BW - 8

MONITORING REPORTS

DATE:

2001

ZIA TRANSPORTATION
SALTY DOG BRINE
INVESTIGATION

HOBBS, NM

March 30, 2001

NMOCD Environmental Bureau
ATTN: Wayne Price
P.O. Box 6429
1220 S. Saint Francis Drive
Santa Fe, NM 87504

RE: Investigation, Salty Dog Brine

Mr. Price:

Find within information for additional work performed at Salty Dog Brine. As we talked about, two monitor wells and a test boring were drilled and tested. The reason for this additional work was to try and find the extent of the contamination plume. I feel this has been accomplished.

If you have any question or need additional information, please call.

Thanks,

Eddie W. Seay

Eddie W. Seay, Agent
601 W. Illinois
Hobbs, NM 88242
(505)392-2236

SALTY DOG

Monitor Well #1

Located 100 ft. ESE of the brine well.
Drilled to top of redbed 139' TD 140'.
Completed with 2" well completion and locking box.
Developed well and sampled.

Test Boring #1

Located 200 ft. ESE of the brine well.
Drilled to top of redbed 144' TD 146'.
Ran pipe, developed well, collected sample and plugged well.

Monitor Well #2

Located 500 ft. ESE of the brine well.
Drilled to top of redbed 147' TD 148'.
Completed with 2" well completion and locking box.
Developed well and sampled.

SALTY DOG
CONCLUSION

With the drilling of the recovery well and now the additional monitor wells and test boring, I believe that the contamination is staying in close proximity to the recovery well. By continuing to pump the contamination from the recovery well and using it through our brine system, it will not only clean up the fresh water, but will be put to a beneficial use. I think that samples should be taken on a quarterly schedule of the recovery well and both monitor wells, and reported to the OCD.

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SALTY DOG, INC.
P.O. BOX 513
HOBBS, NM 88241
FAX TO: (505) 393-1533

Receiving Date: 01/23/01
Reporting Date: 01/24/01
Project Number: NOT GIVEN
Project Name: SALTY DOG
Project Location: NOT GIVEN

Analysis Date: 01/23/01
Sampling Date: 01/22/01
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)
H5536-1	MW SAMPLE Recovery Well	23808
Quality Control		1025
True Value QC		1000
% Recovery		103
Relative Percent Difference		3.0

METHOD: Standard Methods	4500-ClB

NOTE: Analyses performed on 1:4 w:v aqueous extracts.

Amy Hill
Chemist

1-24-01
Date

H5536.XLS

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
EDDIE SEAY CONSULTING
ATTN: EDDIE W. SEAY
601 W. ILLINOIS
HOBBS, NM 88242
FAX TO:

Receiving Date: 02/26/01
Reporting Date: 02/27/01
Project Owner: P. BERNSTEIN (ZIA SALTY DOG)
Project Name: SALTY DOG BRINE
Project Location: WEST HOBBS

Sampling Date: SEE BELOW
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Conductivity (*u*S/cm)	Cl (mg/L)
ANALYSIS DATE:		02/27/01	02/27/01
H5653-1	MW #1 (02/19/01)	66430	29000
H5653-2	MW #2 (02/23/01)	1455	408
H5653-3	T-#1 (02/20/01)	37807	15100
Quality Control		1489	992
True Value QC		1413	1000
% Recovery		105	99.2
Relative Percent Difference		0.3	3.9
METHODS: EPA 600/4-79-02		120.1	325.3

Chemist

02/27/2001
Date

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240

(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

Page____ of____

Company Name: Eddie Seay Consulting		**BILL TO**	
Project Manager: Eddie Seay		P.O. #:	
Address: 601 W Illinois		Company:	
City: Hobbs	State: NM Zip:	Attn:	
Phone #: 2.2234	Fax #:	Address:	
Project #: 21 a Salty Dog	Project Owner: P. Bernstein	City:	
Project Name: Salty Dog Brine		State: Zip:	
Project Location: West Hobbs		Phone #:	
Sampler Name: Eddie W Seay		Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST									
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chloride	Conductivity								
H3653-1	MW #1	C		✓							✓		2/14		✓	✓								
-2	MW #2	C		✓							✓		2/23		✓	✓								
-3	T-1	C		✓							✓		2/20		✓	✓								

Sampler Relinquished: Eddie W Seay	Date: 2/26 Time: 1:30	Received By:	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
Relinquished By:	Date: Time:	Received By: (Lab Staff) Barbara Cole	Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool: ☒ Yes ☐ No Intact: ☒ Yes ☐ No	CHECKED BY: (Initials)	REMARKS: Field Samples	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
1'	5'	5'	BROKEN WEATHERED CALICHE
5'	28'	23'	CALICHE INDURATED - GREY
28'	37'	9'	QUARTZITE - HARD - RED BROWN
37'	49'	12'	SANDSTONE - SOFT - TAN
49'	51'	2'	QUARTZITE - HARD - WHT.
51'	54'	3'	CLAY - RED BROWN
54'	102'	48'	SANDSTONE - SOFT - TAN - W/B
102'	104'	2'	CLAY - RED - BROWN
104'	136'	32'	SANDSTONE - SOFT - TAN - W/B
136'	139'	3'	SANDSTONE - SOFT - RED - BROWN - W/B
139'	140'	1'	RED BED - T.D
			installed 20 FT. 010 SLOT 2" PVC WELL
			SCREEN and 119' + 3' 2" PVC RISER PIPE
			BACKFILL W/ BRADY SAND TO 112 FT.
			PLACED BENTONITE CHIPS FROM 112 FT TO
			26" BELOW SURFACE - INSTALL WELL GUARD
			AND CEMENT TO TOP OF SURFACE.
			DEVELOPE WITH AIR UNTIL CLEAN.
			BORE FROM SURFACE TO 4' USED 8 3/4" BIT.
			BORE FROM 4' TO 140' USED 5 1/2" BIT

Section 7. REMARKS AND ADDITIONAL INFORMATION

MONITOR WELL NO. I 100 FT FROM REM. WELL #1

LAT. 32° - 41.30 N.
LON. 103° - 22.45 W.

CO. Griffin Well Serv.
Driller Carl Smelcer
WD 603

Company Drilled for: Zia Transportation

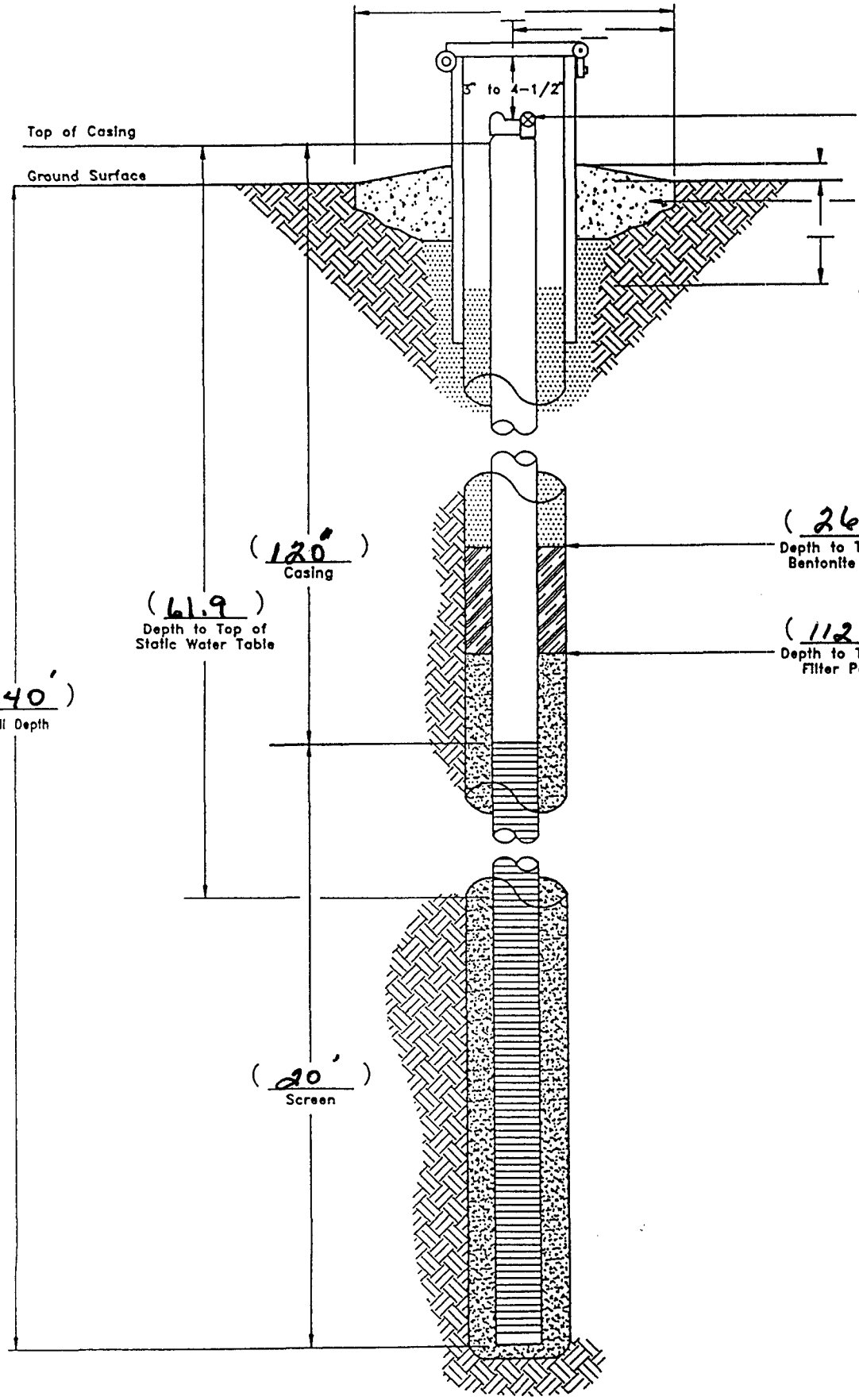
Location: Sect 5 Twn 19 Rng 36 E

Salty Dog

Monument Type Monitor Well Diagram

	Job Number:	Installation Date:	Monitor Well Number:
		Feb. 14	mw #1

	Bore Size:	Casing Size:	Casing Elevation:	Screen Size:	Top of Water Elevation:
140	5 1/2	2	3807.4	.010	3745.5



Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0'	1'	1'	Soil & weathered caliche
1'	20'	19'	Caliche indurated - Grey
20'	22'	2'	Quartzite - hard - red - brown
22'	25'	3'	Caliche - indurated - gray - wht.
28'	32'	4'	Quartzite - hard - red - brown
32'	58'	26'	Sandstone - soft - tan
58'	59'	1'	Quartzite - hard - wht
59'	110'	51'	Sandstone - soft - w/B - tan
110'	114'	4'	Quartzite - hard - wht
114'	117'	3'	Clay - buff
117	142'	25'	Sandstone - soft - tan - w/B
142'	147'	5'	Gravel - sharp 3/8 multi col. w/B
147'	148'	1'	Red bed TD
			Installed 20 FT. .010 SLOT PVC WELL
			SCREEN and 127' + 3' RISER PIPE 2"
			Back fill with Brady sand to 117'
			Placed Bentonite Chips from 117'
			to 4' below surface.
			install well gaurd and cement to
			surface.
			Develope with air until clean.
			BORE from surface to 4' - 8 3/4" bit
			Bore from 4' to 148' - 5 1/2" bit

Section 7. REMARKS AND ADDITIONAL INFORMATION

monitor well #2

LAT. 32° - 41.27 N

LON. 103° - 23.394 W.

Co. Griffin well serv.

Driller Carl Smelcer

WD 603

Company Drilled for: Zia Transportation

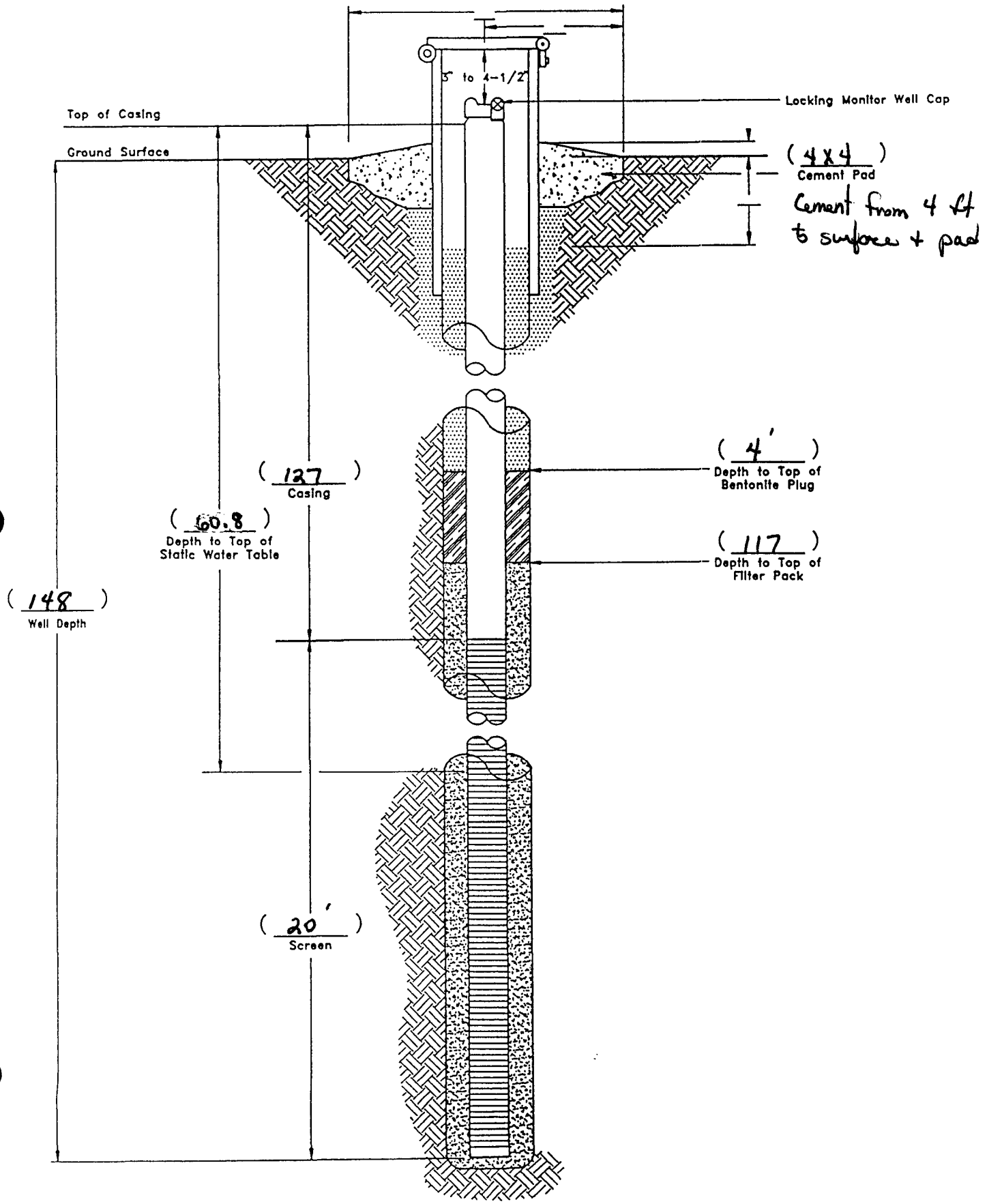
Location: Sect 5 Twn 19 Rng 36 E

Salty Dog

Monument Type Monitor Well Diagram

Job Number:	Installation Date:	Monitor Well Number:
	2/21	MW #2

148	Bore Size: 5 1/2	Casing Size: 2	Casing Elevation: 3803.7	Screen Size: .010	Top of Water Elevation: 3745.2



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Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0'	1'	1'	weathered Caliche & soil
1'	30'	29'	Caliche - indurated - GRey
30'	41'	11'	Quartzite - hard - red - brown
41'	52'	11'	Sandstone - soft - tan
52'	54'	2'	Quartzite - hard - white
54'	56'	2'	Clay - Red - brown
56'	106'	50'	Sandstone - soft - w/B - tan
106'	108'	2'	Clay - red - brown
108'	138'	30'	sandstone - soft - w/B - tan
138'	144'	6'	Gravell - small - 3/8 sharp multicolored - w/B
144'	146'	2'	Red Bed TD.
			Installed screen and sized pipe
			Develope until clean took sample
			pulled back pipe and abandon.
			back fill with cuttings from 146'
			to 54' place bentonite chips to 4' from
			surface - Cement from 4' to surface.
			BORE FROM SURFACE TO 4' used 8 3/4" Bit
			BORE FROM 4' TO 146' used 5 1/2" Bit.

Section 7. REMARKS AND ADDITIONAL INFORMATION

TEST BORE # 1

LAT. 32° - 42.28 N.
LON. 103° - 22.46 W.

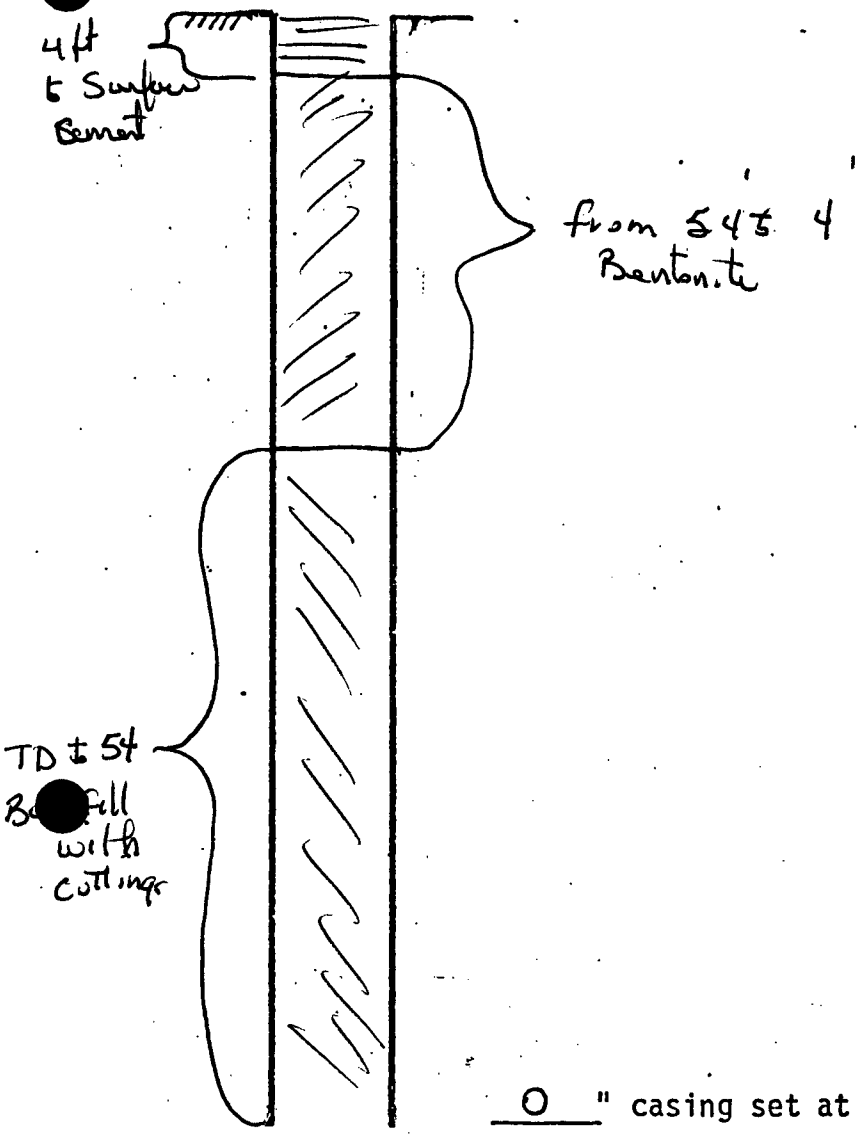
CO. Gribbin well serv.
Driller Carl Smelser

WD 603

Zia Salty Dog		Test Boring # 1

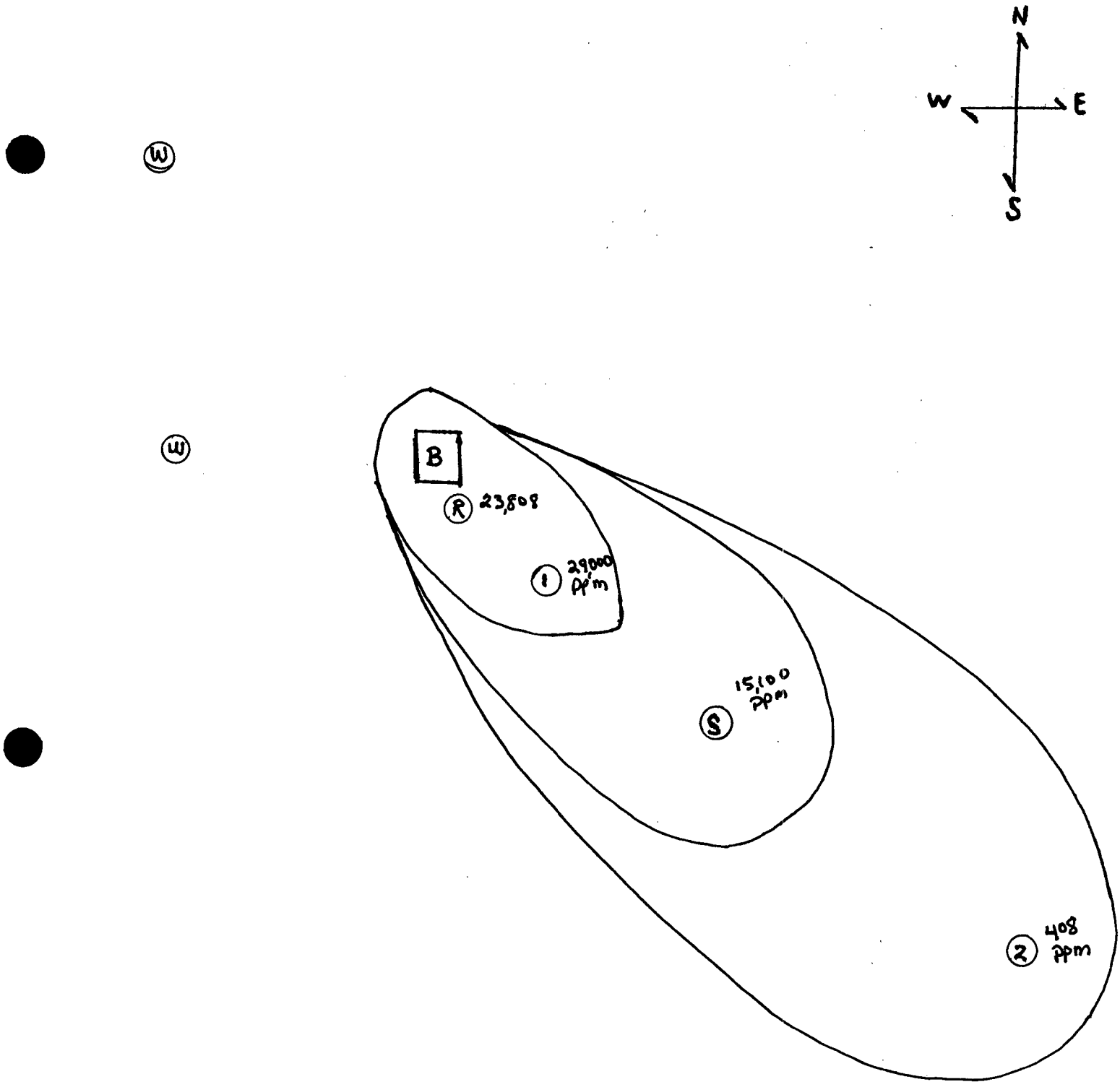
Surface elevation
3804.0

P+A



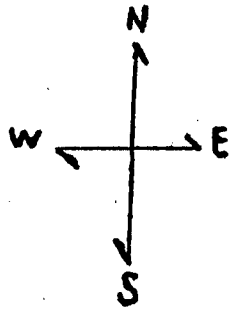
0 " casing set at NA '

Hole size 8 3/4 " TD 146 '



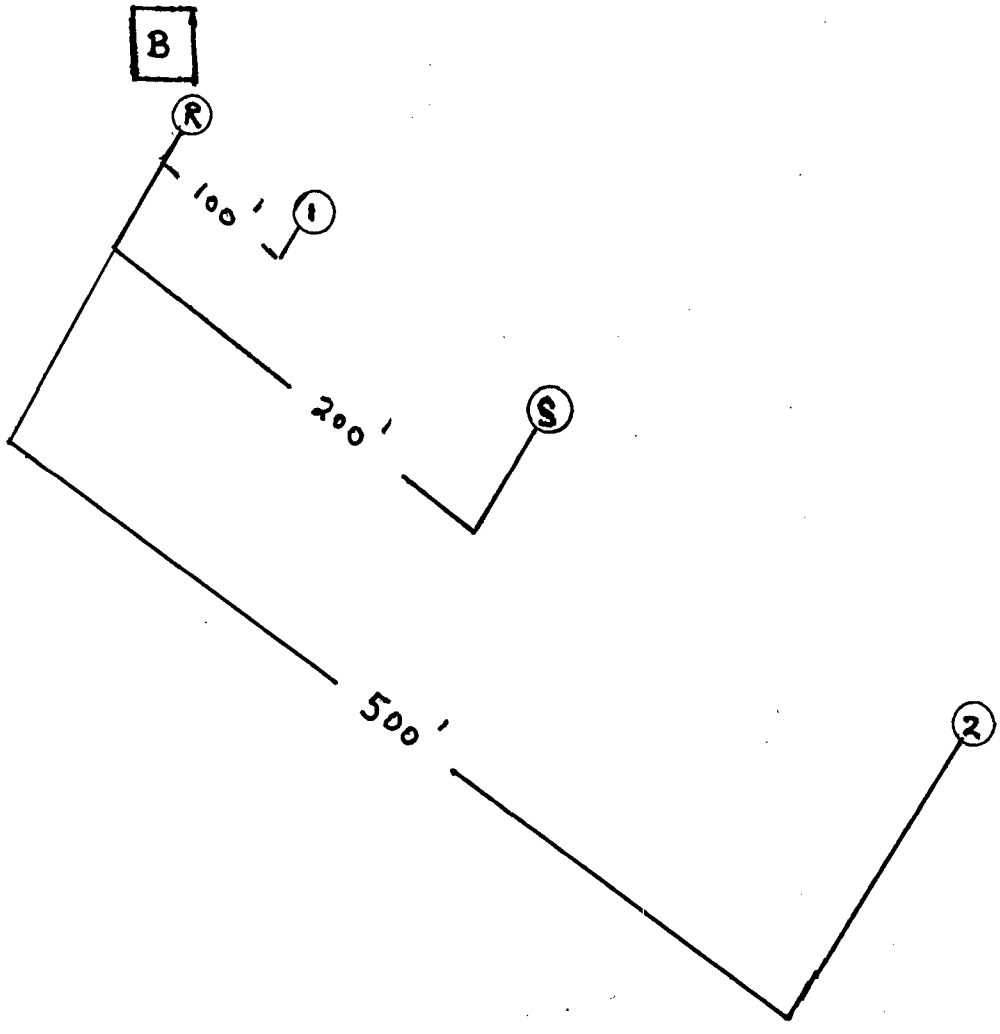
B Brine well (Salty Dog)
R Recovery well
1 Moniter well #1
S Test Boring
2 Moniter well #2
W Water wells

Chloride Map

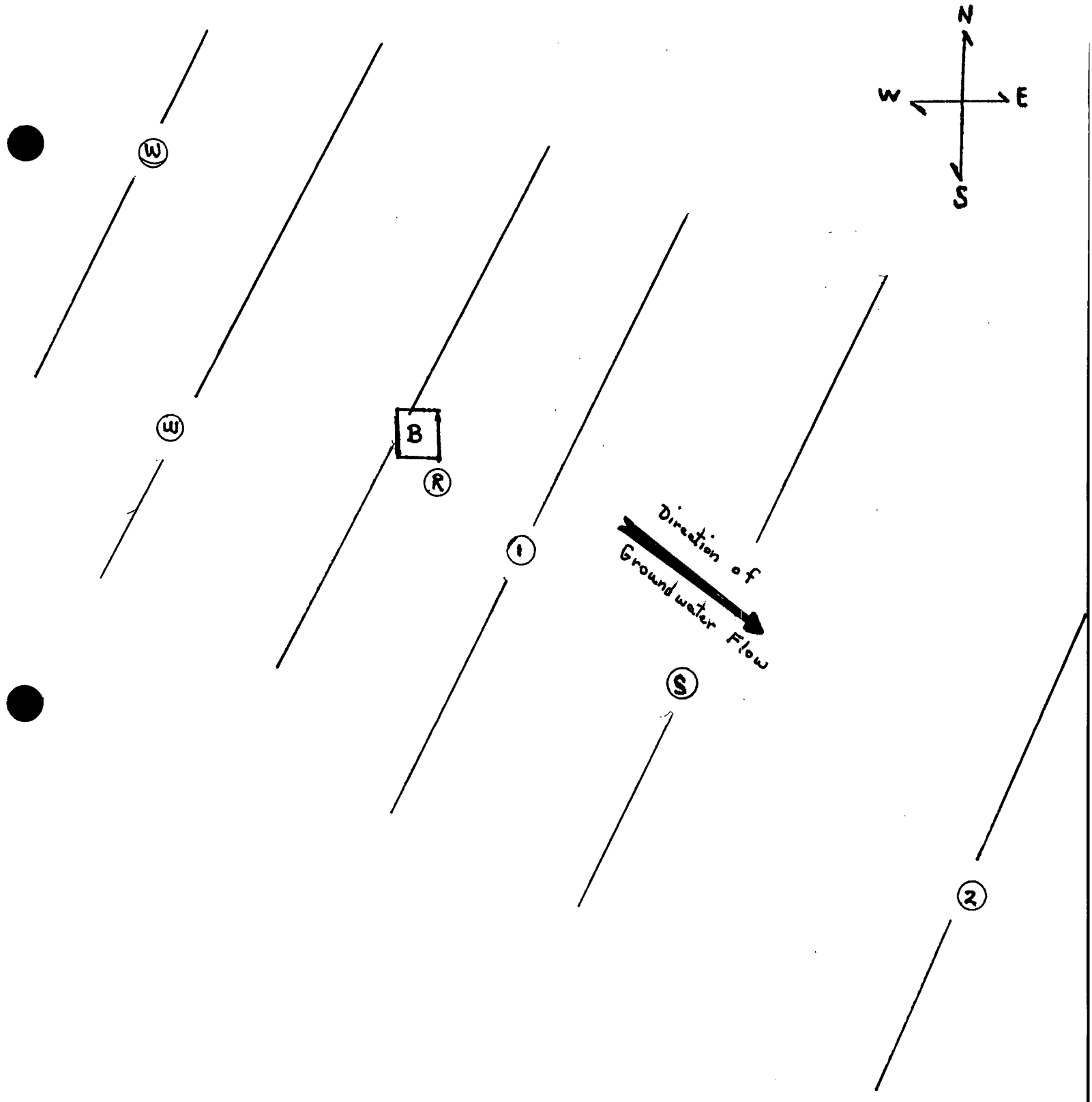


(W)

(W)



- B Brine well
- (R) Recovery well
- (1) Monitor well #1
- (S) Test Boring
- (2) Monitor well #2
- (W) Water wells



- B Brine well (Salty Dog)
- R Recovery well
- 1 Monitor well #1
- S Test Boring
- 2 Monitor well #2
- W Water wells

GRWES

10/19/2000

Slul	Slsec	Sltwn	Slnors	Slrng	Sleorw	Spotloc	Addlocinfo	Datasourc1	Datewlevl1	Waterlevl1
J	5	19	S	36	E	41121		SEO	01/25/197	49.50
J	5	19	S	36	E	411213		SEO	03/02/196	51.17
J	5	19	S	36	E	411412		SEO	04/18/199	54.93

mw # 1 59.42

mw # 2 58.23

Recovery well

$I \neq mw$

MW # 1

From MW # 1

<   >003 22 -03 NNNNN-- 002

Test Boring #1

Test Boring # 1

From MW#2

<No.2>047 22 -02 NNNNNN---- 0023

Mw #2

< >005 22 -02 NNNNN--- 0023