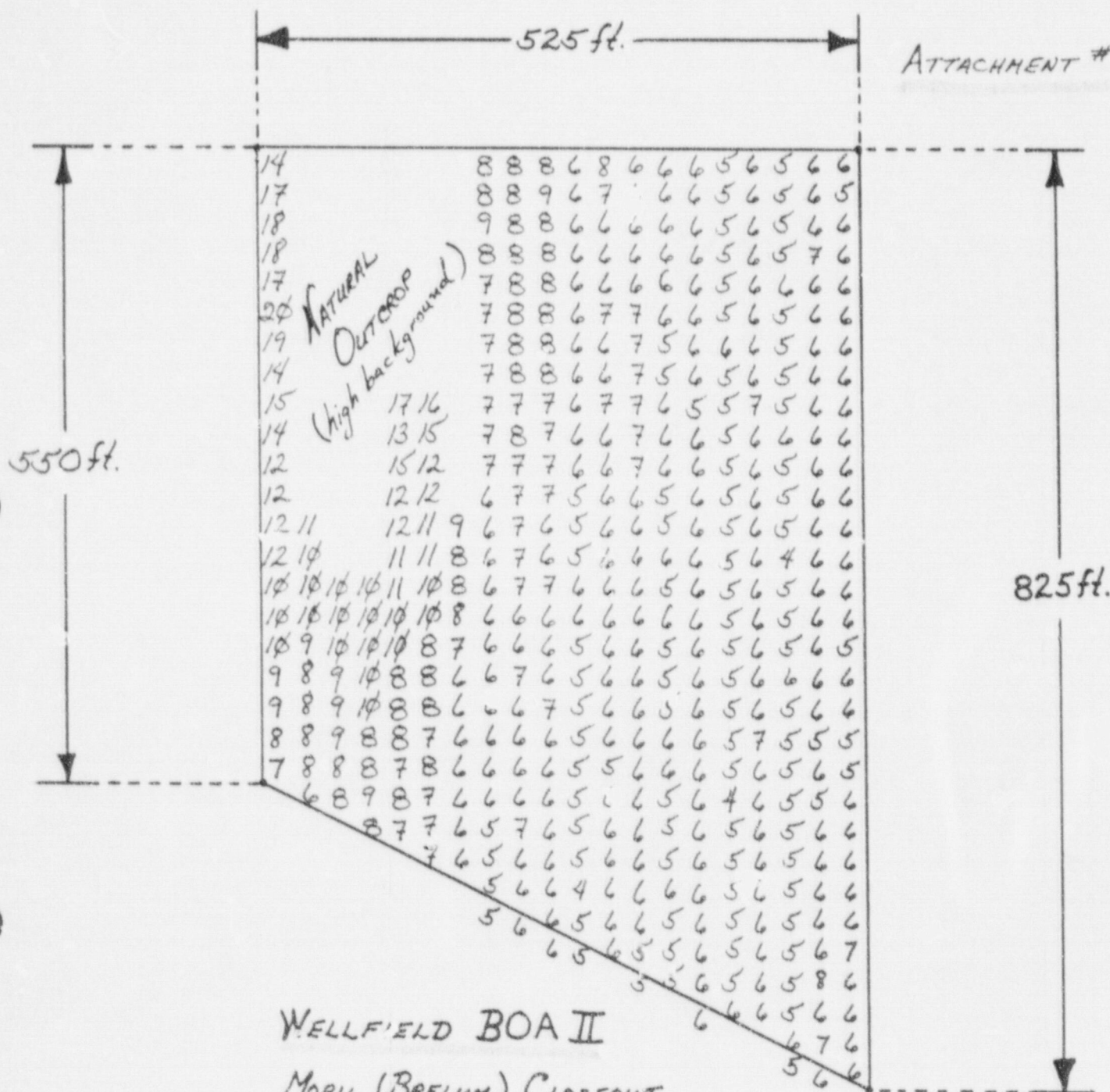
MOBIL (BRELUM) CLOSEOUT 11/29/84

LIC. NO. 8-2485

SOIL SAMPLE LOCATIONS AND NUMBERS
(5-point sample at each location)

SCALE: 0.5 cm = 27'
[Signature] 12/4/84

ATTACHMENT #8



WELLFIELD BOA II

MOBIL (BRELUM) CLOSEOUT

LIC. No. 8-2485

SURVEY PERFORMED 11/29/84

by Brad Caskey, Debbie Gordon,
C.D. Page, Diana Henry, &
Bob Stein

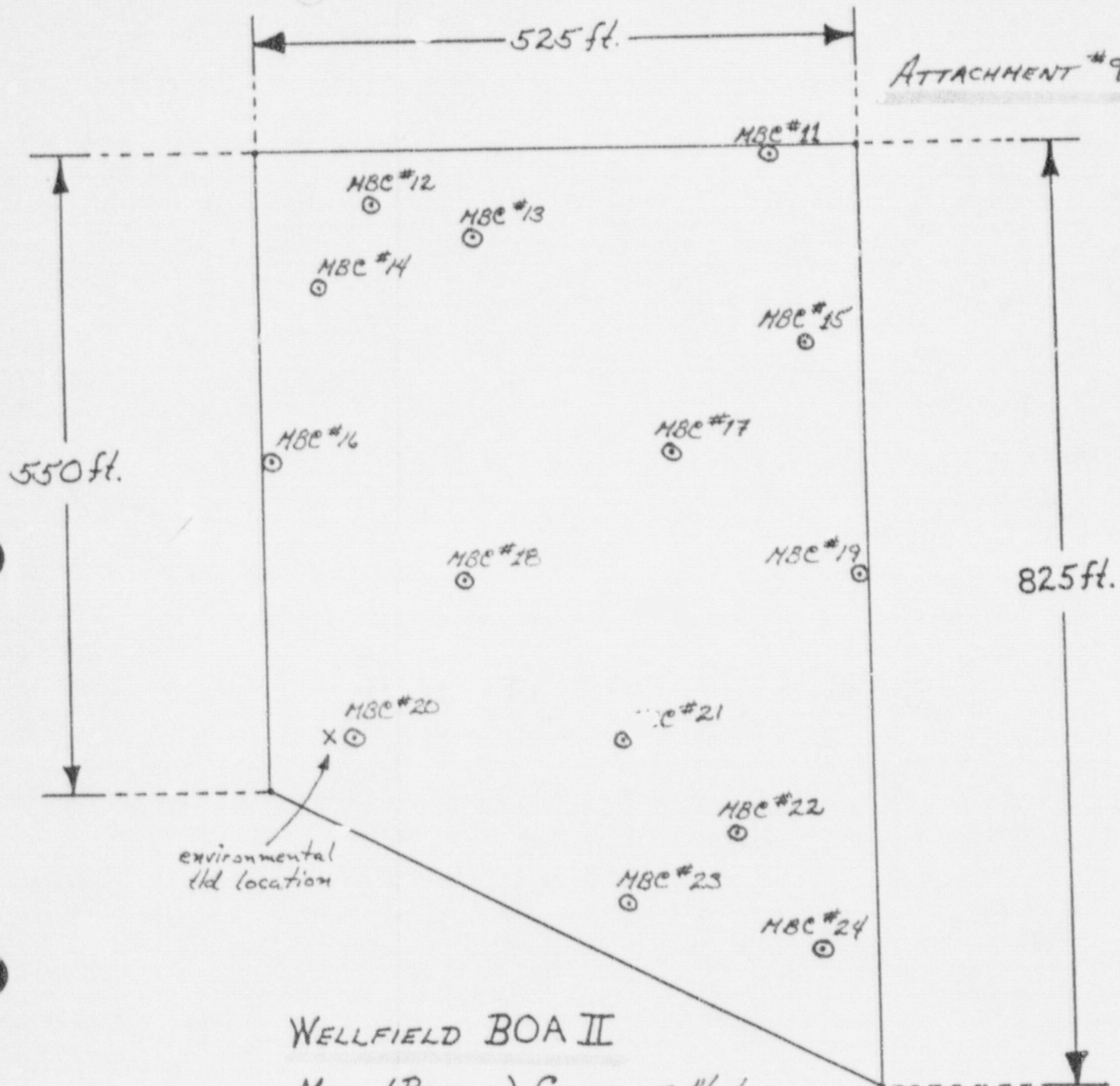
5/11 Ludlum 14C #5 84970, 86303, 84966,
86295, & 82640

BKG: 4-6K CPM

All readings were measured at 1" from
the surface, and all recorded in
CPM X 1000. Meters compatible $\pm 5\%$ of rate

SCALE: 0.5cm = 27'

12/3/84



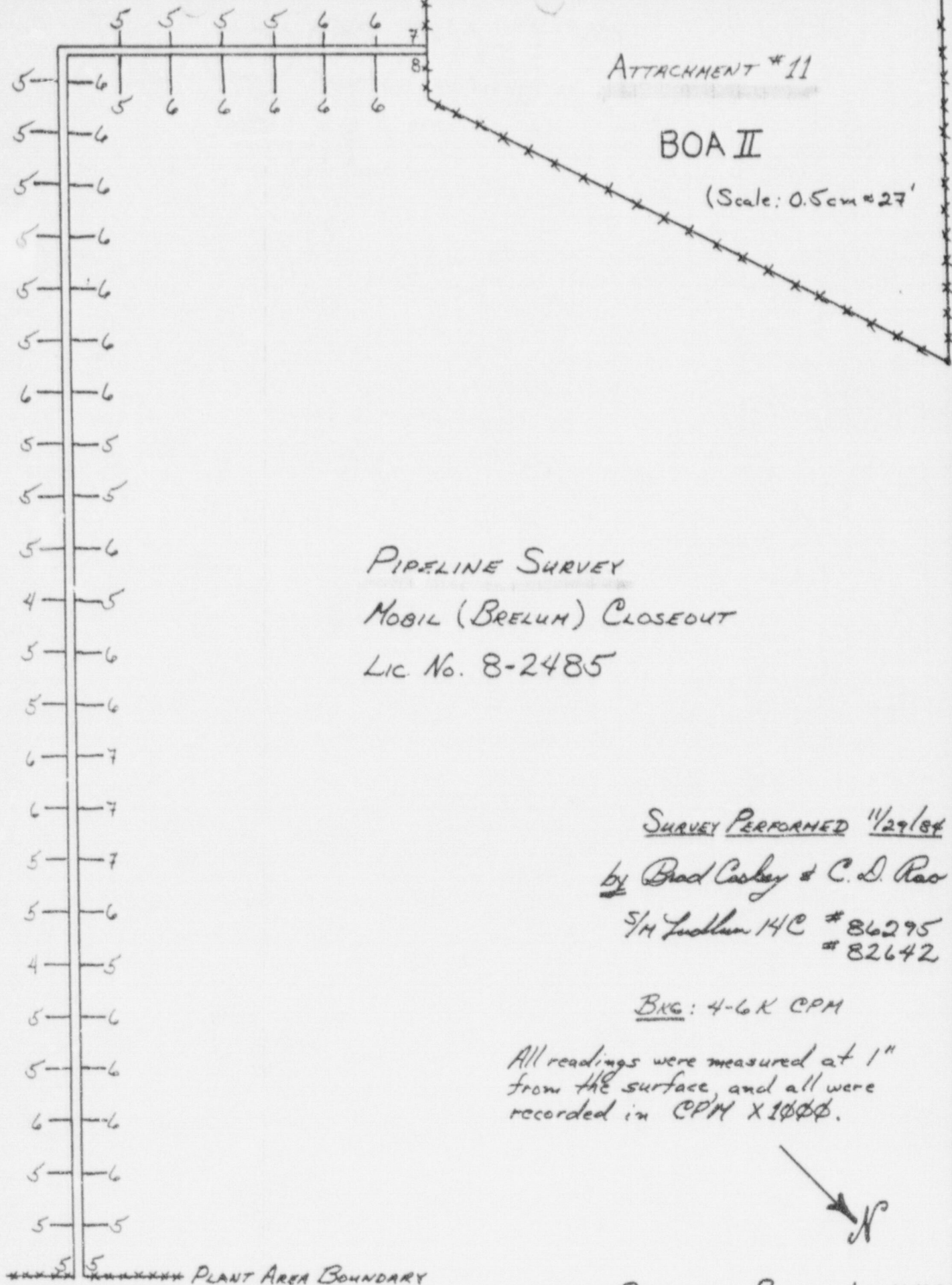
WELLFIELD BOA II

MOBIL (BRELUM) CLOSEOUT 11/29/84

LIC. No. 8-2485

SOIL SAMPLE LOCATIONS AND NUMBERS
(5-point sample at each location)

SCALE: 0.5 cm = 27'
R. L. Chan 12/3/84



***** PLANT AREA BOUNDARY

PIPELINE SCALE: 1cm = 100'

ATTACHMENT 1

PLANT AREA TABLE

PLANT AREA

ATTACHMENT 2

POND AREA TABLE

- 1) Background around fence is in cpm.
- 2) Area in fence not marked were below highest background reading.
3. Surface surveyed on 20 foot grid.

- Δ

- OTHER SPOTS Sampled for Padium 226 and U
- ₃
- O
- ₈
- .

POND AREA

11-3 Gamma survey 4,000 to 1,500 cpm.
 Sampled at spots giving highest gamma
 readings; two spots were sampled and
 composited.
 Mirco R/HR 14

#	U_2O_5 (ppm)	#	Ra_{226} C/g
2	5.0	5	76 ± 1.5%

* Analysis performed at Core Lab (Reported 8/1/24)

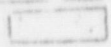
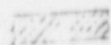
ATTACHMENT 3

BOAT AREA TABLE

NOTES:

- 1) Background around fence is in cpm.
- 2) Area in fence not marked were below highest background reading.
3. Surface surveyed on 20 foot grid.

SYMBOL DEFINITIONS

-  - AREA Scrapped up and disposed of at radioactive dump site
-  - ELEVATED AREAS Sampled for Radium 226 and U3O8 to see if cleanup is necessary. These areas were above background.
-  - OTHER SPOTS sampled for Radium 226 and U3O8.

AREAS ABOVE BACKGROUND - Details (See codes on map)

	BOA-1 AREA	$\bar{m}_g \text{ cpm (cpm)}$	$R_{\text{area}} (\mu\text{Ci/g})$
ME-4 (S-1 at Core Lab)	Gamma survey <u>3,500</u> cpm Micro R/HR <u>10</u>	5.43	1.45 ± 0.32
ME-5 (S-4 at Core Lab) around Well UI-54	Gamma survey <u>4,800 to 5,100</u> cpm Micro R/HR <u>18</u>	27.0	8.2 ± 0.8
ME-6 (S-6 at Core Lab) around Well UI-74	Gamma survey <u>4,500 to 5,200</u> cpm Micro R/HR <u>16</u>	7.93	0.91 ± 0.23
ME-7 (S-5 at Core Lab) area around UI-75	Gamma survey <u>4,600 to 5,000</u> cpm Micro R/HR <u>16</u>	7.98	2.55 ± 0.41
ME-8 (S-2 at Core Lab) area around UI-29	Gamma survey <u>4,000</u> cpm Micro R/HR <u>16</u>	9.21	2.25 ± 0.32
ME-9 (S-3 at Core Lab)	Gamma survey <u>4,000</u> cpm Micro R/HR <u>18</u>	9.65	5.48 ± 0.60
ME-10 Area east of field	Gamma survey <u>5,000 to 5,200</u> cpm Micro R/HR <u>15</u>	NO sample	NO sample

* Analysis performed at CORE LAB (S-1 thru S-6).

GOET A RE

[illegible][illegible]

5

Legend

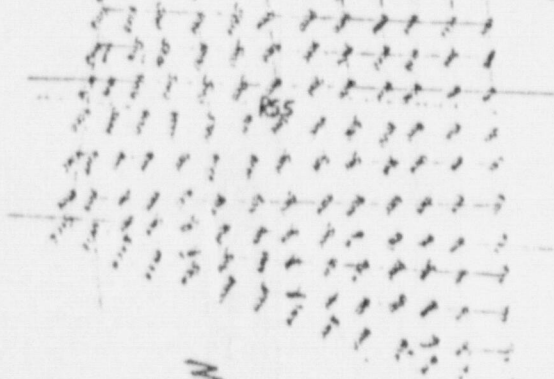
1. *Thymus* *sp.*
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 99. *Thymus* *sp.*
 100. *Thymus* *sp.*

ATTACHMENT 4

' BOA II

' PIPE WAY

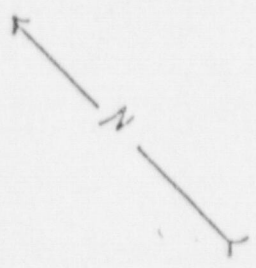
GAMMA SURVEY
(gamma Readings in cpm)



- BOMBI Fenced in Area AND Adjacent drilled area.

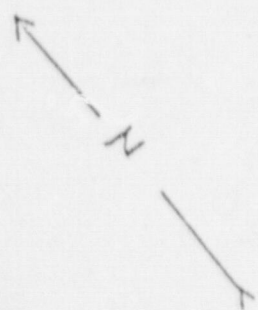
- Readings take: 1"3" off ground level.
- $\gamma \approx 100$ Reduced
- Readings taken 8/13 to 9/31/04.
- Ludlum Model 3 Survey meter

PISEWAY PLANT to 10th



3400	3400	↑ TO PLANT 3100
3000	3100	3400
3400	3100	3300
3300	3500	3400
3200	3200	3400
3300	3400	3200
3500	3600	3300
3800	3300	3500
3700	3500	3500
3200	3500	3400

200 OF P. Faway (Plant to BOA II)



PLANT	FENCE	
3100	3100	3100
2900	3400	3100
2800	3400	3400
2700	3700	3700
2600	3400	3400
2500	3200	3300
2400	3300	3300
3400	3200	3400
3500	3500	3800
4200	4100	4000

BOA 1/Pipeline
Soil Sampling

<u>Sample Code</u>	<u>LOCATION</u> (See BSA)	<u>SAMPLE</u> <u>DEPTH</u>	<u>COMPOSITE</u> <u>DESCRIPTION</u>
RS1	100' N from E to W Fence & 175' W from N to S Fence (where high γ counts are found)	15 cm	Take 5 samples from a 2 sq. meter area and composite.
RS2	175' N & 50' W from same fence lines as above.	"	"
RS3	1000' S of Plant fence line	15 cm	4 points around hole where break occurred.
RS4	200' W from pipeline turn	"	same as RS1.
RS5	Close to UI 108 where highest γ counts are found	"	"
RS6 (See BD4 in permit)	Under Air particulate box	"	"
RS7 (See BC3 in permit)	38' 115°W of UI 192	"	"
RS8 (Same as BC2 in permit)	42' 80°E of UI 108	"	"
RS9 (Same as BH2 in permit)	at UI - 1	Surface soil only	2M ² around UI 1
RS10 (Same as above except depth sample)	"	15 cm sx.	"
RS11	50' from fence corner	"	"
RS12	In line from RS1 50' from fence & perpendicular to fence	"	"
RS13	In line from RS2 50' from fence & perpendicular to it	"	"

CORE LABORATORIES, INC. ANALYTICAL REPORT

8-OCT-84

PAGE 1 OF 1

MOBIL ALTERNATIVE ENERGY

P. O. BOX 539
FREER TX 78357
BENNIF DELUNA

JOB: 6402-SB4766
CHEMIST: DJJ/RKF
LOCATION: CORPUS CHRISTI, TX.

SOIL ANALYSIS

SMPL NO.	SAMPLE ID.	RADIUM 226 PCI/G	U308 PPM
1	RS1	6.21+/-0.77	15.5
2	RS2	8.08+/-0.92	45.6
3	RS3	2.48+/-0.53	5.04
4	RS4	0.79+/-0.31	3.62
5	RS5	2.97+/-0.58	6.00
6	RS6	5.00+/-0.74	21.2
7	RS7	1.63+/-0.41	6.00
8	RS8	3.82+/-0.62	11.7
9	RS9	9.45+/-0.98	23.4
10	RS10	3.19+/-0.57	11.4
11	RS11	5.62+/-0.77	13.5
12	RS12	5.22+/-0.71	14.5
13	RS13	1.64+/-0.44	7.60
14	RS14	0.15+/-0.14	48.0
15	RS15	0.05+/-0.09	5.41
16	RS16	0.24+/-0.18	12.5
17	RS17	2.16+/-0.49	4.27

Extra samples taken
OF POND LEVY DURING
BOAT SAMPLING.

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon.

ADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC #11 of 24

Sampling Location _____

WELFIELD BOA #2

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
at 3:25 P.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GERDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
Lab at 1:00 P.m.
on 12/4/84.
Signed K. Gerdes

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
_____ at _____:_____.m.
on _____/_____/_____.
Signed _____

FOR USE BY BUREAU OF RADIATION CONTROL ONLY

Laboratory Number 609
Date Received Oct. 04, 1984

Condition of Seals ☒ Satisfactory
☐ (Specify) _____

Weight (as-Received) Wt. 504g
Dry Wt. 448g Ash Wt. _____
Losses _____

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]
Date Reported 4/11/85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/8/85

²²⁸ Ac	$1.0 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/g <u>dry</u>
²¹⁴ Bi	$1.1 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/
⁴⁰ K	$1.6 \times 10^{-5} \pm 2 \times 10^{-6}$	uCi/
²¹² Pb	$1.2 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/
²¹⁴ Pb	$1.2 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/
²²⁶ Ra	$2.3 \times 10^{-6} \pm 8 \times 10^{-7}$	uCi/
²³⁵ U	$< 5 \times 10^{-7}$	uCi/
²³⁸ U	$< 1.0 \times 10^{-6}$	uCi/
	$\pm$	uCi/

ALPHA COUNT

Gross Alpha	$1.2 \times 10^{-5} \pm 8 \times 10^{-6}$	uCi/g
Radium-226	$1.8 \times 10^{-6} \pm 1 \times 10^{-7}$	uCi/g
Total Uranium	$\pm$	uCi/
Radon-222	$\pm$	uCi/
	$\pm$	uCi/
	$\pm$	uCi/
	$\pm$	uCi/

BETA COUNT

Gross Beta	$2.6 \times 10^{-5} \pm 1.1 \times 10^{-5}$	uCi/g
Tritium	$\pm$	uCi/
Carbon-14	$\pm$	uCi/
	$\pm$	uCi/
	$\pm$	uCi/

ALPHA SPECTROSCOPY

	$\pm$	uCi/
	$\pm$	uCi/

TRASH

EP-4
June, 1983

RADIONUCLIDE ANALYSIS REPORT

ureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number MBC #12 of 24

Sampling Location _____

WELLFIELD BOA #2

Licensee/Facility MOBIL BRELUH

CLOSE-OUT SURVEY

Case Number 8-2485

I certify this sample was collected by
at 3:35 p.m. on 11/29/84 and
remained in my custody until transferred

to KAREN GEDDES at 9:30 A.m.

on 12/3/84

Signed _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to

Lab at 1:00 p.m.

on 12/4/84

Signed _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to

at _____ .m.

on _____

Signed _____

FOR USE BY BUREAU

Laboratory Number

Date Received

Condition of Seals

☒ Satisfactory

☐ (Specify)

Net (as-Received) Wt. 584g

Gross Wt. 564g Ash Wt. _____

Notes _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/14/85

Signed _____

Date Reported

Analysis Class: ☒ A, Unrestricted Area

☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226

Facility Category: ☒ Uranium Recovery ☐ Nuclear

Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN

Radionuclide

<u>^{214}Bi</u>	<u>$7.6 \times 10^{-6} \pm 6 \times 10^{-7}$</u>	<u>uCi/</u>	<u>dry</u>
<u>^{40}K</u>	<u>$1.8 \times 10^{-6} \pm 2 \times 10^{-6}$</u>	<u>uCi/</u>	
<u>^{214}Pb</u>	<u>$8.1 \times 10^{-6} \pm 7 \times 10^{-7}$</u>	<u>uCi/</u>	
<u>^{226}Ra</u>	<u>$1.6 \times 10^{-5} \pm 3 \times 10^{-6}$</u>	<u>uCi/</u>	
<u>^{235}U</u>	<u>$< 9 \times 10^{-7}$</u>	<u>uCi/</u>	
<u>^{238}U</u>	<u>$< 2.4 \times 10^{-6}$</u>	<u>uCi/</u>	
	<u>$\pm$</u>	<u>uCi/</u>	
	<u>$\pm$</u>	<u>uCi/</u>	
	<u>$\pm$</u>	<u>uCi/</u>	

ALPHA COUNT

Gross Alpha

Radium-226

Total Uranium

Radon-222

BETA COUNT

Gross Beta

Tritium

Carbon-14

ALPHA SPECTROSCOPY

BP-2

EP-4
June, 1983

ADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC #13 of 24

Sampling Location _____

WELFIELD BOA #2

Licensee/Facility MOBIL BRELUH

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
me at 3:30 P.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GEDDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lab at 1:00 P.m.
on 12/4/84.
Signed K. Geddes

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
_____ at _____ .m.
Signed _____

FOR USE BY BUREAU OF RADIATION CONTROL ONLY

Laboratory Number _____
Date Received _____
Condition of Seals ☒ Satisfactory
☐ (Specify) _____

Net (as-Received) Wt. 534g
Gross Wt. 500g Ash Wt. _____
Notes _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]
Date Reported APR 16 1985

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/8/85

Radionuclide	Count Rate	Uncertainty	Unit
^{214}Bi	2.3×10^{-6}	$\pm 3 \times 10^{-7}$	uCi/g <u>dry</u>
^{40}K	1.8×10^{-5}	$\pm 2 \times 10^{-6}$	uCi/g
^{214}Pb	2.5×10^{-6}	$\pm 5 \times 10^{-7}$	uCi/g
^{226}Ra	5.1×10^{-6}	$\pm 1.1 \times 10^{-6}$	uCi/g
^{235}U	$< 6 \times 10^{-7}$	$\pm$	uCi/g
^{238}U	4.7×10^{-6}	$\pm$	uCi/g
	$\pm$		uCi/g
	$\pm$		uCi/g
	$\pm$		uCi/g

ALPHA COUNT

Radionuclide	Count Rate	Uncertainty	Unit
Gross Alpha	1.6×10^{-5}	$\pm 9 \times 10^{-6}$	uCi/g
Radium-226	3.2×10^{-6}	$\pm 2 \times 10^{-7}$	uCi/g
Total Uranium	4.3×10^{-6}	$\pm 8 \times 10^{-7}$	uCi/g
Radon-222	$\pm$		uCi/g
	$\pm$		uCi/g
	$\pm$		uCi/g
	$\pm$		uCi/g

BETA COUNT

Radionuclide	Count Rate	Uncertainty	Unit
Gross Beta	2.7×10^{-5}	$\pm 1.1 \times 10^{-5}$	uCi/g
Tritium	$\pm$		uCi/g
Carbon-14	$\pm$		uCi/g
	$\pm$		uCi/g
	$\pm$		uCi/g

ALPHA SPECTROSCOPY

Radionuclide	Count Rate	Uncertainty	Unit
	$\pm$		uCi/g
	$\pm$		uCi/g

TRASH

EP-4
June, 1983

RAD' NUCLIDE ANALYSIS REPORT

Division of Radiation Control
Department of Health

1100 West 49th Street
Austin, Texas 78756

ing/Priorit, Instructions _____

ized By _____

11 ☐ Water (Acidified)
ter (Unacidified) ☐ Vegetation
pe ☐ Other _____

Number HBC #14 of 24

ing Location _____

ELLFIELD BOA #2

see/Facility MOBIL BRELUM

OSE-OUT SURVEY

se Number 8-2485

ify this sample was collected by
3:40 P.M. on 11/29/84 and
ed in my custody until transferred
IREN GERDES at 9:30 A.M.
3/84. [Signature]

ify this sample was continuously
custody from the time of receipt
hereon until transferred to
Lab at 1:00 P.M.
4/84. K. Diddis

ify this sample was continuously
custody from the time of receipt
hereon until transferred to
_____ at _____ : _____ .m.

USE BY BUREAU LABORATORIES ONLY

atory Number CR5-612

received DEC 04 1984

tion of Seals ☒ Satisfactory
(Specify) _____

as-Received) Wt. 483g

459g Ash Wt. _____

ify this sample was continuously
custody from the time of receipt
hereon until the completion of
tory analyses on 5/14/85.

ported _____

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclide: UNAT RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/8/85

<u>²¹⁴Bi</u>	<u>$1.5 \times 10^{-5} \pm 1 \times 10^{-6}$</u>	<u>uCi/</u>	<u>dry 2</u>
<u>¹³⁷Cs</u>	<u>$4 \times 10^{-7} \pm 1 \times 10^{-7}$</u>	<u>uCi/</u>	
<u>⁴⁰K</u>	<u>$1.7 \times 10^{-5} \pm 2 \times 10^{-6}$</u>	<u>uCi/</u>	
<u>²¹⁰Pb</u>	<u>$1.5 \times 10^{-5} \pm 1.6 \times 10^{-5}$</u>	<u>uCi/</u>	
<u>²¹⁴Pb</u>	<u>$1.6 \times 10^{-5} \pm 2 \times 10^{-6}$</u>	<u>uCi/</u>	
<u>²²⁶Ra</u>	<u>$3.5 \times 10^{-5} \pm 4 \times 10^{-6}$</u>	<u>uCi/</u>	
<u>²²⁸Th</u>	<u>$1.5 \times 10^{-5} \pm 1.1 \times 10^{-5}$</u>	<u>uCi/</u>	
<u>²³²Th</u>	<u>$1.2 \times 10^{-5} \pm 6 \times 10^{-6}$</u>	<u>uCi/</u>	
<u>²³⁵U</u>	<u>$1.0 \times 10^{-6} \pm$</u>	<u>uCi/</u>	
	<u>$238U < 2.3 \times 10^{-6}$</u>	<u>uCi/</u>	<u>26/</u>

ALPHA COUNT

Gross Alpha	<u>$6.1 \times 10^{-5} \pm 1.6 \times 10^{-5}$</u>	<u>uCi/</u>	<u>2</u>
Radium-226	<u>$1.4 \times 10^{-5} \pm 1 \times 10^{-6}$</u>	<u>uCi/</u>	<u>2</u>
Total Uranium	<u>$1.5 \times 10^{-5} \pm 2 \times 10^{-6}$</u>	<u>uCi/</u>	<u>2</u>
Radon-222	<u>$\pm$</u>	<u>uCi/</u>	
	<u>$\pm$</u>	<u>uCi/</u>	
	<u>$\pm$</u>	<u>uCi/</u>	
	<u>$\pm$</u>	<u>uCi/</u>	

BETA COUNT

Gross Beta	<u>$5.7 \times 10^{-5} \pm 1.5 \times 10^{-5}$</u>	<u>uCi/</u>	<u>2</u>
Tritium	<u>$\pm$</u>	<u>uCi/</u>	
Carbon-14	<u>$\pm$</u>	<u>uCi/</u>	
	<u>$\pm$</u>	<u>uCi/</u>	
	<u>$\pm$</u>	<u>uCi/</u>	

ALPHA SPECTROSCOPY

	<u>$\pm$</u>	<u>uCi/</u>	
	<u>$\pm$</u>	<u>uCi/</u>	

BP-2

EP-4

June, 1983

MAY 16 '85

MP

56

RADIONUCLIDE ANALYSIS REPORT

ureau of Radiation Control
as Department of Health

1100 West 49th Street
Austin, Texas 78756

ndling/Priority Instructions

thorized By

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other

ample Number MBC #15 of 24

ampling Location

WELLFIELD BOA #2

censee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

ense Number 8-2485

I certify this sample was collected by
at 3:25 P.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GEDDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lab at 1:00 p.m.
on 12/4/84. K. Geddes
Signed

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
at : .m.
on / / .
Signed

OR USE BY [Redacted] LIES ONLY
Laboratory ERB-613
Date Received DEC 04 1984

Condition of Seals ☒ Satisfactory
☐ (Specify)
t (as-Received) Wt. 447g
y Wt. 416g Ash Wt.
tes

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.
Signed Don Brown

Date Reported APR 16 '85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/8/85

<u>²¹⁴Pb</u>	<u>$1.3 \times 10^{-6} \pm 2 \times 10^{-7}$</u>	<u>uCi/ g</u> <u>dry</u>
<u>⁴⁰K</u>	<u>$1.7 \times 10^{-5} \pm 2 \times 10^{-6}$</u>	<u>uCi/</u>
<u>²¹⁴Pb</u>	<u>$1.3 \times 10^{-6} \pm 2 \times 10^{-7}$</u>	<u>uCi/</u>
<u>²²⁶Ra</u>	<u>$< 2.4 \times 10^{-6} \pm$</u>	<u>uCi/</u>
<u>²³⁵U</u>	<u>$< 7 \times 10^{-7} \pm$</u>	<u>uCi/</u>
<u>²³⁸U</u>	<u>$< 2.0 \times 10^{-6} \pm$</u>	<u>uCi/</u>
	<u>$\pm$</u>	<u>uCi/</u>
	<u>$\pm$</u>	<u>uCi/</u>
	<u>$\pm$</u>	<u>uCi/</u>

ALPHA COUNT

<u>Gross Alpha</u>	<u>$9.6 \times 10^{-6} \pm 6.5 \times 10^{-6}$</u>	<u>uCi/ g</u>
<u>Radium-226</u>	<u>$1.4 \times 10^{-6} \pm 1 \times 10^{-7}$</u>	<u>uCi/ g</u>
<u>Total Uranium</u>	<u>$\pm$</u>	<u>uCi/</u>
<u>Radon-222</u>	<u>$\pm$</u>	<u>uCi/</u>
	<u>$\pm$</u>	<u>uCi/</u>
	<u>$\pm$</u>	<u>uCi/</u>
	<u>$\pm$</u>	<u>uCi/</u>

BETA COUNT

<u>Gross Beta</u>	<u>$2.4 \times 10^{-5} \pm 1.1 \times 10^{-5}$</u>	<u>uCi/ g</u>
<u>Tritium</u>	<u>$\pm$</u>	<u>uCi/</u>
<u>Carbon-14</u>	<u>$\pm$</u>	<u>uCi/</u>
	<u>$\pm$</u>	<u>uCi/</u>
	<u>$\pm$</u>	<u>uCi/</u>

ALPHA SPECTROSCOPY

	<u>$\pm$</u>	<u>uCi/</u>
	<u>$\pm$</u>	<u>uCi/</u>

TRASH

EP-4
June, 1983

RADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number MBC #16 of 24

Sampling Location _____

WELFIELD BOA #2

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
me at 3:50 P.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GERDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lav at 1:00 P.m.
on 12/4/84.
Signed K. Gerdes

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
_____ at _____:_____.m.
on 1/1/85.
Signed _____

FOR USE BY BUREAU OF RADIATION CONTROL
Laboratory Number ER5 614
Date Received DEC 14 1984
Condition of Seals ☒ Satisfactory
☐ (Specify) _____
Weight (as-Received) Wt. 573g
Dry Wt. 560g Ash Wt. _____
Notes _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]
Date Reported APR 16 85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT PA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/8/85

<u>²¹⁴Bi</u>	<u>$7.8 \times 10^{-6} \pm 6 \times 10^{-7}$</u>	<u>uCi/</u> <u>dry</u>
<u>⁴⁰K</u>	<u>$1.9 \times 10^{-5} \pm 2 \times 10^{-6}$</u>	<u>uCi/</u> <u>g</u>
<u>²¹⁴Pb</u>	<u>$8.2 \times 10^{-6} \pm 1.3 \times 10^{-6}$</u>	<u>uCi/</u> <u>g</u>
<u>²²⁶Ra</u>	<u>$1.4 \times 10^{-5} \pm 3 \times 10^{-6}$</u>	<u>uCi/</u> <u>g</u>
<u>²³⁵U</u>	<u>$< 9 \times 10^{-7}$</u>	<u>uCi/</u> <u>g</u>
<u>²³⁸U</u>	<u>$< 2.5 \times 10^{-6}$</u>	<u>uCi/</u> <u>g</u>
_____	<u>±</u>	<u>uCi/</u> _____
_____	<u>±</u>	<u>uCi/</u> _____
_____	<u>±</u>	<u>uCi/</u> _____

ALPHA COUNT

<u>Gross Alpha</u>	<u>$4.9 \times 10^{-5} \pm 1.4 \times 10^{-5}$</u>	<u>uCi/</u> <u>g</u>
<u>Radium-226</u>	<u>$7.8 \times 10^{-6} \pm 3 \times 10^{-7}$</u>	<u>uCi/</u> <u>g</u>
<u>Total Uranium</u>	<u>$1.1 \times 10^{-5} \pm 2 \times 10^{-6}$</u>	<u>uCi/</u> <u>g</u>
<u>Radon-222</u>	<u>±</u>	<u>uCi/</u> _____
_____	<u>±</u>	<u>uCi/</u> _____
_____	<u>±</u>	<u>uCi/</u> _____
_____	<u>±</u>	<u>uCi/</u> _____

BETA COUNT

<u>Gross Beta</u>	<u>$4.3 \times 10^{-5} \pm 1.3 \times 10^{-5}$</u>	<u>uCi/</u> <u>g</u>
<u>Tritium</u>	<u>±</u>	<u>uCi/</u> _____
<u>Carbon-14</u>	<u>±</u>	<u>uCi/</u> _____
_____	<u>±</u>	<u>uCi/</u> _____
_____	<u>±</u>	<u>uCi/</u> _____

ALPHA SPECTROSCOPY

_____	<u>±</u>	<u>uCi/</u> _____
_____	<u>±</u>	<u>uCi/</u> _____

RADWASTE

EP-4
June, 1983

ADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC #17 of 24

Sampling Location _____

WELFIELD BOA #2

Licensee/Facility MOBIL BRELUH

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
at 3:50 P.m. on 11/29/84 and
remained in my custody until transferred to
KAREN GEDDES at 9:30 A.m.
12/3/84
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
until transferred to
Lav at 1:00 p.m.
12/4/84
Signed K. Geddes

I certify this sample was continuously
in my custody from the time of receipt
until transferred to
_____ at _____ .m.
Signed _____

FOR USE BY BUREAU OF RADIATION CONTROL ONLY

75-615

Laboratory Number _____

Date Received _____

Condition of Seals ☒ Satisfactory
☐ (Specify) _____

(as-Received) Wt. 572g

Wt. 554g Ash Wt. ✓

Notes _____

I certify this sample was continuously
in my custody from the time of receipt
until the completion of
laboratory analyses on 11/11/85
Signed [Signature]

Date Reported _____

12-16-85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226

Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/8/85

<u>²¹⁴Pb</u>	<u>2.6 x 10⁻⁶ ± 3 x 10⁻⁷</u>	<u>uCi/g</u>
<u>⁴⁰K</u>	<u>1.8 x 10⁻⁵ ± 2 x 10⁻⁶</u>	<u>uCi/g</u>
<u>²¹⁰Pb</u>	<u>2.5 x 10⁻⁶ ± 2.7 x 10⁻⁶</u>	<u>uCi/g</u>
<u>²¹⁴Pb</u>	<u>2.9 x 10⁻⁶ ± 3 x 10⁻⁷</u>	<u>uCi/g</u>
<u>²²⁶Ra</u>	<u>5.7 x 10⁻⁶ ± 1.0 x 10⁻⁶</u>	<u>uCi/g</u>
<u>²³⁴Th</u>	<u>3.5 x 10⁻⁶ ± 1.8 x 10⁻⁶</u>	<u>uCi/g</u>
<u>¹³⁵U</u>	<u>< 5 x 10⁻⁷</u>	<u>uCi/g</u>
<u>²³⁸U</u>	<u>< 1.2 x 10⁻⁶</u>	<u>uCi/g</u>
	<u>±</u>	<u>uCi/g</u>

ALPHA COUNT

Gross Alpha

Radium-226

Total Uranium

Radon-222

BETA COUNT

Gross Beta

Tritium

Carbon-14

ALPHA SPECTROSCOPY

RADWASTE

EP-4
June, 1983

RADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC #18 of 24

Sampling Location _____

WELLFIELD BOA #2

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
at 3:45 p.m. on 11/29/84 and
remained in my custody until transferred to
KAREN GEDDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lab at 1:00 p.m.
on 12/4/84.
Signed K. Geddes

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
_____ at _____:_____.
Signed _____

FOR USE BY BUREAU ERS-616 ES ONLY

Laboratory Number _____

Date Received _____

Condition of Seals ☒ Satisfactory DEC 04 1984

☐ (Specify) _____

Weight (as-Received) Wt. 527g

Yield Wt. 501g Ash Wt. _____

Notes _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.

Signed [Signature]

Date Reported _____

Analysis Class: ☒ A, Unrestricted Area

☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226

Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/8/85

<u>²³⁴B</u>	<u>1.5×10^{-6}</u>	<u>$\pm 2 \times 10^{-7}$</u>	uCi/ <u>dry g</u>
<u>⁴⁰K</u>	<u>1.7×10^{-5}</u>	<u>$\pm 2 \times 10^{-6}$</u>	uCi/ <u>1</u>
<u>²¹⁰Pb</u>	<u>1.6×10^{-6}</u>	<u>$\pm 2 \times 10^{-7}$</u>	uCi/ <u>1</u>
<u>²²⁶Ra</u>	<u>$< 2.1 \times 10^{-6}$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
<u>²³⁵U</u>	<u>$< 6 \times 10^{-7}$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
<u>²³⁸U</u>	<u>$< 1.7 \times 10^{-6}$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>

ALPHA COUNT

Gross Alpha	<u>1.2×10^{-5}</u>	<u>$\pm 8 \times 10^{-6}$</u>	uCi/ <u>g</u>
Radium-226	<u>2.3×10^{-6}</u>	<u>$\pm 2 \times 10^{-7}$</u>	uCi/ <u>g</u>
Total Uranium	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
Radon-222	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>

BETA COUNT

Gross Beta	<u>3.0×10^{-5}</u>	<u>$\pm 1.1 \times 10^{-5}$</u>	uCi/ <u>g</u>
Tritium	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
Carbon-14	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>1</u>

ALPHA SPECTROSCOPY

_____	<u>$\pm$</u>	uCi/ <u>1</u>
_____	<u>$\pm$</u>	uCi/ <u>1</u>

TRASH

EP-4
June, 1983

MP

bh

ADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number 4BC #19 of 24

Sampling Location _____

WELLFIELD BOA #2

Licensee/Facility MOBIL BSELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
at 3:30 p.m. on 11/29/84 and
remained in my custody until transferred
by KAREN GERDES at 9:30 a.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
Lab at 1:00 p.m.
on 12/4/84.
Signed K. Deddes

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
_____ at _____:_____.
Signed _____

FOR USE BY BUREAU OF RADIATION CONTROL ONLY
615-617
Laboratory Number _____
Date Received DEC 04, 1984
Condition of Seals ☒ Satisfactory
☐ (Specify) _____
Weight (as-Received) Wt. 552g
Dry Wt. 532g Ash Wt. _____
Notes _____

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]
Date Reported _____

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/8/85

<u>²¹⁴Bi</u>	<u>$1.1 \times 10^{-6} \pm 2 \times 10^{-7}$</u>	uCi/ <u>dry</u>
<u>⁴⁰K</u>	<u>$1.8 \times 10^{-5} \pm 2 \times 10^{-6}$</u>	uCi/ <u>g</u>
<u>²¹⁴Pb</u>	<u>$1.2 \times 10^{-6} \pm 3 \times 10^{-7}$</u>	uCi/ <u>g</u>
<u>²²⁶Ra</u>	<u>$< 1.6 \times 10^{-6} \pm$</u>	uCi/ <u>g</u>
<u>²³⁵U</u>	<u>$< 6 \times 10^{-7} \pm$</u>	uCi/ <u>g</u>
<u>²³⁸U</u>	<u>$< 1.6 \times 10^{-6} \pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	uCi/ <u>g</u>

ALPHA COUNT

Gross Alpha	<u>$1.3 \times 10^{-5} \pm 8 \times 10^{-6}$</u>	uCi/ <u>g</u>
Radium-226	<u>$1.8 \times 10^{-6} \pm 1 \times 10^{-7}$</u>	uCi/ <u>g</u>
Total Uranium	<u>$\pm$</u>	uCi/ <u>g</u>
Radon-222	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	uCi/ <u>g</u>

BETA COUNT

Gross Beta	<u>$2.1 \times 10^{-5} \pm 1.0 \times 10^{-5}$</u>	uCi/ <u>g</u>
Tritium	<u>$\pm$</u>	uCi/ <u>g</u>
Carbon-14	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	uCi/ <u>g</u>

ALPHA SPECTROSCOPY

_____	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	uCi/ <u>g</u>

TRASH

EP-4
June, 1983

RADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number MBC #20 of 24

Sampling Location _____

WELLFIELD BOA #2

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
at 2:45 P.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GERDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lab at 1:00 P.m.
on 12/4/84.
Signed K. Gerdes

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
_____ at _____:_____.m.
Signed _____

FOR USE BY BUREAU OF LABORATORIES ONLY

Laboratory Number PER-618 125-618
Date Received DEC 04, 1984

Condition of Seals ☒ Satisfactory
☐ (Specify) _____

Weight (as-Received) Wt. 541g

Weight 523g Ash Wt. _____

Notes _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]

Date Reported _____

APR 16 '85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226

Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/8/85

²²⁸ Ac	$1.0 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/ <u>g</u>
²¹⁴ Bi	$3.5 \times 10^{-6} \pm 3 \times 10^{-7}$	uCi/ <u>g</u>
¹³⁷ Cs	$2 \times 10^{-7} \pm 1 \times 10^{-7}$	uCi/ <u>g</u>
⁴⁰ K	$2.0 \times 10^{-5} \pm 2 \times 10^{-6}$	uCi/ <u>g</u>
²¹⁰ Pb	$3.3 \times 10^{-6} \pm 3.5 \times 10^{-6}$	uCi/ <u>g</u>
²¹⁴ Pb	$3.6 \times 10^{-6} \pm 3 \times 10^{-7}$	uCi/ <u>g</u>
²²⁶ Ra	$8.1 \times 10^{-6} \pm 1.2 \times 10^{-6}$	uCi/ <u>g</u>
²³⁴ Th	$2.7 \times 10^{-6} \pm 1.5 \times 10^{-6}$	uCi/ <u>g</u>
²³⁵ U	$2.6 \times 10^{-7} \pm$	uCi/ <u>g</u>
²³⁸ U	$< 1.3 \times 10^{-6}$	uCi/ <u>g</u>

ALPHA COUNT

Gross Alpha	$2.8 \times 10^{-5} \pm 1.1 \times 10^{-5}$	uCi/ <u>g</u>
Radium-226	$5.1 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/ <u>g</u>
Total Uranium	$< 3.04 \times 10^{-6} \pm$	uCi/ <u>g</u>
Radon-222	$\pm$	uCi/ <u>g</u>
_____	$\pm$	uCi/ <u>g</u>
_____	$\pm$	uCi/ <u>g</u>
_____	$\pm$	uCi/ <u>g</u>
_____	$\pm$	uCi/ <u>g</u>

BETA COUNT

Gross Beta	$3.7 \times 10^{-5} \pm 1.2 \times 10^{-5}$	uCi/ <u>g</u>
Tritium	$\pm$	uCi/ <u>g</u>
Carbon-14	$\pm$	uCi/ <u>g</u>
_____	$\pm$	uCi/ <u>g</u>
_____	$\pm$	uCi/ <u>g</u>

ALPHA SPECTROSCOPY

_____	$\pm$	uCi/ <u>g</u>
_____	$\pm$	uCi/ <u>g</u>

RADWASTE

EP-4
June, 1983

ADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC #21 of 24

Sampling Location _____

WELLFIELD BOA #2

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
me at 3:42 P.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GEDDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lob at 1:00 P.m.
on 12/4/84.
Signed K. Geddes

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
_____ at _____:_____.
Signed _____

OR USE BY BUREAU 615-619 ONLY

Laboratory Number _____
Date Received _____

Condition of Seals ☒ Sealed 11/29/84
☐ (Specify) _____

Weight (as-Received) Wt. 561g
Dry Wt. 538g Ash Wt. _____
Losses _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]
Date Reported _____

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT, RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/8/85

<u>²¹⁴Pb</u>	<u>$1.5 \times 10^{-6} \pm 2 \times 10^{-7}$</u>	<u>uCi/g</u> ^{dry}
<u>⁴⁰K</u>	<u>$1.7 \times 10^{-5} \pm 2 \times 10^{-6}$</u>	<u>uCi/g</u>
<u>²¹⁴Pb</u>	<u>$1.6 \times 10^{-6} \pm 2 \times 10^{-7}$</u>	<u>uCi/g</u>
<u>²²⁶Ra</u>	<u>$3.1 \times 10^{-6} \pm 1.2 \times 10^{-6}$</u>	<u>uCi/g</u>
<u>²³⁵U</u>	<u>$< 6 \times 10^{-7}$</u>	<u>uCi/g</u>
<u>²³⁸U</u>	<u>$< 1.7 \times 10^{-6}$</u>	<u>uCi/g</u>
_____	<u>±</u>	<u>uCi/g</u>
_____	<u>±</u>	<u>uCi/g</u>
_____	<u>±</u>	<u>uCi/g</u>
_____	<u>±</u>	<u>uCi/g</u>

ALPHA COUNT

Gross Alpha	<u>$1.2 \times 10^{-5} \pm 8 \times 10^{-6}$</u>	<u>uCi/g</u>
Radium-226	<u>$2.1 \times 10^{-6} \pm 1 \times 10^{-7}$</u>	<u>uCi/g</u>
Total Uranium	<u>±</u>	<u>uCi/g</u>
Radium-222	<u>±</u>	<u>uCi/g</u>
_____	<u>±</u>	<u>uCi/g</u>
_____	<u>±</u>	<u>uCi/g</u>
_____	<u>±</u>	<u>uCi/g</u>

BETA COUNT

Gross Beta	<u>$2.4 \times 10^{-5} \pm 1.0 \times 10^{-5}$</u>	<u>uCi/g</u>
Tritium	<u>±</u>	<u>uCi/g</u>
Carbon-14	<u>±</u>	<u>uCi/g</u>
_____	<u>±</u>	<u>uCi/g</u>
_____	<u>±</u>	<u>uCi/g</u>

ALPHA SPECTROSCOPY

_____	<u>±</u>	<u>uCi/g</u>
_____	<u>±</u>	<u>uCi/g</u>

TRASH

EP-4
June, 1983

RADIONUCLIDE ANALYSIS REPORT

ureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions

Authorized By

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other

Sample Number MBC #22 of 24

Sampling Location

WELLFIELD BOA #2

Licensee/Facility MOBIL BRELUH

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
at 3:38 P.m. on 11/29/84 and
remained in my custody until transferred
KAREN GEDDES at 9:30 A.m.
12/3/84
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
Lab at 1:00 P.m.
12/4/84 K. Geddes
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
at : .m.
Signed

FOR USE BY LABORATORIES ONLY

ER5-620

ER5-620

Laboratory Number
Date Received

Condition of Seals ☒ Satisfactory

☐ (Specify)

(as-Received) Wt. 567g

Wt. 554g Ash Wt.

es

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until the completion of
laboratory analyses on 4/1/85
Signed [Signature]

Reported

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT, RA-226

Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN
Radionuclide

1/8/85

²²⁸ Ac	$1.1 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/ <u>dry</u>
²¹⁴ Bi	$1.4 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/ <u>g</u>
⁴⁰ K	$1.8 \times 10^{-5} \pm 2 \times 10^{-6}$	uCi/
²¹⁴ Pb	$1.5 \times 10^{-6} \pm 3 \times 10^{-7}$	uCi/
²²⁶ Ra	$3.2 \times 10^{-6} \pm 1.0 \times 10^{-6}$	uCi/
²³⁵ U	$4.6 \times 10^{-7} \pm$	uCi/
²³⁸ U	$< 1.6 \times 10^{-6} \pm$	uCi/
	$\pm$	uCi/
	$\pm$	uCi/

ALPHA COUNT

Gross Alpha	$1.3 \times 10^{-5} \pm 8 \times 10^{-6}$	uCi/ <u>g</u>
Radium-226	$1.5 \times 10^{-6} \pm 1 \times 10^{-7}$	uCi/ <u>g</u>
Total Uranium	$\pm$	uCi/
Radon-222	$\pm$	uCi/
	$\pm$	uCi/
	$\pm$	uCi/
	$\pm$	uCi/

BETA COUNT

Gross Beta	$2.7 \times 10^{-5} \pm 1.1 \times 10^{-5}$	uCi/ <u>g</u>
Tritium	$\pm$	uCi/
Carbon-14	$\pm$	uCi/
	$\pm$	uCi/
	$\pm$	uCi/

ALPHA SPECTROSCOPY

	$\pm$	uCi/
	$\pm$	uCi/

TRASH

ADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC #23 of 24

Sampling Location WELLFIELD BOA #2

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
at 3:40 P.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GEDDES at 9:30 A.m.
12/3/84.

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
Lab at 1:00 P.m.
12/4/84. K. Geddes

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
_____ at _____ .m.
_____ .m.

FOR USE BY _____ COPIES ONLY

Laboratory ERS-821 621
Date Received DEC 04 1984

Condition of Seals ☒ Satisfactory

☐ (Specify) _____

(as-Received) Wt. 484g

Wt. 459g Ash Wt. _____

Residue _____

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until the completion of
laboratory analyses on 4/18/85.

Analyst Don Brown

Date Reported APR 19 85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226

Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/9/85

<u>²²⁷Ac</u>	<u>1.0x10⁻⁶</u>	<u>± 2x10⁻⁷</u>	<u>uCi/</u> <u>dry</u>
<u>²¹⁴Pb</u>	<u>1.2x10⁻⁶</u>	<u>± 2x10⁻⁷</u>	<u>uCi/</u> <u>2</u>
<u>⁴⁰K</u>	<u>1.8x10⁻⁵</u>	<u>± 2x10⁻⁶</u>	<u>uCi/</u>
<u>²¹⁰Pb</u>	<u>2.2x10⁻⁶</u>	<u>± 2.4x10⁻⁶</u>	<u>uCi/</u>
<u>²¹⁴Pb</u>	<u>1.3x10⁻⁶</u>	<u>± 2x10⁻⁷</u>	<u>uCi/</u>
<u>²²⁶Ra</u>	<u>2.6x10⁻⁶</u>	<u>± 8x10⁻⁷</u>	<u>uCi/</u>
<u>²³⁵U</u>	<u><5x10⁻⁷</u>	<u>±</u>	<u>uCi/</u>
<u>²³⁸U</u>	<u><1.1x10⁻⁶</u>	<u>±</u>	<u>uCi/</u>
		<u>±</u>	<u>uCi/</u>

ALPHA COUNT

Gross Alpha	<u>1.5x10⁻⁵</u>	<u>± 8x10⁻⁶</u>	<u>uCi/</u> <u>2</u>
Radium-226	<u>1.9x10⁻⁶</u>	<u>± 1x10⁻⁷</u>	<u>uCi/</u> <u>2</u>
Total Uranium		<u>±</u>	<u>uCi/</u>
Radon-222		<u>±</u>	<u>uCi/</u>
		<u>±</u>	<u>uCi/</u>
		<u>±</u>	<u>uCi/</u>
		<u>±</u>	<u>uCi/</u>

BETA COUNT

Gross Beta	<u>2.0x10⁻⁵</u>	<u>± 1.0x10⁻⁵</u>	<u>uCi/</u> <u>2</u>
Tritium		<u>±</u>	<u>uCi/</u>
Carbon-14		<u>±</u>	<u>uCi/</u>
		<u>±</u>	<u>uCi/</u>
		<u>±</u>	<u>uCi/</u>

ALPHA SPECTROSCOPY

	<u>±</u>	<u>uCi/</u>
	<u>±</u>	<u>uCi/</u>

BP-2

EP-4

June, 1983

RADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number MOB #24 of 24

Sampling Location _____

WELLFIELD BOA #2

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
at 3:35 p.m. on 11/29/84 and
remained in my custody until transferred
KAREN GERDES at 9:30 A.m.
12/3/84.

Signed _____

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
Lob at 1:00 p.m.
12/4/84.

Signed K. Deddes

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
_____ at _____ .m.

Signed _____

FOR USE BY BUREAU

ERS: 622

Laboratory Number 622

Date Received _____

Condition of Seals ☒ Satisfactory DEC 04 1984

☐ (Specify) _____

Weight (as-Received) Wt. 656g

Weight 647g Ash Wt. _____

Notes _____

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until the completion of
laboratory analyses on 4/18/85.

Signed Low Brain

Date Reported _____

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT, RA-226

Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN
Radionuclide

1/9/85

²¹⁴ Pb	$1.0 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/ <u>g</u>
⁴⁰ K	$2.0 \times 10^{-5} \pm 2 \times 10^{-6}$	uCi/ <u>g</u>
²¹⁴ Pb	$1.0 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/ <u>g</u>
²²⁶ Ra	$< 1.8 \times 10^{-6} \pm$	uCi/ <u>g</u>
²³⁵ U	$< 5 \times 10^{-7} \pm$	uCi/ <u>g</u>
²³⁸ U	$< 1.4 \times 10^{-6} \pm$	uCi/ <u>g</u>
	$\pm$	uCi/ <u>g</u>
	$\pm$	uCi/ <u>g</u>
	$\pm$	uCi/ <u>g</u>

ALPHA COUNT

Gross Alpha $9.1 \times 10^{-6} \pm 6.3 \times 10^{-6}$ uCi/ g

Radium-226 $1.0 \times 10^{-6} \pm 1 \times 10^{-7}$ uCi/ g

Total Uranium $\pm$ uCi/ g

Radon-222 $\pm$ uCi/ g

$\pm$ uCi/ g

$\pm$ uCi/ g

$\pm$ uCi/ g

BETA COUNT

Gross Beta $2.2 \times 10^{-5} \pm 1.0 \times 10^{-5}$ uCi/ g

Tritium $\pm$ uCi/ g

Carbon-14 $\pm$ uCi/ g

$\pm$ uCi/ g

$\pm$ uCi/ g

ALPHA SPECTROSCOPY

$\pm$ uCi/ g

$\pm$ uCi/ g

TRASH

EP-4
June, 1983

RADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC #1 of 24

Sampling Location _____

WELLFIELD BOA #1

Licensee/Facility MOBIL BRELUH

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
me at 11:10 A.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GERDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lab at 1:00 p.m.
on 12/4/84.
Signed K. Deddes

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
_____ at _____:_____.
Signed _____

FOR USE BY BUREAU OF RADIATION CONTROL - LIES ONLY

Laboratory Number 599
Date Received DEC 04 1984

Condition of Seal ☒ Satisfactory
☐ (Specify) _____

Weight (as-Received) Wt. 570g
Dry Wt. 499g Ash Wt. _____
Notes _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]
Date Reported APR 16 85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT, RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/7/85

<u>²¹⁴Bi</u>	<u>1.1×10^{-6}</u>	<u>$\pm 2 \times 10^{-7}$</u>	uCi/ <u>g</u> ^{dry}
<u>⁴⁰K</u>	<u>1.5×10^{-5}</u>	<u>$\pm 2 \times 10^{-6}$</u>	uCi/ <u>g</u>
<u>²¹⁴Pb</u>	<u>1.1×10^{-6}</u>	<u>$\pm 3 \times 10^{-7}$</u>	uCi/ <u>g</u>
<u>²²⁶Ra</u>	<u>3.0×10^{-6}</u>	<u>$\pm 1.0 \times 10^{-6}$</u>	uCi/ <u>g</u>
<u>²³⁵U</u>	<u>$< 6 \times 10^{-7}$</u>	<u>$\pm$</u>	uCi/ <u>g</u>
<u>²³⁸U</u>	<u>$< 1.6 \times 10^{-6}$</u>	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>g</u>

ALPHA COUNT

Gross Alpha	<u>1.2×10^{-5}</u>	<u>$\pm 8 \times 10^{-6}$</u>	uCi/ <u>g</u>
Radium-226	<u>1.9×10^{-6}</u>	<u>$\pm 2 \times 10^{-7}$</u>	uCi/ <u>g</u>
Total Uranium	<u>3.3×10^{-6}</u>	<u>$\pm 7 \times 10^{-7}$</u>	uCi/ <u>g</u>
Radon-222	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>g</u>

BETA COUNT

Gross Beta	<u>2.5×10^{-5}</u>	<u>$\pm 1.0 \times 10^{-5}$</u>	uCi/ <u>g</u>
Tritium	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>g</u>
Carbon-14	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	<u>$\pm$</u>	uCi/ <u>g</u>

ALPHA PECTROSCOPY

_____	<u>$\pm$</u>	uCi/ <u>g</u>
_____	<u>$\pm$</u>	uCi/ <u>g</u>

TRASH

EP-4
June, 1983

ADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC # 2 of 24

Sampling Location _____

WELFIELD BOA #1

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
at 11:15 A.m. on 11/29/84 and
remained in my custody until transferred
by KAREN GEDDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
Lab at 1:00 P.m.
on 12/4/84.
Signed K. Geddes

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
_____ at _____:_____.m.
on ____/____/____.
Signed _____

FOR USE BY BUYER ONLY
EP5-500
600
Laboratory Number _____
Date Received DEC 04 1984

Condition of Seals ☒ Satisfactory
☐ (Specify) _____

Weight (as-Received) Wt. 482g
Net Wt. 416g Ash Wt. _____
Residue _____

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]
Date Reported APR 16 '85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/7/85

²¹⁴ Pb	1.4×10^{-6}	$\pm 2 \times 10^{-7}$	uCi/g ^{dry}
⁴⁰ K	1.8×10^{-5}	$\pm 2 \times 10^{-6}$	uCi/g
²¹⁰ Pb	1.8×10^{-6}	$\pm 2.0 \times 10^{-6}$	uCi/g
²¹⁴ Pb	1.5×10^{-6}	$\pm 2 \times 10^{-7}$	uCi/g
²²⁶ Ra	3.9×10^{-6}	$\pm 1.0 \times 10^{-6}$	uCi/g
²³⁵ U	$< 6 \times 10^{-7}$	$\pm$	uCi/g
²³⁸ U	$< 1.2 \times 10^{-6}$	$\pm$	uCi/g
		$\pm$	uCi/g
		$\pm$	uCi/g

ALPHA COUNT

Gross Alpha	1.5×10^{-5}	$\pm 8 \times 10^{-6}$	uCi/g
Radium-226	2.4×10^{-6}	$\pm 2 \times 10^{-7}$	uCi/g
Total Uranium	$< 3.0 \times 10^{-6}$	$\pm$	uCi/g
Radon-222		$\pm$	uCi/g
		$\pm$	uCi/g
		$\pm$	uCi/g
		$\pm$	uCi/g

BETA COUNT

Gross Beta	1.7×10^{-5}	$\pm 1.0 \times 10^{-5}$	uCi/g
Tritium		$\pm$	uCi/g
Carbon-14		$\pm$	uCi/g
		$\pm$	uCi/g
		$\pm$	uCi/g

ALPHA SPECTROSCOPY

	$\pm$	uCi/g
	$\pm$	uCi/g

TRASH

EP-4
June, 1983

mp
bt

RADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC #3 of 24

Sampling Location _____

WELLFIELD BOA #1

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
me at 11:30 A.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GERDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lab at 1:00 p.m.
on 12/4/84.
Signed K. Dedder

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
_____ at _____:_____.m.
on ____/____/____.
Signed _____

FOR USE BY BUREAU

ER5-601

ONLY
ER5-601

Laboratory Number _____

Date Received _____

DEC 04 1984

Condition of Seals ☒ Satisfactory
☐ (Specify) _____

Weight (as-Received) Wt. 508g

Weight 446g Ash Wt. _____

Notes _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]

Date Reported _____

APR 16 '85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT, RA-226

Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN
Radionuclide

1/7/85

Radionuclide	Activity	Unit
^{214}Bi	$1.5 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/g ^{dry}
^{40}K	$1.6 \times 10^{-5} \pm 2 \times 10^{-6}$	uCi/g
^{214}Pb	$1.6 \times 10^{-6} \pm 2 \times 10^{-7}$	uCi/g
^{226}Ra	$3.2 \times 10^{-6} \pm 1.3 \times 10^{-6}$	uCi/g
^{235}U	$5.7 \times 10^{-7} \pm$	uCi/g
^{238}U	$1.9 \times 10^{-6} \pm$	uCi/g
_____	$\pm$	uCi/g
_____	$\pm$	uCi/g
_____	$\pm$	uCi/g

ALPHA COUNT

Radionuclide	Activity	Unit
Gross Alpha	$1.6 \times 10^{-5} \pm 9 \times 10^{-6}$	uCi/g
Radium-226	$2.3 \times 10^{-6} \pm 1 \times 10^{-7}$	uCi/g
Total Uranium	$\pm$	uCi/g
Radon-222	$\pm$	uCi/g
_____	$\pm$	uCi/g
_____	$\pm$	uCi/g
_____	$\pm$	uCi/g

BETA COUNT

Radionuclide	Activity	Unit
Gross Beta	$2.7 \times 10^{-5} \pm 1.1 \times 10^{-5}$	uCi/g
Tritium	$\pm$	uCi/g
Carbon-14	$\pm$	uCi/g
_____	$\pm$	uCi/g
_____	$\pm$	uCi/g

ALPHA SPECTROSCOPY

Radionuclide	Activity	Unit
_____	$\pm$	uCi/g
_____	$\pm$	uCi/g

TRASH

EP-4
June, 1983

ADIONUCLIDE ANALYSIS REPC

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC #4 of 24

Sampling Location _____

WELLFIELD BOA #1

Licensee/Facility MOBIL BRELHA

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
at 11:25 A.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GERDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lab at 1:00 p.m.
on 12/4/84.
Signed K. Dedder

I certify this sample was continuously
in custody from the time of receipt
listed hereon until transferred to
at _____:_____.m.
Signed _____

FOR USE BY BUREAU OF RADIATION CONTROL ONLY

Laboratory Number 602
Date Received DEC 04 1984

Condition of Seals ☒ Satisfactory
☐ (Specify) _____

Weight (as-Received) Wt. 612g
Dry Wt. 543g Ash Wt. _____
Notes _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]

Date Reported APR 16 '85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/7/85

²²⁸ Ac	7×10^{-7}	$\pm 2 \times 10^{-7}$	uCi/ <u>dry 9</u>
²¹⁴ Bi	1.7×10^{-6}	$\pm 2 \times 10^{-7}$	uCi/ <u>9</u>
⁴⁰ K	1.6×10^{-5}	$\pm 2 \times 10^{-6}$	uCi/ <u>9</u>
²¹⁴ Pb	1.7×10^{-6}	$\pm 3 \times 10^{-7}$	uCi/ <u>9</u>
²²⁶ Ra	4.2×10^{-6}	$\pm 1.1 \times 10^{-6}$	uCi/ <u>9</u>
²³⁵ U	$< 6 \times 10^{-7}$	$\pm$	uCi/ <u>9</u>
²³⁸ U	$< 1.7 \times 10^{-6}$	$\pm$	uCi/ <u>9</u>
		$\pm$	uCi/ <u>9</u>
		$\pm$	uCi/ <u>9</u>

ALPHA COUNT

Gross Alpha	1.3×10^{-5}	$\pm 8 \times 10^{-6}$	uCi/ <u>9</u>
Radium-226	2.0×10^{-6}	$\pm 1 \times 10^{-7}$	uCi/ <u>9</u>
Total Uranium		$\pm$	uCi/ <u>9</u>
Radon-222		$\pm$	uCi/ <u>9</u>
		$\pm$	uCi/ <u>9</u>
		$\pm$	uCi/ <u>9</u>
		$\pm$	uCi/ <u>9</u>

BETA COUNT

Gross Beta	3.1×10^{-5}	$\pm 1.2 \times 10^{-5}$	uCi/ <u>9</u>
Tritium		$\pm$	uCi/ <u>9</u>
Carbon-14		$\pm$	uCi/ <u>9</u>
		$\pm$	uCi/ <u>9</u>
		$\pm$	uCi/ <u>9</u>

ALPHA SPECTROSCOPY

	$\pm$	uCi/ <u>9</u>
	$\pm$	uCi/ <u>9</u>

TRASH

EP-4
June, 1983

ADIONUCLIDE ANALYSIS REPG.

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Shipping/Priority Instructions

Authorized By

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other

Sample Number HBC #5 of 24

Sampling Location

WELFIELD BOA #1

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

ates

I certify this sample was collected by
at 11:30 A.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GERDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
Lab at 1:00 p.m.
on 12/4/84.
Signed K. Dedder

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
at : .m.
Signed

OR USE BY BUREAU

603 DEC 04 1984

Laboratory Number

Date Received

Condition of Seals

☐ (Specify)

☒ Satisfactory

Weight (as-Received) Wt. 574g

Wt. 458g Ash Wt.

Notes

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]

Date Reported

APR 16 '85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/7/85

<u>228Ac</u>	<u>1.0x10⁻⁶</u>	<u>± 2x10⁻⁷</u>	<u>uCi/</u>
<u>214Bi</u>	<u>2.3x10⁻⁶</u>	<u>± 3x10⁻⁷</u>	<u>uCi/</u>
<u>40K</u>	<u>1.5x10⁻⁵</u>	<u>± 2x10⁻⁶</u>	<u>uCi/</u>
<u>210Pb</u>	<u>3.2x10⁻⁶</u>	<u>± 4x10⁻⁷</u>	<u>uCi/</u>
<u>214Pb</u>	<u>2.4x10⁻⁶</u>	<u>± 3x10⁻⁷</u>	<u>uCi/</u>
<u>226Ra</u>	<u>5.9x10⁻⁶</u>	<u>± 1.1x10⁻⁶</u>	<u>uCi/</u>
<u>234Th</u>	<u>2.7x10⁻⁶</u>	<u>± 1.5x10⁻⁶</u>	<u>uCi/</u>
<u>235U</u>	<u>< 6x10⁻⁷</u>	<u>±</u>	<u>uCi/</u>
<u>238U</u>	<u>< 1.3x10⁻⁶</u>	<u>±</u>	<u>uCi/</u>

ALPHA COUNT

Gross Alpha	<u>1.5x10⁻⁵</u>	<u>± 9x10⁻⁶</u>	<u>uCi/</u>
Radium-226	<u>3.1x10⁻⁶</u>	<u>± 2x10⁻⁷</u>	<u>uCi/</u>
Total Uranium	<u>3.8x10⁻⁶</u>	<u>± 8x10⁻⁷</u>	<u>uCi/</u>
Radon-222	<u>±</u>	<u>±</u>	<u>uCi/</u>
	<u>±</u>	<u>±</u>	<u>uCi/</u>
	<u>±</u>	<u>±</u>	<u>uCi/</u>
	<u>±</u>	<u>±</u>	<u>uCi/</u>

BETA COUNT

Gross Beta	<u>2.6x10⁻⁵</u>	<u>± 1.1x10⁻⁵</u>	<u>uCi/</u>
Tritium	<u>±</u>	<u>±</u>	<u>uCi/</u>
Carbon-14	<u>±</u>	<u>±</u>	<u>uCi/</u>
	<u>±</u>	<u>±</u>	<u>uCi/</u>
	<u>±</u>	<u>±</u>	<u>uCi/</u>

ALPHA SPECTROSCOPY

	<u>±</u>	<u>uCi/</u>
	<u>±</u>	<u>uCi/</u>

RADWASTE

EP-4
June, 1983 bh

RADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC # 6 of 24

Sampling Location _____

WELLFIELD BOA # 1

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number B-2485

I certify this sample was collected by
me at 11:30 A.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GERDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lab at 1:00 p.m.
on 12/4/84.
Signed K. Dedder

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
_____ at _____:_____.m.
on ____/____/____.
Signed _____

FOR USE BY BUREAU OF RADIATION CONTROL - RIES ONLY

Laboratory Number ERS 604 615-604

Date Received DEC 14 1984

Condition of Seals ☒ Satisfactory

☐ (Specify) _____

Net (as-Received) Wt. 523g

Gross Wt. 469g Ash Wt. _____

Notes _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.
Signed Don Brown

Date Reported PR 16 '85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT, RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN Radionuclide

1/7/85

<u>²¹⁴Pb</u>	<u>$2.3 \times 10^{-6} \pm 3 \times 10^{-7}$</u>	<u>uCi/ 9</u>
<u>¹³⁷Cs</u>	<u>$2 \times 10^{-7} \pm 1 \times 10^{-7}$</u>	<u>uCi/</u>
<u>⁴⁰K</u>	<u>$1.7 \times 10^{-5} \pm 2 \times 10^{-6}$</u>	<u>uCi/</u>
<u>²¹⁴Pb</u>	<u>$2.3 \times 10^{-6} \pm 3 \times 10^{-7}$</u>	<u>uCi/</u>
<u>²²⁶Ra</u>	<u>$3.8 \times 10^{-6} \pm 1.3 \times 10^{-6}$</u>	<u>uCi/</u>
<u>²³⁵U</u>	<u>$< 8 \times 10^{-7} \pm$</u>	<u>uCi/</u>
<u>²³⁸U</u>	<u>$< 2.0 \times 10^{-6} \pm$</u>	<u>uCi/</u>
_____	<u>$\pm$</u>	<u>uCi/</u>
_____	<u>$\pm$</u>	<u>uCi/</u>

ALPHA COUNT

Gross Alpha	<u>$1.9 \times 10^{-5} \pm 9 \times 10^{-6}$</u>	<u>uCi/ 9</u>
Radium-226	<u>$3.1 \times 10^{-6} \pm 2 \times 10^{-7}$</u>	<u>uCi/ 9</u>
Total Uranium	<u>$\pm$</u>	<u>uCi/</u>
Radon-222	<u>$\pm$</u>	<u>uCi/</u>
_____	<u>$\pm$</u>	<u>uCi/</u>
_____	<u>$\pm$</u>	<u>uCi/</u>
_____	<u>$\pm$</u>	<u>uCi/</u>

BE A COUNT

Gross Beta	<u>$2.9 \times 10^{-5} \pm 1.1 \times 10^{-5}$</u>	<u>uCi/ 2</u>
Tritium	<u>$\pm$</u>	<u>uCi/</u>
Carbon-14	<u>$\pm$</u>	<u>uCi/</u>
_____	<u>$\pm$</u>	<u>uCi/</u>
_____	<u>$\pm$</u>	<u>uCi/</u>

ALPHA SPECTROSCOPY

_____	<u>$\pm$</u>	<u>uCi/</u>
_____	<u>$\pm$</u>	<u>uCi/</u>

TRASH

EP-4
June, 1983

ADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other

Sample Number MBC #7 of 24

Sampling Location _____

WELLFIELD BOA #1

Licensee/Facility MOBIL BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
me at 11:30 A.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GEDDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lob at 1:00 p.m.
on 12/4/84.
Signed K. Geddes

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
_____ at _____:_____.m.
Signed _____

FOR USE BY BUREAU OF RADIATION CONTROL LABORATORIES ONLY

Laboratory Number ERS-605 605

Date Received DEC 04 1984

Condition of Seals ☒ Satisfactory

☐ (Specify) _____

Net (as-Received) Wt. 552g

Gross Wt. 510g Ash Wt. _____

Notes _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]

Date Reported APR 16 85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT, RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN		1/7/85	
Radionuclide			
<u>²¹⁴Bi</u>	<u>$1.9 \times 10^{-6} \pm 2 \times 10^{-7}$</u>	uCi/	<u>dry</u>
<u>⁴⁰K</u>	<u>$1.6 \times 10^{-5} \pm 2 \times 10^{-6}$</u>	uCi/	<u>g</u>
<u>²¹⁴Pb</u>	<u>$2.1 \times 10^{-6} \pm 4 \times 10^{-7}$</u>	uCi/	
<u>²²⁶Ra</u>	<u>$4.1 \times 10^{-6} \pm 1.1 \times 10^{-6}$</u>	uCi/	
<u>²³⁵U</u>	<u>$< 7 \times 10^{-7}$</u>	uCi/	
<u>²³⁸U</u>	<u>$< 1.8 \times 10^{-6}$</u>	uCi/	
		uCi/	
		uCi/	
		uCi/	
		uCi/	

ALPHA COUNT		
Gross Alpha	<u>$1.9 \times 10^{-5} \pm 9 \times 10^{-6}$</u>	uCi/ <u>g</u>
Radium-226	<u>$2.9 \times 10^{-6} \pm 2 \times 10^{-7}$</u>	uCi/ <u>g</u>
Total Uranium		uCi/
Radon-222		uCi/
		uCi/
		uCi/
		uCi/

BETA COUNT		
Gross Beta	<u>$3.0 \times 10^{-5} \pm 1.1 \times 10^{-5}$</u>	uCi/ <u>g</u>
Tritium		uCi/
Carbon-14		uCi/
		uCi/
		uCi/

ALPHA SPECTROSCOPY		
		uCi/
		uCi/

TRASH

EP-4
June, 1983

RADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number MBC # 8 of 24

Sampling Location _____

WELLFIELD BOA #1

Licensee/Facility MOBIL BRELU

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
me at 11:35 A.m. on 11/29/84 and
remained in my custody until transferred
to KAREN GERDES at 9:30 A.m.
on 12/3/84.
Signed [Signature]

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
Lal at 1:00 p.m.
on 12/4/84.
Signed K. Deddes

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until transferred to
_____ at _____:_____.m.
on 1/1/85.
Signed _____

FOR USE BY BUREAU () ONL

EL5-606
Laboratory Number _____

Date Received _____

Condition of Seals ☒ Satisfactory DEC 04 1984
☐ (Specify) _____

Net (as-Received) Wt. 562g

Gross Wt. 511g Ash Wt. _____

Notes _____

I certify this sample was continuously
in my custody from the time of receipt
listed hereon until the completion of
laboratory analyses on 4/11/85.
Signed [Signature]

Date Reported APR 16 '85

Analysis Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT, RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN

Radionuclide	1/8/85		
²¹⁴ Pb	9×10^{-7}	$\pm 2 \times 10^{-7}$	uCi/g <u>dry</u>
²¹⁴ Bi	1.5×10^{-6}	$\pm 2 \times 10^{-7}$	uCi/g
⁴⁰ K	1.5×10^{-5}	$\pm 2 \times 10^{-6}$	uCi/g
²¹⁰ Pb	1.8×10^{-6}	$\pm 2.0 \times 10^{-6}$	uCi/g
²¹⁴ Pb	1.7×10^{-6}	$\pm 2 \times 10^{-7}$	uCi/g
²²⁶ Ra	3.8×10^{-6}	$\pm 9 \times 10^{-7}$	uCi/g
²³⁵ U	$< 5 \times 10^{-7}$	$\pm$	uCi/g
²³⁸ U	$< 1.1 \times 10^{-6}$	$\pm$	uCi/g
		$\pm$	uCi/g

ALPHA COUNT

Gross Alpha	1.6×10^{-5}	$\pm 9 \times 10^{-6}$	uCi/g
Radium-226	3.1×10^{-6}	$\pm 2 \times 10^{-7}$	uCi/g
Total Uranium			uCi/g
Radon-222		$\pm$	uCi/g
		$\pm$	uCi/g
		$\pm$	uCi/g
		$\pm$	uCi/g

BETA COUNT

Gross Beta	2.2×10^{-5}	$\pm 1.0 \times 10^{-5}$	uCi/g
Tritium		$\pm$	uCi/g
Carbon-14		$\pm$	uCi/g
		$\pm$	uCi/g
		$\pm$	uCi/g

ALPHA SPECTROSCOPY

	$\pm$	uCi/g
	$\pm$	uCi/g

RADWASTE

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June, 1983 wh

RADIONUCLIDE ANALYSIS REPORT

Bureau of Radiation Control
Texas Department of Health

1100 West 49th Street
Austin, Texas 78756

Handling/Priority Instructions _____

Authorized By _____

☒ Soil ☐ Water (Acidified)
☐ Water (Unacidified) ☐ Vegetation
☐ Wipe ☐ Other _____

Sample Number HBC # 9 of 24

Sampling Location _____

WELLFIELD BOA # 1

Licensee/Facility MOBILE BRELUM

CLOSE-OUT SURVEY

License Number 8-2485

I certify this sample was collected by
at 11:35 A.m. on 11/29/84 and
remained in my custody until transferred
KAREN GEDDES at 9:30 A.m.
12/3/84
Signed _____

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
Lab at 1:00 p.m.
12/4/84
Signed K. Geddes

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until transferred to
_____ at _____:_____.m.
Signed _____

FOR USE BY BUREAU 607 ONLY

Laboratory Number _____
Date Received _____
Addition of Seals ☒ Satisfactory DEC 04 1984
☐ (Specify) _____

As-Received Wt. 526g
Wt. 470g Ash It. _____
Res _____

I certify this sample was continuously
in my custody from the time of receipt
stated hereon until the completion of
laboratory analyses on 1/13/85
Signed _____
Date Reported APR 19 85

Analyse's Class: ☒ A, Unrestricted Area
☐ B, Restricted Area

Suspected Radionuclides UNAT RA-226
Facility Category: ☒ Uranium Recovery ☐ Nuclear
Processor ☐ Nuclear Reactor ☐ Other _____

CIRCLE OR WRITE THE REQUIRED ANALYSES BELOW

GAMMA SCAN		1/8/85	
Radionuclide			
<u>²¹⁴Pb</u>	<u>2.7x10⁻⁶</u>	<u>± 3x10⁻⁷</u>	uCi/ <u>dry g</u>
<u>⁴⁰K</u>	<u>1.7x10⁻⁵</u>	<u>± 2x10⁻⁶</u>	uCi/ <u>g</u>
<u>²¹⁴Pb</u>	<u>2.8x10⁻⁶</u>	<u>± 3x10⁻⁷</u>	uCi/ <u>g</u>
<u>²²⁶Ra</u>	<u>6x10⁻⁶</u>	<u>± 1.4x10⁻⁶</u>	uCi/ <u>g</u>
<u>²³⁵U</u>	<u>< 7x10⁻⁷</u>	<u>±</u>	uCi/ <u>g</u>
<u>²³⁸U</u>	<u>< 2.0x10⁻⁶</u>	<u>±</u>	uCi/ <u>g</u>
_____	<u>±</u>	<u>±</u>	uCi/ <u>g</u>
_____	<u>±</u>	<u>±</u>	uCi/ <u>g</u>
_____	<u>±</u>	<u>±</u>	uCi/ <u>g</u>

ALPHA COUNT			
Gross Alpha	<u>1.9x10⁻⁵</u>	<u>± 9x10⁻⁶</u>	uCi/ <u>g</u>
Radon-222	<u>4.1x10⁻⁶</u>	<u>± 2x10⁻⁷</u>	uCi/ <u>g</u>
Total Uranium	<u>5.8x10⁻⁶</u>	<u>± 9x10⁻⁷</u>	uCi/ <u>g</u>
Radon-222	<u>±</u>	<u>±</u>	uCi/ <u>g</u>
_____	<u>±</u>	<u>±</u>	uCi/ <u>g</u>
_____	<u>±</u>	<u>±</u>	uCi/ <u>g</u>
_____	<u>±</u>	<u>±</u>	uCi/ <u>g</u>

BETA COUNT			
Gross Beta	<u>2.4x10⁻⁵</u>	<u>± 1.1x10⁻⁵</u>	uCi/ <u>g</u>
Tritium	<u>±</u>	<u>±</u>	uCi/ <u>g</u>
Carbon-14	<u>±</u>	<u>±</u>	uCi/ <u>g</u>
_____	<u>±</u>	<u>±</u>	uCi/ <u>g</u>
_____	<u>±</u>	<u>±</u>	uCi/ <u>g</u>

ALPHA SPECTROSCOPY			
_____	<u>±</u>	<u>±</u>	uCi/ <u>g</u>
_____	<u>±</u>	<u>±</u>	uCi/ <u>g</u>

TRASH

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