April 16, 2015

Mr. Lawrence Goldzband, Executive Director
San Francisco Bay Conservation and Development Commission
455 Golden Gate Avenue, Suite 10600
San Francisco, CA 94102-7019
Via electronic mail to: lgoldzband@bcdc.ca.gov, steve.goldbeck@bcdc.ca.gov, brenda.goeden@bcdc.ca.gov, grace.gomez@bcdc.ca.gov

RE: Sand Mining Permit Applications 2013.004.00, 2013.005.00md, 2013.003.00, and 2013.006.00

Dear Mr. Goldzband and Commissioners:

On behalf of San Francisco Baykeeper and our over 3,000 members who use and enjoy the environmental, recreational, and aesthetic qualities of San Francisco Bay and its surrounding tributaries and ecosystems, we submit these comments in opposition to the permit applications by, and Staff Recommendations for, Hanson Marine Operations, Jerico Products, and Suisun Associates, to increase commercial sand extraction from San Francisco Bay and Suisun Bay for at least ten more years.[1]

Based on the available science, the critical value of Bay sands to shoreline vitality, and the expert recommendations of the California Coastal Commission and United States Geological Survey ("USGS"), we urge BCDC to reduce any approved sand mining extraction rates to sustainable levels, and at a maximum, to the average mining rates seen over the most recent 10 years.

I. The Applicants' Aggregate Demand Projections are Flawed.

The Applicants have recently provided business plan information in response to Commissioners' requests at the March 19, 2015 BCDC hearing. Applicants argue that future aggregate demand should be based on the "California Geological Survey, Department of Conservation, *Aggregate Sustainability in California*, 2012," in which future aggregate demand was projected by (1) determining the average per capita aggregate "consumption" rate using all available data between 1960 and 2010, and (2) multiplying the per capita aggregate consumption rate by projected population growth.[2]

The problem with this methodology is that, since approximately 2009, urban planning in the Bay Area has undergone a sea change from unquestioning reliance on and spread of impervious surfaces, to the widespread and active *removal* of the very aggregate that was counted among the per capita consumption rate in the Geological Survey report. In

[1] Hanson, Lind, and Suisun Associates are referred to collectively herein as the "Applicants," and the permit applications referred to collectively as the "Projects."
[2] http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS_52.pdf

2009, the San Francisco Bay Regional Water Quality Control Board adopted the first Regional Municipal Stormwater Permit requiring, for the first time, that projects over 10,000 square feet treat 100% of stormwater runoff with "low impact development" (LID) methods, such as bioswales, green roofs, and permeable pavement.[3] Since that time, the San Francisco Public Utilities Commission, for example, has awarded millions of dollars in grant funding for community groups to remove concrete from the built environment.[4] At a time when cities are spending millions of dollar to physically remove concrete, it would be poor planning to rely on 1960-2010 per capita consumption rates for future aggregate production.

Moreover, low impact development is good for the regional economy. According to the State Water Board, "LID provides economical as well as environmental benefits."[5] The SFPUC notes that "[m]uch of the new 'green infrastructure' in upland neighborhoods will require regular maintenance to ensure continued serviceability that will result in new classes of 'green jobs.'"[6] This burgeoning green economy should be considered alongside the building economy arguments posited by Applicants.

II. Decreased Bay Mining Will Not Markedly Increase Sand Importation.

At the March 19, 2015 BCDC hearing, Applicants conceded that San Francisco Bay sand and British Columbia sand serve different needs. As such, the two are not directly interchangeable, and any decrease in Bay sand mining does not, therefore, translate into an increase in British Columbia imports. In addition, as noted above, the Applicants' aggregate demand projections are inaccurate, meaning any difference between permitted production rates and actual demand rates would not result in the same import rate put forth by the Applicants. Accordingly, the most immediate and certain climate-related impact of the Project will be the loss of Bay sediments needed to help buffer against, and adapt to, rising sea levels, not increased greenhouse gas emissions from speculative British Columbia imports.

III. The State Lands Commission Did Not Find the Project to be Consistent With Trust Uses, and the Project Does Not Confer a Public Trust Benefit.

The State Lands Commission ("SLC") did not "find[] that this project was consistent with the public trust use." (*See* Staff Report at 37.) In fact, the SLC did not make any public trust findings *at all*, and the Staff Report does not and cannot cite to any record document supporting this statement. (*Id.*) Any argument that private, for-profit sand mining of the Bay floor is itself a trust use is simply unsupported by the law. (*See Hayes v. A.J. Associates, Inc.* (1993) 846 P.2d 131 ["we reject [the] contention that mining is a public trust purpose . . . . We believe that even the most expansive interpretation of the scope of public trust easements would not include private mining enterprise"]; *see also* Affidavit of Joseph L. Sax (Sept. 19, 2012), *Stanford A. Reep, et al. v. State of North Dakota*

[3] http://www.swrcb.ca.gov/rwqcb2/board_decisions/adopted_orders/2011/R2-2011-0083.pdf
[4] http://sfwater.org/index.aspx?page=104
[5] http://www.swrcb.ca.gov/water_issues/programs/low_impact_development/index.shtml
[6] http://www.sfwater.org/modules/showdocument.aspx?documentid=612

Case No. 53-2012-CV-00213 (N.D. Dist. Ct.), discussing *Boone v. Kingsbury* (1928) 206 Cal. 148, 183 ["The Supreme Court of California recognized that mineral exploitation was not itself a public trust use, even though the public benefited from it both as lessor and in obtaining needed petroleum products"].)

Here, as in *Boone*, the fact that the public may benefit from the provision of sand for local construction does not mean that the Project promotes any public trust purpose. (*Id.*) As stated in the Bay Plan, "[t]he purpose of the public trust is to assure that the lands to which it pertains are kept *for trust uses*, such as commerce, navigation, fisheries, wildlife habitat, recreation, and open space." (Bay Plan, Public Trust Finding d. [emphasis added].) Moreover, "The public trust is a paramount public property right held in trust by the state *for the benefit of the public*." (*Id*., Finding b. [emphasis added].) But the Project itself does not constitute or serve a trust use: the SLC did not make any such determination, and BCDC, therefore, has provided no support for this position. BCDC is required to assess public trust needs of the region when determining the suitability of projects, which was not done in the Staff Report. Public trust needs include maintenance of wetlands, endangered species habitat and sandy beaches which provide critical tidal flood protection and economically significant recreation access. Nothing in the record suggests that the Project promotes these needs. To the contrary, the giveaway of state resources to a for-profit corporation in no way benefits the public, and the Commission's approval of this Project is a clear violation of its public trust responsibilities.

IV. Mining Should be Limited to Relic Sand in a Manner that Does Not Impact Sediment Transport.

During the March 19, 2015 BCDC hearing, additional uncertainty was raised as to whether, and to what extent, the Project would extract relic sand versus actively-transported sand, and moreover, to what extent mining of relic sand adversely impacts sediment flows by altering Bay bathymetry. At the same time, it is clear that mining is proposed in active transport areas, while other areas may contain relic sand deposits located where active transport pathways are not affected. We urge the Commission to insist that the Project be redesigned to limit or avoid active sediment transport pathways.

V. New Information Continues to be Produced, Requiring Ongoing Public Oversight.

Applicants recently pointed out that past mining applications were approved based on a CEQA mitigated negative declaration, with no concern over sand volumes requested. This demonstrates both the substantial leap in sediment science over this period, as well as the cumulatively considerable impacts being felt along shorelines and wetlands where tides are rising and eroding sediment is not being replenished. The proposed Project approvals themselves recognize this, including ongoing study of impacts to mineral resources during the permit term. Even the Applicants' most recent information submitted in response to Commissioners' March 19, 2015 requests provides new information and analysis of Bay sand deposits.

The public cannot and should not be made to wait and sit idly by, for the next 10 years, as significant new information continues to pour in. While the permitting agencies may have authority to reopen any permit based on new information, the permits do not expressly afford the public this right, despite the clear impacts to public resources, and the clear benefits of public participation in agency decision-making. We understand the Applicants' concerns relating to costs of the permitting process. Given the sea change in available science, and policy perspectives since the permits were last approved, a more work-intensive permitting process was understandable. Now, however, that ample light has been shed on this decades-long impact, the learning curve will not be so steep, and any future permitting process would not be expected to be as drawn out. For these reasons, we strongly urge the Commission to approve only a 5-year permit term.

VI. Conclusion

Through years of publicly-funded research and reams of peer-reviewed scientific papers, leading geologists have identified a direct causal link between sand mining in San Francisco Bay and erosion along the coast. Researchers expressed their hope that with the release of this research "the planning community can now more skillfully address the challenges of managing sediment in SF Bay in a manner that promotes the sustainability of open-coast beaches and submarine habitats."[7] This process affords an opportunity to rely on sound science to achieve tangible benefits in terms of habitat protection, climate resiliency, and sustainable management of valuable sediment resources.

We greatly appreciate the hard work and careful consideration the Staff and Commission have put into this Project, and look forward to continuing engagement on this critical issue to protect one of the Bay's most limited resources.

Sincerely,

George Torgun
Managing Attorney
San Francisco Baykeeper

ATA Law Group

[7] Hein, J. R., Mizell, K. & Barnard, P. L., 2013. Sand sources and transport pathways for the San Francisco Bay coastal system, based on X-ray diffraction mineralogy. Marine Geology, 345, 154-169.

CITY OF PACIFICA
170 Santa Maria Avenue • Pacifica, California 94044-2506
www.cityofpacifica.org

Scenic Pacifica
Incorporated Nov. 22, 1957

April 13, 2015

Ms. Brenda Goeden
San Francisco Bay Conservation and Development Commission
455 Golden Gate Ave., Suite 10600
San Francisco, CA 94102

RE: BCDC Permit Application No. 2013.004.00

Dear Ms. Goeden,

The City of Pacifica reviewed the BCDC Permit Application referenced above with great concern and I am writing on behalf of the City Council to strongly oppose approval of the permit.

As the application describes, approval of the permit would mean the continued removal of sand from the San Francisco Bay to be used in construction activities. This action has consequences that affect our beaches and contribute to cliff erosion in our City. More specifics follow.

The areas proposed for sand mining are within concentrated tidal flow paths east of the Golden Gate. Changes to the bay floor configuration in this vicinity (resulting from mining) will alter the current rates of sediment transport out of the Golden Gate and contribute in the erosion and contraction of the San Francisco Bar, which will effectively result in less sand delivered to southern Ocean Beach and to Pacifica.

Modeling has demonstrated that such decline in sand supply affects the wave energy reaching the shoreline, with southern Ocean Beach and beaches to south, including ours, being more exposed.

Beach Erosion is a major concern for Pacifica. In 1998, ten homes along Esplanade Avenue fell victim to beach erosion and had to be demolished as they started falling into the ocean. More recently, in 2010 the property at 380 Esplanade also experienced cliff erosion that required emergency response from the City.

The volume of proposed sand mining (1.2 million cubic yards per year) is approximately 15 times greater than the annual sand volume estimated to enter the Bay from the Delta. Sand extraction of

this magnitude should be anticipated to have a significant negative impact to sand transport out of the bay.

Mining of sand as currently proposed will create more than a decade of bay floor disequilibrium. The sediment transport system will attempt to replace sand lost to mining and excavated cavities will be filled with new sediment. During the period of mining and subsequent period of replacement sediment deposition, the transport of sand out of the Golden Gate will be reduced resulting in negative impacts to outer coastal beach nourishment.

Current wide sandy beaches in front of coastal bluffs within Pacifica play a critical role in absorbing and reducing the energy of waves that may reach the bases of the bluffs. Because many local bluffs are composed of poorly cemented silts and sands, they are highly susceptible to erosion and undermining from the impact of waves that fully strike exposed bluffs. Wide sandy beaches must be maintained to minimize the ability of waves to strike the bases of local bluffs. Rapid bluff retreat will occur as the widths of beaches are diminished by the reduction of long-shore sand flow. Beach nourishment through long-shore sand flow will be negatively impacted by the proposed sand mining.

Due to current urban drainage facilities, dams and erosion control measures, sand is already in short supply to nourish beaches along the San Mateo coastline. Reduction of sand exiting the Golden Gate will reduce outer coast beach nourishment resulting in narrower beaches and increased rates of coastal bluff retreat within the City of Pacifica.

In addition, as sea level rises, increased amounts of sand will be needed on beaches to prevent erosion and control the rate of coastal shoreline retreat. The proposed mining will reduce the volume of sand in the Bay and reduce sand transport to the outer coast at a time when beaches are already stressed by sea level rise.

In summary, approval of the permit poses a serious threat to both City infrastructure and private developments. The City of Pacifica strongly protests the issuance of this permit and respectfully requests the BCDC not approve it.

Sincerely,

[redacted]

LORIE TINFOW
City Manager

Cc: City Council

San Francisco Bay Conservation and Development Commission April 9, 2015
455 Golden Gate Avenue, Suite 10600
San Francisco, California 94102

RE: April 16 Commission Agenda Items 8, 9, and 10 Sand Mining Permit Applications

Dear Chairman Wasserman and Commissioners,

In regards consideration of Sand Mining Permit Applications No.2013.004.00 Hanson Marine Operations, No. 2013.005.00md, Suisun Associates, and 2013.003.00md, Lind Marine Incorporated for mining 15.73 m. cu. yds of sand over ten years from Central San Francisco Bay, Suisun Bay, and Middle Ground Island shoals, I would request that you defer granting such permits until scientific evaluation is made of San Francisco Bay's 190 million cubic meters sediment loss as to cause and degree of destabilization of Estuary sustainability.

Believe have referenced in past that 1990 Corps of Engineers Sediment Budget Study for San Francisco Bay reported 143.53 million cubic yards of sediment increased in San Francisco Bay in 1990 compared to 1955. In this study USGS Bathymetric Plates show a healthy buffer of sediment accretion inboard of Golden Gate while latest 2010 USGS Bathymetric mapping shows over 2 meter depletion in sediments here from 1997 to 2008.

Comparisons of river flows throughout the Estuary, as carefully documented in this COE 1990 Budget Study, with present river flows are harder to resolve as regulatory agencies use different criteria and gage locations. State of California Water Resources takes no measurements of sediment loads in stream systems. Do not know of a subsequent SF COE sediment budget study but it is evident that their 1990 estimate of 10 million cubic yards sediment inflow to San Francisco Bay is now an annual 10 million cubic yards outflow from Bay.

One location that appears common to most regulatory record keeping is Freeport, on the Sacramento River. It is USGS Station 11447650. In reviewing station's recorded daily suspended sediment in tons per day from 1957 to 2013, I tried to establish some methodology to illustrate progression of diminishing sediment loads.

1957 - 1962	2,474,342.5 annual tons of suspended sediment in Sacramento River at Freeport
1963 - 1973	2,849,737.5 " " " " " " "
1974 - 1983	2,426,728.05 " " " " " " "
1984 - 1993	1,216,570.55 " " " " " " "
1994 - 2003	2,102,400 " " " " " " "
2004 - 2013	1,220,964.45 " " " " " " "

These are averaged out, median flows for this Freeport gage location but annual sediment loads can run as low as 671,986 tons in 1988, 340,807 tons in 1990, and 653,188 tons in 1991, or as high as 3,830,042 tons in 1982 and 3,455,734 tons in 1983.

All time record high is 525,000 tons deposited December 24, 1964, which contributed to maximum sediment load for the water year 1964-65 of 5,683,050 tons, while record Freeport low so far is 326,419.5 tons in 2008.

This recorded Freeport, Sacramento River flow, however, is not easily matched by comparable data for San Joaquin River and for net outflow and sediment loads from Delta that do ultimately reach San Francisco Bay.

California Water Resources data has an "out" of Delta category, though uncertain as to where it is gaged, that records an outflow of 34,335,307 acre feet in 1996-1997 and 4,294,886 acre feet outflow in 2013-2014.

This 30 million acre feet differential in outflows from Delta to San Francisco Bay between 1997 and 2014 can explain, to certain degree, why sediment loads to San Francisco Bay are so dramatically diminished. Dam releases that are highly regulated, muted flows carrying minimum suspended sediment loads, diversions and increased pumping from Clifton Court Forebay, plus breaching of South Bay salt pond levees,all contribute to an altered regimen in historic levels of sediment supply to San Francisco Bay within the Estuary.

However, as guardians of the health and well being of San Francisco Bay, believe as BCDC Commissioners, you need to establish a scientific panel of Estuary experts to advise how best to manage this fast depletion of watershed sediment yield and base flows in Delta rivers and streams. One hesitates to mention snow melt and global warming's sea rise with its inevitable increase in tidal current and coastal and bay marsh erosion.

Believe that your BCDC Commission needs to stand firm on scientific principles to defer approval of these ten year permit applications for sand mining in San Francisco Bay. This is not a water dependent beneficial use or industry, nor should it take priority to benthic integrity of extensive bay ecosystems and historic fisheries.

Please defer approval of this questionable allocation of diminishing bay sand and sediment resources until a blue ribbon commission of all regulatory agencies has thoroughly investigated present practices that appear to be contributing to an evident destabilization of the Estuary, that may prove to be irreversible.

Thank you for consideration of concerns on data discrepancies in sand mining impact to San Francisco Bay.

Libby Lucas
Los Altos, CA 94022 :

San Francisco Bay Conservation and Development Commission
455 Golden Gate Avenue, Suite 10600, San Francisco, California 94102 tel 415 352 3600 fax 415 352 3606

April 3, 2015

TO: Commissioners and Alternates

FROM: Lawrence J. Goldzband, Executive Director (415/352-3653; larry.goldzband@bcdc.ca.gov)
Brenda Goeden, Sediment Program Manager (415/352-3623; brenda.goeden@bcdc.ca.gov)

SUBJECT: **Applicant Response to Questions Posed by Commission at March 19, 2015 Public Hearing**
(For Commission consideration on April 16, 2015)

Please find attached the April 1, 2015 letter from Hanson Marine Operations and Lind Marine, Inc., submitted in response to questions posed by the Commission at the March 19, 2015 public hearing for BCDC permit applications 2013.003.00(md), 2013.004.00, 2013.005.00(md) and 2013.006.00(md).

LindMarine

Hanson
HEIDELBERGCEMENT Group

Hanson Aggregates Mid-Pacific, Inc.
12667 Alcosta Blvd., Suite 400
San Ramon, CA 94583

April 1, 2015

Mr. Larry Goldzband, Executive Director
San Francisco Bay Conservation & Development Commission
455 Golden Gate Avenue, Suite 10600
San Francisco, California 94102
larry.goldzband@bcdc.ca.gov

SUBJECT: Sand Mining Permit Renewals; Questions from Commission Members

Dear Mr. Goldzband:

At the March 19, 2015 hearing on our permit renewal applications, Commission members asked several questions, which we respond to as follows:

1. **Please explain the "Total Project Costs" for each permit.**

   Total Project Costs were based on the originally proposed project volumes of 2,040,000 cubic yards (cy) annually. The costs for each permit were derived from the sand mining operations costs that are governed by the BCDC permits.

2. **What are the total permitting costs for the project?**

   Total permitting cost for developing the EIR and the process of environmental review and permitting for all six regulatory agencies (BCDC, NMFS, USFWS, CDFW, RWQCB, and USACE) through March 15, 2015 is approximately $4.2 million, the bulk of which was generated in the environmental review and permitting processes for the SLC and BCDC. These costs do not include mitigation, monitoring, and further studies that have been or are being included as project conditions (now estimated at $3 million).

3. **What are the economic ramifications to the industry if the authorized limit was 300K to 400K less than proposed?**

   Reducing the annual authorized permit volume limit substantially by 300,000 – 400,000 cy has economic ramifications not only on the sand mining companies, but on the local economy.

(a) Adverse economic effects on Hanson and Lind:

With regard to the impact on the sand mining companies, large reductions in volumes have substantial, adverse impacts on the business. The cost structure of the sand mining business contains a large fixed cost component – fixed labor and management costs, large capital investment in equipment, land lease costs for distribution sites, environmental, permitting and monitoring costs, etc. – which means that profit margin is extremely sensitive to volume reduction. Large reductions in volume result in large reductions in revenues, but only marginal reductions in cost – which means an appreciable impact on profitability.

The low volumes experienced in the past few years as a result of the severe economic recession and lack of permitted resources have been a case in point – the overall businesses have not been profitable. The companies have been looking forward to economic recovery and growth to recoup some of these losses – further reducing permitted volumes will restrict that opportunity.

Please also see the Technical Feasibility Analysis submitted to the Commission on March 18, 2015.

(b) Adverse effects on the regional economy and ability to meet regional demands:

Reductions in permitted volumes also impacts local economies and consumers. Economic and Planning Systems, Inc. (EPS) produced an analysis for the U.S. Army Corps of Engineers NEPA process, which examined the economic effects of volume reductions, including reductions of approximately 700,000 cy annually. Key findings of this analysis include:

- Overall cost increase due to increased transportation costs and higher costs of alternative sourced sand is $54 million over the 10-year project period;

- Local governments would be expected to spend about $11 million more for sand from alternative sources over the 10-year project period; and

- The increased trucking associated with obtaining sand from alternative sources is expected to increase road repair costs by about $4 million.

It is therefore estimated that the additional costs associated with reductions of 300-400,000 cy would be roughly half of the totals estimated in the EPS analysis, or overall consumer cost increase of $27 million, increased local government costs of $6.5 million, and increased road repair costs of about $2 million.

Finally, lowering the average annual volumes reduces the ability to effectively respond to anticipated demand for sand even while availability from alternative sources shrinks, as discussed in the response to question 5, below.

4. Did the California Air Resources Board (CARB) or Bay Area Air Quality Management District (BAAQMD) receive and comment on the air quality and greenhouse gas impacts analysis conducted for the EIR and/or the report that was produced by Environ?

Air specialists at Environmental Science Associates (ESA), the SLC's independent CEQA consultant, prepared the air quality and climate analysis for the sand mining EIR utilizing methodologies and standards developed and used by CARB and BAAQMD. During the CEQA process, ESA and environmental staff at the SLC consulted directly with technical staff at CARB and BAAQMD about air and climate assessment methodologies and emissions control regulations that were used in the EIR analysis, and updated and revised the EIR's air and climate analysis to reflect BAAQMD's 2010 air quality guidelines. CARB, a permitting agency for the Project, received the EIR (including the air quality analysis, attached as Appendix D to the EIR), but did not provide comments. BAAQMD, which is not a permitting agency for the Project, also did not provide comments.

At the request of the U.S. Army Corps of Engineers, Hanson and Lind contracted with air quality specialists at Environ to prepare a supplemental air quality and climate analysis to support the environmental review process under the National Environmental Policy Act. Neither CARB nor BAAQMD reviewed this supplemental analysis; however, it was prepared utilizing the assessment methodologies and guidelines described above. Both the ESA and Environ analyses were also provided to BCDC and are part of the record before the Commission.

5. What are the Companies' business plans? What amount of sand do you need? What is the economic justification?

The economic justification (or need) for sand is outlined in detail in several reports provided to BCDC staff and which are part of the record before the Commission, including:

- California Geological Survey, Department of Conservation, *Aggregate Sustainability in California*, 2012;
- State Lands Commission, *Environmental Impact Report* and *Minute Item*, Oct. 2012;
- Economic & Planning Systems, Inc., *The Past as Prologue – Identifying the Appropriate Basis for Projecting Future Demand for Bay Sand and other Locally-Mined Construction Sand in the San Francisco Bay Region*, Dec. 30, 2014.

Demand for aggregate is expected to increase as the state's population continues to grow and infrastructure is maintained, improved, and expanded. The California Geological Survey projects that the 50-year demand in the South San Francisco Bay and North San Francisco Bay Regions—the regions served by the subject leases—is expected to be approximately 1,902,000,000 tons. (California Geological Survey, Department of Conservation, *Aggregate Sustainability in California*, 2012, p. 7.) The South San Francisco Bay Region, in particular, has one of the greatest projected future needs for aggregate in California. This conclusion is supported by recent housing projections, which are tied closely to the market for Bay sands. Based on projections by the Association of Bay Area Governments ("ABAG"), housing demand in the Bay Area is expected to grow by 660,000 units between 2010 and 2040, which equates to 22,000 units per year. This expected demand dwarfs the actual demand in 2010, which was less than 5,000 units annually. At 22,000 units per year, the demand for sand is expected to increase to approximately 5,570,000 cy for residential construction on an annual basis-well more than the amounts requested by Hanson and Lind.

In calculating long-term demand in the South and North San Francisco Bay Regions, the California Geological Survey concluded that there exists a substantial shortfall in total permitted capacity—a 411-million-ton (294,000,000 cy) short fall in the North San Francisco Bay Region and a 977-million-ton (698,000,000 cy) shortfall in the South San Francisco Bay Region. (*Aggregate Sustainability in California*, p. 7.) As the State Lands Commission emphasized in its findings of approval, "31 aggregate study areas [in California] were projected to have less than 10 years of permitted resources remaining." (State Lands Commission, Minute Item 101 (Oct. 19, 2012), p. D-36.) Anecdotal evidence from the region is consistent with these shortfall projections:

- Six (6) high quality aggregate quarries in the 9 county San Francisco bay Area have closed since 2001, reducing local production by 7 million cy annually; and

- Three (3) additional aggregate quarries will close in the SF Bay area in the next 5 to 10 years, reducing local production by 1.5 million cy annually.

The San Francisco Bay Mining Project would help meet increasing local demands in the North and South San Francisco Bay Regions, though even this operation will only satisfy a fraction of projected near- and long-term demands.

When Hanson and Lind initiated the renewal process for its leases and permits in 2007, prior permitted volumes had been set at a maximum of 2.24 million cy annually. Those previous volumes were approved by all of the regulatory agencies based on negative declarations under CEQA, and with no restrictions on average volumes. Further, prior assessments of available sand resources in the Bay (ADEC 2000) suggested that sand reserves within the limited areas were data was collected and analyzed to a depth of -90ft MLLW within two lease sites (709 North and South) sand reserves were likely greater than 34.1 million cy (see Attachment 1). Assuming that the other Central Bay lease areas have similar depths of sand (seismic reflection surveys actually indicate much greater depths of sand to bedrock), sand reserves are anticipated to be greater than 400 million cy within the Central Bay Lease sites. These estimates could be further refined through the Technical Advisory Committee process. With the relatively few environmental impacts and large reserves, Hanson and Lind had the expectation that the permit and lease renewals would occur with little adjustment in maximum volumes.

Due to historical peaks at about 1.95 million cy and requests by the regulatory agencies to reduce overall permitted volumes, Hanson and Lind requested lower permitted maximum volumes of 2.04 million cy annually. In business planning, the companies never expected to achieve those maximum volumes in every year due to the fluctuations in the market, which historically mirrored housing starts and the economy. The ability to peak is crucial for Hanson and Lind to respond to fluctuations in market demands and address the relatively fixed costs and marginal returns afforded sand mining over a 10-year permitting cycle.

Thank you for your consideration in this matter. If you have any questions please contact Mike Roth at (925) 244-6561 or Bill Butler at (925) 785-0057.

Sincerely,

Mike Roth William H. Butler

Attachment
1 – Coast & Harbor Engineering, *Preliminary Central Bay Sand Volume Calculations* (March 30, 2015)

ATTACHMENT 1
SAND VOLUME CALCULATIONS BASED ON ADEC 2000

PRELIMINARY
Central Bay
Sand Volume Calculations

Date: March 30, 2015

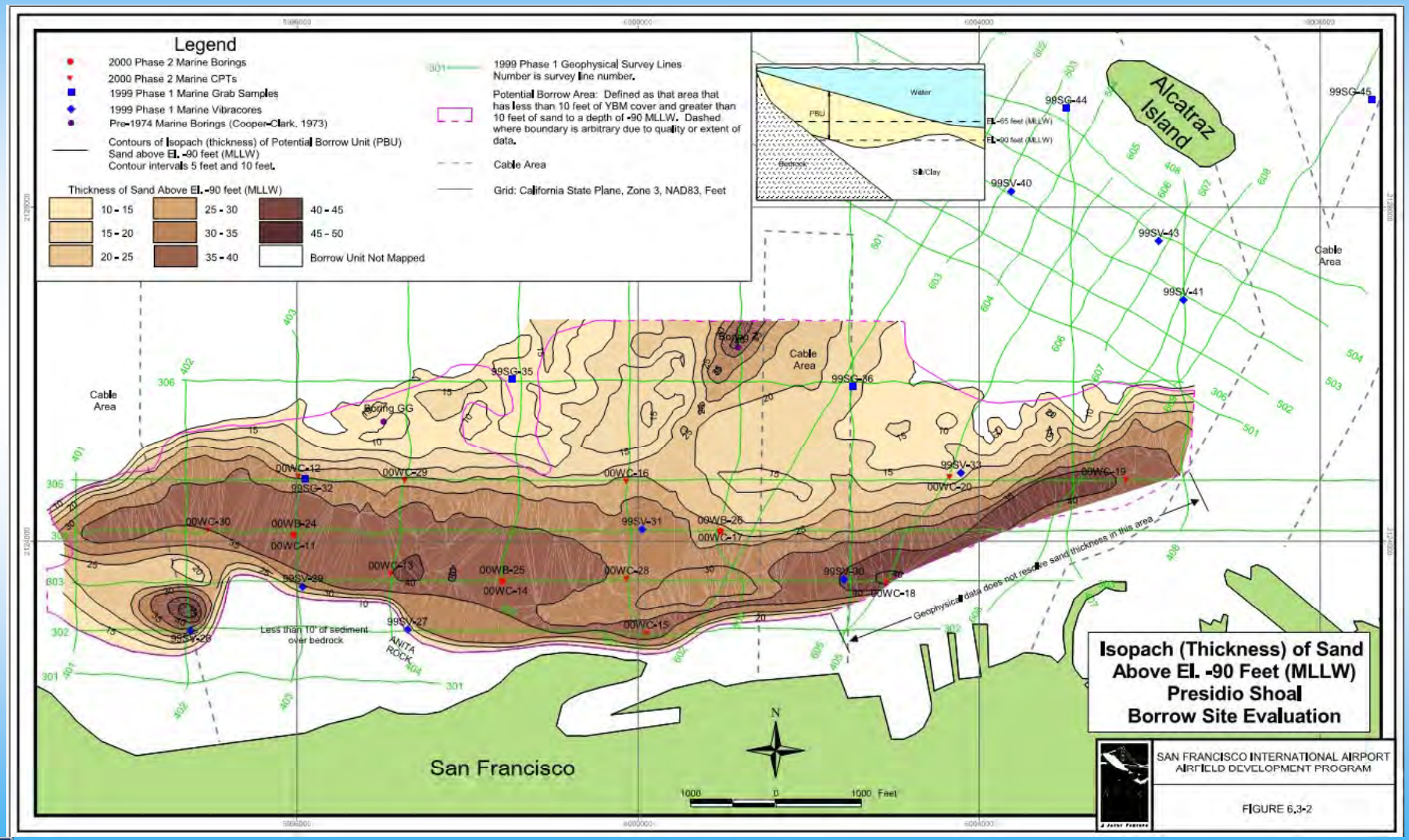
Prepared by: Coast & Harbor Engineering

COAST & HARBOR ENGINEERING
A Division of Hatch Mott MacDonald

Sand Volume Calculations

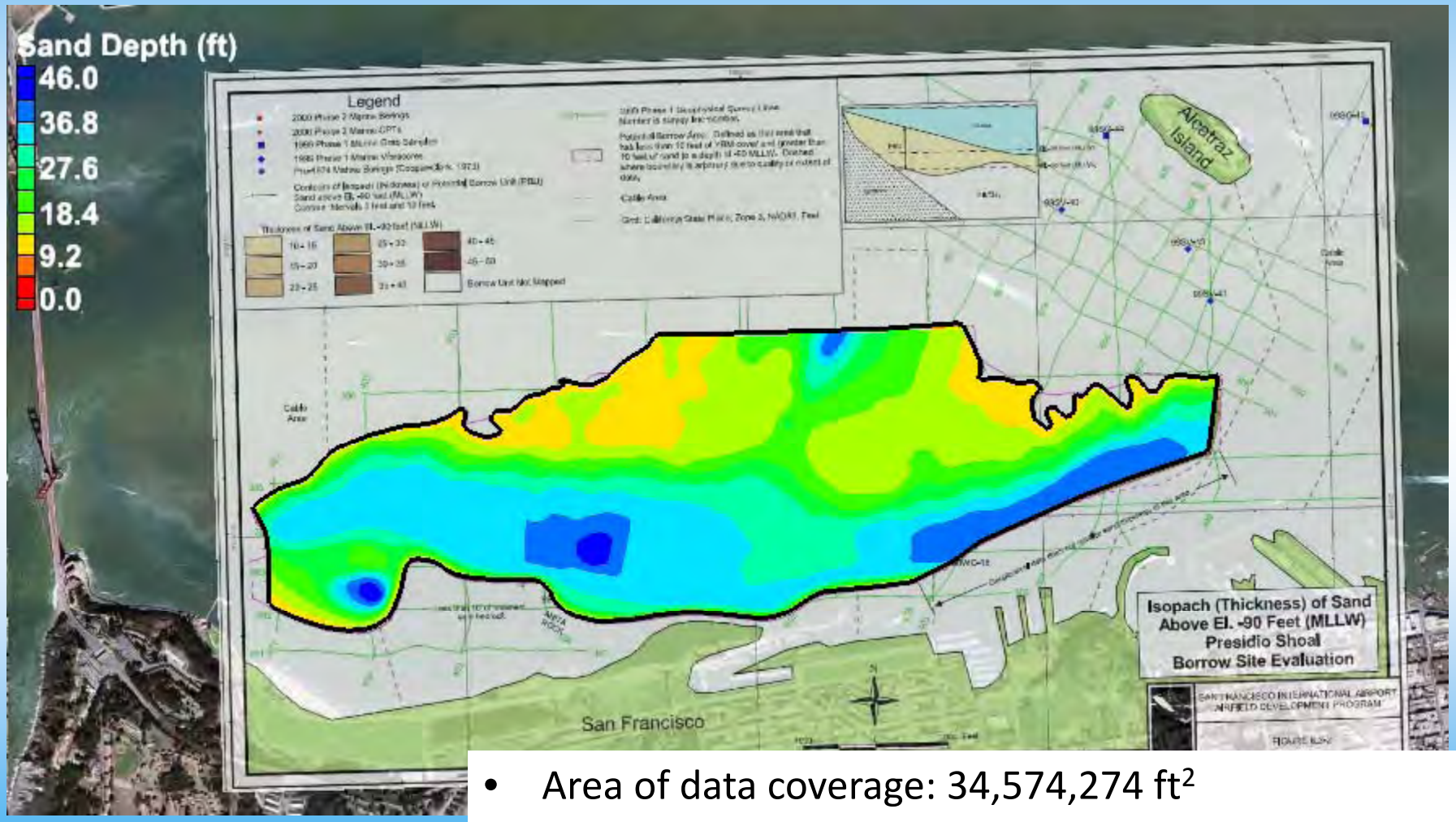
- ADEC sand maps show thickness of sand above -90’ MLLW
- Maps were georeferenced using CA State Plane NAD83 Zone 3 grid lines shown on PDFs
- Sand thickness contours were digitized
- TIN models were developed
- Volumes calculated within entire survey areas, and within individual lease areas that partially overlap the survey data
- Data covers areas outside lease areas as well
- No lease area is completely covered by the data

ADEC Sand Thickness Map: Presidio Shoal



COAST & HARBOR ENGINEERING
A Division of Hatch Mott MacDonald

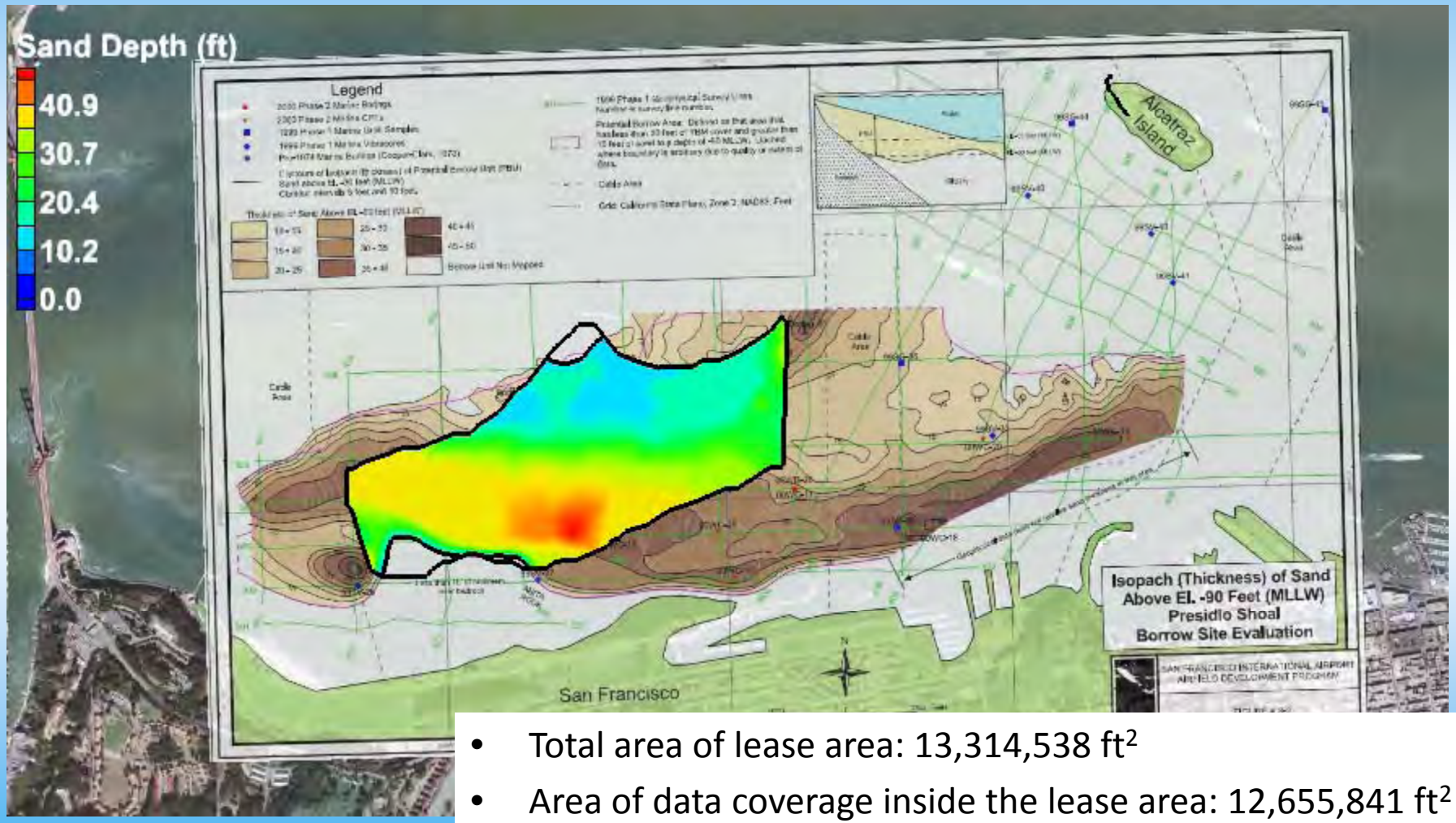
Digitized Sand Thickness Map: Presidio Shoal



- Area of data coverage: 34,574,274 ft^2
- Volume of sand within coverage: 32.1 MCY
- Average sand thickness: 24.6 ft

COAST & HARBOR ENGINEERING
A Division of Hatch Mott MacDonald

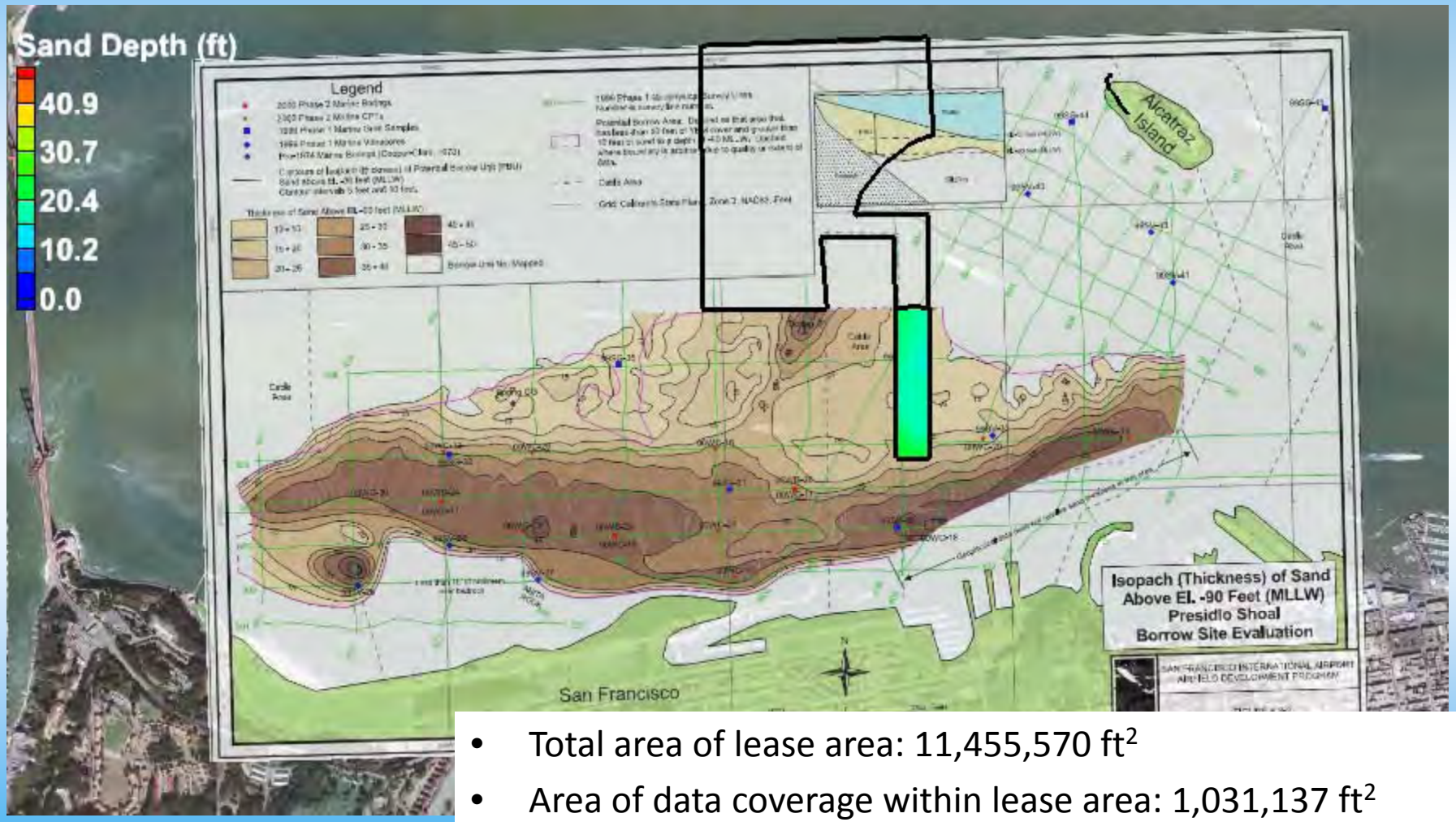
Lease Area PRC 709 South



- Total area of lease area: 13,314,538 ft^2
- Area of data coverage inside the lease area: 12,655,841 ft^2
- Volume of sand inside the lease area: 12.2 MCY
- Average sand thickness: 24.8 ft

COAST & HARBOR ENGINEERING
A Division of Hatch Mott MacDonald

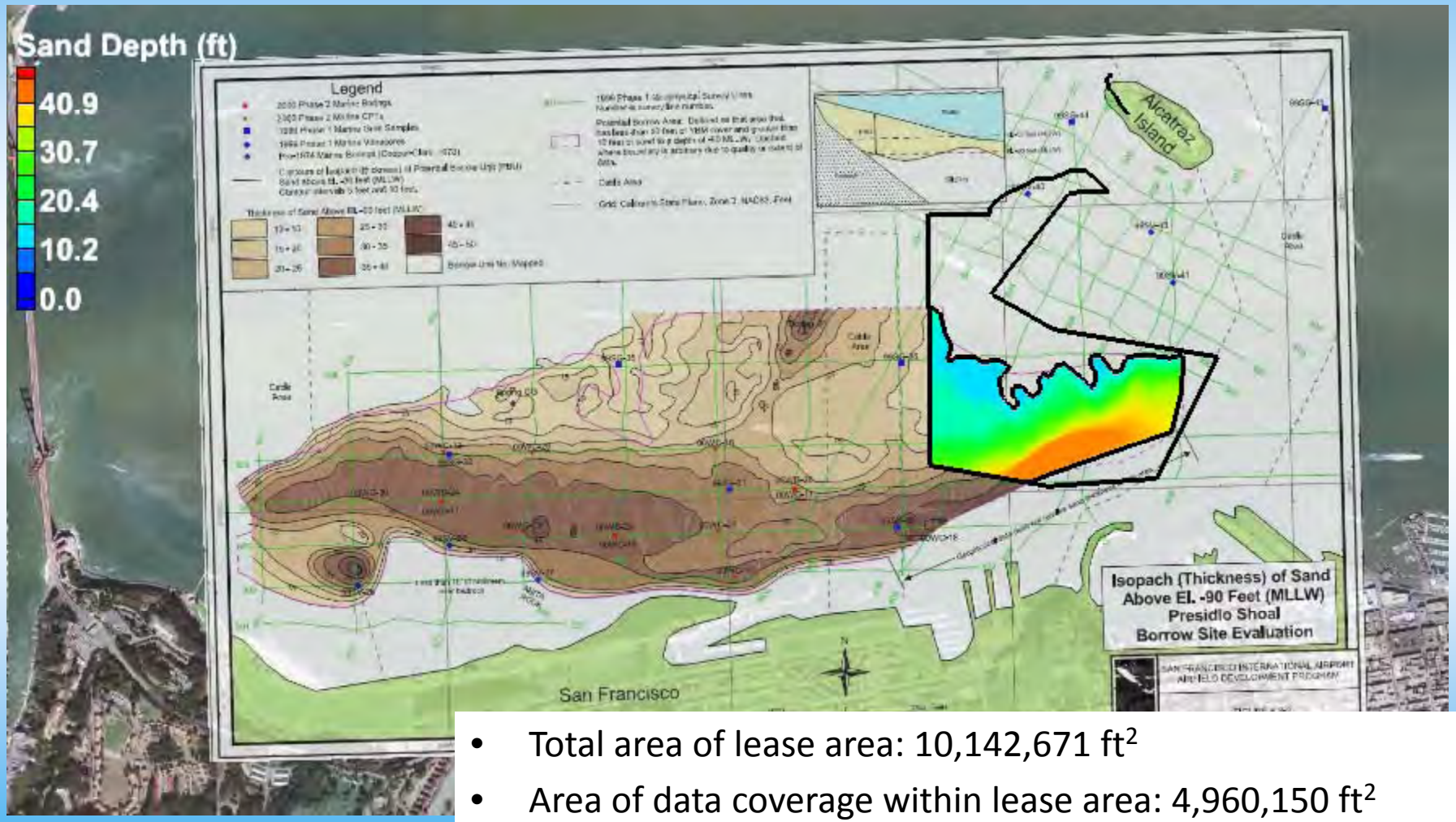
Lease Area PRC 5871



- Total area of lease area: 11,455,570 ft^2
- Area of data coverage within lease area: 1,031,137 ft^2
- Volume of sand within lease area: 0.6 MCY
- Average sand thickness: 16.1 ft

COAST & HARBOR ENGINEERING
A Division of Hatch Mott MacDonald

Lease Area PRC 7780 South



- Total area of lease area: 10,142,671 ft^2
- Area of data coverage within lease area: 4,960,150 ft^2
- Volume of sand within lease area: 4.3 MCY
- Average sand thickness: 22.9 ft

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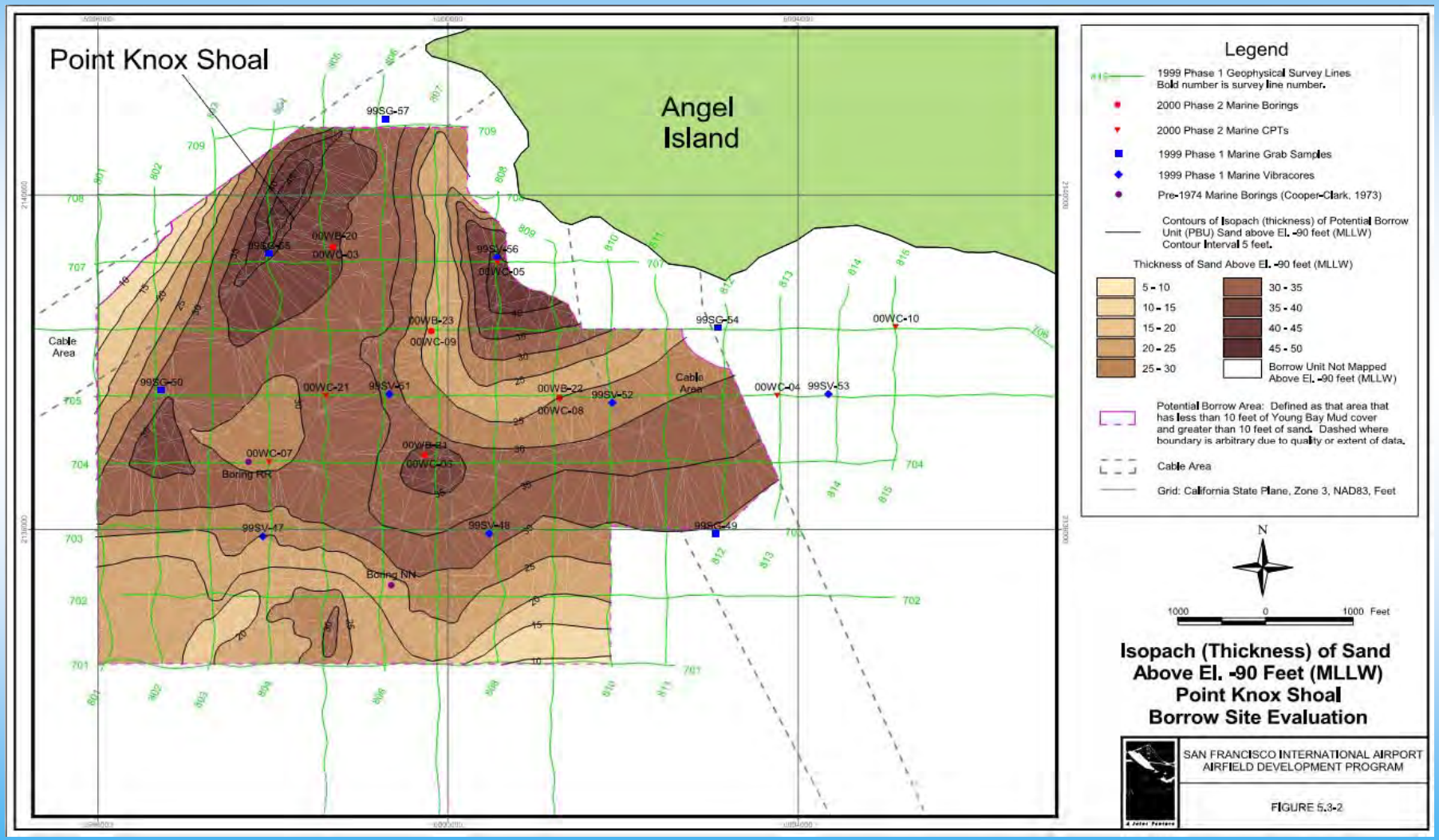
ADEC Sand Thickness Map : Point Knox Shoal



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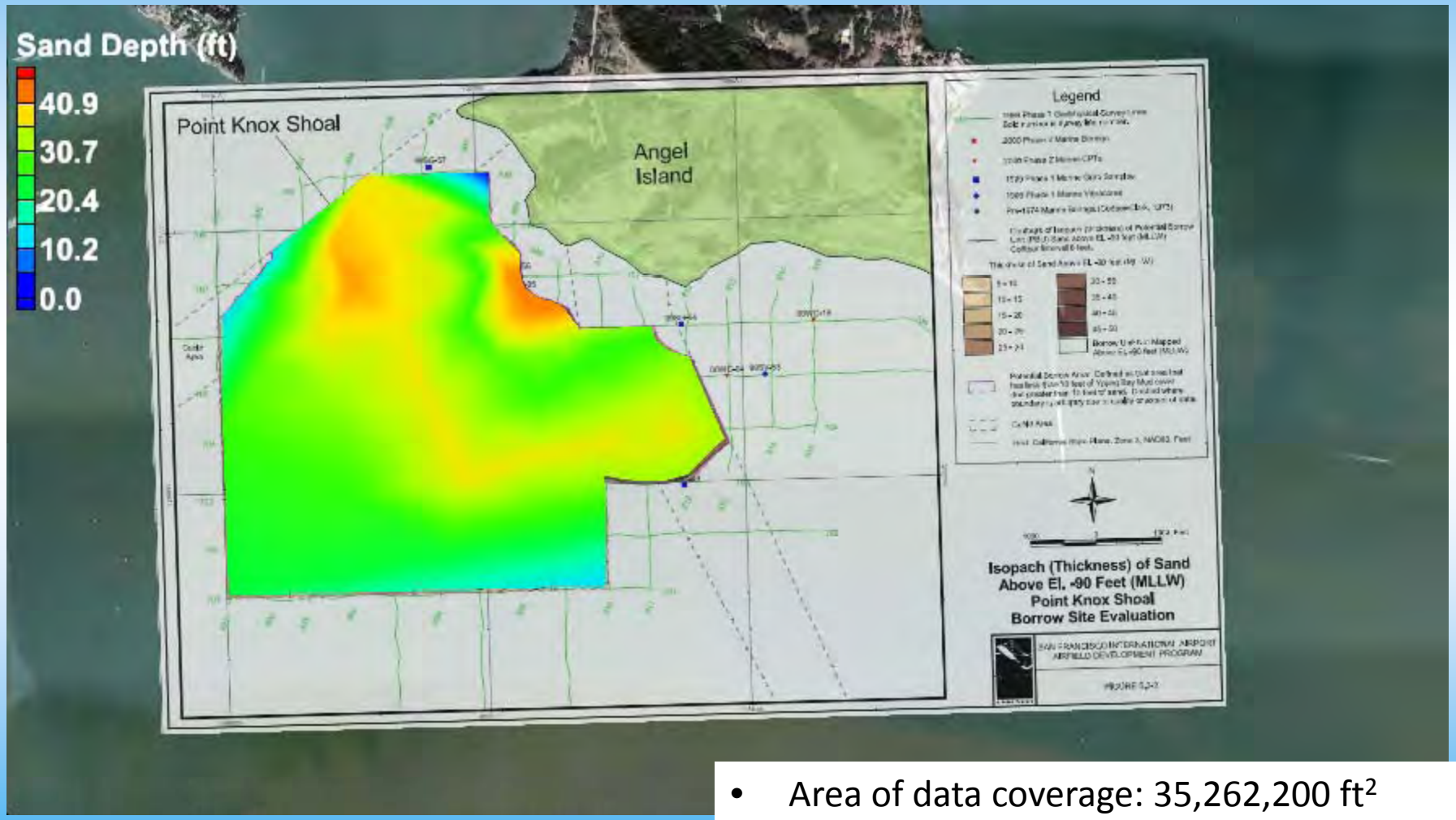
Digitized Thickness Map: Point Knox Shoal



- Area of data coverage: 35,262,200 ft^2
- Volume of sand: 36.5 MCY
- Average sand thickness: 29.2 ft

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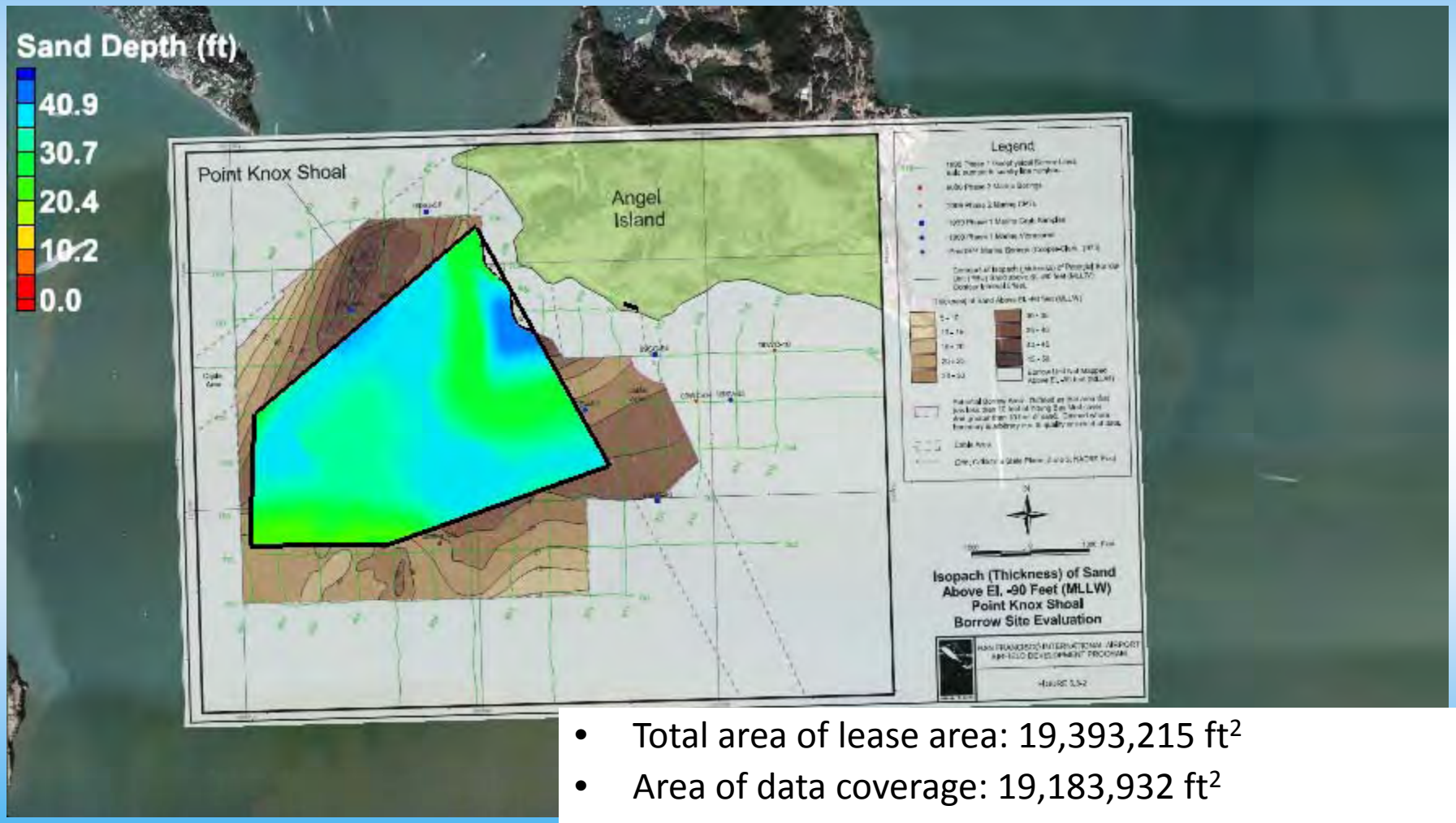
Lease Area PRC 709 North



- Total area of lease area: 19,393,215 ft^2
- Area of data coverage: 19,183,932 ft^2
- Volume of sand within lease area: 21.9 MCY
- Average sand thickness: 30.1 ft

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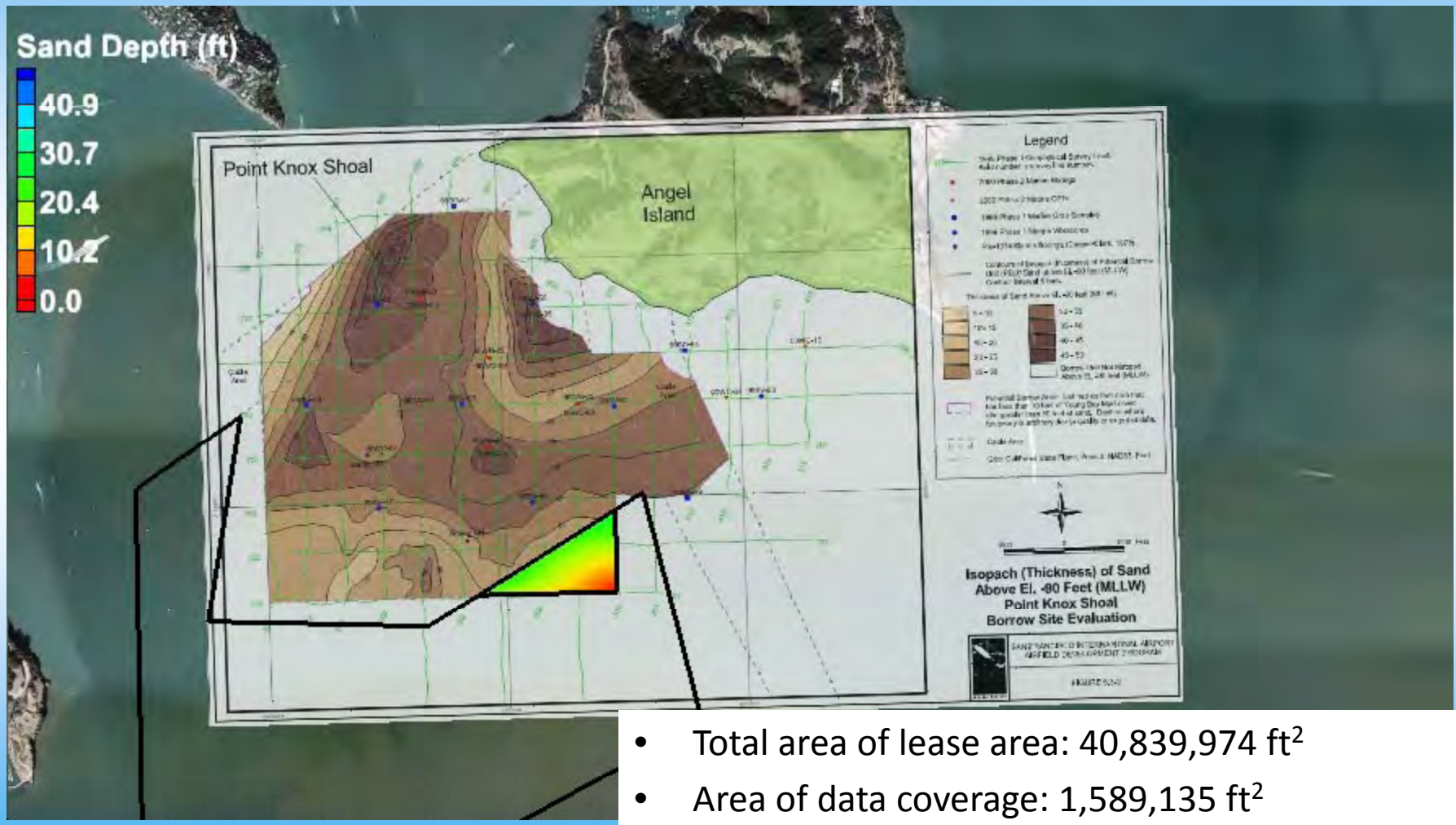
Lease Area PRC 7779 West



- Total area of lease area: 40,839,974 ft^2
- Area of data coverage: 1,589,135 ft^2
- Volume of sand within lease area: 0.9 MCY
- Average sand thickness: 22.4 ft

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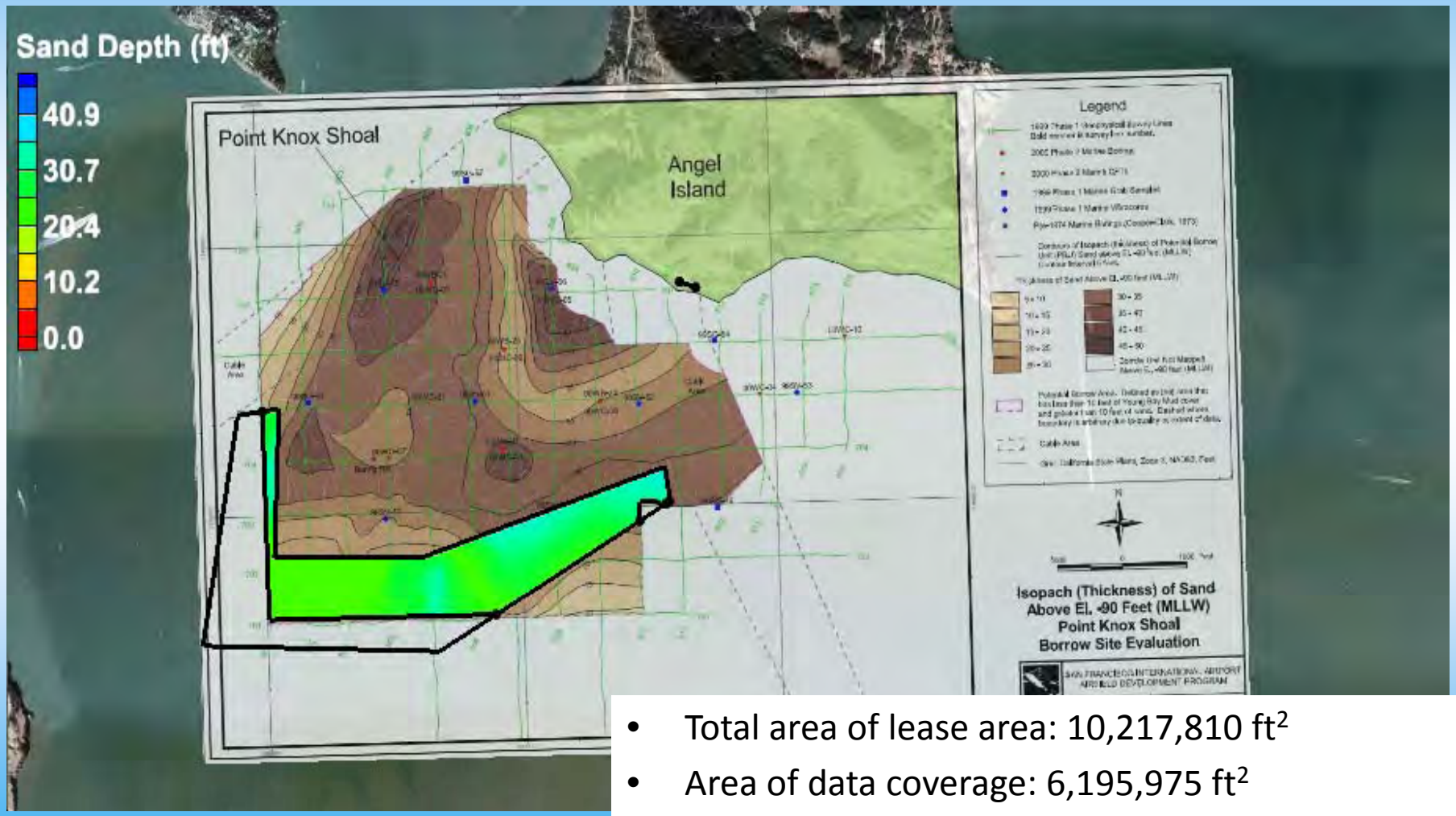
Lease Area PRC 2036



- Total area of lease area: 10,217,810 ft^2
- Area of data coverage: 6,195,975 ft^2
- Volume of sand within lease area: 5.6 MCY
- Average sand thickness: 24.1 ft

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Sand Volume Summary

Presidio Shoal

- Entire survey area: 32.1 MCY
- Lease area PRC 709 South (surveyed area only): 12.2 MCY
- Lease area PRC 5871 (surveyed area only): 0.62 MCY
- Lease area PRC 7780 South (surveyed area only): 4.3 MCY

Point Knox Shoal

- Entire survey area: 36.5 MCY
- Lease area PRC 709 North (surveyed area only): 21.9 MCY
- Lease area PRC 7779 West (surveyed area only): 0.9 MCY
- Lease area PRC 2036 (surveyed area only): 5.6 MCY