1R - 169

REPORTS

DATE:

11/14/2000

KENSON OPERATING CO., INC.

(Previous reference-GPII Energy, Inc.)

Langlie Jal Unit Playa
Environmental Monitoring and Contingency Plan

Monitoring Report November 2000

for the

Playa East of the Langlie Jal Unit Well #82
N.M.P.M.
S8 T25S R37E
Lea County, New Mexico

November 14, 2000

prepared by

ENVIRONMENTAL PLUS, INC.
1324 NORTH MAIN STREET
P.O. BOX 1558
EUNICE, NEW MEXICO 88231
TELEPHONE 505•394•3481 FAX 505•394•2601

Table of Contents

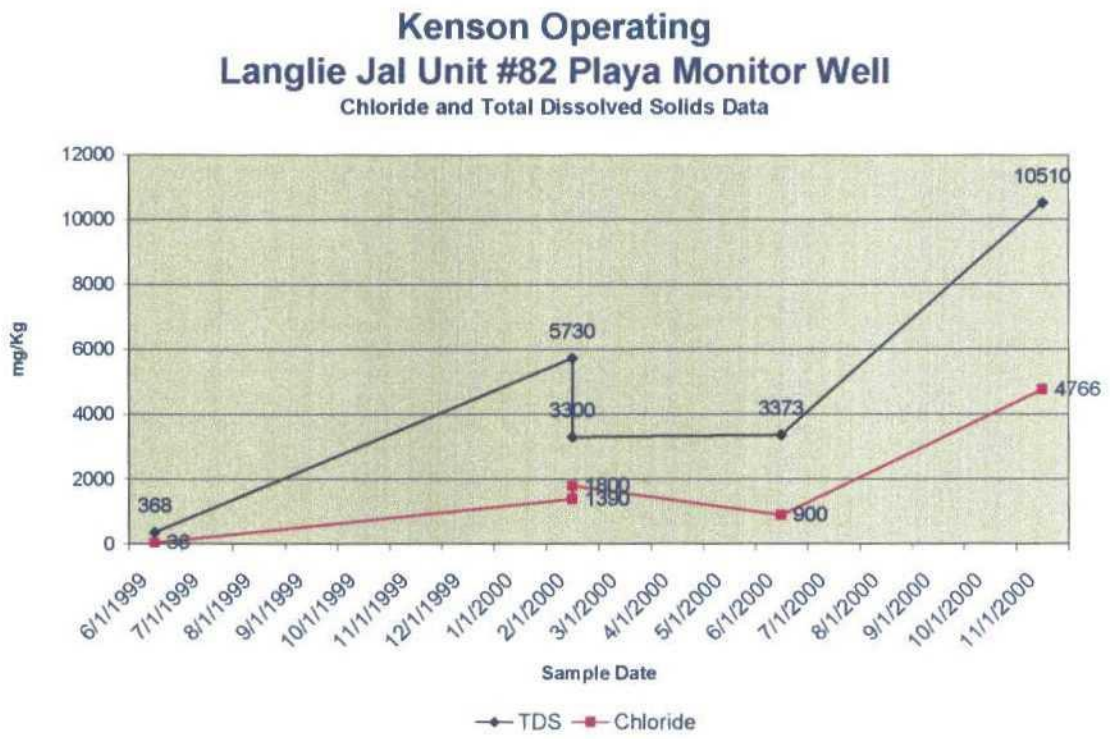
1. PLAN OBJECTIVE

The LJU Playa Environmental Monitoring and Contingency Plan was implemented by sampling the monitor well and playa water pool and documenting status and trend.

1.1 Ground Water Monitoring

The monitor well was sampled on November 8, 2000 and analyzed for Total Dissolved Solids (TDS) and Chloride. The TDS and Chloride levels have increased markedly. One hour prior to this sampling, approximately 20 gallons, i.e., ~28 well volumes, of water was purged from the monitor well. This was done to ensure that a representative sample was submitted to the lab. The increase in both constituents indicates that the contamination front has been transported to the ground water and has migrated down gradient to at least the monitor well location or that the recent precipitation events have caused a "concentration spike." It is proposed that the monitor well be sampled monthly for 6 months to confirm the impact and evaluate the temporal influence of precipitation on the TDS and Chloride concentrations. These future data will be reported monthly to the NMOCD Santa Fe Office, and if the data confirms the contamination, further delineation will occur and a phase Two Abatement Plan submitted. The original data reports for this sampling event are included as Attachment A and are summarized below along with data from prior rounds.

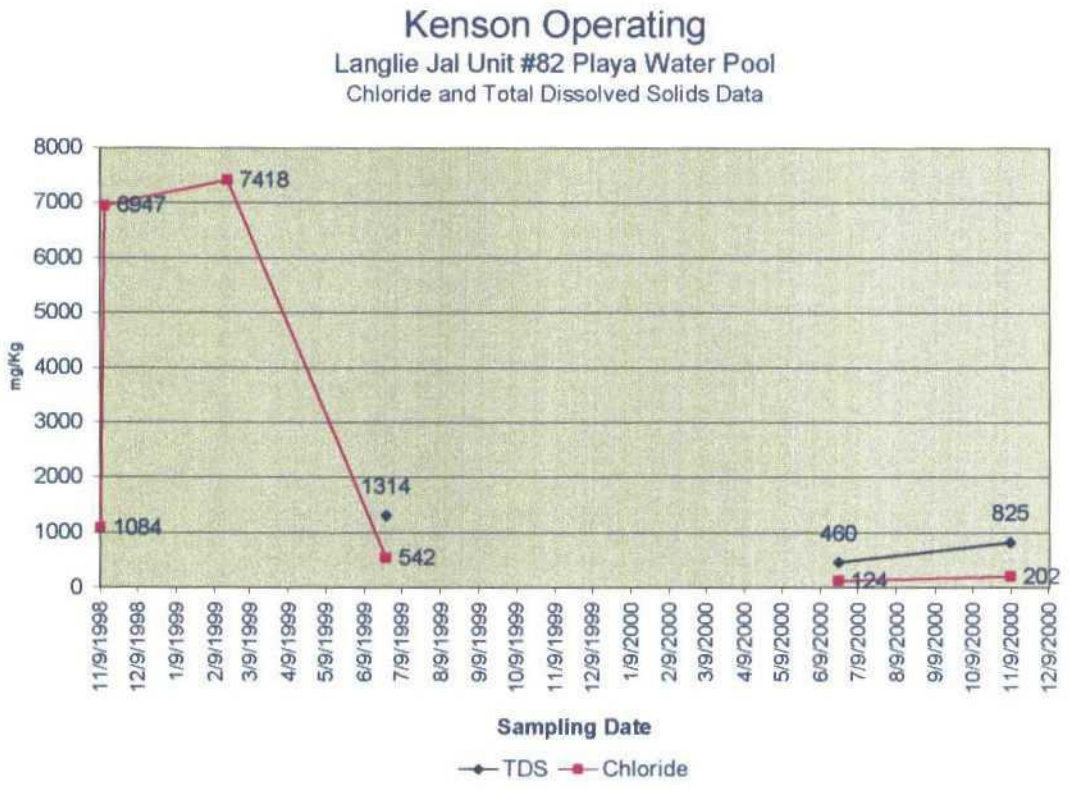
Kenson Operating Co., Inc. Langlie Jal Unit Playa Monitoring Well Data			
Sampling Round	Date	TDS ppm	Chloride ppm
Round 1	6-22-99	368	36
Round 2a	2-17-00	5730	1390
Round 2b	2-25-00	3300	1800
Round 3	6-23-00	3373	900
Round 4	11-8-00	10510	4766



1.2 Playa Water Pool Monitoring

The water pool has received considerable run-in and was sampled on November 8, 2000. Precipitation for the area has been approximately 7.5 inches since January 2000 and there is no visible surface precipitate present around the water pool. Although the TDS and Chloride concentrations have doubled from June 2000 they are nevertheless well below the 10,000 mg/Kg Contingency Plan threshold. The original data reports are included in Attachment A and are summarized and illustrated below, along with data from previous rounds.

Kenson Operating Co., Inc. Langlie Jal Unit Playa Water Pool Data			
Sampling Round	Date	TDS ppm	Chloride ppm
	11/9/98		1084
	11/12/98		6947
	2/19/99		7418
Round 1	6/26/99	1314	542
Round 2a	2/17/00	Dry	Dry
Round 2b	2/25/00	Dry	Dry
Round 3	6/23/00	460	124
Round 4	11/8/00	825	202



1.3 Playa Water Pool Level Monitoring and Photographic Documentation

The depth of the water pool was estimated to be ~24-36 inches deep at the time of sampling, similar to the June 2000 sampling event. Conditions were photographically documented. See Attachment B.

1.4 Precipitation Monitoring

The rain gauge at the LJU tank battery located east of the playa has received approximately 7.5 inches of precipitation since January 2000.

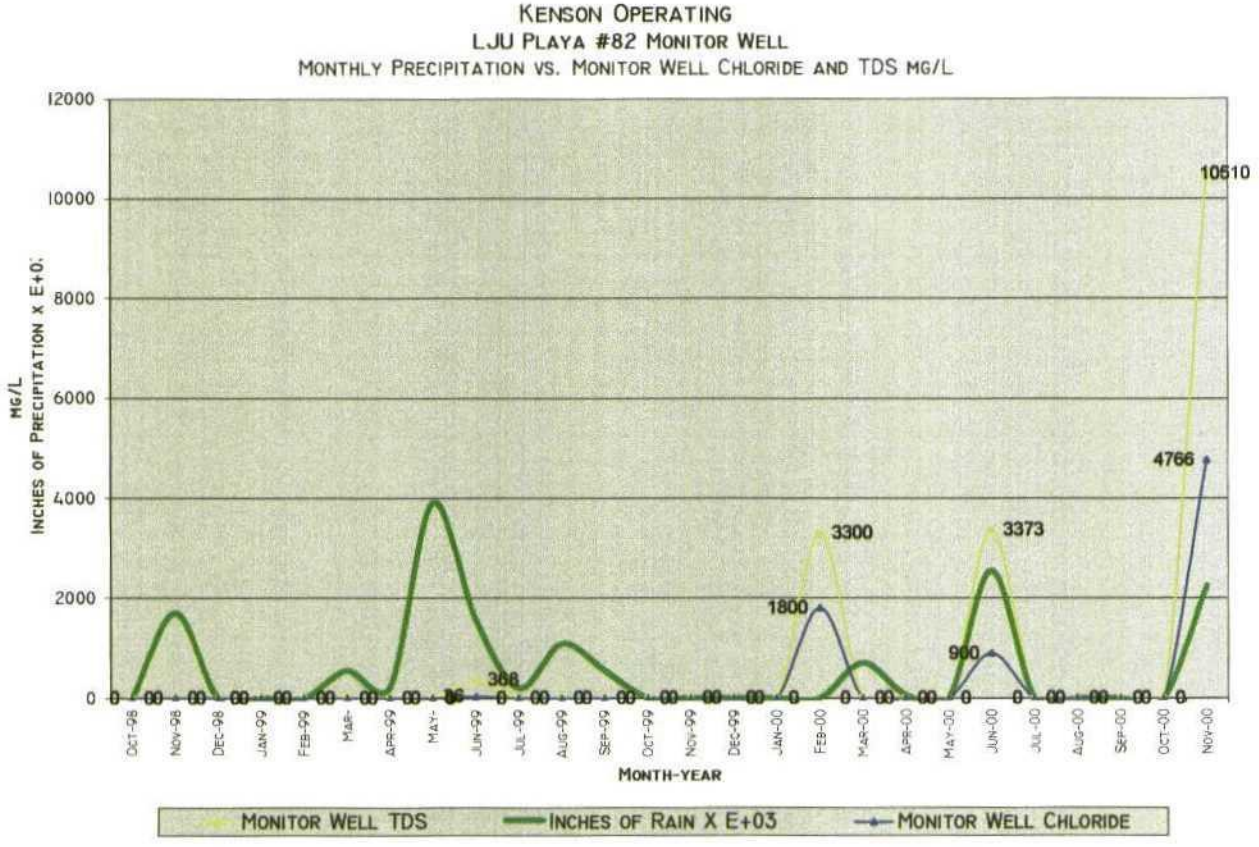
1.5 Effects of Precipitation on Data

Correlation analysis was performed on the TDS and Chloride data for the Water Pool and Monitor Well relative to the monthly precipitation spanning a period from October 1998 to November 2000. The following correlation coefficients were determined.

	Coefficient
Precipitation vs. Monitor Well TDS	0.33372
Precipitation vs. Monitor Well Chloride	0.163219
Precipitation vs. Water Pool TDS	-0.99022
Precipitation vs. Water Pool Chloride	-0.74536

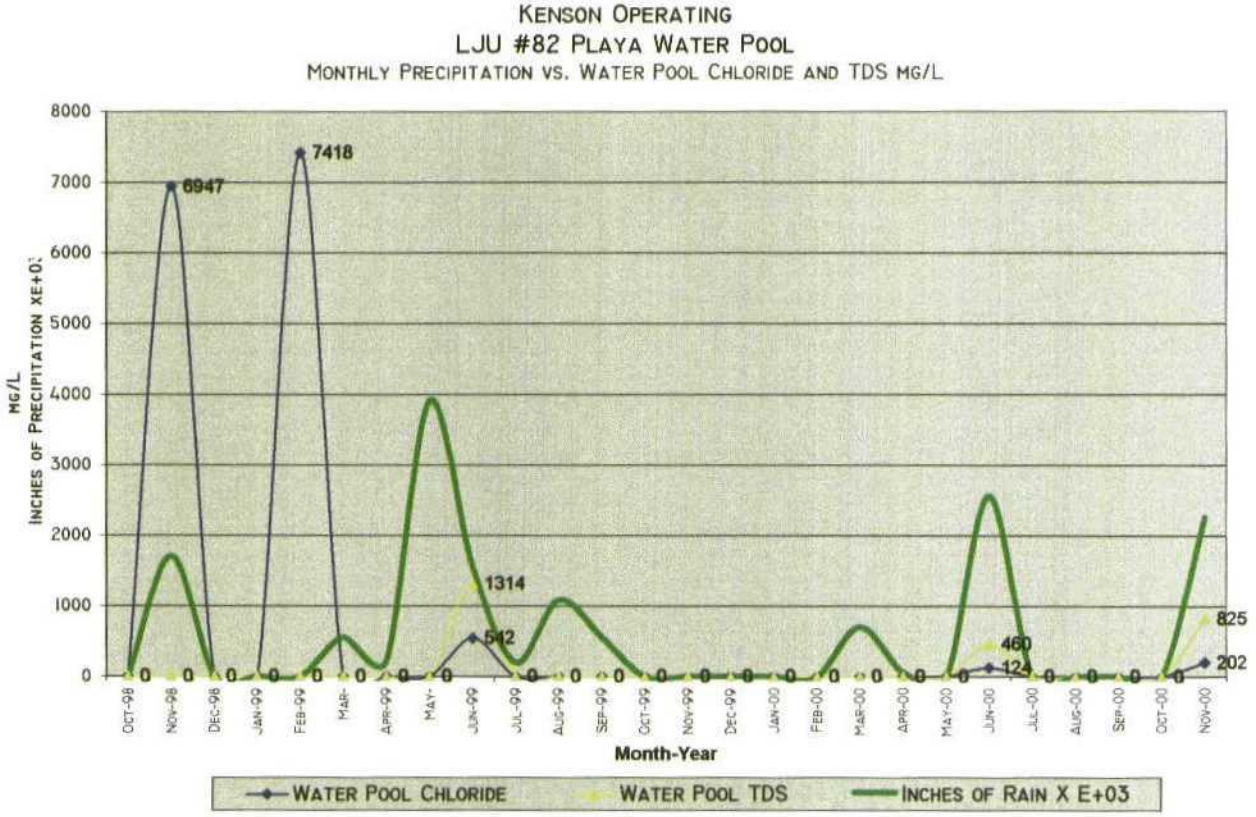
1.5.1 Effects of Precipitation on Monitor Well Data

Moderate correlations exist between increases in precipitation and increases in Monitor Well TDS and Chloride levels, more so for TDS. This may suggest active transport of TDS and Chloride into the aquifer. It may also be that the timing of the sampling event may influence the concentrations, i.e., the June and November 2000 sampling events occurred during months with considerable precipitation and may have contributed to the "spike" in TDS and Chloride concentrations. The proposed monthly sampling and analyses will provide a more accurate and confirming assessment of contamination. The chart below illustrates the precipitation data obtained from the "National Climatic Data Center" and the monitor well TDS and Chloride data.



1.5.2 Effects of Precipitation on Water Pool Data

A negative correlation exists between increases in precipitation and increases in Water Pool TDS and Chloride levels. This also indicates that water pool run-in is transporting only limited amounts of contaminants into the water pool from the up-gradient release locations. The chart below illustrates the precipitation data obtained from the "National Climatic Data Center" and the water pool TDS and Chloride data.



2. PLAYA WATER POOL CONTINGENCY PLAN

The Playa Water Pool Contingency Plan has not been implemented, i.e., provide an auxiliary source of agricultural quality water in the event playa water exceeds a TDS concentration of 10,000 mg/L.

ATTACHMENT A

Original Laboratory Data Reports

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: PAT McCASLAND
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

Receiving Date: 11/10/00
Reporting Date: 11/14/00
Project Number: NOT GIVEN
Project Name: LANGLIE JAL UNIT #82 PLAYA
Project Location: KENSON OPERATING

Sampling Date: 11/08/00
Sample Type: #1 GROUNDWATER
#2 SURFACE WATER
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH

LAB NUMBER	SAMPLE ID	TDS (mg/L)	Cl (mg/L)
ANALYSIS DATE:		11/14/00	11/13/00
H5329-1	W11800MW	10510	4768
H5329-2	W11800PLAYA	825	202
Quality Control		NR	954
True Value QC		NR	1000
% Recovery		NR	95.4
Relative Percent Difference		NR	4.9

METHODS: EPA 600/4-79-02	160.1	4500-Cl B*

*Std. Methods

Amy Hill
Chemist

11-14-00
Date

H5329.XLS

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020
101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	EPI	**BILL TO**	
Project Manager:	P McCasland	P.O. #:	Same
Address:	P.O. Box 1558	Company:	
City:	Eunice	State: NM Zip: 88231	Attn:
Phone #:	505 394-2481	Fax #: 505 394-2601	Address:
Project #:		Project Owner:	City:
Project Name:	Langlie Jal Unit #82 Playa		State: Zip:
Project Location:	Kenson Operating		Phone #:
Sampler Name:	P McCasland		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 : Surface Water	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX 8021	TPH 418.1	TPH 8015M	Chloride	TDS					
15324	W11800 MW	G	1	✓							✓		11-8-00	0900				✓	✓					
-2	W11800 Playa	G	2						✓		✓		11-8-00	01000				✓	✓					

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: 11/10/00	Received By:	Phone Result: ☐ Yes ☐ No
	Time: 3:10		Fax Result: ☑ Yes ☐ No
Relinquished By:	Date: 11/10/00	Received By: (Lab Staff)	Add'l Phone #:
Cody Miller	Time: 4:15		Add'l Fax #:
Delivered By: (Circle One)		Sample Condition: Cool: ☒ Yes ☐ No; Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:			

REMARKS:

CofC requested
Composite the 2 containers for W11800 Playa

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

ATTACHMENT B

Playa Photograph


Kenson Operating
Langlie Jal Unit #82
Playa
11/15/2000 10:15am