

ATTACHMENT C-1

**SOIL VAPOR SAMPLING FIELD NOTES AND PHOTOS FROM AUGUST 17, 2004,
SEPTEMBER 20 TO 23, 2004, NOVEMBER 11, 14, AND 15, 2005, JULY 31, 2006,
OCTOBER 12, 2007, AND NOVEMBER 6, 2007 ON COMPACT DISC**

**SOIL VAPOR SAMPLING FIELD NOTES AND PHOTOS FROM AUGUST 17, 2004,
SEPTEMBER 20 TO 23, 2004, NOVEMBER 11, 14, AND 15, 2005, JULY 31, 2006,
OCTOBER 12, 2007, AND NOVEMBER 6, 2007**

SOIL VAPOR SAMPLING FIELD NOTES

SOIL VAPOR SAMPLING PHOTOGRAPH LOG

Casmalia

Remedial Investigation

Date: 8/17/04 to 9/20/04

Firm: Geo Syntec

Name: Robert Ettinger

Book # 12

Casmalia Remediation Investigation

Name LUKE MONTAGUE
GEOSYNTEC

Task (002) SOIL GAS
PILOT TESTING

Date 8/17/04

Time	Notes
7:03 AM	LUKE MONTAGUE & ROBERT EITINGER OF GEOSYNTEC ARRIVED ON SITE. JUAN & KEITH OF GREGG DRILLING WERE ALREADY ON SITE. WE SIGNED IN AT THE FRONT OFFICE.
8:00	DAVE MENDES OF URS GAVE US (LUKE & ROBERT) A SITE HEALTH & SAFETY TALK.
8:30	WE DROVE TO OUR FIRST SAMPLING LOCATION RISVCL-7, AND BEGAN SETTING UP FIELD MATERIALS.
8:45	NATE WALL OF CH2MHILL & CHRISTINE BICKUN OF THE DTSC ARRIVED W/ JUAN & KEITH
8:50	HAD HEALTH & SAFETY TALK. METING URS'S SAFETY PLAN, & GEOSYNTEC'S ADAPTION, WHICH ADDED AIR MONITORING CRITERIA.
9:00	BEGAN ADVANCING DIRECT POST ROD FOR RISVCL-7.
9:19	SET BENTONITE SEAL USING HYDRATED, DRYING BENTONITE GRANULES.
9:33	VACUUM PRESSURE CHECKED ON SUMMA CANNISTER TO BE 25.8.
9:55	SET UP LEAK TEST USING SHAVING CREAM W/ ISOBUTANE AROUND THE ANNULUS OF PROBE AND FLOW CONTROL VALVES.
10:02	BEGAN PUMPING FOR LEAK TEST @ $\frac{1}{2}$ FT ³ /HR WITH A VACUUM OF 1.2" H ₂ O.
10:03	STOPPED LEAK TEST - PUMPED TOTAL OF ~ 1 LITER.
10:05	BEGAN SAMPLING RISVCL-7. SUMMA CANNISTER SERIAL #: 32123, FLOW CANNISTER SERIAL #: 32123. WEATHER - SUNNY. GROUND SURFACE - DRY.
10:50	STOPPED SAMPLING RISVCL-7. FLOW CONTROLLER AT 5" MERCURY, VACUUM AT 2" MERCURY. SAMPLE LABELING AS RISV-1. HOLE GROUTED.

Casmalia Remediation Investigation

Name Mike Montene Task (002) Soil Gas Pilot Date 8/17/04
GEOSYNTEC INVESTIGATION

* EPA SPLIT

Time

Notes

11:05 MOVED ON TO START RISUCL-8 (RISV-2).
11:10 Start probe installation
11:20 Probe installation complete
11:25 Pack bentonite and begin equilibration
11:30 Check vacuum in Summa canister - 28.5" Hg
Canister # 33963 VACUUM GAUGE READ 27.9" Hg -
ON SUMMA CANISTER - EPA SUMMA
11:55 PURGE TESTED WITH VACUUM FROM PROBE AT 0.4 INCHES H₂O,
FLOW AT 0.5 CUBIC FEET/HR, AND VACUUM WENT TO 4" H₂O.
PURGE TEST DONE FOR 1 MINUTE.
12:00 Open valves to Summa canisters (EPA - split)
Replace canisters & re sample.
12:20 New EPA CANISTER HAD A VACUUM OF 26" Hg (CANISTER 036).
12:35 New GEOSYNTEC CANISTER (#2976) HAD A VACUUM OF 26" Hg.
YET ANOTHER NEW EPA CANISTER USED (#026)
w/ 26.2" Hg.
12:39 SAMPLING STARTED w/ VACUUM AT 28.3" Hg. Flow Controller #24225
13:56 EPA CANISTER & GEOSYNTEC CANISTERS SHUT OFF. SAMPLING OF
RISUCL-8 COMPLETED. VACUUM PRESSURE FOR EPA = 5.9,
FOR GEOSYNTEC 5.6.
14:20 MOVED ON TO START RISUCL-10.

Casmalia Remediation Investigation

Name LURE MONTMURE
GRADINTEC

Task (002) SOIL GAS PROBE
TESTING

Date 8/17/04

20.5
26.6

Time

Notes

14:20 ARRIVED AT LOCATION OF RISVCL-10 (RISV-3)
Sample location moved ~1 ft to west

14:39 Probe installation complete
Pack annular region w/ bentonite
Pack top of probe w/ bentonite

15:00 Canister 12706 initial vacuum 28.5" Hg

15:02 Canister 33963 initial vacuum 27.1" Hg

15:19 Start purge pump 0.4 CFH (0.2 L/min)

15:21 Vacuum 0.4 in H₂O 0.7 in H₂O

15:24 Valve Purge pump turned off.

15:29 SUMA CANISTERS OPENED UP FOR SAMPLING - FLOW CONTROLLER
Read 27" Hg.

15:50 ONE OF THE SUMA CANISTERS USED WAS MISTAKENLY THE VOIDED
SUMA FROM RISVCL-8. SO BOTH CANISTERS WERE REMOVED,
AND REPLACED WITH 13673 & 34794, WITH
VACUUM PRESSURES OF 28.5" Hg & 26.6" Hg, RESPECTIVELY.
VALVES OPENED - TURNED OUT THERE WAS A LEAK. BOTH SUMA
CANISTERS CONSIDERED NO GOOD. CANISTER 12706 WAS
STILL CONSIDERED GOOD - IT WAS PUT BACK AS THE SAMPLE
CANISTER, & SINCE 33963 WAS PREVIOUSLY CONSIDERED LEAKED
& VOIDED - IT WAS LEFT OUT, SO SAMPLING HERE THAT
WAS INTENDED TO MAKE DUPLICATES INSTEAD WILL MAKE
1 SAMPLE (12706).

15:58 SAMPLE 12706 TURNED ON TO RECEIVE SAMPLE.

16:22 Valve closed sample collection stopped
final vacuum 5.5" Hg.

Casmalia Remediation Investigation

Name Luke Montague
GEOSYNTEC

Task (002) SOIL GAS
INVESTIGATION

Date 9/20/04

Time

Notes

7 AM
LUKE MONTAGUE & ROBERT ETTINGER ARRIVE ON SITE - A CALM
SLIGHTLY FOGGY MORNING.

8:30
JUAN & KEITH OF GREGG DRILLING ARRIVED.

9:10
ARRIVED AT FIRST LOCATION - RISVCL-2, TO BE
SAMPLE RISV-4.

9:15
NATE WALL OF CH2MHILL, REPRESENTING THE EPA, ARRIVED
AT THE SAME LOCATION. GAVE HEALTH & SAFETY TALK.

9:45
Probe installed. Bentonite placed around rod.
photo #1 - Placement of bentonite on top of rod
Begin equilibration.

10:00
VACUUM MEASURED AT 28.2" Hg FOR CANISTER 33920,
FLOW CONTROLLER 33920.

10:05
Shaving cream placed around bentonite

10:11
Purge begins
Flow @ 0.5 CFH
Vacuum @ 80 inches H₂O

10:16
Sample collection begins

10:35
MOVED UP TO LOCATION RISVCL-3 TO BEGIN SETTING UP

11:30
Sample collection stopped
valve closed.
Final vacuum = 4 in Hg
Move BACK TO RISVCL-2.

11:35
Ⓟ

Casmalia Remediation Investigation

Name LUKE MONTAGNE
GEO-SYNTEC

Task SOIL GAS INVESTIGATION

Date 9/20/09

Time

Notes

10:35 ARRIVED AT RISVCL-3 TO BEGIN ACTIVITIES FOR SAMPLE RISV-S.
LOCATION MOVED ~1 FOOT NORTH DUE TO STEEP SLOPE.

10:50 Grout placed around rod and on top of rod
USING SAMPLE CANISTER 9551, FLOW CONTROLLER 9551, WITH
INITIAL VACUUM OF 28.5" Hg.

11:10 Begin Purge
0.5 SCFH Flow rate
0.7 inches H₂O

11:17 Purging stopped
Regulator Vacuum 28.5" Hg
Sampling collection begins

11:20 LEFT LOCATION TO CHECK ON & FINISH SAMPLE AT RISVCL-2.

11:35 ARRIVED BACK AT RISVCL-3.

11:40 MOVED UP TO RISVCL-4.

12:00 COMPLETED SAMPLING OF RISVCL-3, SAMPLE RISV-S. FINAL
VACUUM WAS 3" Hg.

WEATHER - Now CLEAR SKIES, GETTING WINDY.

Casmalia Remediation Investigation

Name LUKE NORTON Task SOIL GAS INVESTIGATION Date 2/20/04
CREOSURTEK

Time

Notes

11:40

ARRIVED AT RISVCL-4 FOR SAMPLE RISV-6 Moved ~ 1 ft north
due to steep slope

11:50

BEGAN PUNCHING HOLE FOR PROBE.

12:00

USING CANISTER 33909, FLOW CONTROLLER 33909. vacuum = 28 in Hg

12:22

Begin equil. bracket

12:26

BEGAN PURGING RISVCL-4.

1:12

BEGAN SAMPLING RISV-6.

COMPLETED SAMPLE RISV-6 AT LOCATION RISVCL-4.

FINAL VACUUM 23" Hg.

Casmalia Remediation Investigation

Name Luke Montague Task SOIL GAS INVESTIGATION Date 9/20/07

Time

Notes

12:40

ARRIVED AT RISVCL-5 FOR SAMPLE RISU-7.

12:45

BEGAN ADVANCING INSTALL OF TEMPORARY SOIL GAS PROBE.

12:50

SET BENTONITE SEALS.

USING SUMMA CANISTER 13845, FLOW CONTROLLER 13845.

INITIAL VACUUM 28.5" Hg.

1:24

BEGAN PURGING. VACUUM AT 4.4" H₂O, WITH FLOW AT 0.5 ft³/hr.

1:28

BEGAN SAMPLING. FLOW METER READ 28.5" Hg.

2:11

Flow regulator @ 3" Hg - Sampling stopped

Final vacuum = 2.7" Hg

Casmalia Remediation Investigation

Name Luke Montague

Task Soil Gas Investigation

Date 9/20/09

KESYNTER

Time

Notes

3:05

STARTED RISVPB-1, FOR SAMPLE RISV-8.

3:10

INSTALLED TEMPORARY PROBE.

3:13

SET BENTONITE SEALS.

USING SUMMA CANISTER #34343, FLOW CONTROLLER 34343, WITH INITIAL VACUUM OF 28.1" Hg. ALSO PERFORMING A SPLIT W/ EPA, USING ~~6L~~ 6L SUMMA #504 EQUIPPED WITH ITS OWN FLOW CONTROLLER, HAD VACUUM W/ OUR FLOW CONTROLLER GAGE MEASURED AT 28.1" Hg.

3:42

BEGAN PURGE TEST, WITH FLOW AT 0.5 FT³/hr WITH A VACUUM OF 1.1" H₂O.

3:46

BEGAN SAMPLING.

5:06

Sample complete regulator @ -3.5 in Hg

EPA Summa @ 3.3" Hg Vacuum

Air Toxics Summa @ 3.7" Hg Vacuum

Casmalia Remediation Investigation

Name LUKE MONTAGNE Task Soil Gas Investigation Date 9/20/04
GeoSINTEL

Time

Notes

4:00

ARRIVED AT LOCATION RISVCL-6 FOR SAMPLE RISV-9.

4:10

SET BENTONITE SEALS AROUND PROBE AT GROUND SURFACE & AT TOP OF PROBE. USING SUMMA CANISTER 12079, FLOW CONTROLLER 12079. INITIAL VACUUM MEASUREMENT AT 28.2" Hg.

4:30

BEGAN PURGING RISVCL-6.

4:35

BEGAN SAMPLING.

5:21

COMPLETED SAMPLING. FINAL VACUUM WAS 2.3" Hg.

Casmalia

Remedial Investigation

Date: 9/21/04 to 9/22/04

Firm: GEO SYNTEC

Name: ROBERT ETTINGER / LUKE MONTAGUE

Book # 21

Casmalia Remediation Investigation

Name Luke Monahan Task Soil Gas Investigation Date 9/21/09
CEO SYNTEC

Time

Notes

7:05

ARRIVED AT SITE. DISCUSSED TODAY'S APPROACH WITH ROBERT ESTABER, DAVE MAHER & MARK OF URS, AND GREGG DRILLERS JUAN & KEITH.

7:50

MOBILIZED TO LOCATION RISVPB-3, FOR SAMPLE RISV-10.

8:11

SET BENTONITE SEALS AROUND ANNULUS OF PROBE & GROUND SURFACE, AND TOP OF PROBE WHERE TUBING COMES OUT.

USING 6-L SUMMA CANISTER # 9909 FLOW GAUGE 9909.

8:31

INITIAL VACUUM IN CANISTER OF 28.3" Hg.

STARTED PULSE TEST WITH FLOW OF 0.5 FT³/hr. 1100. VACUUM OF 4.5" H₂O.

8:35

COMPLETED PULSE TEST - STARTED SAMPLING RISV-10.

FLOW GAUGE SHOWED 27.5" Hg.

9:11

COMPLETED RISV-10, FINAL VACUUM OF 4.5" Hg.

Casmalia Remediation Investigation

Name LUKE MONTAGUE Task SOIL GAS INVESTIGATION Date 9/21/04
GEO SYNTEC

Time	Notes
8:50	+ LOCATION MOVED ~ 15' SOUTH. MOVED ON TO START ADVANCING RISVBC-3, FOR SAMPLE RISV-11.
8:55	INSTALLED TEMPORARY PROBE.
8:59	SET BELTOMIZ SEAL. USING SUMMA CANISTER #2422,
9:25	FLOW GAUGE 24221, INITIAL VACUUM OF 30.0
9:29	STARTED PURGING AT 0.5 FT ³ /HR, VACUUM AT 3.6" H ₂ O.
9:33	COMPLETED PURGE
10:17	BEGAN SAMPLING RISV-11. COMPLETED SAMPLING RISV-11. FINAL VACUUM 3.8" Hg.

Casmalia Remediation Investigation

Name LUKE MONTAGNE Task SOIL GAS INVESTIGATION Date 9/21/09

Time

Notes

9:45 MOVED TO START RISVBC-4, SAMPLE # RISV-12.
9:50 ADVANCED PUSA ROD & INSTALLED TEMPERATURE PROBE.
9:55 SET BENTONITE SEALS.
USING SUMMA CANISTER # 05362, FLOW RATE 0.5 L/min.
INITIAL VACUUM ON CANISTER OF 29.2" Hg.
10:17 BEGAN PULL ~~THE~~ AT FLOW OF 0.5 L/min, WITH A
VACUUM OF 0.6" H₂O.
10:21 Regulator did not work replaced Summa
and Regulator
Summa Canister 25261, Regulator 25261
Initial vacuum on canister of 30" Hg
10:33 STARTED SAMPLING RISV-12.
11:19 COMPLETED RISV-12. FINAL VACUUM OF 2.6

Casmalia Remediation Investigation

Name LIVE MONTAGUE
CREO SYNTEC

Task SOIL GAS INVESTIGATION

Date 9/2/04

Time

Notes

10:49

ARRIVED AT RISVBC-5 FOR DUPLICATE SAMPLE # RISV-13, # RISV-14.

10:48

BEGAN INSTALLING TEMPERATURE PROBE.

10:56

SET BENTONITE SEALS.

USING SAMPLE SUMMA CANISTER # 916, FLOW GAUGE 916, WITH INITIAL VACUUM OF 28.6" Hg, AND USING DUPLICATE (RISV-14) SUMMA CANISTER # 34492, WITH INITIAL VACUUM OF 28.3" Hg. DECIDED THAT SINCE THIS CANISTER WAS PART OF A MATCH WITH A FAULTY FLOW GAUGE, AND THE INITIAL VACUUM WAS LOWERED SINCE IT WAS LAST MEASURED ON RISVBC-4, A NEW CANISTER WILL BE USED. USING CANISTER 34492 NOW FOR RISV-14, WITH INITIAL VACUUM OF 28.0

11:53

BEGIN PURGE

0.5 CFH flow rate

9" H₂O VACUUM

11:57

BEGAN SAMPLING RISV-13 & RISV-14.

13:13

COMPLETED SAMPLING. FINAL VACUUM OF CANISTER 916 FOR SAMPLE RISV-13 WAS 5.4" Hg. FINAL VACUUM OF CANISTER 34492 (SAMPLE RISV-14) WAS 5.3" Hg.

Casmalia Remediation Investigation

Name Luke Morrill Task Soil Gas Investigation Date 9/21/09

Time

Notes

13:45 Arrived to RISUBC-1 for sample RISV-15.
13:50 ~~Began~~ installing temporary probe.
performing a split at this location with the EPA,
administered by Chris Bucklin of the OTC. Geosyntec
Summa canister 21078, flow controller 21079. Initial
vacuum on canister 21078 measured at 28.8 "Hg.
~~14:00~~ EPA Summa canister 0112, with initial vacuum
of 28.7 "Hg.
14:00 Set butyl seals around probe.
14:20 Started purge with flow of 0.5 ft³/hr with a vacuum
of 1.3 "H₂O.
14:24 Stopped purging.
14:27 Began sampling RISV-15, (both canisters).
15:59 Completed sampling.
~~16:00~~ ~~Start~~
Final vacuum on Geosyntec measured at 3.4 "Hg.
" " " EPA canister was 4.1 "Hg.

Casmalia Remediation Investigation

Name LUKE MONTAGUE
CREOSINTEC

Task SOIL GAS INVESTIGATION

Date 9/21/04

Time

Notes

14:35 RHINO DIRECT PUSH RIG MOBILIZED TO RISVBC-2 FOR ANOTHER EPA SALT LOCATION, FOR SAMPLE RISV-16.

CREOSINTEC USED SUMMA CANISTER 33656 WITH FLOW GAUGE 33656, WITH AN INITIAL VACUUM OF 28.3" Hg, EPA 6-L SUMMA CANISTER # 1188, WITH INITIAL VACUUM OF 28.2" Hg.

14:45 SET BENTONITE SEALS.

15:12 STARTED PUMP WITH FLOW OF 0.5 FT³/HR AND A VACUUM OF

15:18 STOPPED PURGING.

15:19 BEGAN SAMPLING.

15:54 SAMPLING COMPLETED.

FINAL VACUUM ON CREOSINTEC CANISTER WAS 2.1" Hg,
FINAL VACUUM ON EPA CANISTER WAS 2.0" Hg.

16:11 SINCE A VACUUM MEASUREMENT WAS NOT TAKEN DURING PURGING, TEMPORARY PROBE RE-PURGING WAS STARTED TO GET A VACUUM READING.

16:14 VACUUM MEASURED AT 1.4" H₂O.

17:45 DAVE MYERS OF JRS & MYSELF HOOKED UP AIR TANKS FLOW GAUGE # 33656 TO PUMP AND MEASURED THE FLOW RATE COMING THROUGH IT WITH A ROTAMETER, PER DISCUSSIONS CITRUS BURLIN OF THE DTSC & I HAD A NOT A POSSIBLE FAULTY FLOW ~~GAUGE~~ CONTROLLER. WE MEASURED A FLOW OF 2.5 FT³/HR COMING THROUGH THE CONTROLLER & DIDN'T HAVE ANY INCREASE IN VACUUM WHEN PLUGGING THE AIR INTAKE HOLE ON THE CONTROLLER. WE DETERMINED THE FLOW CONTROLLER IS NOT CONTROLLING FLOW LIKE IT SHOULD, AND MAY BE LEAKING, SO WE WILL PLAN ON BEING THIS LOCATION AGAIN. NOTE THAT GREGG DRILLING LEFT THE ~~PROBE~~ TEMPORARY

Page 6 of 10

PROBE IN PLACE, AND DAVE MYERS & I DISCUSSED IT WOULD SEEM FINE TO USE IT AGAIN AS LONG AS THE BENTONITE SEALS ~~WERE~~ WERE RE-ESTABLISHED.

Casmalia Remediation Investigation

Name LUKE MONTAGUE Task SOIL GAS INVESTIGATION Date 9/22/04
GEO SYNTEC

* SAMPLE VOPED - NOT ANALYZED

Time	Notes
7:15	ARRIVED AT SITE. DISCUSSED WITH CHRISTINE BUCKLIN OF DBC- P RE-DO LOCATION RISVBC-2 AND RE-DO SAMPLE RISV-16 (KEEP SAME SAMPLE NAME). FOR EPA SPLIT.
7:40	ARRIVED AT RISVBC-2 WITH DRILL CAR & CHRIS. CAR WAS KEPT ON TUBING ON TEMPORARY PROBE, SO PROBE WAS NOT LEAKING/MIXING WITH AMBIENT AIR SINCE WE LAST SAMPLED.
7:53	RE-SEALED BENTONITE SEALS AROUND PROBE AND AT TOP OF PROBE. USING GEO SYNTEC CANISTER 12025, FLOW CONTROLLER 12025. INITIAL CANISTER VACUUM IS 28.0" Hg. EPA CANISTER # 1190, WITH INITIAL VACUUM OF
8:19	STARTED PULSE TEST - FLOW 0.5 FT³/HR , VACUUM 1.4" H ₂ O
8:23	STOPPED PULSE TEST.
8:33	STARTED SAMPLING RISV-16 & EPA SPLIT SAMPLE.
10:15	STOPPED SAMPLING - NOT BECAUSE FLOW CONTROLLER GAUGE SHOWED < 5" Hg, BUT BECAUSE FILL TIME WENT ~ 30 MIN. LONGER THAN NORMAL, & THE FLOW GAUGE SEEMED TO BE STUCK ON 15" Hg. FINAL VACUUM OF GEO SYNTEC CANISTER WAS 0" Hg, & FINAL OF EPA CANISTER WAS 0" Hg. AFTER REMOVING FLOW CONTROLLER IT STILL WAS STUCK ON 15" Hg, SO THE GAUGE WAS STUCK.
12:05	CHRIS BUCKLIN SAID SHE SPOKE WITH MARK & THEY SAID SINCE THE SAMPLES HAD NO VACUUM LEFT WE WOULD HAVE TO RE-DO THEM ONCE AGAIN SINCE THE LAB WOULD LIKELY NOT RUN THEM.

Casmalia Remediation Investigation

Name W. MONTAGNE Task Soil Gas Investigation Date 9/02/04
Soil Gas Investigation

Time

Notes

8:35

RITINO RIG MOBILIZED TO START RISVAC-6 FOR SAMPLE RISV-17.

8:44

SET BEUTOMITE SEALS - CANISTER & FLOW GAUGE 9950, INITIAL VAC = 28.1" Hg

9:06

BEGAN PURGE TEST. FLOW = 0.5 Ft³/hr, VAC = 16" H₂O.

9:10

STOPPED PURGE.

9:12

BEGAN SAMPLING RISV-17.

9:56

FINISHED SAMPLING. FINAL VACUUM OF 4.6" Hg.

Casmalia Remediation Investigation

Name Luke Munnick Task Soil Gas Investigation Date 9/28/01

Time

Notes

9:15 Made to start RISVCL-9, for sample RISV-18.
9:25 Set bentonite seals.
Using SUMMA canister 928, flow controller 928. INITIAL
canister vac = of 28.9" Hg.
10:06 BEGAN PURGING AT 0.5 ft³/hr, with a vacuum of
0.4" H₂O.
10:10 STOPPED PURGE, STARTED SAMPLING.
11:50 STOPPED SAMPLING. FINAL VACUUM of 20

Casmalia Remediation Investigation

Name LUKE MONTAGNA Task SOIL GAS INVESTIGATION Date 9/20/04

Time	Notes
10:45	<u>MOVED TO START RISVPB-2, FOR SAMPLE RISV-19.</u>
	<u>INSTALLED TEMPORARY PROBE</u>
10:53	<u>SET BEARING SEALS,</u>
	<u>USING CANISTER 1612, FLOW CONTROLLER 1612. INITIAL VACUUM</u>
	<u>OF 28.3.</u>
11:23	<u>STARTED PURGE WITH FLOW RATE OF 0.5 FT³/hr, &</u>
	<u>A VACUUM OF 13" H₂O.</u>
11:27	<u>COMPLETED PURGE, STARTED SAMPLING.</u>
12:29	<u>COMPLETED SAMPLING.</u>
	<u>FINAL VACUUM OF 3.0" Hg.</u>

Casmalia

Remedial Investigation

Date: 9/22/04 to 9/23/04

Firm: GEO SYNTEC

Name: LUKE MONTAGUE

Book # 22

Casmalia Remediation Investigation

Name LUKE MONTAGNE Task SOIL GAS INVESTIGATION Date 9/28/04

* EPA SPLIT

Time

Notes

12:45

MOBILIZED BACK TO RISVBC-2 TO RE-DO SAMPLE RISV-16A.

12:50

INSTALLED TEMPORARY PROBE.

12:55

SET BUTONITE SEALS.

USING GEOSYNTEC CANISTER 12688, Φ FLOW CONTROLLER

12688, INITIAL VACUUM OF 28.6" Hg. FOR EPA SPLIT,

USING CANISTER 0393, WITH INITIAL VACUUM = 28.3" Hg.

13:27

START PURGE AT 0.5" Hg, WITH A VACUUM OF 2.6.

13:55

SAMPLING FINISHED. EPA CANISTER FINAL VACUUM = 3.5" Hg.

GEOSYNTEC CANISTER FINAL VOLUME = 3.9" Hg.

Casmalia Remediation Investigation

Name LUKE MONTAGNE Task SOIL GAS INVESTIGATION Date 9/22/04
CREO SYNTEC

* EPA SPLIT LOCATION

Time

Notes

13:44 MOBILIZED TO RIS VCO-3 FOR SAMPLE RISV-20.
13:53 SET BENTONITE SEALS.
USING GEOSYNTEC CANISTER ~~33679~~, FLOW CONTROLLER 33679,
WITH INITIAL VACUUM 28.4" Hg. USING EPA CANISTER 0019,
WITH INITIAL VACUUM OF 28.5" Hg.
14:29 STARTED PURGE AT 0.5 FT³/hr, WITH A VACUUM MEASURED
AT 0.6" H₂O.
14:33 STOPPED PURGE, BEGAN SAMPLING.
15:51 COMPLETED SAMPLING. GEOSYNTEC CANISTER HAD
FINAL VACUUM OF 3.8, EPA CANISTER HAD VACUUM
OF 3.5" Hg.
~~15:51~~ STOPPED SAMPLING.

Casmalia Remediation Investigation

Name LUKE MONTAGUE Task SOIL GAS INVESTIGATION Date 9/22/04
CIBO SYMTEC

Time	Notes
14:43	WENT TO RISVC0-2 FOR SAMPLE RISV-21.
14:46	BEGAN INSTALLING TEMPORARY PROBE. USING SUMMA CANISTER 95B1, FLOW CONTROLLER 95B1, WITH INITIAL VACUUM OF 29.0 SEP BENTONITE SEAL.
14:56	BEGAN PURGING - USED FLOW RATE OF 0.5 FT ³ /HR, WHICH YIELDED A VACUUM OF 10.0" H ₂ O.
15:16	STOPPED PURGING, BEGAN SAMPLING RISV-21.
15:20	NOTICED SPIT VALVE FOR PURGE WAS ACCIDENTLY LEFT OPEN WHILE CANISTER FILLING. STOPPED SAMPLING - WILL RE-SAMPLE.
15:04	USING CANISTER 12330 FLOW GAUGE 12330, WITH INITIAL VACUUM 25.6" Hg.
16:10	BEGAN SAMPLING WITH CANISTER 12330.
16:44	COMPLETED SAMPLING. FINAL VACUUM = 4.4" Hg.

Casmalia Remediation Investigation

Name LUXE MONTAGNE

Task Soil Gas

Date 9/23/01

* LOCATION MOVED 25' ESE

Time

Notes

7:00

ARRIVED AT SITE.

7:15

HAD CONFERENCE CALL WITH DAVE MYERS, CHRISTINE BUCKLIN, ROBERT STINAR, & MYSELF ABOUT THE VARIOUS SAMPLES TAKEN FOR RISV-16. OF THE 3 SAMPLES TAKEN, IT WAS DECIDED THAT THE 1ST & 3RD TAKEN, AND WERE FILLED IN ABOUT 35 MINUTES & 25 MINUTES. WIPER IS NTHW, AS FAST AS A SPLIT SHOULD TAKE, WERE OUR BEST OPTIONS, WITH FAVOR GIVEN TO THE FIRST. THE SECOND SAMPLE WENT DOWN TO ZERO VACUUM, WHICH WE AGREED WAS LIKELY JUST SOIL GAS FROM THE LOCATION IN QUESTION, BUT LACKED QA/QC ASSURANCE.

7:35

MOBILIZED TO RISVCD-1 FOR SAMPLE RISV-22.

7:50

BEGAN INSTALLING TEMPORARY PROSE.

8:04

INSTALLED BENTONITE SEALS.

8:24

USING CANISTER 30048, FLOW CONTROLLER 30048. INITIAL VACUUM MEASURED AT 28.0.

8:28

STARTED PURGE TEST WITH FLOW OF 0.5 FT³/HR, WHICH YIELDED A VACUUM OF 0.5" H₂O.

8:29

STOPPED PURGE.

7:06

STARTED SAMPLING.

FINISHED SAMPLING. FINAL VACUUM = 4.4" Hg.

Casmalia Remediation Investigation

Name LUPE MONTREVE

Task SOIL GAS INVESTIGATION

Date 9/23/04

Time

Notes

* DUPLICATE LOCATION

10:08

DRIVERS MOBILIZED TO RSVCL-12 FOR A DUPLICATE SAMPLE SET IDENTIFIED AS RSV-24 & RSV-25.

10:27

SET BENTONITE SEALS ON TEMPORARY PROBE AT GROUND SURFACE & AT TOP OF PROBE.

FOR SAMPLE RSV-24, USING CANISTER 3960 & FLOW CONTROLLER 3960 WITH INITIAL VACUUM OF 28.5". FOR SAMPLE RSV-25, USING CANISTER # 4268, WITH INITIAL VACUUM OF 28.4" Hg.

11:02

STARTED PURGE AT 0.5 FC³/HR. WHICH GAVE A VACUUM OF 0.7" H₂O.

11:06

STOPPED PURGE, STARTED SAMPLING RSV-24 & RSV-25.

12:26

STOPPED SAMPLING. CANISTER FOR RSV-24 HAD A FINAL VACUUM OF 3.6" Hg. CANISTER FOR RSV-25 HAD FINAL VACUUM OF 3.3" Hg.

Casmalia Remediation Investigation

Name LUKE MONTAGUE

Task SOIL GAS INVESTIGATION

Date 9/23/04

Time

Notes

11:25

DRUMS, MOBILIZED TO RISVCL-1 FOR SAMPLE RISV-26, AND
SET UP TEMPORARY PROBE.

11:47

SET BENTONITE SEALS.

USING 6-L SUMMA CANISTER # 13863, FLOW CONTROLLED
13863, WITH INITIAL VACUUM OF 28.4 "Hg.

12:07

STARTED PUMP, WITH FLOW OF 0.5 ft³/hr, WHICH GAVE
A VACUUM OF 0.6 "Hg.

12:11

STOPPED PUMP, STARTED SAMPLING.

12:51

STOPPED SAMPLING. FINAL VACUUM MEASURED AT 4.0 "Hg.



DAILY FIELD REPORT

PROJECT: Casimaya
 LOCATION: Casimaya Landfill, SB County PROJECT NO.: H20130 TASK NO.: 07
 DESCRIPTION: Soil Vapor Sampling DATE: 11 day Nov. month 2005 year
 CONTRACTOR(S): GREEN DRILLING, CHRISTINE BUCKLIN OF DTSC
 WEATHER, TEMPERATURE: Sunny, Windy

8:15 - Arrived on site. Met with Robbie Estinore. Scouted out all proposed 16 SV sample locations.
 9:45 - Christine Bucklin of DTSC arrived. Keith & Erwin of Green Drilling arrived shortly after. Since everyone says they have previously been to site, no H&S site orientation needed.
 10:00 - Drove to first sample location - RISVCL-8B, advanced to 20' depth.
 10:10 - Had tailgate H&S meeting, everyone signed that they attended.
 10:20 - Calibrated PID - min rate 2000 - w/ 100ppm isobutylene gas.
 10:30 - Advanced probe.
 11:00 - Set bentonite seal around annulus between probe & ground, and at top of probe around tubing.
 11:23 - Began purge test (4.5 min for 3 purge volume, 20' depth).
 11:33 - Began sampling SUMMA.
 12:00 - Mobilized to RISVCL-SB while RISVCL-8B still sampling.
 12:23 - Noticed flow controller gauge to RISVCL-8B was stuck - vacuum went to zero and sample was voided.
 12:33 - Set bentonite seal on RISVCL-SB (RISV-28).
 12:48 - Started re-sampling RISVCL-8B (RISV-27). Then returned to RISVCL-SB.
 14:10 - Moved to RISVCL-3B (RISV-29).
 14:23 - Set bentonite seal.
 15:27 - Finished sampling. RISV-29.

NAME: Wade Montague PROJECT NO.: _____ HOURS: _____



DAILY FIELD REPORT

PROJECT: CASMAIA
 LOCATION: CASMAIA LANDFILL, SANTA BARBARA COUNTY PROJECT NO.: HX0130 TASK NO.: 02
 DESCRIPTION: SOIL VAPOR SAMPLING DATE: 14 day 11 month 2005 year
 CONTRACTOR(S): GREGG DRILLING, CHRISTINE BICKIN OF DTSC
 WEATHER, TEMPERATURE: Sunny, Windy

9:15 - ARRIVES ON SITE. BEGAN DECONNING PARTS FROM LAST WEEK & SETTING UP.
 9:30 - CHRIS FROM DTSC ARRIVED.
 10:00 - KEITH & FRANCISCO OF GREGG ARRIVED. FRANCISCO NEW TO SITE; TOMMY COLVIN OF URS GAVE HIM THE SITE ORIENTATION.
 10:30 - MOBILIZED TO RISVCL-3C. HAD HEALTH & SAFETY TALK. CALIBRATED PID WITH 100 ppm ISOBUTYLENE GAS.
 10:45 - ADVANCED RISVCL-3C TO COLLECT SAMPLE RISV-30 @ 7.5' DEPTH.
 11:10 - HAD TO STEP OVER 6" TO SOUTH BECAUSE TIP LOST IN HOLE ON FIRST TRY.
 11:16 - APPLIED BENTONITE SEAL.
 12:05 - MOBILIZED TO RISVCL-5C (RISV-31) (DUP. RISV-32) WHILE RISV-30 STILL SAMPLING.
 12:12 - SET BENTONITE SEAL.
 13:00 - MOBILIZED TO RISVCL-0C (RISV-33).
 13:15 - SET BENTONITE SEAL.

NAME: L. Montague PROJECT NO.: _____ HOURS: _____



DAILY FIELD REPORT

PROJECT: Casmalia Landfill

LOCATION: _____ PROJECT NO.: HX0130 TASK NO.: 2

DESCRIPTION: Soil Gas Sampling DATE: 15 day 11 month 05 year

CONTRACTOR(S): Gregg Drilling

WEATHER, TEMPERATURE: Sunny & Windy

6:50 - Arrived on-site. (OTSC)

7:00 - Christine Bucklin & Kevin Coffman of Geosyntec Arrived on site.

7:15 - Drivers Kevin & Francisco of Gregg Drilling Arrived. Mobilize to RISVLT-1 while Kevin gets his site orientation from Tom.

7:30 - Had Health & Safety talk. Completed PID.

7:50 - Put Bentonite Seal on RISVLT-1 (RISV-36)

0825 - Drillers mob to hole RISVLT-03 (RISV-38 & DUP RISV-39).

930 - Drillers mob to RISVCD-5 (RISV-40).

945 - Bentonite seals packed.

1055 - Drillers mob to RISVCD-6 (RISV-41).

1056 - @ sample end time for RISVCD-5 (RISV-40), end vacuum @ 0.5 after zeroing out gauge a second time.

1145 - Drillers mob to RISVCD-7 after purging RISVCD-06.

1200 - Drillers mob to RISVCD-8 after setting bentonite in 06.

1225 - Set bentonite in RISVCD-8.

1410 - Set up on RISVCD-04.

1430 - Set up Bentonite Seal.

1615 - Left site.

NAME: Kevin Coffman / Luke Montague PROJECT NO.: _____ HOURS: _____

DAILY ACTIVITY REPORT
Friday October 12, 2007

To: CH2MHill / EPA Oversight Representative

From: Kevin Coffman
Geosyntec Consultants

Date: Friday October 12, 2007

No: SGS-RI07-01

Via: Hand Delivery Fax Overnight Delivery E-Mail

ACTIVITIES COMPLETED ON OCTOBER 12, 2007

Activity Category ex: Soil Gas Sampling

- ◆ Participated in daily site health and safety meeting with Tony Colera (URS).
- ◆ Begin soil gas sampling activities at RISVCL-03D location.
- ◆ Perform sampling activities at RISVCL-08D location.
- ◆ Cease sampling activities due to rainy conditions.
- ◆ Soil Vapor samples sent via fed-ex to Air Toxics and Alpha Woods Hole laboratories.

Quantities Summary:

Item	Quantity
RISVCL-03D sampled	2 x 6L Summas
RISVCL-08D sampled	2 x 6L Summas

ACTIVITIES PLANNED FOR TOMORROW

- ◆ Activities completed until further notice.

Attachment:

CC: C.Bertelsen – CSC Project Manager



DAILY FIELD REPORT

PROJECT: Casamata
 LOCATION: Perimeter PROJECT NO.: HX0130 TASK NO.: _____
 DESCRIPTION: Soil Vapor DATE: 12 day 10 month 7 year
 CONTRACTOR(S): Gress
 WEATHER, TEMPERATURE: Ptly Cloudy

0700: Geosyntec & Gress drilling onsite. Health & Safety tailgate meeting. Unload track rig. Tony (URS) onsite. Another H&S meeting. Setup on RISVCL-03D. Cal Check on PID.

0750: Sample tip broke. Rod stuck in ground; get lumber for jacks & pull rods. Re-push & set probe by 0905. (RISV-51)

1010: Re-attach 2 new Summas due to fast regulator from Air Toxics on 1st go around.

1040: Spoke w/Robbie on non-equal flow rates on regulators; he recommends using Alpha Woods Hole regulator ~~strictly~~ ^{solely} on next hole. For RISVCL-03D shut off Air Toxics & intermittently open. Add Gna Plantz to Woods Hole COC.

1200: Begin setting probe for RISVCL-08D (RISV-52). Jim from CH2MHILL hanging out w/us.

1433: Sample time for RISVCL-08D. Raining; speak w/ Robbie & he calls Corey. Decide not to move down to RISVCL-05D due to slick conditions on dirt road. May not be able to get out plus rain is increasing.

1520: Jim (CH2MHILL) departs site. Gress departs site. Geosyntec leaves to FedEx & back to office for offloading.

Kevin Coffman

NAME: Kevin Coffman PROJECT NO.: HX0130 HOURS: 2.5 + VC
10.5 FWOZ

DAILY ACTIVITY REPORT
Friday October 12, 2007

To: CH2MHill / EPA Oversight Representative

From: Kevin Coffman
Geosyntec Consultants

Date: Tuesday November 6, 2007

No: SGS-RI07-02

Via: Hand Delivery Fax Overnight Delivery E-Mail

ACTIVITIES COMPLETED ON November 6, 2007

Activity Category ex: Soil Gas Sampling

- ◆ RSI Drilling and Geosyntec attend health and safety meeting with Tony Colera (URS).
- ◆ Perform soil gas sampling activities at RISVCL-08D location.
- ◆ Perform soil gas sampling activities at RISVCL-05D location.
- ◆ Soil Vapor samples sent via fed-ex to Air Toxics and Alpha Woods Hole laboratories.
- ◆ Sample taken in trash bag with isobutane leak compound present. Performed on 11-8-07 due to fed-ex delivery delay of summa canisters.

Quantities Summary:

Item	Quantity
RISVCL-08D sampled	2 x 6L Summas
RISVCL-05D sampled	2 x 6L Summas
Sample taken in isobutane laden trash bag	2 x 6L Summas

ACTIVITIES PLANNED FOR TOMORROW

- ◆ *Activities completed until further notice.*

Attachment:

CC: C.Bertelsen – CSC Project Manager

DAILY FIELD REPORT

PROJECT: Casmalia
LOCATION: Northern Boundary PROJECT NO.: HX0130 TASK NO.: 2
DESCRIPTION: Soil Gas Sampling DATE: 6 day 11 month 7 year
CONTRACTOR(S): RSI Drilling
WEATHER, TEMPERATURE: Foggy, misty

0530 : Depart SB.
0645 : Meet RSI @ gas station
0715 : Tony Colera (URS) gives RSI drillers health + safety meeting.
0800 : Setup on RISVCL-08D for RISV-53 sample.
H+S tailgate.
0920 : Sample start time for RISV-53
Spoke w/ Robbie Ettinger regarding FedEx not delivering 4 Summas (1 box) from Air Toxics. Still en-route. Decide to use the 2 ATL Summas which did arrive for actual samples. Will use Alpha can for trip blank + send back today after sampling. Once ATL summas do arrive, we will perform bag/isobutane sample in office tomorrow.
1055 : End Sample time RISV-53.
1136 : Set probe on RISVCL-05D = RISV-54 sample. Sealed off w/ ball valve Tee + wait 20 minutes to equilibrate.
Air Toxics QCTB-1 using Alpha can 1687; Initial Vac = 29.49 ^{7/8}
1315 : End Sample Time for RISV-54.
1400 : RSI departs site.
1415 : Geosyntec departs site.
Mob back to SB office to pack up Summas + check status of missing ATL Summas. They aren't set to arrive tomorrow morning so we send out samples today. Will perform bag/isobutane sample once ATL box arrives + send out then. I (Kevin) go to FedEx hub in Goleta.
1730 : End of day
0955 on 11-8-7 Bag w/ isobutane sample taken (RC) *Kevin Coffin*

NAME: K. Coffin, R. Smith PROJECT NO.: HX0130-2 HOURS: FLV: 2.5
FW02: 9.5



PHOTOGRAPH 1:

Location:
RISVCL-07

Date/time:
August 17, 2004/
09:00 to 09:33

Orientation:
North

Description:
Equipment used for soil
gas investigation.



PHOTOGRAPH 2:

Location:
RISVCL-07

Date/time:
August 17, 2004/
09:00 to 09:33

Orientation:
North

Description:
Equipment used for soil
gas investigation.



PHOTOGRAPH 3:

Location:
RISVBC-03

Date/time:
September 21, 2004/
08:55 to 08:59

Orientation:
Southwest

Description:
Set-up of rig.



PHOTOGRAPH 4:

Location:
RISVCL-10

Date/time:
August 17, 2004/
14:39

Orientation:
Northwest

Description:
Advancement of probe.



PHOTOGRAPH 5:

Location:
RISVBC-01

Date/time:
September 21, 2004
14:20 to 14:24

Orientation:
Southwest

Description:
Purging of probe and
monitoring of vacuum.



PHOTOGRAPH 6:

Location:
RISVCL-01

Date/time:
September 23, 2004
12:11 to 12:51

Orientation:
Southwest

Description:
Collection of a soil
vapor sample into a 6
Liter SUMMA canister.



PHOTOGRAPH 7:

Location:
RISVPB-01

Date/time:
September 20, 2004
15:05 to 17:06

Orientation:
Down

Description:
Collection of leak
detection compound
(shaving cream with
isobutane) into a 1-
Liter tedlar bag using
an iron lung.



PHOTOGRAPH 8:

Location:
RISVCL-07

Date/time:
August 17, 2004
07:03 to 10:50

Orientation:
North

Description:
Equipment
decontamination.



PHOTOGRAPH 9:

Location:
RISVCL-03C

Date/time:
November 14, 2005/
12:03

Orientation:
North

Description:
Sampling.



PHOTOGRAPH 10:

Location:
RISVCL-05C

Date/time:
November 14, 2005/
12:03

Orientation:
North

Description:
Sampling.



PHOTOGRAPH 11:

Location:
RISVCL-08C

Date/time:
November 14, 2005/
14:10

Orientation:
West

Description:
Sampling.



PHOTOGRAPH 12:

Location:
RISVBC-08

Date/time:
November 14, 2005/
15:46

Orientation:
West

Description:
Sampling.



PHOTOGRAPH 13:

Location:
RISVBC-07

Date/time:
November 14, 2005/
15:56

Orientation:
North

Description:
Equilibration.



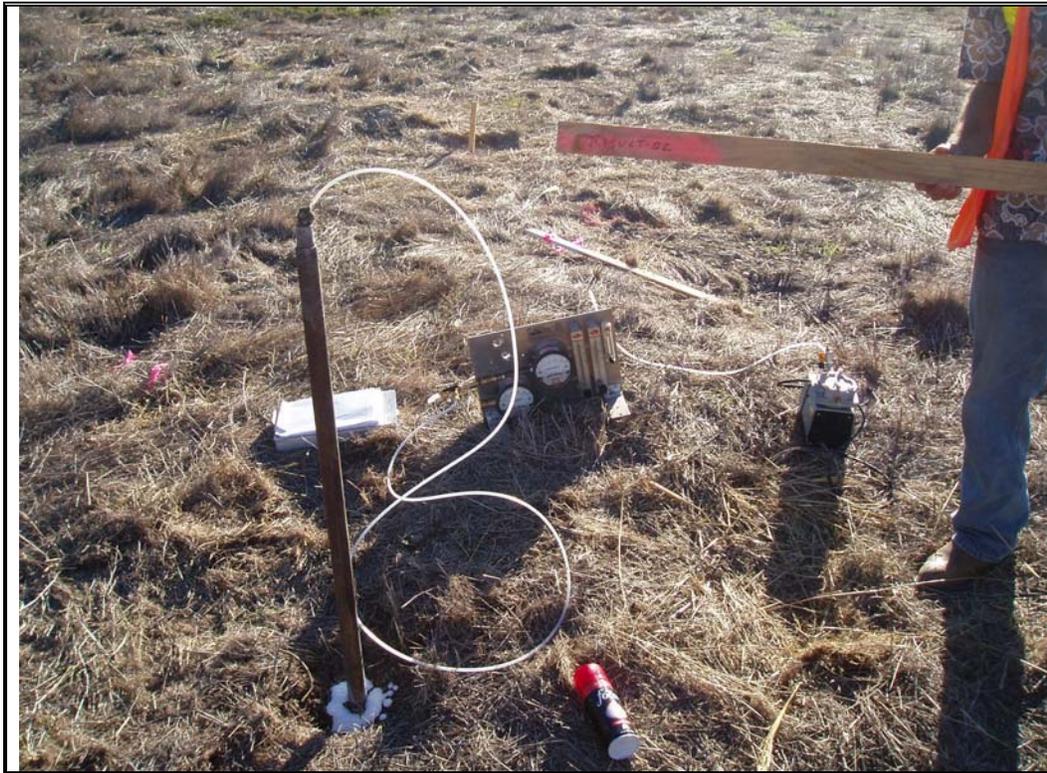
PHOTOGRAPH 14:

Location:
RISVLT-01

Date/time:
November 15, 2005/
08:25

Orientation:
South

Description:
Sampling.



PHOTOGRAPH 15:

Location:
RISVLT-02

Date/time:
November 15, 2005/
08:35

Orientation:
East

Description:
Purge test.



PHOTOGRAPH 16:

Location:
RISVLT-03

Date/time:
November 15, 2005/
09:40

Orientation:
Southeast

Description:
Sampling primary and
duplicate sample.



PHOTOGRAPH 17:

Location:
RISVCD-06
Date/time:
November 15, 2005/
11:40

Orientation:
Southeast

Description:
Equilibration.



PHOTOGRAPH 18:

Location:
RISVCD-07
Date/time:
November 15, 2005/
12:30

Orientation:
South

Description:
Prior to sampling.



PHOTOGRAPH 19:

Location:
RISVCD-08

Date/time:
November 15, 2005/
13:20

Orientation:
Southeast

Description:
Sampling.



PHOTOGRAPH 20:

Location:
RISVCD-04

Date/time:
November 15, 2005/
15:00

Orientation:
Southeast

Description:
Sampling.



PHOTOGRAPH 21:

Location:
RISVCL-3D

Date:
7/31/06

Orientation:
East

Description:
Drilling at RISV-40
sampling location.



PHOTOGRAPH 22:

Location:
RISVCL-3D

Date:
7/31/06

Orientation:
East

Description:
Bentonite seals in place
at RISV-40 sampling
location.



PHOTOGRAPH 23:

Location:
RISVCL-3D

Date:
7/31/06

Orientation:
East

Description:
Bentonite seals in place
and purge board
attached while
equilibrating at RISV-
40 sampling location.



PHOTOGRAPH 24:

Location:
RISVCL-3D

Date:
7/31/06

Orientation:
East

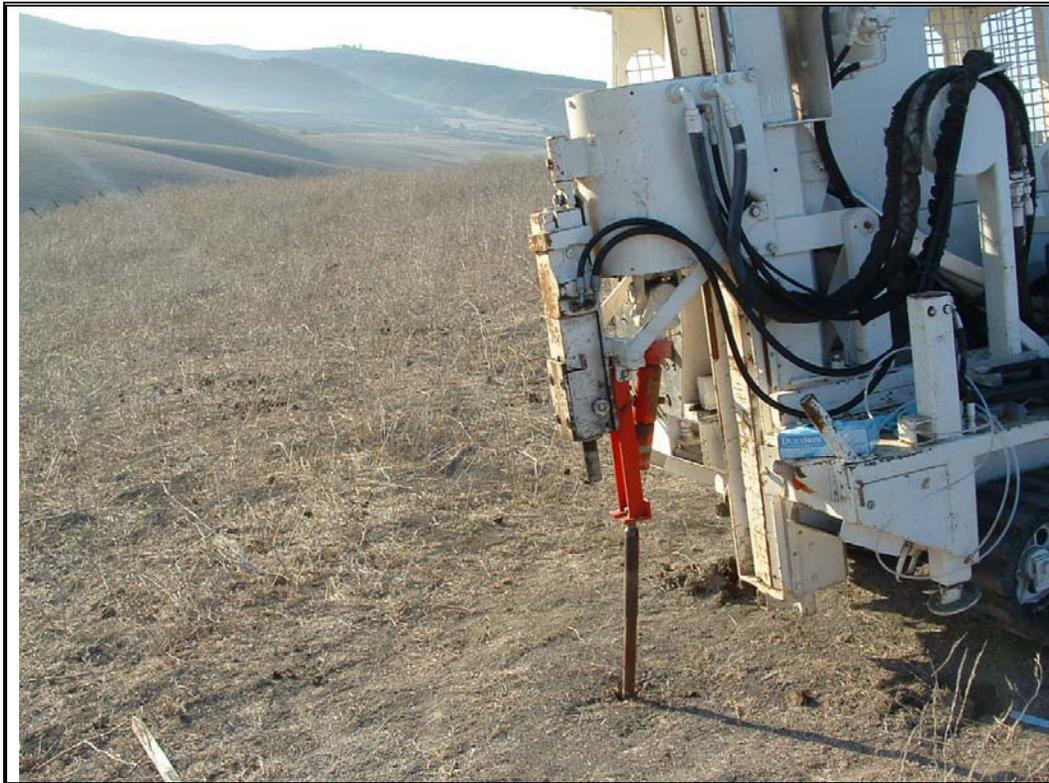
Description:
Placing Summa canister
inside bag with
Isobutane shaving
cream in bag and on
bentonite seals at
RISV-40 sampling
location.



PHOTOGRAPH 25:
Location:
RISVCL-8D
Date:
7/31/06
Orientation:
North East
Description:
Purge board connected
with bentonite seals in
place at RISV-41
sampling location.



PHOTOGRAPH 26:
Location:
RISVCL-5D
Date:
7/31/06
Orientation:
North East
Description:
Summa canister in bag
with Isobutane shaving
cream in bag and on
bentonite seals at
RISV-42 sampling
location.



PHOTOGRAPH 27:

Location:
RISVCL-03D

Date:
10/12/07

Orientation:
South East

Description:
Direct Push of RISV-51
sampling location.



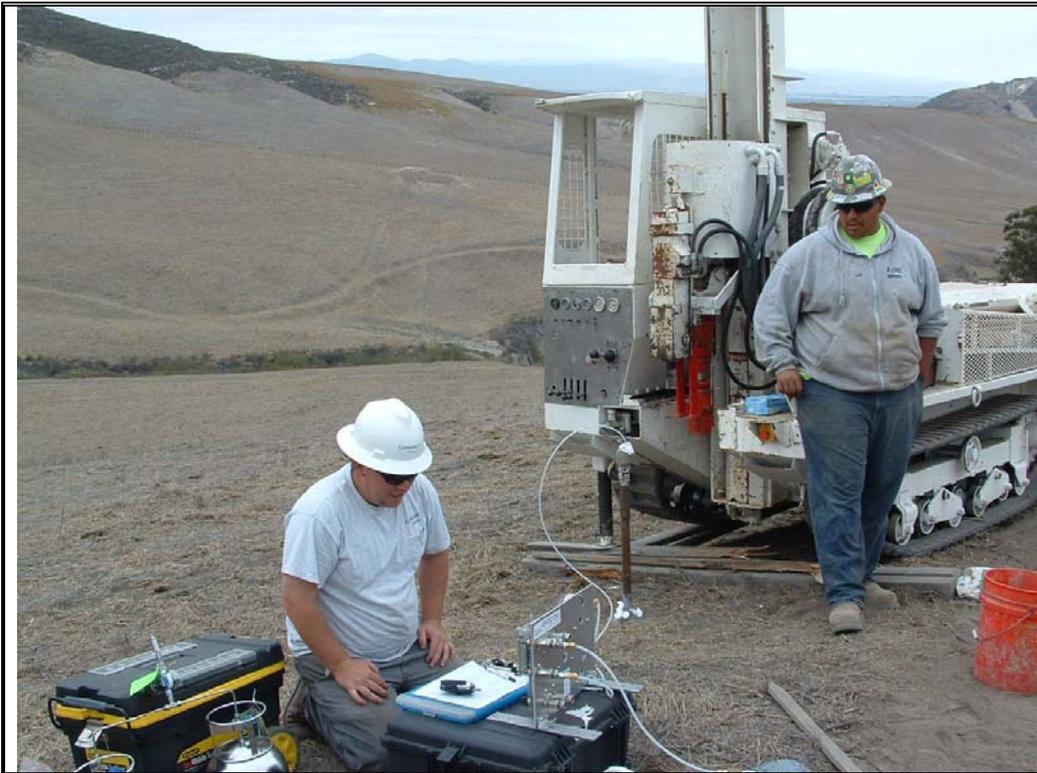
PHOTOGRAPH 28:

Location:
RISVCL-03D

Date:
10/12/07

Orientation:
South

Description:
RISV-51 sampling.



PHOTOGRAPH 29:

Location:
RISVCL-08D

Date:
10/12/07

Orientation:
North East

Description:
RISV-52 purging.



PHOTOGRAPH 30:

Location:
RISVCL-08D

Date:
11/6/07

Orientation:
West

Description:
RISV-53 sampling with
isobutane on bentonite
seals and in trash bag.



PHOTOGRAPH 31:

Location:
RISVCL-05D

Date:
11/6/07

Orientation:
South East

Description:
RISV-54 purging.