KELLY AFB
TEXAS

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 3322

KELLY AFB RESTORATION ADVISORY BOARD
TECHNICAL REVIEW SUBCOMMITTEE MEETING
WEDNESDAY, NOV. 12, 1997

ST. MARY'S UNIVERSITY
GARNI SCIENCE HALL, ROOM 217

AGENDA

6:30 p.m. - 6:35 p.m.	Introduction	Damian Sandoval
6:35 p.m. - 7:35 p.m.	Human Health Risk Assessment	Maria Martinez, EPA Region 6
7:35 p.m. - 7:40 p.m.	Break	
7:40 p.m. - 8:40 p.m.	Risk Reduction Standard 3 - Case Study for Soil Cleanup	Gary Beyer
8:40 p.m.- 9:10 p.m.	Discussion of Upcoming Document Releases/Review Periods	Kelly AFB/TNRCC/EPA
9:10 p.m. - 9:40 p.m.	Formalize Tech. Rev. Subcomm. Meeting Minutes	Damian Sandoval
9:40 p.m.	Adjourn	

DRAFT

Meeting Notes:

Kelly AFB Restoration Advisory Board
Technical Review Subcommittee Meeting
Wednesday, November 12 1997

The RAB Technical Review Subcommittee met at St. Mary's University. The meeting was chaired by Damian Sandoval. Six members were present: Damian Sandoval, Gary Beyer, George Rice, Gene Lene', Paul Person, and Maria Martinez (for Camille Hueni). Other attendees are listed on the sign-in sheet. The meeting began about 1830 and ended about 2130. It was not recorded.

Introduction

Damian thanked Gene for allowing the RAB to use St. Mary's facilities. He also said that the subcommittee would follow parliamentary procedures and asked that non-members submit any questions in writing.

Damian passed out an Express-News column by Roddy Stinson (11-8-97) regarding the San Antonio Health Department's plans to sample drinking water in neighborhoods that overlay groundwater contamination emanating from Kelly AFB.

The subcommittee accepted a new member - Air Force Captain Tom deVenoge.

Damian and George each had an item they wanted to add to the agenda:

Damian - Letter from health Department Director Dr. Fernando Guerra to residents near Kelly AFB.

George - Letter from Ed Riojas to General Childress regarding the RAB's request that all environmental data be released to the public.

Ron Scharvan (Gary Emery's/Denton Langford's replacement) gave members copies of two documents that will be discussed at the next subcommittee meeting:

Text of the Zone 5 Remedial Investigation Report (North Kelly Gardens Neighborhood, large maps and most tables containing analytical data were not included. George and Damian will bring complete copies to the next meeting).

Building 1592 Area Human Health Risk Assessment of Surface Soil (North Kelly Gardens Neighborhood)

Scheduled Presentation

Maria Martinez of EPA Region 6 (Dallas) gave a presentation on Human Health Risk Assessments. A copy of her view graphs is attached. Maria also handed out a list of EPA Guidance Documents that are available to the public. The following points are from statements Maria made during her presentation and her answers to questions.

Risk assessments are performed by Kelly AFB and its contractors. The EPA reviews the assessments.

Risk assessments do not estimate the synergistic effects of multiple contaminants. This is an area of on-going research. Currently, risk assessment rules call for adding the effects of individual contaminants, but don't account for possible interactions that could multiply (or cancel) harmful effects.

Risk assessments themselves don't take economic factors into account, although the EPA may consider economic factors when making clean-up decisions.

The EPA has a data base (IRIS) that contains information used to perform risk assessments. This public cannot easily access this data base. It is not available from libraries or on the internet (password required). Question – how do Air Force contractors access IRIS?. Another data base - HEAST - is available to the public.

Carcinogens (cancer causing substances) are divided into several groups: Group A - known human carcinogens, Group B - probable human carcinogens, group C - possible human carcinogens, Group D - not enough data, and Group E - non-carcinogens. There are less than 50 Group A carcinogens.

The carcinogenicity of TCE is being re-evaluated. It is currently in group B, but may be reclassified to group C.

General discussion:

The Texas Department of Transportation (TX DOT) has conducted environmental studies in the vicinity of Kelly AFB. Damian said that TX DOT data had been given to Kelly AFB. Also, the pumps at the underpass on General Hudnell remove surface water, not groundwater.

The Air Force has completed geophysical work in Zone 3 (including Union Pacific property). Question – when will report be available to the public?

Question – how will regulators decide who is responsible for much of the contamination found off-base? There could be sources other that Kelly AFB. Gary Beyer said the Texas Natural Resource Conservation Commission (TNRCC) was beginning to look into the issue. Captain deVenoge said the Air Force was beginning to look for other parties that may have caused contamination, but this was really TNRCC's job.

----------Approx. 15 minute break--------

Scheduled Presentation

Gary Beyer of TNRCC Austin gave a presentation on Risk Reduction Standard 3. A copy of his viewgraphs is attached. The following points were raised by Gary during his presentation or in response to questions.

Different portions of Kelly AFB are subject to different standards. Most is subject to Risk Reduction Standard 3 (least stringent requirements). However, some portions are subject to Standard 2 and Standard 1 (most stringent).

Under Standard 3 the waste can remain in place but it must be monitored to ensure that it does not act as a source of contaminants to adjacent properties.

Question -- if land use changes will the Risk Reduction Standard be changed? Probably not - difficult to change Standard once its been set. The best way to handle this is to anticipate land use changes and start with the appropriate Standard.

Air Force will be out of compliance with its' permit as soon as it is issued because contamination in excess of standards (MCLs - health based Maximum Contaminant Levels) is moving beyond the boundaries of regulated units. Thus, the permit will have to be amended in a way that spells out what the Air Force must do to correct the problems. Question -- will the public be allowed to participate in this process as it is participating in the initial permit hearings?

Shallow aquifer is a Class II aquifer - the State considers it a potential source of domestic water. It must be cleaned up to meet drinking water standards (MCLs). Gary does not know of anyone trying to get the aquifer reclassified, and he does not believe there is a realistic chance that it would be reclassified.

People who know their property has been contaminated (above or below ground) are required to inform potential buyers and record the fact in the property deed. However, the question of whether the TNRCC could "deed record" private property has not been resolved.

General discussion:

Contamination of Edwards Aquifer in the vicinity of Kelly AFB. George said he (and the Air Force) had data showing that chlorinated solvents had been found in several Edwards Aquifer wells around Kelly AFB. In most cases contaminants were only found once, and concentrations were far below MCLs. However, well 313 on Kelly AFB was found to contain concentrations of PCE that exceeded the MCL (5.5 µg/l vs 5.0 µg/l, 7/7/88). When this well was resampled (9/23/88) no contaminants were found. The well has been plugged.

Added Agenda Items

Damian - Letter Dr. Fernando Guerra to residents near Kelly AFB.

According to an article by Roddy Stinson, Dr. Fernando Guerra of the Metropolitan Health Department sent a letter to residents in Neighborhoods above the groundwater contaminant plume emanating from Kelly AFB. The letter stated that the Health Department would be collecting drinking water samples from homes and schools in the area. Damian suggested that the Air Force might split samples with the Health Department -- if not during this sampling round, in a future round.

George - Letter from Ed Riojas to General Childress regarding release of environmental data.

George said that Ed Riojas altered the RAB's request in a draft of a letter to General Childress. Instead of asking that *all data* be made public, Ed's draft asked that *all [Installation Restoration Program] data* be released to the public. Because of the altered language, Community Co-Chair Annalisa Peace didn't sign the letter. George said that if this issue wasn't resolved by the next RAB meeting, he would bring Ed's draft to the next meeting.

Next Meeting

Attendees agreed to hold the next meeting on December 1, 1830, at St. Mary's University, Garni Science Hall, room 217.

Kelly AFB personnel will make presentations on two recent documents:

Zone 5 Remedial Investigation (January 1997)

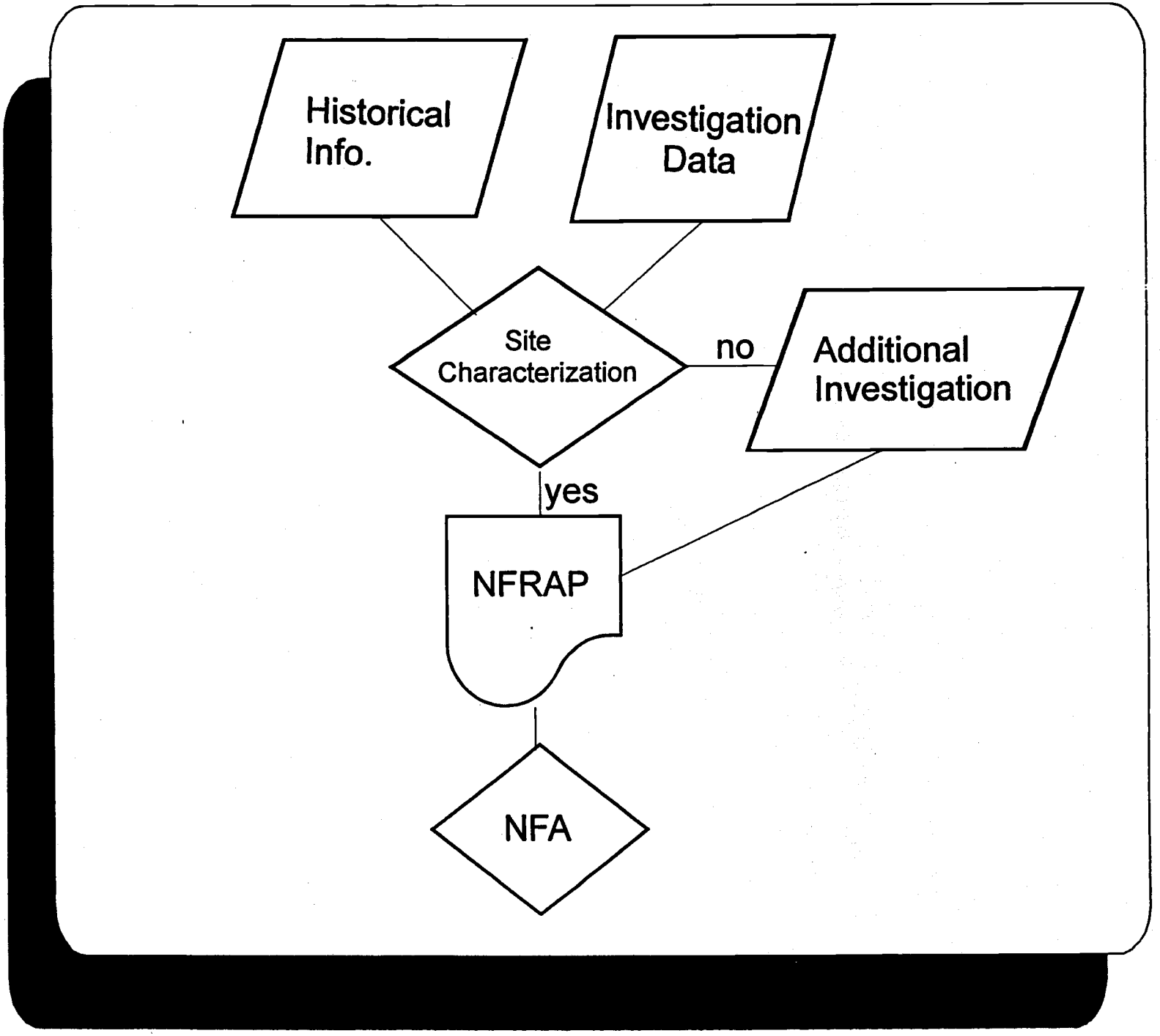
Building 1592 Risk Assessment for Surface Soils (July 1997)

Subcommittee members should review these documents before the meeting. Contact Ron Scharven (925-3100 x 226) to obtain copies of the documents.

Risk Assessment

USEPA, Region 6
Dallas, Texas

Maria L. Martinez
November 12, 1997


Historical Info.
Investigation Data
Site Characterization
no
Additional Investigation
yes
NFRAP
NFA

Sampling Requirements

1. Nature and Extent

   Level III data – high quality data

2. Number of Samples

3. Depth versus Exposure

   SURFACE SOIL

   0-2", 0-6", 0-2' , >2'

Sampling Requirements (contd.):

4. Discrete versus Composite

(preferred)

5. Unfiltered versus Filtered

– gw & sw → preferred; turbidity may require some Filtering

6. Concentration Term

MSR AOC - Guidelines

* ***Supplemental Guidance to RAGS: Calculating the Concentration Term.*** Intermittent Bulletin; Volume Number 1. Publication No. 9285.7-08.

Maximum versus UCL (95%?)

Sampling Requirements (contd.)

7. SW846 Methods

Instrument Detection Limit (IDL) - The lowest amount of a substance that can be detected by an instrument without correction for effects of sample matrix, handling and preparation.

Method Detection Limit (MDL) - The detection limit that takes into account the reagents, sample matrix, and preparation steps applied to a sample in specific analytical methods.

Practical Quantitation Limit (PQL) - The lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. (EQL)

Sample Quantitation Limit (SQL) - The detection limit that accounts for sample characteristics, sample preparation and analytical adjustments, such as dilution.

Risk Paradigm

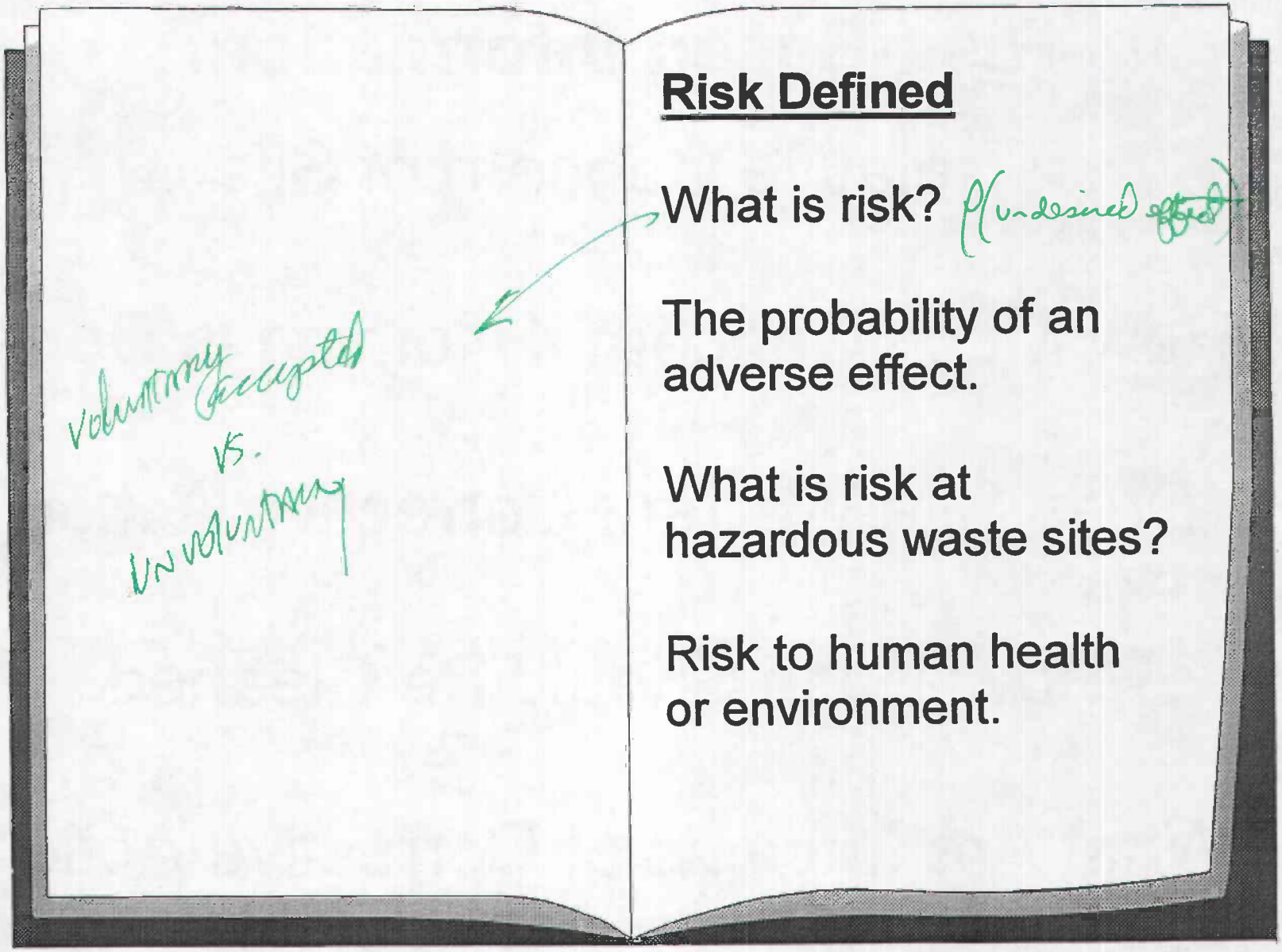
Risk Assessment

Risk Management

Risk Communication

- WHAT IS A PPB?
- WHAT IS THIS CHEMICAL -- how is it used?

WHAT IS 10^{-6} VS. COMMON ACCEPTED RISKS. WHERE IS A RISK LADDER?



Risk Defined

What is risk? P(undesired effect)

The probability of an adverse effect.

What is risk at hazardous waste sites?

Risk to human health or environment.

voluntary accepted vs. involuntary

Basic Questions Answered with Risk-Based Information:

Relative Concern of Site

How Much Concern if Nothing is Done

Does Site Warrant Corrective Action

How Much Should Be Cleaned

What Are Impacts of Corrective Action

Potential Risk Exists Where There Is:

Toxicant

Exposure Pathway

Receptor

Land Use and Exposure

CURRENT and FUTURE

Residential: Schools/Day Cares/Housing

Industrial/Commerical

Construction

Recreational

Sensitive Subpopulations

Reasonable Maximum Exposure – RME

Definition: Highest exposure that is reasonably expected to occur from contamination from a site, considering

- **Land Use**
- **Intake Variables**
- **Pathway Combinations**

Intent is to estimate a conservative/protective exposure case that is still within the range of possible exposures.

- important to keep in mind the conservatism - already built in

Health Effect	Toxicity Measure
Noncarcinogen	Reference Dose (RfD)
Carcinogen	Cancer Slope Factor (CSF)

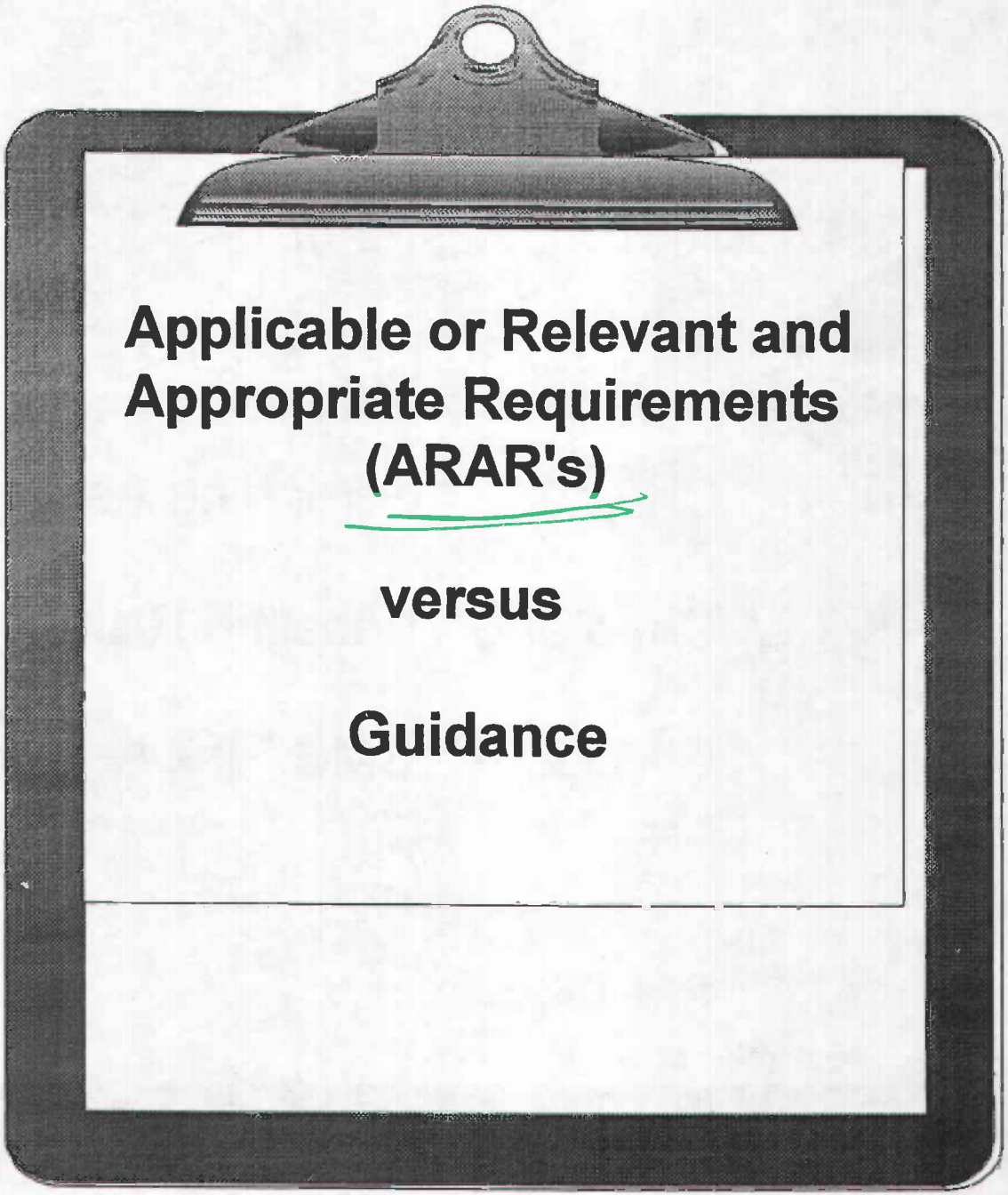
↑RfD, SAFER the chemical

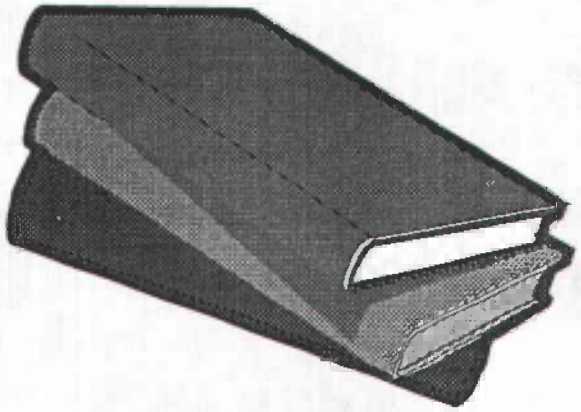
↑CSF, more carcinogenic

how is this determined? AMES TEST?

(ASSUME: NO SAFE EXPOSURE level TO CARCINOGEN → WHAT ABOUT chemo?)

IRIS: integrated Risk info sys. → electronic format only (HEAST → Hardcopy)


Applicable or Relevant and Appropriate Requirements (ARAR's)
versus
Guidance



Risk Assessment

Chapter 1 - Site Assessment

Chapter 2 - Screening Assessment

Chapter 3 - Baseline Risk Assessment

Chapter 4 - CMS Risk Assessment

CORRECTIVE MEASURES STUDY (RI)

Site Assessment

Develop Conceptual Site Model:

- Identify Current and Future Land Use
- Identify Potential Human and Ecological Receptors/Resources
- Identify Potential Exposure Routes and Pathways

Screening Assessment

- Background Concentrations
- Risk-Based Concentrations (e.g: Kelly Background conc. for gw & soils)
- Applicable or Relevant and Appropriate Requirements (ARAR's)

4 KNOWN INORGANICS THAT ARE COMMONLY HIGH IN TX
- As - Mg
- Be - Ba

THOSE OFTEN RESULT IN TRIGGERING ACTION

Screening Levels:

Carcinogenics in Soil, Residential Exposure:

$$C\ (mg/kg;\ risk\text{-}based) = \frac{TR \times AT \times 365\ days/year}{SF \times 10E\text{-}6\ kg/mg \times EF \times IF}$$

(ACCEPTABLE CONCENTRATION)

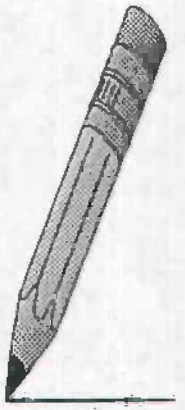
→ EPA VL

C = chemical concentration in soil (mg/kg)
TR = target excess lifetime cancer risk (unitless)
SF = cancer slope factor
AT = averaging time (yr)
EF = exposure frequency (days/yr)
IF = ingestion factor (mg-yr/kg-day)

$$\frac{yr \times \frac{days}{yr}}{\frac{kg}{mg} \times \frac{days}{yr} \times \frac{mg\text{-}yr}{kg \cdot day}} = days$$

(UNITS?)

Intake Equation:



$$\text{Intake (mg/kg-day)} = \frac{CS \times IR \times CF \times EF \times ED}{BW \times AT}$$

CS = Chemical Concentration (e.g. mg/kg, mg/L)
IR = Ingestion Rate (e.g., mg/day, L/day)
EF = Exposure Frequency (days/years)
ED = Exposure Duration (years)
BW= Body Weight (kg)
AT = Averaging Time (period over which eposure is averaged (years)

Soil Screening Levels

***Soil Screening Guidance: User's Guide*. EPA/540/R-96/018. 1996.**

Soil Screening Guidance: Technical Background Document. EPA/540/R-95/128. 1996.

Protection of Groundwater in a Residential Setting.

Baseline Risk Assessment

Estimation of Potential Risk If No Action

- Current and Future Land Use

- Human and Ecological Receptors/Resources

Characterizing Risk:

Calculating Risk:

Noncarcinogen = $\frac{\text{Intake}}{\text{RfD}}$

HAZARD INDEX > 1

Carcinogen = CDI x Cancer Slope Factor

Additive Risks:

Noncarcinogens by target organ.
Carcinogens all.

Uncertainty

Measurement Analyses

Physical Setting: INDUSTRIAL VS RESIDENTIAL

Model Application and Assumptions

Exposure Parameter Assumptions

Toxicity Values

Multiple Substances

CMS Risk Assessment

Estimation of Potential Risk Based on Action

- Land Use

- Human and Ecological Receptors/Resources

- Potential Impacts from Remedy/Alternatives

-- does the remedy pose a hazard?

Corrective Measures Study

Generate Proposed Clean-Up Levels

Evaluation of Alternatives

Effectiveness of Alternatives

Impacts from Alternatives

Interim Measures

HISTORICALLY IST USED FOR LANDFILLS

Presumptive Remedies - e.g., landfills

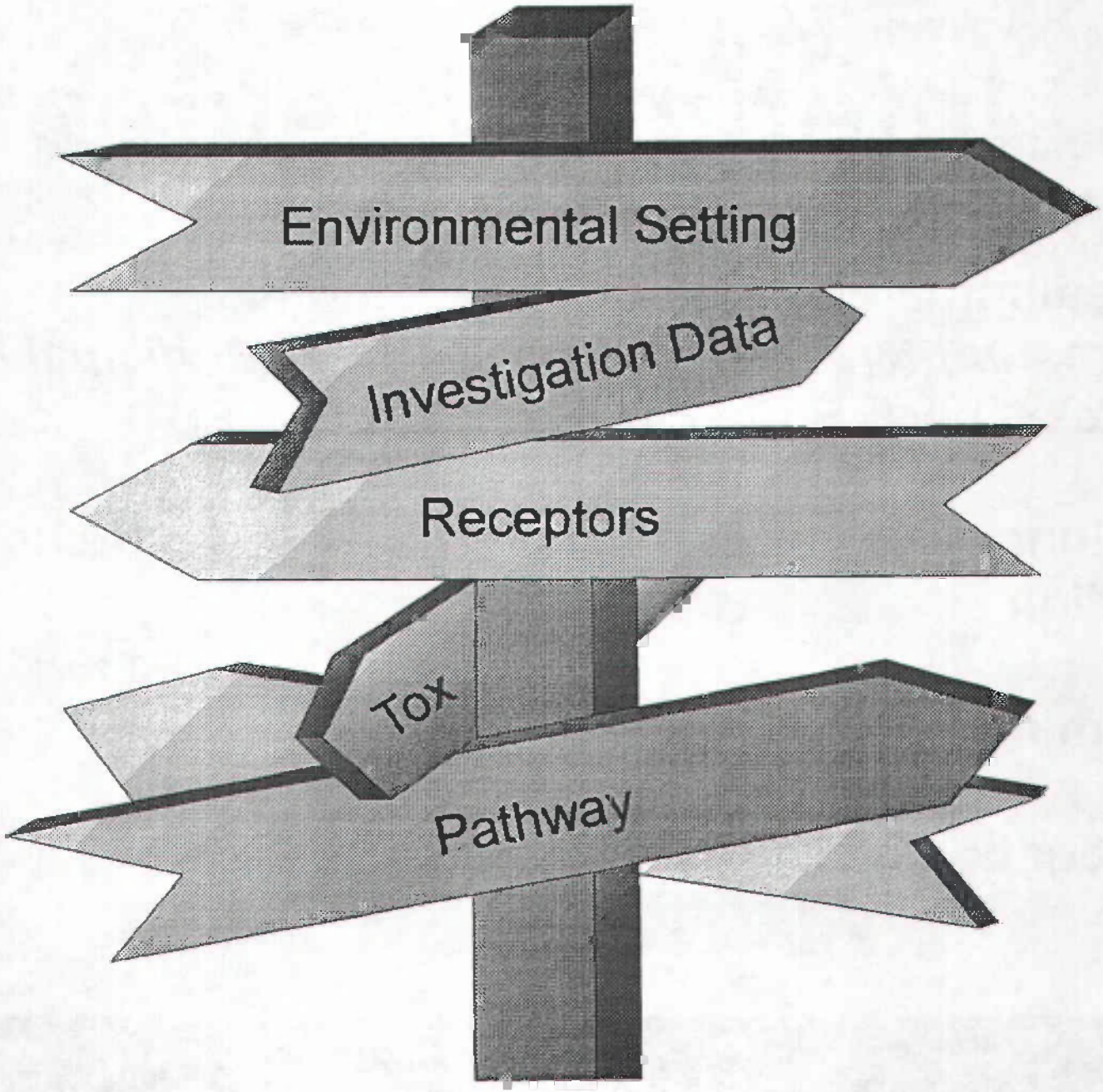
Presumptive Remedy for CERCLA Municipal Landfill Sites. OSWER Directive No. 9355.0-49FS

Voluntary Corrective Measure or Interim Removal Action

- ENGINEERING CONTROLS
- INSTITUTIONAL CONTROLS

Elimination of Exposure

Mitigation of Sources


Environmental Setting
Investigation Data
Receptors
Tox
Pathway

Documents Expected to be Forwarded to TNRCC for Review in 1998

ZONE	PROJECT	DOCUMENTS FOR TNRCC REVIEW	DATE TO BE SENT TO TNRCC	EXPECTED REVIEW TIME
1	Data Gap Sampling to Support the Soils Feasibility Study	Work Plan for Data Gap Sampling and Soils Feasibility Study	1 Dec 97	30 days
1	Soils Feasibility Study	Revised Feasibility Study	1 Dec 98	90 days
1	Closure Plan for Soil Site B-1	Closure Plan	1 Dec 98	30 days
1	Closure Plan for Soil Site D-8	Closure Plan	1 Dec 98	30 days
1	Closure Plan for Soil Site SA-1	Closure Plan	1 Dec 98	30 days
1	Closure Plan for Soil Site E-2	Closure Plan	1 Dec 98	30 days
2	Soil RD/RA	Work Plan		30 days
2	Soil RA	OU1	23 Jan 98	30 days
2	Soil RA	OU2	30 Jan 98	30 days
2	Soil RA	OU4	25 Mar 98	30 days
2	Soil RA	OU5	15 May 98	30 days
2	Soil	Decision Document	12 Dec 97	10 days
2	D-10	Final Design	15Dec 97	10 days
3	Soil RD/RA	Work Plan	26 Sep 97	15 days
3	Soil	Decision Document	12 Dec 97	10 days
3	Soil RA	OU1 Closure Report	13 Feb 98	30 days
3	Soil RA	OU2 Closure Report	20 Mar 98	30 days
Basewide	Basewide PA/SI	PA/SI Report	sent 24 June 97	90 days
4	Remedial Investigation	RI Report	Jun 98	90 days
4	Final Closure Report SS009	Closure Report	sent 3 Oct 97	30 days
4	Yard N , DRMO, Final Closure Report	Closure Report	Oct 97	30 days
4	Lot Z04, Closure Report, (will require follow on work) DRMO	Closure Report	Oct-Nov 97	30 days
4	Bldg 3065 Closure Report, DRMO	Closure Report	Nov-Dec 97	30 days
4	Yard 13 Closure Report (will require follow on work) DRMO	Closure Report	Nov-Dec 97	30 days
4	SS051 and SS040 FFSs	Courtesy copies only	Nov 97	None required
5	Zone 5 Feasibility Study	Report	July 98	90 days
5	Site S-1 Soils FFS	Report	98	30 days
5	5 SWMU Removals at the 149th	Closure Plans and Closure Reports	Closure Plans within the next 3 mos, Closure Reports by Oct 98.	30 days

ZONE	PROJECT	DOCUMENTS FOR TNRCC REVIEW	DATE TO BE SENT TO TNRCC	EXPECTED REVIEW TIME
All	1997 Basewide Remedial Assessment	Annual BRA Report	Oct-97	Review not req'd
All	1997 Basewide Remedial Assessment	Off-Base Contaminant Source Study	Dec-97	Review not req'd
All	1997 Basewide Remedial Assessment	Annual RCRA Report	Jan-98	60 days
All	1997 Basewide Remedial Assessment	Well Abandonment Plan	Jan-98	60 days
All	1997 Basewide Remedial Assessment	Annual Remedial System Monitoring	Feb-98	Review not req'd
All	1997 Basewide Remedial Assessment	Annual Leon Creek Report	Jun-98	Review not req'd
All	1997 Basewide Remedial Assessment	Quarterly RCRA and GW Reports	Oct-97, Jan-98, Apr-98, Jul-98, Oct-98	Review not req'd

City Hall wades into South Side loblolly

Roddy Stinson

If one lives long enough, all things will be seen. Behold, even residents of the South Side will be treated like first-class citizens by City Hall.

This Gazette has learned that San Antonio Metropolitan Health Department officials have decided to stick their noses into the environmental mess around Kelly AFB.

On Thursday, residents of neighborhoods near the base received a letter from health department director Dr. Fernando Guerra, telling them:

"Information recently released by the Air Force indicates that the extent of groundwater contamination is greater than previously thought. . . .

"As the local public health authority, the Metropolitan Health District shortly will be conducting an additional investigation to include sampling of the area drinking water from residential taps."

Bravo.

One small step for City Hall, one giant leap for egalitarianism.

According to various sources:

■ Approximately 50 sites, including homes and schools in the Kelly area, have been selected for drinking-water testing.

■ The city has contracted with a private lab to test for four contaminants:

— Perchloroethylene
— Trichloroethylene
— Dichloroethylene
— Vinyl chloride

■ Health department staffers began collecting tap-water samples on Friday.

■ Results of the testing could be known within a week.

"We decided not to let the Department of Defense and the Air Force drive the whole (testing) process," Guerra said when I called to ask about his letter and City Hall's heightened concern. "We're going to work with them and stay closely connected to whatever information comes out.

"Essentially, this is our way of assuring members of the community that we are looking after their interests in terms of health and well-being."

In his letter, Guerra stressed:

". . . the Air Force has assured area residents that drinking water is safe and that there is no indication of any public health threat to the community."

However, let the record show that the Air Force's assurance is based on a conclusion that contaminants from the base's industrial operations are confined to groundwater far below nearby neighborhoods.

How firm is that conclusion?

You make the call:

■ From a "draft" of a "Shallow Groundwater Information" report prepared for area residents by Kelly's Environmental Management Division (caps mine):

"Because these chemicals are 15 to 25 feet below the surface, there is NOT A PATHWAY for them to reach you."

■ From the final, official "Shallow Groundwater Information" report:

"Because the contaminated water is 15 to 25 feet underground, there is NOT AN EASY WAY for you to be exposed to the chemicals."

What a difference a few words make — especially if "you" is YOU.

It seems (I haven't been able to pin this down completely) that there has been some discussion of these grim possibilities:

A. Construction workers excavating in the area could be exposed to the contaminated groundwater.

B. During wet periods, the groundwater could rise, corrode pipes and couplings, and eventually contaminate water that goes to individual residences.

According to one expert I talked to, the latter scenario is "highly unlikely."

That's good enough for me — as long as I live across town.

But if I'm raising kids and grandkids on top of the chemical soup, I'd sleep a lot better if "not an easy way" became "not a pathway" again, followed by an exclamation mark.

City Hall's decision to wade into the South Side loblolly and test tap water brings Kelly-area residents a little closer to a good night's rest.

"The issue of drinking-water safety is serious," said Sam Sanchez, the city staffer in charge of the testing. "For us, this is more than just a scientific investigation.

"We have a moral obligation."

I swear, that's what he said.

Cross my heart and hope to die.

If one lives long enough . . .

To leave a message for Roddy Stinson, call ExpressLine at 554-0500 and punch 4408, or e-mail rstinson@express-news.net.

ST. MARY'S UNIVERSITY

RAB Tech Subcomm. Mtg.
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Bldg. # 34

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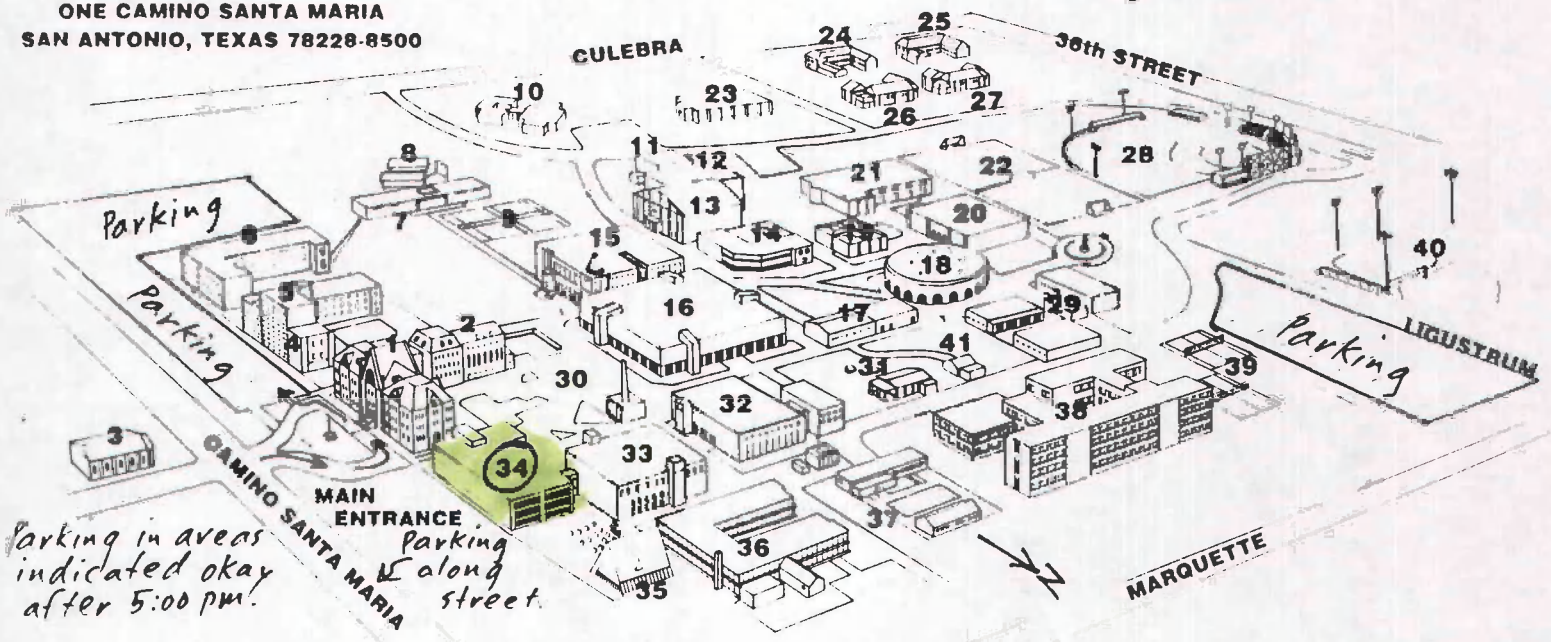
SAN ANTONIO, TEXAS 78228-8500



1. St. Louis Hall (Administration Bldg.)
2. Reinbolt Hall
3. Financial Aid Bldg.
4. Chaminade Tower
5. Chaminade Hall
6. Charles Francis Hall
7. Marian Hall
8. Casa Maria
9. Tennis Courts
10. Dougherty Hall
11. Athletics Bldg.
12. Music Bldg.
13. Alumni Gym
14. Albert B. Alkek School of Business & Administration
15. University Center
16. Academic Library
17. Center For Life Directions
18. Ernest A. Raba Law Bldg.
19. Law Administration Bldg.
20. Law Classroom Bldg.
21. Sarita Kenedy East Law Library
22. Soccer Field
23. Our Lady of Lourdes Hall
24. Archbishop Flores Hall
25. Adele Hall
26. Anthony Frederick Hall
27. John Donohoo Hall
28. V.J. Keefe Baseball Field
29. Physical Plant
30. Quadrangle
31. Pecan Grove
32. Richter Math-Engineering Bldg.
33. Moody Life Sciences Bldg.
34. Garni Science Hall
35. Mediatrix of All Graces Chapel
36. Marianist Faculty Residence
37. Swimming Pool
38. Treadaway Hall
39. Tennis Courts
40. Softball Fields
41. Vocation Center

DEVENOGE TOM CAPT
From: DEVENOGE TOM CAPT
Sent: Thursday, November 13, 1997 4:43 PM
To: RYAN WILLIAM; BUELTER DON; MCGHEE MIKE; HAMPTON RHONDA; EBERT JOE
Subject: RAB Tech Subcommittee Follow Ups

The Tech Subcommittee (TSC) met last night – only a few follow ups I need to take care of:

- Paul Person inquired about the status of a geophysical survey that was done in the UPRR area about 6-8 months ago and if there was a final report available. I said I would look into it – anyone know what project this was done under and if we might have such a report, draft or final?

- George Rice inquired about the status of a letter from General Childress approving or directing release of all environmental data to the public. I've discussed this with Mike and he said this issue will be addressed at the RAB. I'll say as much at the next TSC (1 Dec)

Tom

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE