

TO: R. Vogt

FROM: R. Weiss (June 3, 1990)

CONCERNING: Site investigations recorded in files of R. Weiss prior to 1988.

### Introductory notes

The listing of site activities comes from my notebooks beginning in the winter of 1980. I have attempted to include all names and dates and where possible who initiated the event or meeting. The date is followed by the name of the initiator(s). Events that involve state or federal officials are indicated with the symbol  $\implies$ . The document is organized as best as possible by sites and within any one site chronologically. Where there is a (?) I am not sure of some particular fact such as the spelling or date. The data on the Eastern sites, in particular, Maine is probably complete for the project, the data on the Western sites is not complete since F. Schutz, K. Thorne and especially R. Drever took actions of which I was not aware.

There were several global decisions made involving expenses incurred in the site search to assure the NSF that no public funds were used in acquiring sites. Travel costs incurred by the principals were charged to the NSF grants.

January 25, 1985: Decision is made by W. Milne (MIT) and B. Rosker (?) (Caltech) that MIT and Caltech will share costs for preliminary site investigations. MIT will pay costs associated with Eastern sites while Caltech will pay costs associated with Western sites.

January 28, 1985: R. Weiss approaches Philip Trussell in MIT real estate office to inform him of project decision.

In rereading my notebooks from this time before there was a director, it only makes me more thankful that there now is a director. I would have to agree that much of the site search frenzy, especially in the attempt to avoid EAFB by Drever, borders on insanity. F. Schutz tried his level best to put some stops on it but I was not able to really help him, it was two against one on the old steering committee.

*Stone and Webster Engineering Corporation, Boston, Massachusetts*

Dec 29, 1980: R. Weiss, ( Contract begun with S and W, October 1981)

Paul Riegelhaupt, Assistant Engineering Manager, Donald H. Guild, Section Head Advanced Technology, Ken Hogeland, Project Engineer Advanced Technology

Substance: Preliminary site study criteria. *Topography*: 5km "L" with no more than 20 foot contours; *Current land use*: non-interference with existing roads, exclude population centers, wildlife refuges, Indian reservations but within 10 miles of power and transport; *Seismicity and anthropogenic noise*: avoidance of active seismic regions, airports, manufacturing plants, continuous mining activity, closest main road or railroad 1 mile.

Procedure: First priority given to Federal held lands and installations. Second priority given to institutional held lands. Eastern sites: considering the paucity of sites a complete survey was made of all areas in New England, New York, New Jersey, and North Carolina. Specific areas suggested to Stone and Webster by R. Weiss: VLA Site, Plains of San

Augustin, New Mexico; Owens Valley California site of Caltech OVRA; Clark Dry Lake California, site of University of Maryland radio observatory.

Initial study was made using geodetic maps in the MIT Science Library Map Room and other maps in the public domain. No site visits or direct contacts with individuals at the sites were made by Stone and Webster personnel under the direction of William Martin. A parallel search was made to investigate existing mine locations ( John Hall and Les Terrell of S and W ), this search led to no candidate sites.

Results of initial site study in “ *A Study of a Long Baseline Gravitational Wave Antenna System*” , October 1983, Prepared for the NSF.

*MIT Lincoln Laboratories, Lexington, Massachusetts*

January 12,1981: R.Weiss

William Lemnios (Army), Walter Wells (Air Force) Group Leader Satellite Identification. Substance: Discussion of use of Airforce facilities at Pease Airforce Base, Portsmouth, New Hampshire, and Air Force facilities at Presque Isle, Maine and Chicopee, Massachusetts as possible sites for the LIGO. Discussion went toward possible application of using LIGO to measure mass of satellites and ICBMs, effectively worthless interaction.

*Harvard University, Cambridge, Massachusetts*

August 1982: R. Weiss through Walter Milne, MIT Vice President.

Substance: Milne contacted Harvard University for use of the Harvard Forest near Petersham, Massachusetts. Area found to be topographically too rough. Westford, Massachusetts geophysical facility owned by MIT was considered with the additional purchase of land to accomodate the 5km “L”. Topography again too rough and no certainty that land could be bought.

*Caltech begins independent search for sites*

February 1984: K.Thorne and R.Drever

Substance: Stone and Webster site survey not considered complete enough especially for sites closer than 3 hr drive from Caltech.

*VLA Site*

February 1984: R. Weiss

Hein Hvatum, Sam Wade, Jack Lancaster all at El Siccoro or in Charlottesville, Virginia.

Substance: Discussion of LIGO at VLA. Told of difficulty with ranchers, noted a hesistancy to accept LIGO at the site.

*Maine Sites*

⇒April 16,1984: R. Weiss

Robert Gardiner , Director of the Maine Bureau of Public Lands

Substance: R. Weiss discovered that MIT map room did not have complete collection of maps for Maine, asked Gardiner if he knew of large flat sites in Maine. Followed phone conversation with a letter reference 1.

⇒April 25,1984: M. Loiselle

M. Loiselle, Staff member of Maine State Geologists office run by W. Anderson the state geologist.

Substance: Loiselle called R. Weiss in response to call placed to Gardiner. Mentioned several areas in Maine that might be suitable that did not appear in S and W survey. These were: sand plains near Biddeford, Maine, blueberry barrens near Cherryfield, and forest site near Saponac. Loiselle without R Weiss's knowledge contacted Congresswoman Olympia Snowe's office to inform her of inquiry to Gardiner.

May 7, 1984: L. Snyder

L. Snyder and G. Guttrich from MITRE in charge of planning for Over-the-Horizon radar system in the blueberry barrens of Maine.

Substance: They received a call from Olympia Snowe's office about possible interest in the Air Force site by the gravitational wave project. Peter Saulson from MIT went to look at the radar site. Found it not large enough without further land purchases and wet.

May 14,1984: R. Weiss

L. Snyder, G. Guttrich from MITRE

Substance: Discussion of problems associated with expanding the over-the -horizon site and possible RFI incompatibilities between HF radar receivers and gravitational wave project. Found no overpowering problems except that of convincing neighbors to radar site to lease or sell land.

⇒June 29,1984: R. Weiss

M. Loiselle, W. Anderson, State Geologist

Substance: Visit Saponac and blueberry barren site, Columbia, with Loiselle and Robert Cusick (S and W engineer).

August 1984: F. Schutz

F. Menninger and V. Lobb, JPL engineers, made seismic spectrum measurements at Columbia and Saponac sites.

October 19, 1984: F. Schutz

A. Riewe, B. Sweetser , JPL engineers. Visit to Saponac and Columbia sites. Saponac site rejected on the basis of surface granite. Columbia site accepted for continued study.

⇒January 25, 1985: R. Weiss

Kevin Raye, Angela Alopis, people in Congresswomen Olympia Snowe's office in Bangor

Substance: Discussion of letter to be written by R. Weiss to inform Congresswoman Snowe about recent developments in the gravitational wave project. Letter included as reference 2. Congresswoman Snowe's answer to the letter dated February 28, 1985 is reference 3.

January 30,1985: R. Weiss

Barry Mills, Lawyer with firm of Hale and Hamlin, Ellsworth Maine.

Substance: Mills engaged by MIT as lawyer to help in land acquisition at Columbia site. To arrange for owner list, title search, and appraisal, ultimately to negotiate sale or lease of land. Mills uses office partner Dale Worthen to get tax maps and begin title search.

March 13, 1985: B. Mills

R. Putnam, Wyman Corp.; E. Ramsdell, Wyman Corp.; D. Hopkins, Pejepsco Paper Division of the Hearst Corporation, F. Schutz, P. Saulson, R. Weiss.

Substance: Meeting held in Portland with representatives of corporations with interest in the blueberry field at Columbia to determine their worries and interests in the land and the effect of the gravitational wave observatory on their operations.

March 15, 1985: Clayton Beal, correspondent for Bangor Daily News writes article on gravitational wave project using information from W. Sullivan article in New York Times and a leaked copy of letter to Congresswoman Snowe.

March 17, 1985: B. Mills

Substance: List of Columbia landowners completed 10 independent owners identified (R. Cotton, Oxford Frozen Foods Ltd., E. Frye, G. Goodrich, M. Plummer, R. Meserve, J. Bonardi, B. Tibbetts, Allen's Blueberry Freezer Inc.,L. Dorr. R Weiss to approach non resident landowners in Massachusetts and Connecticut: R. Cotton, J. Bonardi, L. Dorr and M. Plummer.

March 29, 1985: B. Mills

R. Meserve, land owner

Substance: Mills has contacted all landowners, R.Meserve has cottage near site wants to know exact location of site. Would object if construction cut off his access.

April 4, 1985: J. Bonardi, a landowner, calls on R. Weiss to support project and offer the use of his land at no charge.

⇒May 3, 1985: F. Schutz

A. Toleman, Maine State house J. Clement, Army Corp of engineers, Sewall Co, Old Town Maine.

Substance: Arrangements made with Sewall to get 2 ft contours over the site, Toleman and Clement to begin Hyrdological study of site in preparation with wet lands part of Environmental Impact Statement.

⇒May 19, 1985: A. Spiess

Spiess, Maine state archeologist

Substance: Wanted information on exact location of site to determine if archeologically interesting.

June 11, 1985: B. Mills

Substance: Argues that he can do no more until exact location of facility is determined, then title search must be done, and independent appraisal of land value is made. Recommends R. Suminsby of Knowles Associates in Northeast Harbor as appraiser.

July 15, 1985: R. Weiss

R. Cotton, landowner at Columbia

Substance: B. Mills could not get a firm statement from R. Cotton on the availability of her land for sale or lease. R. Weiss visited her in Wellesley, Mass found her hesitant but willing to go along with the other landowners at the site. Not willing to sell but willing to give long term lease.

⇒September 24, 1985: F. Schutz

F. Stevens, A. Mailer of the Maine State Planning Office.

Substance: Discuss plans for Environmental Impact Statement, estimate 18 months for total process begin to approval.

Nov 14, 1985: Barry Mills engages Michel Leonard of Machias law firm of Talbot and Talbot to help with Title search in Washington county. Wants to arrange public landowners meeting for Nov 20, 1985.

⇒Nov 22, 1985: F. Schutz, Sewall delivers tax maps, confirming 10 owners most on the E - W leg, layout chosen in part to cut at edges of lots. Bartlett Smith, Town Selectman of Columbia contacted. Decision made to ask R. Suminsby to make appraisal of land.

December 3, 1985: Barry Mills, title search completed. Argues that title insurance be taken to allow for contest of titles.

December 4, 1985: W. Milne and P. Trussell agree to have appraisal made.

December 4, 1985: P. Trussell has authorized funds for purchase of land in Maine, Trussell in conversation with G. Vanderwerff indicates that Caltech also willing to pay for part of land acquisition in Maine.

⇒December 15, 1985: Arnold Davis, County Commissioner, Washington County Maine, one of three commissioners, discusses environmental impact of gravitational wave facility with Clayton Beal.

January 7, 1986: R. Weiss gives talk to Naragaugus High School in Harrington Maine about project. Initiated by R.Weiss and high school teachers E. Reynolds, R. Ramsey.

January 22, 1986: R. Meserve has bought the Frye lot reducing the number of landowners to 9.

February 3, 1986: Meeting between P. Trussell, B. Mills, F. Schutz, R. Weiss to discuss method of land purchase and strategy for lease if owners not willing to sell. A firm layout of the facility is needed JPL to pull all data together and make plan for further research required at site.

February 14, 1986: R. Weiss gives colloquium at University of Maine, Orono concerning the LIGO project . Meets with: R. Morrow, Physics Department Chairman; N. Cumins,

Prof of Physics with prior history in gravitational wave physics at Maryland and LSU; J. Vetelino, Electrical Engineering Department Chairman; H. Borns, Director of the Institute of Quaternary Studies with interest and experience in geology, archeology, glacial dynamics of the blueberry barrens. R. Weiss shown shops, computer facilities, buildings for staging and test that could be made available to LIGO project, people expressed a strong interest to site project in Maine.

February 15, 1986: B. Mills requests that direct walking survey rather than aerial survey be made of site to deal with appraiser and landowners.

March 17, 1986: Caltech puts hold on spending money on Maine site.

⇒March 20, 1986: F. Schutz, Project has solicited proposals for archeological survey of site. Responses from Spiess/Borns and Peterson at University of Maine, Farmington.

April 22, 1986: Vanderwerf and Trussell make agreement that no more than \$ 68K should be spent on land in Maine.

⇒June 24, 1986: Meeting with Maine Department of Environmental Protection and Bureau of Land Quality Control in Augusta to discuss hydrological work and wet lands protection. Participants in meeting Schutz, Weiss from LIGO, P. Clark and T. Brown from Environmental Protection Agency. Give project list of local contractors involved with formulating environmental impact statements.

⇒June 27, 1986: M. Loiselle and A. Tolman (hydrological expert in State office) call R. Weiss about survey of old bore holes and possibility of near surface granite along North South leg.

July 17, 1986: Position of “L” moved to minimize granite blasting given new but incomplete information.

August 1, 1986: B. Mills contacted to alert those landowners effected by change in “L” location.

August 8, 1986: Meeting in Bangor with Mills, Schutz, Weiss; Archeological report from Peterson shows no artifacts to be preserved, discussion with Sewall Co to carry out environmental impact statement, discussion with Gerber Co. for seismic refraction work to determine subsurface rock.

September 7, 1986: R. Weiss talks with M. Plummer a landowner, favorably disposed to project, worried about appraisal.

⇒September 9, 1986: A. Davis, Washington county commissioner, one of three, is critical of impact on the unique environment of the glacial marine delta at the Columbia site by the LIGO. H. Borns, University of Maine, Orono argues the benefit for glacial studies of having the LIGO.

⇒September 10, 1986: Town meeting held in Columbia, Maine. Schutz, Vanderwerff, Saulson, Weiss from LIGO, B. Mills, lawyer. 60 people attend. People friendly and well disposed to the project, critical questions are the validity of land appraisals, the possibility

of increased taxes due to increased use of roads, schools and town services and will the experiment work!

November 15, 1986: Meeting held at MIT with R. Weiss and locally resident landowners; J. Bonardi, R. Cotton, M. Plummer, L.Dorr to discuss questions they have concerning the LIGO project and anticipated difficulties. All indicated willingness to cooperate even R. Cotton.

⇒December 9, 1986: Schutz and Tolman (state hydrologist) discuss techniques of draining shallow rock shelf discovered by seismic refraction measurements near mid point on north- south leg of site. Need established to actually drill at various places along the “L” to determine nature of the layer above the rock shelf. A major escalation in the disturbance to the land is anticipated which will require formal arrangements with landowners. A “hold harmless” agreement will be needed

⇒January 6, 1987: Meeting initiated by Schutz with Maine State Environmental Protection. Attendees: T. Brown, J. Mirabile, J. Williams to discuss permits needed to change water table on the blueberry barren. Environmental impact considered small.

⇒February 25, 1987: Meeting initiated by Schutz with state legislatures from Washington county. Meeting in Augusta attended by Schutz, Weiss from LIGO and State representatives F. Farren, E. Randell and State Development Chairman, N. Bowditch. Discussion centered on what impact LIGO project might have in county and general transfer of information. Legislature’s response was supportive of project.

March 17, 1987: Suminsby completed appraisal, B. Mills suggests strategy of approaching landowners for sale then as second option for long term lease. If sale to give prior owners first refusal on resale.

⇒April 22, 1987: Meeting initiated by R. Weiss at the University of Maine, Weiss and Schutz talk with C. Tarr, Vice President, N. Smith, Dean of Engineering, M. Geminiani, Dean of Science concerning help that the university might give to the LIGO project. Tarr reiterated prior offers of shop and computer facilities but also houses owned by the University nearer the site in Jonesborough. Help with geophysical, civil, hydrological studies and testing is offered. Indicated that University was sufficiently interested to help with State issues such as Environmental Impact, specific construction costs and other factors that might cause problems for the project.

June 9, 1987: Meeting initiated by B. Mills to discuss next step in dealing with landowners. Suminsby estimates run from \$ 1000 / acre for prime blueberry land to \$ 300/acre for scrub land. Typical lease rates are \$ 65 / acre/year for prime growing land.

### *Fermi Lab Site*

November 10-14, 1986: Members of the Cambridge Panel on Interferometric Detectors. Substance: Committee members asked why Fermi was not in list of sites, R. Weiss thought the site too small but was not sure at the time.

December 3, 1986: Visit to Fermi lab by Weiss and Drever. Meeting arranged by A. Tollestrop. Met with R. Lundy, deputy director, J. Lach. Fermi main site was too small

as suspected, lands to the west being proposed for SSC would be adequate, and the Joliet Arsenal was suggested as possibility. The engineering capability of Fermi for design and construction of the vacuum system entered the discussion.

### *Massachusetts Sites*

⇒ July 27, 1984: R. Weiss

J. Kirshen, Director of Massachusetts State Environmental Management Division and Robert Tierney, Commissioner of Public Works.

Substance: Discuss large flat regions in Massachusetts rejected in first cut made by S and W. Kirshen suggested: Otis Air Force Base on Cape Cod, Hockomock Swamp near Taunton (with intent that state would help in draining swamp as had been done in other regions around Bridgewater), also swamp area around Mattapoisett.

July 31, 1984: R. Weiss

Colonel A. Cimino, Commandant Otis Air Force Base

Substance: Base no longer used by Air Force has become Army Reserve and National Guard training base for tank and artillery training. Used for target practice on weekends. Substantial costs estimated in clearing old shells and topography too rough.

August 1984: F. Schutz

F. Menninger and V. Lobb, JPL engineers

Substance: Made seismic spectrum measurements at Hockomock swamp site.

### *Mojave Desert Sites, California*

(?) 1984: F. Schutz

Substance: R. Weiss visit to EAFB Jan 8, 1985. Shown JPL Rocket test facility. Impressed with proximity to Caltech.

Apr 28, 1985: F. Schutz tells that Edwards needs a biological walk through, a security arrangement between project and JPL for use of site, Lew Allen to intercede.

July 2, 1985: General Randolph placed in charge of negotiations for EAFB at Pentagon, domestic clearance determined by JPL, international requires FBI name check.

July 18, 1985: W. Gin from JPL negotiating with Air Force on security restrictions pessimistic that these will have a favorable outcome.

July 18, 1985: Hawes site being considered for the first time.

July 22, 1985: Provost Vogt urges that if LIGO evicted from EAFB, the costs for relocation be borne by Air Force.

August 1985: Formal agreement with AF possible, MOU being returned by AF without change, Allen interceded with Randolph.

August 21, 1985: Archeological Study of EAFB to be subsidized by AF.

September 10, 1985: Bristol Lake being considered as alternative to EAFB.



September 27, 1985: Thorne and Drever decide not to use EAFB. Propose to look at Hawes, Salt Flat near Las Vegas, Nevada, Sites near Blythe and and Yuma, Arizona.

October 3, 1985: Harper Lake added to list of new sites.

October 10, 1985: Helendale added to list of new sites.

December 5, 1985: Harper Lake, California owned by railroad. Estimate \$ 100K to buy.

January 1, 1986: W. Gin is encouraged that EAFB MOU is in hand.

January 8, 1986: Building on the playa of several normally dry lakes in California is suggested by Thorne after consultation with geologist.

January 18, 1986: L. Allen (JPL) and General Randolph AF at the pentagon make agreement about MOU for EAFB

⇒February 5, 1986: F.Schutz. Meeting in Washington DC. Drever, Thorne, Schutz, Weiss from LIGO. Meeting G. Mezzetti aid to Congressman S. Thomas of California and R. Malow aid to Congressman Boland of Massachusetts. Give information concerning LIGO.

⇒February 5, 1986: F. Schutz. Meeting in Washington DC. Drever, Thorne, Schutz, Weiss from LIGO. Meeting with congressional staffers associated with House Committee on Science and Technology - M. Bach, E. Heidelwit-. After listening to information about project staffers suggest a hearing about LIGO before the committee, urge us to write to Congressman D. Walgren, stress educational value of project (Do not believe this was ever carried out).

March 2, 1986: F. Schutz, Harper lake has periodic flooding and need for full environmental impact statement unless congressional action is taken.

⇒March 8, 1986: F. Schutz consults with J. Hart, California Department of Mines, told Harper lake has active fault running through site for LIGO.

⇒April 4, 1986: BLM disallows Harper Lake site, suggests Soda Lake, California as alternative.

April 5, 1986: Decision made by Thorne and Drever to investigate Soda Lake.

⇒April 14, 1986: F. Schutz has contacted: J. Dodson, regional vice president of the Sierra Club, E. Hughes, local chairman of the Sierra club on environmental concerns at Soda Lake. Soda Lake included in a plan to make part of Mojave Desert National Park; also contacted S. Richardson of the BLM.

April 26, 1986: Visit to Soda Lake by Drever, Thorne and Weiss. Met with E. Jaeger conservationist interested in protecting California deserts. Discussion of environmental impact, Sierra Club objections to siting LIGO at Soda Lake, possibility of withdrawing Soda Lake from the national park plan. Discovered that BLM has given mining rights to part of the lake and the periodic flooding of the lake.

⇒May 7, 1986: F. Schutz. Visit to congress by Drever, Schutz, Thorne and Weiss concerning congressional help in withdrawing Soda Lake from BLM land pool and to

remove as National scenic area in proposed National Park. Met with congressional staffers: (?) Quinn, aid to Congressman J. Lewis, with BLM staff G.Needles and E. Hays; J. Burroughs aid to Senator P. Wilson and unnamed aid to Senator A. Cranston.

May 16, 1986: Thorne reports on meeting with D.Scott of the Sierra Club, much against LIGO at Soda Lake. Meeting with S. Simon and (?) Burke, members of a Citizen's committee for the Mojave Desert Park, both would back putting LIGO at Soda Lake.

⇒June 4, 1986: F. Schutz. Visit to congress by Drever, Schutz, and Weiss to gain additional support to withdraw Soda Lake from National park plan. Talk with K. Files Lacey aid to Senator A. Cranston and G. Mezzetti aid to Congressman J. Lewis. Result of meeting is that neither wants to take action on a special pleading while the National Park Bill is before congress.

June 8, 1986: R Weiss pleads that the site madness must stop, Drever backed by Thorne gets 3 more weeks to look for more suitable sites. Harper lake, Bristol Lake and larger space at EAFB (Rosamund lake) are to be considered.

June 26, 1986: Hawes, an abandoned Air Force site east of EAFB, is put on the candidate list. Requires an environmental impact statement. Dodson, contacted, has no objection. Vandalism, cost of removal of concrete structure and antenna are concerns.

⇒June 28, 1986: F.Schutz after consultation with BLM is told that project must become responsible for Hawes sight by January 1, 1987 if LIGO is to build there. Costs of construction at Hawes and EAFB compared.

July 16, 1986: Meeting at Caltech to engage lawyers to determine validity of mining and drilling claims at Hawes site.

⇒August 3, 1986: F. Schutz meeting with BLM in Sacramento to discuss segregation of Hawes site from BLM jurisdiction with possible transfer to univeristies or NSF.

⇒August 15, 1986: F. Schutz may (?) have gone to Washington to meet Senator Cranston aids for help in settling the confusion of the BLM claims to the Hawes site. (R.Weiss has no confirmation of this visit in notes)

⇒September 8, 1986: Thorne decides that withdrawal of Hawes from BLM land is only safe way to gain access to Hawes given mining claims and possibility of further claims. Letter sent to Komar at NSF for acquiesence. Two approaches are withdrawal to NSF or to Universities. Withdrawal to private party requires paying government a fair market value for the site.

October 1, 1986: Kummerfeld, one of the people having staked a mining claim at Hawes does not want to sell his claims believes precious metals in low but not negligible concentrations can be removed from the site by new techniques.

October 3, 1986: H. Willard, NSF head of Physics, went to Nicholson, Assistant Director of NSF, to give answer on Hawes request. Nicholson defers until after Cambridge Interferometer Workshop.

December 1, 1986: Drever, Schutz, Thorne meet with B. Mayo, R. Johnston to review EAFB security arrangements and consider other possible sites at EAFB in the northeast corner of the base.

April 1, 1987: L. Allen interceeds with General Randolph to gain access to EAFB after Twinting (?) ,new commander of EAFB, has second thought about LIGO being at EAFB.

May 24, 1987: Agreement reached with Twinting (EAFB), Randolph, Welch (Pentagon) W. Gin (JPL) for placing the LIGO at EAFB.

### *Nevada Sites*

October 24, 1985: Hidden Valley, Nevada added to list of new sites.

⇒December 2, 1985: F. Schutz .

Meeting in Las Vegas concerning Hidden Valley, Nevada; Thorne, Drever, Weiss, Schutz and people from BLM , B. Sivich, M. Moran, B. Martin. Problems with recreational motor vehicles, off road racing, vandalism discussed. Environmental Impact Statement estimated to take 18 to 36 months, agreement with Nevada Cattleman's Association would be politic to maintain grazing rights.

December 5, 1985: F. Schutz contacts Sierra Club concerning Hidden Valley.

⇒December 5, 1985: F. Schutz.

State of Nevada (G. Sandstrom, J. Hocker) suggests Eldorado Valley, Nevada as alternate to Hidden Valley.

December 9, 1985: Hidden Valley found to have a flooding and drainage problem,dropped as candidate site, main effort focussed on Harper Lake.

⇒January 7, 1986: F. Schutz arranges meeting with BLM in Nevada, P. Sanderson and consultant at University of Reno, Prof R. Gansel who works with governor's staff on BLM and Nevada land use policies.

⇒January 18, 1986: F. Schutz. President of University of Nevada at Las Vegas, D. Emerson, and BLM administrator J. Sandstrom contacted by F. Schutz to act as liason to Nevada congressional delegation.

⇒February 5, 1986: F. Schutz. Meeting in Washington DC. Drever, Thorne, Schutz, Weiss from LIGO. Meeting with entire Nevada congressional delegation including A. Dayne (?), C. Ryan of the Nevada Development Authority. Meeting was concerned with conveying information about LIGO and how to get help with BLM on land release of Nevada sites. Senator Laxalt asked only if Nevada was at the top of a short list and if not what was needed to put Nevada at the top of the list. No answer was given.

### *Utah Sites*

⇒May 12, 1984: K. Thorne (?) initiated, meeting held at University of Utah, Salt Lake City.

Eugene Loh, Physics and Astronomy Department head at University of Utah; Lothar Salamon, Scientific Director of Dugway Proving Ground; Robert Smith, Geologist at University of Utah; Genevive Attwood, Utah Geological Survey.

Substance: Sites discussed and visited: Dugway Proving Ground (Skull Valley), Wendover Air Force Base. Site discussed but not visited, Lynndell in Western Utah. Utah was in process of proposing site for SSC and had geological information on all three sites. All sites appeared possible as preliminary candidates.

⇒Sept 10, 1985: F. Schutz. State of Utah willing help to with Skull valley site, Environmental Impact Statement will take 2 years from beginning to end.

⇒January 18, 1986: F. Schutz. Skull Valley in Utah again being considered, Utah Power and Light to pay for transmission lines, University of Utah (E. Loh) has contacted governor's office and the offices of Senators O. Hatch and J. Garn to facilitate dealing with BLM on the Skull Valley land. Propose that SSC studies made by Dames, Moore and Parsons be made available to project.

⇒February 5, 1986: F. Schutz. Meeting in Washington DC. Drever, Thorne, Schutz, Weiss from LIGO. Meeting with aids to Utah congressional delegation. R. Pew and K. Gallegos aids to Congressman Hansen, S. Matthews aid to Senator O. Hatch, R. Weidner and S.Koshashi aids to Senator J. Garn. Discussion centered on information about LIGO and possible help that might be needed with BLM to gain access to Utah sites.

#### *Idaho Site*

March 10, 1986: F. Schutz. Drever, Schutz, Thorne and Weiss visit Idaho National Engineering Laboratory (INEL) meet with: T. Wade, Laboratory Administrator, B. Russell, Manager of Geosciences, representatives from Morrison and Knudson, general contractors that have built on the site. Discussion about environmental impact assessment statement, use of INEL infrastructure, techniques for construction in lava, interference of other projects on site with LIGO, INEL very interested in becoming a site for the project.