BW - 8

MONITORING REPORTS

DATE:

2002

RECEIVED

OCT 0 7 2002

Environmental Bureau
Oil Conservation Division

ZIA SALTY DOG

REMEDIATION INVESTIGATION

SEPTEMBER 2002

September 20, 2002

Wayne Price NMOCD Environmental Box 6429 1220 S. Saint Francis Drive Santa Fe, NM 87504

RE: Salty Dog Brine

Mr. Price:

As you requested, Salty Dog has completed the two additional wells. One well as a recovery well and the other as an extension of the monitor well plume. All pertinent data is enclosed in this report. I will be recommending to Mr. Bergstein that an additional monitor well be drilled, since the MW #3 showed elevated chlorides.

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

Sincerely,

Eddie W. Seay, Agent 601 W. Illinois

Eldie W Sun

Hobbs, NM 88242

(505)392-2236

Salty Dog Remediation Site

Drilling started on August 27, 2002, OCD notified. Carl Smelcer with Griffin Water Well Service installed both wells. The well logs and completion information is within.

Remediation Well #2

This well is being installed to pump additional salt water from the formation. The well is located 25 ft. SE of MW#1. A nine inch hole was drilled to TD of 150' and 5" PVC casing with 40' of well screen was installed. Diagram of well completion and log is within.

Monitor Well #3

MW#3 was installed to extend and try and find the outer limits of the salt water plume. This well is located 150' SE of MW#2. A 6" hole was drilled to TD of 147'. 2 in. PVC with 15 ft. of well screen was installed in the well. The log and well diagram are within.

The two wells were completed on September 6, 2002. On September 11, 2002, bail samples were obtained from new wells, the analytical is within. On September 13, a development pump and water containers were taken to location to develop and properly sample wells. The OCD was notified of this sampling exercise.

Monitor Well #3, installed a 1 1/2" pump in the well at 110'. Water level was 59.49' at ground level, and TD was at 147'. Three casing volumes for this well would have been 33 gallons. We extracted 45 gal. from the well and samples. Analytical is within.

Recovery Well #2, installed a 1 1/2" pump in the well at 110'. Water level was 58.79' from ground level, and TD was 150'. Three casing volumes would be 225 gallons. We extracted 240 gal. from the well and sampled. Analytical is within.

The new recovery well #2 will be tied into the recovery well #1 and used within the brine system. Salty Dog will continue to monitor all wells quarterly or as OCD requires, and keep up with volumes extracted.

It is my recommendation that Zia Salty Dog drill an additional MW Southeast to determine the extent of the plume.

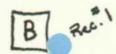
Within are:

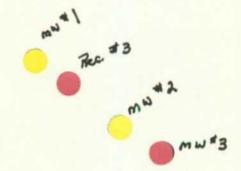
- 1) Logs
- 2) Well Diagram
- 3) Analytical
- 4) Photos

Salty Dog Brine



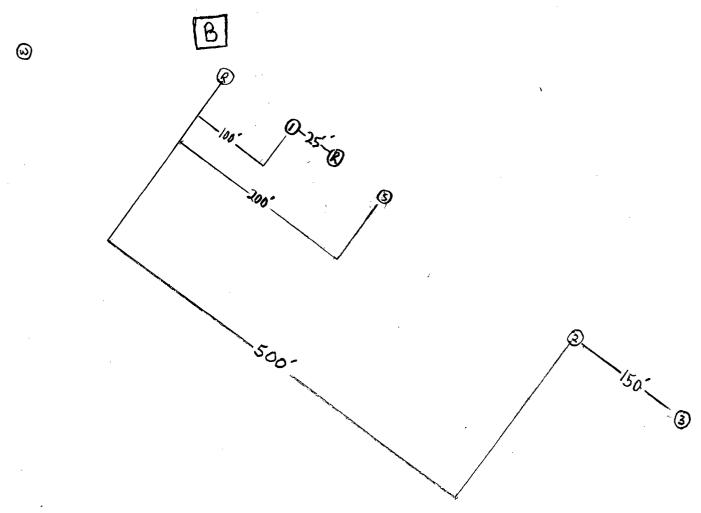






- new recovery well + monitor well
- Existing mw
- Recovery well #1
- water walls
 - 3 Brine well

(3)



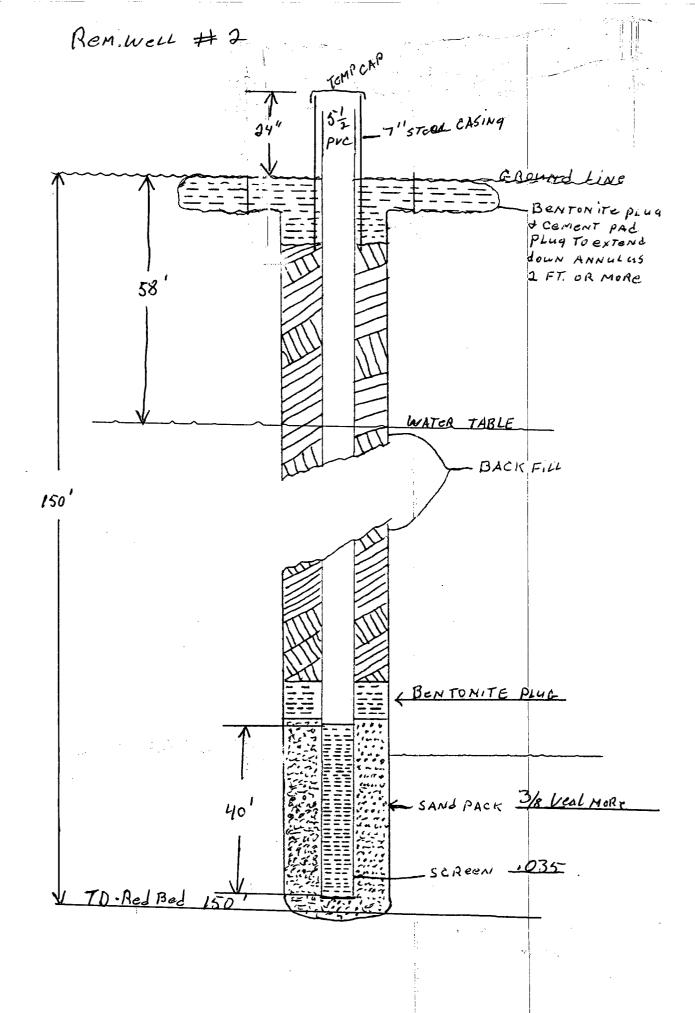
- B Brine Well
- R Recovery wells
- 1) Monitor Well #1
- 1 Test Borings
- @ Monitor Well #2
- @ Water Wells

WELL RECORD

Owner	of well	SALT	TY DOG	INC.			4
		office ac					
City an							
Dr	illing c	ontracto	GRIFFI	n Well Seav	<u>. L</u>	icense No.wp -	603
Addres	s						
				pleted <u>9/5/02</u>			
				at well is 3822			
GPS-co	ord. <u>3</u>	1 41 18	3 N 1030	22'27W UNI	TJOF Se	c5 19 36	_
Depth i	in feet		ckness in ft.	Description	of water b	pearing formation	n GPM
52	3		92		Ne Red-1	BRN. SOFT	50
				CASING			
Diamet		ounds		Depth in feet			
(inche		per foot)	(per in.)	TopBottom	(feet)	NA .	(from-to)
52		PUZ	<u>N4</u>	152			110-150
		COLOR	RS AND TY	PE OF MATERI	ALS ENC	OUNTERED	
From	to	in feet		color and type of	material e	ncountered -	
O_	1	1	TOP SO	IL AND BROKE	en CAL	iche	
	21	20	CALiche	INDURATED.	-GRey-	WHI	
21	44	23	QUARTZ	iTe - Red - BR	N HARC	!	
44	46	2		GREY			
46	53	7	SAND ST	one - BRN. So	c T		
53	55	2	CLAY -	Red -BRN.		······	
55		3_		Ne-Red-BRN			
	130	72	\$	one-Red-BRI	V - LOT S	led CLAY INS	AND STONE W/B
	133			Red-BRN.			
133		18	1 -	ne - Red-BAN	W/B	······································	
	150	TD	RedB	ed			
		L					· · · · · · · · · · · · · · · · · · ·

The undersigned hereby certifies that, to the best of his knowledge and belief, the forgoing is true and correct record of the above described hole.

Driller Carl L Smelces Date	9/9/02
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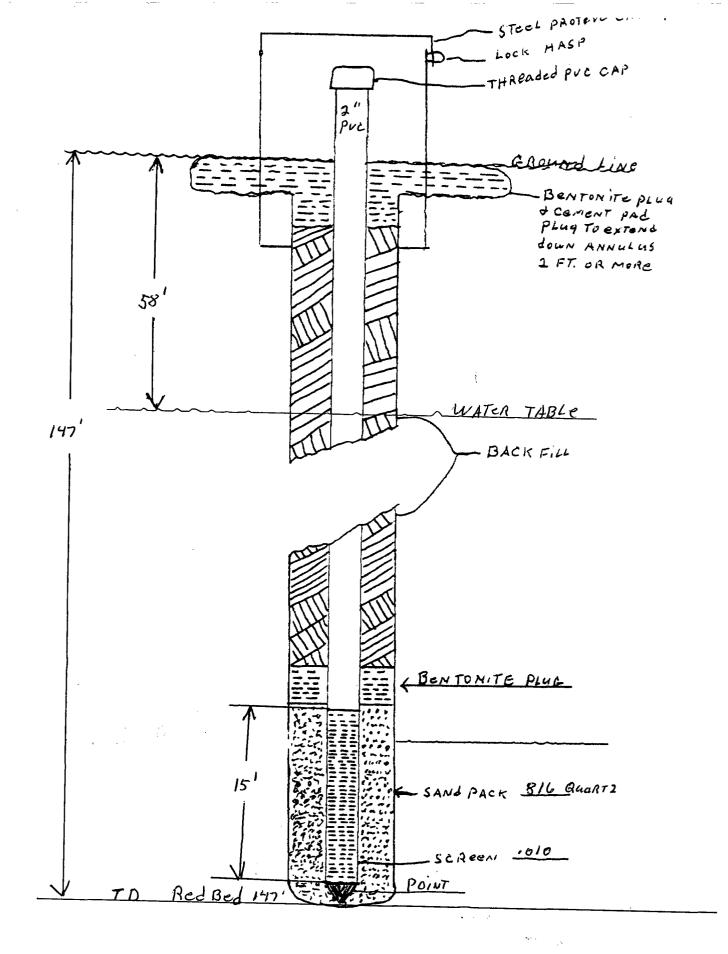


WELL RECORD

Owner	of well	SAL	TY DO	2 INC			
		office ad					
City an	-						
Dr	illing c	ontractor	GRIFFI	n well ser	ν, L	icense No. WD	-603
Addres	s						
Drilling	g began	9/5/02	Com	pleted <u>9/6/02</u>	Type to	ool <u>Ror</u> Hol	e size 6'
				at well is 3818			
				103°22'22 4			
Depth i	in feet	Thic	ckness in ft.	Description	of water l	pearing formation	n GPM
5	8		89	Red-	BRN SA	Nd STONE SOFT	" 2
				CASING			
Diamet	er P	ounds	Threads	Depth in feet	Length	Type of shoe	Peforation
				TopBottom			(from- to)
2		PUC	NA	<i>149 f-T</i> PE OF MATERI			<u> 132 - 14</u> 7
		COLOR	RS AND TY	PE OF MATERI	ALS ENC	OUNTERED	
From	to	in feet		color and type of	f material e	ncountered -	
0	1	1	TOP SOI	L + broken CA	4Liche		
	19	18	l .	INDURATED		HT.	
19	42	23		Lite - Red-B			
42	45	3	CLAY-	GRey			
45	51	6		TONE BAN, 50			
51	<i>5</i> 3	2	CLAY -	- Gacy		···	
53	58	5	SAND S	TONE BRN. S	01-7		
5 8	122	64	SAND ST	ONE BRN. SC	OFT WI	B	
122	123			- GREY			
123	147	24	SANdST	one - Red -BRI	4. SOFT	W/B	
	147	TO	Red	Bed.			

The undersigned hereby certifies that, to the best of his knowledge and belief, the forgoing is true and correct record of the above described hole.

Driller Carl L Smiles Date 9/9/02





PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

FAX TO:

Receiving Date: 09/11/02 Reporting Date: 09/13/02

Project Number: SALTY DOG

Project Name: SALTY DOG BRINE Project Location: W. HOBBS

Analysis Date: 9/12/02

Sampling Date: 09/11/02

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: AH

CI⁻
LAB NUMBER SAMPLE ID (mg/L)

H7021-1	RECOVERY WELL #2	3999
H7021-2	MVV #3	768
	•	
•		
Quality Control		970
True Value QC		1000
% Recovery		97.0
Relative Percent	Difference	1.0

METHOD: Standard Methods 4500-CIB

My Chemist <u>9-13-02</u>

Date

Sampler - UPS - Bus - Other	Ralinquished By:		r Relingu	analyses. At dains, braiding those for registerior. In the sweet shall Complete the liable services of an extension and of or retaining the liable and at an extension and of or retaining the liable and at an extension and at or retaining the liable and at the liab	PIZZ NOTE Labely and				رم -	H7021-1		Lab I.D.		FOR LABUSE ONLY	Sampler Name:	Project Location:	3	Project #: Salt	*	3	Address: 69	Project Manager:	Company Name:	
Bus - Other:	Dets:	Time: 7:42		phase for rapigators and any other cause windowner shall be destined without the labels for incidental or cansequential demagne, including without fielded as all or raised to the tenting and an exercise tenting the by Carolinal, nature	TACK WOTE: Labely and Dammer. Cardinals labely and clearly exclusive runsely for any clean urising whether based in contract or fort, shall be limited to the amount paid by the clean					Mecayavu will # 2	>	Sample I.D.				E Holdins	Sold No by She	Project Owner:	2234 Fax#:	ַ 		Colline Spann	Eddie Sean Consul	2111 Beechwood, Abilene, 1X 79503 (915) 673-7001 Fax (915) <u>673-702</u> 0
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intact? By:			-	each to writing and reached by Condinal within 30 days after compiletion of the explication made interruptions, best of use, or less of profits incurred by disret, its scholaferies, whether such deaths to bested upon any of the above tidaded reasons or otherwise.	tort, shall be broked to the amount o				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		ICE	DGE ER: DBASE:		MATRIX PRESERV.	Fax	Phone #:	State:	NOWK, City:	Address:	Attn:	Company:	P.O. #;		(505) 393-2326 Fax (505) 393-2476
		REMA			ed by the clerk by the				9/11 3:	/"	DATE TH	ER:		SAMPLING			Zip:						0.1.77	
	Hail Same		Phone Result:		Terms and Condition				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1.48	TWE	<u>Je</u>	n	C	h	P.Y	νΩι.:	立立	cy				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
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				A A A A A A A A A A A A A A A A A A A	accounts more than	<u> </u>							· · · · · · · · · · · · · · · · · · ·		,									Q. Of

[†] Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.



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

Receiving Date: 09/13/02

Reporting Date: 09/16/02 Project Owner: P. BERNSTEIN

Project Name: ZIA-SALTY DOG BRINE

Project Location: WEST HOBBS

Sampling Date: 09/13/02

Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: BC

		GRO	DRO
		(C ₆ -C ₁₀)	(>C ₁₀ -C ₂₈)
LAB NUMBER	SAMPLE ID	(mg/Kg)	(mg/Kg)

ANALYSIS DATE:	09/13/02	09/13/02
H7029-1 MW #3	<5.0	<5.0
H7029-2 REC. #2	<5.0	<5.0
Therefore a thing the commence of the large transfer.		
Quality Control	13.4	13.5
True Value QC	15.0	15.0
% Recovery	89.5	89.8
Relative Percent Difference	9.1	5.2

METHOD: SW-846 8015 M

Buy HA Cook

Date

H7029T.XLS



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

FAX TO:

Receiving Date: 09/13/02

Reporting Date: 09/18/02

Project Number: SALTY DOG BRINE Project Name: ZIA-SALTY DOG BRINE

Project Location: WEST HOBBS

Sampling Date: 09/13/02

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: AH

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (mS/cm)	T-Alkalinity (mgCaCO ₃ /L)
ANALYSIS DATE:	09/18/02	09/17/02	09/17/02	09/17/02	09/17/02	09/17/02
H7029-1 MW #3	563	323	79	5.52	2533	98
H7029-2 REC. #2	5670	289	51	26.6	22655	253
Quality Control	NR	42.4	48.0	4.62	1489	NR
True Value QC	NR	50.0	50.0	5.00	1413	NR
% Recovery	· NR	84.9	96.1	92.4	105	NR
Relative Percent Difference	NR	11.8	4.4	9.0	0.3	NR
METHODS:	SM3	3500-Ca-D	3500-Mg E	8049	120.1	310.1
	CI ⁻	SO ₄	CO ₃	HCO₃	pН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	09/17/02	09/17/02	09/17/02	09/17/02	09/17/02	09/18/02
H7029-1 MW #3	1600	12.2	0	120	7.10	2570
H7029-2 REC. #2	9197	81.8	0	309	7.30	16000
Quality Control	1080	49.3	NR	975	6.97	NR
True Value QC	1000	50.0	NR	1000	7.00	NR
% Recovery	108	98.7	NR	97.5	99.6	NR
Relative Percent Difference	1.1	0.2	NR	2.5	0.3	8.8
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

Cremist Hill

9-18-02 Date

		ARDINAL	वि	
1045) 672.7004 Epy (045) 8	2111 Beechwood, Abliene, Ti	ARDINAL LABORATORIES, IN	•	

Y 79803 401 Feet Mariand Hobbs NM 88240

ANALYSIS REQUEST Lip: Lip: L	By:	0 vex : -	81	errice. In no event that Carchael he labbe for incidental or consequental deseapes, industry without industry, business interreptions, loss of law, or loss of profes incorred by distrit, the exhibitions are accessionant arising set of or related to the performance of services havening by captural, expendises of whether such claim is based upon any of the above stated measure or otherwise.	embers. At this brings to register and my other quase without return yet any count group structure open on the control of the country of the					~ 2 Ke. # 2	# 1024-11mw = 3	# CON	R: BASE:	S ER	FOR LAB USE ONLY PRESERV.	Sampler Name: Mike Sam	Project Location: Ward Hadds Phone #:	Project Name: Jia Self Dog Wr Wy	Project #: Salta Dog Brine Project Owner: T. Banks Quin City:	#4. 22.36 Fax#:	City: Holdes State: NY Zip: 882 42 Actin. S	Address: 6.0 1 W Til Will	Company Name: Edd, & Spar Consulling	10:00 0:0-100 1 0
	Moni	REMARKS:	Phone Result:				+			10:45 cm	9:30	TIME			PLING	2								
) .		O Yes	l	30 days past due at the rate of 24%, per amount from the original date	Terms and Charditions: interest will be charged on all accounts more							PH			8 8	3 (3	5				-	

Sampler - UPS - Bus - Other:

Delivered By: (Circle One)

Checked By: (Initials)

Recovery well # 2

[†] Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.



















