LAB BOOK

YERINGTON

PROJECT NOTES

60 SHEETS • 5 x 5 QUAD
10½ x 7⅞ • 53-108

9/29/04

Subcontractor Onsite: Geotechnical Utility Locating
Nejat
El Cerrito, CA

Completed safety + project orientation. Outlined utility locating tasks to attempt to identify on ground:
- all live electrical lines
- as many drain, sewer, acid lines as possible as shown on Work Plan map
- Clear as many drill locations as possible for potential underground hazards, be sure to clear all blue stakes (groundwater sample locations)

Assigned Raymond and/or Dale Korner to assist Nejat + accompany him around Site.

10/1/04

Utility locator finished up + left the site. Was able to accomplish only limited pipeline location as marked on WP utility map. Marked several drain/sewer lines w/ paint on ground by opening manhole + visually observing direction of outlet pipes. Only located + marked lines in building area of process area. Suggested that since he cannot physically locate w/ detectors that it would be more effective to just dig w/ backhoe at endpoints (manholes, buildings). GPR would probably not be effective.

Located + marked live electric lines, also marked locations on map

Cleared many drill locations (all GW locations) for electrical underground hazards, orange paint around stake on ground + highlight orange on map.

Tues 10/5/04

- Met with Sheryl + Roger Garling + Brad Patterson of Energy Lab. They dropped off Alpha meter, trained in use of alpha + uR meters, reviewed reqmts of BC HSP + how to implement
- Went out to Yerington site to demonstrate equipment + check alpha + gamma levels in background + process areas
- Check BLM area by Iron Launderes + confirmed one small area around pipes + soil under pipes as high gamma (73000 uR
- Check soil from this area w/ alpha meter and found virtually no alpha. Scanned hands, feet, clothes + no alpha.
- High readings appear to be white precip or scale material in pipes and in process area pond, not red dirt
- Energy Lab took soil sample from high area + another from elevated area in pond to determine chemical composition + do more accurate gamma check
- They also noted from Walkers BLM data that where they are reporting high CPM, interpreted as alpha radiation, that the soil chemical analysis is not detecting any alpha emitters (Th, Ra). Our test at site confirms little alpha emissions. It is likely that the meter used by walker was detecting all activity not just alpha + they misinterpreted a high alpha emission

Wed 10/6/04

- Collected more surface soil samples around transformers + some around solution tanks as per ~~wp~~ workplan. Total of 5 samples

- Met w/ Dan Ferriter on site from 3-4:30. Reviewed BP's safety expectations, communications, reporting procedures, etc. Discussed radiation + other monitoring requirements in HSP
  - (*) Dan asked me to:
    - Fax copy of Foxfire summary to Betty @ BP
    - Give copy of McArthur monitor well info to AHA + Greg Davis @ Secor
    - Call him or email w/ info on how Mini-RAM works

Thurs 10/7/04

Contacted Darrell Tweidt of WDC to ask if all drill crew members had 40 hr hazwoper. He said the driller does + at least one drill helper does not. I delayed beginning drilling by a week or two to allow time for crew to get training.

Possible training source Pam Murrell KWA Consultants (Sacramento) 530-622-7196

Wed 10/20/04 - WDC Sonic drill rig mobilized to the site

Thurs 10/21/04

- Safety meeting + site orientation - Dan Ferriter (BP) led a pre-project contractor expectations safety meeting with WDC drill crew (Jesse, Brent, Steve) plus Darrell Tweidt
- Drive around site to show some drill locations, radiation zones, water/restrooms, etc.
- Drill set up on first location but did not begin drilling.

Fri 10/22/04 - Met at 7am, toolbox safety meeting. Brent not in drill crew today as he went to Las Vegas for 40 hr Hazwoper training. Begin drilling PA-GW7. Worked 7 - 11:30. Rig having hydraulic difficulties, shut down, drove rig up to Reno for repair.

Mon 10/25 - Drill still down for repair. Dale Kerner, Tina Cox, Raymond L. here. Placed stakes in ground to locate areas for backhoe utility excavations.

TUES 10/26 - Drill still down. WDC decided to drive drill to Sacramento for repair. Mike Weeks (Herbst Station Repair) on site @ 9:00am to begin utility excavations. Completed initial safety review. Collected 3 utility samples before storm moved in + started to rain + snow. Weather too cold + windy so we quit early.

10/27/04 WED - WDC expects drill rig repair complete this morning and will drive rig back to site by this ~~evening~~. Continue utility sampling w/ backhoe, complete PA-UT004 - 008 (5 samples)

- BC computer guys here to work on network connection to get online w/ BC network

10/28/04 - THUR

- Sonic drill started back on PA-GW7, took several hours cleaning out sluff from bottom of hole before begining drilling again. Drilled to ~100' depth by end of day. Dry drilling is going slow.
- Lab called + notified of some broken containers in Wed shipment. One 1L amber broken, I gave approval to complete TPH-D + SVOC from 500 ml sample from remaining bottle (Sample trip blank TB-10-27-04S). Also one soil glass jar broken but spilled in ziplock bag. They recovered enough soil to complete analysis (# PA-UT004)
- Backhoe collected more utility pipeline samples (PA-UT008 - 013)
- Collected triple vol for MS/MSD on UT009. Collected 2x vol on UT010 and labled as DuPA1 for 1/10 duplicate.
- Brian Bass here to observe sampling. Noted that we need to be sure to decon backhoe bucket between locations. Will implement tomorrow.
- Brian walked me through logging procedure + terminology to log soils on GW drill holes.
- Was not able to get cooler prepared for shipment to NEL in time for UPS pickup. Cannot ship Fri because NEL does not receive coolers on Saturday. Will hold + ship on Monday. Samples collected last Tuesday will be at end of day time. Will notify lab as they are sent. Will schedule all future NEL shipments for Mon + Wed

10/29/04 - FRI

- Sonic drill completed drilling on PA-GW7. Encountered groundwater at 127'. Collected sample using disposable 4" bailer. A lot of sediment in samples because DH not screened in collection zone. ~~HCl preserved~~ Afternoon finished DH abandonment w/ bentonite chips + 10' cement grout on top.

10/29 Cont'd

- HCl preserved VOAs generated alot of reaction w/sample + could not get sample w/o gas bubble. Decided to collect 3 VOAs w/preserv. + 3 VOAs w/o preserv to submit to lab. James Hartley at Sequoia confirmed they can run on unpreserved but shortens hold time to 7 days from 14 days
- Not enough room in cooler for all bottles of Trip blank water so only submitted 3 VOAs for VOC/TPH-G.
- Back hoe worked until 1:30pm + shut down for afternoon because we can't collect samples after 1:30 on Friday to meet lab hold times.
- Alpha radiation meter appears to be malfunctioning. When the probe is held in certain positions or pointing to the sun it reads off the chart. May be electronic problem or puncture in mylar? Will call Energy Lab + describe. See if they can send another ASAP.
- Observed a photographer by front gate taking photos of drill rig. Did not talk to person.

11/1/04 - MON

- Sonic started on new location PA-GW8. Started adding water to speed drilling at ~60', ended at 100' to ensure water does not contaminate sample from aquifer when it is encountered. Ended drilling at ~ 110-120' for day when it got dark, had not hit groundwater yet. Drill rig has minor oil(?) leak at top of mast that drips down on area below, drillers have ordered replacement seal. No concerns of contamination of samples.
- Backhoe only located one pipeline for sampling, other excavations were unsuccessful.
- Tina collected composited surface sample from 3 oil stained areas proposed for excavation. Need to analyze and determine RCRA haz waste status before can begin excavating. She collected 4-5 samples per area, composited in mixing bowl, then filled one set of sample containers per area. Samples collected at depth of ~4-8" below surface. Sample from Truck Sludge Pond A is very oily + greasy.

11/2/04 TUESDAY

- Sonic completed PA-GW8 location and sample was collected. Drilled to total depth of 134' to allow more water to be exposed in hole, easier to collect sample. Water depth still at 126' estimated. Need to get working water level indicator on site to determine precise depth.
- Sonic closed hole + moved to next location at end of day (PA-GW4)
- Backhoe continued to work on utility pipeline sampling. The extended hoe has developed leak in hydraulic line but it is not getting into bucket or affecting sample. Mike N. will plan on doing repair work on weekend.
- Distributed dosimeter badges to all BC employees + one to backhoe operator (Mike) + one to Sonic driller (Jesse)
- Reviewed emergency call out list + phone #s

11/3 - WED

- Sonic drilled to ~120' on PA-GW4
- Backhoe continue w/ utility pipelines
- Brian Bass conducted safety meeting, complete review of BCs HSP. All BC + Subcontractors attended (WDC - Jesse, Brent, Steve) (Herbst - Mike). Reviewed drilling JSA, monitoring req'mts, etc.

11/4 - THURSDAY

- Sonic reached groundwater first thing in morning but bottom of hole kept caving. Could not collect water in 4" bailer. Decided to hydropunch 5' below bottom of hole, insert slotted screen + send mini-bailers to collect sample. Sampling this way is VERY slow. It took ~2 hrs. Water depth is @ 125'
- Abandoned + sealed hole + moved to new location PA-GW10 at end of day, began drilling, replaced leaking seal at top of mast

11/4 Cont'd

- Backhoe tried to locate drain line NE of iron launders. Trenched ~50+ feet in effort to locate but never found pipe. Abandoned location w/ no sample
- ARCO project safety review + audit — Dan Ferriter and Mark Brekhus here at 8:00 am thru 11am. Observed drillers + backhoe, site tour, etc. Commented that our housekeeping + procedures seemed good, contractors working safely + professionally.

11/5 — Fri

- Sonic began drilling on PA-GWD. Drilled to ~65' and quit at 1:00 to allow Jesse to get to Sacramento before end of day.
- Backhoe continue w/ utility pipelines
- BLM on site to discuss sample locations + strategy in BLM area. - Craig Smith (BLM)
  - Bob Kelso (BLM)
  - Connie (NDEP)

  * It was agreed that grid system doesn't make sense, should target features (ditchs + ponds) as BC staked on ground but May want to add some holes in flat area. I agreed BC will provide them with a copy of map showing sample locations as staked, They will ~~ma~~ use that as base + modify or add as needed.
  * They agreed it made sense to excavate truck sludge pond first, Then sample w/ drill after
  * They were uncertain why the BLM sample area was defined as is, Some BLM Some private land but no plans to redefine.
- Meeting in BC office w/ Chuck + Brian
  * Ground water samples need to be filtered for metals analysis, we have not been doin this
  * OK to to do 10/4 schedule w/ drill
  * Need to begin planning for Data Summary Report, how field data will be compiled + reported
  * Be sure to compile + organize photos, sample results, drill logs, etc.
  * Need to revise schedule since Sonic drilling going slower than expected
  * Addition work on site coming up: air monitoring, background soil/rock, VET capping

11/8 - MONDAY

- Sonic drill completed PA-GW10, water depth 120' total drill depth 135'. Drillers commented on noticible organic smell at depth of ~120, PID reading was taken inside core barrel (147 ppm), at breathing zone = 0 ppm. The drill location is near old fuel storage tanks + distribution area.
- Drill plugged hole + moved to PA-GW11
- Backhoe completed a couple pipe line samples. Collected first field blank using clean lab grade sand (PA-FBA1)
- Drizzling rain all day, weather not too cold.
- Visitors on site: TetraTech (EPA subcontractor)
  Margaret Li
  Doug Herlocker
  * Asked questions about sampling activities, schedule, radiation monitoring, sample activities, decon activities. They will come back tomorrow + observe sampling, will also be back Wednesday morning.
  * Provided safety orientation
- Crystal Springs dropped off shipment of distilled water + 2 bottles drinking water.
- Groundwater sample collected. Bottles for Metals + Rad were collected + stored unfiltered + unpreserved. Will pick up filter system tomorrow + filter samples to send off for lab analysis.

11/9 - TUES

Personnel on site: BC - Penny, Tina, Raymond
WDC - Jesse, Steve, Brent
Herbst - Mike

Visitor: TetraTech - Margaret Li, Doug Herlocker

- Sonic drill - Started drilling on PA-GW10, ended day at depth of ~115' no sample collected
- Backhoe completed 2 locations (1 near sulfide precip plant UT-34, 1 near assay lab UT-35)
- Submitted soil trip blank today

11/9 CONT'D

- Completed field filter on water sample collected yesterday from PA-GW/0 for sample to Sequoia for metals + Energy for Rad metals. Filtering was difficult w/ filtering equipment on hand. Tried to prefilter using standard lab quality paper filters + then filter w/ 0.45u filter. Only able to filter ~ 250 ml for Sequoia metals and 500 ml for Energy Rad. The low volume for Rad analysis will increase detection limits. Need to find alternate + more efficient filtering mechanism to continue field filtering.
- Tetra Tech indicated they are supposed to collect duplicate water samples on 100% of sample locations and duplicate soil on 10% drill locations. The logistics of collecting enough water to fill our bottles + their bottles will be difficult + slow, will cost more down time w/ drill crew. The logistics of collecting enough volume of auger soil samples over 5' interval may not be possible.
  - ⊕ Need to discuss these issues w/ Chuck
  - + Agreed to supply sample location map to Tet Tec so they can pre-select the auger drill locations they want to sample + we can schedule to complete in sequence

Onsite: BC - Penny, Tina, Raymond Herbst - Mike
WDC - Jesse, Steve, Brent TetraTech - Margaret, Doug

11/10 - WED

- Sonic - ready to collect water sample on GW11 at 8:00 am. Tried to collect w/ 4" bailer but water was too muddy, hole appeared to be caving. Next, tried hydropunch + 3' length of screen. Small 3/4" bailer could not collect + keep water in as it was raised. Ended up drilling additional 15' + using 4" bailer. Sample was finally collected by 4pm, took all day. Filtered metals bottle + added preservative w/in 1hr of collection. Did not filter bottle for Energy Rad analysis; no preservative.
- Back hoe completed 3 locations for utility pipeline until backhoe hydraulic line sprung a leak + had to be shut down. Mike took offsite for repair
- Tetra Tech on site 1/2 day 8am to 1:30pm. Margaret Li + Doug Herlocker. They will be back next Tuesday ready to collect split of ground water samples
- Ordered 1 1/4" steel reusable bailer ($100)
- Darrell Theidt ordered 900' 2" PVC + 100' 2" slotted to use for temporary casing for sampling
- Brian ordered filter system + peristaltic pump
- Richard Johnson delivered + set up new computer

11/11 - THUES

PERSONNEL ON SITE: BC - Penny, Tina, Raymond
WDC - Jesse, Steve, Brent
+ Mike Weeks not here today

- Sonic - Moved to new location end of yesterday (GW17) but forklift had flat tire this morning + could not move drill pipe to new location until tire fixed. They took tire off + took to town to get fixed. Began drilling by ~ 10:30
- Completed weekly safety briefing w/ WDC + BC personnel:
  - BP incident review
  - Weather conditions + hazards w/ rain soaked ground + lightning
  - Forklift safety
  - wear earplugs by drill rig
  - Need to change radiation badges Friday
- Backhoe - Mike called to say he needs to get parts for repair, probably not back until Monday next week.
- Repaired alpha meter + got caught up on back log of soil samples collected + saved for reading
- Tina prepared excel spread sheet + started entering all field monitoring data (uR, alpha, PID, dust)

11/12 - FRIDAY

PERSONEL ON SITE: BC - Penny, Tina, Raymond
WDC - Jesse, Steve, Brent

- Sonic - Drilled on GW17, collected sample by end of day. Shipment of temporary 2" PVC + screen arrived today. Had difficulty using 4" bailer so used hydropunch + tried new 1" reusable steel bailer. Bailer was damaged + did not work as well as hoped.
- Backhoe still offsite for repair, no soil samples collected
- Penny went to Carson City @ 1:00 to catch up on office/computer work. Tina + Raymond stayed on site, Raymond got training from Tina on groundwater sample collection procedures
- Vera Chapman (Cascade Drilling) called to say that the earliest the auger drill could be scheduled is Dec 13. They can use split spoon with inner diameter of 2.5" This should be enough to collect volume of sample needed.

(*) Steve Andrus (WDC) reported minor burn on wrist from contact with hot sample. Filled out GEM card.

11/15 – MONDAY

PERSONNEL ON SITE: BC – Penny, Tina, Raymond
WDC – Jesse, Steve, Brent

- Backhoe still not back, offsite for repair
- Sonic – pulled out of GW17 + set up on GW24 (north end near thickener tanks)
- Ordered bladder pump + controller from GeoTech to use for sample collection to replace bailers. 0.85" diam pump should be able to sample to depth of 200'. Also ordered 1000' of non-teflon tubing. Should be delivered Tuesday in time to collect next sample
- Collected radiation badges + distributed new ones. They are being analyzed monthly. Still need to order new ones for each driller + drill helper to wear their own. Will collect Mike Weeks' when he returns
- Margaret Li called to say she + another TetraTech employee will be here Wednesday rather than Tuesday + are not yet ready to collect splits. They would like space to set up computer + printer.
- Tina + Raymond collect surface soil samples around Precipitation Plant (EE) – EE1-1 → EE6-1

11/16 – TUESDAY

PERSONNEL ON SITE: BC – Penny, Tina, Raymond, Chuck Zimmerman
WDC – Jesse, Steve, Brent
HERBST – Mike

- Backhoe returned – continued w/ utility pipeline sampling, collected 4 sample locations (UT39 – 42)
- Sonic – Continued drilling GW24, close to groundwater at end of day
- Chuck Zimmerman on site 10am – 1pm. Reviewed drilling + backhoe sampling activities, borehole soil logging, surface process pipeline sample locations, radiation badges for drill helpers, safety reporting to BP.
- Geotech called to say the bladder pump would not arrive today but tomorrow instead.

11/17 - Wednesday - by B. Baas
PERSONNEL ON SITE → BC: Brian, Raymond
WDC: Jesse, Steve, Brent
Herbst: Mike

08:30 Met individualy with field crew to discuss importance of submitting "near-miss" reports; notice things in the field that are potential HS issues, and report them to Penny or Brian for conveyance to ARC.

09:30 Discuss drilling progress and issues with drill crew. Jesse gone to get more welding rod to repair core barrell, which is cracking due to stress. Raymond and Mike trying locate a sewer line east of Precip Tanks.

10:00 Drilling at new location begins. Raymond and Mike having no luck locating sewer line.

12:00 Begin preparing coolers for shipment.

13:00 Drillers at 44' bgs. Mike has a hydraulic line leak on his backhoe which requires fixing to avoid leaking oil. Excavation halted. Raymond is placing cones and caution tape around open trench. Drillers encountered semi-saturated (very moist) soil from 24'-29' bgs, but not saturated enough to sample.

14:00 UPS drop-off - submersible bladder pump - Tetra Tech here - Margarat L + Roy.

15:15 New employee HS orientation (BC NEO) for Raymond.

16:15 Drillers at 86' bgs. No samples (soil or gw) today. Depart site ~~on~~ Margaret, Raymond, Roy, Brian. Spill on site - Drillers & Mike.

(*) Penny + Tina in Carson City for training on database entry + data management

11/18 - THURSDAY - by P. Bassett
PERSONNEL ONSITE - BC - Penny, Raymond, Tina
WDC - Jesse, Steve, Brent
HERBST - Mike

08:30 Arrived on site w/Tina. Met w/ Raymond + Mike to review current dig location at N end of Iron Launder Prep tanks. Excavation revealed a broken old cement pipe that appeared to have contamination around it, discolored soil. The pipe had probably been out of service a long time + had been replaced by the 14" transite pipe next to it.

09:30 Call from Craig Smith asking if I knew if BLM had posted hazard signs on site or on perimeter fence. I told him they were on site in radiation areas but not on perimeter fence.

10:00 Sonic drill encountered groundwater at ≈135' ready to begin sample collection. Total drill depth 140' but bottom collapsed back to 138. Regular and duplicate sample collected. PA-GW16

10:30 Penny went on errand trip to town. Mail badges, pick up 125 gal water tank, ice.

13:30 TetraTech arrived on site - Margaret + Roy

14:00 Tina + Ray collected ~~field~~ equipment rinseate blank off backhoe bucket. Prepared samples for shipment COC # YER1001 1002 1 cooler to Sequoia

15:00 TetraTech left site. Roy will be back tomorrow. Penny + Ray GPS'd recent sample locations

(*) 11:30 Near Miss Incident - Tina Cox had minor foot injury when drill pipe accidentally shifted + fell on her foot causing minor bruising + swelling. Filled out GEM card.

11/19 - FRIDAY P. Barrett
PERSONNEL ON SITE - BC: Penny, Tina, Raymond (a.m. only)
WDC: Jesse, Steve, Brent
HSR: Mike (a.m. only)

08:30 - Penny + Tina arrive on site; Round everybody up back to office for weekly Safety meeting. Reviewed 2 near-miss incidents ① Steve's burn from collecting hot core sample, ② Tina's bruised foot from drill steel falling on it. Discussed Thanksgiving + Christmas work schedules. Steve identified potential safety hazard from vehicles driving through drill work area. Need to go around or drive very slowly.
- Raymond not feeling well + went home after safety meeting. Tina collected UT sample + Mike went home
- Sonic continued drilling on GW15, Started morning at ~60'

14:00 Prepare one cooler for shipment to ~~NEL~~ Sequoia
- Brian notified me of call from NEL saying they received a cooler today that had a Herbicide sample beyond 7 day hold time. Sample collected 11/10 and mailed 11/17 recieved 11/19

15:00 Richard Johnson (BC) called to notify that a cooler shipped on 11/16 (TUES) was returned to the office undelivered because shipping label fell off. I asked Teri to FedEx the cooler to Sequoia for overnight delivery. Cooler contained 5 soil samples for VOC / metals analysis. Samples will be over 48 hr hold time by ~3 days.

11/20 - SATURDAY
PERSONNEL ON SITE - BC: Tina
WDC: Jesse, Steve, Brent

- Started drilling PA-GW5, drilled to ~100' by end of day, no sample collected

11/21 - SUNDAY

PERSONNEL ON SITE: BC - Tina
WDC - Jesse, Steve, Brent

- Continued, GW15, started collecting sample at 12:15. Tried to collect MS/MSD 2nd volume, allowed hole to sit over lunch to recharge but hole had collapsed + unable to get full volume. Total Depth 138', Groundwater 131'
- Drill crew abandoned hole, deconned core barrel + moved to new location but did not drill

11/22 - MONDAY

PERSONNEL IN SITE: BC - Penny, Tina, Raymond
WDC - Jesse, Steve, Brent
HSR - Mike

08:40 Arrived at site, check on backhoe + drill crews. Sonic drill started drilling new location GW22

12:30 - 15:00 - Packed samples + shipped coolers, one to each lab (Coolers # 003, 004, 005)

15:00 Backhoe done for the day, collected 2 locations

16:00 - 17:00 Collect groundwater sample GW22. TD 109', Depth to water 89'. Able to collect most of sample using 4" bailer but ran dry while trying to fill last 1/2 gal container. Could never collect enough before got dark, will let hole sit overnight to recharge + collect final bottle in morning. Filter metals sample

17:45 Leave Site

11/23 - TUESDAY P. Basuti
PERSONNEL ONSITE: BC - Penny, Tina, Raymond
WDC - Jesse, Steve, Brent
HSR - Mike
TetraTech - Roy Glenn

08:30 - Arrive onsite. Update from Raymond on backhoe location. Collect final 1/2 gal sample container from GW22 location. Filtered sample + preserved. Had to allow borehole to sit overnight to recharge to collect enough volume for RAD sample.

09:00 Roy Glenn, TetraTech, arrived on site
Sonic drill abandoned GW22 and moved to set up on new location GW20

09:45 BLM Personnel (Craig Smith, Richard Brown) + Journalist/photographer (Debra Gilbertson) arrive on site to take photos of sampling work + other areas around site including evap + sol'n pond. Penny escorted them at all times, answered questions relating to BC sample work + process area workplan. Photos taken of drill rig bagging core, Raymond collecting utility soil sample, Penny taking uR gamma readings.
13:30 BLM + journalist left the site

13:30 Began preparing 1 cooler (#006) for shipment to Sequoia. Started using lab (Sequoia) prepared VOA for trip blank. Will continue to include 1 trip blank sample (3 VOAs) in each cooler that contains VOC/TPH-G soil and/or water samples. Will discontinue trip blank analysis on all other analytes, trip blank sample will only be water, no soil.

16:30 Sonic drilled to groundwater TD=77' GW = 74.5' WDC Installed hydropunch + screen. Will let sit over night + collect sample in morning.

R

11/24 WEDNESDAY P. Barrett

ONSITE: BC - Penny, Tina, Raymond
WDC - Jesse, Steve, Brent

- No backhoe work today, cannot collect + ship samples to lab w/out exceeding hold times.
- Sonic completed collection of water sample GW21 first thing in morning. Tried to use new bladder pump but it appeared that fittings were not sealing tight enough to build air pressure to pump water to surface. Gave up on pump + used narrow bailer in hydropunch screen to collect sample. Rig abandoned hole + pulled out. All work completed + everyone left site by 1:00pm.

11/25 - 11/28 THUES - SUNDAY P Barrett

* Thanksgiving Holiday - no activity on site
* Large snow storm Saturday dumped 6-8" snow

11/29 - MONDAY P. Barrett

ONSITE: BC - Penny, Tina
WDC - Jesse, Steve

09:00 - Penny + Tina arrive on site. Raymond + Mike decide too snowy to do any backhoe soil sampling today. Jesse + Steve here in a.m. Had to jump start drill. Spent day warming up + moving drill. No drilling, no samples collected.

12:45 - Conference call w/ Chuck + Frank DeRosso regarding plans to begin radiation survey next Monday 12/6

13:00 - Tina feeling sick. Head back to town

11/30 - TUESDAY

P. Barrett

ON SITE: BC - Penny, Tina
WDC - Jesse, Steve, Brent
Tetra Tech (TT) - Roy

09:00 - Penny, Tina, Brent arrived on site. Jesse, Steve, Roy already here. WDC warming up drilling

10:30 - Tina begins GPS locating all completed sample locations using high accuracy GPS professional unit from Walnut Creek
- Phone conversation this morning w/ Sheryl of Energy Lab. She will send out replacement Alpha meter to replace current one which has been acting up.

12/1/04 WEDNESDAY

12/1/04 - Wednesday

T. Cox

On site: BC - Tina
WDC - Jesse, Brent, Steve
Tetratech - Roy

08:00 - Tina arrives on site. Jesse, Steve, Brent already here.
09:00 - Roy (Tetratech) arrives
Tina continues to GPS sample locations.

12:00 - Sonic drilled to groundwater and set hydropunch. TD = 110 ft. DTW = 98 ft after 30 min.
12:30 - Started collecting sample using bladder pump. Pump only produced ~60 ml/min. Started using 3/4" bailer in addition to pump to speed up sampling.
13:30 - Completed sampling PA-GW20 & collected MS/MSD for Rad/SVOC/TPH-G, & Pest/PCB. Roy (Tetratech) started collecting sample for EPA.

15:00 - Roy completed sampling. Tina completed filtering & preserving sample.

16:00 - WDC moved to next location PA-GW23 and started drilling.

12/2/04 THURSDAY P. Barnett

ON SITE: BC - Penny, Tina, Raymond (morning)
WDC - Jesse, Steve, Brent
TT - Roy (morning)

09:00 Penny arrives on site. Already here: Tina, Ray, WDC. Mike Weeks here in morning but decides weather still too cold + snowy, will be back on Monday.
Drilling continues on GW23. Still snow on ground, predicted high 35°F.

12:30 Drillers report that hole collapsed in on drill steel before they could get casing in to protect. Working on getting steel out of ground. Unable to put casing in ~~as~~ because water truck frozen up because of cold weather.

13:00 Prepared 2 coolers for shipment. Cooler # 006 to Sequoia, COC # 1032 to NEL.

14:10 Finished accurate GPS readings on all sample locations completed to date, all but GW5, 7, 15 - cannot find stakes in snow
- Called Geotech about problems using bladder pump.

12/3/04 FRIDAY P. Barnett

ON SITE: BC - Penny, Tina
WDC - Jesse, Steve, Brent
TT - Roy
Visitors - Jim Sickles (EPA)

08:30 - Penny + Tina arrive on site. Roy arrives at same time.
09:00 - Jim Sickles (EPA) arrives. Review sampling progress on backhoe utility locations. Review maps showing relocation of soil drill locations. Jim is ok with the minor movements. Discussed relocation of GW13 + GW14 on SW side of leach tanks. Found alternative locations that are a little wider + may work, will check w/ drill crew. Jim is very interested in getting samples on that side of tanks because ground water may have flowed toward the pit while it was being mined + dewatered.
10:30 - Jim Sickles leaves.
12:00 - Air monitor equipment (Guy Graening's) delivered
14:30 - Safety meeting
16:30 - Drilled to ~ 110' + set hydropunch at end of day. Will collect water sample PA GW23 in morning.

Saturday
12/4/04 - Tina Cox
On site: BC - Tina Cox
WDC - Steve, Brent, Jesse
Tetratech - Ray

8:00 - Tina arrives on site. WDC already on site.
9:00 - Started sampling PA-GW23 using bladder pump and 3/4" pvc bailer. Water freezing in pump hose preventing water from pumping. Bailer stopped working well. Switched to bailing using a 1" stainless steel bailer. Pump was removed from borehole.
11:00 - Sampling completed. Ray started sampling. Samples were taken to be filtered and placed in fridge.
12:00 - Ray finished sampling. Decided to only sample ten 1-Liter bottles.

Total depth of hydropunch was 119 feet.
Groundwater depth at 104 feet.

14:00 - Ray leaves site.
16:00 - Decon'd stainless steel bailer and collected an equipment blank. Labeled PA-GW23E. Field blank was collected at 8:00 and labeled PA-GW23F. WDC trying to unfreeze hoses for decon of core barrel.

12/5/04 - Sunday Tina Cox
On site: BC-Tina Cox
WDC - Jesse, Brent, Steve

8:15 Tina Cox arrives on site; WDC already on site. Trying again to defrost hoses to decon core barrel from previous day.

12:00 Started drilling PA-GW19

17:00 Drilled to 99 feet.

12/6/04 MONDAY P. Barrett

ON SITE: BC - Penny, Tina, Guy Graening
WDC - Jesse, Brent
VISITORS - Doug McBride (Bartlett), Frank DeRosso (RMEC)

08:30 - Penny + Tina arrive on site, meet Doug McBride (Bartlett) at gate. Provide safety orientation and site tour for Doug. He will be conducting radiation monitoring around process area over next 2 weeks.

10:00 - Steve went to doctor this morning complaining of strained neck muscles, says it was from sleeping on it wrong, not work related. They gave shot of demerol (pain killer) + provided prescription. He will stay off job remainder of day.

- Collected water sample on GW19 using 4" bailer no hydropunch. No Tetra Tech on site to collect split.

11:00 - Margret L (TetraTech) arrived on site

11:45 - Guy Graening (BC) arrived on site. Here to oversee the installation of electrical utilities at air monitor locations. Work is subcontracted to Miners Contracting, Scott Chamberlain

16:00 - Frank DeRosso on site. Preliminary review of radiation sampling / monitoring plan.

12/7/04 TUESDAY P. Barrett

ON SITE: BC - Penny, Tina, Raymond, Guy
WDC - Jesse, Brent, Steve (a.m)
TT - Margaret L.
VISITORS - Doug McBride, Frank DeRosso

08:30 - Penny + Tina arrive on site, WDC, RMEC/Bartlett on site already. Meet w/ Frank + Doug to discuss radiation monitoring activities. Tour of process area work site, take preliminary gamma (uREM/hr) readings in BLM identified areas. Area by Truck Sludge Pond B did not register much above background levels. Doug started air/dust ~~monitor~~ sample collection by office building.

13:30 - Begin collecting groundwater sample GW25 using steel bailer + hydropunch. ~~AS~~

CONT'D →

12/7/04 CONTINUED

15:00 - Debra Reid (Sparks News) arrives on site. Took photos of drill crew collecting water sample. Took photos + interviewed Frank DeRosso + Doug McBride on taking radiation readings and general worker safety radiation monitoring program.

12/8/04 WEDNESDAY P. Barrett

ON SITE: BC - Penny, Tina, Raymond
WDC - Brent
TT - Margaret
RMEC - Frank Bartlett - Doug
ARCO - Stacy Waterman

09:30 - Penny arrived on site. Tina collected decon water sample (PA-DW1) sample collected out of hose in EW building. Jesse pulled rig off ~~site~~ drill location + parked in Truck Shop. Left Brent stayed + plugged last few holes. +

11:00 - Stacy Waterman (ARCO) arrives. Provided Safety orientation + took her out to location where RMEC/Bartlett doing survey work. She met up w/ + spent rest of day w/ DeRosso + McBride.

12:30 - Prepared 3 coolers for shipment, one to each lab
Cooler 010 - Sequoia
011 - NEL
012 - Energy

1:00 - Order more radiation badges for Doug McBride to use as area monitors
- Order more 3/4" bailers
- Ask Paul from AHA to stop by + find Frank + Doug if they are working onsite. Will drop off hand pump

TOURS

12/08/04 B. Bass

08:00 Arrive at site. Meet with Raymond, Gary, Ron, Mike

09:20 Visitors: Stacey Waterman (ARC), Tom Olsen (BLM), Tom Clausen (BLM contractor), Frank DeRosso (RMEC), Doug Walker, Doug McBride (Bartlett)

Safety orientation for everyone on site above. Distribute PPE to everyone.

10:45 Two vehicles (visitor) allowed inside site: ① White Jeep w/ Stacey, Tom O., Tom C., and Doug W. ② Silver Explorer w/ Frank D. and Doug M. Gate lock re-secured. Boundaries of vehicle travel explained to all and identified on map. RADIO CHECK. Radios to: Stacey, Frank D., Brian Bass, and Raymond L. RADIO CHECK → OK.

Accompany groups out to and around site.

15:55 Tom O., Tom C., and D. Walker depart site.

16:10 Depart site.

12/10/04 FRIDAY R. Lauster

On Site: BC — R. LAUSTER
HSR — M. WEEKS
BARLETT — DOUG MC BRIDE

0700 — SEVERAL DIG AREAS SETTLED FROM WEATHER — MIKE FILLED & PACKED DOWN. REMAINDER OF DAY MADE DRILL PADS FOR AUGER DRILL RIG.

15:15 DEPART SITE

12/13/04 T. Cox

on site: BC- Tina Cox
Raymond Lauster
WDC- Steve, Brent, Jesse
Bartlett- Doug McBride
HSR- Mike Weeks

9:30 Tina Cox arrives on site. Already on site is Steve Andrus and Doug McBride. Raymond left site and will be back shortly. Jesse and Brent are running late.

11:30 Brent arrives on site

12:00 Jesse arrives on site

14:00 Mike Weeks leaves for the day

15:00 Raymond leaves for the day.

16:00 Drillers at 53 ft.

12/14/04 T. Cox

on site: BC- Tina, Raymond
WDC - Jesse, Steve, Brent
Bartlett- Doug

8:00 T. Cox arrives on site. Already on site is WDC, Raymond and Doug. Mike in Reno looking for pressure washer filter.

13:20 collected groundwater sample PA-GW26. Hydropunch & stainless steel bailer used to sample. Groundwater at 105 ft; hydropunch at 119 ft. Duplicate sample collected except for (2) 1L bottles for Sequoia.

17:00 Drillers at approximately 50 ft. PA-GW18.

12/15/04 Penny Bassett

ON SITE: BC - Penny, Tina, Raymond
WDC - Jesse, Steve, Brent
HSR - Mike Weeks
BARTLETT - Doug McBride

08:15 - Arrive on site. Mike/Raymond working on utility pipeline excavation + soil sampling. WDC continue drilling GW18. Doug McBride taking air samples + continue site radiation survey.

11:00 - Collect one soil sample UT51 from steel pipe by truck wash

13:00 - Backhoe shut down, needs repair. Will be back in morning

14:30 - Shipped 2 coolers (NEL Next day air, Sequoia #013)

15:30 - Tina + Penny, Raymond leave site, drillers will continue ~~another~~ until dark, no sample today

12/16/04 P. Bassett

ON SITE: BC - Penny, Tina, Raymond
WDC - Jesse, Steve, Brent
HSR - Mike
BARTLETT - Doug

08:30 Arrive on site. Mike/Raymond in progress on UT52 soil including duplicate. WDC having problems with hard ground + breaking drill pipe. Broke 3rd pipe this morning on this hole. Currently at ~90', close to groundwater

10:00 - WDC still having problems w/ GW18. Broke core barrel had to retreive

11:30 - Safety meeting, review work schedule + radiation issues w/ Doug

12:30 - Next drill location will be GW12 which is located in Truck Sludge Pond B, a BLM designated radiation area. Doug McBride surveyed drill area and found activity levels < 40mR/hr, well below project safety level. Gave the OK to do work in area. Had Mike Weeks do some site prep + Doug monitored him during this activity.
- Mike/Raymond excavated pipline UT53, ~ 50' South of Rad. Control Zone by Iron Launders. Doug collected air sample.

14:00 - Packed + Sent one cooler to Sequoia (Cooler #014)

16:00 - WDC working on setting temp well in GW18 that can be sampled later. Because of problems drilling + wanting to move on to next location.

12/17/04 P. Bassett

ON SITE: BC - Penny, Tina, Raymond
WDC - Jesse, Steve, Brent
HSR - Mike
Bartlett - Doug McBride

08:30 - Arrive on site. Mike/Raymond digging in location (collected UT54+55) N of cement structure on SW side of Prod Launder. Drill ready to move to new location.

09:30 - Drill tried to set up on GW12 as staked in lower truck sludge pond. Ground was wet from rain but appeared dry underneath. Turned out to be very soft and oil saturated and drill sunk in + got stuck. Mike attempted to rescue + got backhoe stuck. Ultimately got all equipment out w/ help from Don Tibbals crew + loader by ~ 11:00. Backhoe required significant decon from oil saturated soil.

13:00 - Prepared 1 cooler (#015) to Sequoia w/ 2 soil samples. Shipped Geotech return items (bladder pump, hosing, filters) and Energy lab alpha meter

12/18/04 T. Cox

On Site: BC-Tina
WDC- Jesse, Steve, Brent

8:00 Tina arrives on site already here is WDC. Continued drilling GW12.

14:15 Collected groundwater sample from GW12 plus 1L (2) duplicate for Sequoia. Used hydropunch and Stainless Steel baile to collect sample.

16:00 Jesse and Steve leave to take Rig into Reno for repair. Drill rig has a major leak (oil) from engine. It is estimated to be repaired by Monday morning.

17:30 Leave site.

12/19/04 T. Cox On site: BC-Tina

9:00 Arrive on site to work on excell file of lab data. Drill rig being repaired.

12:00 Left site.

12/19/04

12/20/04

12/21/04 P. Barrett

ON SITE: BC – Penny, Tina, Raymond

- No drilling or backhoe activity today. Jesse + Brent onsite for ~ 1-2 hr in morning to cleanup + put stuff away
- Tina worked on logging drill cores
- Penny packed 3 coolers, one to each lab
  - 016 – Energy
  - 017 – NEL
  - 018 – Sequoia (had to split into two coolers)
- Raymond collected surface soil samples from 5 locations where process pipelines lie above ground

12/21/04 P. Barrett
ON SITE: BC – Penny, Tina, Raymond

- No drilling or backhoe activity today. Jesse + Brent onsite for ~ 1-2 hr in morning to cleanup + put stuff away
- Tina worked on logging drill cores
- Penny packed 3 coolers, one to each lab
  016 – Energy
  017 – NEL
  018 – Sequoia (had to split into two coolers)
- Raymond collected surface soil samples from 5 locations where process pipelines lie above ground

12/22/04 R. LAUSTER
ON SITE: 07:00 RAYMOND.

CLEANED OFFICE AREA
WORKED ON AIR SAMPLERS

DEPARTED 1500

12/28/04 R. Lauster
ON SITE: 07:00 RAYMOND
MIKE ON SITE 07:30
MIKE EXCAVATED AREAS FOR AUGER DRILL RIG
RAYMOND WORKED ON AIR SAMPLING

12:00 MIKE DEPARTED
15:00 RAYMOND DEPARTED

1/3/04 P. Barrett

ON SITE: BC – Tina, Raymond
WDC – Jesse, Brent (afternoon)

- WDC drill was picked up in Reno + drove to site. Set up on GW27 but no drilling
- Tina + Raymond prepared core boxes
- Mike Weeks will not be here all week
- Cascade drill crew was scheduled to move to site today but weather bad over mtns, do not want to drive until it is clearer, will keep in touch.

1/4/04 P. Barrett

ONSITE: BC – Penny, Tina, Raymond
WDC – Jesse, Brent, Dale

- WDC drilled + sampled GW27 to 110', set up and drilled ~ 50' on GW6.
- Steve Andrus not able to return so Dale is filling in as replacement
- Penny + Raymond Tina started boxing up old core samples in core boxes. Prepared shelves in Truck shop to store them on. Boxing cores takes a very long time.

1/5/04 P. Barrett

ON SITE: BC – Penny, Tina, Raymond
WDC – Jesse, Brent, Dale

08:30 – Penny + Tina arrive. All others on site already
- WDC Completed + Sampled GW-6. Drill down for repair ~ 3-4 hrs in morning

1/6/05 P. Barrett

ON SITE: BC - Penny Tina Raymond
WDC - Jesse, Brent, Dale, Dan

- Group safety meeting. No safety incidents to report. Reviewed some basic safety requirements + HSP for temp drill helpers filling in for Steve. Dale here temp. Dan may be back w/other sonic rig on 1/17
- Drill GW9, ~~+ collect sample~~ problems with hole caving + getting water sample so Jesse set temp well and will collect sample later
- Worked on boxing more core + preparing storage space for cores.

1/7/05 P. Barrett

ON SITE BC - Penny, Tina, Raymond
WDC - Jesse, Brent, Dale, Dan

- Jesse moved + set up on new location in morning, called to ask about location + described where he was setting up. I verbally gave approval thinking he was set up on South end of Vat Leach tanks. I arrived on site at 9:30 am and discovered he was in totally different location on N end of tanks, too far from any proposed sample location to be used. He had already drilled to 60'. I told him to stop drilling & pull off, move to new location.
- Drill set up on GW13 relocated to SW corner of vat leach tanks at wide spot.
- Heavy snow previous night made driving conditions slow, left early (12:30) to ensure we could make it back to Carson

1/8/05 P Barrett

ON SITE BC - Raymond
WDC - Jesse, Brent, Dan (?)

- Heavy snow in Carson all day, unable to drive to Yerington. Raymond met drill crew at site when it was time to collect the sample (GW13). Total dh depth 162'. Jesse was a little short on drill pipe +

needed to use broken pipe w/ hydropunch to get to final depth. Finished sample by ~4 pm and WDC decided to leave for day + will pull out + abandon hole in morning. Snowed most of day ~4" accumulation.

1/9/05 SUN. P. Barrett
ON SITE BC - Penny, Tina
WDC - Jesse, Brent, Dan, Dale

- Started angle borings w/ sonic 1 (Jesse) on South end of vat leach tanks. Completed PA-P12 + P13 collecting samples at 5, 10, 15, 20, 25' vertical depth below ground surface. Drill cut on 45° angle so for each 5' vertical depth requires 7' drill depth, total drill depth = 35'.
- Collected samples using 4" diam core barrel + placed sample in plastic sleeve as we were doing with water boreholes. Samples were retrieved from bags over 1' interval (ie 5' target sample collected from 4'-5')
- Concerned about possible cross contamination from top of bore hole to bottom. If the core barrel passes through zone of high contamination it could affect samples collected at bottom of hole. Will try using split spoon tomorrow.
- Soil temperature of samples, generally no more than 60°F, the last sample (25') ~~can~~ got up to ~80-100°F.

1/10/05 MONDAY P. Barrett
ON SITE BC - Penny, Tina, Raymond (1/2 day)
WDC - Jesse, Brent, Dan, Dale

- Tried using split spoon for sample collection. Drill to within 2' of target depth with core, take core barrel off and put split spoon on. Push SS in 18" length to collect sample, decon SS, replace core to drill to next depth .... etc. This provides a cleaner sample w/ less risk of cross contamination but is too slow + is a safety risk with all the physical handling of the heavy core barrel. Cannot feasibly continue with this method.
- Collected samples from one borehole (PA-P14) using this method
- After lunch WDC worked on making an adaptor that would allow them to attach SS to bottom of core barrel so they could sample w/o removing core.
- Tina + Penny left @ 3:30 to Carson to do some office work

1/11/05 TUESDAY P. Bassett TetraTech - Roy
ON SITE BC - Penny, Tina, Raymond
WDC - Jesse, Brent, Dan
HERBST - Mike Weeks
BOREHOLES - PA-P15 → P17 (3 angle holes, 25' vert depth / 35' drill depth)

- WDC - Drilled 45° angle sonic under Vat Leach tanks using split spoon sampler deconed between each sample. Tetratech (Roy) collected split samples from P17. Split sample and our duplicates collected by driving 2nd split spoon additional 18". Samples from separate intervals are not homogenized.
  - Set up to drill P18 at end of day but concrete crane rail is in the way, need Mike to prep area to allow access on other side of large pipes. Will do in the morning.
- Herbst - Mike arrived at ~10:00 and did drill site prep work for angle drill locations by Vat Leach + Iron Launder tanks.
- Don Tibbals stopped by with Don Strachan, a geologist that Weed Heights has contracted with to evaluate existing data + data that BC is generating to form a rebuttal to EPA/BLM press releases + news stories. I told him he needed to contact Dan Ferriter + discuss w/him before we could talk further. I did show him sample location maps + what type of analyses we are doing.

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1/12/05 WED. P. Barrett
ON SITE BC - Penny, Raymond, Tina
WDC 1 - Jesse, Brent, Dale
HERBST - Mike
TT - Roy
VISITORS - Guy Graening, Doug Herlocker
BOREHOLES - PA - P18 → 19 (angle, 25' vert, 35' drill)
~~PA EE15 → (angle, 25' vert, 35' drill)~~

07:00 - Mike onsite to do prep work for P18 location to allow drill to get on other side of large pipes. WDC recieved + started using adaptor to neck down from core thread size to split spoon thread size. Works well, speed up sample time from 2 hrs to ~45 min. Jesse will order more

09:00 - Frank DeRosso called to say they (Doug McBride) will be on site Wed-Fri next week but will only do some off site air monitoring and will then pack up equipment to send off site for calibration etc.

11:30 - Started on Iron Launder (EE) angle holes. There is a hidden concrete structure that prevents drilling w/in 20' of tanks at EE15 location. Tried several locations + distances from tanks, encountered concrete at 1-5' from surface. At >20' from tank will not allow soil sample at 20 below tank. Decided to stop drilling for the day since we needed to stop by 1:00 anyway. Jesse put drill away in truck shop for long weekend.

12 - 1:30 - Packed samples for shipment.
- Call from Sequoia Saing that 2 16oz glass jars w/ soil had broken in transit (P15-5, P15-20). The soil is still usable because it was contained in ziplock. Samples had not been bubble wrapped.
→ Last day of 10 day drill shift

1/13 THUR P. Barrett
ON SITE BC - Penny, Raymond, Guy Graening
TT - Doug Herlocker

- Guy + Doug working on weather station + air monitors, Penny + Raymond assisting + getting training
- Doug - check accuracy + calibrate weather station
- Guy - calibrate ~~weather~~ st air monitors and insert filters for first sample collection

1/18/05 TUESDAY P. Barrett WEATHER: Heavy fog + ice

ON SITE BC - Tina, Raymond
WDC1 - Jesse, Steve, Brent

BOREHOLES - PA-MW3 (MONITOR WELL)

- Jesse arrived ~10:00 am. Set up on PA-MW3. Partially drilled.
- Doug McBride (Bartlett) arrived ~2 pm. Doesn't plan much additional sampling this week, maybe some background/offsite air samples
- Chris Gardner (BC Geologist/Phoenix) arrived at ~2pm. He will supervise installation of monitor wells + catchup logging of cores.

1/19/05 WEDNESDAY P. Barrett - Fog + Ice

ON SITE: BC - ~~Penny~~, Tina, Raymond, Chris Gardner
WDC - Jesse, Brent, Steve
BARTLETT - Doug McBride, Frank DeRosso

BOREHOLE - PA-MW3 - Completed
PA-MW2 - Started

- Finished drilling MW3 + completed well. Did not install monument + top cement grout yet because still need supplies.
- Set up + started drilling MW2
- Chris is logging cores as they come up + trying to catch up on backlog at same time.
- Doug M. + Frank D. on site collecting a few samples, set up new area monitor badges + replaced badges set out last month.
- Raymond worked on changing out filters on air monitors
~~WDC rig 2 called to say~~ - WDC safety audit by Mitch ... checking on rig.

1/20/05 THURSDAY P. Barrett - Fog + Ice

ON SITE: BC - Penny, Tina, Raymond, Chris G
WDC - ~~Jesse~~, Brent, Steve
BARTLETT - ~~Jesse, Brent, Steve~~ Doug, Frank
TT - Margaret Li

BOREHOLES: PA-MW2 (in progress)

- Continued drilling MW2. Delay as drill pipe broke off in hole + they worked to retrieve it.
- Gave Chris Health + Safety orientation
- WDC said other rig would arrive tomorrow morning
- Doug + Frank packed up monitoring equip + left

1/21/05 FRIDAY P. Barrett

~~08:00 - 3:00~~

ON SITE: BC - Penny, Tina, Raymond, Chris
WDC1 - Jesse, Brent, Steve
WDC2 - Tom, Larry
TT - Margaret

WEATHER: Heavy fog + ice V. Muddy

BOREHOLES: PA-MW2 - Completed
PA-MW1 - Started

08:00 - 15:00 - WDC1 finished drilling + completed well installation on MW2. Chris oversaw installation + determination of screened interval. Did not install monument + top grout.

11:00 - WDC2 crew arrived on site (Tom + Larry) w/drill + support vehical. Completed safety orientation + reviewed project requirements + site specific issues. Gave very brief tour of site because of fog. Told him to unload + stage in the truck shop area. Third crewman will be on site tomorrow morning + will begin drilling then

- Discussed increased sample load with Greg Cole + James Hartley @ Sequoia. Estimate 30-40 soil samples per day from WDC2

1/22/05 SATURDAY P. Barrett

WEATHER: Heavy fog + ice, V. muddy

ON SITE: BC - Penny, Raymond, Tina, Chris
WDC1 - Jesse, Brent, Steve
WDC2 - Tom, Larry, Bob
TT - Margaret

BOREHOLES: PA-A1, PA-D1 → D2, PA-E1 → E2, PA-F1 → F3
PA-MW1 - finished drilling

SAMPLE - PA-GW9

- Started shallow soil boreholes w/WDC2 sonic. BC sampler can manage ~ 1 10' hole/hr, drillers can drill much faster. We have to hold them back, pay standby time. Collect 1' sample using 4" core barrel because Split spoon pushes wet soil out of way instead of into barrel
- WDC finished drilling monitor well PA-MW1
- Tina + Margaret purged + collected sample on temp well PA-GW9 using 2" Grundfos pump. Problems getting pump to work at first, cleaned + repaired

1/23/05 SUNDAY P. Bassett WEATHER: Dense fog, cold/freezing

ON SITE: BC – Penny, Tina, Chris
TT – Margaret
WDC1 – Jesse, Steve, Brent
WDC2 – Tom, Larry, Bob

BOREHOLES: PA-F4 → F5 } 100' drilled
PA-K1 → K8

WATER SAMPLE: PA-GW18

- WDC1 (Jesse) had difficulties drilling today. Drilled into very tight packed clay layer @ ~ 190-200', not getting recovery, drill getting stuck. Ended day at 210' w/out hitting ground water. Thinking about calling the hole + relocating.
- WDC2 (Tom) drilled 10 locations @ 10' depth. Total = 100' drilled, 40 samples collected. Worked 8 hrs drill time.
- Tina + Margaret collected sample from PA-GW18 temp well. Purged water into portable tank + disposed in pond.
- Worked on packing weekend Energy Lab samples because they are not shipped on ice. Froze all VOA Soil kits to be shipped on dry ice.

1/24/05 MONDAY P. Bassett WEATHER: Dense fog, cold/freezing

ON SITE: BC – Penny, Tina, Raymond, Chris
TT – Margaret
WDC1 – Jesse, Steve, Brent
WDC2 – Tom, Larry, Bob

BOREHOLES: PA-K9 } 20' drilled, rig broke down
PA-S1

- WDC1 (Jesse) – pulled out + abandoned original location of MW1. Penny + Chris proposed several alternate locations to Chuck who selected new location near quonset hut, near location of PA-GW27. Chuck got approval from Jim Sickles (EPA) for location. Jesse moved + started drilling
- WDC2 (Tom) – drilled 2 locations in morning until rig broke down. Bearing in drill head went out, WDC is sending new bearing + mechanic tomorrow to repair. Should be up + drilling by afternoon.
- Gary (SRK) notified me of incident where water (hose) was left running in EW building, creating a mess + running out to road. Problem was created by frozen hose →