

DYNAMAC
CORPORATION

WF

116297

Dynamac Corporation
Public Ledger Building
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Philadelphia, PA 19106

Telephone: 215-440-7340
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August 10, 1990

HAND DELIVERY

Ms. Christine Chulick
U.S. Environmental Protection Agency
841 Chestnut Building, 6th Floor
Philadelphia, PA 19107

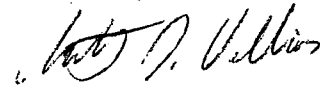
RE: Monthly Field Trip Report
Occidental Chemical Corp.
Contract No. 68-W9-0005
Work Assignment No. C03028

Dear Ms. Chulick:

The following letter report summarizes the field trips to the Occidental Chemical Corp. Site in Lower Pottsgrove Township, Montgomery County, Pennsylvania. This report is in fulfillment of Task 8 of the above Work Assignment and covers the period of June 15 to July 15, 1990.

If you have any questions concerning this matter, please contact me at (215) 440-7340.

Sincerely,



Anthony J. Vellios
Hydrogeologist

AJV/jb

Enclosure

cc: Elaine Spiewak, EPA Regional Contract Officer
Ron Chernik, TES VIII Program Manager
Bruce Beach, Dynamac Project Manager

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RE: Monthly Field Trip Report
Occidental Chemical Corporation
Work Assignment No. C03028

Dear Ms. Chulick:

This letter documents the drilling of well TB-3, the geophysical and camera logging of wells TB-3, PW-10, 9, 8, and 5; and the packer testing of well TB-3 by BCM Engineers (BCM), for Occidental Chemical Corporation (Oxychem). This work was performed, with Dynamac oversight, from June 26 to June 29, 1990. The following sections break down the visits by day. Enclosed are photo copies of the field notes and daily summary for each day trip.

June 26, 1990 Site Visit

Objectives:

Dynamac provided oversight of BCM for Environmental Protection Agency (EPA), during the drilling of boring TB-3.

Personnel and Activities:

The following table lists on-Site personnel with the organization and responsibility of each:

<u>Person</u>	<u>Organization</u>	<u>Responsibilities</u>
Anthony Vellios	Dynamac	Oversight for EPA
Eric Schmidley	BCM	Site Manager
Chaz Pires	BCM	Health and Safety Officer
Chris Hewitt	BCM	Sampling, Set Up and Support
John Hilt	Oxychem	Plant Manager
Dennis Dorn	Empire Drillers	Drilling
Ken Mauzy	Empire Drillers	Drilling
Dan Erdman	BCM	Project Management

The objective of field work was to drill and case TB-3 while monitoring emissions and logging cuttings. Drilling was through Brunswick shale using an air hammer rig. A distinct odor was detected at 45 to 50 feet. Workers within the exclusion zone were wearing level B personal protective clothing. An argillite sandstone was encountered during drilling at 58 feet. BCM stopped drilling for the day at 88 feet. Attached are copies of the Dynamac field notes.

June 27, 1990 Site Visit

Objectives:

Dynamac provided oversight of BCM for EPA during the drilling and logging of TB-3, and the geophysical and camera logging of PW-9 and PW-5.

Personnel and Activities:

The following table lists on-site personnel with the organization and responsibility of each:

<u>Person</u>	<u>Organization</u>	<u>Responsibility</u>
Anthony Vellios	Dynamac	Oversight for EPA
Eric Schmidley	BCM	Site Manager
Dave Williams	BCM	Field Investigator
Chris Hart	Earth Data	Geophysical Logging
Lynn Howells	Earth Data	Geophysical Logging
Dave Fennimore	Earth Data	Geophysical Logging
Ken Mauzy	Empire Drilling	Drilling support
Christine Chulick	EPA	Oversight
Phil Rotstein	EPA	Oversight

This phase of drilling well TB-3 was completed at the depth of 103 feet while still in argillite. Workers within the exclusion zone were wearing level B personal protection. BCM was not able to conduct the camera or geophysical survey in the well immediately due to an obstruction at 50 feet. Workers conducted geophysical logging, including temperature, caliper, gamma, resistivity and SP; and a camera survey on production wells PW-5 and PW-9. Attached are copies of the Dynamac field notes.

June 28, 1990 Site Visit

Objectives:

Dynamac provided oversight of BCM for EPA during the geophysical and camera logging of TB-3, PW-10 and PW-8.

AR300324

Personnel and Activities:

The following table lists on-Site personnel with the organization and responsibility of each:

<u>Person</u>	<u>Organization</u>	<u>Responsibilities</u>
Anthony Vellios	Dynamac	Oversight for EPA
Eric Schmidley	BCM	Site Manager
Chris Perez	BCM	Health and Safety Officer
Mary Kulwalki	BCM	Health and Safety Officer
Chris Hart	Earth Data	Geophysical Logging
Lynn Howells	Earth Data	Geophysical Logging

Well TB-3 was logged following re-drilling, in level B, using temperature, gamma, resistivity, SP and caliper logs as had been used in wells PW-8 and PW-10. The drill bit broke during the reaming of TB-3. As a result TB-3 could only be logged to 95 feet due to the fallen drill bit blocking the hole. The logs and camera survey for TB-3 were obtained by Dynamac to assist EPA in evaluating the placement of packer test intervals as suggested by BCM. Attached are copies of the Dynamac field notes.

June 29, 1990 Site Visit

Objectives:

Dynamac provided oversight of BCM for EPA during the packer formation testing of TB-3.

Personnel and Activities:

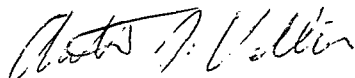
<u>Person</u>	<u>Organization</u>	<u>Responsibilities</u>
Anthony Vellios	Dynamac	Oversite for EPA
Eric Schmidley	BCM	Site Manager
Dan Erdman	BCM	Project Manager
Ken Mauzy	Empire	Driller Support
Martin Kirsh	Earth Data	Packer Testing
Sam Kirk	Earth Data	Packer Testing
Christine Chulick	EPA	Oversight

Christine Chulick
August 10, 1990
Page 4

Well TB-3 was set up for packer testing for the first interval which was from 76.5 feet to the bottom of the hole. The actual test commenced at 1545 hours with a gradual increase in discharge from 2 to 15 gallons per minute. Water level readings were obtained from existing monitoring wells BR-A and BR-B. A sample for VOC analysis was taken from TB-3 towards the end of the test. The test was completed the following week.

If you have any questions concerning this Site visit, please contact me at (215)440-7340.

Sincerely,



Anthony J. Vellios
Hydrogeologist

AJV/jb

AR300326

10:00

Anthony Vellos - Annamuc
6/26/90
Arrive on site 70F Brezzy
-near tank farm

Present on site -
Chaz's Hewitt - BCM Health and Safety Setup
Chaz Ares - BCM Health and Safety Officer
Eric Schumley - BCM Site Manager
From Empard accompanying drillers
Dennis Born and Eric Maury
Earth Data is expected tomorrow
for geophysics.

Drillers start through overburden of
TB-3 in level D.
Background (according to L.H. of BCM)
Reading of organic vapor analyzer
is at 10 ppm. This reading was
reported by BCM to be exhaust.

Background monitoring for TCE
and Vinyl Chloride using Orger
Tubes shows no detection.

Oxychem Plant Manager John Hill
arrives and discusses operations.

10:50

BCM sets up to work in
level B along with the drillers.
This includes Chaz and Eric
with monitor and log drilling zone.

6/26/90

Oxychem
Health and Safety performed according
to HASP.

Slide Photos

1. Drilling rig exclusion zone
2. Drilling plus support zone (2)
3. 59' deep with water flowing
at 5gpm
4. Setup van and drilling

site description - amidst tank farm
containing vinyl chloride. Pipes
and other tanks throughout the
area.

Drilling well at 40 feet
cuttings are red Brownsick shale.
John Hill of oxychem notices
what he calls a styrene smell
in the soil (cuttings) at the
interval of 45-50 feet.

He states that no styrene
was used in the plant since
1981 and is a key ingredient
in styrofoam.

58 feet deep water trickling
59 feet water flowing at 5gpm

6/26/90 Oxychem

During lunch I phone Bruce Beach who contacts Christine Chulick of EPA.

12:55 no one at rig shut down for lunch.

at 78 feet Eric Schmidley logged siltstone and fine sandstone

at 58 feet the reddish silt rock turned to a hard grey argillite - water was found!

2:00 Prepare to continue drilling

rough log according to EBS

0-24' weathered red shale
24-41' siltstone very fine sandstone red

41-58' siltstone - shale

58' fine sandstone - grey argillite
68-71' fractured zone angular cuttings

with minor calcite fragments.

73-78' Fine sandstone trace

quartz clasts are well rounded
How is 10-15 ppm.

6/26/90 Oxychem

Support team with out tyre

2:45 Dan Erdman and Dave W. Williams of BCM arrive.

I report satisfactory conditions according to Work Plan to Dan Erdman

Fractures found at 87 feet.

3:00 stop drilling at 88 feet because the drill rig is leaking oil.

Drager tube for Vinyl Chloride at hole is green to 30 level.

~~W. Williams~~

AR300328

Anthony McWilliams
6/27/90 Dynamic
Decidental Chemical - Posttown

9:00 Arrive on site 70°F clear
at TB-3
present on site

Chris Hart - Earth Data logging contractor
Glyn Housells - Earth Data
Dave Ferrimore - Earth Data
Eric Schmiedley - BCM
Dave Williams - BCM
Ken Mawzy - Empire

drilled yesterday down to 103 feet
without dynamic present. A fracture
was discovered at 92-93 feet.
Still drilling in anglelite.
No change in water flow.

objective to proceed with geophysics
resistivity temperature caliper from
the bottom of the hole.

Earth Data states that geophysics
equipment was decontaminated at
the shop with steam, and will be
decontaminated of alconax and DI water
between holes.

10:00 Photos the Chulick of EPA

6/28/90
Camera survey of PU-9

10:15 Fluid resistivity
slide photos 5+6+7+8

Something at 52 feet in TB-3
is blocking the hole.
Well is abandoned until further
work and geophysics is moved
to PU-5.

At PU-9 water is at 59 feet

photo 9 placing caliper instrument on
resistivity probe.

Initial resistivity measured
down to 260 feet of caliper.
Results of resistivity show
little change with depth.
Caliper results are much more
amplified.

12:41 perform gamma log - EPA
and resistivity again.

At PU-9 the TV survey
is stopped at 263 feet due
to too much organic matter

AR300329

6/27/90 Oxychem
such as algal blooms.

2:00 Benchok logging on well Pul-9.

2:15 at TB-3 drillers prepare
to drill through cake in at 50',
or other obstruction,

3:00 leave site

[Handwritten signature]

Anthony Bellas - Dynamac
6/28/90 Occidental Chemical - Pottstown

9:30 Arrive on site 750F clear
at TB-3
present on site

Eric Schindley - BCM
Charz Pires - BCM H+S office
Chris Hart - Earth Data
Lynn Howells - Earth Data

Empire Drillers reamed the hole
(TB-3) through the obstruction at
50 feet but broke off the bit
down hole. Now attempting to fish
out the pipe.

Summary

Pul-9 and 5 logged yesterday by E.D.
Pul-8 now logging with gamma,
resistivity and caliper.
Pul-10 -> will log

No thru readings at TB-3
workers in level D with tyre
and no face shields.

12:00 still trying to fish tool.

6/28/90 Dry Chem

E. Schmidley states that TB-3 will be logged with the 10 foot bit down hole. Friday they intend to packer test with 15 foot minimum spacing. Saturday they will drill out the hole and Bill try to retrieve the bit with a magnet. If that's unsuccessful, then an adjacent hole will be drilled.

Logging will proceed with the logging down hole.

12:30

Mary Kurl walks they Safety Manager from BCM arrives. Now the the background readings are .5 ppm I discuss the discrepancy in BCM's stated background readings between today and 6/26 with Mary.

2:00

Phone office says that copies of the logs for TB-3 later. Drillers leave hole after unsuccessful attempt to retrieve the bit.

6/28/90 Dry Chem

At PU-8 noting camera log - can see purple staining on the rock formation downward.

Camera survey depths to this point

- PU-5 256 feet
- PU-9 364 feet
- PU-10 258 feet

AR300331

Water pump was reported to be at 278 feet in PU-8.

Can see algae at 144 feet. vertical and horizontal fractures throughout the borehole.

Camera stops at 206 feet the hole looks crooked. the camera was retrieved and adjusted to go deeper than 300ft.

4:15

TB-3 reportedly at 95 feet. BCM cannot supply logs and copies for wells at this time according to E. Schmidley.

PU-8 Camera survey stopped at 315 feet.

6/28/90 Drychem

TB-3 starting geophysics caliper instrument is calibrated on site.

5:00 Logging TB-3 with temperature and caliper Depth to water is 32.5 feet.

Temperature log may be affected by drilling activity beforehand.

Per forming camera survey of TB-3D

8:30 Leave site with logs and camera survey of TB-3.

Anthony Bellios - Dynamac
6/29/90 Occidental Chemical - Poths town

1:30 Arrive on site with Christine Cluwick of EPA sunny 90°F

Packer testing on TB-3

initial test conducted at 76.5 feet downward instead of the planned 80 foot level.

- present on site
- Eriz Schmidley BEM
- Dan Erdman BEM
- Dave Williams BEM
- Marth Kirsh Earth Data
- Sam Kirk Earth Data
- Ken Maury Empire

Back ground this is 1 ppm pump at 85 feet, pressure transducers 67 and 84'.

3:45 Start pump test

water pressure at 140 psi

4:00 Flow of 2 gpm
Change flow to 4 gpm

4:05 pressure at 43 psi flow to 9 gpm

4:15 Flow up to 12 gpm

4:19 Flow to (10 psi) 14.4 gpm

4:30
4:50

6/29/90

Flow to 15.4 gpm
Flow to 15.0 gpm

5 minute intervals of depth to water readings on BR-A and BR-B initially at 1 minute intervals for 010 minutes.

Two initial readings taken at 7 wells

5:00

Sample well through spigot, take sample immediately without flushing the spigot. Samples for 601 halocarbons.

Stopped pumping - water level at 66.74 feet
original water level was at 38.29 feet
now rose back to 40 feet
a total of 750 gallons pumped.

Act O. W. W. W.

AR300333

10:50 Arrive on site sunny 70°F breeze

BCM crossing

Chris Hewitt - BCM setting

Chaz Pines H&S officer

Eric Schaeffler - Site Manager

Drillers starting through overburden TB-3

Earl Data outcrops farm approach for geophysics

background OVA 10ppm, water by Ben

Next 1/2 was due to exhaust test w/ breaker tubes TLE + vinyl chloride

no detection of PCBs stops by

plant manager 10:50

Emergency Drillers -> Dennis Dorn from office

Ken Mazy

BCM sets up for level B Chaz + Eric

as per H&S P + ESP drillers in level B

- 1. Drilling rig exclusion zone
- 2. Drilling plus support zone

Oxychem 11:15 photo of drilling

Location at the center of the plant amidst pipes +

Drilling at 40' appears to be red Brunswick shale,

75-50' (second 1/2 of second pipe)

spell of styrene in soil

no styrene in plant since 1981

Makes styrene foam

38' water truck

parts 3, 50' water tower from hole at S 50m

Phone Eric back to contacts Christine Gullik EAQA

After lunch 12:55 no ore at rig - shut down for lunch

Shipped at 28'

Face smudgy 10gall silt from + face sandstone

at 50' need silt to hard grey argillite - water found

2:00 setting to drill

8-24' weekend at Snake

84-41' afterline - very fine, sandstone red

41-58 siltstone - shale

58-63 fine sandstone - gray argillite

68-71 " " m. var. siltstone

red. gray - reddish brown

71-73' fractured zone angular clittings

minor calcite frags.

73-78' Fine sandstone trace qtz, dark

well rounded. 10-15 ppm

Support team member without protection of gloves or tyres

photo of van + drilling

8/24 Don Erdman + Dave of BGM

arrive, Impact everything here to Don

3:00 stop at 88' drill rig leaking oil

drager tube at hole green to 30

~~Don Erdman~~

6/27/90 Tony Welles Dynamic

9:00 arrive on site

6/27/90 Dave Hart → Earth Apts

6/27/90 Ryan Howells legging construction of well TB-3

6/27/90 Dave Ferrinore at well TB-3

92-93' yesterday fine zone

down to 103' still with argillite

will start w/ geophysics no change in flow

viscosity - temperature

oil layer - bottom to top

BGM Fine Security

Dave Williams

Geopir Ken Parry

geophysicists eq. decon. at stop w/ steam

and will be decont w/ alcohol and DI water between holes.

10:00 Christine Chalick → EPA Phil Resque

AM → gamma survey

10:15

Ray Williams

Fluid resistivity
~~photo~~ photo. 5 + 6 + 7 + 8

Stock at 52' in TB-3
will show some work on hole
and do P.D. instead

Camera Survey of P.W. 9

marker at 59'

P.W. 5 250' deep resistivity
caliper

photo of putting caliper measurement
on resistivity instrument

resistivity part shows little change
in ^{resistivity} ~~caliper~~ as effects of fracture.

12:41 gamma - GP - resistivity

P.W. 9 263' stop TV camera

2:00 Bonehale logging on P.W. 9
SURV. log. T. 80 in 100' ^{original} ~~log~~ marker

2:15 at TB-3

ready to drill through
SOAR stopped technique look

1:50 leave site

Ray Williams

6/28/90 Roy Wells

Oxyreum EPA TRS VIII

oversite

9:30 Airbeam site

weather 1st clear

Empire drills at TR-3

needed hole bored Murray's obstruction

at 50' but left broken pre diameter

Also on holding out the pipe.

BCM -> Eric

Scheduling Eric - Safety officers

PW-9 15' logged

PW-8 logging

PW-10 logging

PW-82

no readings at TR-3 - workers in level D w/ tyre no force shown

PW-80 trying to fish out head

ES, says that they will log the hole

Friday they will packer test 15' min, Saturday they will drill but the hole and will try to retrieve the bit

with a magnet. If that's unsuccessful, then an adjacent hole will be drilled.

9:30 Will definitely leave the bit w/ 10' and do while during logging + packer tests

6/28/90 TRV

many from BCM workers

is walkie - Safety Manager

the background readings 15 ppm - I discuss

with background readings between days with Murray.

Eric call office

ES, says that I will get logs

later for TR-3

drillers prepare to leave hole after unsuccessful fishing attempts

overseeing camera log of PW-8

purple staining on sides

Camera survey depths

PW-5 258'

PW-9 364'

PW-10 258'

PW-8 water pump at 278'

algae at 194'

vertical + horizontal fractures Murray cut the hole

Simon stops at 266' the hole looks

cracked, pulled up camera and went to 530'

ES says TR-3 at 95'

cannot supply logs + survey for wells yet

315' camera survey in PW-8

note

BCM - cannot

note

note

note

note

6:00 75V oxygen

at TB-3 geophysics

8:00 calibrate caliper on-site
Log TB-3 temp. cal.
DR at 32.5

Temperature log may be affected by drilling activity

1st proposed interval 22' for packers
~~43'~~ to 66'

74' to 95'
annom log of TB-3
leave site
8:30

~~_____~~
A. J. Walker

annom
TUNNEL

vertical fractures
47-49

~~_____~~
A. J. Walker

9/29/90

Orychem
Bryellies ~ Dynamet
Christine Lutzke BPA
Sunday 90°F

1130 on first test 76.5' down instead of 80'

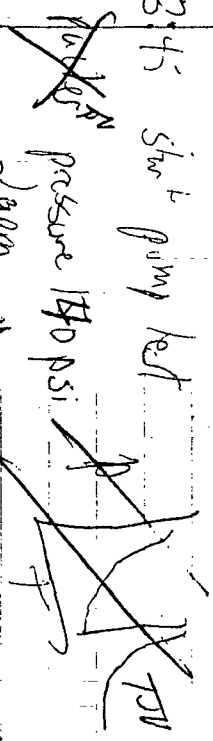
BLM - consultant
Kirk Schemel
Don Bradman
Deve Williams

Empire Ken Mandy

Barth deha, → Martin Kirk
- Sam Kirk

Background flow = 1 ppm

3:45 start pump test



4:00 change to 2 gpm

7 gpm

pressure 61
in bore transducer
lower transducer 83.8'

4:15 43 psi

12 gpm

14.4 gpm
15.4 gpm
10 psi

4:19
4:30
7:50

9/29/90

5 minute intervals on BPA + BR-B
1 minute for 10 minutes initially
two initial readings on 7 wells

7.1 3/2
5:00

4:58

Sample well through spot
take sample immediately
for 601 hydrocarbons.
stopped pumping
went down to 66.74

original water level 88.29
40 feet at end
750 gallons pumped
leave site

[Signature]