1R - 316

REPORTS

DATE:

2002

Closure Report
March 4, 2002

Saga Petroleum
Todd Lower San Andres Unit Pit
Roosevelt County, New Mexico

Table of Contents

Closure Report

This closure report reflects the completion of cleanup activities as described in the May 29, 2001 letter and Plan of Action sent to Mr. Wayne Price, NMOCD.

On June 4, 2001 Allstate Environmental began excavation of the site using previously (May 4, 2001) submitted analyses as a guideline for removal of contaminated soil. The soil was stockpiled adjacent to the excavated area for convenience in the encapsulation process (using cement kiln dust).

Attachments illustrate sample points and analyses of soils in different areas of the pit site immediately prior to beginning the encapsulation process indicating that the bottom and sides of the pit area were well below the levels prescribed by the cleanup standards for unlined surface impoundments. Allstate Environmental used 650 tons of cement kiln dust to contain the contaminated soil, estimated to be approximately 4,800 cubic yards. Immediately after encapsulation, clean soil was brought in and the site was capped and re-vegetated with native grasses as recommended by the New Mexico Land Office.

APPENDIX I

ANALYSIS

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Billy Sullivan
Phone #: 915/682-3547
FAX #: 915/682-4182

Company Name & Address: ALLLSTATE SERVICES ENVIRONMENTAL, MIDLAND, TEXAS

Project #: SAGA-Todd RH
Project Name:

Project Location: Milland, N.M.
Sampler Signature: B.R. Sullivan

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX 8021/5030	TPH ~~418.1~~ 8015	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI	Chloride
~~40035~~	~~Error~~																							
40030	SAGA #1	1			✓						✓			5-4-01	~~10:00~~ 5:10	✓	✓							✓
40031	" #1 BH 3'	1			✓						✓				10:10	✓	✓							✓
40032	" #2 BH 4'	1			✓						✓				10:15	✓	✓							✓
40033	" #2 SW 2'	1			✓						✓				10:25	✓	✓							✓
40034	" #3 BH 4'	1			✓						✓				10:30	✓	✓							✓
40035	" #4 BH 4'	1			✓						✓				10:35	✓	✓							✓
40036	" #5 BH 4'	✓			✓						✓				10:50	✓	✓							✓
40037	" 6 BH 8'	✓			✓						✓				11:00	✓	✓							✓
40038	" 7 BH 10'	✓			✓						✓				11:15	✓	✓							✓
40039	" 8 BH 6'	✓			✓						✓				11:25	✓	✓							✓

Relinquished by:	Date:	Time:	Received by:
B.R. Sullivan	5-4-01	3:15 PM	Joanne McMurry
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by Laboratory:

REMARKS: Rec. 4.0 °C
Need By 5/7

* Add Cl as per Randy 5-29-01 @ 0810

By 5/29/01 pm
Call @ 528-9563
will pick up hard copy
Call Randy w/ pre-limanary

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Billy Sullivan
Phone #: 915/682-3547
FAX #: 915/682-4182

Company Name & Address: ALLLSTATE SERVICES ENVIRONMENTAL, MIDLAND, TEXAS

Project #: SAGA Todd Pit
Project Name:

Project Location: Milland N.M.
Sampler Signature: B. Sullivan

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8021B/5030	TPH ~~418.1~~ SW	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI	Chloride
40040	SAGA #9 BH5'	1			✓						✓			5.4.01	12:00	✓	✓							✓
40041	SAGA #4A BH6'	1			✓						✓				12:15	✓	✓							✓

Relinquished by:	Date:	Time:	Received by:
B.K Sullivan	5-4-01	3:15 PM	Joanne McManus
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by Laboratory:

REMARKS
*Add Cl- as per Randy 5-29-01 @ 0810
Rec 4.0°C
Need By 5/7
By 5/29 - PM

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES ENVIRONMENTAL
ATTN: MR. BILLY SULLIVAN
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 682-4182

Sample Type: Soil
Sample Condition: Intact/Iced/ 4.0 deg C
Project #: Saga-Todd Pitt
Project Name: None Given
Project Location: Millsand, N.M.

Sampling Date: 05/04/01
Receiving Date: 05/04/01
Analysis Date: 05/07/01

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
40030	Saga #1	<100	11941
40031	Saga #1 BH 3'	<10	<10
40032	Saga #2 BH 4'	<10	<10
40033	Saga #2 SW 2'	<10	<10
40034	Saga #3 BH 4'	<10	<10
40035	Saga #4 BH 4'	<10	<10
40036	Saga #5 BH 4'	<10	<10
40037	Saga #6 BH 8'	<10	<10
40038	Saga #7 BH 10'	<10	<10
40039	Saga #8 BH 6'	<10	<10
40040	Saga #9 BH 5'	<10	<10
40041	Saga #4A BH 6'	<10	<10
	% IA	108	109
	%EA	97	95
	BLANK	<10	<10

Methods: EPA SW 846-8015M GRO/DRO

Raland K. Tuttle

5-8-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES ENVIRONMENTAL
ATTN: MR. BILLY SULLIVAN
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 682-4182

Sample Type: Soil
Sample Condition: Intact/ Iced/ 4.0 deg. C
Project #: Saga-Todd Pitt
Project Name: None Given
Project Location: Millsand, N.M.

Sampling Date: 05/04/01
Receiving Date: 05/04/01
Analysis Date: 05/04/01

ELT#	FIELD CODE	BENZENE mg/kg	TOLUENE mg/kg	ETHYLBENZENE mg/kg	m,p-XYLENE mg/kg	o-XYLENE mg/kg
40030	Saga #1	<0.025	<0.025	<0.025	<0.025	<0.025
40031	Saga #1 BH 3'	<0.025	<0.025	<0.025	<0.025	<0.025
40032	Saga #2 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40033	Saga #2 SW 2'	<0.025	<0.025	<0.025	<0.025	<0.025
40034	Saga #3 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40035	Saga #4 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40036	Saga #5 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40037	Saga #6 BH 8'	<0.025	<0.025	<0.025	<0.025	<0.025
40038	Saga #7 BH 10'	<0.025	<0.025	<0.025	<0.025	<0.025
40039	Saga #8 BH 6'	<0.025	<0.025	<0.025	<0.025	<0.025
40040	Saga #9 BH 5'	<0.025	<0.025	<0.025	<0.025	<0.025
40041	Saga #4A BH 6'	<0.025	<0.025	<0.025	<0.025	<0.025
%IA		92	93	96	103	95
%EA		90	93	94	104	97
BLANK		<0.025	<0.025	<0.025	<0.025	<0.025

METHODS: EPA SW 846-8021B ,5030

Raland K. Tuttle

5-8-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES ENVIRONMENTAL
ATTN: MR. RANDY OFFIELD
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 682-4182

Sample Type: Soil
Sample Condition: Intact/ Iced/ 4.0 deg C
Project #: SAGA-Todd Pitt
Project Name: None Given
Project Location: Millsand, NM

Sampling Date: 05/04/01
Receiving Date: 05/04/01
Analysis Date: 05/29/01

ELT#	FIELD CODE	Chlorides mg/kg
40030	SAGA #1	224
40031	SAGA #1 BH 3'	331
40032	SAGA #2 BH 4'	510
40033	SAGA #2 SW 2'	2023
40034	SAGA #3 BH 4'	2072
40035	SAGA #4 BH 4'	13294
40036	SAGA #5 BH 4'	66.5
40037	SAGA #6 BH 8'	5388
40038	SAGA #7 BH 10'	4360
40039	SAGA #8 BH 6'	461
40040	SAGA #9 BH 5'	22.2
40041	SAGA #4A BH6'	8154
	Quality Control	5140
	True Value	5000
	% Precision	103
	Blank	<5

Methods:SW 846-9253

Celey D. Keene

05/29/01
Date

Environmental Lab of Texas, Inc.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: _____
Company Name: ALLSTATE SERVICES ENVIRONMENTAL
Company Address: MIDLAND, TEXAS
City/State/Zip: _____
Telephone No: 682-3547 Fax No: 915-682-4182
Sampler Signature: B.R. Sallee

Project Name: Saga Petroleum
Project #: Todd A#
Project Loc: Milnesand, NM
PO #: _____

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO3	HCl	NaOH	H2SO4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TDS / CL / SAR / EC	TPH 418.1	TPH TX 1005/1006	TPH 8015M GRO/DRO	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RUSH TAT (Pre-Schedule)	Standard TAT
40675	SPNW #1	6-2-01	1455	1	✓									✓					✓				✓		
40676	SP EW #1	6-2-01	1500	✓	✓									✓					✓				✓		
40677	SP SW #1		1510	✓	✓									✓					✓				✓		
40678	SP BH 1		1510	✓	-									✓					✓				✓		
40679	SP BH 2		1520	✓	✓									✓					✓				✓		
40680	SP NW 2		1530	✓	✓									✓					✓				✓		
40681	SP SW 2	6-2-01	1540	✓	✓									✓					✓				✓		

Special Instructions:

Sample Containers Intact? (Y) N
Temperature Upon Receipt:
Laboratory Comments: 4.0 °C

Relinquished by:	Date	Time	Received by:	Date	Time
B.R. Sallee	6-4-01	1030	R. O'Neal	6-4-01	10:00
R. O'Neal	6-4-01	1500	Received by ELOT: Jana McMurray	6-4-01	1500

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES ENVIRONMENTAL
ATTN: MR. RANDY OFFIELD
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 682-4182

Sample Type: Soil
Sample Condition: Intact/Iced/ 4.0 deg C
Project #: Todd Pit
Project Name: Saga Petroleum
Project Location: Milnesand, N.M.

Sampling Date: 06/02/01
Receiving Date: 06/04/01
Analysis Date: 06/04/01

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
40675	SPNW #1	<10	176
40676	SPEW #1	<10	<10
40677	SPSW #1	<10	<10
40678	SPBH 1	<10	<10
40679	SPBH 2	<10	<10
40680	SPNW 2	<10	<10
40681	SPSW 2	<10	<10

QUALITY CONTROL	515	499
TRUE VALUE	500	500
% INSTRUMENT ACCURACY	103	100
SPIKED AMOUNT	476	476
ORIGINAL SAMPLE	<10	176
SPIKE	520	690
SPIKE DUP	512	680
% EXTRACTION ACCURACY	108	106
BLANK	<10	<10
RPD	2	1

Methods: EPA SW 846-8015M GRO/DRO

Raland K. Tuttle

6-6-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES ENVIRONMENTAL
ATTN: MR. RANDY OFFIELD
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 682-4182

Sample Type: Soil
Sample Condition: Intact/ Iced/ 4.0 deg C
Project #: Todd Pit
Project Name: Saga Petroleum
Project Location: Milnesand, N.M.

Sampling Date: 06/02/01
Receiving Date: 06/04/01
Analysis Date: 06/04/01

ELT#	FIELD CODE	BENZENE mg/kg	TOLUENE mg/kg	ETHYLBENZENE mg/kg	m,p-XYLENE mg/kg	o-XYLENE mg/kg
40675	SPNW #1	<0.025	<0.025	<0.025	<0.025	<0.025
40676	SPEW #1	<0.025	<0.025	<0.025	<0.025	<0.025
40677	SPSW #1	<0.025	<0.025	<0.025	<0.025	<0.025
40678	SPBH 1	<0.025	<0.025	<0.025	<0.025	<0.025
40679	SPBH 2	<0.025	<0.025	<0.025	<0.025	<0.025
40680	SPNW 2	<0.025	<0.025	<0.025	<0.025	<0.025
40681	SPSW 2	<0.025	<0.025	<0.025	<0.025	<0.025
	QUALITY CONTROL	0.114	0.110	0.107	0.230	0.110
	TRUE VALUE	0.100	0.100	0.100	0.200	0.100
	% INSTRUMENT ACCURACY	114	110	107	115	110
	SPIKED AMOUNT	0.100	0.100	0.100	0.200	0.100
	ORIGINAL SAMPLE	<0.025	<0.025	<0.025	<0.025	<0.025
	SPIKE	0.114	0.114	0.112	0.227	0.104
	SPIKE DUP	0.108	0.108	0.105	0.227	0.104
	% EXTRACTION ACCURACY	108	108	106	114	104
	BLANK	<0.025	<0.025	<0.025	<0.025	<0.025
	RPD	6	6	7	0	0

METHODS: EPA SW 846-8021B ,5030

Raland K. Tuttle

6-6-01
Date

APPENDIX II

DAILY REPORTS

NO DAILY REPORTS AVAILABLE

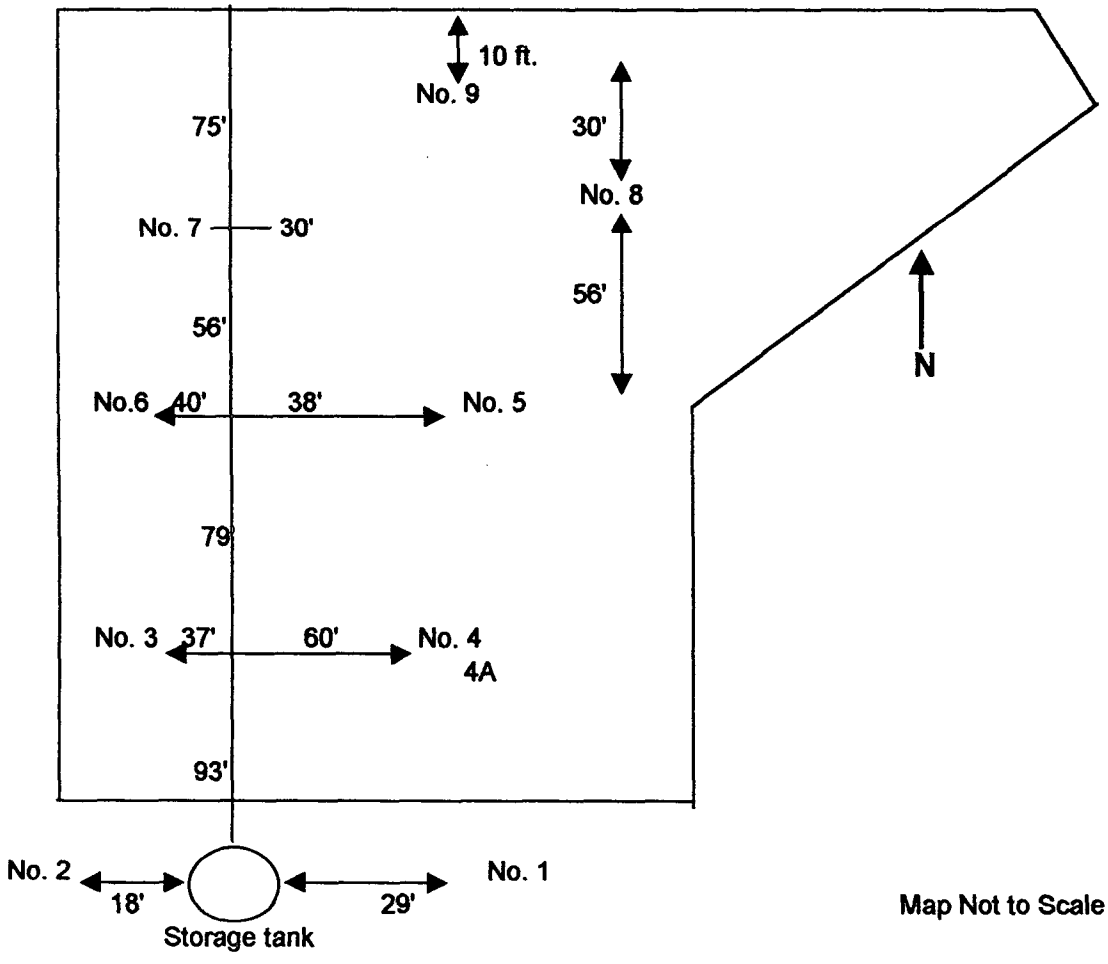
APPENDIX III

Map of site on 5-4-01 and sample points and results.

APPENDIX III

5-4-01

	FIELD	LAB		
PID readings		TPH - ppm	BTEX - ppm	CL - ppm
5-04-01		5-04-01	5-04-01	5-29-01
No. 1- 1'-	2.3 ppm	11941 ppm	<.025	224
B.H. 3' -	0 ppm	<10	<.025	331
No. 2- B.H. 4' -	0.1 ppm	<10	<.025	510
SW. 2' -	2.5 ppm	<10	<.025	2023
No. 3- B.H. 4' -	2.5 ppm	<10	<.025	2072
No. 4- B.H. 4' -	11.0 ppm	<10	<.025	13294
No. 4A- B.H.6' -	0.1 ppm	<10	<.025	8154
No. 5- B.H. 4' -	2.3 ppm	<10	<.025	66.5
No. 6- B.H. 8' -	1.5 ppm	<10	<.025	5388
No. 7- B.H. 10' -	1.3 ppm	<10	<.025	4360
No. 8.- B.H. 8' -	1.5 ppm	<10	<.025	461
No. 9- B.H. 5'-	0.01 ppm	<10	<.025	22.2



Map Not to Scale

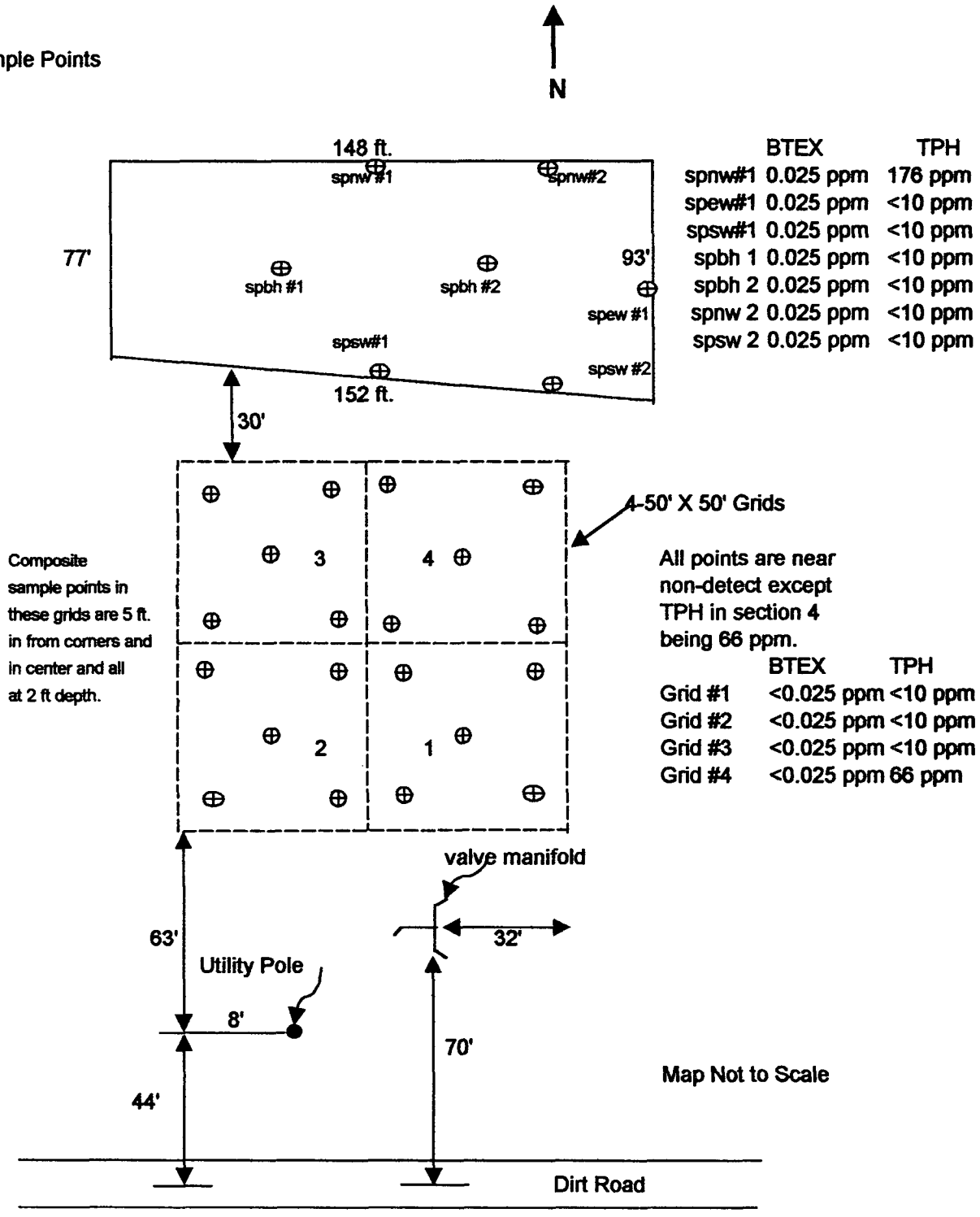
APPENDIX IV

Map of site on 6-5-01 with sample points and analyses.

APPENDIX IV

6-5-01

⊕ = Sample Points



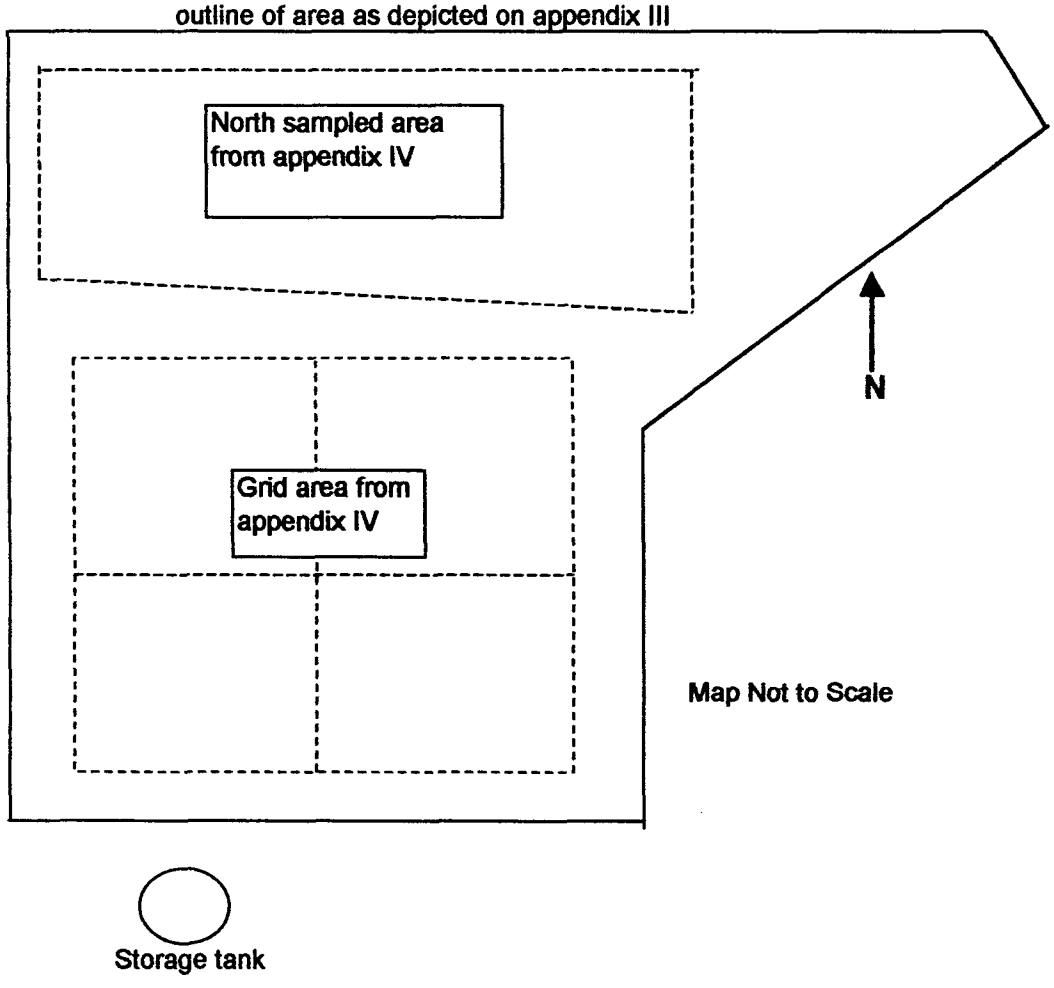
	BTEX	TPH
spnw#1	0.025 ppm	176 ppm
spew#1	0.025 ppm	<10 ppm
spsw#1	0.025 ppm	<10 ppm
spbh 1	0.025 ppm	<10 ppm
spbh 2	0.025 ppm	<10 ppm
spnw 2	0.025 ppm	<10 ppm
spsw 2	0.025 ppm	<10 ppm

	BTEX	TPH
Grid #1	<0.025 ppm	<10 ppm
Grid #2	<0.025 ppm	<10 ppm
Grid #3	<0.025 ppm	<10 ppm
Grid #4	<0.025 ppm	66 ppm

APPENDIX V

Map of site showing relationship between Appendices III & IV.

APPENDIX V


outline of area as depicted on appendix III
North sampled area from appendix IV
Grid area from appendix IV
N
Map Not to Scale
Storage tank

May 30, 2001

Saga Petroleum L.L.C.
In Care of Allstate Environmental Services, L.L.C.
P.O. Box 11322
Midland, Texas 79702

Attention Saga Petroleum:

The New Mexico Oil Conservation Division is in receipt of the Saga Petroleum Todd Lower San Andres Unit Pit Work Plan dated May 29, 2001 located in UL B Section 31-Ts 7s-R 36E submitted by Allstate Environmental Services on behalf of Saga Petroleum.

The OCD hereby approves of the plan to utilize cement kiln material to stabilize contaminated soils and to restore the surface pursuant to the plan. Saga shall provide a closure plan for OCD approval by June 30, 2001.

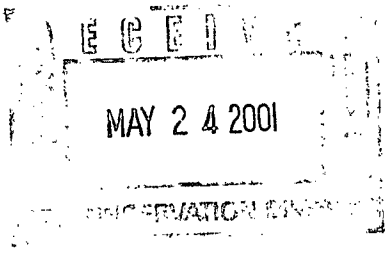
Please be advised that OCD approval does not relieve Saga Petroleum of future responsibility if their operations pose a threat to public health, fresh water or the environment. In addition this approval does not relieve Saga Petroleum of liability from any Federal, State, County or local laws, rules or regulations.

Sincerely Yours:

Wayne Price-Pet. Engr. Spec.

Original Will Follow in US Mail.

SAGA PETROLEUM



May 23, 2001

Wayne Price
NMOCD
1220 S. Saint Francis Drive
Santa Fe, NM 87505

1R0316

Re: Todd Lower San Andres Unit – pit cleanup

Dear Wayne:

Attached is a work plan developed by Allstate Environmental Services to clean up a pit on Saga's Todd Lower Sand Andres Unit, Unit B, Section 31-T7S-R36E. Allstate Environmental will provide the equipment, supervision, sampling and technical expertise to ensure the pit is closed according to New Mexico state guidelines, and will submit a closure report when the project is completed. I would also like to note that this pit is of an unknown origin, was never used in the Saga Petroleum operations, and was apparently covered by a previous operator.

Saga would like to begin this project as soon as possible after NMOCD approval. Allstate Environmental indicates that they have a window for equipment and personnel available to begin closure starting May 29, 2001. If you have any additional questions, or need any additional information, please call.

Sincerely,

Joe N. Clement
Area Engineer

415 W. Wall, Ste 1900
Midland, TX 79701

Office: (915) 684-4293
Fax (915) 684-0829

Saga Petroleum L.L.C.
Todd Lower San Andres Unit Pit Project
Work Plan For State of New Mexico

ALLSTATE ENVIRONMENTAL SERVICES, LLC

P.O BOX 11322
MIDLAND, TEXAS 79702
OFFICE: (915) 682-3547
FAX: (915) 682-4182

May 16, 2001

New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, New Mexico 87505
ATTN: Mr. Wayne Price

Dear Mr. Price,

The following is a work plan that Allstate Environmental Services LLC. is submitting on behalf of SAGA Petroleum L.L.C. of Midland, Texas. This proposal plan is for the Todd Lower San Andres Unit Pit located in Roosevelt County New Mexico. The legals are as follows: Section 31- Township 7 South- Range 36 East- Unit B.

AES is proposing to encapsulate the contents of the pit and the surrounding surface soil that have been impacted. Cement Kiln Dust will be the encapsulation Material.

PLAN OF ACTION:

* The pit area and it's contents will be excavated and stockpiled on the surface. Once the contaminated soil has been excavated from the pit area AES will lay out a grid, each area will measure 50' X 50' and one composite sample will be taken from each block. Bottomhole and sidewall samples will be taken and analyzed using method EPA 846-8015m- DRO-GRO for TPH and method EPA 846-8021B, 5030 for BTEX. AES is seeking a 5,000 PPM closure level based on the ranking criteria set forth by the Unlined Surface Impoundment Guidelines. (Please see the attached water data AES obtained from the Stateland office in Clovis and the State Engineers office in Roswell.)

Suspect areas of contamination on the location will be excavated and incorporated into the pit material. The same sampling procedure will be used to sample this area, defining vertical and horizontal extent as used for the pit area.

Once the areas are sampled and thru analysis proven below the required closure levels CKD material will be introduced into the pit area. The encapsulation process will begin by placing the contaminated material stockpiled on location into the CKD material and thoroughly mixing while water is added to the matrix. This procedure will continue until all of the contaminated material is incorporated into the matrix and mixed. AES is anticipating utilizing the excavated area adjacent to the pit as a mixing area also.

When the encapsulation process is finished, clean top soil will be brought in and used for backfill. The areas of excavation will be backfilled back to surface grade. After backfilling is accomplished the entire area will be reseeded with vegetation deemed appropriate by the New Mexico State Land Office.

A closure report will follow documenting the activities- sample points- dimensions- and analysis of this project.

Thank you for your time in reviewing this plan. If there are any questions please call me at (915)682-3547.

Sincerely,

Randy Offield

Randy Offield

Table 2.—Well location and water-level data for selected wells in the Causey-Lingo monitoring area, Roosevelt and Chaves Counties, New Mexico, and Bailey and Cochran Counties, Texas--Continued

Well location	Geologic unit	Winter water level (feet below(-) or above(+) land surface)	Date of measurement	Winter 1985 to winter 1989-90 water-level decline(-) or rise(+) (feet)	Water-level extremes				Use of water	Years of record
					High (feet)	Year	Low (feet)	Year		
07S.34E.17.212312	CRCS	-189.73	12-02-990	+1.25	-187.73	1990	-191.88	1975	S	1975,1980,1985,1990
07S.34E.22.342414	--	-173.98	11-11-990	--	-173.98	1990	-173.98	1990	S	1990
07S.34E.24.431142	OGLL	-180.32	11-11-990	-0.29	-180.03	1985	-180.88	1980	S	1980,1985,1990
07S.34E.26.231134	OGLL	-178.20	11-11-990	-0.18	-178.02	1985	-185.78	1980	S	1980,1985,1990
07S.34E.28.143113	OGLL	--83.31	11-11-990	-0.68	-82.63	1980	-83.31	1990	S	1980,1985,1990
07S.34E.28.233134	--	--82.73	11-11-990	--	-82.73	1990	-82.73	1990	S	1990
07S.34E.32.121212	CRCS	- 96.05	12-02-990	-0.25	-95.80	1985	-96.85	1980	S	1980,1985,1990
07S.34E.35.433313	CRCS	- 71.26	11-11-990	+4.80	-71.07	1980	-76.06	1985	H	1980,1985,1990
07S.34E.36.321242	CRCS	- 70.49	11-11-990	-0.47	-69.93	1985	-70.40	1990	S	1980,1985,1990
07S.35E.01.11241	CRCS	-200.81	11-26-990	+2.22	-165.20	1970	-205.08	1975	H	1970,1975,1980,1985,1990
07S.35E.07.32113	--	-191.43	12-02-990	--	-191.43	1990	-191.43	1990	H	1990
07S.35E.09.12241	CRCS	-200.10	12-07-990	+1.10	-200.00	1990	-201.76	1980	S	1975,1980,1985,1990
07S.35E.10.22222	--	-198.54	12-07-990	--	-198.54	1990	-198.54	1990	S	1990
07S.35E.11.111212	CRCS	-198.63	12-07-990	+1.62	-198.01	1990	-201.36	1980	H	1975,1980,1985,1990
07S.35E.12.111111	CRCS	-194.74	11-26-990	+1.73	-194.01	1990	-198.83	1975	S	1975,1980,1985,1990
07S.35E.17.142113	CRCS	-192.19	12-07-990	+0.66	-192.01	1990	-193.89	1980	S	1975,1980,1985,1990
07S.35E.23.221422	OGLL	-198.66	12-07-990	--	-198.01	1990	-198.66	1990	S	1980,1985,1990
07S.35E.26.333323	OGLL	--48.16	12-07-990	+2.19	-48.01	1990	-52.46	1980	I	1980,1985,1990
07S.35E.29.122222	OGLL	-157.67	12-07-990	+2.79	-157.01	1990	-163.13	1980	S	1980,1985,1990
07S.35E.31.333333	OGLL	-153.39	12-07-990	+1.81	-153.01	1990	-155.20	1980	S	1980,1985,1990
07S.35E.34.444441	OGLL	-123.70	12-07-990	--	-123.01	1990	-126.43	1980	S	1980,1989-90
07S.36E.01.41143	OGLL	-168.46	12-01-990	+0.76	-155.01	1980	-169.43	1985	S	1980,1985,1990
07S.36E.03.11111	OGLL	-166.58	12-01-990	+1.27	-166.01	1990	-170.39	1975	S	1970,1975,1980,1985,1990
07S.36E.05.33242	CRCS	-168.97	12-07-990	+1.63	-168.01	1990	-172.83	1980	I	1975,1980,1985,1990
07S.36E.10.112124	OGLL	-180.59	12-01-990	+1.50	-180.01	1990	-182.18	1980	H	1980,1985,1990
07S.36E.11.41113	OGLL	-185.71	12-01-980	+0.73	-185.01	1990	-186.99	1970	S	1970,1975,1980,1985,1990
07S.36E.23.323221	OGLL	-185.16	12-14-980	+0.26	-184.01	1980	-185.42	1985	S	1980,1985,1990
07S.36E.24.43331	OGLL	-179.20	12-14-980	--	-179.01	1990	-182.19	1980	S	1980,1985,1990
07S.36E.27.424231	OGLL	-186.99	12-08-980	-1.11	-185.01	1985	-186.99	1990	U	1980,1985,1990
07S.36E.28.143433A	---	-184.81	12-08-980	--	-184.01	1990	-184.81	1990	U	1990
07S.36E.29.11413	OGLL	-184.92	12-15-980	+0.88	-184.01	1990	-187.33	1980	S	1980,1985,1990
07S.36E.36.33113	OGLL	-153.82	12-08-980	+1.14	-153.01	1990	-175.02	1980	S	1980,1985,1990
07S.37E.01.331333	CRCS	-148.10	12-30-980	+1.86	-145.01	1990	-146.96	1985	S	1975,1980,1985,1990
07S.37E.04.244132	CRCS	-128.98	12-09-980	+1.34	-128.01	1990	-130.32	1985	S	1975,1980,1985,1990
07S.37E.08.312243	OGLL	-172.08	12-15-980	+0.56	-172.01	1990	-173.00	1980	S	1980,1985,1990
07S.37E.09.242323	CRCS	-148.80	12-09-980	+0.34	-148.01	1990	-149.14	1980	S	1975,1980,1985,1990
07S.37E.13.131214	CRCS	-159.80	11-31-980	+0.96	-159.01	1990	-161.30	1975	I	1975,1980,1985,1990
07S.37E.15.214422	CRCS	-172.57	12-15-980	+0.30	-172.01	1990	-173.60	1975	S	1975,1980,1985,1990
07S.37E.18.14414	CRCS	-178.09	12-15-980	+4.53	-178.01	1990	-182.62	1985	S	1975,1980,1985,1990
07S.37E.19.133434	OGLL	-188.20	12-14-980	-0.03	-188.01	1985	-188.62	1980	S	1980,1985,1990

Best →

DATE	LEVEL MS	DATE	LEVEL MS	DATE	LEVEL MS
JAN 10, 1980	163.13	JAN 10, 1985	160.46	FEB 07, 1990	157.67

HIGHEST 157.67 FEB 07, 1990
LOWEST 163.13 JAN 10, 1980

SITE ID: 333730103241901
LOC: 075.35E.31.333333
OTID: 12559
ELEV: 4250.00
USE: S
DEPTH: 120
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
FEB 05, 1980	55.04	JAN 09, 1985	55.20	FEB 07, 1990	53.39

HIGHEST 53.39 FEB 07, 1990
LOWEST 55.20 JAN 09, 1985

SITE ID: 333931103201301
LOC: 075.35E.34.444441
OTID: 12560
ELEV: 4192.00
USE: S
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
JAN 10, 1980	126.43	NOV 30, 1989	124.36	FEB 07, 1990	123.70	JAN 04, 1995	115.76 S

HIGHEST 115.76 JAN 04, 1995
LOWEST 126.43 JAN 10, 1980

SITE ID: 334412103122401
LOC: 075.36E.01.41143
OTID: 12561
ELEV: 4105.00
USE: S
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
JAN 08, 1980	158.77	FEB 12, 1985	169.43	JAN 18, 1995	167.48 S		
JAN 23, 1985	169.22	FEB 01, 1990	168.45				

HIGHEST 155.77 [redacted] 08, 1980
LOWEST 169.43 [redacted] 12, 1985

SITE ID: 334423103150601
LOC: 07S.38E.03.11111
QTID: 11520
ELEV: 4143.00
USE: S
DEPTH:
GEO. UNIT: 1210BLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
MAR 12, 1970	170.39	JAN 08, 1980	169.34	FEB 01, 1990	166.58		
MAR 26, 1975	169.86 R	JAN 23, 1985	167.85	JAN 06, 1995	167.39 S		

HIGHEST 166.58 FEB 01, 1990
LOWEST 170.39 MAR 12, 1970

SITE ID: 334340103165601
LOC: 07S.38E.05.33242
QTID: 11521
ELEV: 4166.00
USE: I
DEPTH: 200
GEO. UNIT: 210CRCS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
MAR 27, 1975	172.40	JAN 08, 1980	172.83	JAN 25, 1985	170.60	FEB 07, 1990	168.97

HIGHEST 168.97 FEB 07, 1990
LOWEST 172.83 JAN 08, 1980

SITE ID: 334344103180201
LOC: 07S.38E.06.31434J
QTID: 11522
ELEV: 4198.00
USE: S
DEPTH: 205
GEO. UNIT: 210CRCS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
MAR 27, 1975	197.95	JAN 08, 1980	195.05	JAN 25, 1985	194.00

HIGHEST 194.00 JAN 25, 1985
LOWEST 197.95 MAR 27, 1975

SITE ID: 334350103145101

LOC: 07S.36E.10.112124
OTID: 12562
ELEV: 4140.00
USE: H
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
JAN 08, 1980	182.18	JAN 24, 1985	182.09	FEB 01, 1990	180.59	JAN 18, 1995	179.77 S

HIGHEST 179.77 JAN 18, 1995
LOWEST 182.18 JAN 08, 1980

SITE ID: 334304103133301
LOC: 07S.36E.11.41113
OTID: 11523
ELEV: 4128.00
USE: S
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
MAR 12, 1970	186.99	JAN 16, 1980	186.54	FEB 01, 1990	185.71		
MAR 26, 1975	186.32	JAN 23, 1985	186.44	JAN 18, 1995	185.36 S		

HIGHEST 185.36 JAN 18, 1995
LOWEST 186.99 MAR 12, 1970

SITE ID: 334329103120201
LOC: 07S.36E.12.24414
OTID: 12563
ELEV: 4112.00
USE: S
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS
JAN 16, 1980	193.43

SITE ID: 334134103133901
LOC: 07S.36E.23.323221
OTID: 12564
ELEV: 4110.00
USE: S
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
JAN 11, 1980	164.58	JAN 23, 1985	185.42	FEB 14, 1990	185.16	JAN 18, 1995	185.67 S

HIGHEST 164.58 JAN 11, 1980
LOWEST 185.67 JAN 18, 1995

SITE ID: 334117103122901
LOC: 078.36E.24.43331
OTID: 12565
ELEV: 4100.00
USE: S
DEPTH: 191
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
JAN 15, 1980	182.19	JAN 15, 1985	190.47 P	FEB 14, 1990	179.20

HIGHEST 179.20 FEB 14, 1990
LOWEST 182.19 JAN 15, 1980

SITE ID: 334049103140401
LOC: 078.36E.27.424231
OTID: 12566
ELEV: 4119.00
USE: U
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
JAN 15, 1980	186.35	JAN 15, 1985	185.88	FEB 08, 1990	186.99

HIGHEST 185.88 JAN 15, 1985
LOWEST 186.99 FEB 08, 1990

SITE ID: 334049103154402
LOC: 078.36E.26.143433Q
OTID: 06224
ELEV: 4138.00
USE: S
DEPTH: 202
GEO. UNIT:

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS

FEB 08, 1990 184.81 JAN 13, 1[redacted] 183.93 S

HIGHEST 183.93 JAN 13, 1995
LOWEST 184.81 FEB 08, 1990

SITE ID: 334105103165701
LOC: 07S.36E.29.11413
OTID: 12567
ELEV: 4146.00
USE: S
DEPTH: 230
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
JAN 11, 1980	187.03	JAN 11, 1985	185.80	FEB 15, 1990	184.92	JAN 13, 1995	184.03 S

HIGHEST 184.03 JAN 13, 1995
LOWEST 187.03 JAN 11, 1980

SITE ID: 333931103140501
LOC: 07S.36E.34.444342
OTID: 12692
ELEV: 4100.00
USE: S
DEPTH: 179
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS
JAN 15, 1985	159.39

SITE ID: 333940103125901
LOC: 07S.36E.36.33113
OTID: 12582
ELEV: 4093.00
USE: S
DEPTH:
GEO. UNIT: 1210GLL

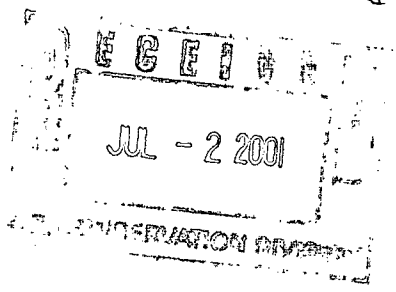
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
JAN 15, 1980	175.02	JAN 30, 1985	154.90	JAN 04, 1995	153.94 S		
JAN 15, 1985	154.96	FEB 08, 1990	153.82				

HIGHEST 153.82 FEB 08, 1990
LOWEST 175.02 JAN 15, 1980

ALLSTATE ENVIRONMENTAL SERVICES, LLC

P.O BOX 11322
MIDLAND, TEXAS 79702
OFFICE: (915) 682-3547
FAX: (915) 682-4182



May 29, 2001

New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, New Mexico 87505
ATTN: Mr. Wayne Price

Dr. Mr. Price,

The Saga Petroleum L.L.C. Todd Lower San Andres Unit Pit, located in Roosevelt county New Mexico whose legals are Section 31- Township 7 South- Range 36 East. Unit B was delineated by Allstate Environmental Services L.L.C. on May 4, 2001. A 410 John Deere extendahoe was used to trench areas of the pit. Samples were obtained from the bottom of each trench (see map) and analyzed using method EPA SW 846-8015M GRO/DRO for TPH, EPA SW 84608021B, 5030 for BTEX and method SW 846-9253 for chloride (see attached analytical). The depth of the trenches varied form 2' to 10'. Field screening was performed using a PID (see result map APPENDIX ONE) and by smell and visual. Stained areas where surface equipment was in place were sampled (see map APPENDIX ONE & TWO) and the same analytical methods were used as above (see analytical).

Saga Petroleum L.L.C. provided AES with a verbal history of the site. The facility was a tank battery installation used exclusively for production and storage of oil. The pit located directly behind the tanks is where the tanks were drained of BS & W.

AES believes that the facility being used exclusively for oilfield production purposes, and the pit was used to drain the tanks into, qualifies as an exempt facility.

AES would like to propose the following, **PLAN OF ACTION:**

*The pit area and it's contents will be excavated and stockpiled on the surface. Once the contaminated soil has been excavated from the pit area AES will lay out a grid, each area will measure 50' X 50' and one composite sample will be taken from each block. Bottomhole and sidewall samples will be taken and analyzed using the method EPA 846-8015M DRO/GRO for TPH, method EPA 846-8021B, 5030 for BTEX, and method SW 846-9253 for chloride. AES is seeking a 5,000 PPM closure level based on the ranking criteria set forth by the Unlined Surface Impoundment Guidelines. (Please see attached water data AES obtained from the Stateland office in Clovis and the State Engineers office in Roswell.)

Suspect areas of contamination on the location will be excavated and incorporated into the pit material. The same sampling procedure will be used to sample this area, defining vertical and horizontal extent as used for the pit area.

Once the areas are sampled and thru analysis proven below the required closure levels CKD material will be introduced into the pit area. The encapsulation process will begin by placing the contaminated material stockpiled on location into the CKD materail and thoroughly mixing while water is incorporated into the matrix and mixed. AES is anticipating utilizing the excavated area adjacent to the pit as a mixing area also.

When the encapsulation process is finished, clean top soil will be brought in and used for backfill. The areas of excavationwill be backfilled back to surface grade. After backfilling is accomplished the entire area will be reseeded with vegetation deemed appropriate by the New Mexico State Land Office.

A closure report will follow documenting the activities- sample points- dimensions- and analysis of this project.

Thank you for your time in reviewing this plan. If there are any questions please call me at (915)682-3547.

Sincerely,

Randy Offield

Randy Offield

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES ENVIRONMENTAL
ATTN: MR. RANDY OFFIELD
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 682-4182

Sample Type: Soil
Sample Condition: Intact/ Iced/ 4.0 deg C
Project #: SAGA-Todd Pitt
Project Name: None Given
Project Location: Millsand, NM

Sampling Date: 05/04/01
Receiving Date: 05/04/01
Analysis Date: 05/29/01

ELT#	FIELD CODE	Chlorides mg/kg
40030	SAGA #1	224
40031	SAGA #1 BH 3'	331
40032	SAGA #2 BH 4'	510
40033	SAGA #2 SW 2'	2023
40034	SAGA #3 BH 4'	2072
40035	SAGA #4 BH 4'	13294
40036	SAGA #5 BH 4'	66.5
40037	SAGA #6 BH 8'	5388
40038	SAGA #7 BH 10'	4360
40039	SAGA #8 BH 6'	461
40040	SAGA #9 BH 5'	22.2
40041	SAGA #4A BH6'	8154
	Quality Control	5140
	True Value	5000
	% Precision	103
	Blank	<5

Methods:SW 846-9253

Celey D. Keene

05/29/01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES ENVIRONMENTAL
ATTN: MR. BILLY SULLIVAN
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 682-4182

Sample Type: Soil
Sample Condition: Intact/Iced/ 4.0 deg C
Project #: Saga-Todd Pitt
Project Name: None Given
Project Location: Millsand, N.M.

Sampling Date: 05/04/01
Receiving Date: 05/04/01
Analysis Date: 05/07/01

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
40030	Saga #1	<100	11941
40031	Saga #1 BH 3'	<10	<10
40032	Saga #2 BH 4'	<10	<10
40033	Saga #2 SW 2'	<10	<10
40034	Saga #3 BH 4'	<10	<10
40035	Saga #4 BH 4'	<10	<10
40036	Saga #5 BH 4'	<10	<10
40037	Saga #6 BH 8'	<10	<10
40038	Saga #7 BH 10'	<10	<10
40039	Saga #8 BH 6'	<10	<10
40040	Saga #9 BH 5'	<10	<10
40041	Saga #4A BH 6'	<10	<10
	% IA	108	109
	%EA	97	95
	BLANK	<10	<10

Methods: EPA SW 846-8015M GRO/DRO

Raland K. Tuttle

5-8-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES ENVIRONMENTAL
ATTN: MR. BILLY SULLIVAN
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 682-4182

Sample Type: Soil
Sample Condition: Intact/ Iced/ 4.0 deg. C
Project #: Saga-Todd Pitt
Project Name: None Given
Project Location: Millsand, N.M.

Sampling Date: 05/04/01
Receiving Date: 05/04/01
Analysis Date: 05/04/01

ELT#	FIELD CODE	BENZENE mg/kg	TOLUENE mg/kg	ETHYLBENZENE mg/kg	m,p-XYLENE mg/kg	o-XYLENE mg/kg
40030	Saga #1	<0.025	<0.025	<0.025	<0.025	<0.025
40031	Saga #1 BH 3'	<0.025	<0.025	<0.025	<0.025	<0.025
40032	Saga #2 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40033	Saga #2 SW 2'	<0.025	<0.025	<0.025	<0.025	<0.025
40034	Saga #3 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40035	Saga #4 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40036	Saga #5 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40037	Saga #6 BH 8'	<0.025	<0.025	<0.025	<0.025	<0.025
40038	Saga #7 BH 10'	<0.025	<0.025	<0.025	<0.025	<0.025
40039	Saga #8 BH 6'	<0.025	<0.025	<0.025	<0.025	<0.025
40040	Saga #9 BH 5'	<0.025	<0.025	<0.025	<0.025	<0.025
40041	Saga #4A BH 6'	<0.025	<0.025	<0.025	<0.025	<0.025
	%IA	92	93	96	103	95
	%EA	90	93	94	104	97
	BLANK	<0.025	<0.025	<0.025	<0.025	<0.025

METHODS: EPA SW 846-8021B ,5030

Raland K. Tuttle

5-8-01
Date

Saga Petroleum, L.L.C.
Todd Lower San Andres Unit Pit
Roosevelt County, New Mexico
Proposed Plan of Action

Prepared By:
Allstate Environmental Services, L.L.C.
P.O. Box 11322
Midland, Texas 79702
1-915-682-3547

TABLE OF CONTENTS

ALLSTATE ENVIRONMENTAL SERVICES, LLC

P.O BOX 11322
MIDLAND, TEXAS 79702
OFFICE: (915) 682-3547
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May 29, 2001

New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, New Mexico 87505
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Suspect areas of contamination on the location will be excavated and incorporated into the pit material. The same sampling procedure will be used to sample this area, defining vertical and horizontal extent as used for the pit area.

Once the areas are sampled and thru analysis proven below the required closure levels CKD material will be introduced into the pit area. The encapsulation process will begin by placing the contaminated material stockpiled on location into the CKD material and thoroughly mixing while water is incorporated into the matrix and mixed. AES is anticipating utilizing the excavated area adjacent to the pit as a mixing area also.

When the encapsulation process is finished, clean top soil will be brought in and used for backfill. The areas of excavation will be backfilled back to surface grade. After backfilling is accomplished the entire area will be re-seeded with vegetation deemed appropriate by the New Mexico State Land Office.

A closure report will follow documenting the activities- sample points- dimensions- and analysis of this project.

Thank you for your time in reviewing this plan. If there are any questions please call me at (915)682-3547.

Sincerely,

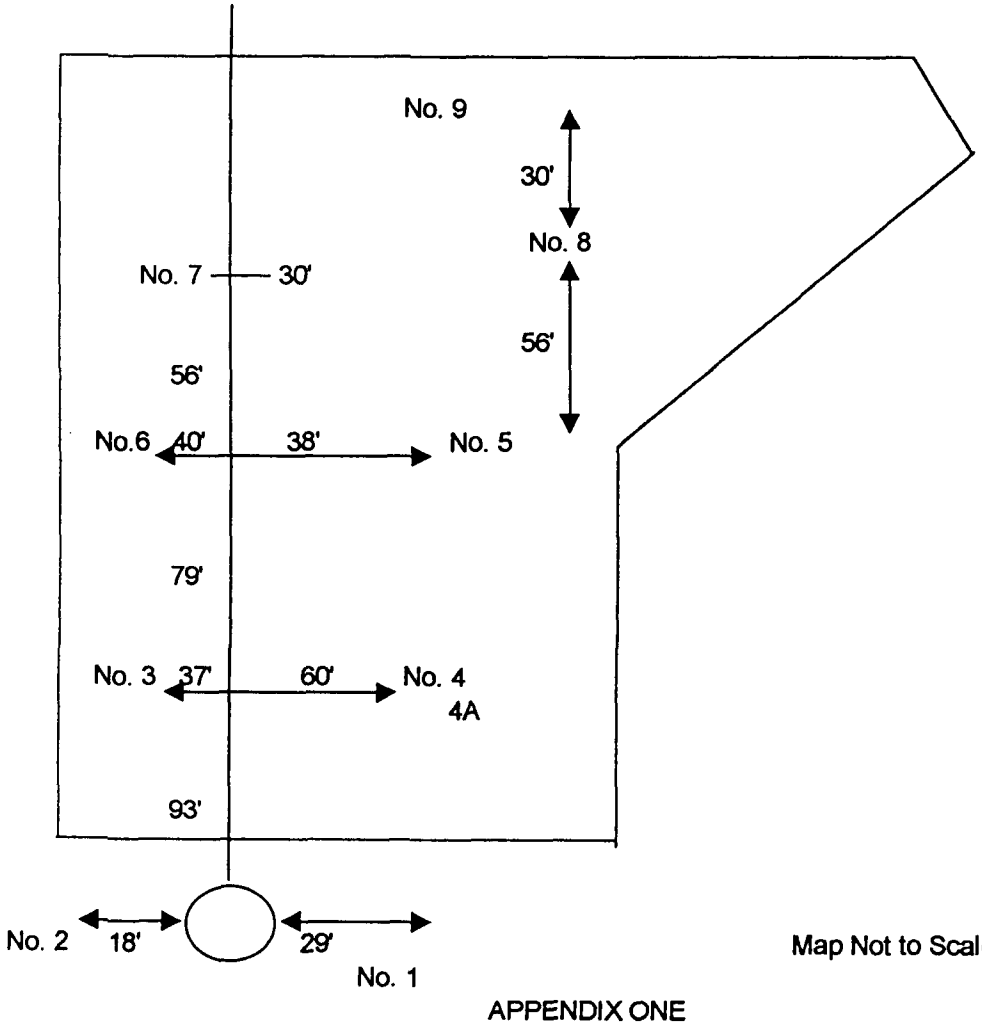
Randy Offield

Saga-Todd Pit

N

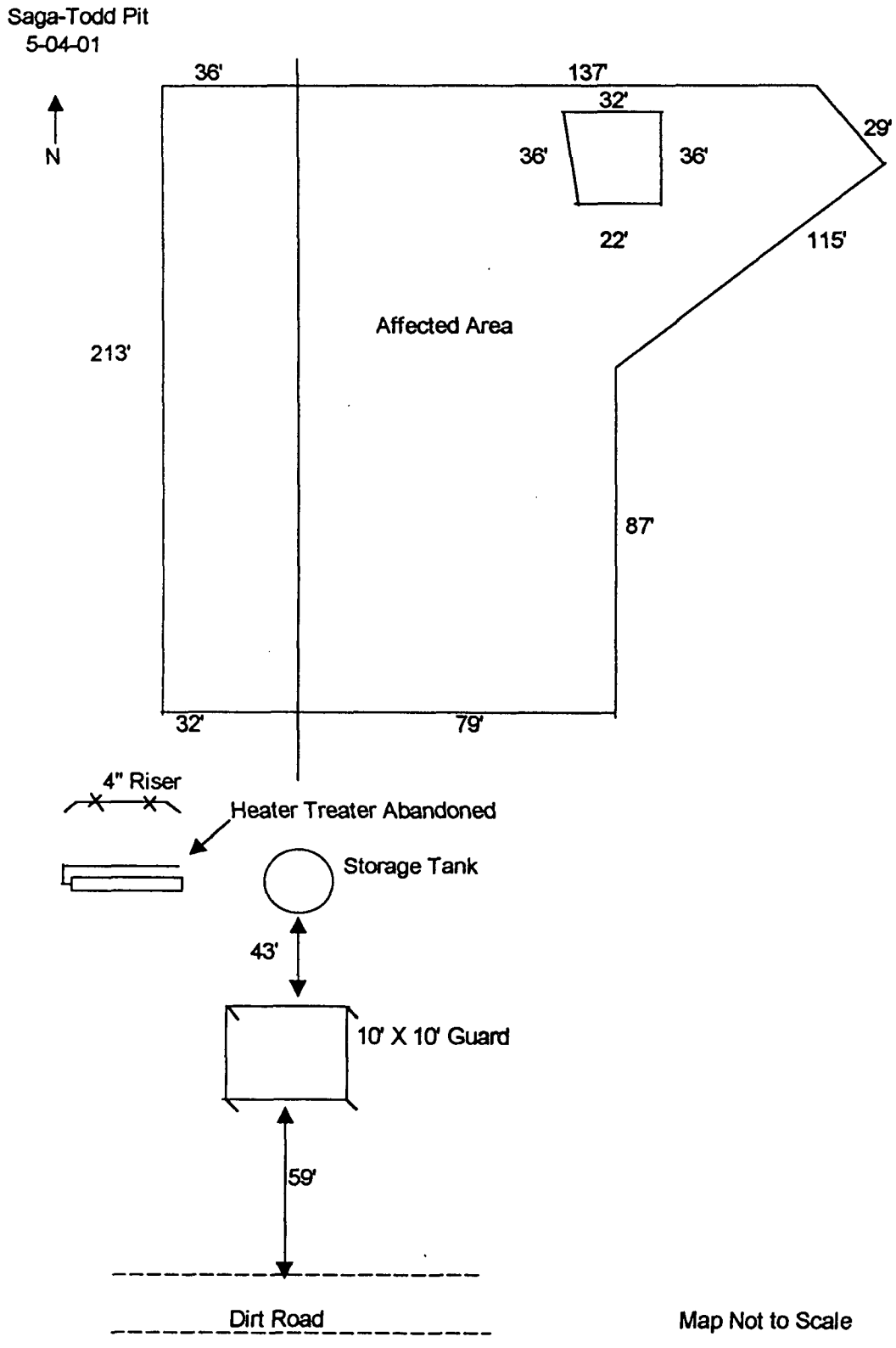
No. 1- 1'- 2.3 P.P.M.
B.H. 3' - 0 P.P.M.
No. 2- B.H. 4' - 0.1 P.P.M.
SW. 2' - 2.5 P.P.M.
No. 3- B.H. 4' - 2.5 P.P.M.

No. 4- B.H. 4' - 11.0 P.P.M.
No. 4A- B.H.6' -0.1 P.P.M.
No. 5- B.H. 4' - 2.3 P.P.M.
No. 6- B.H. 8' - 1.5 P.P.M.
No. 7- B.H. 10' - 1.3 P.P.M.
No. 8.- B.H. 8' - 1.5 P.P.M.
No. 9- B.H. 5'- 0.01 P.P.M.



Map Not to Scale

APPENDIX ONE



APPENDIX TWO

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES ENVIRONMENTAL
ATTN: MR. RANDY OFFIELD
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 682-4182

Sample Type: Soil
Sample Condition: Intact/ Iced/ 4.0 deg C
Project #: SAGA-Todd Pitt
Project Name: None Given
Project Location: Millsand, NM

Sampling Date: 05/04/01
Receiving Date: 05/04/01
Analysis Date: 05/29/01

ELT#	FIELD CODE	Chlorides mg/kg
40030	SAGA #1	224
40031	SAGA #1 BH 3'	331
40032	SAGA #2 BH 4'	510
40033	SAGA #2 SW 2'	2023
40034	SAGA #3 BH 4'	2072
40035	SAGA #4 BH 4'	13294
40036	SAGA #5 BH 4'	66.5
40037	SAGA #6 BH 8'	5388
40038	SAGA #7 BH 10'	4360
40039	SAGA #8 BH 6'	461
40040	SAGA #9 BH 5'	22.2
40041	SAGA #4A BH6'	8154
	Quality Control	5140
	True Value	5000
	% Precision	103
	Blank	<5

Methods:SW 846-9253

Celey D. Keene

05/29/01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES ENVIRONMENTAL
ATTN: MR. BILLY SULLIVAN
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 682-4182

Sample Type: Soil
Sample Condition: Intact/Iced/ 4.0 deg C
Project #: Saga-Todd Pitt
Project Name: None Given
Project Location: Millsand, N.M.

Sampling Date: 05/04/01
Receiving Date: 05/04/01
Analysis Date: 05/07/01

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
40030	Saga #1	<100	11941
40031	Saga #1 BH 3'	<10	<10
40032	Saga #2 BH 4'	<10	<10
40033	Saga #2 SW 2'	<10	<10
40034	Saga #3 BH 4'	<10	<10
40035	Saga #4 BH 4'	<10	<10
40036	Saga #5 BH 4'	<10	<10
40037	Saga #6 BH 8'	<10	<10
40038	Saga #7 BH 10'	<10	<10
40039	Saga #8 BH 6'	<10	<10
40040	Saga #9 BH 5'	<10	<10
40041	Saga #4A BH 6'	<10	<10
	% IA	108	109
	%EA	97	95
	BLANK	<10	<10

Methods: EPA SW 846-8015M GRO/DRO

Raland K. Tuttle

5-8-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ALLSTATE SERVICES ENVIRONMENTAL
ATTN: MR. BILLY SULLIVAN
P.O. BOX 11322
MIDLAND, TEXAS 79702
FAX: 682-4182

Sample Type: Soil
Sample Condition: Intact/ Iced/ 4.0 deg. C
Project #: Saga-Todd Pitt
Project Name: None Given
Project Location: Millsand, N.M.

Sampling Date: 05/04/01
Receiving Date: 05/04/01
Analysis Date: 05/04/01

ELT#	FIELD CODE	BENZENE mg/kg	TOLUENE mg/kg	ETHYLBENZENE mg/kg	m,p-XYLENE mg/kg	o-XYLENE mg/kg
40030	Saga #1	<0.025	<0.025	<0.025	<0.025	<0.025
40031	Saga #1 BH 3'	<0.025	<0.025	<0.025	<0.025	<0.025
40032	Saga #2 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40033	Saga #2 SW 2'	<0.025	<0.025	<0.025	<0.025	<0.025
40034	Saga #3 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40035	Saga #4 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40036	Saga #5 BH 4'	<0.025	<0.025	<0.025	<0.025	<0.025
40037	Saga #6 BH 8'	<0.025	<0.025	<0.025	<0.025	<0.025
40038	Saga #7 BH 10'	<0.025	<0.025	<0.025	<0.025	<0.025
40039	Saga #8 BH 6'	<0.025	<0.025	<0.025	<0.025	<0.025
40040	Saga #9 BH 5'	<0.025	<0.025	<0.025	<0.025	<0.025
40041	Saga #4A BH 6'	<0.025	<0.025	<0.025	<0.025	<0.025
%IA		92	93	96	103	95
%EA		90	93	94	104	97
BLANK		<0.025	<0.025	<0.025	<0.025	<0.025

METHODS: EPA SW 846-8021B ,5030

Raland K. Tuttle

5-8-01
Date


WATER

file://A:\MVC-005F.JPG

5/1/01

5/25/2001

Allstate
Attn: Peggy
FAX: 915 682-4182

MATERIAL SAFETY DATA SHEET (MSDS) FOR PORTLAND CEMENT

(Complies with OSHA's Hazard Communication Standard, 29 CFR 1910.1200)

CEMEX, INC.
ODESSA CEMENT PLANT
P.O. BOX 1547
ODESSA, TEXAS 79760

Section 1 - IDENTIFICATION

Supplier/Manufacturer

CEMEX, INC.
Odessa Cement Plant
P.O. Box 1547
Odessa, Texas 79760

Emergency Contact Information

(915) 385-2800
(800) 927-4838 (24-hour number)

Chemical name and synonyms

Portland Cement (CAS #65997-15-1)

Product name

"Southdown Type I"
"Southdown Type I/II"
"Southdown Type III"
"Southdown Type V"
"Southdown Class C" (Oil Well Cement)
"Southdown Class H" (Oil Well Cement)
"Southdown Class A" (Oil Well Cement)

Chemical family	Formula	
Calcium salts.	$3CaO.SiO_2$	(CAS #12168-85-3)
	$2CaO.SiO_2$	(CAS #10034-77-2)
	$3CaO.Al_2O_2$	(CAS #12042-78-3)
	$4CaO..Al_2O_3Fe_2O_3$	(CAS #12068-35-8)
	$CaSO_2.2H_2O$	(CAS #13397-24-5)
Other salts:	Small amounts of MgO, and trace amounts of K_2SO_4 and Na_2SO_4 may also be present.	

Section 2 - COMPONENTS

Hazardous Ingredients

Portland cement clinker (CAS# 65997-15- 1) - approximately 93.5-96.0 % by weight
ACGIH TLV-TWA (2000) = 10 mg total dust/m^3
OSHA PEL (8-hour TWA) = 50 million particles/ft^3

Gypsum/Calcium Sulfate Dihydrate (CAS# 7778-18-9) - approximately - 4.0-6.5 % by weight
ACGIH TLV-TWA (2000) = 10 mg total dust/m^3
OSHA PEL (8-hour TWA) = 15 mg total dust/m^3
OSHA PEL (8-hour TWA) = 5 mg respirable dust/m^3

Respirable quartz (CAS# 14808-60-7) - approximately - 0.02-0.04 % by weight
ACGIH TLV-TWA (2000) = 0.05 mg respirable quartz dust/m^3
OSHA PEL (8-hour TWA) = (10 mg respirable dust/m^3)/(percent silica + 2)

Trace Ingredients

Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include up to 0.75% insoluble residue, some of which may be free crystalline silica, calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

Section 3 - HAZARD IDENTIFICATION

Emergency Overview

Portland cement is a light gray powder that poses little immediate hazard. A single short-term exposure to the dry powder is not likely to cause serious harm. However, exposure of sufficient duration to wet portland cement can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns. The same type of tissue destruction can occur if wet or moist areas of the body are exposed for sufficient duration to dry portland cement.

Potential Health Effects

Relevant Routes of Exposure:
Eye contact, skin contact, inhalation, and ingestion.

Effects Resulting from Eye Contact:
Exposure to airborne dust may cause immediate or delayed irritation or inflammation. Eye contact by large amounts of dry powder or splashes of wet portland cement may cause effects ranging from moderate eye irritation to chemical burns or blindness. Such exposures require immediate first aid (see Section 4) and medical attention to prevent significant damage to the eye.

Effects Resulting from Skin Contact:
Discomfort or pain cannot be relied upon to alert a person to hazardous skin exposure. Consequently, the only effective means of avoiding skin injury or illness involves minimizing skin contact, particularly with wet cement. Exposed persons may not feel discomfort until hours after the exposure has ended and significant injury has occurred.

Dry portland cement contacting wet skin or exposure to moist or wet portland cement may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (alkali) chemical burns.

Some individuals may exhibit an allergic response upon exposure to portland cement, possibly due to trace elements of chromium. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers. Persons already sensitized may react to their first contact with the product. Other persons may first experience this effect after years of contact with portland cement products.

Effects Resulting from Inhalation:
Portland cement may contain trace amounts of free crystalline silica. Prolonged exposure to respirable free silica can aggravate other lung conditions and cause silicosis, a disabling and potentially fatal lung disease.

Exposure to portland cement may cause irritation to the moist mucous membranes of the nose, throat, and upper respiratory system. It may also leave unpleasant deposits in the nose.

Effects Resulting from Ingestion:
Although small quantities of dust are not known to be harmful, ill effects are possible if larger quantities are consumed. Portland cement should not be eaten.

Carcinogenic potential:
Portland cement is **not** listed as a carcinogen by NTP, OSHA, or IARC. It may however, contain trace amounts of substances listed as carcinogens by these organizations.

Crystalline silica, a potential trace level contaminate in Portland cement, is now classified by IARC as known human carcinogen (Group I). NTP has characterized respirable silica as "reasonably anticipated to be [a] carcinogen".

Medical conditions which may be aggravated be, inhalation or dermal exposure:
Pre-existing upper respiratory and lung diseases.
Unusual (hyper) sensitivity to hexavalent chromium (chromium^{+6}) salts.

Section 4 - FIRST AID

Eyes

Immediately flush eyes thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

Skin

Wash skin with cool water and pH-neutral soap or a mild detergent. Seek medical treatment in all cases of prolonged exposure to wet cement, cement mixtures, liquids from fresh cement products, or prolonged wet skin exposure to dry cement.

Inhalation of Airborne Dust

Remove to fresh air. Seek medical help if coughing and other symptoms do not subside.

Ingestion

Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

Section 5 - FIRE AND EXPLOSION DATA

Flash point .....None	Lower Explosive Limit.....None
Upper Explosive Limit.....None	Auto ignition temperature.....Not Combustible
Extinguishing media.....Not Combustible	Special fire fighting Procedures.....None
Hazardous combustion products..None	Unusual fire and explosion hazards...None

Section 6 - ACCIDENTAL RELEASE MEASURES

Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin.
Wear appropriate personal protective equipment as described in Section 8.

Scrape up wet material and place in an appropriate container. Allow the material to "dry" before disposal. Do not attempt to wash portland cement down drains.

Dispose of waste material according to local, state and federal regulations.

Section 7 - HANDLING AND STORAGE

Keep portland cement dry until used. Normal temperatures and pressures do not affect the material.

Promptly remove dusty clothing or clothing which is wet with cement fluids and launder before reuse. Wash thoroughly after exposure to dust or wet cement mixtures or fluids.

Section 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Skin Protection

Prevention is essential to avoiding potentially severe skin injury. Avoid contact with unhardened portland cement. If contact occurs, promptly wash affected area with soap and water. Where prolonged exposure to unhardened portland cement products might occur, wear impervious clothing and gloves to eliminate skin contact. Wear sturdy boots that are impervious to water to eliminate foot and ankle exposure.

Do not rely on barrier creams: barrier creams should not be used in place of gloves.

Periodically wash areas contacted by dry portland cement or by wet cement or concrete fluids with a pH neutral soap. Wash again at the end of work. If irritation occurs, immediately wash the affected area and seek treatment. If clothing becomes saturated with wet concrete, it should be removed and replaced with clean dry clothing.

Respiratory Protection

Avoid actions that cause dust to become airborne. Use local or general exhaust ventilation to control exposures below applicable exposure limits.

Use NIOSH/MSHA approved (under 30 CFR 11) or NIOSH approved (under 42 CFR 84) respirators in poorly ventilated areas, if an applicable exposure limit is exceeded, or when dust causes discomfort or irritation. (Advisory: Respirators and filters purchased after June 10, 1998 must be certified under 42 CFR 84.)

Ventilation

Use local exhaust or general dilution ventilation to control exposure within applicable limits.

Eye Protection

Where potentially subject to splashes or puffs of cement, wear safety glasses with side shields or goggles. In extremely dusty environments and unpredictable environments wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with portland cement or fresh cement products.

Section 9 - PHYSICAL AND CHEMICAL, PROPERTIES

Appearance.....Gray Powder
Physical state.....Solid (powder)
Solubility in water...Slightly soluble (0.1 to 1.0%)
Vapor density.....Not applicable
Melting point.....Not applicable
Evaporation rate.....Not applicable

Odor.....No distinct odor
pH (in water).....12 to 13
Vapor pressure.....Not applicable
Boiling point.....Not applicable (i.e., > 1000 C)
Specific gravity (H20 = 1.0).....3.15

Section 10 - STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid

Unintentional contact with water.

Incompatibility

Wet Portland cement is alkaline. As such it is incompatible with acids, ammonium salts and phosphorous.

Hazardous decomposition

Will not spontaneously occur. Adding water produces (caustic) calcium hydroxide

Hazardous Polymerization

Will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

For a description of available, more detailed toxicological information contact the supplier or manufacturer.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

No recognized unusual toxicity to plants or animals

Relevant physical and chemical properties

(See Sections 9 and 10.)

Section 13 - DISPOSAL

Dispose of waste material according to local, state and federal regulations. (Since portland cement is stable, uncontaminated material may be saved for future use.

Dispose of bags in an approved landfill or incinerator.

Section 14 - TRANSPORTATION DATA

Hazardous materials description/proper shipping name
Portland is cement is not hazardous under U.S. Department of Transportation (DOT) regulations.

Hazard class
Not applicable

Identification number
Not applicable.

Required label text
Not applicable.

Hazardous substances/reportable quantities (RQ)
Not applicable.

Section 15 - OTHER REGULATORY INFORMATION

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200
Portland cement is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312
Portland cement qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
Not subject to reporting requirements under Section 313.

Status under TSCA (as of May 1997)
Some substances in portland cement are on the TSCA inventory list.

Status under the Federal Hazardous Substances Act
Portland cement is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

Section 16 - OTHER INFORMATION

Prepared by

Michael A. Tilton
Manager - Health and Safety
CEMEX, INC.
Houston, Texas

Approval date or Revision date

August, 1997

Date of previous MSDS

Approved: March, 1991
Revised: May, 2000
Revised Name: April 2001

Other important information

Portland cement should only be used by knowledgeable persons. A key to using the product safely requires the user to recognize that portland cement chemically reacts with water, and that some of the intermediate products of this reaction (that is those present while a portland cement product is "setting") pose a more severe hazard than does dry portland cement itself.

While the information provided in this material safety data sheet is believed to provide a useful summary of the hazards of portland cement as it is commonly used, the sheet cannot anticipate and provide the all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product.

SELLER MAKES NO WARRANTY, EXPRESSED OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, INC. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX, INC. to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with portland cement to produce portland cement products. Users should review other relevant material safety data sheets before working with this portland cement or working on portland cement products, for example, portland cement concrete.