2005

EPV 015 Charton Field Notes 2005

James Charton

Monday, June 6th, 2005

The morning was spent orienting the team to the project. We took a brief tour of each site: Las Orquideas, El Paraíso and El Cafetál.

El Cafetal: The site has become overgrown with vegetation since last summer's clearing. The plaza will be cleared once again as well as the tall mound East of the Plaza that is overgrown with coffee trees. Our plan this summer is to expand the plaza survey to include those areas not available last summer as well as areas inbetween structures. In addition, Mary a Kenyon undergrad and I will be surveying and excavating a residential cluster south of the main Plaza.

El Paraíso: The site road has been blocked off as the project will be cutting an E-W trench across the mound East of the Plaza across the road. The wall built last year to protect the site from further river erosion looks great and a commemorative inscription put into the top of the wall. This summer's plans include trenching (N-S) the tallest mound as well as a N-S trench

at the base of the tall mound to run toward the river, cutting across two smaller mounds.

Las Orquideas: More remote than the other 2 sites, this site rests atop an elevated "island" ridge surrounded on 2 sides by Marsh. The site is currently used for cattle grazing and contains numerous mounds. Marcello excavated a similar site and believes this to be older than either El Cafetal or El Paraiso. He anticipates that the buried structures will be made from brick and earth as there is no rock debris on the surface. The ~~earth~~ earthen mounds are more difficult to discern from rock and are noticeable only by color change and possibly texture. The site is basically tree-less, a sun-block zone, although Chompas will be built for sun protection.

James P Charlton #15 2005-15-003

Tuesday, June 7th, 2005

Visited the HQ house (Marcello, Ellen and Pam's house) where we were given log note books (loose leaf binders) and assigned an ID number, my number is 15. We were instructed on where the surveying equipment is stored and the supplies, graph paper, pens, etc can be found. In addition, Larry and I will be using the premises as our lab. We then headed to the El Cafetál site for mapping exercise.

At El Cafetál Larry and I mapped the site with tape and compass. We decided after the first few points to use pace instead of tape. We used my pace, measured at 0.9m over a 5 meter distance. Larry used a sophisticated and advanced floating point datum point system to map features that could not be viewed by the original datum point.

After mapping the site, Larry and I practiced setting up, breaking down and taking shots with the Total Station.

Wednesday, June 8th, 2005

El Paraíso

Larry, Brianna & I were formed into a team during the morning and assigned to stake a unit without Total Station using only compass and tape. We outlined a unit by setting a stake and using the compass to establish a N-S bearing. Using the tape we measure 1m and using trigonometry created right angles of 1 meter arms with a 1.41m diagonal. We also ran a E-W bearing.

Marcello explained how an Archaeologist approaches excavation, from the outside-in (latest to earliest), low to high. This allows us to seriate the building phases and to view the building from latest to earliest. We then staked a trench at the base of the big mound running N-S to establish the base level of the mound while clearing away the debris field created by a bull dozer. We used a tape and compass to lay out the stakes along with a plumb bob and line level as some units were over a meter lower than others. I shared with my team a field method I use where one uses a flexible tape to establish a right triangle of 1m x 1m x 1.41m (diagonal) to set a stake when building off an already established unit. During the afternoon the team shot the stakes we set in the morning. The stadia rod is held to the inside of the stake resulting in a slightly different reading (within a few cm) of the point when set.

(Continued) Wednesday, June 8th, 2005

Also as a team Harry, Brianna and I mapped all the trees on the site useing compass and tape. We used a central datum a tree, with a specific elevated spot and ~~and~~ measured distance to trees. Brianna used compass to take bearings and harry recorded info and established a rough map. The purpose of the mapping and unit staking exercises with tape and compass was to ~~familiar~~ familiarize a use with how to lay out a site without a total station. Total stations are good to use when the landscape elevation varies or has large ~~vari~~ difference between highs and lows.

Thursday, June 9, 2005

El Paraíso

Mary and I were teamed up and continued running a N-S trench 04/18 from where a unit was established the day before. The trench ran up a ~~sp~~ slope, so we used tape, line level and plumb bob to establish stakes. The original unit was difficult to work off and it took us several tries with some assistance from Pam (the original unit had a south E-W dimension of 97cm). Once we hit the level top we used the soft tape triangle method and established about 10 units. Later we shot the units with Total Station and found Easting to be off 6-20cm while Northing was reasonably accurate 0-6cm. At the end of the morning we finished shooting the N-S trench that will cut through the tall mound. Marcello will establish a datum point ~~above~~ @ the ~~top~~ of the mound from which he will locate las ~~Arquideas~~ Orquideas.

Due to the heat and bright sunshine, we met at Marcello + Ellen's house at 4PM to review excavation etiquette. We were given a field manual with dos + don'ts as well as tagging systems, how to write notes and archaeological terms.

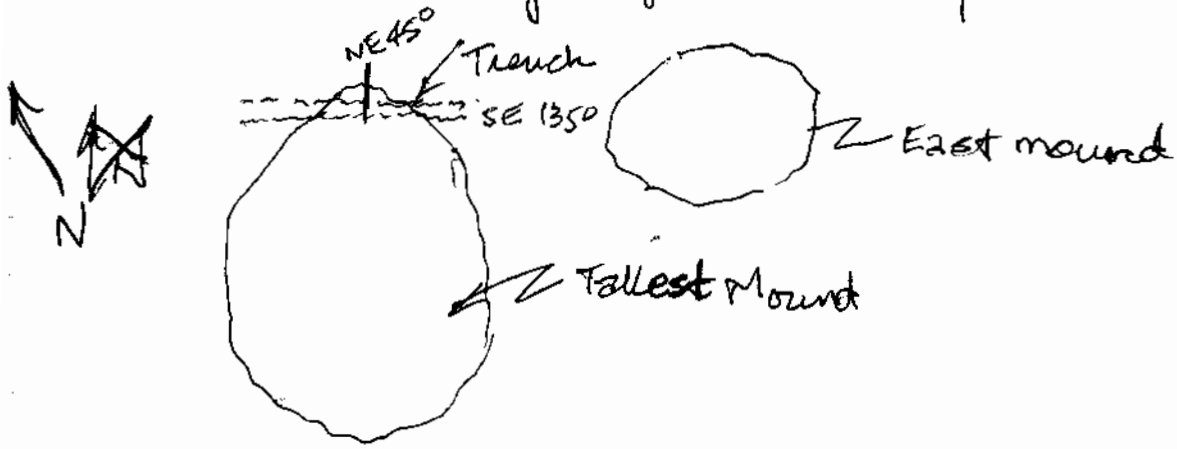
2005-15-007

June 10, 2005

Las Orquideas ~~Arcadias~~

Arrived at Las ~~Arcadias~~ Orquideas at about 7:30 AM, The day was clear and dry as the previous 2 days. Pam had the group find the corners of 4 mounds, the tallest, 2 forming the ball court and a smaller mound East of the tallest mound.

On top of the tallest mound a slump suggesting a ramp was aligned roughly North. Pam decided to transect the ramp with a 1m trench running roughly 135° SE. Mary and I were assigned to lay out the trench units using tape and compass.



The trench is Op 9 Sub 1 or 09/01 with 18 Units. After a brief Snack at about noon Marcello + Pam shot the points with Mary and I at the stadia.

Pam asked everyone to stake the corners of the structures with flags. I was a bit confused seeking to find the corner of the actual structure rather than the end of the slump as Pam instructed. The purpose was to find alignments with other structures. Will talk to Ellen + Marcello later.

2005-15-008

June 13, 2005

El Cafetál

Arrived at site a little before 8:00 AM. The group consisted of Larry, Chepe, Silva and myself. We had a 30 minute downpour last night so the morning was humid and overcast and the ground damp. Ellen assisted us in finding the 2 datum points A and ?. Chepe and Silva set out to make stakes while Larry and I took an E-W bearing between datum points to establish a grid to the ~~nearby~~ recently cleared land to the East and South of the tall Mound.

Placed flags every 10 m between datum bearing 110°. ~~W-E~~ Used North bearing 20° to form a grid. We took breaks at 9:30 and 10:40 AM as the air was heavy with little breeze and a bit of exertion developed sweat and heat. Ran a 3 m transect S of datum point A to get material closer to structures. Also ran a 5m grid point south of datum A.

We finished at 11:30 at which time we took a lunch break. Ellen joined us for lunch at which time we told her of our inability to contact anyone over the radio. Soon after expanding the grid, Chepe was stung in the eye by a wasp, fortunately his eye lid was closed although he did have swelling and his eye reddened. We tried to contact Ellen

and/or Marcello but could not contact either one. Ellen recommended we try the top of a mound (I was 3/4 up the tallest mound) but due to threatening rain and lightening I did not try. Marcello indicated that they might resurrect last year's radios which worked.

After lunch we labeled the grid (see Map 1) beginning with KX 319, our sample sequence is Unit KX, Sample 07/05/319. We began soil sampling at about 12:45 PM. Chepe use a post hole digger (trencha) and Salvador a digging chisel. Larry and I supervised the digging and took samples at a color change and/or noticeable change in structure, eg gravelley layer, or high incidence in artifactual material. Some of the artifacts found were: obsidian flakes, terra cota pottery and a fired pottery. Depth of artifact location and sample point were noted (see Table 1*)

At 2:20 it began to rain. It had be lightening and thundering since we began taking soil samples. We finished the samples we were on (13 in all) and began packing up for home. At about 2:45 Ellen showed up and took us all home dropping of the soil samples at HQ first. At about 4:30 PM, set out the samples (07/05/319 - 332) on plastic plates to dry. Some samples took 2 plates, can reduce sample size in half.

* Page 2005-15-010

2005-15-010

Table 1 Expanded Grid Soil Samples KX-LK (319-332)

Unit	Sample	Depth (in cm) Pottery	Obsidian	Soil Sample	Other
KX	07/05/319	25-30*		40	
KY	07/05/320			30	
KZ	07/05/321	Tree root did not sample			
LA	07/05/322	27		37	Charcoal
LB	07/05/323	23		35	Stones
LC	07/05/324	25		40	Charcoal
LD	07/05/325	14		30	Gravelly
LE	07/05/326	30		70	Near Structure
LF	07/05/327			40	
LG	07/05/328	30	18	30	
LH	07/05/329		20	35	
LI	07/05/330			36	
LJ	07/05/331	8-10		48	bone?
LK	07/05/332			37	tooth?

* lost

June 14th

El Cafetál

Arrived at site at 8:10. Team consisted of Larry, Mary, Ellen and myself assisted by Chepé, Salvadore and two other workers. The morning was overcast and humid (27°C). Larry set up total station to shoot grid points located yesterday. Ellen, Mary and myself with Salvadore walked to a nearby residential group that Mary and I will excavate. The group (S-2) consists of 3 larger mounds and several smaller mounds in a field growing oranges and The ground is relatively flat so Setting up a grid should be easy. Mary will focus on the residential mounds while I focus on the open space between structures. I will conduct a PO4 survey, excavate hot spots and assist in excavating small structures. I will then compare activities to main plaza at El Cafetál.

Larry set up the total station and we shot the points I located the grid location and Chepé held the stats. The following corrections need to be made to be made:

1. All stakes were shot to the East of the stake with the following exceptions:
   NH, LJ, LR, LZ, NC were North
   MN through MW and NF were West
   ML (shot as MJ) was 10 cm* West
   MM was 40cm West
   MZ and NA were 25cm North
2. ML was erroneously shot as MJ and visa versa

* All measurements estimated.

3. LS and LT were erroneously labelled twice so the duplicate units were labelled LSS and LTT.

Ellen and Mary returned before lunch and shot a point behind the South long mound. The peg was set at -20N, -20E to grid the back of the mound.

We took a 15 minute break at 10:05 and broke for lunch at ~~10:05~~ about noon. After lunch we labelled sample bags and sampled Unit LL, sample 07/05/333 to Unit LZ, sample 07/05/349*. We discovered that we mapped 2 LS an LTs so we labelled the duplicate points LSS and LTT and adjusted the sample numbers accordingly. At about 1:~~15~~ the lightening, thunder and rain hit, my sampling partner Oscar kept us abreast of the storm so we had packed just before the rain hit. Chepe made rain shelters with Banana leaves and by 1:30 Ellen arrived to return us to LaCasa. We waited a few minutes for Salvadore and a crew of workers from S-2 came to the truck. We deposited the samples at HQ.

I used the soil sampler and found it to be useful in determining horizon changes. The soil sample appears slightly lighter than dug samples. Oscar would dig 20-30 cm with the post hole digger and then I would sample up to about the 6" mark (15 cm) to see how much further to go. The only fear I had was the tester acting as a lightening rod during the thunderstorm.

* See Chart 2 page 2005-15-014

2005-15-013

Table 2 Expanded Grid Soil Samples LL - LZ (333-349)

Unit	Sample	Depth (in cm) Pottery	Obsidian	Soil Sample	Other
LL	07/05/333	25**		37	
LM	07/05/334	49?		56	55cm Gravelly
LN	07/05/335			39	
LO*	07/05/336			35	
LP	07/05/337	34?		39	Tuff @ 30cm
LQ	07/05/338	20,46		46	Bone? 36cm
LR	07/05/339	23**		34	
LS	07/05/340	25		29	Cobblestone Floor?
LT	07/05/341	37		39	
OE ~~LSS~~*	07/05/342			41	Interesting Rock
OD ~~LFF~~*	07/05/343			45	
LU	07/05/344	33		36	
LV	07/05/345			37	
LW	07/05/346	28		35	
LX	07/05/347	32	32	37	Pale yellow chert flake
LY	07/05/348			50	Tuff? Pottery?
LZ	07/05/349	21		35	

* Note between LN and LO is unit BH sampled last year.
** Depth corrected (using sample bag value instead of master field sheet.

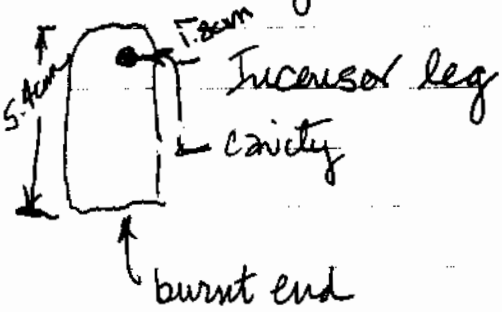
* Relabeled 6/23

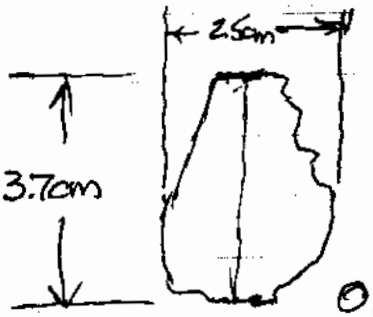
June 15th

Had a restless night, stomach ache with early morning cramps. Woke up at 5AM. Took 2 Pepto Bismol at 6AM some relief although not complete. Decided to work at lab registering and drying samples. If the samples are dry enough, will begin to run analyses. Purchased 50 foam plastic funnel plates to give more surface area for drying. Began working at lab at about 7:15AM. Marcello will stop by later to download total station shots from yesterday on to Surfer and update grid spreadsheet and map.

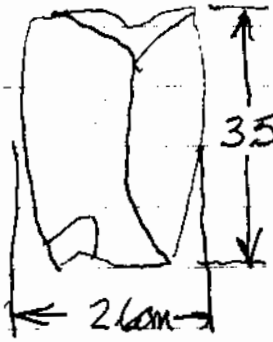
Crushed sample 07/05/319 with mortar + pestle. Some material stuck to mortar will see how to clean, I'm wary of cross contamination. Started emptying soil sample bags from yesterday onto larger plates to begin their drying at 9:35AM, then I will ~~rest~~ return to Monday's samples. Finished transferring all soil samples to larger plates at 10:45AM. Found addition pieces of pottery and some material to check with Pam to see if their bone (331) or tooth (332).

Marcello stopped by about 9AM and showed me how to access Mapping db. Printed out 2005-06-14 shots so we can indicate corrections. Showed Marcello chert, pottery and obsidian from sample 07/05/347. He identified pottery "finger" as the leg of an incensor. He was somewhat surprised at the relatively shallow depth it was found, 32cm. The chert and obsidian suggest pre-classic habitation.





Obsidian Blade w broken tip (07/05/347) found at 32cm



Chert flake (07/05/347) found at 32cm

In transferring soil samples to large plates, I used surgical gloves and sample "spoon" to crumble chunks, wiping the gloves clean between samples. The soil was too moist + sticky to use ~~mater~~ mortar and pestal. Took out scale and plugged into live circuit, it came on, tared and read 3000 gm for 300.0 gm weight standard.

NOTE: Need to get batteries (4 "AA") for scale so it can run during power outages. Also need to purchase drain basket for cleaned and washed lab ware. Appropriated empty water bottle for distilled water use.

Got distilled water pump from La Casa, emptied 2 sealed distilled water bottles into 5 gallon jug after rinsing with distilled water. There is a third un-

Sealed bottle of distilled water that I will test before using. The pump isn't pumping properly need to review with Larry.

Set up blank experiment to test PO_4 in water.

Vial* 1 Ultra Pure Distilled H_2O
" 2 " " " "
" 3 Sealed Distilled H_2O from 5gal jug
" 4 Un Sealed " " " " "

* Glass 25ml vials Cat No 24019

DR-850 Readings after 1 minute shake with phosVer 3 Lot M00035F10 A4079 EXP 08/07 except for Vial 1 and let rest for 3 minutes.

Vial	Zero (no phosVer3)	4min
1	Set 0.00	0.00
2	0.00	0.03
3	0.02	0.21
4	0.00	0.21

No difference between sealed and unsealed distilled water.
0.18 difference between Ultra Pure + Distilled water. Within variation of color contributed by phosVer3.

Lab temp: 29°C @ 2:10 PM
H_2O " : 29°C @ 2:15 PM

Larry returned from the field at about 3:30PM. Samples 07/05/350 to 373, of which 350-365 were put on plates (ran out).

Table 3 Expanded Grid Soil Samples MA – MW (350-373)

Unit	Sample	Depth (in cm) Pottery	Obsidian	Soil Sample	Other
MA	07/05/350	24		44	
MB	07/05/351			41	
MC	07/05/352	30		45	
MD	07/05/353	44		44	
ME	07/05/354	24		34	
MF	07/05/355	30		45	
MG	07/05/356	27		33	
MH	07/05/357	27		35	
MI	07/05/358	25		39	
MJ	07/05/359			35	
MK	07/05/360	25		39	
ML	07/05/361	23		39	
MM	07/05/362	32		41	
NG MN* MNN**	07/05/363			34	
MO MN	07/05/364			38	
MP MO	07/05/365	31		37	very wet
MQ MP	07/05/366	25	35	40	
MR MQ	07/05/367			41	
MS MR	07/05/368	18		35	
MT MS	07/05/369	25	25	38	
MU MT	07/05/370	23	24	35	
MV MU	07/05/371	20-29		39	
MW MV	07/05/372	18		40	
MX MW	07/05/373			32	

Ran out of plates

* corrected, see page 2005-15-022

** Relabeled NG

June 16th

El Cafetal

Feeling better and looking forward to a day in the field. After some delays, truck low on oil, got to site at 8:20AM. It rained last night so the morning was humid with a bright sun forboding a hot afternoon. W Larry, Chepé, Oscar and myself finished soil sampling MK 07/05/374 to NG 07/05/382. We discovered that point MN was 5m to the west of what was sketched therefore there is an extra point on the line 3m from the south mounds. We labelled the extra point NG and need to check the map this evening to make corrections.

Larry, Chepe', Oscar and I laid out a grid behind the south mound using the datum shot by Mary and Ellen. We used a tape and compass setting at 20°N, 110°E grid. We labelled grid points NH through X. We took soil samples from NH 07/05/383 through NO 07/05/390 before lunch at 11:45. Representatives of the institute visited Marcello and Ellen. Ellen later told us the group included representatives of the World Bank which can fund a much needed paved road from La Entrada through El Paraíso to Copan.

After lunch we continued taking soil samples behind the south mound NP 07/05 391 to NX 07/05/399. There was no school because the teachers haven't been paid so we had a lot of young spectators. Its a pity I can't speak Spanish so I could explain what we were doing. We set up the total station on the mound S304, it was difficult to set up because of the rocks and irregular terrain, using DOPO

as backdrop. ~~We~~ We had no sooner set it up when it rained. So we disassembled the total station and ran for cover to the car at about 2:30 PM.

The areas immediately in front and behind the south mounds (8m from edge of mound) seem to have a consistant shale layer, could this have been their flagstone that crumbles when excavated? The depth of soil color change behind the mound (shallower) was in the mid-20cms much higher than the Plaza side of the mound. Overall artifact concentration behind the mound was low to none.

The El Cafetal expanded grid areas have been completed. We need to analyze soil samples and establish excavation areas in the plaza that our data indicates potential human activity.

Table 4 Expanded Grid Soil Samples MX - NX (374-399)

Unit	Sample	Depth (in cm) Pottery	Obsidian	Soil Sample	Other
MX MY*	07/05/374			47	40 Slate
MY MZ	07/05/375	~~32~~ 25		32	
MZ NA	07/05/376	25		37	
NA NB	07/05/377			40	Shale/Slate
NB NC	07/05/378	30		40	" "
NC ND	07/05/379	27, 32		37	
ND NE	07/05/380	30		35	Chert Flakes -2
NE NF	07/05/381	29		31	
NF NG	07/05/382	42		45	29 Tumble 42 Burnt rock
NH**	07/05/383			42	
NI	07/05/384	30-32 36 (Lot 2)		37	
NJ	07/05/385				
NK	07/05/386	Ant hill			
NL	07/05/387			63	on small mound
NM	07/05/388			33	
NN	07/05/389	33		33	
NO	07/05/390			34	
NP	07/05/391			25	
NQ	07/05/392			25	
NR	07/05/393			36	
NS	07/05/394			23	
NT	07/05/395			26	
NU	07/05/396			23	
NV	07/05/397			23	
NW	07/05/398			32	
NX	07/05/399			27	

* corrected, see page 2005-15-022

** NG was not assigned, see page 2005-15-022

June 17th

El Paraíso

After ~~some~~ rain last night, morning was cool and slightly humid, sky partly cloudy portending a sunny, hot midday. Marcello asked Larry and I to take floor samples from the aquamarine trench just excavated. The floor was unusual in that it had areas of red on the typical yellows. Larry sampled the red area scraping the surface before sampling the top few mm. The sample was taken from the center of 06/07 Unit A. I washed the trowel in the brook and Larry repeated the procedure for the yellow area in the SW quadrant. We will need to run trace element analysis to get an understanding of differences between the two areas.

El Cafetál

Arrived at the site at about 8:20 AM and set up the total station on top of Str 04 at site 5304. Backsighted to 000 and shot in grid points behind the structure. Larry, Oscar, Chepe' and I working together.

Determined that 3m line nearest Str 03 and 04 had an extra point at West end. This accounted for extra samples taken. The sample numbers remain the same but Unit identification will be corrected for all samples after MM 07/05/362. For example, sample MN 07/05/363 becomes MMM* 07/05/363 (new point) and sample MO 07/05/364 becomes MN 07/05/364. Sample bags and Charts will be adjusted accordingly. ~~Sample~~ Unit NG becomes nonexistant and Units after NH are OK.

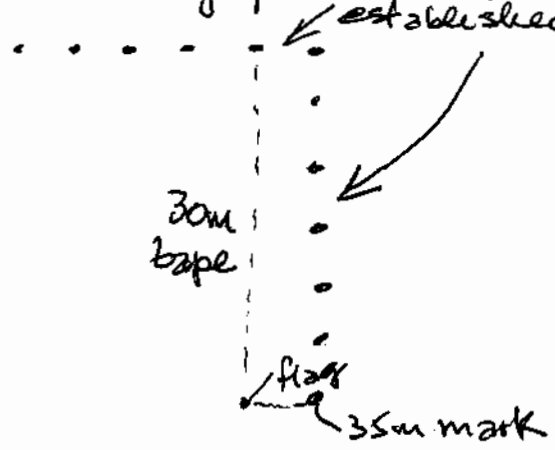
* Relabeled NG 6/23

The extra grid location also offered us the opportunity to run an additional West row with Units L~~X~~ three OC. These new locations were soil sampled with a ceramic handle found 30cm below surface at NY.

After lunch Chepe', Oscar and I went to Mary's site which we named Las Naranitas (little orange trees).

Las Naranitas

I took a bearing of the 2 datum points and determined it to be 100°. The eastern most datum was used to run a N-S line at a bearing of 10°. In ~~actuality~~ actuality the bearing was 8° so it is off with reference to Mary's elite Structure trench. I ran 5m intervals to 30meters and added another 3m to the tree line. I used the trench triangulation method to plot out points where a 30 meter line was set with a flag and right angled to the last 30meter point. Shooting points will determine how well this



method works. It was sunny and very hot so we to a break under Mary's excavation tarps. ~~After~~ running a few N-S rows we replaced the flags with stakes. At about 2PM we stopped as rain and

thunder threatened. Will continue the grid tomorrow and begin sampling. The terrain included a depression and a mound.

Table 5 Expanded Grid Soil Samples NY-OC (400-404)

		Depth (in cm)			
Unit	Sample	Pottery	Obsidian	Soil Sample	Other
NY	400	30		38	Ceramic handle @ 30, Gravelly
NZ	401	20		35	
OA	402	20,25		43	Gravel 20 Charcoal? 30
OB	403			38	
OC	404			33	

* Note bag unlabelled, identified by process of elimination.

2005-15-024

June 18th

El Paraiso lab

Larry and I decided to begin the lab work at today is Saturday a ½ day. We will join Marcello at El Paraíso site at 11AM to tour El Paraíso and Las Orquideas.

Larry proceded to weigh out samples 319 to 327 taken Monday, while I put retention samples into whirly pack bags. All drying plates and excess samples were thrown away.

Tested pipetter and discovered that you discharge air under liquid seerface to first stop, slowly withdraw then discharge dose to 2 stops. A 9 ml dose corresponds to 8.9 on Pipetter. This is the amount to be added to 1 ml sample of extract to dilute 10:1 for reading.

Note: The pipetter must be stored in upriglet position where not in use.

2005-15-025

1. Prepared 2-bottles of Stock Mehlich 2 solution. 20ml conc + distilled water to rim (used open bottle from last year)
2. Tested pipetter. Need to press down to first stop to evacuate. Slowly draw to full up. Discharge two stops. Need to practice for consistancy.
3. Test for PhosVer 3, Lot A, M00035F10 A4079 EXP 08/07
4. Filled 5 vials with 1ml stock Mehlich 2, 9ml distilled water. And zeroed instrument

	Zero Reading	w PhosVer 3* 4min	Corrected
Vial 1	Set 0.01	0.39	0.38
" 2	~~0.00~~ 0.01	0.33	0.32
" 3	0.02	0.69	0.67
" 4	0.01	0.27	0.26
" 5	0.03	1.77	1.74

*1 minute shake and 3 minute rest = 4 min

Note: PhosVer 3 in Vials 3 & 5 was clumped and yellow in color when dissolved solution turned yellow instead of blue color. Will not use last year's ~~samp~~ PhosVer 3 for analysis but use the packets brought down with us.

5. Repeated above test with PhosVer 3 brought to field this season. Lot AN (Lot A555118 EXP 09/08) Included Ultra Pure Water in Vial 1.

	Lab Temp
Time about 8AM	26°
10:10	29°

2005-15-026

Vial	Zero	PhosVer 3 (4 min)
1	0.00	0.44
2	0.00	0.77
3	0.00	0.58
4	0.01	0.58
5	0.01	0.53
6	0.00	0.25

PhosVer3 values very high and variable, lowest : highest 1:3, suspect: 1. Temperature, 2. Open bottle of conc Mehlich 2

lab temp @ 2:06 PM – 31°C

Test of Mehlich 2 solution. New sealed Mehlich 2 lot A4128 Exp 05/08.
Prepared dilute Mehlich 2 Stock soln (20ml conc + distilled water to line of bottle.

Vial 1 – ~~Dist~~ Ultra Pure 10ml
Vial 2 – Ultra Pure 9ml + 1ml Mehlich 2 Stock Soln
Vial 3 – Distilled 10ml
Vial 4 – Distilled 9ml + 1ml Mehlich 2 Stock Soln

Vial	Zero	PhosVer 3* (4 min)
1	Set 0.01	0.70
2	0.02	0.37
3	0.02	0.43
4	0.01	0.10

* Lot AN Ultra pure Vial 1 may have been contaminated with my finger.

2005-15-027

Based on results of Test of Mehlich 2 solution, will procede to clean all lab water with distilled water and re-run base line PhosVer3 testing.

Note: PhosVer 3 may be unstable causing variable results. The bag indicates storage of 10 to 25°C. Temperature was exceeded in transit and during storage this season at El Paraiso. Room temperature is constantly >25°C. Suggest field results be used only to identify hot spots (>100 ppm) ~~200~~.

Propose we identify excavation points based on comparison of:
- last years field results
- Yale lab results
- Wisconsin lab results.

Ran maps of
: PO4 Field (Map 1)
: PO4 Yale (Map 2)
: PO4 WISC (Map3) on Surfer, using 50 ppm contours for Field + Yale and 100 for Wisc.

All 3 maps gave general agreement reinforcing our confidence that the test methodology works and that we should excavate in areas revealed by the Maps.

2000-15-028

June 19th

El Paraíso Lab.

Purchased more plastic plates (28 L) and arrived at lab at about 10:10. Dried large SS basin, filled with distilled water and submerged all vials and caps.

Prepared 2 bottles of Mechlich 2 Stock Soln (used in 50 ml graduate + distilled water to neck mark).

Hot AN (Lot A5118 EXP 09/08) PhosVer 3 Base Line (To be subtracted from soil extract readings)

Vial*	Zero	PhosVer 3 (4 min)	Adjusted	
1	Set 0.00	0.58	0.58	$\bar{X}$ = 35
2	0.02	0.48	0.46	
3	0.00	0.30	0.30	
4	0.00	0.07	0.07	

lab temp
10:50 29°
12:30 29°
2:50 29°

* 1 ml Mehlich 2 Stock Sol'n (from 1 ml syringe) + 9 ml distilled water (from pipettor)

Concerned about pattern of readings. In last 3 sets pattern is 1st sample highest last sample lowest value. Also large range in phosVer 3 background 1:8 is very high. Will procede to run extractions with caution, results should be used only to determine definite spikes as denoted by a deep blue color in addition to high readings.

2005-15-029

Samples 07/05 (319-23)

Sample	Vial Wt	Zero	PhosVer3 (4 min)		Lot AN Adjust	Value
319	2.0	Set 0.00	1.31		-0.35	0.96
320	2.0	0.00	1.92	(dk blue)	-0.35	1.57
322	2.0	0.00	1.21		-0.35	0.86
323	1.9	0.00	1.58		-0.35	1.23
1% Std Soln*		0.00	1.42		-0.35	1.07

*1% Std Soln prepared 6/18 1 ml 50 mg/L soln : 49 ml distilled water

Samples 07/05 (324-27)

	Sample	Wgt	Zero	PhosVer3 (4 min)		Lot AN Adjust	Value
	324	2.0	Set 0.00	2.06	(dk blue)	-0.35	1.71
	325	2.0	0.03	1.55		-0.35	1.87
	326	2.1	0.02	1.10		-0.35	0.73
	327	2.0	0.00	0.96		-0.35	0.61
Repeat ^	320	2.0	0.02	1.51		-0.35	1.14
	322	2.0	0.02	0.92		-0.35	0.55

Repeat samples 320: 1.57, 1.14 1.35 ± 0.21

322: 0.86, 0.55 0.70 ± 0.15

All results very high.

Extraction procedure:

1. 2 gm soil sample, 25 ml Mehlich 2 stock solution shaken for 5 minutes
2. Filter extract.
3. 1 ml extract to 9 ml distilled water

2005-15-030

June 20

Las Naranjitas

Arrived at site at about 8:10, very overcast skies and humid. Skies have been overcast and humid over the weekend with little rain. Larry stayed at the lab to analyze samples. Chupé, Oscar and I will sample las Naranjitas and expand the grid we set last Friday (see Map). I forgot to take the 50m tape, so we began soil samples. Will not sample mounds but will sample depressions.

Took samples A 07/06/001 to ~~K~~ 07/06/024 before lunch. Noted that there is a surficial clay like rock running from Unit N to T. At Unit N there is evidence of fire or a fire pit. These Units flank the West side of the depression Unit O at the North end of the Depression contained a large pigment stone 29cm below the surface. Was the depression a recent event? There were no artifacts found at Unit U at about the center of the depression, and the horizon interface was 22cm below the surface.

After lunch we ran 2 rows of grid points North of A to D line and 2 rows west of K to AC line. We also extended the E to AC line North 30 meters. The open areas around the mounds are not large so Sample points will not be as numerous as the open area South of the complex.

2005-15-031

Table 6
~~Chart~~ Las Naranjitas Soil Samples Unit A through AH
(07/06/001-034)

Unit	Sample	Depth (in cm) Ceramic	Obsidian	Soil Sample	Other
A	07/06/001	25		30	
B	07/06/002	30		30	
C	07/06/003	20		25	Lot 2 Ceramics at 29
D	07/06/004	33		35	On Edge of Mound
E	07/06/005			35	Sl. Elevated Bump
F	07/06/006			32	
G	07/06/007	30		30	
H	07/06/008	30		30	
I	07/06/009	30		30	
J	07/06/010	28, 33		35	Lot 3 Ceramics at 35 Lot 2 Ceramics at 33
K	07/06/011	Mound			
L	07/06/012	17		30	
M	07/06/013	17		30	
N	07/06/014	18		30	Lot 1 Fire Pit? 12cm
O	07/06/015			33	Lg Pigment Rock at 20cm
P	07/06/016	24		28	
Q	07/06/017			32	
R	07/06/018	15		30	
S	07/06/019			20	
T	07/06/020			27	Rock Ledge
U	07/06/021			22	
V	07/06/022			25	Rocks, tumble? near surface
W	07/06/023	20	25	30	
X	07/06/024			25	
Y	07/06/025			27	Sm Pigment Rock at 21cm
Z	07/06/026			38	

Table 6 cont't

Depth (in cm)

Unit	Sample	Ceramic	Obsidian	Soil Sample	Other
AA	07/06/027			41	
AB	07/06/028			33	
AC	07/06/029			42	
AD	07/06/030			23	
AE	07/06/031			27	
AF	07/06/032			34	
AG	07/06/033			36	
AH	07/06/034			21	

2005-15-033

June 21

Las Naranjitas

The morning was bright, clear and dry after the deluge last night. The ground was a bit wet but well drained. Oscar, Chepe and myself finished laying out the grid and began taking soil samples at about 9 AM. We took samples AI 07/06/035 through BI 07/06/061 before lunch.

Unit AZ, sample 07/06/052 went to a depth of 73cm with no interface. No soil sample was taken with a fire pit containing some pottery at 73cm. Ellen thought it may be associated with pottery making, Marcello thought it may be a midden. Will take soil sample tomorrow to check phosphate level.

After lunch the sun was strong and the grid points dug contained numerous sherds slowing progress. In the morning we averaged 5 to 6 minutes a point, after lunch we averaged 10 minutes.

Samples BJ 07/06/062 through BT 07/06/072 were taken after lunch. Once again I discovered errors in my hand drawn map. I will redraw it this evening. Tomorrow we should finish sampling and shoot in the points. Targeting to develop contour map by Monday so we can identify open area excavation sites.

2005-15-034

Table I Las Naranjitas Grid Soil Samples AI through BT (07/06/035-072)

Depth (in cm)

Unit	Sample	Ceramic	Obsidian	Soil Sample	Other
AI	07/06/035			30	
AJ	07/06/036			24	
AK	07/06/037	9		30	Rodent Hole -25cm
AL	07/06/038	22		30	
AM	07/06/039	27		30	
AN	07/06/040			31	
AO	07/06/041			28	
AP	07/06/042			29	
~~AQ~~	~~07/06/043~~	~~On Mound no samples taken.~~			
AR	07/06/044			24	Shale 20cm
AS	07/06/045	20		30	
AT	07/06/046			28	
AU	07/06/047	10		37	
AV	07/06/048	13		30	
AW	07/06/049	20		34	Lot 2 32cm
AX	07/06/050			34	
AY	07/06/051	10		30	
AZ	07/06/052	40	40	~~No sample taken~~ 34*	6 lots, Fire Pit -73cm No Interface
BA	07/06/053			30	Bees Nest
BB	07/06/054			25	
BC	07/06/055	23		30	
BD	07/06/056	17		30	
BE	07/06/057	23		28	
BF	07/06/058	28		30	
BG	07/06/059	40		40	Lot 3 -50cm
BH	07/06/060	20		50	Lot 2 -29cm

* Sample taken next day after excavating

Table 7 cont

Depth (in cm)

Unit	Sample	Ceramic	Obsidian	Soil Sample	Other
BI	07/06/064	34		35	
BJ	07/06/063	14		30	
BK	07/06/062	18		30	Lot 3 at 38cm Lot 2 at 28cm
BL	07/06/061	16-29		40	Lot 2 at 34cm Lot 3 at 40 cm
BM	07/06/065	18-30	28	35	Lot 2 at 28cm
BN	07/06/066	20		35	Lot 2 at 26cm
BO	07/06/067	14		No Sample	Tumble Lot 2 - 34cm
BP	07/06/068	33		36	
BQ	07/06/069			32	
BR	07/06/070	1		35	
BS	07/06/071	11	16	30	Lot 2 at 18cm Bajareque
BT	07/06/072	16		30	Lot 2 at 20cm

June 22nd

Las Naranjitas

Cloudy, humid and overcast morning portending rain. Another deluge last night so surface soil wet. Oscar, Chepe' and I laid out 2 more points and I finished my grid map. About 14 more samples to finish. Began work at 8:20 as there were many mini-delays. Intermittant rain slowed down soil sampling. By lunchtime little progress in soil sampling was made as a heavy rain made the soil surface muddy. Larry set up the total station and in the humid heat of the newly appearing sun we shot in all points from Station 307 that could be seen.

After lunch, Larry continued to shoot the remaining points, save one from Station 306. I returned to the lab where I organized soil sample bags with artifacts and laid out the remaining soil samples on plastic plates to dry.

Table 8 Las Naranjitas Grid Soil Samples Unit BV through BX (07/06/074 through 07/06/076)

		Depth (in cm)			
Unit	Sample	Ceramic	Obsidian	Soil Sample	Other
BV	07/06/074	30		40	Lot 2 at 40cm
BW	07/06/075	22		45	Lot 2 at 43cm
BX	07/06/076	22		32	Lot 2 at 30cm

2005-15-037

June 23

El Paraíso Lab

Larry and I decided to spend the day in the lab to finish El Par Cafetal soil sample analyses and to begin analysis of Las Naranjitas samples. In addition the remaining soil samples already dried were put in Whirly Bags, labeled and collected to be brought back to the States.

The following samples were analyzed with their respective results:

1) Prepared 1% PO4 standard solution (1 ml 50mg/L PO4 solution : 49 ml distilled water in 50 ml calibrated flask).

2) Prepared 4 bottles of Mehlich 2 stock solution (20 ml concentrated Mehlich 2 solution in 50 ml graduate: distilled water to neck line of dispensing bottle)

3) All samples were analyzed with PhosVer 3 indicator powder from Hot BN, Lot A511B EXP 09/08.

4) Readings were recorded of blank with PhosVer3 after 4 minutes before setting DR-850 to zero (same procedure as last year)

Results are recorded, zero – diluted extract (25 ml Mehlich 2 stock soln : ~ 2gms soil, shaken 5 minutes, filtered) 1ml extract : 9 ml distilled water

↑ 1ml pipette ↖ pipetter or 10 ml graduate.

Zero set with blank (1 ml Mehlich 2 stock solution : 9 ml distilled water).

Note: All sample wgts were 2gms as they were just weighed.

2005-15-038

Results

Sample	Zero	PhosVer 3 (4min)	Adjusted Value *
Blank	Set 0.00	(0.53) Set 0.00	—
383	0.01	0.90	0.89
384	0.00	1.02	1.02
385	0.10	1.53	1.43
387	0.06	Fell on floor	—
388	0.07	1.67	1.60
389	0.00	2.04 (DK blue)	2.04
390	0.00	Fell on floor	—
1% std PO4	0.00	0.90	0.90

* PhosVer 3 Value minus zero value

Blank	Set 0.01	(0.59) Set 0.00	—
391	0.01	0.89	0.88
392	0.01	0.72	0.71
393	0.03	2.62 (Deep blue)	2.59
394	0.09	1.01	0.92
395	0.02	0.59	0.57
387	0.05	0.67	0.62
390	0.06	0.63	0.57

Blank	Set 0.01	(0.61) Set 0.00	—
396	0.01	1.30	1.29
397	0.00	0.56	0.56
398	0.02	0.35	0.33
399	0.05	0.83	0.78
400	0.07	1.62	1.55
401	0.01	1.02	1.01
402	0.12	0.90	0.78

2005-15039

PO4 Analytical Results con't (after lunch)

Sample	Zero	PhosVer3 (4min)	Adjusted Value
Blank	Set 0.00	(0.53) Set 0.00	—
403	0.00	1.97	1.97
404	0.02	0.59	0.57
06/07/A Yellow	0.01	0.05 Gas	0.04
06/07/B Red	0.01	0.10 " + H_2S	0.09
Beginning 1	0.04	0.53	0.49
07/06 series from 2	0.05	0.59	0.54
Las Naranjitas 3	0.02	0.39	0.37
1% std PO4	0.01	0.85	0.84
Blank	Set 0.00	(0.60) Set 0.00	—
4	0.00	0.34	0.34
5*	0.00	0.00	0.00
6	0.00	0.20	0.20
7	0.00	0.44	0.44
8*	0.00	0.40	0.40
9	0.00	0.00	0.00
10	0.01	0.00	0.00
Blank	Set ~~0.00~~	(0.62) Set	—
12	0.00	0.34	0.34
13	0.03	0.21	0.20
14	0.03	0.23	0.20
15	0.02	0.24	0.22
16	0.02	0.32	0.30
17	0.01	0.15	0.14
18*	0.02	0.18	0.16
1% std PO4	0.00	0.83	0.83

* Root fragment in soil sample.

2005-15-040

Observations

1. Both floor samples from El Paraíso (06/07 A) gave off gas from the plaster floor. The red sample had a strong odor, like rotten eggs, indicating H_2S. Marcello suggested that Cinnabar a red pigment, is a Mercury Sulfide HgS that may be reacting with the weak acid Melich 2 solution.

2. 1% Std PO4 solution values are rather low: 0.90, 0.84 and 0.83, averaging about 0.86 lower than the anticipated 1.00 ± 0.05 range.

3. Soil samples with root fragments do not appear to cause high PO4 results.

4. In Wells paper in Archeometry (Wells,) he indicates the difficulty in analyzing for food activity (PO4) from plaster floor samples. He recommends using Mg as a marker associated with fire. Our results show little or no PO4. The Ca content of the soil sample is likely in excess of 25%.

5. Continue to get high PO4 readings for El Cafetal. Readings for las Naranjitas, exceptionally low.

When Marcello returned from the field, we (Larry, Marcello and myself) corrected the grid data base (ie extra sampling point MMM, duplicate LS, LT) and adjusted Northing and Easting for offsets. We then updated last years excel data sheet for this year's expanded grid points and analytical results. The resulting PO4 contour map (using Surfer8) was analyzed for prospective excavation

sites. Marcello suggested we consider catagorizing Plaza sites into 3 general categories:

1. Central Plaza, no explanation (CP)
2. ~~Building~~ Activity associated with front of buildings or structures (AA)
3. Trash or midden~~s~~ to the side or behind buildings (TM)

Based on this approach, several "hot" spots of high POI activity were identified and grouped by category:

CP Central Plaza
- HR, IH — North Plaza
- CC — South - Central Plaza

AA Activity associated with front of structures
- FR — ~~Mound~~ St 9 South of Str 9
- LG/KY, LC/NC — South East Quad in front of Str 3
- BE, AC — South West Quad in front of Str 4 or 5

TM Trash or midden to the side or behind structures
- NG — Southwest corner between Str 4+5
- NN, NR — Behind Str 4

Larry decided to lay out units at IH and CC. FR will be opened once the other two units are excavated.

2005-15-042

June 24th

El Paraíso hab

Today is a short day as we need to finish by 11 AM to prepare to leave for Copán by Noon. I decided to analyze an additional 2 sets of 7 samples for Las Naranjitas.

Sample	Wgt	Zero	PhosVer3(4min)		Adj. Value**
Blank		Set 0.00	(0.76) Set		
19	1.9	0.00	(0.88) 0.12	[0.29]	0.29
20	1.8	0.01	(0.80) 0.04	[0.21]	0.20
21	1.9	0.00	(0.82) 0.09	[0.23]	0.23
22	1.9	0.00	(0.73) 0.00	[0.14]	0.14
23	1.8	~~0.00~~ 0.10	(0.77) 0.03	[0.18]	0.08
24*	1.9	0.00	(1.00) 0.23	[0.41]	0.41
25	1.9	0.03	(0.77) 0.02	[0.18]	0.15
1% Std PO4		0.00	(1.26) 0.52	[0.67]	0.67

( ) - Reading before blank zero [ ] Recalibrated reading.

** See note on next page.

Blank		Set 0.00	(0.39) Set		
26	1.9	0.03	0.51		0.48
27*	1.9	0.06	0.40		0.34
28*	1.8	0.03	0.48		0.45
1% Std PO4		0.02	1.11		1.09
29	1.9	0.03	0.55		0.52
30*	2.0	0.02	0.53		0.51
31	1.9	0.02	0.27		0.25
32*	1.6	0.05	0.22		0.17

* Root fragments

2005-15-043

The first set of results had an extremely high blank value* before zero set, resulting in a 1% Std PO4 solution value of 0.52. The previous PhosVer 3 background readings were (from Lot BN):

0.53, 0.60, 0.62, 053, 0.59, 0.61

for $\bar{X} = 0.59$

I therefore adjusted the first set of analyses using a 0.59 PhosVer 3 background and subtracted zero readings. Even with this correction however, the 1% standard PO4 ~~soid~~ solution was low 0.67, suggesting that results may be as much as ~~33%~~ 50% higher. Even scaling up results, the highest value would be 0.61 (sample 24), most are below 0.30 (see below).

PO4 values of Set 1 recalibrated to 1.00 1% PO4 standard solution:

Sample	Recal Value	Sample	Recal Value
19	0.44	23	0.12
20	0.30	24	0.61
21	0.35	25	0.22
22	0.21	1% PO4	1.00

* Blank may have been contaminated.

June 27th

Las Naranjitas

Arrived at the site at 8:15 AM to humidity and overcast, threatening skies. I decided to finish soil sampling as we had a wet weekend and I needed to get the samples drying so I could complete my POT survey map. Harry decided to continue his Plaza excavations of El Cafetál which he shot last Friday. I received the grid points to be sampled, flags were still there, and had Salvador and Roberto dig the test pits. I sampled units BU and BY through CI (samples 07/06/073 and 07/06/077 through 07/06/087), summary of which is in Table 9.

Table 9 Las Naranjitas Grid Soil Samples Unit BU and BY through CI (07/06/073 and 07/06/077 through 07/06/087)

		Depth (in cm)			
Unit	Sample	Ceramic	Obsidian	Soil Sample	Other
BU	07/06/073	18-20		38	Lot 2 at 30cm
BY	07/06/077	24		39	Lot 2 at 34cm
BZ	07/06/078			36	
CA	07/06/079	34		37	
CB	07/06/080	Hit Rock at 24cm		no sample	
CC	07/06/081	34		42	Lot 2 at 42cm Chert at 34cm
CD	07/06/082	Hit Rock at 20cm		~~(large flat rock)~~ no sample	
CE	07/06/083	30		30	Surface tumble
CF	07/06/084	Raised Patio? Large flat rock at 14cm			
CG	07/06/085	17	Rocks at 17cm	no sample	
CH	07/06/086	24		40	Lot 2 at 40cm
CI	07/06/087	?		34	

2005-15-045

Observations:

1. Areas near and around structures appear to have 2 ceramic depositional episodes. Analysis of ceramics may indicate time periods.

2. The "C" line N-S is on an elevated area that may be the result of tumble from nearby mounds/structures or may be an elevated Patio as suggested by the large flat rock found 14cm below the surface at Unit CF.

3. ~~Although~~ Although soil is very moist, horizon interface is still discernable

At about 10:30 AM I collected my samples and gear and headed to El Cafetal to see if Ellen could give me a lift back to the lab. After about another 30 minutes during which time I had lunch, we headed back to El Paraíso and the lab. A little before noon I began setting out the day's soil samples on plastic plates for drying. The large piece of chert from Unit CC may be a tool of some sort (see sketch below):

After setting out the samples to dry, I began to weigh out the dried soil samples beginning with Unit AY, sample 07/06/051, north of the datum line. Time was getting short to begin excavating units at Las Narsinitas and complete them in time before I left. Samples south of the datum line were low in PO4 value so I wanted to make sure I completed ~~sampled where I~~ analysis of areas I thought had the greatest potential which was north of the datum line in and around the structures. Power was lost a little before noon, so I ran a set of 6 samples that were already weighed:

Sample	Wgt	Zero PhosVer3(4min)	Adj Reading
Blank	—	Set 0.00 (0.44) Set 0.00	—
33	2.0*	0.00 0.39	0.39
34	2.0*	0.01 0.35	0.34
51	2.0	0.03 0.41	0.38
52	2.0	0.01 0.74	0.73
1% SS	—	0.01 1.27	1.26
53	2.0	0.01 0.49	0.48
54	2.0	0.02 0.79	0.77

* Original weight did not reweigh, no electrical power and scale would not run with new batteries.

Marcello stopped by as I just finished reading the samples and determined that the reason the batteries weren't working was that the contact point was corroded. Upon cleaning the contact, the scale worked, and I was able to weigh out samples 35-76

for analysis tomorrow.

Note: Need to check Hach procedure when I return back to States. We have been using a 20ml conc + distilled water to ~~fill~~ the rim mark on the plastic dispensing bottle and then 25ml of the diluted stock solution: ~~2 ml~~ 2g of soil. Wells (200) uses 20 ml: 2g.

2005-15-018

June 28th

El Paraíso lab

Started work @ 7 AM at the lab so I can complete the soil PO4 analyses. I prepared Mehlich II stock solⁿ (20 ml conc: distilled water to rim of bottle). The sky was clear and the air relatively dry after another night of rain. I ran the first 3 sets of analyses with PhosVer 3 Lot BN (brought down this year) and the last 3 sets with Lot A from last year. Lot A was screened for brown or caked powder which were thrown away. Only free flowing white powder packets were used. Analytical Results are:

Sample	Wgt	Zero	PhosVer 3 (4min)	Adj Reading
Blank	—	Set —	(0.62) Set 0.00	—
7:30 25°C 70	2.0	0.00	0.64	0.64
71*	2.0	0.01	0.81	0.80
72	1.9	0.03	2.05 dk blue	2.02
74	2.0	0.01	0.72	0.71
1% ss	—	0.01	0.90	0.89
75	1.9	0.02	0.44	0.42
76	2.0	0.02	0.21	0.19
50	2.0	0.01	0.17	0.16

* Root matter

2005-15-049

	Sample	Wgt	Zero	PhosVer 3 (4 min)	Adj. Reading
	Blank	—	Set 0.00	(0.70) Set 0.00	—
9:15 26°C	62	2.0	0.05	0.64	0.59
	63	2.0	0.00	0.77	0.77
	64*	2.0	0.00	1.64 dk blue	1.46
	65	2.0	0.00	0.84	0.84
	66	2.0	~~0.00~~ 0.01	0.26	0.25
	68	2.0	0.00	0.04	0.04
	69	2.0	0.00	0.17	0.17

*Root matter

No blank last lot of BN. Avg PhosVer 3 blank value = 0.60 (see ~~next page~~ below).

11:00 ZTC	55	2.0	Set 0.00	1.07	0.47
	56	2.0	0.00	1.01	0.41
	57	2.0	0.00	0.75	0.15
	58*	2.0	0.00	1.33	0.73
	59*	2.0	0.06	0.98	0.32
	60*	2.0	0.00	1.02	0.42
	61	2.0	0.00	0.97	0.37

Lot BN Blank readings:
0.44, 0.62, 0.70, 0.53, 0.60, 0.62, 0.53, 0.59, 0.61, 0.76 Avg 0.60

*Root matter.

2005-15-050

Following sets use PhosVer 3 Lot A A4079 EXP 0807 from last year.

	Sample	Wgt	Zero	PhosVer 3 (4 min)	Adj Reading
12:00 27°C	Blank	2.0	Set 0.00	(0.39) Set 0.00	—
	41	2.0	~~0.00~~ 0.01	0.16	0.15
	40	2.0	~~0.00~~ 0.08	0.20	0.12
	39	2.0	0.00	0.03	0.03
	38	2.0	~~0.06~~ 0.01	0.11	0.10
	37	2.0	0.07	0.14	0.07
	36	2.0	0.00	0.13	0.13
	35	2.0	0.01	0.13	0.12
	1% SS	2.0	0.02	0.83	0.81
	Blank	—	Set 0.00	(0.44) Set 0.00	—
	49	2.0	0.00	0.03	0.03
2:00 28°C	48	2.0	0.00	0.20	0.20
	47	2.0	0.01	0.02	0.01
	46*	2.0	0.01	0.10	0.09
	45	2.0	0.06	0.22	0.16
	44	2.0	0.02	0.13	0.11
	42	2.0	0.06	0.49	0.43
	1% SS	—	0.01	0.98	0.97

* Root matter.

2005-15-051

In order to dry sample quicker used hair dryer set 35cm above plate on high and/or low setting for 5 to 7.5 minutes. Samples dryed were: 73, 77, 78, 79 and 81.

Sample	Wgt	Zero	Phos Ver 3 (4 min)	Adj Reading
Blank	~~2.0~~	Set 0.0	(040) Set 0.00	—
73	2.0	0.02	0.77	0.75
77	2.0	0.02	0.61	0.59
78	2.0	0.01	0.26	0.25
1%SS*	—	0.02	1.04	1.02
79	2.0	0.01	0.73	0.72
81	2.0	0.01	0.00	0.00

*New batch of Std.

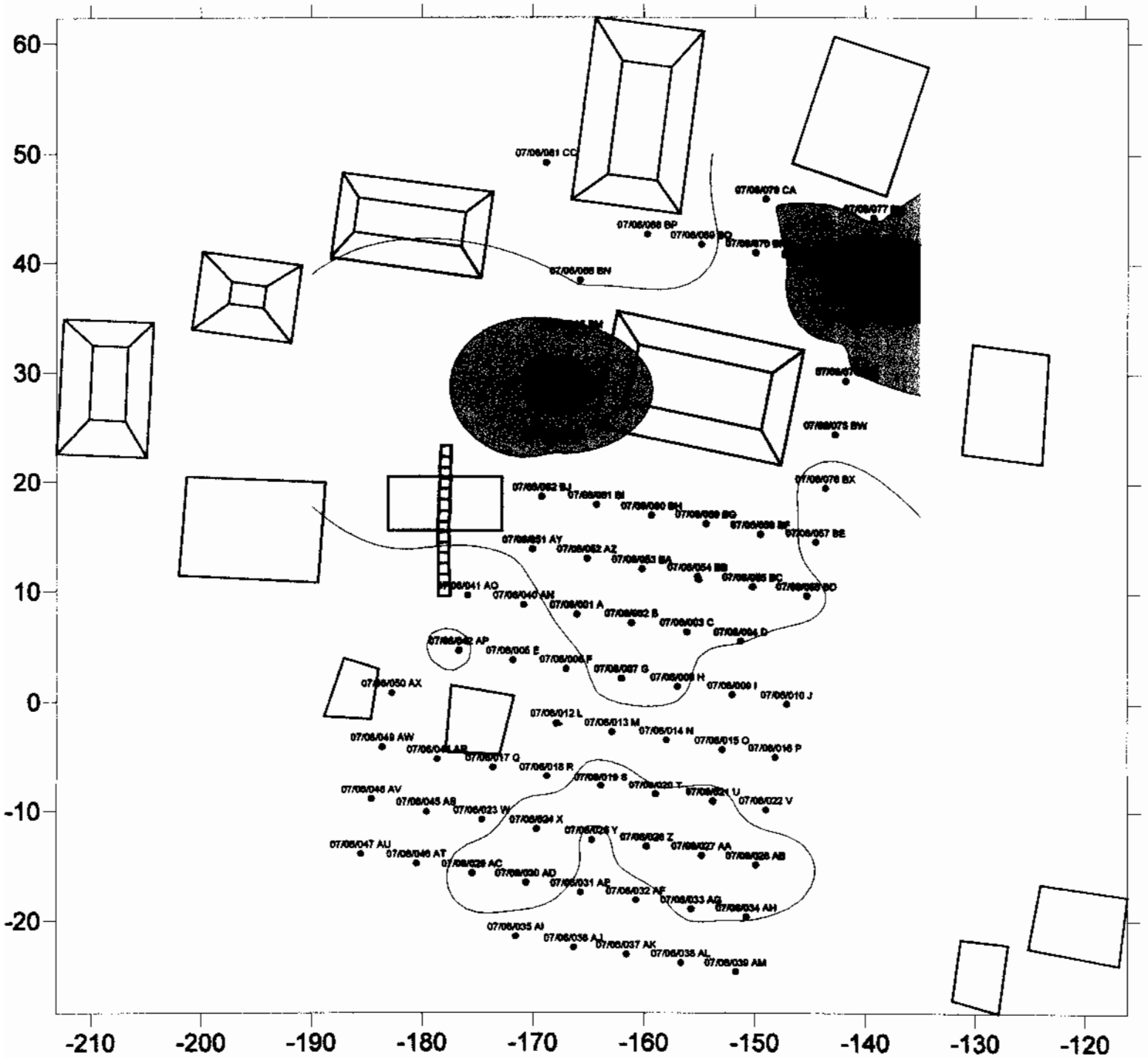
After all analysis was completed, Marcello downloaded grid coordinates to autocad to overlay over site structures. He then created an excel spreadsheet using El Cafetal as a template and inserted geographic coordinates with PO4 soil results. Points not taken due to being on a structure were eliminated from the data base. In addition point B2 was eliminated because it couldn't be shot. The result was 86 points 3 of which have not been analyzed;

units CE, CG and CH, samples 07/06/83, 85, 86.

The contour maps were developed at 2 interval levels 25ppm and 50ppm. We used the 25 ppm ~~counts~~ contour map to identify grid points BT and BL as highest PO4 areas, between structures to be analyzed. AZ may be excavated later as there is evidence of a fire pit at 73cm with no interface between horizons. PO4 analysis was run on a sample of backfill mid depth in the pit after Marcello suggested the pit may be a midden. PO4 analytical results are moderately high and lower than either BT or BL.

Marcello also suggested, I think about excavating a low value area, many to the south of S306 and S307 datums, to test a negative area of human activity as determined by PO4 analyses. If time permits I will pursue this approach.

A curious finding is the zero PO4 reading at CC off a structure that was rich in artifacts including a possible dart tool. This area may be a midden associated with craft work as there is no evidence of food (PO4) residue.



Los Naranjitos PO4 contour map, 50ppm contours.

2005-15-053

June 29, 2005

Los Naranjitos

Awoke to the smell of bacon and clear, sunny skies. The air was dry after a day of no rain, but the sun was hot. After a series of delays finally got to the site at about 8:20AM. Today was the day I would begin excavation of areas determined to be "hot" by PO4 analysis. Mary and Ellen were unavailable last evening so I proceeded on my own to select grid points BT and BL for excavation (highest PO4 values). Both points are near ~~structures~~ or between structures (see Map). The location of BT suggests a midden while BL may be an area of activity. An additional point, AZ may be excavated latter as it had a moderate PO4 level but was found to contain elements of fire 73cm below the surface.

The crew assigned to me are Danny, Paco, Pedro and Herman. I set up the total station at S307 and Ellen backshot and set up a 2m x 2m, 4 unit grid around BT. There was some misunderstanding on how it would be laid out, Ellen was talking of having the point between 2 Units, I was thinking between 4 Units. Eventually we got it straight. The coordinates of Op10,

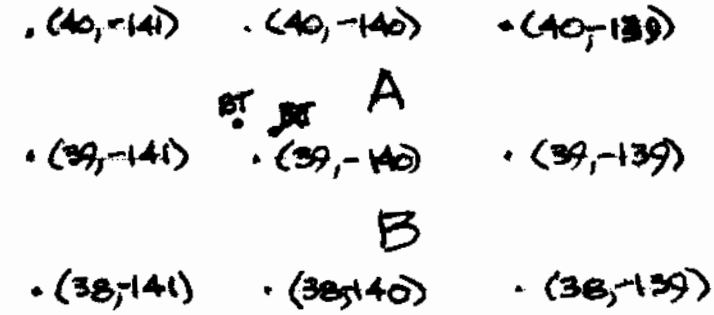
Los Naranjitos PO4 contour map, 25 ppm contours.

2005-15-~~053~~ 054

sub op 05 (10/05) are:

N	E	Elevation
40	-139	997.26
40	-140	997.26
40	-141	997.24
39	-139	997.20
39	-140	997.21
39	-141	997.19
38	-139	997.22
38	-140	997.19
38	-141	997.20

We staked and roped the units and I assigned Danny Unit A, Paco Unit B the two eastern most units of the 4 unit set:



~~Opened lot 1 EU A~~

They began excavating the first 20cm with my trowels. Artifacts recovered for the day:

Surface A,B,C,D : 9 ceramic, 1 obsidian
Unit A Lot 1: 50 ceramic, 1 obsidian
Unit B Lot 2: 24 ceramic, 1 obsidian, 1 dowel

2005-15-~~055~~ 054

Openned 10/05/01 and targetted to dig 20cm then changed to 10 cm. Large rock in NE quadrant on the surface. Donny is the excavator.

Openned 10/05/01 also targetted to dig 20cm later changed to 10cm. Paco is the excavator.

Note: Surface finds for Lots A, B, C and D were collected and tagged.

Openned 10/06/01 and targetted to dig 10cm. Surface clear of artifacts. Pedro is excavator.

Openned 10/06/02 also targetted to dig 10cm. Surface clear of artifacts. Herman is excavator.

2005-15-05B

While Paco and Danny were excavating, Pedro and Herman built a table for the screen mid-way between BT and BL in the shade of a tree. Working in the sun was difficult as the temperature neared 100°F.

I then set up the total station at S306 to shoot in BL. Once set we went to lunch. Larry was lying in the truck not feeling well while we had lunch. After we ate my stomach was a bit unsettled so Ellen, Mary and I took Larry back to La Casa where I washed up and had a Fresca soda and Pepto Bismol which revived me. Ellen picked up tarp material, so when we returned to the site at 1:40 PM I had both crews build Champas. The width of the tarp was only about 2 meters so we were only able to cover half the units. Tomorrow we will purchase more tarps to completely cover the units providing rain and sun protection.

Ellen shot in units for BL which is Op 10 Sub Op 6 (10/06). Coordinates of the units are:

2005-15-857

10/06

N	E	Elevation
30	-166	996.85
30	-167	996.82
30	-168	996.85
29	-166	996.85
29	-167	996.80
29	-168	996.83
28	-166	996.82
28	-167	996.77
28	-168	996.80

Note: Grid Point BL is 13cm west of unit A.

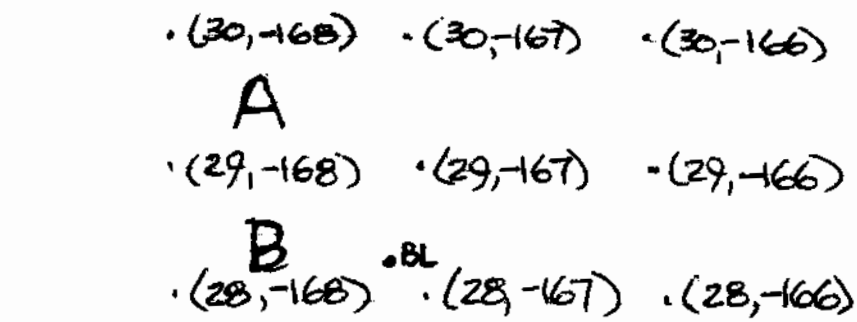
Pedro and Herman staked and roped the units and built a Champas.

I was unable to observe Danny and Paco excavating, but was concerned of their "chopping method (Danny) and comingling of soil for screening. Tomorrow I will be able to spend more time with both crews to maintain Unit integrity and slow the excavation process.

+(30,-16

2005-15-058

10/06



Artifacts recovered

10/05 EU A, B, C, D Surface Finds
4 Ceramics

10/05 EU AB Lot 1 + 2 Comingled from screen
1 Obsidian
10 Ceramic

Note: Grid Point BL is in EU B.

2005-15-058

June 30

Los Naranjitos

Delayed beginning to day. Did not arrive at ~~sight~~ site until 9:10 AM. The morning sky was hazy and slightly overcast, no rain in 2 days so ground was dry where in direct seen. Brought extra tarps and a screen.

Gave excavators Doky, Paco, Pedro and Herman the following instructions:

- Only material from one unit at a time in the bucket for screening. Do not mix unit materials in a bucket.
- Screen only one bucket at a time.
- Do not touch carbon.
- Scrape don't "dig" into the surface.

Used below ground ~~level~~ surface system with line level to establish depth. Reference points are SE corner of 2m x 2m units:

10/05 BGS reference point is (38, -139)
10/06 " " " is (28, -166)

Paco completed his initial Lot (Lot 2) first BGS readings were:

NW	NE	SW	SE	Center
15	14	15	14	15

2005-15-059

Closed 10/05/01. Two large cobbles in unit most probably tumble. Soil vdk brown, ~~silty~~ silt ~~clay~~ loam with few rocks. Numerous sherds, obsidian throughout unit. No discernable change in horizon, continued to excavate arbitrary 10cm until horizon break. Excavated 0-16cm BGL from EU B SE corner.

Closed 10/05/02. No large cobbles or stones. Soil vdk brown, ~~silty clay~~ silt loam with few rocks. Numerous sherds and obsidian throughout as well as a modern dowel made of hard rubbery material. No discernable change in horizon, continued to excavate arbitrary 10cm until horizon break. Excavated 0-14cm from SE corner.

Opened 10/05/03. Cleared cobbles out of unit. Soil dk brown silty ~~Loam~~ clay with few rocks. ~~Targetting~~ ~~Numerous~~ 7 to Targetting additional 7-15cm BGL to 997.00 elevation

Opened 10/05/04. Soil dk brown silty ~~Loam~~ clay with few rocks. Targetting 7 to 8cm BGL to 997.00 elevation

Closed 10/05/03. ~~DK brown silty clay~~ Silt loam, 7.5YR 2.5/2 v dk brown (root) with few rocks. Numerous sherds large and small throughout unit as well as several pieces of broken obsidian blades. Excavated 14 +3 to 21 ~~20~~ cm BGL.

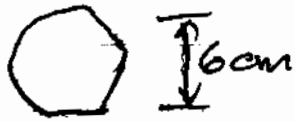
2005-15-060

Closed 10/05/04. ~~Dk brown silty clay~~ Silt loam, 7.5YR 2.5/2 v dk brown. Found mano in SW quad of unit 2/3 in Unit B, 1/3 in Unit C (unexcavated). High sherd count 300+ plus obsidian and chert. Excavated 14-21cm.

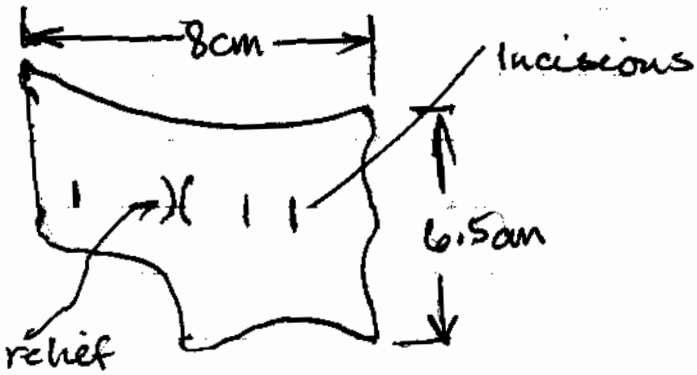
2005-15-061

Instructed Paco to dig another 5 cm for Lot 4. Lot 2 was 14 cm BGL. At about 11:30 AM Paco discovered a mano in the SW corner of Unit B about 20 cm below the surface. Two thirds of the mano was in Unit B, one third in Unit C (unexcavated). The mano was flattened on 3 sides, was 26cm long and had a diameter of about 6 cm.

Cross section of mano:



In association with the mano were a great many sherds, 2 large blocks of ~~obsidian~~ chert and numerous broken obsidian blades. Of interest was a piece of pottery, perhaps a plate with a foot (plato con pie):



2005-15-062

The going was a little slower with Pedro and Herman who took the whole day to excavate a Lot a piece. By the end of the day they just about completed the initial Lots. I will record elevations and close the lots tomorrow. So far there are few artifacts in the first 10cm below ground ~~level~~ surface unlike Op 10/05.

During lunch I discussed progress with Marcello at El Paraíso site. He suggested that I also excavate a unit where the PO4 results indicate no human activity. I will select a site South of S306/307 to excavate next week. The purpose is to choose a location to test negative results. Artifactual material could be found in areas of low or no PO4 concentration where food was not prepared or consumed such as ~~a~~ a midden resulting from craft activities, or perhaps ritual activity.

Artifact counts were not made during the day as time did not allow. I will conduct counts Saturday and create a Unit log.

2005-15-063

July 1st, 2005

Los Naranjitos

Arrived at site at 8:45 after picking up more tarp (for Las Orquideas) and 2 plastic buckets/ basins for our site. Noticed that I may be misrecording line levels, will review checked BT and I'm opening lots 5 and 6 at about 20cm BGS (Below Ground Surface) 10/05.

-18 -19
A
-21 -21
B
-23 -20

Line level strings were missing, they were taken after we left yesterday. Need to take string with me before leaving. Opened 4 lots, 10/05 lots 5 and 6, 10/06 lots 3 and 4. Still finding large quantities of sherds at BT, beginning to find sherds in 10-20cm level at BL. Both BT and BL appear to be middens. I will take floatation samples from all units and lots from the side walls of the unit.

Munsell color for both units of A horizon is v. dk. brown, 7.5YR 2.5/2. Texture is silt loam can form ball but makes ribbons less than 1" with smooth feel, no grittiness.

2005-15-064

Unit Summary:

Early morning

Openned lots 10/06/03 and 10/06/04 at BL in Units A & B respectively. Continue to excavate arbitrary 10 cms. This lot begins at 10 cm targeting for 20 cm or color change whichever comes first.

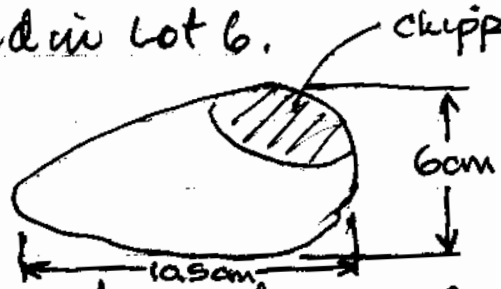
Closed lots 10/06/03 and 10/06/04 at BL just before lunch at about 22cm BGS. After relatively few sherds in 0-10cm lots, numerous sherds, obsidian blades, flakes of chert and bajaraque. Will make count over the weekend, Lot 3 required 6 bags, Lot 4 . Soil continues to be silt loam, v dark brown, 7.5YR 2.5/2 Munsell Color. Soil samples taken for flotation analysis.

Openned Lots 10/05/05 and 10/05/06 at BT at about 20 cm BGS targeting for 30cm or soil change whichever is first. Lot 5 is in Unit A, Lot B is in Unit B.

Closed lots 10/05/05 and 10/05/06 just before lunch after noticing a soil color change at about 28 cm BGS. Continue to recover large amounts of sherds, obsidian blades, blocks of chert and large peices of bajarasque. A small mano like stone with chipped and

2005-15-065

was found in Lot 6.



Numerous charcoal samples were taken (3) from Lot 6 with estimated provenience noted. An interesting rim sherd with appliqué and incised markings was excavated from Lot 5 that perhaps may be a diagnostic marker. Soil continues to be v dark brown 7.5YR 2.5/2 silt loam. Soil samples were taken for floatation analysis. New horizon appears to be light brown/yellow.

<u>After lunch</u>

Opened lots 10/05/07 EUB

2005-15-066

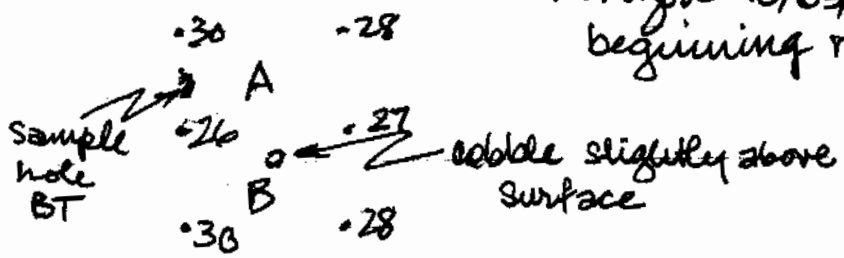
Took 3 carbon samples from 10/05/06 EU B:

- no provenience (20-30cm BGS)
- 27cm BGS, center of unit
- 20cm BGS, ~~east~~ wall 60cm N of SE corner

Dorey is finding interesting ceramics, a rim sherd with appliqué and a plato sherd with a foot. These were in 10/05/05 EU A.

BL units are beginning to find sherds 10-20 cm BGS. Obsidian that is dull and cloud (believed to be from) in addition to clear shiney obsidian, Bajaraque, chert and sherds found across units.

Closing BGS elevations of 10/05/05 EU A, and 10/05/06 EU B, bottom of top horizon 10/05/07 and 10/05/08 beginning new soil horizon.



After lunch closed Lots 3+4 of 10/06 Units

A+B	.20	.25
	.20	.23
	.22	.24

2005-15-067

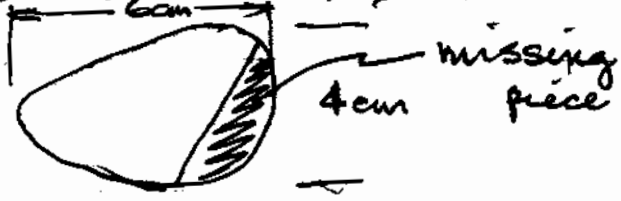
July 2nd

El Paraíso Lab

I decided to work over the weekend while Brianna headed home and everyone else spent the night at San Pedro Sula. After a rain last night the sky is clear and sunny. Started in the lab at about 10:15 AM and bagged samples 07/06/835 through 81. There is just enough (2cm3) of Melich II to run 7 samples. I will run 07/06/83, 85, and 87 as well as a rerun of 07/06/081 which analyzed as 0.00 on June 28th.

After lunch I bagged El Paraíso floor samples 06/07/A RED and YELLOW, and weighed out samples for testing. Counted an cataloged all lots from 10/05 EU A and EUB. In general, lots from EU A were higher in sherd counts and lower in Carbon samples in EUB also found mano and hammer stone.

In lot 10/05/07 EU A found what appeared to be an oval coloring stone, the surface being orange/red. Upon washing the stone the color came off leaving a stone surface similar to both hammer stone and mano. Is this a coloring tool?



10/05/03 EU A 2005-15-068

Ceramics: ~~IIII~~ II 34 = 734

Bajareque: 2

Chert: ~~1~~ 1 ~~Flake~~ Block

Obsidian: 15 bb; 3 flakes

10/05/04 EU B

Ceramics: III 3 = 303 Ceramic pcs larger than A

Bajareque 0

Chert: 2 with cortex 1 w obsidian, 2 blocks

Obsidian: 7 bb, 1 flake

1 plato con pie

1 mano

10/05/05 EU A

Larger pieces than in 3

Ceramics ~~IIII~~ 22 = 522 + 5 = 527

Bajareque: 17

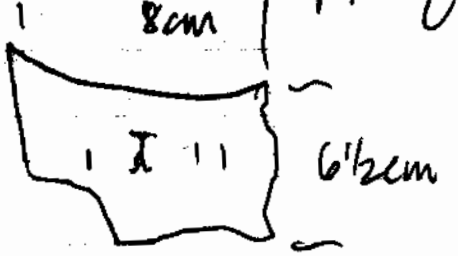
Chert: 3 blocks 1 with cortex (Add'l 2 blocks on fill a)

Obsidian: 1 block w cortex,

1 Plato con pie

1 Rim sherd with appliqué + incised lines

3pc On pila drying



10/05/06 EUB 2005-15-069

Ceramics: 11+57=257+6=263

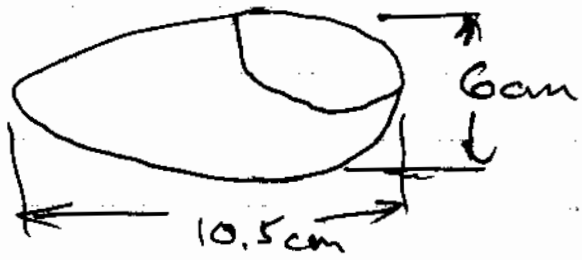
Obsidian: 3 bb, 1 flake, 1 dull bb 1 debitage

1 block? on refrig

Chert: ~~5~~ 4 blocks

Bajareque: 12

1 sm hammer stone (or sm mano) w chip at end



10/05/07 EU A

Ceramics: 92 ~~2 sherds~~ 2 pc. copador? with incised lines

Obsidian: 1 bb, 1 ~~block~~ dull obsidian

Chert: 1 block

Bajareque: 4

10/05/08 EU B (Missing bag 3 of 3)

Ceramics: 58, 2 pcs of fine ceramic ~~w~~ sherds w blk on red decoration

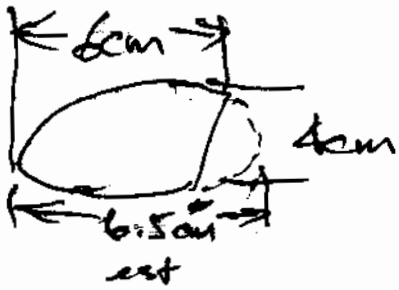
Obsidian: 1 bb

Chert: 1 ~~bb~~ lg flake

Bajareque: 2

1 Oval ~~colorless~~ red stone w broken end that the color washed off leaving an oval stone similar to hammer stone.

2005-15-070



10/05/01 EU A
Ceramic: 50 + 68?
Obsidian: 166 + 166?

10/05/02 EU B
Ceramic: 32
Obsidian: 266
1 Ceramic dowel

2005-15-071

3 July

El Paraíso Lab

Started at about 8:15 AM, morning hazy, slightly overcast and humid (no breeze). Returned washed (won't do that again, artifact will desintegrate) bajareque to lot 10/05/05 EU A. Began to count artifacts from 10/06 EU A and EUB (BL).

Completed counting, observations:

1. Considerably less chert and bajareque than BT. Need to reinforce what they look like
2. Unit A higher ceramic density than Unit B. BL lower ceramic density to BT.
3. Found a ceramic piece with glyphs in lot 10/06/03 EU A.
4. No carbon found.
5. Need to check with Marcello, Ellen, is rock found in 10/06/03 EU A a metate fragment?

2005-15-072

	Sample	Wgt	Zero	(4min) Phos Ver 3	Adj. Reading
	Blank	—	Set 0.00	(0.36) Set 0.00	—
12:30 T=28C	81	2.0	0.01	0.10	0.09
	83	↓	0.02	0.39	0.37
	85		0.04	0.34	0.30
	87		0.08	0.50	0.42
	1% ss*	—	0.01	0.81	0.80

*Prepared on 28 June

Sample 81 was a rerun, the first result was zero, 0.09 is consistant with earlier results. 1% ss reading of 0.80 is low.

2005-15-073

10/06/01 EUA
Ceramic 11
Chert 1 block

10/06/02 EUB
Ceramic 2
Obsidian 1 bb, 1 block

10/06/03 EUA
Ceramic: 111+77 = 377 1pc with glyphs
Chert: 3 Flakes
Obsidian: 7 bb, 2 dull bb, 2 Flakes ~~with red~~
Bajareque: 13
Also 11 stones or ceramic?
Broken metate?

10/06/04 EUB
Ceramic: 1+96 = 196
Obsidian: 1 bb

10/06/05 EUA
Ceramic: 11+65 = 265+14 = 279
Obsidian: 8 bb + 1 Flake

10/06/06 EUB
Ceramic: 167
Obsidian: 1 bb

2005-15-074

4 of July (Happy Birthday USA)

Los Naranjitos

Sky overcast, and air is humid. Only rain over the weekend was Saturday night for 5 hours. Open units survived well. Had both teams clean out units and then I measured.

10/06 BL grid point

Took Photo of A

.28 .30 A .29 .34 B .30 .30

Closing Lots 10/06/05 and 06
Opening Lots 10/06/07 and 08

Unit A reached color change
Unit B did not.
Arbitrary 10 for Unit A,
Continue to color change
for Unit B

10/05 BT grid point

.41 .41 A .47 .44 B .43 .41

Closing Lots 10/05/07 and 08
Opening Lots 10/05/09 and 010

Soil is compact silty clay loam.

Observations

10/06/07 New soil horizon not as compact as in 10/05.

10/06/08 Still finding numerous sherds, large block of Chert, obsidian and a pigment stone

2005-15-075

10/05/09 and 010 asked Paco + Dowry to continue to even unit at 47cm. Sherds are none to a few.

Closing 10/05/09 and 10/05/10 Units A and B respectively of BT grid point.

.50 .46 Closed 10/05/09 and 10
A Openned 10/05/11 and 12, 5cm more
.46 .45
B
.47 .47

Unit 10/05/09. Silty clay loam. 2.5 Y 5/4 lt olive brown
No artifacts, Hard compact soil.

Unit 10/05/10. Silty clay loam. 2.5Y 5/4 lt olive brown
6 Ceramics Hard compact soil

Closed unit 10/06/08, EU B. Silt loam. 7.5YR 2.5/2 ✓ dk brown. Numerous artifacts:

Obsidian: 3 bb, 2 Flakes
Bajareque: 1
Chert: 1 large block
Ceramics: 93

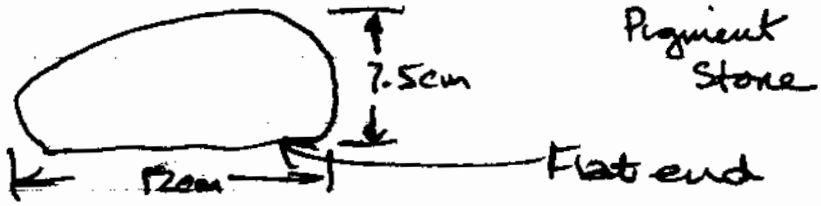
Apparently Herman and Pedro did not know what bajareque was. That may account for low counts although they might identify it as ceramic.
One large pigment stone found 12cm long 7.5cm w.

.34 .38 2005-15-076

B Closing 10/06/08

.41 .41 Opening 10/06/09 arbitrary 10cm

Note: Horizon slopes South from Unit A to B



Closing lots 10/05/011 and 12 EU A and B respectively

.52 .51 Closed lots 10/05/11 and 12

A Opened lots 10/05/13 and 14 arbitary 5cm to sterility

.52 .62

B

.51 .53

Closed lot 10/05/011 EU A, BT grid point. Silty Clay loam, 2.5Y 5/4 lt olive brown. Found 1 ceramic artifact near end will excavate additional 5cm.

Closed lot 10/05/12 EUB, BT grid point. Silty Clay Loam, 2.5Y 5/4 lt olive brown. Found 3 pieces of ceramic. Excavate additional 5cm.

2005-15-077

5 July

Los Naranjitos

Sky is slightly hazy with some clouds and humid, it may be another hot day. It rained yesterday afternoon beginning at 3PM, the trail to the site was a bit muddy but our units are dry. Mary didn't feel well this morning so her crew is working at El Paraíso. Paco, Dony, Herman and Pedro are working with me.

We got to the site at a little before 8AM. Paco and Dony will raise the Champas a bit then excavate another 5cm in lots 10/05/B and 14 in Units A and B respectively at P04 Grid Point BT. I expect to be able to close this unit today and open a new one. Herman needs to excavate another 1cm in NE, NW and Pedro another 4cm in NE, NW. They need to excavate another lot after this as we are still finding sherds.

Closed lot 10/06/07 and 10/06/09 units A and B respectively of P04 Grid Point BL.

10/06	.44		.46	Closing Lots 10/06/07 Unit A
		A		10/06/09 Unit B
	.43		.45	
	.52		.54	Opening Lot 10/06/10 Unit A 10cm
		B		
	.52		.56	Lot 10/06/11 Unit B 5cm

2005-15-078

Set up total station at S307 to shoot new units. Height of total station is 1.565 m

.60 .58
A
.60 .58
B
.59 .58

Closed lots 10/05/13 and 14 of Units A and B respectively of P04 Grid Point BT

~~Only~~ Only one piece of bajareque found in each unit.

Told Paco and Pony to clean floor and disassemble Champas for photo. Larry shot in P04 Grid Point CC (1 shot in last point), Operation 10 Sub Op 7 (10/07). Units A+B are on slope East to West.

Openning lots 10/07/01 EUA and 10/07/02 EUB of P04 Grid Point CC.

50 .996.99 .997.02
Openning Elevations
A
.CC(49.09,-168.81)
49 .996.98 .997.06
↑N
996.97 B 997.06
48
169 168
E ⟶

Near structure. Grid Point CC tested near zero for P04. Predict not midden assoc. with food.

Closed Lot 10/06/11, EU B, P04 Grid Point B, excavate another 5cm as 14 pieces of ceramic were found

.57 .59
B
.59 .62

10/07/11 Closed, silty clay loam, 2.5Y 5/4 lt olive brown

2005-15-079

Closed Lot 10/05/13 EU A, PO4 Grid Point BT, 52-59cm BGS. No artifactual material save a small piece of bajarequeue (not saved). Soil hard silty clay loam, 2.5Y 5/4 lt olive brown. Reached sterile level will close unit.

Closed Lot 10/05/14 EU B, PO4 Grid Point BT, 52-59 cm BGS. No artifactual material save a small piece of bajarequeue (not saved) as above. Soil hard silty clay loam, 2.5Y 5/4 lt olive brown. Reached sterile level will close unit.

Closed lot 10/06/07 EU A, PO4 Grid Point BL, 34-44 cm BGS. First arbitrary 10cm of new soil horizon, silty clay loam, 2.5Y 5/4 lt olive brown.

Closed lot 10/06/09 EU B, PO4 Grid Point BL, 40-53 cm. First arbitrary 10 cm of new soil horizon, silty clay loam, 2.5Y 5/4 lt olive brown

2005-15-080

Opened Lot 10/06/10 EU A, P04 Grid Point BL, continue arbitrary 10cm excavation.

Opened Lot 10/06/11 EU B, P04 Grid Point BL, continue arbitrary 10cm.

Closed Lot 10/06/10 EU A, P04 Grid Point BL, 44-56cm. Recovered 4 pieces of ceramic. Silty clay loam, 2.5Y 5/4 lt olive brown.

.59 .58

A

.52 .55

Opening Lot 10/06/12. Excavate to level with EU B.

Opening Lot 10/07/01, EU A, P04 Grid Point CC, arbitrary 15cm. Surface sloped East (high) to West (low) near structure 2 (West) and NE of structure 8, Unit selected to test low/negative P04 result in area near structures. Low/negative soil result indicates no food related activity. Cobble visible on surface to slightly below surface. Unit contains CC.
Opening Lot 10/07/02, EU B, P04 Grid Point CC, arbitrary 15cm as above. No cobbles or rocks on surface.

2005-15-081

Closed Lot 10/06/11, EU B, PO4 Grid Point BL, 53-60cm. Recovered 14 pieces of ceramic. Soil silty clay loam, 2.5Y 5/4 lt olive brown. Due to large number of artifacts decided to excavate an additional 5cm to achieve sterile layer.

.57 .59

B

.59 .62

Opening Lot 10/06/13, EU B
Excavate additional 5cm to sterile layer

Ellen shot in Units surrounding PO4 Grid Point AV. Units offset to 0.5m due to ant hill at 9m N. AV chosen as representative of open area away from structures.

-8.5 .996.50 .996.49

A, AV

N -9.5 .996.47 .996.47

B

-10.5 .996.46 .996.44

-185 -184

E →

Operation: 10
Sub Operation: 8

Closed Lot 10/06/12, EU A, PO4 Grid Point BL, 56-64 cm BGS. Recovered 9 pieces of ceramic. Soil silty clay loam, 2.5Y 5/4 lt olive brown. Decided to close unit as research goal of finding midden related to PO4 soil analysis was met and occupation levels were below that of interest ie Classic period.

2005-15-082

Closed lot 10/06/13, EU B, PO4 Grid Point BL. Recovered 5 pieces of ceramic and one piece of Toba. Excavated 60-64cm. Unit closed for reasons indicated above.

.66 .63

A

.64 .64

B

.64 .67

Closing elevations of 10/06.

Ellen shot soil horizon change elevation and elevation of base of units for 10/05 and 10/06

	10/05	10/06
Soil horizon change	996.92	996.43
Base of unit	996.67	996.19

I took a photograph of 10/05 and 2 photos of it in relation to the surrounding structures.

Closed 10/07/01, EU A, PO4 Grid Point CC, 0-15cm BGS.

2005-15-083

Closed 10/07/02 EUB, POA Grid Point CC, 0-15cm BGS.

Took profile data for 10/05

N Wall

	0	0.25	0.5	0.75	1.0 m
Soil Hor	34	35	38	39	36
Base	62	62	61	62	60

E Wall

	0	0.25	0.5	0.75	1.0	1.25	1.5	1.75	2.0m
Soil H	33	30	31	31	34	30	30	37	36
Base	58	58	56	57	57	58	59	63	60

When taking elevation measurements in 10/07, Doney indicated he had Dengue. He did not know if he would be at work tomorrow.

Pedro and Herman covered 10/05 with blue tarp and banana leaves. I need to take soil samples for floatation analysis tomorrow.

2005-15-084

Overall I'm pleased with the progress. Units including two points considered "hot" spots by PO4 soil analysis have yielded sizable amounts of sherds and related material, ie mano to confirm association with food or food preparation. Ellen will conduct ceramic analyses to characterize sherds that may further support hypotheses.

Evidence of craft activity was also indicated by sizable pieces of chert blocks, and obsidian flakes and a block. Some blocks contained cortex.

The remaining two units CC and AV will test areas of low PO4 soil analysis one point near a structure the other in a more open area. It is expected that artifacts associated with food or food processing should not be found.

10/06 was closed ~~was closed~~ before reaching a sterile layer due to time constraints and the fact that research objectives were met.

2005-15-084

6 July

Los Naranjitos

Humid overcast morning. No rain last night so units stayed dry. Dony is out sick today (Dengue) so Paco is excavating solo. Took opening photo of 10/08, PO4 Grid Point A1, and had Pedro and Herman move the champas to the new units.

Took soil samples for flotation analyses

Operation	EU	Elevation	
10/05/03	A	14-21	All samples taken from East Wall.
10/05/04	B	14-21	
10/06/05	A	22-30	
10/06/06	B	22-30	

10/06 Profile Measurements

N Wall

	0	0.25	0.5	0.75	1.0
Soil H	33	36	35	34	34
Base	70	68	66	65	64

E Wall

	0	0.25	0.5	0.75	1.0	1.25	1.5	1.75	2.0
Soil H	34	33	31	35	39	35	38	38	40
Base	64	61	62	62	64	63	65	65	66

10/06

2005-15-085

S Wall Unit B

	0	0.25	0.5	0.75	1.0
Soil H	40	38	39	38	41
Base	66	64	64	64	65

Closed lot 10/07/04, Unit B, FO4 Grid Point CC, excavated 19 ceramics, 2 obsidian bb, 1 baja reque 1 chert block, 1 piece toba.

.25 .26 Closing 10/07/04 EUB
Opening 10/07/06 EUB, targeting another arbitrary 10cm.

.25 .25

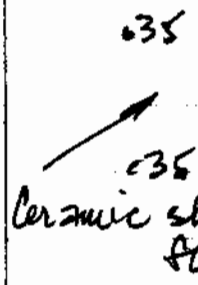
Realized I needed to also take S Wall Profile of 10/05 Unit B.

S Wall 10/05 Unit B

0	0	0.25	0.5	0.75	1.0
Soil H		29	30	30	33
Base		56	57	56	54

2005-15-086

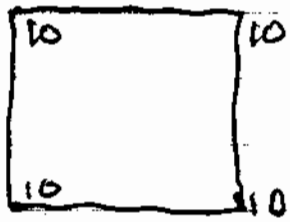
All obsidian were bb and chert class block.



Closing 10/07/06 EU B
Opening 10/07/08 EU B, arbitrary 10cm or soil horizon change (expect at about 42cm

Took soil sample for floatation analysis of 10/07/06 EU B.

Closed lot 10/08/01 EU A, PdGrid Point AV. Silt loam, 0-10cm 7.5YR 2.5/2 v dk brown. Many roots. Ceramics: 20, 1 piece of bajareque. Additional 20cm more.



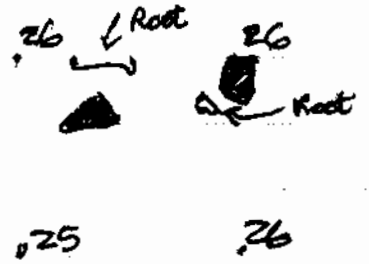
Closed lot 10/08/01 EU A
Opened lot 10/08/03 EU A

Lot 10/07/05, several large cobbles (rumble) in EU A. Lot 10/07/08 beginning to ~~reveal~~ reveal large sherds in Unit B 35+cm below GS. Expect to hit soil horizon change at 42cm.

Closed lot 10/08/02, EU B, P04Grid Point AV. Silt loam, 7.5YR 2.5/2 V dk brown soil. 0-10cm, 7 Ceramics. Additional 20cm

2005-15-087

Closed lot 10/07/03, EU A, P04 Grid Point CC. Excavated 11 Sherds, 1 Obsidian blade tip (bb), 1 block of chert. Counter, 15-26cm.



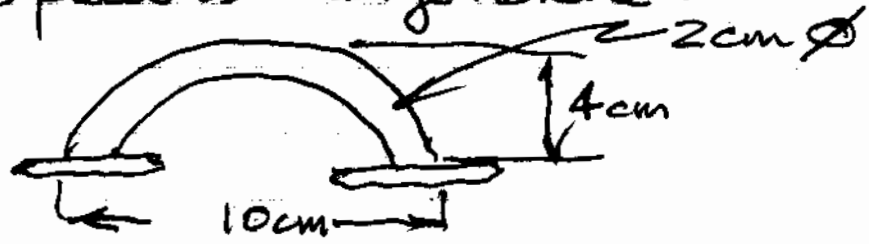
Closing 10/07/03, EU A
Openning 10/07/05 continue arbitrary 10cm or soil change whichever is first.

At about 11 AM Pedro and Herman finished "filling in" their units, trash was mixed in for future excavation They then opened Units A and B in 10/08, P04 Grid Point AV. The grid point was located in Unit A.

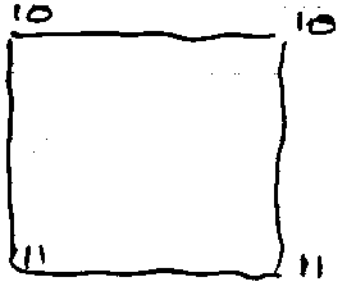
Overall, 10/07 is bearing out P04 results that is low P04 suggests no midden with food material or food activity such as cooking.

After lunch, Constantine and Alexander joined Paco at 10/07, excavating 10/07/05 EU A.

Closed lot 10/07/06 EU B, P04 grid point CC. 107 pieces of ceramic, 4 obsidian (bb), 1 chert and 1 basalt. Soil is silt loam, 7.5 YR 2.5/2 v dk brown. One of ceramic pieces is a large handle:



2005-15-088



Closed 10/08/02 EU B
Opened 10/08/04 EU B to
arbitrary room or New Horizon

Closed lot 10/08/02 EU B, P04 Grid Point AV 0-10cm.
Recovered 7 ceramics.

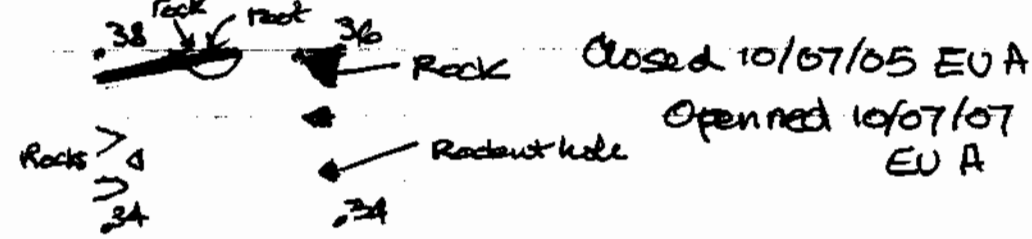
2005-15-089

7 July

Los Naranjitos

Overcast humid morning, no rain last night. Dony was back at work and Constantino and Alexander joined us this morning. Started before 8AM. Paco and Pedro were teamed to excavate 10/08 Unit A only as this was the last day. I instructed them to excavate 20cm, this should get us close to the interface of soil horizons. Dony will continue on 10/07 Unit A need about 5cm in North half of unit. Paco is working 10/07 Unit B 35-45 cm level which should hit soil horizon interface. Constantino and Alexander are filling in 10/05 Units A and B.

Closed lot 10/07/05 EU A, R04 Grid Point CC, 26-35cm BGS. Silt loam, 7.5YR 2.5/2 v dk brown. Recovered 2~~89~~ pieces of ceramic, ~~1~~ 8 Obsidian pieces ~~(11 bb, 2 flakes)~~, 4 chert ~~(3 block, 1 flake)~~. Several cobbles (tumble taken from lot). Continue another 10 cm with Constantino and Alexander.



Also in 10/07/05, 9 bajareque, 3 toba.

2005-15-090

Closed lot 10/07/08 EU B, P04 Grid Point CC 35-46cm Silt loam, 7.5YR 2.5/2 V dk brown. Recovered 245 ceramics (one with glyph), 4 chert (3 blocks, 1 flake) and 13 pieces of obsidian (11 bb, 2 flakes) no cobbles in unit. Continue another 10cm or color change, Psco and Dony working together.

.46	.46	Closed 10/07/08, EU B
	B	Passed new soil horizon at 42cm
.46	.45	Opened 10/07/09, EU B

Surprised I did not hit interface. Soil sample for analysis may have been taken at wrong level. Later (next page) discovered that soil color change was more subtle than other units 10/05 and 10/06.

Closed lot 10/08/03, EU A, P04 Grid Point AV. Excavated to new horizon and by passed it in South half of unit, 10-20cm. Recovered 62 ceramic, 3 baja reque 1 obsidian (may be 2 natural or worn/smoothed block, 2 Chert (1 nice lt tan flake) and 1 piece of Toba.

.18	.21	Closed Lot 10/08/03 New Horizon. Continue another 20cm.
.30	.24	2.5YR 5/4 lt olive brown Silty clay loam. Opened lot 10/08/04.

2005-15-091

Discovered that horizon change was subtle and textural. Stopped excavation in Unit B (10/07) and took photo of new horizon. Color is 2.5Y 4/2 dk grayish brown, slightly lighter than first horizon. New horizon is 42 cm BGS, adjusted lot 10/07/07 to target for 42 cm.

.50 .52

B

10/07/10 continue excavating to 55cm

.50 .51

Elevation to Horizon

.41 .42

B

10/07/10 Silty clay loam. 2.5Y 4/2 dk grayish brown

.42 .42

.45 .43 Closing lot 10/07/07, EU A
Opening lot 10/07/09 EU A

A

.41 .45

.55 .59 Closing lot 10/07/10 EU B
Opening lot 10/07/11 EU B

B

.54 .55

2005-15-092

Closing lot 10/07/07, EU A, P04 Grid Point CC, 35-44 cm BGS. Recovered 273 sherds, mostly small, 1 with glyphs, 13 small pieces of bajareque 2 pieces of obsidian (1 bb and 1 block), 2 pieces chert and 3 possible quartz-like rocks. Silt loam. 7.5YR 2.5/2 v dk brown. Continue into new horizon 10cm.

Closing lot 10/07/10, EU B, P04 Grid Point CC, -55cm BGS. Recovered 64 Ceramics, 3 small pieces bajareque, 1 large chert block/flake, 4 pieces of obsidian (1 bb, 1 tip, 2 flakes) and 2 unidentified quartzlike rocks. Silty Clay Loam, 2.5Y 4/2 dk grayish brown. Continue another 10 cm.

Will stop excavating 10/07/11 after lunch and continue to excavate 10/07/09 until 2:00 PM when I will begin to take soil profiles. Will split Constantino and Alexander between 10/07 and 10/08. Will continue digging 10/08/04 until 2 PM.

.62 .62

A

.62 .62

B

.63 .63

Closing 10/07 Units A and B
Closed lot 10/07/09, EU A and lot 10/07/11, EU B

2005-15-093

10/08

.46 .48 Closing 10/08 Unit A

A Closing lot 10/08/04, EU A.

'52 '51

Closed lot 10/07/09 EU A, Po4 Grid Point CC 44-62cm. Lot below new soil horizon, Silty clay loam, 2.5Y 4/2 dk grayish brown. Lot excavated very rapidly by excavators to close unit by 2PM. Recovered 2 carbon samples, 140 pieces of Ceramic, 4 pieces of obsidian (2pb; 2F) and 1 piece of chert. Unit excavated to be at same depth of 10/07/11 EUB. Closed Unit A.

Closed lot 10/07/11 EUB, Po4 Grid Point CC, 55-63cm BGS. Curtailed excavating to 65cm in the interests of time. Unit excavated rapidly by Paco and Dory. Paco is a hard excavator, both units excavated to a depth of 62-63cm, quite a feat. Ceramic counts down to 11 pieces. Closed Unit B. Silty clay loam, 2.5Y 4/2 dk grayish brown.

Closed lot 10/08/04, EU A, Po4 Grid Point AV, 21 to 49 cm BGS. Silty clay loam, 2.5Y 5/4 lt olive brown. Had 3 excavators dig as deep as they could by 2PM. In general unit yielded low level of artifacts, 96 ceramics total. Recovered 14 ceramics and closed unit.

2005-15-094

Unit Profiles

10/07 EU A + B

North Wall

	0	0.25	0.5	0.75	1.0
Soil Hor	36	33	36	38	(Rock)
Base	55	54	55	58	

South Wall (Total Station Soil Horizon 996.66) (40cm)

	0	0.25	0.5	0.75	1.0
Soil Hor	44	41	38	37	38
Base	61	62	58	54	52

East Wall

	0	0.25	0.5	0.75	1.0	1.25	1.5	1.75	2.0
Soil Hor	(Rock)	40	38	38	37	38	42	42	44
Base		64	62	59	60	63	62	61	61

10/08 EU A

North Wall (Total Station Soil Horizon 996.25) (19cm)

	0	0.25	0.5	0.75	1.0
Soil Hor	21	20	20	20	20
Base	48	48	48	49	49

East Wall

	0.	0.25	0.5	0.75	1.0
Soil Hor	20	27	27	28	26
Base	49	50	51	51	51

2005-1595

Carbon Samples

Op	SubOp	EU	Lot	Provenience	Other
10	05	B	06	20-30cm BGS	
	05	B	06	—	
	05	B	06	27cm BGS	Center of Unit
	05	B	06	20cm BGS	60cm N of SE corner
	05	A	07	28-30 BGS	N half of Unit
	05	B	08	28-32 BGS	SW QUAD
	05	B	10	43cm BGS	SW QUAD
	07	B	02	10-15cm BGS	SE QUAD
	07	A	09	45-50cm BGS	E half of Unit
	07	A	09	45-55cm BGS	SE QUAD

2005-15-097

Sample	Unit	Ceramic	Obsidian	Chert
07/06/055	BC	6		
07/06/056	BD	7		
07/06/057	BE	5		
07/06/058	BF	1		
07/06/059	BG	3		
07/06/060	BH	7/4/3		
07/06/061	BI	2		
07/06/062	BJ	10/1		
07/06/063	BK	14/3/9		
07/06/064	BL	14/2/13		
07/06/065	BM	18/2	1	
07/06/066	BN	10/3		
07/06/067	BO	1/1	(No PO_4 Sample-Tumbled)	
07/06/068	BP	3		
07/06/070	BR	1		
07/06/072	BT	8/20		
07/06/073	BU	15/8		
07/06/074	BV	3/5		
07/06/075	BW	2/3	0/1	
07/06/076	BX	15/4		
07/06/079	CA	1		
07/06/081	CC	8/5		1
07/06/083	CE	1		
07/06/085	CG	3	(No PO_4 sample tumbled)	
07/06/086	CH	2/4		
07/06/077	BY	25/7		

Floatation Samples 2005-15-098

Op/SubOp	Lot	EU	(mean) Elev
10/05	03	A	14-21
	04	B	14-21
	05	A	21-28
	06	B	21-28
	07	A	28-43
	08	B	28-43
10/06	03	A	10-22
	04	B	10-22
	05	A	22-34
	06	B	22-30
	07	A	34-44
	08	B	30-40
10/07	06	B	25-35
	07	A	36-44
	08	B	35-46
	09	A	44-62
	05	B	26-36
	10	A	46-55

Ceramic Piece Count — 2005-15-096

Los Naranjitos

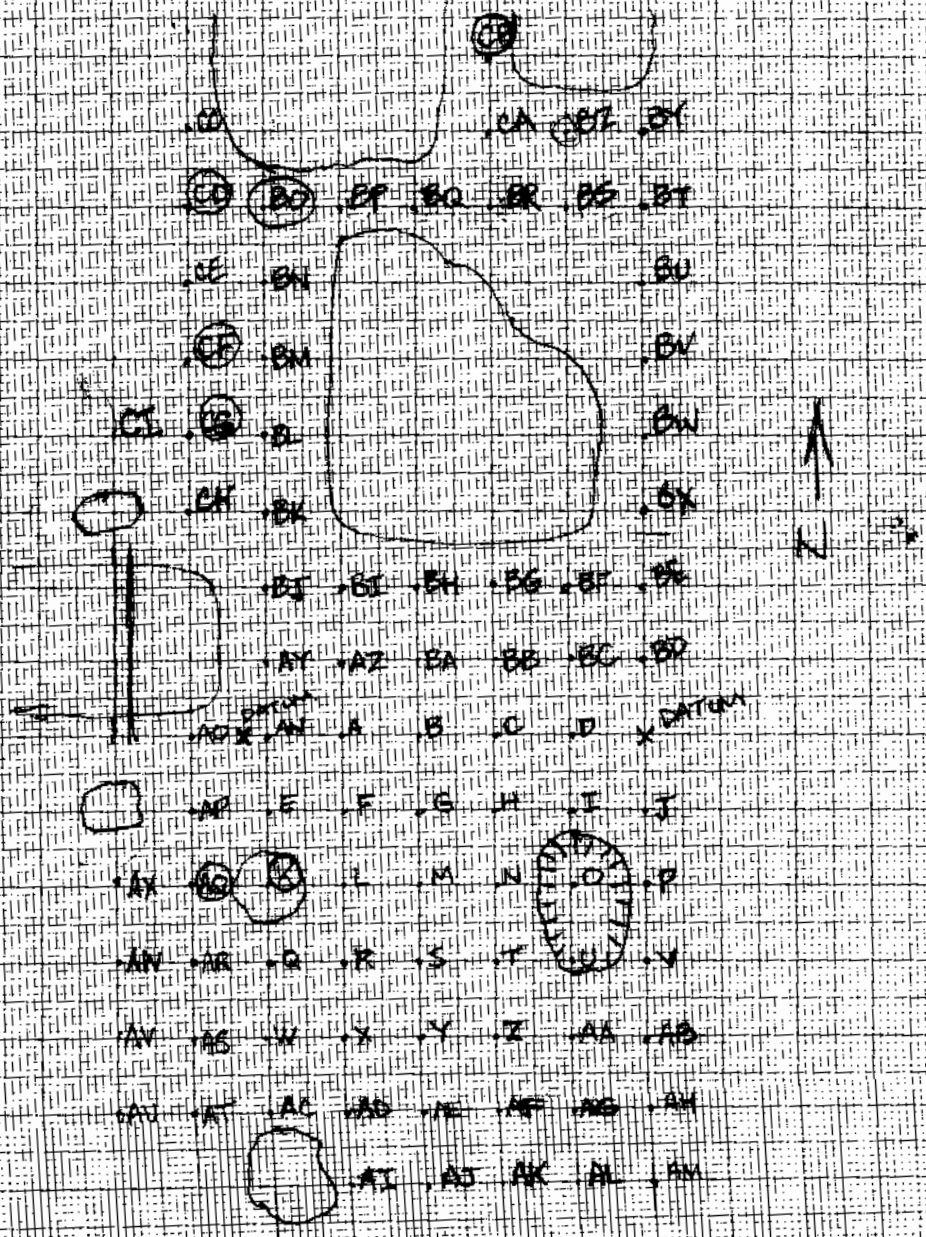
Sample	Unit	Ceramic	Chert	Obsidian
07/06/001	A	0		
07/06/002	B	1		
07/06/003	C	1/2		
07/06/004	D	5		
07/06/007	G	1		
07/06/008	H	0		
07/06/009	I	3		
07/06/010	J	1/3/3		
07/06/012	L	2		
07/06/013	M	1		
07/06/014	N	2		
07/06/016	P	7		
07/06/018	R			
07/06/023	W	2		
07/06/037	AK	5		
07/06/038	AL	3		
07/06/039	AM	~~2~~/8		
07/06/045	AS	5		
07/06/047	AV	1		
07/06/048	AV	4		
07/06/049	AW	2/5		
07/06/051	AY	8		
07/06/052	AZ	1		
[illegible]	BG	17/1		

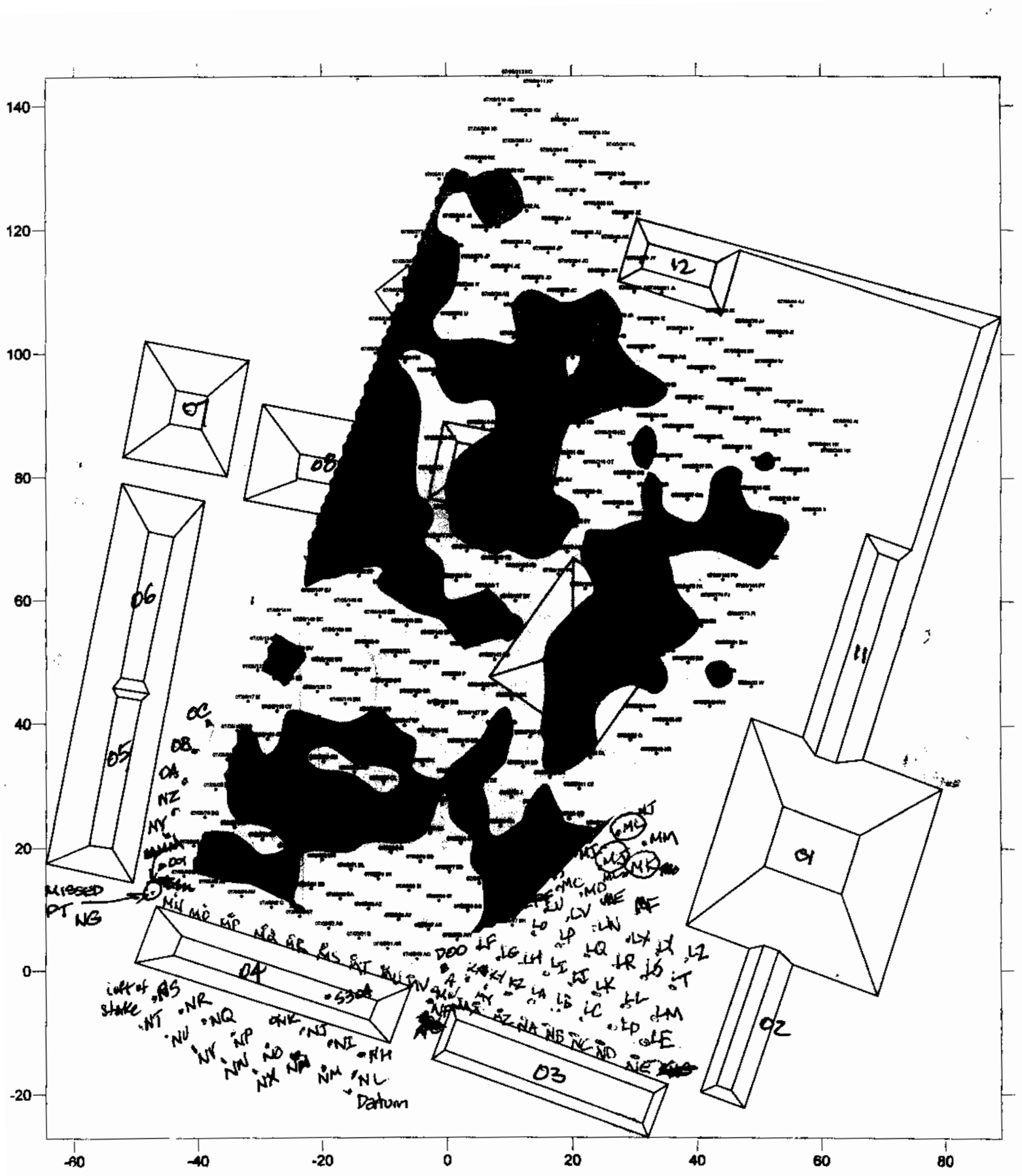
FIELD MAP OF LOS NARANJITOS

(JUNE, 2005)

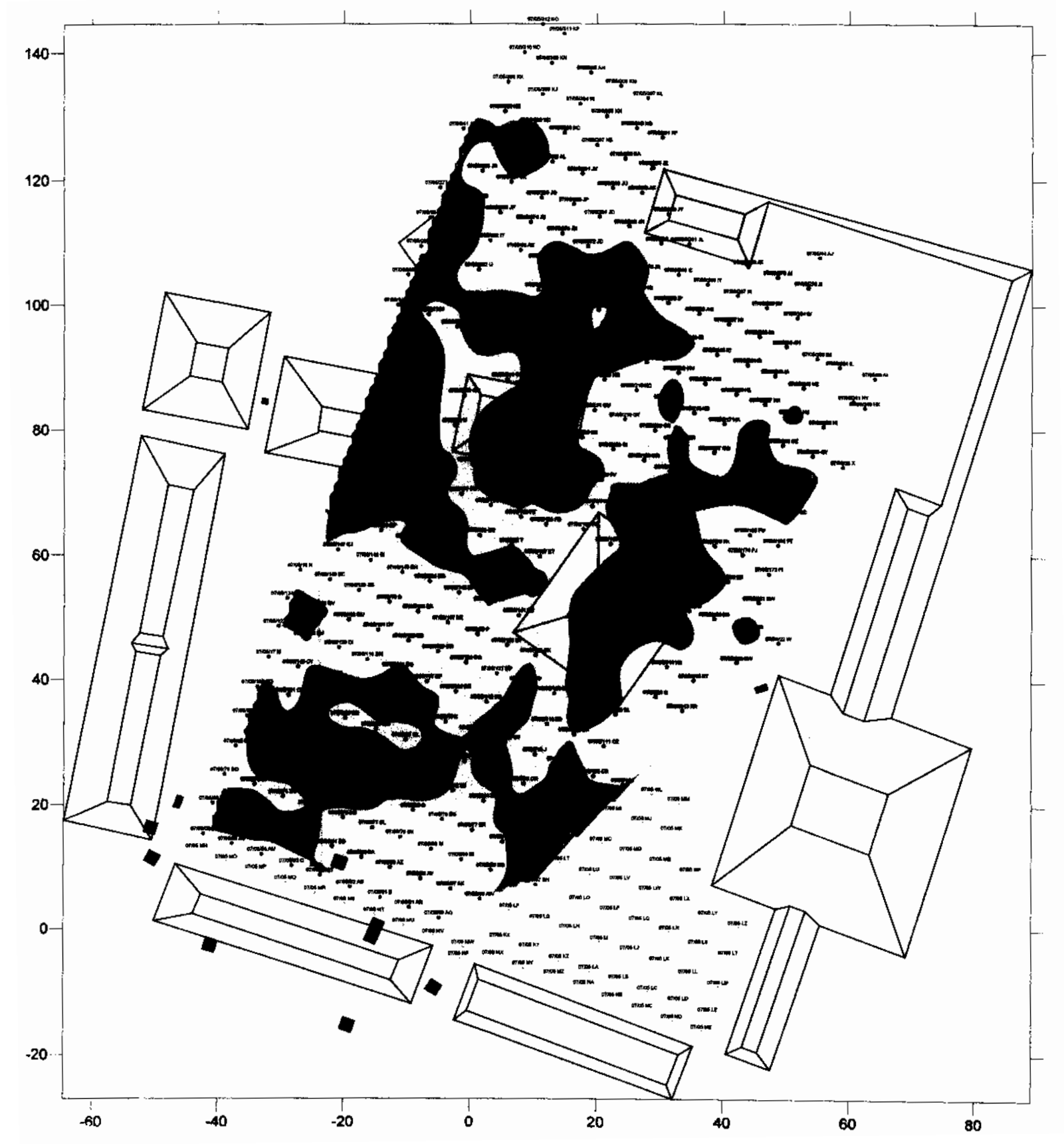
—PC

NOTE: GRID 6° EAST OF NORTH





Map 1 June 13, 2005
Expanded Grid of El Cafetál


140
120
100
80
60
40
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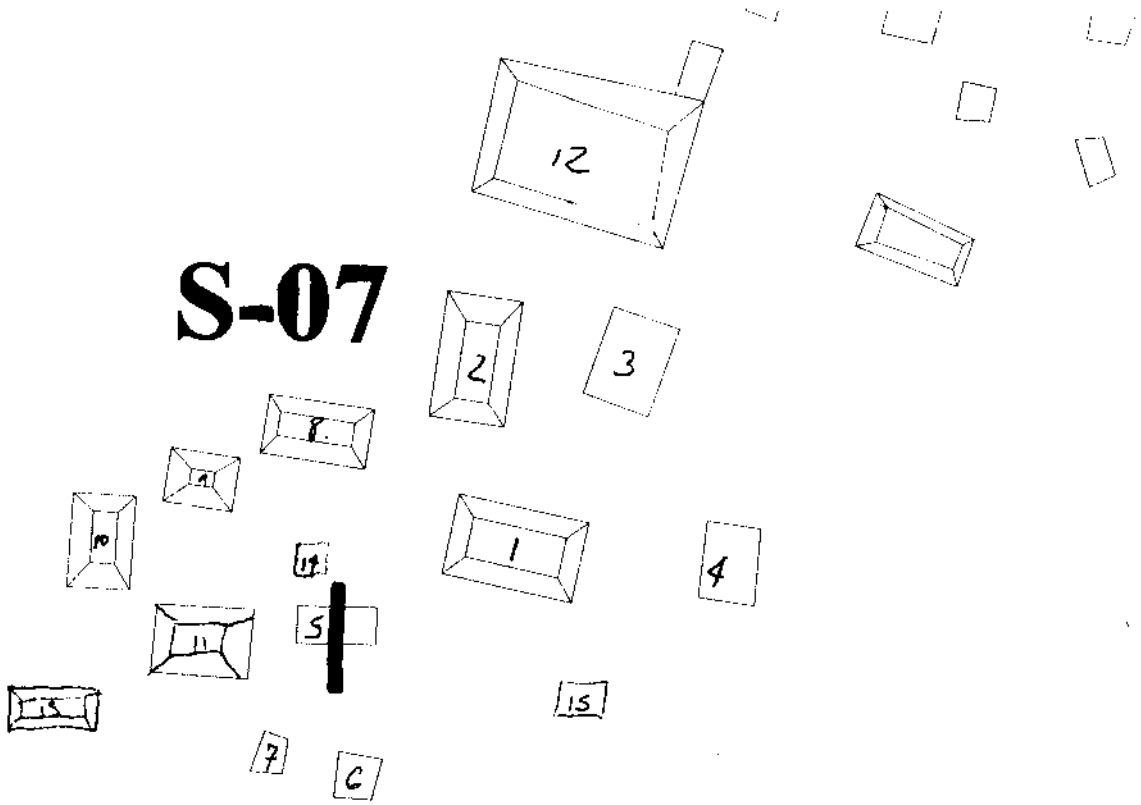
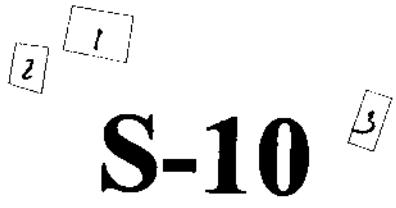
0
20
40
60
80

Los Naranjitos





4N

El Cafetál

Pot 25-30

Begin sampling with KX 319 07/05/319 (540)

KY 320 (30cm)
KZ 321 P27 Tree Root
LA 322 P27 (37) Ch
LB 323 P23 (35) St.
LC 324 P25 (40) Ch
LD 325 P14 (30) Stone Gravel
LE 326 P-30 (72)
LF 327 (40)
LG 328 0-18 P-30 (20)
N LH 329 0-20 (35)
LI 330 (36)
N LJ 331 P8<10 (48)
6/13 LK 332 (37)
6/14 LL 333 P27 (37)
LM 334 P.49 (50) 55Gr
LN 335 (29)
LO 336 (35)
LP 337 P34 (35) Tuff 30
Fe deposits LQ 338 P20 (46) Bone? 26 P-46
N LR 339 P24 (34)
LS 340 P25 (29) Floor
LT 341 (39) ceramic 37
LU 34~~2~~4 (36) P33
LV 34~~3~~5 (37)
LW 34~~4~~6 (35)
LX 34~~5~~7 (37)

LY 348 (50)
~~N LZ 349~~ 25 N
MA (41) ~~348~~ 350 25 N
MB (41) ~~349~~ 351
MC (41) 352
MD (41) 353
ME (39) 354
MF (45) 355
MG (35) 356
MH (37) 357
MI (39) 358
MJ (35) 359
MK (39) ~~358~~ 360
10 W ML (37) ~~359~~ 361
40 W MM (41) 362
W MN (34) 363
MO (38) 364
MP (37) 365
MQ (40) 366
MR (41) 367
MS (35) 368
MT (38) 369
MU (35) ~~368~~ 370
MV (39) ~~369~~ 371
W MW (40) 372
MX (52) 373

MY 374 (40) Gravel Shale Rock
MZ 375 (32)
N NA 376 (37)
NB 377 (40)*
N NC 378 P30 (40)*
ND 379 P-27,32 (37)
NE ~~378~~ 380 (36)
WNF ~~379~~ 381 (31)
NG 382 (45) 29 Tum 42 P+ Burnt Rock

*A lot of shale like rocks

Relabeled LSx LT 2+
LSS 342 41 Interesting Rock
LTT 343 45

NH 383 (42)

NI 384 P30-32, P-36 (37)

NJ 385 ~~(37)~~

NK 386 Ant Hill + Grejo / Cricket

NL 387 (63) Con sm hill

NM 388 (33)

NN 389 ~~33~~ 33-P (33)

NO 390 (34)

NP 391 (27)

NQ 392 (25)

NR 393 (36)

NS 394 (23)

NT 395 (26)

NU 396 (23)

NV 397 (23)

NW 398 (39)

NX 399 (27)

400 NY Handle 30 (32) Gravelly

401 NZ P20 (35)

~~405~~ 402 OA P 20,25 (43) Gravelly 20 Charcoal ?30

403 OB (38)

404 OC (33)

Unit	Sample	Ceramic	Obsidian	Soil Sample	Other
AI	07/06/035			30	
AJ	07/06/036			24	
AK	07/06/037	9		30	Rodent hole @25cm
AL	07/06/038	22		30	
AM	07/06/039	27		30	
AN	07/06/040			31	
AO	07/06/041			28	
AP	07/06/042			29	
AQ	07/06/043	On Mound			~~Shale Zoom~~
AR	07/06/044			24	Shale Zoom
AS	07/06/045	20		30	
AT	07/06/046			28	
AU	07/06/047	10		37	
AV	07/06/048	13		30	
AW	07/06/049	20		34	Lot 2 32
AX	07/06/050			34	
AY	07/06/051	10		30	
AZ	07/06/052	40	40	73	No subsurface features Lots Fire Pit
BA	07/06/053	Bee's Nest		25	
BB	07/06/054	22		25	
BC	07/06/055	23		30	
BD	07/06/056	17		30	
BE	07/06/057	23		28	
BF	07/06/058	28		30	
BG	07/06/059	40		40	
BH	07/06/060	20		50	Lot 2 (29) Lot 3 (5)
BI	07/06/061	34		35	
BJ	07/06/062	14		30	Lot 2 (30)
BK	07/06/063	18		30	Lot 2+3 28+38
BL	07/06/064	16-29		40	Lot 2+3 34 40

80 min

15 min

After Break 10:45

17 min

BA-53 (30)

Unit	Sample	Ceramic	Obsidian	Soil Sample	Other
BU	07/06/073	~~22~~		~~32~~	~~Lot 2 30~~
BV	07/06/074	~~22~~ 30		~~45~~ 40	~~Lot 2 40~~ Lot 2 (40)
BW	07/06/075	22		45	Lot 2 (43)
BX	07/06/076	22		~~32~~	Lot 2 (39)
BY	07/06/077				
BZ	07/06/078				
CA	07/06/079				
CB	07/06/080				
CD	07/06/081				
CE	07/06/082				
CF	07/06/083				
CG	07/06/084				
CH	07/06/085				
CI	07/06/086				

6/27

Unit	Sample	Depth (in cm) Ceramic	Obsidian	Soil Sample	Other
BU	07/06/073	18-20		38	Lot 2 ~~30~~
BY	07/06/077	24		~~39~~	Lot 2 34
BZ	07/06/078			~~36~~	
CA	07/06/079	34		37	
CB	07/06/080			~~34~~	Hit Rock at 24 no ~~sample~~
CC	07/06/081	34 Chert		42	~~Hit Rock @ 28~~ Hit Rock @ 29
CD	07/06/082				Surface Tumble
CE	07/06/083	~~30~~		30	Surface Tumble
CF	07/06/084			~~30~~	Top of Patio? Hit Rock
CG	07/06/085	17			Rocks @ 17
CH	07/06/086	26		40	Lot 2 (40)
CI	07/06/087	?		34	

Weighed out 35-76

6/28

	Sample	Wgt	Zero	PhosVer 3 (4 min)	Adj Read
	Blank	—	Set 0.00	(0.70) ~~0.00~~ Set 0.00	—
9:15 26°C	62	2.0	0.05	0.64	0.59
	63	2.0	0.00	0.77	0.77
r	64	2.0	0.00	1.46 ~~DK blue~~	1.46
	65	2.0	0.00	0.84	0.84
	66	2.0	0.01	0.26	0.25
	68	2.0	0.00	0.04	0.04
	69	2.0	0.00	0.17	0.17

No blank last of Lot BN ~~Post~~ Lot BN Avg = 0.60

	55	2.0	Set 0.00	1.07	0.47
	56	2.0	0.00	1.01	0.41
11:00 27°C	57	2.0	0.00	0.75	0.15
r	58	2.1	0.00	1.33	~~0.76~~ 0.73
r	59	2.0	0.06	0.98	0.32
r	60	2.0	0.00	1.02	0.42
	61	2.0	0.00	0.97	0.37

Now using Lot A from ~~Last~~ Year Lot A4079 EXP 0807

12:00 27°C	Blank	—	Set	(0.39) Set 0.00
	41	2.0	0.01	0.16
	40	↓	0.08	0.20
	39		0.00	0.03
	38		0.01	0.11
	37		0.07	0.14
	36		0.00	0.13
	35		0.01	0.13
	10% CS	—	0.07	0.42

Lot BN Blank Readings

0.44	0.53	0.53	0.76
0.62	0.60	0.59	
0.70	0.62	0.61	
1.76	1.75	1.73	

1.75
1.73
.76
0.60
6.00
.76
9 | 5.24
.58

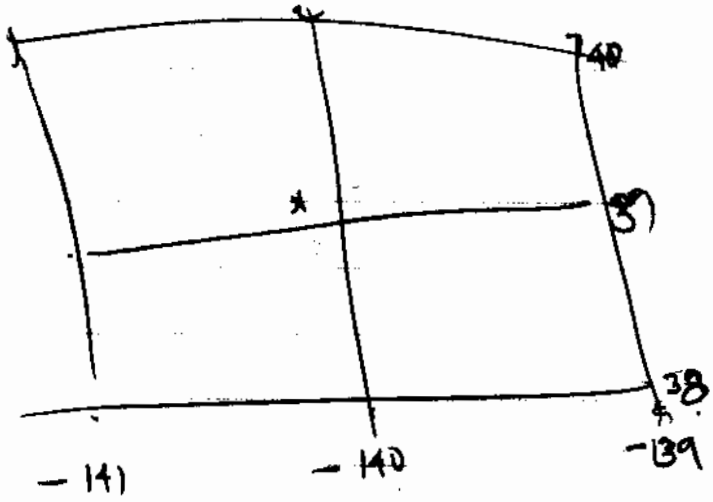
6/28

	Sample	Wgt	Zero	(4min) Phosfer 3	Adj Reading
	Blank	—	Set 0.00	(0.44) Set 0.00	—
2:00 28°C	49	2.0	0.00	0.03	0.03
	48	↓	0.00	0.20	0.20
	47		0.01	0.02	0.01
↓	46		0.01	0.10	0.09
	45		0.06	0.22	0.16
	44		0.02	0.13	0.11
	42		0.06	0.49	0.43
	1% SS	—	0.01	0.98	0.97

In order to dry samples quicker used hair dryer 35cm from soil surface on ~~low~~ high flow for 5 minutes.

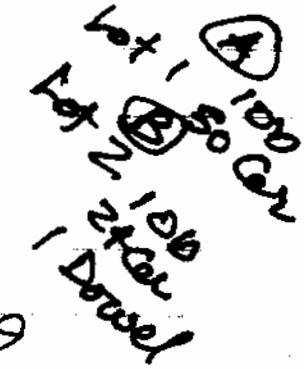
Samples dryed were 73, 77, 78, 79 and 81

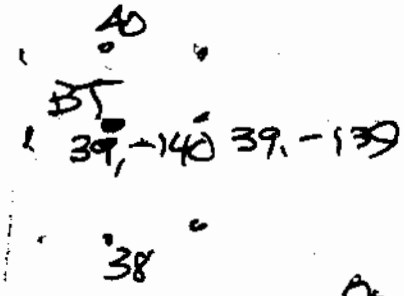
3:05 28.5°C	Blank	—	Set 0.01	(0.40) Set 0.00	—
	73	2.0	0.02	0.77	0.75
	77	2.0	0.02	0.61	0.59
	78	2.0	0.01	0.26	0.25
New batch	1% SS	—	0.02	1.04	1.02
	79	2.0	0.01	0.73	0.72
	81	2.0	0.01	0.00	0.00



hot 1+2
19 ceramic
1 Obsidian

Ka boo ga





BT

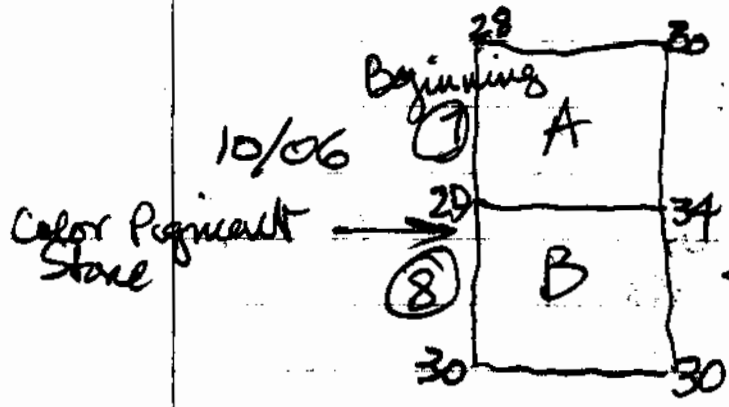
Op 10/05

		N	E	Z
wit A	NE	40	-139	997.26
	NW	40	-140	997.26
		40	-141	997.24
wit A	SE			
wit B	NE	39	-139	997.20
wit A	SW			
wit B	NW	39	-140	997.21
		39	-141	997.19
wit B	SE			
		38	-139	997.22
wit B	SW			
		38	-140	997.19
		38	-141	997.20

BL

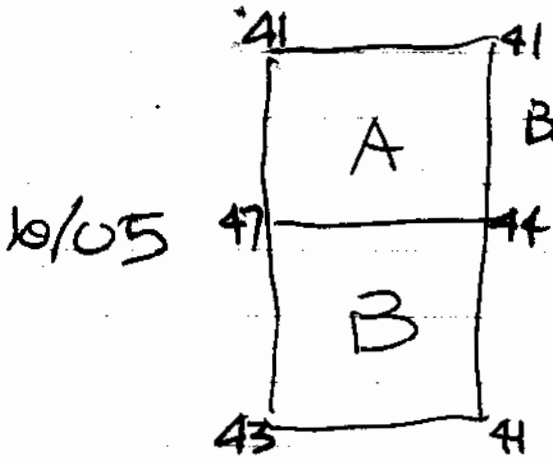
Op 10/6

N	E	Z
30	-166	996.85
30	-167	996.82
30	-168	996.85
29	-166	996.82
29	-167	996.80
29	-168	996.83
28	-166	996.82
28	-167	996.77
28	-168	996.80



Closing ~~Boot~~ not 07/06/05
Opening not 07/06/07

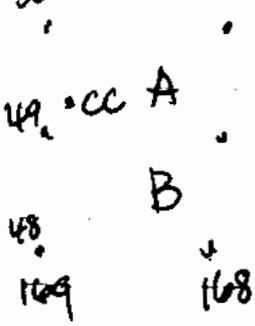
← Continue to color change

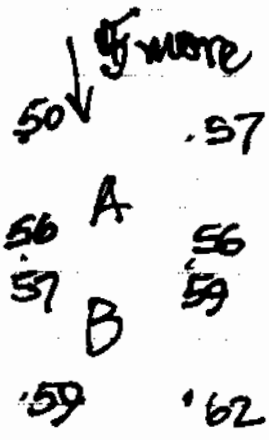


B Horizon
Silty clay loam
>1" <2"
smooth

CC

N	E	Elev
48	168	997.06
48	169	996.97
48	170	996.91
49	168	997.06
49	169	996.98
49	170	996.90
50	168	997.02
50	169	996.99
50	170	996.87
48	171	996.89
49	171	996.86
50	171	996.81





10/06/10

10/06/11 Closed

2005-15

997.02

10/05

Soil Horizon: 996.92

Base Excavation 996.67

=5

-10 .

-9 . AV

-8 .

184 185

10/06

Soil Hor: 996.43

Base : 996.19

N	E	Elev
-10.5	-184	996.44
-9.5	-184	996.47
-8.5	-184	996.49
-10.5	-185	996.46
-9.5	-185	996.47
-8.5	-185	996.50

AV

.59 .58

10/6 .57 .55

.63 .65

Close lot 10 Open lot 12

Close lot 10

.63 .67

2005-15

10/05 Units A + B Profile

North Wall

	0	0.25	0.5	0.75	1.0
Soil Fl	34	35	38	39	36
Bottom	62	62	61	62	60

West Wall

	0	0.25	0.5	0.75	1.0	1.25	1.50	1.75	2.0
Soil Fl	33	30	31	31	34	30	30	37	36
Bottom	58	58	56	57	57	58	59	63	60

.66 .63

.64 .64

.64 .67

.16 .15

10/07 Closing Units AB 1+2

.15 .15

.15 .16

10/06/12 Closing 9 Ceramic

10/06/13 Closing

10/06/11 14 Ceramic

10/06/10 4 Ceramic

10/06/13 5 ceramic 1 Toba

10/07/01 5 Ceramic 1 Obsidian

10/07/02 1 Obsidian 1 Int Rock

10/07/10

40 1bb 1Tip 2F

1 Chert

64C

3B

2 Int Rocks

10/07/07

Cer 273

B: 1B sm

O: 2 bb 1 block

Ch 2

Int Rock 3

2005-15-091

Unit Profiles

10/07 EU A + B

N Wall

Hor

B1

10/08/04 EU A
Cer 14

10/06/12 EUA
9 Cer

10/07/09 EUA
140C
40
1Ch

10/08/03 EUA
62 Cer 2Ca
3B 1T
10

10/07/10 EUB
64 Cer 400 (266, 2F)
1Ch 3B

10/07/08 EUB
245 Cer 4Ca
130

10/07/11 EUB
13 Cer

10/07/07 EUA
273 Cer 13B
20 2Ch

10/07/05
259 Cer
80 9B
4Ch 3T

Carbon 10/07/09 EUA
45-50
E 1/2 of A

10/07/09 EUA
45-55
3E QUAD

10/05

	Unit A					Unit B			Datum ↓
	NW	NE	SW	SE		NW	NE	SW	SE
	7.26	7.26	7.21	7.20		7.21	7.20	7.19	7.22
	-.04	-.04	+0.01	+0.02		+0.01	+0.02	+0.03	0
	-.10	-0.07	-0.15	-0.14		-0.15	-0.14	-0.15	-0.14
Lot 1	7.10	7.15	7.07	7.08	Lot 2	7.07	7.08	7.07	7.08
	-0.09	-0.14				-0.05	-0.07	-0.07	-007
Lot 3	7.01	7.01	7.02	7.01	Lot 4	7.02	7.01	7.00	7.01

Opening Lot 5 +6 18 19

21 21

23 120

	±05	±06
Obsidiana	9	6
Chert	7	5
Bajaraque	13	6

Closing 10/06/3+4

.20 .25

.20 .23

.22 .24

~~lot~~ 10/05/07+08 lt olive brn 2.5Y 5/4

10/06

Unit ⌀A

NW	NE	SW	SE
6.85	6.82	6.83	6.80
-0.09	-0.05	-0.06	-0.03
-0.08	-0.05	-0.10	-0.08
6.68	6.72 6.69	6.67	6.69
-17	[illegible]	-16	-11

Unit ⌀B

NW	NE	SW	SE (Datum)
6.83	6.80	6.80	6.77
-0.06	-0.03	-0.03	—
-0.10	[illegible]	[illegible] 6.70	-0.11
6.67	6.69	6.67	6.66
-16	-11	-13	-11

V. DK Brn 7.5YR 2.5/2 Silty Loam

PO4 GRID POINT BT

10/05 EU A

Lot	Ceramics	Chert	Obsidian	Bajareque	Carbon	Elev (in cm)	Other
01	113	0	2	0	0	0-14	
03	734	1	18	2	0	14-21	
05	527	3	1	17	0	21-28	
New Horizon 07	92	1	2	4	1	28-43	Removal Rock
09	No artifactual materials					43-47	
11	1	0	0	0	0	47-52	
13	0	0	0	1*	0	52-59	

10/05 EU B

Lot	Ceramics	Chert	Obsidian	Bajareque	Carbon	Elev (in cm)	Other
02	32	2	0	0	0	0-14	Mod Dowel
04	303	5	8	0	0	14-21	Mano
06	263	5	6	12	4	21-28	Hammer Stone
New Horizon 08	58	1	1	2	1	28-43	
10	6	0	0	0	1	43-47	
12	3	0	0	0	0	47-52	
14	0	0	0	1*	0	52-59	

*Did not Keep

In addition:

10/05/01+02 EU A+B comingled Ceramic: 10 Obsidian: 1

10/05/ EU A,B,C,D Surface finds Ceramic: 9

Jim Chatters

2005-15

10/06 EU A

Lot	Ceramics	Chert	Obsidian	Bajareque	Carbon	Elev (cmbs)	Other
01	11	1	0	0	0	0-10	
03	377	3	10	13	0	10-22	+11 Metate frags? ceramic?
05	279	0	9	0	0	22-34	
New Horizon 07	22	0	1	0		34-44	Tobacco
10	4	0	0	0	0	44-56	
12	9	0	0	0	0	56-64	

10/06 EU B

Lot	Ceramics	Chert	Obsidian	Bajareque	Carbon	Elev (cmbs)	Other
02	2	0	2	0	0	0-10	
04	196	0	1	0	0	10-22	
06	167	0	1	0	0	22-30	
08	93	1	5	1	0	30-40	Pigment stone
New Horizon 09	14	0	0	0	0	40-53	
11	14	0	0	0	0	53-60	
13	5	0	0	0	0	60-64	1 Tobacco

Jim Chatters 2005-15

PO4 GRID POINT CC

10/07 EU A

Lot	Ceramics	Chert	Obsidian	Bajareque	Carbon	Elev (cm bs)	Other
01	5	0	1	0	0	0-15	
03	11	1	1	0	0	15-26	
05	259	4	8	9	0	26-36	Toba: 3
07	273	2	2	13	0	36-44	
New Horizon 09	140	1	4	0	2	44-62	

10/07 EU B

Lot	Ceramics	Chert	Obsidian	Bajareque	Carbon	Elev (cm bs)	Other
02	0	0	1	0	1	0-15	
04	19	1	2	1	0	15-25	1 Toba
06	107	1	4	1	1	25-35	
08	245	4	13	0	0	35-46	
New Horizon 10	64	1	4	3	0	46-55	
11	13	0	0	0	0	55-63	

Jim Clark 2015-15

P04 GRID POINT AV

10/08 E.U. A

Lot	Ceramics	Chert	Obsidian	Bajareque	Carbon	Elev (in cm)	Other
01	20	0	0	1	0	0-10	
03	62	2	1	3	0	10-21	Toba: 1
04	14	0	0	0	0	21-49	

10/08 E.U. B

Lot	Ceramics	Chert	Obsidian	Bajareque	Carbon	Elev (in cm)	Other
02	7	0	0	0	0	0-10	

		18-30			
BM	07/06/065	25~~18~~	28	35	Lot 2 4
BN	07/06/066	20		35	Lot 2 26
BO	07/06/067	14		34	Lot 2 Tumbler @ 34
BP	07/06/068	33		36	
BQ	07/06/068			32	
BR	07/06/070			35	
BS	07/06/071	11	16	30	Lot 2 18
BT	07/06/072	2~~1~~16		30	Lot 2 20
BU					
BV					
BW					Lot 2 43
BX					Lot 2, 30
BY					
BZ					

1:45
10 min

AB	07/06/~~027~~ 028	33
AC	07/06/~~028~~ 029	42
AD	07/06/~~029~~ 030	23
AE	07/06/~~030~~ 031	27
AF	07/06/~~031~~ 032	~~34~~
AG	07/06/~~032~~ 033	36
AH	07/06/~~033~~ 034	21

65 Associated points

El Cafetál

Date	Feature	Class	Sub-class	Description	Northing	Easting	Elevation
2005-06-14	Archaeology	Trench corner		07/05 KX	-1.75	4.83	999.97
2005-06-14	Archaeology	Trench corner		07/05 KY	-3.32	9.51	1,000.11
2005-06-14	Archaeology	Trench corner		07/05 KZ	-5.15	14.19	1,000.32
2005-06-14	Archaeology	Trench corner		07/05 LA	-6.84	18.85	1,000.38
2005-06-14	Archaeology	Trench corner		07/05 LB	-8.31	23.61	1,000.45
2005-06-14	Archaeology	Trench corner		07/05 LC	-10.07	28.18	1,000.53
2005-06-14	Archaeology	Trench corner		07/05 LD	-11.71	33.02	1,000.69
2005-06-14	Archaeology	Trench corner		07/05 LE	-13.43	37.70	1,001.13
2005-06-14	Archaeology	Trench corner		07/05 LM	-9.17	39.32	1,001.07
2005-06-14	Archaeology	Trench corner		07/05 LL	-7.45	34.61	1,000.66
2005-06-14	Archaeology	Trench corner		07/05 LK	-5.44	30.06	1,000.46
2005-06-14	Archaeology	Trench corner		07/05 LJ	-3.67	25.33	1,000.38
2005-06-14	Archaeology	Trench corner		07/05 LI	-2.08	20.50	1,000.31
2005-06-14	Archaeology	Trench corner		07/05 LH	-0.26	15.83	1,000.23
2005-06-14	Archaeology	Trench corner		07/05 LG	1.28	11.14	1,000.11
2005-06-14	Archaeology	Trench corner		07/05 LF	3.00	6.33	999.95
2005-06-14	Archaeology	Trench corner		07/05 LN	7.67	7.93	999.95
2005-06-14	Archaeology	Trench corner		07/05 LO	4.32	17.44	1,000.24
2005-06-14	Archaeology	Trench corner		07/05 LP	2.69	22.21	1,000.29
2005-06-14	Archaeology	Trench corner		07/05 LQ	1.04	26.87	1,000.37
2005-06-14	Archaeology	Trench corner		07/05 LR	-0.49	31.58	1,000.48
2005-06-14	Archaeology	Trench corner		07/05 LS	-2.69	36.17	1,000.60
2005-06-14	Archaeology	Trench corner		07/05 LT	-4.44	40.94	1,001.06
2005-06-14	Archaeology	Trench corner		07/05 LZ	0.32	42.44	1,001.00
2005-06-14	Archaeology	Trench corner		07/05 LY	2.00	37.75	1,000.58
2005-06-14	Archaeology	Trench corner		07/05 LX	4.25	33.27	1,000.46
2005-06-14	Archaeology	Trench corner		07/05 LW	5.95	28.48	1,000.33
2005-06-14	Archaeology	Trench corner		07/05 LV	7.60	23.77	1,000.25
2005-06-14	Archaeology	Trench corner		07/05 LU	8.90	18.92	1,000.15
2005-06-14	Archaeology	Trench corner		07/05 LT	10.67	14.27	1,000.04
2005-06-14	Archaeology	Trench corner		07/05 LS	12.53	9.78	1,000.05
2005-06-14	Archaeology	Trench corner		07/05 MA	17.20	11.37	999.96
2005-06-14	Archaeology	Trench corner		07/05 MB	15.56	16.10	1,000.06
2005-06-14	Archaeology	Trench corner		07/05 MC	13.83	20.74	1,000.14
2005-06-14	Archaeology	Trench corner		07/05 MD	12.27	25.45	1,000.18

65 Associated points

Date	Feature	Class	Sub-class	Description	Northing	Easting	Elevation
2005-06-14	Archaeology	Trench corner		07/05 ME	10.63	30.13	1,000.27
2005-06-14	Archaeology	Trench corner		07/05 MF	8.99	34.89	1,000.52
2005-06-14	Archaeology	Trench corner		07/05 MK	15.61	31.93	1,000.27
2005-06-14	Archaeology	Trench corner		07/05 MM	20.43	33.02	1,000.45
2005-06-14	Archaeology	Trench corner		07/05 ML	21.91	28.75	1,000.21
2005-06-14	Archaeology	Trench corner		07/05 MJ	17.16	27.15	1,000.24
2005-06-14	Archaeology	Trench corner		07/05 MI	18.81	22.46	1,000.11
2005-06-14	Archaeology	Trench corner		07/05 MH	20.42	17.76	1,000.06
2005-06-14	Archaeology	Trench corner		07/05 MG	22.02	13.03	1,000.01
2005-06-14	Archaeology	Trench corner		07/05 MN	12.58	-43.29	999.10
2005-06-14	Archaeology	Trench corner		07/05 MO	10.86	-38.56	999.13
2005-06-14	Archaeology	Trench corner		07/05 MP	9.23	-33.86	999.24
2005-06-14	Archaeology	Trench corner		07/05 MQ	7.51	-29.17	999.43
2005-06-14	Archaeology	Trench corner		07/05 MR	5.80	-24.43	999.62
2005-06-14	Archaeology	Trench corner		07/05 MS	4.03	-19.79	999.71
2005-06-14	Archaeology	Trench corner		07/05 MT	2.31	-15.07	999.86
2005-06-14	Archaeology	Trench corner		07/05 MU	0.56	-10.42	999.95
2005-06-14	Archaeology	Trench corner		07/05 MV	-1.14	-5.72	999.93
2005-06-14	Archaeology	Trench corner		07/05 MW	-2.89	-1.07	999.94
2005-06-14	Archaeology	Trench corner		07/05 NF	-4.73	-1.72	999.96
2005-06-14	Archaeology	Trench corner		07/05 MX	-4.55	3.75	1,000.03
2005-06-14	Archaeology	Trench corner		07/05 MY	-6.23	8.49	1,000.21
2005-06-14	Archaeology	Trench corner		07/05 MZ	-7.53	13.38	1,000.37
2005-06-14	Archaeology	Trench corner		07/05 NA	-9.22	18.11	1,000.43
2005-06-14	Archaeology	Trench corner		07/05 NB	-11.15	22.63	1,000.57
2005-06-14	Archaeology	Trench corner		07/05 NC	-12.87	27.36	1,000.67
2005-06-14	Archaeology	Trench corner		07/05 ND	-14.57	32.00	1,000.90
2005-06-14	Archaeology	Trench corner		07/05 NE	-16.22	36.71	1,001.10
2005-06-14	Archaeology	Trench corner		Soil tst datum	-19.97	-20.04	999.57
2005-06-14	Archaeology	Station		S-02 Str 4	-4.75	-19.75	1,002.01

86 Associated points

Los Naranjitos

Date	Feature	Class	Sub-class	Description	Northing	Easting	Elevation
2005-06-22	Archaeology	Trench corner		07/06 A	7.97	-166.06	996.24
2005-06-22	Archaeology	Trench corner		07/06 AA	-14.03	-154.79	996.80
2005-06-22	Archaeology	Trench corner		07/06 AB	-14.89	-149.90	996.98
2005-06-22	Archaeology	Trench corner		07/06 AC	-15.66	-175.48	996.51
2005-06-22	Archaeology	Trench corner		07/06 AD	-16.54	-170.63	996.34
2005-06-22	Archaeology	Trench corner		07/06 AE	-17.45	-165.71	996.53
2005-06-22	Archaeology	Trench corner		07/06 AF	-18.16	-160.72	996.72
2005-06-22	Archaeology	Trench corner		07/06 AG	-18.99	-155.74	996.81
2005-06-22	Archaeology	Trench corner		07/06 AH	-19.71	-150.77	996.92
2005-06-22	Archaeology	Trench corner		07/06 AI	-21.48	-171.55	996.51
2005-06-22	Archaeology	Trench corner		07/06 AJ	-22.49	-166.36	996.68
2005-06-22	Archaeology	Trench corner		07/06 AK	-23.12	-161.60	996.70
2005-06-22	Archaeology	Trench corner		07/06 AL	-23.89	-156.67	996.79
2005-06-22	Archaeology	Trench corner		07/06 AM	-24.72	-151.72	996.89
2005-06-22	Archaeology	Trench corner		07/06 AN	8.82	-170.85	996.35
2005-06-22	Archaeology	Trench corner		07/06 AO	9.66	-175.88	996.36
2005-06-22	Archaeology	Trench corner		07/06 AP	4.67	-176.68	996.49
2005-06-22	Archaeology	Trench corner		07/06 AQ	-0.20	-177.68	996.69
2005-06-22	Archaeology	Trench corner		07/06 AR	-5.12	-178.64	996.53
2005-06-22	Archaeology	Trench corner		07/06 AS	-10.04	-179.60	996.38
2005-06-22	Archaeology	Trench corner		07/06 AT	-14.77	-180.50	996.34
2005-06-22	Archaeology	Trench corner		07/06 AU	-13.89	-185.54	996.30
2005-06-22	Archaeology	Trench corner		07/06 AV	-8.91	-184.58	996.36
2005-06-22	Archaeology	Trench corner		07/06 AW	-4.05	-183.62	996.52
2005-06-22	Archaeology	Trench corner		07/06 AX	0.85	-182.75	996.76
2005-06-22	Archaeology	Trench corner		07/06 AY	13.88	-170.04	996.52
2005-06-22	Archaeology	Trench corner		07/06 AZ	13.03	-165.13	996.37
2005-06-22	Archaeology	Trench corner		07/06 B	7.18	-161.13	996.31
2005-06-22	Archaeology	Trench corner		07/06 BA	12.07	-160.17	996.34
2005-06-22	Archaeology	Trench corner		07/06 BB	11.39	-155.17	996.47
2005-06-22	Archaeology	Trench corner		07/06 BC	10.49	-150.19	996.58
2005-06-22	Archaeology	Trench corner		07/06 BD	9.68	-145.31	996.79
2005-06-22	Archaeology	Trench corner		07/06 BE	14.59	-144.48	996.79
2005-06-22	Archaeology	Trench corner		07/06 BF	15.29	-149.48	996.64
2005-06-22	Archaeology	Trench corner		07/06 BG	16.23	-154.40	996.43

86 Associated points

Date	Feature	Class	Sub-class	Description	Northing	Easting	Elevation
2005-06-22	Archaeology	Trench corner		07/06 BH	16.99	-159.32	996.37
2005-06-22	Archaeology	Trench corner		07/06 BI	17.96	-164.29	996.45
2005-06-22	Archaeology	Trench corner		07/06 BJ	18.68	-169.22	996.77
2005-06-22	Archaeology	Trench corner		07/06 BK	23.62	-168.32	996.72
2005-06-22	Archaeology	Trench corner		07/06 BL	28.65	-167.36	996.78
2005-06-22	Archaeology	Trench corner		07/06 BM	33.50	-166.50	996.82
2005-06-22	Archaeology	Trench corner		07/06 BN	38.41	-165.75	996.87
2005-06-22	Archaeology	Trench corner		07/06 BO	43.26	-164.84	997.02
2005-06-22	Archaeology	Trench corner		07/06 BP	42.61	-159.70	997.01
2005-06-22	Archaeology	Trench corner		07/06 BQ	41.68	-154.85	996.90
2005-06-22	Archaeology	Trench corner		07/06 BR	40.93	-149.92	996.90
2005-06-22	Archaeology	Trench corner		07/06 BS	39.96	-144.92	997.10
2005-06-22	Archaeology	Trench corner		07/06 BT	39.30	-140.13	997.25
2005-06-22	Archaeology	Trench corner		07/06 BU	34.27	-140.95	997.17
2005-06-22	Archaeology	Trench corner		07/06 BV	29.34	-141.79	997.24
2005-06-22	Archaeology	Trench corner		07/06 BW	24.45	-142.72	997.20
2005-06-22	Archaeology	Trench corner		07/06 BX	19.51	-143.60	997.07
2005-06-22	Archaeology	Trench corner		07/06 BY	44.14	-139.26	997.45
2005-06-22	Archaeology	Trench corner		07/06 C	6.40	-156.13	996.47
2005-06-22	Archaeology	Trench corner		07/06 CA	45.84	-149.04	997.04
2005-06-22	Archaeology	Trench corner		07/06 CB	50.81	-148.29	997.19
2005-06-22	Archaeology	Trench corner		07/06 CC	49.19	-168.81	996.98
2005-06-22	Archaeology	Trench corner		07/06 CD	44.30	-169.68	997.02
2005-06-22	Archaeology	Trench corner		07/06 CE	39.35	-170.56	997.09
2005-06-22	Archaeology	Trench corner		07/06 CF	34.30	-171.40	996.93
2005-06-22	Archaeology	Trench corner		07/06 CG	29.48	-172.26	997.10
2005-06-22	Archaeology	Trench corner		07/06 CH	24.64	-173.22	996.93
2005-06-22	Archaeology	Trench corner		07/06 CI	30.52	-177.17	996.98
2005-06-22	Archaeology	Trench corner		07/06 D	5.56	-151.26	996.77
2005-06-22	Archaeology	Trench corner		07/06 E	3.83	-171.82	996.50
2005-06-22	Archaeology	Trench corner		07/06 F	3.05	-167.01	996.51
2005-06-22	Archaeology	Trench corner		07/06 G	2.20	-162.02	996.51
2005-06-22	Archaeology	Trench corner		07/06 H	1.46	-156.96	996.76
2005-06-22	Archaeology	Trench corner		07/06 I	0.73	-152.04	996.96
2005-06-22	Archaeology	Trench corner		07/06 J	-0.11	-147.11	997.06

86 Associated points

Date	Feature	Class	Sub-class	Description	Northing	Easting	Elevation
2005-06-22	Archaeology	Trench corner		07/06 K	-0.99	-172.77	997.02
2005-06-22	Archaeology	Trench corner		07/06 L	-1.85	-167.87	996.56
2005-06-22	Archaeology	Trench corner		07/06 M	-2.67	-162.87	996.68
2005-06-22	Archaeology	Trench corner		07/06 N	-3.39	-157.96	996.88
2005-06-22	Archaeology	Trench corner		07/06 O	-4.24	-152.93	996.80
2005-06-22	Archaeology	Trench corner		07/06 P	-4.91	-148.13	997.05
2005-06-22	Archaeology	Trench corner		07/06 Q	-5.87	-173.61	996.69
2005-06-22	Archaeology	Trench corner		07/06 R	-6.71	-168.75	996.59
2005-06-22	Archaeology	Trench corner		07/06 S	-7.67	-163.87	996.72
2005-06-22	Archaeology	Trench corner		07/06 T	-8.46	-158.93	996.71
2005-06-22	Archaeology	Trench corner		07/06 U	-9.11	-153.77	996.40
2005-06-22	Archaeology	Trench corner		07/06 V	-9.88	-148.99	996.96
2005-06-22	Archaeology	Trench corner		07/06 W	-10.77	-174.61	996.54
2005-06-22	Archaeology	Trench corner		07/06 X	-11.63	-169.67	996.48
2005-06-22	Archaeology	Trench corner		07/06 Y	-12.61	-164.69	996.58
2005-06-22	Archaeology	Trench corner		07/06 Z	-13.21	-159.74	996.71

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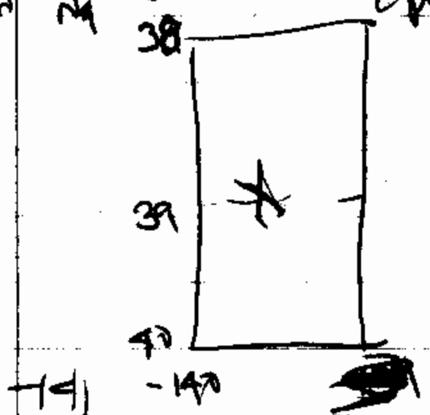
Oct 10/08



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39	-139	997.21
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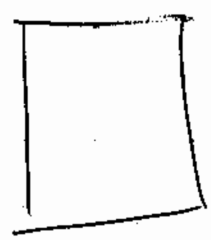

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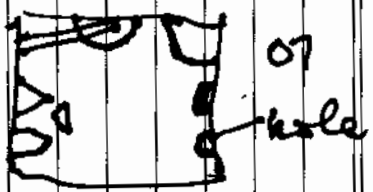
46 46

46 45



57 63
58 64
55 67
56 68

07/06/07
Ceramic 22
01
Chert
Baja
6Toba

07/06/09
07/07/01 Ceramic 14
0 —
Chert —
Baja —

#8 13 – 2 Flakes O
~~4~~ Chert 3bl 1 Flake
245 – Ceramic

#5 259 Ceramic
8 Obsidian
9 Basalt
3 Tuff

10/06/08
O – 3 ~~66~~, 2 Flakes
B – 1
Ch – 1 block
Cer – 93

1 Pigment stone
12cm L
7.5cm W

-34 -38
-41 -41

Closing
-39 -39
-43 -43 10/06/07
-48 -50
10/06/09
-51 -51